Teaching Plan
Department of Computer Science & BCA
Session (2023-24)
ODD Semesters

Term I   **From commencement of class to 1ˢᵗ Internal Assessment**
Term II   **1ˢᵗ Internal Assessment to 2ⁿᵈ Internal Assessment**
Term III   **2ⁿᵈ Internal Assessment to End Semester Examination**

Teaching plan : 2023-24 (Odd Semesters)
Alok Haldar
Dept. of Computer Science & BCA

Semester – I		
Syllabus allotted		**MJ101T : C Programming** **MJ101P : C Programming Lab**

	Lec No	**Based on C Programming Theory. Credits : 03**
		Term - I
	I.	**Module- I : Introduction to Programming** **Lectures-04 Hrs.**
	01	The Basic Model of Computation, Algorithms.
	02	Flow-charts, Programming Languages.
	03	Compilation, Linking and Loading.
	04	Testing and Debugging, Documentation.
	II.	**Module- II : Algorithms for Problem Solving.** **Lectures-10 Hrs.**
	05	xchanging values of two variables, summation of a set of numbers, Decimal Base to Binary Base conversion.
	06	Reversing digits of an integer. GCD (Greatest Common Division) of two numbers,
	07	Test whether a number is prime, Organize numbers in ascending order,
MJ101T: **C** **Programmi** **ng.**	**08**	Find square root of a number, factorial computation, Fibonacci sequence
	09	Evaluate 'sin x' as sum of a series, Reverse order of elements of an array
	10	Find largest number in an array, Find the search an element from the array
	11	Print elements of upper triangular matrix
	12	Multiplication of two matrices,
	13	Evaluate a Polynomial
	III.	**Module- III : Introduction to 'C' Language** **Lectures-04 Hrs.**
	14	Define with a proper example of Character set, Variables and Identifier, in Data Types, Variable Definition, Arithmetic operators
	15	Define with a proper example of logical Operator and Expression, Literals, Simple assignment statement, Basic input/output statement, Simple 'C' programs.
	IV.	**Module- IV : Conditional Statements and Loops** **Lectures-07 Hrs.**
	16	Decision making within a program, Conditions, Relational Operators, Logical Connectives, if statement, if-else statement, Nested if-else statements with proper example. Switch statement
	17	Loops: while loop, do while, for loop. Discuss with proper program.
	18	Nested loops and Infinite loops. Discuss with proper program. structured Programming.

V.	**Module- V : Arrays**	**Lectures-07 Hrs.**
19	One dimensional array: Array manipulation; Searching, Insertion, Finding the largest/smallest element in an array;	
20	Deletion of an element from an array, Two dimensional arrays, Addition/Subtraction of two matrices,	
21	Multiplication of two matrices, Transpose of a square matrix;	
22	Null terminated strings as array of characters, Standard library string functions. Discuss with proper example.	
VI.	**Module- VI: Functions**	**Lectures-06 Hrs.**
23	Top-down approach of problem solving, Modular programming and functions, Standard Library of C functions, Prototype of a function: Formal parameter list, Return Type, Function call, Block structure with example.	
24	Passing arguments to a Function: call by reference, call by value,	
25	Recursive Functions, arrays as function arguments. Discuss with some program .	
VII.	**Module- VII: Storage Classes**	**Lectures-03 Hrs.**
26	Scope and extent, Storage Classes in a single source file: auto, extern and static, register. Discuss with proper example.	
27	Storage Classes in multiple source files: extern and static with example.	
VIII.	**Module- VIII: Structures and Unions**	**Lectures-06 Hrs.**
28	Structure variables, initialization, structure assignment, nested structures. Discuss with basic program.	
29	structures and functions. Discuss with proper example.	
30	structures and arrays: arrays of structures, structures containing arrays, unions	

Term - III

IX.	**Module- IX: Pointers**	**Lectures-06 Hrs.**
31	Address operators, pointer type declaration, pointer assignment, pointer initialization, pointer arithmetic. Discuss with proper example.	
32	Functions and pointers, Arrays and Pointers, pointer arrays. Discuss with proper example.	
33	Pointers and structures, dynamic memory allocation. Discuss with proper example.	
X.	**Module- X: Self-Referential Structures and Linked Lists**	**Lectures-04 Hrs.**
34	Basic concept of List. Creation of a singly connected linked list, traversing a linked list. Discuss with sample program.	
35	Insertion into a linked list, Deletion from a linked list. Discuss insert and delete an element in different position.	
XI.	**Module- XI: File Processing**	**Lectures-04 Hrs.**
19	Basic Concept of Files, File opening in various modes and closing of a file, reading from a file,	
20	Writing onto a file. Copy the contents of one file to another file. Basic concept of command line arguments. Discuss with a simple program.	

MJ101P: C Programming Lab

	Term - I
01	Write a program to check a year is Leap year or not.
02	Write a program to solve the following Quadratic equation.
03	Write a program to print the sum and product of digits of an integer.
04	Write a program to find the reverse a number and then check the number is Palindrome or not.
05	Write a program to compute the sum of the first n terms of the following series S = 1+1/2+1/3+1/4+……
06	Write a program to compute the sum of the first n terms of the following series S =1-2+3-4+5……………
07	Write a program to find the value of cosx from the following Cos series: $Cosx = 1-x^2/2!+x^4/4!-............\infty$

	08	Write a program to find the GCD and LCM of two numbers.
	09	Write a program to display Strong numbers between the range a to b.
	10	Write a program to display Armstrong numbers between the range a to b.
	11	Write a program to convert a Decimal number into its equivalent Binary number.
	12	Write a program to convert a Binary number into its equivalent Decimal number.
	13	Write a program to convert a Binary number into its equivalent Octal number.
	14	Write a function to find whether a given no. is prime or not. Use the same to generate the prime numbers less than 100.
	15	Write a program to compute the factors of a given number.
	16	Write a function that checks whether a given string is Palindrome or not. Use this function to find whether the string entered by user is Palindrome or not.
	17	Write a program to count number of vowels, consonants, digits and blank spaces in a line of text.

Term-II

	18	Write a program in macro that swaps two numbers.
	19	Write a program in which a function is passed address of two variables and then alter its contents.
	20	Write a program to print a triangle of stars as follows (take number of lines from user): * *** ***** ******* *********
	21	Write a program to print the pyramid of numbers as follows(take number of lines from user): 1 121 12321 1234321 123454321
	22	Write a program to display Fibonacci series (i) using recursion, (ii) using iteration
	23	Write a program to calculate Factorial of a number (i) using recursion, (ii) using iteration
	24	Write a program to calculate GCD of two numbers (i) with recursion (ii) without recursion.
	25	Write a program to perform following actions on an array entered by the user: i) Print the even-valued elements ii) Print the odd-valued elements iii) Calculate and print the sum and average of the elements of array iv) Print the maximum and minimum element of array v) Remove the duplicates from the array vi) Print the array in reverse order
	26	Write a program to arrange the list of n numbers in ascending order.

Term - III

	27	Write a program to addition/Subtraction of two matrix.
	28	Write a program to transpose of a matrix.
	29	Write a program to multiply of two matrix.
	30	Write a program that prints a table indicating the number of occurrences of each alphabet in the text entered as command line arguments.
	31	Write a program which takes the radius of a circle as input from the user, passes it to another function that computes the area and the circumference of the circle and displays the value of area and circumference from the main() function.
	32	Write a menu driven program to perform following operations on strings: a) Show address of each character in string

		b) Concatenate two strings without using strcat() function.
		c) Concatenate two strings using strcat() function.
		d) Compare two strings
		e) Calculate length of the string (use pointers).
		f) Convert all lowercase characters to uppercase.
		g) Convert all uppercase characters to lowercase.
		h) Calculate number of vowels.
		i) Reverse the string
	33	Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.
	34	Write a program to retrieve the student information from file created in previous question and print it in following format: Roll No. Name Marks
	35	Copy the contents of one text file to another file, after removing all whitespaces.
	36	Write a program that will read 10 integers from user and store them in an array. Implement array using pointers. The program will print the array elements in ascending and descending order.

Semester - III

Syllabus allotted		**BCACC5T : OOPs using C++** **BCACC5P : C++ Lab**

	Lec No.	OOPs using C++ **Credits : 04**
		Term - I
	I.	**UNIT-I : Introduction to OOPs and C++ Element**　　　　　　**Lectures-4Hrs**
	1	Introduction to OOPs, Features & Advantages of OOPs,
	2	Different element of C++ (Tokens, Keywords, Identifiers, Variable, Constant, Operators, Expression, String).
	II.	**UNIT II Program Control Statements:**　　　　　　**Lectures-6Hrs.**
	3	Sequential Constructs, Decision Making Construct, Iteration / Loop Construct, Arrays.
	4	(User defined Function, Inline Function, Function Overloading), User Defined Data Types
	5	Structure, Union and Enumeration.
	III.	**UNIT III : lass, Object, Constructor & Destructor.**　　　　　　**Lectures-8Hrs.**
	6	Class, Modifiers (Private, Public & Protected), Data Member, Member Function. Define with example.
	7	Static Data Member, Static Member Function, Friend Function, Object. Discuss with proper example.
	8	Constructor (Default Constructor, Parameterized Constructor). Discuss with example.
	9	Copy Constructor , Destructor. Discuss with example.
		Term - II
	IV.	**UNIT IV: Pointer, Polymorphism & Inheritance:**　　　　　　**Lectures-10 Hrs**
	10	Pointer (Pointer to Object, this Pointer, Pointer to Derive Class)
	11	Introduction to Polymorphism (Runtime Polymorphism, Compile time Polymorphism)
	12	Operator Overloading, Virtual Function
	13	Inheritance : Single Inheritance, Multiple Inheritance
	14	Multilevel Inheritance, Hierarchical Inheritance, Hybrid Inheritance
	15	Virtual Base Class, Abstract Class.
		Term - III
	V.	**UNIT V: File Handling, Exception Handling:**　　　　　　**Lectures-04Hrs.**
	16.	Discuss Basic concept of Files I/O. Discuss with a simple program.
	17.	Exception Handling (Exception Handling Mechanism, Throwing Mechanism, Catching Mechanism, Re-throwing an Exception). Discuss with an example.

BCACC5P : C++ Lab

01	Write a C++ program to design a class cylinder and the operations on cylinder as follows : a) Calculate the volume. B) Calculate the surface area. c) Find the area of cylinder base. d) Set the radius , height and the center of the base.
02	Write a C++ program to find the **area** and **perimeter** of **square** and **triangle** by creating the class **shape**, **square**, **triangle** and required data members and functions like input **values()**, **area()**, **perimeter().**
03	Write a C++ program to find the **area** and **perimeter** of triangles by creating the class **triangles, isosceles, equilateral** and required data members and functions like **values(), area(), perimeter().**
04	Write a C++ program that uses inline function to count the number of vowels, consonant, integers in a string.
05	Write a C++ program to design a class **Complex** with data members for real and imaginary part. Provide default and parameterized constructors and member functions to **get(), set(), display(), add(), subtract(), multiply(), and divide() two complex numbers.**
06	Write a C++ program to read two times and add them .To create a class to represent time (Hour,Minute,Second) in 24 Hour Format.
07	Write a C++ program to create a class **point** that consists of x and y co-ordinates and using this design a class **Linesegment** which consists of two points**.** Use appropriate constructors and destructors. Write a function **compare-lines** to check whether two line segments are parallel or perpendicular or not.
08	Write a C++ program to check the following operations on the class **STACK** as : a) Current Status. B) Push an item. C) pop an item, d) Empty stack or not.
09	Write a C++ program to check the following operations on the class **QUEUE** as : a) insert element to the queue. B) Delete an element from the queue. C) Destroy the queue.
10	Write a C++ program to use of copy-constructor in a user defined class.

Term - II

11	Write a C++ program to overload '+ , - , * ' operator to addition, subtraction and multiplication of two matrices same order
12	Write a C++ program to overload input and output **operators >> and <<** to take complex numbers from user. Now overload addition and multiplication operators + **and *** to demonstrate **addition** and **multiplication** of two complex numbers.
13	Write a C++ Program to overloads an assignment(=) operator for user-defined class.
14	Write a C++ Program overloads the pre-increment and post-increment operators for user-defined objects.
15	Write a C++ program to demonstrate single inheritance that uses both public and private access specifier.
16	Write a C++ program to demonstrate multiple inheritance that uses both public and private access specifier.
17	Write a C++ program to demonstrate hybrid inheritance that uses both public and private access specifier.

Term III

18	Write a C++ program to make **function template** program which can **swap two variables** which may be int, float or character.
19	Write a C++ program to make **function template** program which Sort n numbers using **bubble sort/selection sort/insertion sort, merge sort/quicksort method.**
20	Write a C++ program to write a function **matmul()** using **function template** and **multiply two matrices**. Invoke the functions to operate on **two integer matrices and two float matrices**. Write a display method to show the result.
21	Write a C++ program to create a **template class for stack** and suitable member functions to show the operation of stack.

22	Write a C++ program to implement runtime Polymorphism. Use proper constructor data member and functions.

BCACC6P : Operating System Lab

01	Write a program (using *fork()* and/or *exec()* commands) where parent and child execute: Same program, same code. Same program, different code. Before terminating, the parent waits for the child to finish its task.
02	Write a program to report behavior of Linux kernel including kernel version, CPU type and model. (CPU information)
03	Write a program to report behavior of Linux kernel including information on configured memory, amount of free and used memory(memory information).
04	Write a program to print file details including owner access permissions, file access time, where file name is given as argument.
05	Write a program to copy files using system calls.
06	Write program to implement FCFS scheduling algorithm.
07	Write program to implement Round Robin scheduling algorithm.
08	Write program to implement SJF scheduling algorithm.
09	Write program to calculate sum of n numbers using *thread* library.
10	Write a program to implement first-fit, best-fit and worst-fit allocation strategies.

Semester – V

Syllabus allotted	BCA3195 : Seminar (Individual)

	1	Discuss different seminar topic.
	2	How to prepare good presentation slide.
		Term II

Seminar Presentation	3	**Objective:** To enlighten and engage the audience on the present seminar topic.
		 Duration: Time allocated for the presentation.
		 Introduction: 2-3 minutes
		   1. Greet the audience and introduce yourself.
		   2. Provide a brief overview of the seminar topic.
		   3. Explain the importance of the presented topic.
		   4. State the objectives of the presentation.
		
		 Body of the Presentation(20-30 minutes):
		 Adjust the time for each section based on total presentation time.
		
		 Section 1: Background and Context(10-15minutes)
		   1. Provide essential information on the topic.
		   2. Explain why the topic is relevant of present day.

	4	**Section 2: Main Concepts and Theories(10-15minutes)**
		   1. Present the core concepts, theories or principles related to the topic.
		   2. Use clear and simple language to ensure understanding.
		   3. Support your explanations with examples or diagrams.
		
		 Section 3: Case Studies or Examples (10-15minutes)
		   1. Use visuals and multimedia to illustrate your points.
		   2. Encourage audience to participate or questions.
		
		 Section 4: Current Research or Trends(5-10minutes)
		   1. Highlight recent developments, research findings in the topic.
		   2. Discuss the developments of the topic in future.

		Conclusion (5-10 minutes):
		    1. Summarize the key points discussed in the presentation.
		    2. Provide recommendations based on the content.
		
		Q&A Session (10-15minutes):
		    1. Invite questions from the audience.
		
		References (1-2 minutes):
		    1. Provide references link and reading materials.
		
		Conclusion and Thank You(2-3 minutes):
		    1. Thank the audience for their participation
		    2. Express your gratitude for the opportunity to present.

		Term III
	5	According to sections prepare the slide and present in front of our departmental teacher.

Teaching Plan
Department of Computer Science & BCA
Session (2023-24)
ODD Semesters

Term I   From commencement of class to 1st Internal Assessment
Term II   1st Internal Assessment to 2nd Internal Assessment
Term III 2nd Internal Assessment to End Semester Examination

Teaching plan : 2023-24 (Odd Semesters)
Samiran Acharyya
Dept. of Computer Science & BCA

Semester – I		
Syllabus allotted		**MLD – 1** **Basics of Accounting**
	Lec No	**Basics of Accounting . Credits : 03**
		Term - I
	I.	**Unit–I: Introduction to Financial Accounting** **Lectures-09 Hrs.**
	01	Meaning, Importance and objectives of Accounting; Concepts and Convention of Accounting..
	02 & 03	Meaning, Users, Sources of accounting information; Some Basic Terms –Transaction, Account, Asset, Liability, Capital, Expenditure, Income, Revenue, Profit, Loss, Concept of revenue and capital transactions.
	04 & 05	Accounting Year, Financial Year; Features of recordable transactions and events; Recording of Transactions; Types of Accounts - Personal account, Real Account and Nominal Account;
	06 & 07	Golden Rules and American Approach of Accounting-Rules for Debit and Credit; Double Entry System.
	08 & 09	Accounting Equation, Process of accounting – Business transactions – Journal entries – Ledger posting, Trial Balance .
	II.	**Unit-II: Accounting for Depreciation:** **Lectures-06 Hrs.**
MLD – 1 Basics of Accounting.	10	Concept; Causes of Depreciation.
	11	Objectives of Providing Depreciation;
	12	Methods of providing depreciation.
	13	Fixed Instalment Method.
	14	Reducing Balance Method.
	15	Fixed Instalment Method and Reducing Balance Method.
		Term - II
	III.	**Unit-III: Accounting for Joint Venture:** **Lectures-08 Hrs.**
	16 & 17	Meaning and features

18 & 19	Distinction between Partnership and Joint Venture
20 & 21	Accounting Treatment of Joint venture.
22 & 23	Accounting Treatment of Joint venture.
IV.	**Unit-IV: Single entry System of Book keeping and Conversion of Single Entry to Double Entry system of Book Keeping** **Lectures-05 Hrs.**
24 to 28	Single entry System of Book keeping and Conversion of Single Entry to Double Entry system of Book Keeping.
	Term - III
V.	**Unit-V: Final accounts of Non-Profit Organizations** **Lectures-09 Hrs.**
29 & 30	Meaning and Features of Non-Profit Organization
31 to 33	Preparation of Receipt and Payment Account; Income & Expenditure Account
34 to 37	Preparation of Receipt and Payment Account; Income & Expenditure Account and Balance Sheet.
VI.	**Unit-VI: Final Accounts of Sole Trading Concern** **Lectures-08Hrs.**
38 to 45	Preparation of Trading and Profit and Loss account and Balance sheet.

Semester - III

Syllabus allotted	**GE-03(T)** **BCAGE3.1T Entrepreneurship Development**

	Lec No.	**BCAGE3.1T: Entrepreneurship Development** **Credit- 06**
BCAGE3.1T Entrepreneur ship Development		**Term - I**
	I.	**Unit-I: Entrepreneurship development** **Lectures-6Hrs**
	1 & 2	Definition, role of small scale industries in the national economy.
	3 & 4	Characteristics and types of small scale industries; demand-based and resources- based ancillaries.
	5 & 6	Government policy(s) for small scale industries; stages in starting a small scale industry.
	II.	**Unit-II: Project identification, planning and control** **Lectures-13Hrs.**
	7 & 8	Assessment of viability, formulation, evaluation, financing.
	9 to 13	Field-study, preparation of project report, demand analysis, material balance and output methods, and benefit cost analysis.
		Term - II
	14 to 16	The financial functions, cost of capital approach in project planning and control
	17	Laws concerning entrepreneurship.
	18 & 19	Role of various national and state agencies which render assistance to small scale industries.
		Term - III
	III.	**Unit-III: Case study** **Lectures-16Hrs.**
	20 to 25	Case study of starts-up firms on IT/software development/Mobile app
	26 to 30	Special reference on IT Parks, Industrial Park etc.
	31 to 35	Successful start-up ventures with indigenous recourses.

Semester – V

Syllabus allotted	BCA3102 : PROFESSION VALUES AND ETHICS

PROFESSION VALUES AND ETHICS (3102)		
	Term - I	
	Lec No.	**UNIT-I: EFFECTS OF TECHNOLOGICAL GROWTH**
	1 & 2	Rapid Technological growth and depletion of resources. Reports of the Club of Rome. Limits to growth; sustainable development.
	3 & 4	Energy Crisis; Renewable Energy Resources. Environmental degradation and pollution.
	5 & 6	Eco-friendly Technologies. Environmental Regulations. Environmental Ethics.
	7 & 8	Appropriate Technology Movement of Schumacher: later developments. Technology and developing nations. Problems of Technology transfer.
	9 & 10	Technologyassessment/ impact analysis; Industrial hazards and safety, safety regulations safety engineering.
	11 & 12	Politics and technology, authorization versus democratic control of technology; Human Operator in Engineering projects and industries. Problems of man machine interaction.
	13 & 14	Impact of assembly line and automation. Human centred Technology
		UNIT-II: PROFESSION AND HUMAN VALUES
	15 & 16	Value Crisis in contemporary society. Nature of values: Value Spectrum of a 'good' life Psychological values: Integrated personality; mental health.
	17 & 18	Societalvalues: The modern search for a 'good' society, justice, democracy, secularism, rule of law; values in Indian Constitution. Aesthetic values: Perception and enjoyment of beauty, simplicity, clarity Moraland ethical values:
	19 & 20	Nature of moral judgments; canons of ethics; Ethics of virtue; ethics of duty; ethics of responsibility. Work ethics, professional ethics.
	Term - II	
		UNIT-III: MODERN MARKETING
	21 & 22	Meaning of market, Definition of market, Selling & Marketing , Objectives of marketing, Modern approach & marketing.
	23 & 24	Marketing mix- meaning & definition, Marketing Functions, Classification, Functions of exchange & Functions of Physical supply.
	25 & 26	Marketing Planning , Importance & benefit of marketing planning, Marketing Audit.
	26 & 27	Consumer Behavior, Definition and importance of buying behavior, Buying motives, Determinants of Buying behavior.
	28 & 29	Market segmentation, Concept and Important Bases. Advertising- Concept , Selecting Advertising Media. Sales Promotion & Different tools for sales promotion.
	Term - III	
		UNIT-IV: HUMAN RESOURCE MANAGEMENT
	30 & 31	Concept and perspective of Human Resource Management, Concept of Human Resource Planning – importance, Human Resource planning process
	32 & 33	Barriers to Human Resource planning, Measures to make Human Resource Planning effective, Role of training & Development of Human Resources , Conducting Training & Development Programmes.
	34 & 35	Cost – benefit analysis for Training & Development. Concept of incentives, Financial incentives- types, Rationale of incentives , fringe Benefits.
	36 to	Types of benefits, Making benefit Programmes effective. Human Resources

	38	Communication, Communication channels, Human Resources Communication Media, making Human Resources Communication Effective.

Sakhi Bandyopadhyay

1st Semester

Name of the Teacher	Course, Paper and Units	Teaching Plan
SAKHI BANDYOPADHYAY	Course: **4-yrBCA (Hons)** Course Type: **SEC** Course Code: **BCASEC01** Course Title: **P: Web Designing** Number of Classes per Week: **3**	**TERMI (17 Lectures)** Lecture 1: Introduction to Internet Basic Lecture 2: Introduction to HTML, Essential Tags, Deprecated Tags, Tags and Attributes, Text Styles and Text arrangements, Text, Effects. Lecture 3: Exposure to Various Tags(DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG) Lecture 4: Design web pages for your college contain in ga description of the courses, departments, faculties, library etc, usehref, list tags. Lecture 5: Color and Background of WebPages, Lists and their Types, Attributes of Image Tag, Lecture 6: Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External Documents. Lecture 7: Different Section of a Page and Graphics, Foot note and e-Mailing Lecture 8: Different Table creation and its utilities. Lecture 9: Create your class time table using table tag. Lecture 10: Frame and its utilities. Lecture 11:Createawebpageusingframe.DividethepageintotwopartswithNavigationlinksonlefthandsideofpage (width=20%) and content page on right hand side of page (width=80%). On clicking the navigation Links corresponding content must be shown on the right-hand side. Lecture 12:Write html code to develop a web page having two frames that divide the web page into two Equal rows and then divide the row in to equal columns file ach frame with a different Background color. Lecture 13: Create your resume using HTML tags also experiment with colors, text, link, size and also other tags you studied. Lecture 14: Form and Style Sheet. Lecture 15: Create user Student feedback form (use text box, text area, check box, radio, button, select boxetc.) Lecture 16: Web page designing practice 1 Lecture 17: Web page designing practice 2 **TERM II (17 Lectures)** Lecture 1: Dynamic HTML, Document Object Model, Features of DHTML Lecture 2: CSSP (Cascading Style Sheet Positioning) Lecture 3: Implementation of CSSP 1 Lecture 4: Implementation of CSSP 2 Lecture 5: JSSS (JavaScript assisted Style Sheet) Lecture 6: Implementation of JSSS 1 Lecture 7: Implementation of JSSS 2 Lecture 8: Layers of Netscape Lecture 9: The ID Attribute, DHTML Events Lecture 10: Implementation of DHTML Events 1 Lecture 11: Implementation of DHTML Events 2 Lecture 12:Web page designing practice 3 Lecture 13: Need for CSS, introduction to CSS Lecture 14: Basic syntax and structure

		Lecture 15: Classes and Pseudo Classes
		Lecture 16: CSS tags for setting background images, colors and properties
		Lecture 17Web page designing practice 4
		TERM III (14 Lectures)
		Lecture 1: Implementation of tags
		Lecture 2: CSS tags formanipulating texts, using fonts, borders
		Lecture 3: Implementation of various CSS tags
		Lecture 4:CSS tags for boxes, margins, padding lists, positioning etc.
		Lecture 5: Implementation of boxes, margins, padding lists, positioning etc.
		Lecture 6: Designawebpageofyourhometownwith anattractivebackgroundcolor, text, color,an Image, fontetc. (use internal CSS).
		Lecture 7: Practice
		Lecture 8: Use In line CSS to format your resume that you created.
		Lecture 9: Web page designing practice 5
		Lecture 10: Use External CSS to format your class time table as you created.
		Lecture 11: Web page designing practice 6
		Lecture 12:Use External, Internal, and Inline CSS to format college web page that you created
		Lecture 13: Web page designing practice 7
		Lecture 14: Web page designing practice 8

3rd Semester

Name of the Teacher	Course, Paper and Units	Teaching Plan
SAKHI BANDYOPADHYAY	Course: **3-yr*BCA (Hons)*** Course Type: ***SEC-01 (T+P)*** Course Code: ***BCASEC1.1*** Course Title: ***A. Web Designing*** Number of Classes per Week: ***3 (1 T + 2 P)***	**TERMI (17 Lectures)** Lecture 1: Introduction to Internet Basic Lecture 2: Introduction to HTML, Essential Tags, Deprecated Tags, Tags and Attributes, Text Styles and Text arrangements, Text, Effects. Lecture 3: Exposure to Various Tags (DIV, MARQUEE, NOBR, DFN, HR, LISTING, Comment, IMG) Lecture 4: Design web pages for your college contain in ga description of the courses, departments, faculties, library etc, use href, list tags. Lecture 5: Color and Background of WebPages, Lists and their Types, Attributes of Image Tag Lecture 6: Hypertext, Hyperlink and Hypermedia, Links, Anchors and URLs, Links to External Documents. Lecture 7: Different Section of a Page and Graphics, Foot note and e-Mailing Lecture 8: Creating Table and Subtable Lecture 9: Create your class time table using Tag. Lecture 10: Frames and its utilities Lecture 11: Create a webpage using frame. Divide the page into two parts with Navigation links on left hand side of page (width=20%) and content page on right hand side of page (width=80%). On clicking the navigation Links corresponding content must be shown on the right hand side. Lecture 12:Write html code to develop a web page having

two frames that divide the web page into two Equal rows and then divide the row in to equal columns file ach frame with a different Background color.

Lecture 13: Create your resume using HTML tags also experiment with colors, text, link, size and also other tagsyou studied.

Lecture 14: Form and Style Sheet.

Lecture 15: Create user Student feedback form (use text box, text area, check box, radio, button, select box etc.)

Lecture 16: Practice

Lecture 17: Practice

TERM II (17 Lectures)

Lecture 1: DHTML-Dynamic HTML, Document Object Model, Features of DHTML

Lecture 2: CSSP (Cascading Style Sheet Positioning) and JSSS (JavaScript assisted Style Sheet)

Lecture 3: Layers of Netscape, The ID Attribute, DHTML Events.

Lecture 4: Implementation of DHTML Events

Lecture 5: Java Script-Objects, Methods, Events and Functions

Lecture 6: Tags, Operators, Data Types, Literals and Type Casting in JavaScript

Lecture 7: Implementation of Tags, Operators, Data Types, Literals and Type Casting in JavaScript

Lecture 8: Programming Construct, Array and Dialog Boxes

Lecture 9: Implementation of Programming Construct, Array and Dialog Boxes

Lecture 10: Relating JavaScript to DHTML

Lecture 11: Design a web page of your home town with an attractive background color, text, color, an Image, font etc. (use internal CSS).

Lecture 12: Dynamically Changing Text, Style, Content.

Lecture 13:Use Inline CSS to format your resume that you created.

Lecture 14: Practice

Lecture 15: Use External CSS to format your class timetable as you created.

Lecture 16: Use External, Internal, and Inline CSS to format college web page that you created.

Lecture 17: Practice

TERM III (14 Lectures)

Lecture 1: Develop a JavaScript to display todays date.

Lecture 2: Front Page-Front Page Basics

Lecture 3: Implementation of Front Page-Front Page Basics

Lecture 4: Web Terminologies, Phases of Planning and Building Web Sites

Lecture 5: The FTP, HTTP and SMPP Features

Lecture 6: Develop simple calculator for addition, subtraction, multiplication and division operation using JavaScript

Lecture 7: Front Page Views

Lecture 8: Create HTML Page with JavaScript which takes Integer number as input and tells whether the number is ODD or EVEN.

Lecture 9: Adding Pictures, Backgrounds, Links

Lecture 10: Create HTML Page that contains form with fields Name, Email, Mobile No, Gender, Favourite Colour and a

		button now write a JavaScript code to combine and display the information in text box when the button is clicked. Lecture 11: Practice Lecture 12: Relating Front Page to DHTML. Lecture 13: Server-side scripts and validation arrays for a simple log-in page of website. Lecture 14: Practice

5th Semester

Name of the Teacher	Course and Class Details	Teaching Plan
SAKHI BANDYOPADHYAY	Course Type: **BCA** Course Code: **BCA 3195** Course Title: **Seminar (Individual)** Number of Classes per Week: **1**	**TERMI (6 Lectures)** Lecture 1: Various tools for Presentation preparation Lecture 2: Sequence of slides, few mandatory slides Lecture 3: Discussion and explanation of different seminar topics 1 Lecture 4: Discussion and explanation of different seminar topics 2 Lecture 5: Answering to the students' queries. 1 Lecture 6: Tutorial 1 **TERM II (6 Lectures)** Lecture 1: Discussion and explanation of different seminar topics 3 Lecture 2: Answering to the students' queries. 2 Lecture 3: Practical demonstration on presentation preparation Lecture 4: Discussion and explanation of different seminar topics 5 Lecture 5: Presentation correction 1 Lecture 6: Tutorial 2 **TERM III (4 Lectures)** Lecture 1: Presentation correction 2 Lecture 2: Answering to the students' queries. 3 Lecture 3: Presentation Practice 1 Lecture 4: Presentation Practice 2
	Course Type: **BCA** Course Code: **BCA 3104** Course Title: **Elective 1 (Compiler Design)** Number of Classes per Week: **3**	**TERMI (17 Lectures)** Lecture 1: Introduction to compilers, Analysis and synthesis phase,Computer Languages, Translators Lecture 2: Language Processing System,The of compiler Phases Lecture 3: Structure of compiler Lecture4: Example String for compiler, Compiler Construction Tools Lecture 5: Lexical Analysis, Role of Lexical Analyzer Lecture 6: Input buffering, Design of Lexical Analyzer Lecture 7: Syntax Analysis – Grammars, Derivation Parse Trees, Ambiguity

Lecture 8: Parsing, Role of Parsers
Lecture 9: Parsing Techniques, Bottom Up - Shift Reduce Parsing
Lecture 10: Bottom Up – Operator Precedence Parsing
Lecture 11:Precedence Relations in Operator Grammar
Lecture 12: Top-Down Parsing with Backtracking
Lecture 13: Left Recursion Problem – Elimination, Left Factoring – elimination
Lecture 14: Top-Down Parsing without Backtracking, Recursive Descent Parser, Predictive Parser
Lecture 15: Computation of FIRST and FOLLOW, Numerical
Lecture 16: Predictive Parsing Table,Predictive Parsing
Lecture 17: Checking Acceptance, LL (1) Grammar, numerical.

TERM II (17 Lectures)
Lecture 1: Shift Reduce Parsing
Lecture 2: Shift Reduce Parsing
Lecture 3: LR parsing
Lecture 4: SLRTheory
Lecture 5: SLR Problems and Solutions
Lecture 6: CLR Theory
Lecture 7: CLR Transition Diagram and Transition Table
Lecture 8: CLR Problems and Solutions
Lecture 9: LALR Theory
Lecture 10: LALR Problems and Solutions
Lecture 11: Handling Ambiguous grammar
Lecture 12:Practice previous years' questions
Lecture 13:Syntax Directed Translation schemes, Synthesized Translation, Inherited Translation
Lecture 14: Translation on Parse Trees
Lecture 15: Symbol Table, Contents of symbol table
Lecture 16: Tutorial 1
Lecture 17: Tutorial 2

TERM III (14 Lectures)
Lecture 1: Intermediate Code Generation, Postfix notation
Lecture 2: Three Address Code Theory, Boolean Expressions
Lecture 3: Three Address Code: Problems and Solutions
Lecture 4: Control statements, Assignments statements
Lecture 5: Basic Blocks, Flow Graphs, DAGs, Optimization through DAG
Lecture 6: Value Numbers, Global data flow analysis, Code Generation, Problems in Code Generation
Lecture 7: Simple Code Generator, Issues of Code Generator, Peephole Optimization
Lecture 8: Code Generation from DAG
Lecture 9: Code optimization and DAG
Lecture 10:Practice previous years' questions.
Lecture 11:Error handling, Type Checking
Lecture 12: cross compilerLecture12: full
Lecture 13: Tutorial 3
Lecture 14: Tutorial 4

Teaching plan: 2023 -2024
Anudyuti Ghorai
Dept. of Computer Science & BCA

Semester I		
Syllabus allotted	MI – 1T: PC Software (Module – IV Working with MS-Access)	
MI – 1T: Module – IV	Lec No.	
	01	Introduction to DBMS,
	01	Features of DBMS
	02	Introduction to relational database
	03	Introduction to MS Access
	04-05	Creating tables
	06-07	Data type and formatting options.
	08	Relationships
	09-10	Creating reports
	11-12	Query wizard
	13	External Data Tab
	14-15	Design complete database

Semester III		
Syllabus allotted	Operating System Lab	
BCACC6P	1. Write a program (using fork() and/or exec() commands) where parent and child execute: Same program, same code. Same program, different code. Before terminating, the parent waits for the child to finish its task. 2. Write a program to report behavior of Linux kernel including kernel version, CPU type and model. (CPU information) 3. Write a program to report behavior of Linux kernel including information on configured memory, amount of free and used memory(memory information). 4. Write a program to print file details including owner access permissions, file access time, where file name is given as argument. 5. Write a program to copy files using system calls. 6. Write program to implement FCFS scheduling algorithm. 7. Write program to implement Round Robin scheduling algorithm. 8. Write program to implement SJF scheduling algorithm. 9. Write program to calculate sum of n numbers using thread library. 10. Write a program to implement first-fit, best-fit and worst-fit allocation strategies.	

Semester V		
Syllabus allotted	OBJECT ORIENTED PROGRAMMING USING JAVA	
	Lec No.	
BCA-3101	Term I	
	01	Overview of Object-Oriented Programming and Java
	02	Java Tools and Resources

	03	Constants, Variables, and data types
	04	Operators and expressions
	05	Decision Making and branching
	06	Decision making and looping
		Term II
	07	Introduction to class, object and method
	08-09	Arrays, Strings, Vectors
	10	Constructor & its types
	11-12	overloading
	13-14	Inheritance
	15	Abstract class
		Term III
	16	Interface
	17	Introduction to Package
	18	User defined package
		Term IV
	19-20	Exception Handling
	21-22	Threads
		Term V
	23	Introduction to Applet
	24	Applet Methods
	25	Introduction to AWT
	26	GUI Components
	27	Using AWT Controls
	28	Layout Managers, and Menus
	29	Event Classes
	30	Event Listener Interface
Syllabus allotted	JAVA LAB	
BCA-3196)		1. Write a program in Java to find whether a given is ODD of EVEN. 2. Write a program in Java to find factorial of a given number. 3. Write a program in Java to obtain prime number within a given range. 4. Write a program in Java to print the below patten (Floyds triangle). 1 2 3 4 5 6 7 8 9 10 5. Write a program in Java to check a string is palindrome or not. 6. Write a program in Java to implement single inheritance. 7. Write a program in Java to show the use of function overriding. 8. Write a program to sort list of elements in descending order. 9. Write a program in Java to demonstrate the use of Super keyword. 10. Write a program to implement wrapper class and its methods. 11. Write a program in Java to demonstrate multiple inheritance. 12. Write a Java program to implement to concept of classes in defined package and creating packages. 13. Write a program in Java for Matrix multiplication. 14. Write a Java to show the of constructor overloading.

15. Write a program in Java to swap two numbers using three variables.
16. Write a program in Java to find whether a number is Prime or not.
17. Write a program in Java to check a number is Armstrong or not.
18. Write a program in Java to multiply two numbers. Use constructor in the program.
19. Write a program in Java to show the use of an abstract class.
20. Write a program in Java to implement function overloading.
21. Write a program in Java to show the use of try, catch and finally block.
22. Write a program in Java to implement multilevel inheritance.
23. Write a program in Java that accepts a shopping list of five items from the command line and stores them in a vector.
24. Write a program in Java to print the sum of digits of a number.
25. Write a program to implement the concept of threading by implementing Runnable Interface.
26. Write a program using Java language to implement the concept of Exception Handling using predefined exception.
27. Write a program in Java to count the number of vowels and consonants in a string.
28. Write a program is Java to find A × B where A is a matrix of 3 × 3 and B is a matrix of 3 × 4.
29. Write a program in Java with Class Rectangle with the data field, width, length, area and colour. The length. width and area are of double type and colour is of string type. The methods set_lenght(), set_wtdth(), set_color() and find area(). Create two Object of rectangle and compare their area and colour of both are same for the objects then display "Matching Rectangles" else "Non-Matching Rectangles".
30. Write a program in Java to show multiple inheritance.
31. Write a program in Java to generate n prime numbers.
32. Write a program in Java to print a multiplications table using a function MUL (). The function should be written is a package built by you.
33. Write a program in Java to calculate the area of 3 geometric objects operations using the concept of method overloading.

Subhadip Mukherjee
Odd Semester Teaching Plan 2023

1st Semester

Name of the Teacher	Course, Paper and Units	Teaching Plan
SUBHADIP MUKHERJEE	Course Type: **Multi-Disciplinary Course (MDC)** Course Code: **MDC-01** Course Title: **Basics of Information Technology (IT).** Number of Classes per Week: **1**	**TERMI (6 Lectures)** Lecture1: Introduction, Definition, Characteristics of computer. Lecture 2: Evolution of computer systems, Block diagram of a computer. Lecture 3: Different generations of computer Lecture 4: Classification of computers. Lecture 5: Applications of computer, capabilities and limitations of different computer systems. Lecture 6: Tutorial 1 **TERM II (6 Lectures)** Lecture 1: Software and its needs, Different types of Software. Lecture 2: System Software: Operating System, Utility Programs Lecture 3: Programming Language: Machine Language, Assembly Language, High Level Language theiradvantages and disadvantages. Lecture 4: Application Software and its types: Word Processing, Spread Sheets Presentation, Lecture 5: Application Software and its types: Graphics, DBMS Software. Lecture 6: Tutorial 2 **TERM III (4 Lectures)** Lecture 1: Communication Process, Data Transmission speed, Communication Types (modes) Lecture 2: Data transmission Medias, Modem and its working Lecture 3: Different Types of Networks, Characteristics of Networks, and LAN Topologies. Lecture 4: Computer Protocols and its types, Important concepts relating to networking.

3rd Semester

Name of the Teacher	Course, Paper and Units	Teaching Plan
SUBHADIP MUKHERJEE	Course Type: **Generic Elective (GE)** Course Code: **GE3T** Course Title: **Introduction to Programming (Theory)** Number of classes per week: **4**	**TERMI (23 Lectures)** Lecture 1: History of C and C++ Lecture 2: Overview of Procedural Programming and Object Oriented Programming. Lecture 3: Use of main() function, compiling and executing simple programs in C++ Lecture 4: Declaring, defining and initializing Variables, Scope of Variables, Data types and casting of data types. Lecture 5: Operators (Arithmetic, logical and bitwise), using comments in programs. Lecture 6: Character I/O (getc, getchar, putc, putchar etc.), Formatted and console I/O (printf(), scanf(), cin, cout), Using basic header files (stdio.h, iostream.h, conio.h etc.) Lecture 7: Simple expressions in C++ (including unary operator expressions, binary operator expressions), Understanding operator precedence in expressions. Lecture 8: Conditional statements (if construct, switch-case construct), Lecture 9: Understanding syntax and utilities of iterative statements (while, do-while and for loops). Lecture 10: Using nested statements (conditional and iterative). Lecture 11: Practice Previous years' questions. Lecture 12: Practice Previous years' questions. Lecture 13: Pointer and Pointer-to-Pointer Lecture 14: Function, Utility of function, Different parts of a function. Lecture 15: Call by Value and Call by Reference Lecture 16: Functions returning values, Void functions Lecture 17: Inline functions, Return data types of functions Lecture 18: Function parameters Lecture 19: Differentiating between declarations and definitions of functions. Lecture 20: Command Line Arguments/Parameters in Functions. Functions with variable number of arguments. Lecture 21: Practice Previous years' questions. Lecture 22: Tutorial 1 Lecture 23: Tutorial 2 **TERM II (23 Lectures)** Lecture 1: Creating and Using One dimensional Array (declaring and defining an array, Initializing an array)) Lecture 2: Creating and Using One dimensional Array (accessing individual elements in an array, manipulating array elements using loops). Lecture 3: Use various types of arrays (integer and float arrays)

| | | Lecture 4: Use various types of arrays (character array / String)

Lecture 5: Two dimensional arrays (Concept, definition, declaration)
Lecture 6: Two dimensional arrays (Initializing 2-D arrays, Working with rows and columns)
Lecture 7: Introduction to multidimensional arrays.
Lecture 8: Practice Previous years' questions.
Lecture 9: Practice Previous years' questions.
Lecture 10: Under standing the utilities of Structure and Union.
Lecture 11: Declaring, Initializing and Using simple Structures and Unions.
Lecture 12: Manipulating individual members of Structures and Unions.
Lecture 13: Array of Structures. Individual data members as Structures.
Lecture 14: Practice Previous years' questions.
Lecture 15: Passing and returning Structures from functions.
Lecture 16: Structure with Union as members.
Lecture 17: Union with Structures as members.
Lecture 18: Opening and Closing a file (use of fstream header file, ifstream, of stream and fstream classes)
Lecture 19: Reading and Writing Textfiles. Using put(), get(), read(), and write() functions.
Lecture 20: Random access in files. Understanding the preprocessor directives. (#include, #define, #error, #if, #else, #elif, #endif, #ifdef, #ifndef, and #undef). Macros.
Lecture 21: Practice Previous years' questions.
Lecture 22: Tutorial 3
Lecture 23: Tutorial 4

TERM III (18 Lectures)
Lecture 1: Principles of Object-Oriented Programming, Defining and using classes.
Lecture 2: Class Variables and Functions. Objects as parameters.
Lecture 3: Function overloading in classes.
Lecture 4: Operator Overloading
Lecture 5: Class Constructors and Destructor.
Lecture 6: Constructor overloading.
Lecture 7: Copy Constructor.
Lecture 8: Specifying the Protected and Private access.
Lecture 9: Practice Previous years' questions.
Lecture 10: Introduction to Polymorphism.
Lecture 11: Introduction to Inheritance. Different types of Inheritances.
Lecture 12: Exception Handling .
Lecture 13:Template classes and their use.
Lecture 14: File Handling using C++.
Lecture 15: Practice Previous years' questions.
Lecture 16: Tutorial 5
Lecture 17: Revision 1
Lecture 18: Revision 2 |
| | Course Type: | **TERMI (12 Lectures)** |

	Generic Elective (GE)
	
	Course Code:
	GE3P
	
	Course Title:
	Introduction to Programming (Practical).
	
	Number of Classes per Week: **2**
		Lecture 1: Different tools of Dev C++ IDE
		Lecture 2: How to Write, Compile and Run C and C++ Programs.
		Lecture 3: Write a program to find greatest among three given numbers.
		Lecture 4: Write a program to find gross salary of a person.
		Lecture 5: Write a program to print first ten even and odd numbers.
		Lecture 6: Write a program to find the divisors or factor of a given number.
		Lecture 7: Write a program to find the factorial of a given number. (With and without recursion)
		Lecture 8: Write a program to print first ten natural numbers.
		Lecture 9: Practice previous years' questions. 1
		Lecture 10: Practice previous years' questions. 2
		Lecture 11: Tutorial 1
		Lecture 12:Tutorial 2
		
		TERM II (12 Lectures)
		Lecture 1: Write programs to perform addition and subtraction of two matrices.
		Lecture 2: Write programs to perform matrix multiplication and transpose of a matrix.
		Lecture 3: Create a class called Matrix. Write a menu driven program to perform the following Matrix operations.
		    a) Sum
		    b) Difference
		    c) Product
		    d) Transpose
		Lecture 4: Write a program to check whether a given number is prime or not.
		Lecture 5: Write a program to verify whether a given year is leap year or not.
		Lecture 6: Write a program to display n terms of the Fibonacci series.
		Lecture 7: Write a program to find grade of a student by the given marks.
		Lecture 8: Write a program to determine HCF and LCM of two given numbers.
		Lecture 9: Write a program to find grade of a list of students given their marks.
		Lecture 10: Practice previous years' questions. 3
		Lecture 11: Practice previous years' questions. 4
		Lecture 12: Tutorial 3
		
		TERM III (8 Lectures)
		Lecture 1: Write a program to implement constructor in C++.
		Lecture 2: Write a program to input and display the name, roll and semester of a student using structure.
		Lecture 3: Write programs to implement single and multilevel inheritance.
		Lecture 4: Write programs to implement hierarchical and hybrid inheritance.
		Lecture 5: Program to explain the problem of multiple inheritance. Also explain the solution code to overcome that problem.
		Lecture 6: Practice previous years' questions. 5
		Lecture 7: Practice and revision 1

		Lecture 8: Practice and revision 2

5th Semester

Name of the Teacher	Course and Class Details	Teaching Plan
SUBHADIP MUKHERJEE	Course Type: **BCA** Course Code: **BCA 3195** Course Title: **Seminar (Individual)** Number of Classes per Week: **1**	**TERMI (6 Lectures)** Lecture 1: Various tools for Presentation preparation Lecture 2: Sequence of slides, few mandatory slides Lecture 3: Discussion and explanation of different seminar topics 1 Lecture 4: Discussion and explanation of different seminar topics 2 Lecture 5: Answering to the students' queries. 1 Lecture 6: Tutorial 1 **TERM II (6 Lectures)** Lecture 1: Discussion and explanation of different seminar topics 3 Lecture 2: Answering to the students' queries. 2 Lecture 3: Practical demonstration on presentation preparation Lecture 4: Discussion and explanation of different seminar topics 5 Lecture 5: Presentation correction 1 Lecture 6: Tutorial 2 **TERM III (4 Lectures)** Lecture 1: Presentation correction 2 Lecture 2: Answering to the students' queries. 3 Lecture 3: Presentation Practice 1 Lecture 4: Presentation Practice 2
	Course Type: **BCA** Course Code: **BCA 3197** Course Title: **.(dot) NET Lab** Number of Classes per Week: **2**	**TERMI (6 Lectures)** Lecture 1: Console Programming: Tools, Techniques and Applications. Lecture 2: Visual Studio: About the software, How to Compile and Run the console programs. Lecture 3: Console programs to find the prime numbers in a given range. Console program to sort a given set of numbers using different sorting algorithms. Lecture 4: Console program to convert a given decimal number to its equivalent binary number and vice versa. Lecture 5: Console programs to implement binary and linear search. Lecture 6: Console program to construct a calculator. Lecture 7: Console programs to construct different structures using '*' and numbers (0 to 9). Lecture 8: Console programs to perform matrix addition, subtraction, and Transpose. Lecture 9: Tutorial 1

| | | **TERM II (6 Lectures)**
Lecture 1: Console programs to perform matrix Multiplications.
Lecture 2: Console program to read an integer and find the sum of all digits in that number. Also find the reverse of that number.
Lecture 3: Solve and practice previous year questions.
Lecture 4: Console program to generate the abbreviation of an inputted text line.
Lecture 5: Console program to reverse an array.
Lecture 6: Console program to read a sentence and find the frequency of the word 'is' in that sentence.
Lecture 7: Solve and practice previous year questions.
Lecture 8: Console program to take number of days as input and display it in number of years, months and days as output.
Lecture 9: Tutorial 2

TERM III (4 Lectures)
Lecture 1: Answer to students' queries on logics and codes.
Lecture 2: Console programs to implement different types of inheritances.
Lecture 3: Console programs to solve various file handling problems.
Lecture 4: Solve and practice previous year questions.
Lecture 5: Revision and Practice 1
Lecture 6: Revision and Practice 2 |
| | | |

Teaching Plan

Department of Computer Science & BCA

Session(2023-24)

Odd Semester

TermI	From commencement of class to 1st Internal Assessment
Term II	1st Internal Assessment to 2nd Internal Assessment

Teachingplan:2023-24(OddSemester)
BISWAJIT LAYA
Dept.ofComputer Science & BCA

Semester III		
Syllabus allotted		BCACC6T:Operating System
	Lec No	**UNIT-I Introduction:** Introduction to OS. Operating system functions, evaluation of O.S., Different types of O.S:batch,multi-programmed,time-sharing,real-time,distributed.parallel. **UNIT-II System Structure:** Computer system operation, I/O structure, storage structure, storage hierarchy, different type of protections, operating system structure(simple, layered, virtual machine),O/S services, system calls. **UNIT-III Process Management:** Processes-Concept of processes, process scheduling, operations on processes, co-operating processes, inter-process communication. Threads: overview, benefits of threads, user and kernel threads. CPU scheduling: scheduling criteria, preemptive& non-preemptive scheduling, scheduling algorithm(FCFS,SJF,RR, and priority) and algorithm evaluation, multi-processor scheduling. Process Synchronization: background, critical region, synchronization hardware, classical problem of synchronization, semaphores. **UNIT-IV Deadlocks:** System model, deadlock characterization, methods for handling deadlocks, deadlock prevention, deadlock avoidance, deadlock detection, recovery from deadlock **UNIT-V Storage Management:** Memory Management: Physical and virtual address space; memory allocation strategies-fixed and variable partitions, paging, segmentation, virtual memory. **UNIT-VI I/O Management:** I/O hardware, polling, interrupts, DMA, application I/O interface(block and character devices, Network devices, clocks and timers, blocking and non blocking I/O),kernel I/O subsystem(scheduling, buffering,caching, spooling and device reservation, error handling),performance. **UNIT-VII Disk Management** Disk structure,disk scheduling(FCFS,SSTF,SCAN,C-SCAN),disk reliability, disk formatting, Boot block, bad blocks
		TermI
	02	Computer system operation, I/O structure, storage structure, storage hierarchy, different type of protections, operating system structure(simple, layered, virtual machine),O/S

		services, system calls.
	03	Processes-Concept of processes, process scheduling, operations on processes, co-operating processes, inter-process communication.
	04	Threads: overview, benefits of threads, user and kernel threads
	05	CPU scheduling: scheduling criteria, Pre-emptive& non-pre-emptive scheduling
	06	scheduling algorithm(FCFS,SJF,RR, and priority) and algorithm evaluation,
	07	multi-processor scheduling, Process Synchronization: background,
	08	critical region, synchronization hardware
	09	classical problem of synchronization, semaphores

	TermII	
	01	System model, deadlock characterization, methods for handling deadlocks,
	02	deadlock prevention, deadlock avoidance, deadlock detection, recovery from deadlock
	03	Memory Management: Physical and virtual address space; memory allocation strategies-fixed and variable partitions
	04	paging, segmentation
	05	virtual memory
	06	I/O hardware, polling, interrupts, DMA, application
	07	kernel I/O subsystem(scheduling, buffering, caching, spooling and device reservation, error handling),performance
	08	I/O interface(block and character devices, Network devices, clocks and timers, blocking and non blocking I/O)
	09	Disk structure, disk scheduling(FCFS,SSTF,SCAN,C-SCAN),
	10	disk reliability, disk formatting,Boot block, bad blocks

SemesterV

Syllabus Allotted	**BCA 3103 .(dot)NET Technology** **UNIT-I:** An Overview of NET, Defining NET, Web services, The NET Framework, The Common Language Runtime, CLR Based Languages, The NET Framework Class Library, The NET Compact Framework, NET My Services, The NET Enterprise Servers, A NET Scenario **UNIT-II**: Web Services, Describing Web Services, Access to Internet Applications,B2B Integration, A Web Services Scenario, XML, WSDL, SOAP ,UDDI, Future Directions for Web Services **UNIT-III**:The Common Language Runtime,The Common Type System,Introducing the Common Type System,The Common Language Specification, Compiling Manage Code, Microsoft Intermediate Language,Metadata,Manifests,Categorizing Assemblies, Loading Assemblies, Compilling MSIL Securing Assemblies, Garbage Collection,Application Domains **UNIT-IV**:NET Languages, NET Languages, Overview of the NET Framework, The System Namespace, A Survey of System Subordinate,System,System Runtime Serialization,SystemXml,The XML Technology Family, What SystemXml Provides, SystemReflection,SystemRuntimeRemoting,An Overview of the Remoting Framework,Choosing a channel Creating and Destroying Remote Object,System Enterprise services, Access COM Objects, Accessing NonCOM DLLs, Building GUIs Using Windows Forms,Windows Forms **UNIT-V:**ADONET:NET Data Providers,Direct Access to Data,Accessing Data w DataSets,Creating and Using DataSets,Accessing and Modifying a DataSet ,Using DataSet with XML Define Data, and Using DataSets, Accessing and Modifying a DataSet, Using DataSets with XML Defined Data **UNIT-VI**: ASPNET: SystemWebUI, How Browser Application Work, Web Controls, Separating the User Interface, Web Services Servers, web Services Clients, Options for Web Services Applications, Microsoft Specific Support

		TermI
	01	An Overview of NET, Defining NET, Web services, The NET Framework, The Common Language Runtime, CLR Based Languages, The NET Framework Class Library, The NET Compact Framework, NET My Services, The NET Enterprise Servers, A NET Scenario
	02	Web Services, Describing Web Services, Access to Internet Applications,B2B Integration, A Web Services Scenario, XML, WSDL, SOAP ,UDDI, Future Directions for Web Services
	03	The Common Language Runtime, The Common Type System
	04	, Introducing the Common Type System, The Common Language Specification
	05	Compiling Manage Code, Microsoft Intermediate Language, Metadata,
	06	Manifests, Categorizing Assemblies, Loading Assemblies,
	07	Compilling MSIL Securing Assemblies, Garbage Collection, Application Domains
		TermII
	01	NET Languages, NET Languages, Overview of the NET Framework, The System Namespace, A Survey of System Subordinate, System
	02	System Runtime Serialization, SystemXml, The XML Technology Family, What SystemXml Provides, SystemReflection, SystemRuntimeRemoting,
	03	An Overview of the Remoting Process Choosing a channel Creating and Destroying Remote Object, System Enterprise services, Accessing COM Objects, Accessing NonCOM DLLs, Building GUIs Using Windows Forms, Windows Forms Controls
	04	ASPNET: SystemWebUI, How Browser Application Work, Web Controls, Separating the User Interface
	05	Web Services Servers, web Services Clients,
	06	Options for Web Services Applications, Microsoft Specific Support

Teaching Plan
Department of Computer Science & BCA
Session (2022-23)
Even Semesters

Term I From commencement of class to 1st Internal Assessment

Term I From commencement of class to 1st Internal Assessment
Term II 1st Internal Assessment to 2nd Internal Assessment
Term III 2nd Internal Assessment to End Semester Examination

Teaching plan : 2022-23 (Even Semesters)
Alok Haldar
Dept. of Computer Science & BCA

Semester - IV		
Syllabus allotted		**BCA2296 : C++ Lab** **BCA2297 : Gr.-A : OS Lab** **Gr.-B : Networking Lab**
C++ Lab	Lec No	**Based on C++ Theory.**
		Term I
	01	Write a C++ program to design a class cylinder and the operations on cylinder as follows : a) Calculate the volume. B) Calculate the surface area. c) Find the area of cylinder base. d) Set the radius , height and the center of the base.
	02	Write a C++ program to find the **area** and **perimeter** of **square** and **triangle** by creating the class **shape**, **square**, **triangle** and required data members and functions like input **values()**, **area()**, **perimeter().**
	03	Write a C++ program to find the **area** and **perimeter** of triangles by creating the class **triangles, isosceles, equilateral** and required data members and functions like **values()**, **area()**, **perimeter().**
	04	Write a C++ program that uses inline function to count the number of vowels,consonant,integers in a string.
	05	Write a C++ program to design a class **Complex** with data members for real and imaginary part. Provide default and parameterized constructors and member functions to **get(), set(), display(), add(), subtract(), multiply(), and divide() two complex numbers.**
	06	Write a C++ program to read two times and add them .To create a class to represent time (Hour,Minute,Second) in 24 Hour Format.
	07	Write a C++ program to create a class **point** that consists of x and y coordinates and using this design a class **Linesegment** which consists of two points appropriate constructors and destructors. Write a function **compare-lines** to check whether two line segments are parallel or perpendicular or not.
	08	Write a C++ program to check the following operations on the class STACK as : a) Current Status. B) Push an item. C) pop an item, d) Empty stack or not.
	09	Write a C++ program to check the following operations on the class **QUEUE** as : a) insert element to the queue. B) Delete an element from the queue. C) Destroy the

		queue.
	10	Write a C++ program to use of copy-constructor in a user defined class.
		Term II
	11	Write a C++ program to overload ' + , - , * ' operator to addition, subtraction and multiplication of two matrices same order
	12	Write a C++ program to overload input and output **operators >> and <<** to take complex numbers from user. Now overload addition and multiplication operators **+ and *** to demonstrate **addition** and **multiplication** of two complex numbers.
	13	Write a C++ Program to overloads an assignment(=) operator for user-defined class.
	14	Write a C++ Program overloads the pre-increment and post-increment operators for user-defined objects.
	15	Write a C++ program to demonstrate single inheritance that uses both public and private access specifier.
	16	Write a C++ program to demonstrate multiple inheritance that uses both public and private access specifier.
	17	Write a C++ program to demonstrate hybrid inheritance that uses both public and private access specifier.
		Term III
	18	Write a C++ program to make **function template** program which can **swap two variables** which may be int, float or character.
	19	Write a C++ program to make **function template** program which can Sort n numbers using **bubble sort/selection sort/insertion sort/merge sort/quicksort method.**
	20	Write a C++ program to write a function **matmul()** using **function template** and **multiply two matrices**. Invoke the functions to operate on **two integer matrices and two float matrices**. Write a display method to show the result.
	21	Write a C++ program to create a **template class for stack** and suitable member functions to show the operation of stack.
	22	Write a C++ program to implement runtime Polymorphism. Use proper constructor data member and functions.

	Lab	**Gr.-A**
		Shell programming : creating a script, making a script executable, shell syntax.
		Process : starting new process, replacing a process image, duplicating a process image , waiting for a process.
		Signal : signal handling, sending signals, signal interface, signal sets.
		Semaphore : programming with semaphores (use functions semctl, semget, semop, set_semvalue, del_semvalue,semaphore_p, semaphore_v).
		POSIX Threads : programming with pthread functions(viz. pthread_create, pthread_join, pthread_exit, pthread_attr_init, pthread_cancel)
		Inter-process Communication : pipes(use functions pipe, popen, pclose), named pipes(FIFOs, accessing FIFO.
		Gr.-B
		Socket Programming : Simple Application using elementary socket system calls in client/server model in unix/linux using language TCP/UDP example using only the elementary socket system calls.

		Term I
OS Lab &	01	Write a shell script to evaluate the arithmetic expression M=[(a-b)+(c+d)*e/f] where a,b,c,d,e and f are integer number which is supplied by the user.
	02	Write a shell script to sum of natural number i.e 1+2+3+...+n.
	03	Write a shell script to calculate the factorial of a given number.

Networking Lab		
	04	Write a shell script to check if a number is prime or not.
	05	Write a shell script to display first n fibonacci numbers where n is read from keyboard.
	06	Write a shell script to check whether a number is armstrong or not.
	07	Write a shell script to sum of the digits of a given integer.
	08	Write a shell script to print the multiplication table of any number.
	09	Write a shell script to check whether a string is palindrome or not.
	10	Write a shell script to find out the roots of the quadratic equation i.e $ax^2+bx+c=0$.
	11	Write a shell script to reverse of a given number and the number is supplied from user.
	12	Write a shell script to display the message "Good Morning" or "Good afternoon" or "Good evening according to system time.
	13	Write a shell script to check whether a number is palindrome or not.
	14	Write a shell script to check whether a number is perfect number or not.
	15	Write a shell script to draw the following pattern : 1 1 2 1 2 3
	16	Write a shell script to find out the HCF and LCM of two given numbers.
	Term II	
	17	Write a shell script to generate all prime numbers up to a given numbers.
	18	Write a shell script to to generate all perfect numbers up to a given numbers.
	19	Write a shell script / program that takes a file name as command line argument and searches the output whether it exists. If exists its RWX permission and displayed also.
	20	Write a shell script to calculate the number files and directories at your current directory.
	21	Write a shell script to generate all non-fibonacci numbers up to a given range.
	22	Write a shell script / program to find out the values of the series 1!+2!+3!+....+n!
	23	Write a shell script / program to reverse a string. e.g RAM IS A GOOD BOY is BOY GOOD A IS RAM. (Note that a word is not reversed.)
	24	Write a shell script to convert a decimal number to its equivalent binary number.
	25	Write a shell script to calculate 1! +2! +3! .... +n!
	26	Write a shell script to search a number from a given set of numbers.
	27	Write a shell script / program to find out the maximum number from the given set of numbers.
	28	Write a shell script to search a number using Binary Search.
	29	Write a shell script to sort of n numbers using Bubble Sort.
	30	Write a shell script / program to calculate the sum of natural number and the number supplied by command line argument.
	Term III	
	31	Write a Program to create a process in unix.
	32	Write a Program to create a child process in unix.
	33	Write a c program to implement both client and server with exchange string using TCP
	34	Write a program that receives an IP address and determines the class of the IP address.
	35	Write a socket program in TCP method for bidirectional data transfer between client and server.
	36	Write a program to detect the IP address.
	37	Write s socket program to send a data from server to client as user like to input using UDP
	38	Write a program in C to transfer file from server to client using TCP socket.

Semester - IV	
Syllabus allotted	**BCA3202 : Advanced DBMS** **BCA3294 : Graphics & Multimedia Lab** **BCA3295 : Industrial Project**

BCA3202 (Elective-2): Advanced Database Management System

UNIT-I   : Database Design: Multivalued dependencies, theory of normalisation-4NF, 5NF, 6NF DKNF

UNIT-II : ANSI SQL2: DDL, DML, constraints and assertions, views, database security.

UNIT-III : Transaction processing, concurrency control, Recovery management. Transaction model properties, lock base protocols, Two-phase locking, Live – Lock, Time-Stamp Protocol.

UNIT-IV : Brief introduction to distributed database, temporal database and object-oriented database.

UNIT-V   : Embedded SQL & Applications.

BCA3294 : Graphics & Multimedia Lab

1. Point plotting, line & regular figure algorithms
2. Raster scan line & circle drawing algorithms
3. Clipping & Windowing algorithms for points, lines & polygons
4. 2-D / 3-D transformations
5. Simple fractals representation, Demonstrate the properties of the Bezier curves.
6. Filling algorithms , Clip line segments against windows
7. Web document creation using Dreamweaver.
8. Creating Animation using Flash.

BCA 3295 : Project(Industrial)

	Term I
01	Database Design, Functional dependencies, Multivalued dependencies definition with examples. Fourth Normal Form(4NF)
02	Join dependencies with Fifth Normal Form(5NF) definition with example
03	Inferences rule for Functional dependencies with examples.
04	Determine closure under Functional dependencies(F+)
05	Equivalence of Sets of Functional dependencies with examples. To find out the minimal sets of Functional dependencies with examples.
06	Dependencies Preservation of Functional dependencies with examples. Non-additive (Lossless) Join Property of a Decomposition.
07	Testing for Non-additive Join property.
08	Domain key constraints , Key constraints, DKNF,6NF with examples.
	Term II
09	DDL,DML,DCL,Constraints and assertions, Views, Database Security.
10	Introduction to Transaction Processing Concepts, Properties of transaction, Serializability,
11	Concurrency Control, Why Concurrency Control is Needed,Two Phase Locking Techniques for Concurrency Control,
12	Why recovery is needed, Desirable Property of Transaction(ACID Property) Serializability, Locking Mechanisms, Two Phase Commit Protocol.
13	Concurrency Control based on Time-stamp ordering.
	Term III
12	Basic Concepts of Distributed Database, Reliability and Availability.
13	Types of distributed database, Distributed Database architecture, Advantages of Distributed Database.

	14	Query Processing and Optimization in Distributed Databases.
	15	Temporal and Object-Oriented database, Embedding SQL & applications.
Graphics & Multimedia Lab		**Term I**
	01	Write a Program to draw basic graphics construction like line, circle, arc, ellipse and rectangle.
	02	Write a Program to draw a line using DDA algorithm.
	03	Write a Program to draw a line using Bresenham's Line Drawing algorithm.
	04	Write a Program to draw a circle using mid-point algorithm.
	05	Write a Program to draw a circle using Bresenham's circle drawing algorithm.
	06	Write a Program to draw an ellipse using mid-point algorithm.
	07	Write a Program to draw an equilateral triangle without using any inbuilt functions.
	08	Write a program to draw three concentric circle of different color using any circle drawing algorithm without using any inbuilt functions.
		Term II
	09	Write a Program to perform the following 2D transformation on a triangle(menu driven program) i) Translation w.r.t an origin. ii) Rotation w.r.t an origin. iii) Scaling w.r.t an origin.
	10	Write a Program to rotate a line about 45 with respect to origin.
	11	Write a Program to fill a rectangle using any standard filling algorithm.
	12	Write a Program to implement Cohen-Sutherland line clipping algorithm.
		Term III
	13	Write a Program to fill the figure with appropriate color 	RED	BLUE	 	GREEN	CYAN	
	14	Write a Program to draw Bar Chart of student's result of last 5 years.
	15	Write a Program to display a moving ball.
Project (Industrial)		**Term I**
	1	Choose the name of Project, Problem Definition, Gathering the information, Prepare E-R diagram and DFD. Total project divided with modules.
		Term II
	2	Implementation of the Project using Latest Software. Finally Testing of the Whole Project through valid data.
		Term III
	3	How to prepare the documentation of Project.

Semester II		
Syllabus allotted	**Lec No.**	**Term I**
		Introduction to Accounting
	01	Definition,
	01	scope of accounting
	02	Accounting as financial information system
	03-05	Accounting Standards
	06-07	Accounting Principles
		Accounting procedure
	08	Transaction/event, Classification of accounts
	09-12	voucher
	13-15	Preparation of vouchers
	16-19	Journal/ subsidiary books
	20-22	Types of subsidiary books Ledger accounts and trial balance
Paper GE-02 (T)		**Term II**
		Depreciation accounting, Capital & Revenue
	23-25	Expenditure & receipts
	26	Methods of depreciations
	27	-Straight-line method
	28	- Reducing method
	29	- Sinking fund method
	30	- Annuity Method
	31	- Machine hour rate method
	32	-Depletion method
		Term III
		Company Final Accounts
	33-35	Preparation of trading a/c
	36-37	Profit & Loss a/c
	38	Balance sheet
	39-40	Accounting for issue of shares

Semester IV		
Syllabus allotted	**Lec No.**	**Term I**
	01	Introduction
	02	Analytical discussion of the theorem
Game Theory	03	Formation of the pay-off matrix
(Paper -)	04-05	Mixed strategy
	06-07	Graphical Solution of 2xn or mx2games
		Term II
	08-09	Dominance property
	10-11	General rule for dominance
	12	Modified dominance property
	13	Fundamental theorem of a rectangular game
	14	Solution of a game problem by matrix method
	15-16	Solution of the game problem by iterative method

Department of Computer Science and BCA

Syllabus Distribution and Teaching Plan
Even Semester, Session: 2022-2023

Term I: *Commencement of classes to 1st internal*; Term II: *1st internal to 2nd internal*;
Term III: *2nd internal to ESE preparatory break.*

Semester II

FACULTY NAME	ALLOTATED PAPERS	TEACHING PLAN
Sakhi Bandyopadhyay	CC-04(T): DataStructure(3L, 1T) CC-04(P): Data Structure Lab(2P) SL/AL: Special Classes for 2nd Sem (1T)	**Term I** **CC-04 (T):** Lecture 1: Basics of data structures, Array, Sparse Matrix etc. Lecture 2: Linked List, Singly linked lists and their implementations. Lecture 3: Double linked lists and their implementations. Lecture 4: Circular linked lists and their implementations. Lecture 5: Implementing Stack, Infix, Prefix and Postfix expressions. Lecture 6:Utility and conversion of Infix, Prefix and Postfix expressions from one to another,Applications of stack,Limitations of Array representation of stack Lecture 7: Normal andCircular representation of Stack in Lists Lecture 8: Queue, Different types of queues. Lecture 9: Tutorial Lecture 10: Tutorial Lecture 11: Tutorial **CC-04 (P):**Practical on Array, Linked List, Stack and Queue. Program 3 and 4. **Term II** **CC-04 (T):** Lecture 12: Recursion Lecture 13: Trees: Basics, Binary Trees Lecture 14: Binary Search Trees Lecture 15: Threaded Binary Trees Lecture 16: AVL Tree Lecture 17: Tree traversaltechniques, Heap Sort Lecture 18: Tutorial Lecture 19: Tutorial **CC-04 (P):**Practical on Recursion and Tree. Program 8, 9, 10, and 11. **Term III** **CC-04 (T):** Lecture 20: Different Searching Algorith... Lecture 21: Selection Sort, Insertion Sort, Bubble Sort Lecture 22: Quick Sort and Merge Sort, Comparison of SortingTechniques. Lecture 23: Hashing Lecture 24: Tutorial

		CC-04 (P):Practical on Searching and Sorting. Program 1 and 2.

Semester IV

FACULTY NAME	ALLOTATED PAPERS	TEACHING PLAN
Sakhi Bandyopadhyay	BCA 2202: Operating System (1L) BCA 2204: Software Engineering (3L)	**Term I** **BCA 2202:** **(System Structure)** Lecture 1:System Structure: Computer system operation, I/O structure, storage structure Lecture 2: Storage hierarchy,different types of protections Lecture 3: Operating system structure (simple, layered, virtual machine), O/Sservices, system calls. **BCA 2204:** Lecture 1: Introduction Lecture 2:System Development Life Cycle Lecture 3:Waterfall Model Lecture 4:Spiral Model Lecture 5:Feasibility Analysis Lecture 6:Cost- Benefit Analysis Lecture 8:COCOMO model Lecture 9: SRS Lecture 10: DFD Lecture 11: Data Dictionary Lecture 12: ERD Lecture 13: System Design Lecture 14: Decision Tree & Table Lecture 15: Object Oriented Approach Lecture 16: Coding Lecture 17: Documentation **Term II** **BCA 2202:** **(Deadlocks: Properties, Conditions, Detection, Prevention, Avoidance, and Recovery).** Lecture 4: System model Lecture 5: Deadlock characterization, Methods for handling deadlocks Lecture 6: Deadlockprevention, Deadlock avoidance Lecture 7:Deadlock detection, Recovery from deadlock **BCA 2204:** Lecture 4: Structured Programming Lecture 5: OO Programming Lecture 6: System Testing Lecture 7:Different types of Testing Lecture 8: Reliability Assessment Lecture 9:Validation &Verification Metric Lecture 10: Cohesion & Coupling Lecture 11:Monitoring & Control **Term III** **BCA 2202:** **(Protection & Security: security problem, authentication,**

		system threats).
		Lecture 8:Goals of protection, domain of protection
		Lecture 9: Security problem, Authentication, one time password,
		Lecture 10: Program threats, System threats
		Lecture 11: Threat monitoring, Encryption
		BCA: 2204:
		Software Project Management
		Lecture 12: Project Scheduling
		Lecture 13: Staffing
		Lecture 14: Software Configuration Management
		Lecture 15: Quality Assurance
		Lecture 16: Project Monitoring
		Lecture 17:CASE TOOLS
		Lecture 18:CASE TOOLS

Semester VI

FACULTY NAME	ALLOTATED PAPERS	TEACHING PLAN
Sakhi Bandyopadhyay	BCA 3295: Project (1L)	**Term I** BCA 3295: Project Selection: Project Title, Group formation, System and Technology Requirement Analysis, etc., Project Blueprint: DFD, ERD, and Design. **Term II** BCA 3295: Project Coding and Implementation: Front End and Back End Development. Project Testing. **Term III** BCA 3295: Documentation of the Project (DOCX, PDF, and PPT) and Preparation for Final Examination.

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BIDYUT SAMANTA

22.06.2024

Instructor Name- Anudyuti Ghorai	
Subject	Teaching Plan
Semester II	
Data Structure Lab (BCACC4P)	1. WAP to calculate factorial and to compute the factors of a given no. using iteration 2. WAP to calculate factorial and to compute the factors of a given no. using recursion 3. WAP to display Fibonacci series using iteration. 4. WAP to display Fibonacci series using recursion. 5. WAP to calculate GCD of 2 number without recursion. 6. WAP to calculate GCD of 2 number with recursion. 7. WAP to implement Diagonal Matrix using one-dimensional array. 8. WAP to implement Lower Triangular Matrix using one-dimensional array. 9. WAP to implement Upper Triangular Matrix using one-dimensional array. 10. Perform Stack operations using Array implementation. 11. Perform Queues operations using Circular Array implementation. 12. Perform Stack operations using Linked List implementation.
Semester IV	
COMPUTER NETWORK (BCA-2205)	**Term I:** Introduction: Data communication- fundamental characteristics, components. Types of data flow. Types of connection. Protocol. Protocol Stack OSI model- Physical Layer, Data link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer, Application Layer. Physical Layer: Physical Topologies- Mesh, Star, Bus, Ring, Hybrid. Categories of Network- LAN, WAN, MAN, WAN. Analog Signals & Digital Signals- Data Transmission- Bandwidth, Transmission of signals, Attenuation, Nyquist bit rate, Shannon capacity, Latency, Transmission time, Bandwidth delay product. Digital to Digital conversion, Analog to Digital conversion, Digital to Analog conversion, Analog to Analog conversion Multiplexing: FDM, WDM & TDM. Transmission Media: Guided Media, Unguided Media(Wireless). Circuit Switching. **Term II:** Data Link Layer: Error detection and correction: - Type of Errors, Detection, CRC, hamming distance, Hamming code, parity check code. Framing. Data Link Control and Protocols: - Flow and Error control, Stop-and Wait ARQ, Go-Back, N ARQ, Selective Repeat ARQ, HDLC. Multiple Access: Random Access, Controlled Access, Random access Protocol-ALOHA, CSMA, CSMA/CD. Controlled Access Protocol- Reservation Polling, Token passing

	Area Network: Ethernet, Wireless LANS: IEEE802-11, Frame Relay, ATM **Term-III:** Network Layer: IP Addressing - PV4, IPV6 Routing- Interdomain: Distance vector (RIP), Link state (OSPF), Interdomain: Path vector (BGP). Gateway. Protocols:ARP, RARP, ICMP Transport Layer: Process-to-Process Delivery. UDP, TCP Congestion Control& Quality of Service. **Term-IV:** Application Layer: Client Server Model, Domain Name System (DNS), E-mail (SMTP), File Transfer (FTP) HTTP, WWW.

Semester VI	
COMPUTER GRAPHICS AND MULTIMEDIA (BCA-3203)	**Term-I**: Development of Computer Graphics: Basic graphics system and standards, Raster scan and random scan, graphics; Continual refresh and storages display, display processors and character generator, Colour display techniques, Frame buffer and bit operations, concepts in raster graphics. **Term -II**: Points, Line and Curves; Scan Conversion; Line drawing algorithms; circle and ellipse generation; Polygon filling; Conic-section generation, Ant-aliasing. **Term -III**: Two-dimensional viewing: Basic transformations; Co-ordinate systems; Windowing and Clipping; Segments; Interactive picture-construction techniques; interactive input-output device. **Term -IV:** Three-dimensional Concepts: 3-D representation and transformations; 3-D viewing; Algorithm for 3-D volumes, spline curves ad surface; Fractals; Quad tree and oct-tree datastructures; Hidden line and surface rendering, and animation. **Term -V:** An Introduction – Multimedia applications – Multimedia System Architecture – Evolving technologies for Multimedia – Defining objects for Multimedia systems – Multimedia Data interface standards – Multimedia Databases. **Term -VI:** Compression & Decompression – Data & File Format standards – Multimedia I/O technologies - Digital voice and audio – Video image and animation – Full motion video – Storage and retrieval Technology.
GRAPHICS AND MULTIMEDIA LAB (BCA-3294)	1. Write a program to implement DDA line drawing algorithm. 2. Write a program to implement Bresenham's line drawing algorithm. 3. Write a program to implement mid-point circle drawing algorithm. 4. Write a program to implement 2D scaling of a rectangle with respect to origin. 5. Write a program to implement 2D scaling of a rectangle with respect to arbitrary point.

	6. Write a menu driven program to show all the standards of 2D reflections.
	7. Write a program to rotate a line by an angle 45 degree with respect to the centre position of the axis.
	8. Write a program to rotate a line by an angle 45 degree with respect to a arbitrary point.

Department of Computer Science and BCA

Syllabus Distribution and Teaching Plan
Even Semester, Session: 2022-2023

Term I: *Commencement of classes to 1st internal*; Term II: *1st internal to 2nd internal*;
Term III: *2nd internal to ESE preparatory break.*

Semester IV

FACULTY NAME	ALLOTATED PAPERS	TEACHING PLAN
Subhadip Mukherjee	BCA-2201: Object Oriented Programming Using C++ (3L) BCA-2202: Operating System (2L) GE4T: Programming in Python (3L) GE4P: Programming in Python Practical (2P) SL/AL: Special Classes for 4th Sem (1L)	**Term I** **BCA-2201:** **(Introduction to OOPs, Features & Advantages of OOPs, Different elements of C++, Program Control Statements, Loop, Array, Function, Structures, Union and Enum).** Lecture 1:Introduction to OOPs and C++ Element Lecture 2:Features & Advantages of OOPs Lecture 3:Different elements of C++ Lecture 4:Program Control Statements Lecture 5:Loop Lecture 6:Array Lecture 7:Function Lecture 8:Structures Lecture 9:Union and Enum **BCA-2202:** **(Introduction to OS and types of OS, Process Management, Threads, CPU scheduling, Process Synchronization).** Lecture 1:Introduction to OS Lecture 2: Operating system functions Lecture 3: Different types of O.S. Lecture 4: Different types of O.S (Cont..) Lecture 5: Concept of processes Lecture 6: Process scheduling Lecture 7: Operations on processes Lecture 8: Threads Lecture 9: Threads (Cont…) Lecture 10: CPU scheduling Lecture 11: Scheduling algorithms (FCFS, SJF, RR, priority) Lecture 12: Scheduling algorithms (FCFS, SJF, RR, priority) (Cont..) Lecture 13: Introduction Of Process Synchronization Lecture 14: Critical section problem Lecture 15: Synchronization hardware Lecture 16: Classical problems of synchronization Lecture 17: Semaphores **GE4T:** **Planning the Computer Program, Techniques of Problem Solving, Overview of Programming, Introduction to Python, Creating Python Programs.** Lecture 1:Planning the Computer Program Lecture 2: Algorithms

Lecture 3: Flowcharts
Lecture 4:Techniques of Problem Solving
Lecture 5:Overview of Programming
Lecture 6:Introduction to Python
Lecture 7:Operators
Lecture 8:Input and Output Statements
Lecture 9:Control statements
Lecture 10:Functions

GE4P:
Practical on Structure of a Python Program, Python Interpreter, Using Python as calculator, Input and Output Statements, Control statements. Program 1 to 8.

Term II

BCA-2201:
(Class, Object, Constructor & Destructor, Static, Friend Function, Pointer, Polymorphism & Inheritance, Virtual Function).
Lecture 10:Class and Object
Lecture 11:Constructor
Lecture 12: Destructor
Lecture 13: DataMember
Lecture 14: Member Function
Lecture 15:Static Data Member
Lecture 16:Static Member Function
Lecture 17:Friend Function
Lecture 18:Pointer
Lecture 19:Implementation of Pointer
Lecture 20:Inheritance
Lecture 21:Polymorphism
Lecture 22: Virtual Function
Lecture 23:OperatorOverloading
Lecture 24:Function Overloading
Lecture 23: Problem Solved

BCA 2202:
(Storage Management: Memory Management, VirtualMemory, File Systems).
Lecture 18: Introduction of Memory Management
Lecture 19:Logical vs. physical address space, Swapping
Lecture 20:Contiguous memory allocation
Lecture 21:Paging
Lecture 22:Segmentation
Lecture 23: Introduction of Virtual Memory, Demand paging, Performance
Lecture 24:Page replacementalgorithms (FCFS, LRU)
Lecture 25:Allocation of frames, Thrashing
Lecture 26:File concept, Access methods, Directory structure, File system structure
Lecture 27:Allocation methods (continuous, linked, indexed)
Lecture 28:Free-space management (bit vector, linked list, grouping)
Lecture 29:Directory implementation (linear list, hashtable), efficiency & performance.

GE4T:
Iteration and Recursion, Strings and Lists, Object Oriented

		Programming.
		Lecture 11: Iteration
		Lecture 12: Iteration (Cont..)
		Lecture 13: Recursion
		Lecture 14: Recursion (Cont..)
		Lecture 15: Tables
		Lecture 16: Strings
		Lecture 17: Lists
		Lecture 18:Introduction to Classes
		Lecture 19:Objects and Methods
		Lecture 20:Standard Libraries
		GE4P:
		Practical on Looping and Recursion, Strings and Lists, Object Oriented Programming. Program 9 to 13.
		Term III
		BCA 2201:
		(File Handling, Exception Handling).
		Lecture 24: File Handling
		Lecture 25: Exception Handling
		Lecture 26: Files I/O
		Lecture 27: Tutorial
		Lecture 28: Tutorial
		Lecture 29: Tutorial
		Lecture 30: Tutorial
		BCA 2202:
		(I/O Management and Disk Management).
		Lecture 30:: I/O hardware, polling, interrupts
		Lecture 31:DMA
		Lecture 32:Application I/O interface (block andcharacter devices, network devices, clocks and timers, blocking and nonblocking I/O)
		Lecture 33:Kernel I/Osubsystem (scheduling, buffering, caching, spooling and device reservation, error handling), Performance
		Lecture 34:Disk structure
		Lecture 35: Disk scheduling (FCFS, SSTF, SCAN,C-SCAN)
		Lecture 36: Disk reliability, Disk formatting, boot block, bad blocks.
		GE4T:
		Data Structures, Searching and Sorting.
		Lecture 21: Array
		Lecture 22: List
		Lecture 23: Set
		Lecture 24: Stack and Queue
		Lecture 25: Searching
		Lecture 26: Sorting
		Lecture 27: Tutorial
		Lecture 28: Tutorial
		Lecture 29: Tutorial
		GE4P:
		Practical on Data Structures, Searching and Sorting. Program 14 to 17.

FACULTY NAME	ALLOTATED PAPERS	TEACHING PLAN
Subhadip Mukherjee	BCA 3295: Project (1L)	**Term I** BCA 3295: Project Selection: Project Title, Group formation, System and Technology Requirement Analysis, etc., Project Blueprint: DFD, ERD, and Design. **Term II** BCA 3295: Project Coding and Implementation: Front End and Back End Development. Project Testing. **Term III** BCA 3295: Documentation of the Project (DOCX, PDF, and PPT) and Preparation for Final Examination.

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BIDYUT SAMANTA

22.06.2024

Teaching Plan
DepartmentofComputer Science & BCA
Session(2022-23)
EvenSemester

TermI	Fromcommencement ofclassto1stInternalAssessment
Term II	1st Internal Assessment to 2nd Internal Assessment

Teachingplan:2022-23(EvenSemester)
BISWAJIT LAYA
Dept.ofComputer Science & BCA

Semester II		
Syllabus allotted		BCACC3T: Digital Logic Design
	Lec No	**UNIT-I Number systems:** Positional number systems; Binary, Octal, Hexadecimal and Decimal number systems; conversion of a number in one system to the other; Representation of signed numbers-signed magnitude, one's complement, 2's complement representation techniques, Merits of 2's complement representation scheme; Various binary codes- BCD, excess -3, Gray code, ASCII, EBCDIC, Parity bits; Binary arithmetic- addition, subtraction, multiplication and division of unsigned binary numbers. **UNIT-II Boolean Algebra:** Fundamental of Boolean Expression: Definition of Switching Algebra, Basic properties of Switching Algebra, Huntington's Postulates, Basic Logic gates: (OR, AND, NOT); Universal Logic Gates: (NAND & NOR); Basic logic operations: logical sum (OR), logical product (AND), complementation (NOT), Anti coincidence (EX-OR) and coincidence (EX-NOR) operations: Truth tables of Basic gates; Boolean Variables and Expressions; Demorgan's theorem; Boolean expressions Simplification-Algebraic technique, Karnaugh map technique, 3 variable and 4 variable Karnaugh map. **UNIT-III Combinational Circuits:** Half Adder, Full Adder (3-bit), Half Subtractor, Full Subtractor (3-bit) and construction using Basic Logic Gates (OR, AND, NOT) and Universal Logic Gates (NAND & NOR), Multiplexer, Encoders, Demultiplexer and Decoder circuits, Seven Segment Display. BCD adder/ subtractor comparator; parity generators, code converters, priority encoders. **UNIT-IV Sequential circuits:** Latch, RS, D, JK, T Flip Flops; Race condition, Master Slave JK Flip Flop; Registers: Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), ~~Parallel Input Serial Output~~ (PISO),Parallel Input parallel Output (PIPO), Universal Shift Registers, Counters: Asynchronous Counter, Synchronous Counter.
		Term I
	01	Positional number systems; Binary, Octal, Hexadecimal and Decimal number systems;
	02	conversion of a number in one system to the other;
	03	Various binary codes- BCD, excess -3, Gray code, ASCII, EBCDIC, Parity bits; Binary.
	04	Representation of signed numbers-signed magnitude, one's complement, 2's complement

		representation techniques, Merits of 2's complement representation scheme;
05		arithmetic- addition, subtraction, multiplication and division of unsigned binary numbers
06		Fundamental of Boolean Expression: Definition of Switching Algebra, Basic properties of Switching Algebra, Huntington's Postulates
07		Basic Logic gates: (OR, AND, NOT); Universal Logic Gates: (NAND & NOR); Basic logic operations: logical sum (OR), logical product (AND), complementation (NOT),
08		Anti coincidence (EX-OR) and coincidence (EX-NOR) operations: Truth tables of Basic gates; Boolean Variables and Expressions; Demorgan's theorem;
09		Boolean expressions Simplification-Algebraic technique
10		Karnaugh map technique, 3 variable and 4 variable Karnaugh map.

Term II

01	Half Adder, Full Adder (3-bit), Half Subtractor, Full Subtractor (3-bit) and construction using Basic Logic Gates (OR, AND, NOT) and Universal Logic Gates (NAND & NOR).
02	Multiplexer, BCD adder/ subtractor, Demultiplexer,Encoders
03	Decoder circuits, Seven Segment Display, parity generators, code converters, priority encoders
04	Latch, RS, D, JK, T Flip Flops,
05	Race condition, Master Slave JK Flip Flop
06	Registers: Serial Input Serial Output (SISO), Serial Input Parallel Output (SIPO), Parallel input Serial Output (PISO)
07	Parallel Input parallel Output (PIPO),
08	Counters: Asynchronous Counter,
09	Synchronous Counter.
10	Universal Shift Registers

Semester II

Syllabus Allotted	BCACC3P: Digital Logic Lab **Combinational Circuits & Sequential Circuits:** 1. Implementation of different functions using Basic and Universal Logic gates, SOP, POS 2. Study and prove De-Morgan's Theorem. 3. Implementation of Basic gates using NAND and NOR gates 4. Implementation of half and Full Adder (3-bit) using basic logic gates and Universal logic gates (NAND & NOR). 5. Implementation of half and Full Subtractor (3-bit) using basic logic gates and Universal logic gates (NAND & NOR). 6. Design 2 to 4 decoder using basic / universal logic gates. 7. Design and implement a 8:1 multiplexer. 8. Design and implement a 3×8 decoder. 9. Design and implement a 8 bit parity generator. 10. Design and implement a D flip-flop. 11. Design and implement a J. K. flip-flop. 12. Design and implement a 4 bit synchronous counter.

Term I

01	Implementation of different functions using Basic and Universal Logic gates, SOP, POS
02	Study and prove De-Morgan's Theorem.
03	Implementation of Basic gates using NAND and NOR gates
04	Implementation of half and Full Adder (3-bit) using basic logic gates and Universal logic gates (NAND & NOR).
05	Implementation of half and Full Subtractor (3-bit) using basic logic gates and Universal logic gates (NAND & NOR).
06	Design 2 to 4 decoder using basic / universal logic gates.
07	Design and implement a 8:1 multiplexer.

Term II

08	Design and implement a 3×8 decoder.	
09	Design and implement a 8 bit parity generator.	
10	Design and implement a D flip-flop.	
11	Design and implement a J. K. flip-flop.	
12	Design and implement a 4 bit synchronous counter	

Semester VI

Syllabus Allotted	**BCA-3201: OBJECT ORIENTED ANALYSIS AND DESIGN (Using UML)** UNIT-I: Introduction to UML: Importance of modeling, principles of modeling, object oriented modeling,conceptual model of the UML, Architecture, Software Development Lifecycle. UNIT-II: Basic Structural Modeling: Classes, Relationships, common Mechanisms, and diagrams. Advanced Structural Modeling: Advanced classes, advanced relationships, Interfaces, Types and Roles, Packages. UNIT-III: Class & Object Diagrams: Terms, concepts, modeling techniques for Class & ObjectDiagrams. UNIT-IV: Basic BehavioralModeling-I: Interactions, Interaction diagrams. UNIT-V: Basic BehavioralModeling-II: Use cases, Use case Diagrams, Activity Diagrams. UNIT-VI: Advanced BehavioralModeling: Events and signals, state machines, processes and Threads, time and space, state chart diagrams. UNIT-VII: Architectural Modeling: Component, Deployment, Component diagrams and Deployment diagrams. UNIT-VIII: Case Study: The Unified Library application

Term I

01	Introduction to UML: Importance of modeling, principles of modeling,
02	object oriented modelling, conceptual model of the UML, Architecture
03	Software Development Lifecycle.
04	Classes, Relationships, common Mechanisms, anddiagrams.
05	Advanced classes, advancedrelationships, Interfaces, Types and Roles, Packages
06	Interfaces, Types and Roles, Packages
07	Class & Object Diagrams
08	Terms, conceptsmodeling techniques for Class & Object
09	Interactions
10	Interaction diagrams
11	Use cases, Use case Diagrams
12	Activity Diagrams

Term II

13	Events and signals
14	state machinesprocesses andThreads,
15	time and space, state chart diagrams.
16	Architectural Modeling
17	Component diagrams and
18	Deployment diagrams.
19	Case Study: The Unified Library application
20	Case Study: The Unified Library application
21	Case Study: The Unified Library application

Term I: Commencement of classes to 1st internal Examination;
Term II: 1st internal to 2nd internal Examination;
Term III: 2nd internal Examination to ESE preparatory break

Name of Course	Syllabus Allotted	Teaching Plan
Under Graduate	UG. 1st Semester, Paper : Mejor-1 (4 year Hons.) **বাংলা ভূখণ্ড বাঙালি জাতি ও বাংলা ভাষার পরিচয়-** ii) বাংলা ভাষার উদ্ভব ও তার বিভিন্ন স্তর। **(৭.৫ নম্বর)** **UG, 1st Semester, Paper -SEC – 1 -** বাংলা ডিটিপি. **(২৫ নম্বর)** UG. 3rd Semester Honours **Paper – C 5T উনিশ-বিশ শতকের প্রবন্ধ ও কাব্য সাহিত্যের ইতিহাস এবং আখ্যান সাহিত্য পাঠ -** গ) আখ্যান সাহিত্য পাঠ – শকুন্তলা – বিদ্যাসাগর **(২৩ নম্বর)** UG. 5th Semester Honours **Paper – C 12T , কাব্যতত্ত্ব পাশ্চাত্য সাহিত্য সমালোচনা তত্ত্ব ও সাহিত্যের রূপরীতি।** খ) ক্লাসিসিজম, রোমান্টিসিজম, সুররিয়ালিজম, রিয়ালিজম, সিম্বলিজম। **(২৩ নম্বর)** গ) মহাকাব্য, ট্রাজেডি, কমেডি, ফার্স (প্রহসন) লিরিক, এলিজি, ওড, আঞ্চলিক উপন্যাস, মনস্তাত্ত্বিক উপন্যাস, ঐতিহাসিক উপন্যাস। **(২৩ নম্বর)** **Paper – DSE-1 ,সাহিত্য আন্দোলন, সমালোচনা ও রূপ রীতি।** ক) আন্দোলন – মডার্নিজম, পোষ্ট মডার্নিজম, ফেমিনিজম, এক্সপ্রেশানিজম, ইমপ্রেশানিজম, অ্যাবসার্ডিজম। **(২৩ নম্বর)**	UG.Semester-I (Total Lectures = 14) Term-I (Lectures - 06) **Paper : Mejor-1** বাংলা ভাষার উদ্ভব ও তার বিভিন্ন স্তর। **Paper -SEC – 1 -** বাংলা ডিটিপি. Term II (Lectures -05) Paper : Mejor-1 বাংলা ভাষার উদ্ভব ও তার বিভিন্ন স্তর। **Paper -SEC – 1 -** বাংলা ডিটিপি. Term-III (Lectures -03) Paper : Mejor-1 বাংলা ভাষার উদ্ভব ও তার বিভিন্ন স্তর। **Paper -SEC – 1 -** বাংলা ডিটিপি. UG. Semester -III (Total Lectures = 35) Term-I (Lectures -14) **Paper CC-5T : গ) আখ্যান সাহিত্য পাঠ** – শকুন্তলা Term-II (Lectures -14) **Paper CC-5T : গ) আখ্যান সাহিত্য পাঠ** – শকুন্তলা Term-III (Lectures -07) **Paper CC-5T : গ) আখ্যান সাহিত্য পাঠ** – শকুন্তলা UG.Semester- V (Total Lecture = 42) Term-I (Lectures -15) **Paper – C 12T , কাব্যতত্ত্ব পাশ্চাত্য সাহিত্য সমালোচনা তত্ত্ব ও সাহিত্যের রূপরীতি।** খ) ক্লাসিসিজম, রোমান্টিসিজম, সুররিয়ালিজম, রিয়ালিজম, সিম্বলিজম। গ) মহাকাব্য, ট্রাজেডি, Term- II (Lectures - 15) **Paper – C 12T , কাব্যতত্ত্ব পাশ্চাত্য সাহিত্য সমালোচনা তত্ত্ব ও সাহিত্যের রূপরীতি।** গ) কমেডি, ফার্স (প্রহসন) লিরিক, এলিজি, ওড, আঞ্চলিক উপন্যাস, মনস্তাত্ত্বিক উপন্যাস, ঐতিহাসিক উপন্যাস। Term- III (Lecture -12) **Paper – DSE-1 ,সাহিত্য আন্দোলন, সমালোচনা ও রূপ রীতি।** ক) আন্দোলন – মডার্নিজম, পোষ্ট মডার্নিজম, ফেমিনিজম, এক্সপ্রেশানিজম, ইমপ্রেশানিজম, অ্যাবসার্ডিজম।
Post	PG 1St Semester **Paper – BNG-103, প্রাচীন মধ্যযুগের বাংলা**	PG. Semester-I (Total Lectures = 42) Term-I (Lectures -17)

Graduate	সাহিত্য পাঠ-	Paper – BNG-103, প্রাচীন মধ্যযুগের বাংলা সাহিত্য পাঠ-
	১. প্রাক- চর্যাগীতি যুগের সাহিত্য পাঠ-	১. প্রাক- চর্যাগীতি যুগের সাহিত্য পাঠ-
	(ক) 'গীতগোবিন্দম্'- জয়দেব (নির্বাচিত সর্গ২টি- ৫মসর্গ– সাকাঙ্ক্ষপুণ্ডরীকাক্ষ, ১০ম সর্গ – 'মুগ্ধমাধব')	(ক) 'গীতগোবিন্দম্'- জয়দেব (নির্বাচিত সর্গ২টি- ৫মসর্গ– সাকাঙ্ক্ষপুণ্ডরীকাক্ষ, ১০মসর্গ – 'মুগ্ধমাধব')
	(খ) 'প্রাকৃতপৈঙ্গল' – (নির্বাচিত ৫টি পদ)	(খ) 'প্রাকৃতপৈঙ্গল' – (নির্বাচিত ৫টি পদ)
	১) ওগগর ভত্তা রম্ভক পত্তা।	১) ওগগর ভত্তা রম্ভক পত্তা।
	২) সোমহ কন্তা/ দূর দিগন্তা	২) সোমহ কন্তা/ দূর দিগন্তা
	৩) তরুণ তরণি তবই ধরণি	৩) তরুণ তরণি তবই ধরণি
	৪) অরেরে বাহিহি কাহ্ন	৪) অরেরে বাহিহি কাহ্ন
	৫) গজ্জই মেহকি অম্বর **(১০ নম্বর)**	৫) গজ্জই মেহকি অম্বর
	Paper – BNG-103, প্রাচীন মধ্যযুগের বাংলা সাহিত্য পাঠ-	**Paper – BNG-105, বাংলা গদ্য ও প্রবন্ধ সাহিত্যের ইতিহাস ও পাঠ।**
	২. চর্যাগীতি ('হাজার বছরের পুরাণ বাঙ্গালা ভাষায় রচিত বৌদ্ধ গান ও দোঁহা- হরপ্রসাদ শাস্ত্রী সম্পাদিত, বঙ্গীয় সাহিত্য পরিষদ প্রকাশিত) পাঠ্য পদ-	২) বিদ্যাসাগর – শকুন্তলা।
	১)কাআ তরুবর পঞ্চ বই ডাল।	Term-II (Lectures -15)
	২)দুলি দুহি পিটা ধরণ না জাই।	**Paper – BNG-103, প্রাচীন মধ্যযুগের বাংলা সাহিত্য পাঠ-**
	৩) এক সে সুগুনি দুই ঘরে সান্ধঅ।	**২. চর্যাগীতি ('হাজার বছরের পুরাণ বাঙ্গালা ভাষায় রচিত বৌদ্ধ গান ও দোঁহা- হরপ্রসাদ শাস্ত্রী সম্পাদিত, বঙ্গীয় সাহিত্য পরিষদ প্রকাশিত) পাঠ্য পদ-**
	৫) ভবণই গহণ গম্ভীর বএগএঁ বাহী।	১)কাআ তরুবর পঞ্চ বই ডাল।
	৬) কাহেরি ঘিণি মেলি অচ্ছহু কীস।	২)দুলি দুহি পিটা ধরণ না জাই।
	৮) সোনে ভরিতী করুণা নাবী।	৩) এক সে সুগুনি দুই ঘরে সান্ধঅ।
	১০) নগর বাহিরেঁ ডোম্বি তোহোরি কুড়িআ।	৫) ভবণই গহণ গম্ভীর বএগএঁ বাহী।
	২৮) উঁচা উঁচা পাবত তঁহি বসই সবরী বালী।	৬) কাহেরি ঘিণি মেলি অচ্ছহু কীস।
	৩৩) টালত মোর ঘর নাহি পড়বেষী।	৮) সোনে ভরিতী করুণা নাবী।
	৪০) জো মণ গো অর আলাদা। **(১০ নম্বর)**	১০) নগর বাহিরেঁ ডোম্বি তোহোরি কুড়িআ।
	Paper – BNG-105, বাংলা গদ্য ও প্রবন্ধ সাহিত্যের ইতিহাস ও পাঠ।	২৮) উঁচা উঁচা পাবত তঁহি বসই সবরী বালী।
	২) বিদ্যাসাগর – শকুন্তলা। **(১০ নম্বর)**	৩৩) টালত মোর ঘর নাহি পড়বেষী।
	৩) বঙ্কিমচন্দ্র – কমলাকান্তের দপ্তর (সমগ্র) **(১০ নম্বর)**	৪০) জো মণ গো অর আলাদা।
	PG. 3rd Semester,	Term-III (Lectures -10)
	Paper – BNG-301, বাংলা উপন্যাসের ইতিহাস ও পাঠ।	**Paper – BNG-105, বাংলা গদ্য ও প্রবন্ধ সাহিত্যের ইতিহাস ও পাঠ।**
	৩) বিভূতিভূষণ বন্দ্যোপাধ্যায়- আরণ্যক। **(১০ নম্বর)**	৩) বঙ্কিমচন্দ্র – কমলাকান্তের দপ্তর(সমগ্র)
	৪) মহাশ্বেতা দেবী - অরণ্যের অধিকার।**(১০ নম্বর)**	PG. Semester-III (Total Lectures = 42)
	Paper – BNG-302, বাংলা ছোটগল্পের ইতিহাস ও পাঠ। ৩) ছোটগল্প পাঠ –	Term-I (Lectures -14)
	জ্যোতিরিন্দ নন্দী- গিরগিটি। নারায়ণ গঙ্গোপাধ্যায়- টোপ।	**Paper : BNG - 301 বাংলা উপন্যাসের ইতিহাস ও পাঠ-**
	বিমল কর -জননী। সমরেশ বসু- আদাব। মহাশ্বেতা দেবী-	৩) বিভূতিভূষণ বন্দ্যোপাধ্যায়- আরণ্যক।
	দ্রৌপদী। মতি নন্দী - শবাগার। সন্তোষকুমার ঘোষ -	**Paper BNG-305 (Special Paper)-**
	কানাকড়ি। লীলা মজুমদার –পদী পিসির বর্মী বাক্স। শীর্ষেন্দু	বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)। মোট ১০ জন শিক্ষার্থী
	মুখোপাধ্যায় - ভেলা। সৈয়দ মুস্তাফা সিরাজ - রাণীর ঘাটের	Term- II(Lectures -14
		Paper : BNG - 301 বাংলা উপন্যাসের ইতিহাস ও পাঠ-
		৪) মহাশ্বেতা দেবী - অরণ্যের অধিকার।
		Paper BNG-305 (Special Paper)-
		বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (

বৃত্তান্ত।। **(১০ নম্বর)** **Paper BNG-305 (Special Paper)-** বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)। মোট ১০ জন শিক্ষার্থী।	১০ নম্বর)। মোট ১০ জন শিক্ষার্থী **Term-III (Lectures -14)** **Paper – BNG-302, বাংলা ছোটগল্পের ইতিহাস ও পাঠ।** **৩) ছোটগল্প পাঠ –** জ্যোতিরিন্দ নন্দী- গিরিগিটি। নারায়ণ গঙ্গোপাধ্যায়- টোপ। বিমল কর - জননী। সমরেশ বসু- আদাব। মহাশ্বেতা দেবী- দ্রৌপদী। মতি নন্দী - শবাগার। সন্তোষকুমার ঘোষ - কানাকড়ি। লীলা মজুমদার –পদী পিসির বর্মী বাক্স। শীর্ষেন্দু মুখোপাধ্যায় - ভেলা। সৈয়দ মুস্তাফা সিরাজ - রাণীর ঘাটের বৃত্তান্ত।। **Paper BNG-305 (Special Paper)-** বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)। মোট ১০ জন শিক্ষার্থী

Term I: Commencement of classes to 1st internal Examination;
Term II: 1st internal to 2nd internal Examination;
Term III: 2nd internal Examination to ESE preparatory break

Name of Course	Syllabus Allotted	Teaching Plan
Under Graduate	UG. 1st Semester, Paper : Minor-1 (4 year Hons.) **UG Paper: MI-I বাংলা ভাষার উদ্ভব বিকাশ ও ভাষাতাত্ত্বিক পরিচয়।** ২) বাংলা লোক ভাষা উপভাষা ও সমাজ ভাষার সাধারণ ধারণা **(২৩ নম্বর)**	UG.Semester-I (Total Lectures = 14) Term-I (Lectures - 06) Paper : Minor-1 **বাংলা ভাষার উদ্ভব বিকাশ ও ভাষাতাত্ত্বিক পরিচয়।** ২) বাংলা লোক ভাষা উপভাষা ও সমাজ ভাষার সাধারণ ধারণা Term II (Lectures -05) Paper : Minor-1 **বাংলা ভাষার উদ্ভব বিকাশ ও ভাষাতাত্ত্বিক পরিচয়।** ২) বাংলা লোক ভাষা উপভাষা ও সমাজ ভাষার সাধারণ ধারণা Term-III (Lectures -03) Paper : Minor-1 **বাংলা ভাষার উদ্ভব বিকাশ ও ভাষাতাত্ত্বিক পরিচয়।** ২) বাংলা লোক ভাষা উপভাষা ও সমাজ ভাষার সাধারণ ধারণা
	UG. 3rd Semester Honours **Paper: CC-5T , উনিশ ও বিশ শতকের প্রবন্ধ ও কাব্য সাহিত্যের ইতিহাস এবং আখ্যান সাহিত্য পাঠ।** খ) উনিশ ও বিশ শতকের কাব্য সাহিত্যের ইতিহাস- ঈশ্বর গুপ্ত, মধুসূদন দত্ত, রঙ্গলাল বন্দ্যোপাধ্যায়, হেমচন্দ্র বন্দ্যোপাধ্যায়, নবীনচন্দ্র সেন, বিহারীলাল চক্রবর্তী, রবীন্দ্রনাথ ঠাকুর, সত্যেন্দ্রনাথ দত্ত, মোহিতলাল মজুমদার, নজরুল ইসলাম, প্রেমেন্দ্র মিত্র, সুধীন্দ্রনাথ দত্ত, বিষ্ণু দে, বুদ্ধদেব বসু, জীবনানন্দ দাশ, অমিয় চক্রবর্তী, সুভাষ মুখোপাধ্যায়, শক্তি চট্টোপাধ্যায়, শঙ্খ ঘোষ। **(২৩ নম্বর)** **Paper: CC- 7T : প্রবন্ধ সাহিত্য পাঠ।** গ) চরিতকথা- রামেন্দ্রসুন্দর ত্রিবেদী ঈশ্বরচন্দ্র বিদ্যাসাগর বলেন্দ্রনাথ ঠাকুর বঙ্কিমচন্দ্র চট্টোপাধ্যায় অধ্যাপক মক্ষমূলার, হর্ম্মান হেলম হোল্যেঞ্জ। **(২৩ নম্বর)**	UG. Semester -III (Total Lectures = 42) Term-I (Lectures -16) Paper CC-5T : **উনিশ ও বিশ শতকের প্রবন্ধ ও কাব্য সাহিত্যের ইতিহাস এবং আখ্যান সাহিত্য পাঠ।** খ) উনিশ ও বিশ শতকের কাব্য সাহিত্যের ইতিহাস- ঈশ্বর গুপ্ত, মধুসূদন দত্ত, রঙ্গলাল বন্দ্যোপাধ্যায়, হেমচন্দ্র বন্দ্যোপাধ্যায়, নবীনচন্দ্র সেন, বিহারীলাল চক্রবর্তী, রবীন্দ্রনাথ ঠাকুর, সত্যেন্দ্রনাথ দত্ত, Term-II (Lectures -16) Paper CC-5T : **উনিশ ও বিশ শতকের প্রবন্ধ ও কাব্য সাহিত্যের ইতিহাস এবং আখ্যান সাহিত্য পাঠ।** খ) মোহিতলাল মজুমদার, নজরুল ইসলাম, প্রেমেন্দ্র মিত্র, সুধীন্দ্রনাথ দত্ত, বিষ্ণু দে, বুদ্ধদেব বসু, জীবনানন্দ দাশ, অমিয় চক্রবর্তী, সুভাষ মুখোপাধ্যায়, শক্তি চট্টোপাধ্যায়, শঙ্খ ঘোষ। Term-III (Lectures -10) Paper CC-7T : **প্রবন্ধ সাহিত্য পাঠ।** গ) চরিতকথা- রামেন্দ্রসুন্দর ত্রিবেদী ঈশ্বরচন্দ্র বিদ্যাসাগর বঙ্কিমচন্দ্র চট্টোপাধ্যায় অধ্যাপক মক্ষমূলার, হর্ম্মান হেলম হোল্যেঞ্জ।
	UG. 5th Semester Honours **UG, 5th Sem Paper: CC- 11 T: নাট্য পাঠ্য : ক)** সধবার একাদশী- দীনবন্ধু মিত্র। **(২৩ নম্বর)**	UG.Semester- V (Total Lectures = 42) Term- I (Lectures -16) **Paper: CC- 11 T: নাট্য পাঠ্য : ক)** সধবার একাদশী- দীনবন্ধু মিত্র। Term- II (Lectures -16)

	UG, 5th Sem Paper: DSE - I T সাহিত্য আন্দোলন সমালোচনা ও রূপরীতি। গ) রীতি: সনেট, ব্যালাড, চেতনা প্রবাহ মূলক উপন্যাস, আত্মজীবনীমূলক উপন্যাস, মেলোড্রামা , নৃত্যনাট্য, কাব্যনাট্য, নাট্য কাব্য। **(২৩ নম্বর)**	**Paper: CC- 11 T: নাট্য পাঠ্য : ক) সধবার একাদশী- দীনবন্ধু মিত্র।** Term- III (Lectures -10) **Paper: DSE - I T সাহিত্য আন্দোলন সমালোচনা ও রূপরীতি।** গ) রীতি: সনেট, ব্যালাড, চেতনা প্রবাহ মূলক উপন্যাস, আত্মজীবনীমূলক উপন্যাস, মেলোড্রামা , নৃত্যনাট্য, কাব্যনাট্য, নাট্য কাব্য।
Post Graduate	PG 1St Semester **PG, 1st Sem Paper : BNG - 102 প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য ও সমাজ সংস্কৃতির পরিচয়।** ৩) চৈতন্য পরবর্তী কালের বাংলা সাহিত্য মঙ্গলকাব্য অনুসারী সাহিত্য জীবনী সাহিত্য বৈষ্ণব পদাবলী ও বৈষ্ণব সাহিত্য। **(১০ নম্বর)** ৪) নাথ সাহিত্য আরাকান রাজসভার সাহিত্য শাক্ত পদাবলী ময়মনসিংহ গীতিকা **(১০ নম্বর)** **Paper: BNG-103 প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য পাঠ।** ৩) শ্রীকৃষ্ণ কীর্তন - বড়ু চণ্ডীদাস (বসন্ত রঞ্জন সম্পাদিত সাহিত্য সংসদ প্রকাশিত) পাঠ্য অংশ - জন্ম খন্ড, তাম্বুল খন্ড, দান খন্ড, বংশী খন্ড, রাধা বিরহ। **(১০ নম্বর)** PG. 3rd Semester, **PG, 3rd Sem Paper : BNG - 303 বাংলা নাট্য সাহিত্যের ইতিহাস ও পাঠ।** ৩) গিরিশচন্দ্র ঘোষ – জনা **(১০ নম্বর)** **Paper : BNG -304(CBCS) : বাংলা ভাষা ও সাহিত্য পাঠ (আধুনিক)** ৩) উপন্যাস : শরৎচন্দ্র- শীকান্ত (১ম পর্ব) **(১০ নম্বর)** ৪) গল্প – রবীন্দ্রনাথ ঠাকুর – বোষ্টমী, প্রভাতকুমার মুখোপাধ্যায় - মাতৃহীন, পরশুরাম - উলট পুরাণ, জগদীশ গুপ্ত -দিবসের শেষে, প্রেমেন্দ্র মিত্র - পুন্নাম। **(১০ নম্বর)** **Paper BNG-305 (Special Paper)-** বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)। মোট ১০ জন শিক্ষার্থী।	PG. Semester-I (Total Lectures = 45) Term-I (Lectures -17) **Paper : BNG - 102 প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য ও সমাজ সংস্কৃতির পরিচয়-** ৩) চৈতন্য পরবর্তী কালের বাংলা সাহিত্য মঙ্গলকাব্য অনুসারী সাহিত্য জীবনী সাহিত্য বৈষ্ণব পদাবলী ও বৈষ্ণব সাহিত্য। Term-II (Lectures -17) **Paper : BNG - 102 প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য ও সমাজ সংস্কৃতির পরিচয়।** ৪) নাথ সাহিত্য আরাকান রাজসভার সাহিত্য শাক্ত পদাবলী ময়মনসিংহ গীতিকা Term-III (Lectures -11) **Paper: BNG-103 প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য পাঠ-** ৩) শ্রীকৃষ্ণ কীর্তন - বড়ু চণ্ডীদাস (বসন্ত রঞ্জন সম্পাদিত সাহিত্য সংসদ প্রকাশিত) পাঠ্য অংশ - জন্ম খন্ড, তাম্বুল খন্ড, দান খন্ড, বংশী খন্ড, রাধা বিরহ। PG. Semester-III (Total Lectures = 45) Term-I (Lectures -17) **Paper : BNG - 303 বাংলা নাট্য সাহিত্যের ইতিহাস ও পাঠ -** ৩) গিরিশচন্দ্র ঘোষ – জনা **Paper BNG-305 (Special Paper)-** বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)। মোট ১০ জন শিক্ষার্থী। Term- II(Lectures -17) **BNG -304(CBCS) : বাংলা ভাষা ও সাহিত্য পাঠ (আধুনিক)** ৩) উপন্যাস : শরৎচন্দ্র- শীকান্ত (১ম পর্ব) **Paper BNG-305 (Special Paper)-** বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)। মোট ১০ জন শিক্ষার্থী। Term-III **BNG -304(CBCS) : বাংলা ভাষা ও সাহিত্য পাঠ (আধুনিক)** ৪) গল্প – রবীন্দ্রনাথ ঠাকুর – বোষ্টমী, প্রভাতকুমার মুখোপাধ্যায় - মাতৃহীন,

		পরশুরাম - উলট পুরাণ, জগদীশ গুপ্ত -দিবসের শেষে, প্রেমেন্দ্র মিত্র - পুন্নাম। **Paper BNG-305 (Special Paper)-** বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)। মোট ১০ জন শিক্ষার্থী।

Term I: Commencement of classes to 1st internal Examination;
Term II: 1st internal to 2nd internal Examination;
Term III: 2nd internal Examination to ESE preparatory break

Name of Course	Syllabus Allotted	Teaching Plan
Under Graduate	UG. 1st Semester, Paper : Mejor-1 **(4 year Hons.) বাংলা ভূখণ্ড বাঙালি জাতি ও বাংলা ভাষার পরিচয়-** IV) বাংলা শব্দভাণ্ডার, শব্দার্থ পরিবর্তনের কারণ ও ধারা, বাংলা পদপরিচয়, ধাতু ও প্রত্যয়, কারক ও বিভক্তি, লিঙ্গ, বচন, সমাস। (১৭.৫ নম্বর) UG. 3rd Semester Honours **Paper : C- 6T ছন্দ, অলংকার ও নির্বাচিত কবিতা পাঠ -** **ক) ছন্দ** - দলবৃত্ত, মিশ্রকলাবৃত্ত, কলাবৃত্ত, পয়ার, ত্রিপদী, চৌপদী, সনেট, অমিত্রাক্ষর, গদ্যছন্দ, পর্ব-পর্বাঙ্গ, যতি, লয়, মাত্রা, ছেদ, ছন্দ নির্ণয়। (২৩ নম্বর) **গ) নির্বাচিত কবিতা পাঠ** - আমরা - সত্যেন্দ্রনাথ দত্ত, সাম্যবাদী- নজরুল ইসলাম, দুঃখবাদী- যতীন্দ্রনাথ সেনগুপ্ত, ফ্রাইবুর্গের পথে - অমিয় চক্রবর্তী, আট বছর আগের একদিন- জীবনানন্দ দাশ, শাশ্বতী- সুধীন্দ্রনাথ দত্ত, অবনী বাড়ি আছো- শক্তি চট্টোপাধ্যায়। (২৩ নম্বর) UG. 5th Semester Honours **Paper : C-11T নাট্য পাঠ :** **খ)** সাজাহান- দ্বিজেন্দ্রলাল রায়। (২৩ নম্বর) **UG. 5th Semester Honours**	UG.Semester-I (Total Lectures = 14) Term-I (Lectures - 06) **Paper : Mejor-1 বাংলা ভূখণ্ড বাঙালি জাতি ও বাংলা ভাষার পরিচয়-** IV) বাংলা শব্দভাণ্ডার, শব্দার্থ পরিবর্তনের কারণ ও ধারা, বাংলা পদপরিচয়। Term II (Lectures -05) **Paper : Mejor-1 বাংলা ভূখণ্ড বাঙালি জাতি ও বাংলা ভাষার পরিচয়-** IV) ধাতু ও প্রত্যয়, কারক ও বিভক্তি, লিঙ্গ Term-III (Lectures -03) **Paper : Mejor-1 বাংলা ভূখণ্ড বাঙালি জাতি ও বাংলা ভাষার পরিচয়-** IV)- বচন, সমাস। ➢ *বিবিধ প্রশ্নালোচনা* UG. Semester -III (Total Lectures = 42) Term-I (Lectures -16) **Paper CC-6T : ছন্দ, অলংকার ও নির্বাচিত কবিতা পাঠ -** **ক) ছন্দ**- পর্ব-পর্বাঙ্গ, যতি, লয়, মাত্রা, ছেদ, ছন্দ নির্ণয়, দলবৃত্ত, মিশ্রকলাবৃত্ত, কলাবৃত্ত । **গ) নির্বাচিত কবিতা পাঠ** - আমরা - সত্যেন্দ্রনাথ দত্ত, সাম্যবাদী- নজরুল ইসলাম, Term-II (Lectures -16) **Paper CC-6T : ছন্দ, অলংকার ও নির্বাচিত কবিতা পাঠ -** **ক) ছন্দ** - পয়ার, ত্রিপদী, চৌপদী, সনেট, ছন্দ নির্ণয়। **গ) নির্বাচিত কবিতা পাঠ**- দুঃখবাদী- যতীন্দ্রনাথ সেনগুপ্ত, ফ্রাইবুর্গের পথে - অমিয় চক্রবর্তী, আট বছর আগের একদিন- জীবনানন্দ দাশ, Term-III (Lectures -10) **Paper CC-6T : ছন্দ, অলংকার ও নির্বাচিত কবিতা পাঠ -** **ক) ছন্দ**- অমিত্রাক্ষর, গদ্যছন্দ, **গ) নির্বাচিত কবিতা পাঠ** - শাশ্বতী- সুধীন্দ্র... ত, অ... বাড়ি আছো- শক্তি চট্টোপাধ্যায়। ➢ *বিবিধ প্রশ্নালোচনা* UG.Semester- V (Total Lecture = 42) Term-I (Lectures -16) **Paper CC-11T : নাট্য পাঠ খ)** সাজাহান- দ্বিজেন্দ্রলাল রায়।

	Paper : DSE-2 বাংলা ছোটগল্প, ভ্রমণ কাহিনী ও গোয়েন্দা কাহিনী পাঠ- **ক) ছোটগল্প পাঠ-** রসময়ীর রসিকতা- প্রভাতকুমার মুখোপাধ্যায়, বেদেনী- তারাশঙ্কর বন্দ্যোপাধ্যায়, প্রাগৈতিহাসিক- মানিক বন্দ্যোপাধ্যায়, হয়তো- প্রেমেন্দ্র মিত্র, অশ্বমেধের ঘোড়া- দীপেন বন্দোপাধ্যায়। (২৩ নম্বর)	**Paper DSE-2 : বাংলা ছোটগল্প, ভ্রমণ কাহিনী ও গোয়েন্দা কাহিনী পাঠ** **ক) ছোটগল্প পাঠ –** রসময়ীর রসিকতা- প্রভাতকুমার মুখোপাধ্যায়, বেদেনী- তারাশঙ্কর বন্দ্যোপাধ্যায়, Term- II (Lectures -16) **Paper CC-11T : নাট্য পাঠ খ)** সাজাহান- দ্বিজেন্দ্রলাল রায়। **Paper DSE-2 : বাংলা ছোটগল্প, ভ্রমণ কাহিনী ও গোয়েন্দা কাহিনী পাঠ** **ক) ছোটগল্প পাঠ-** প্রাগৈতিহাসিক- মানিক বন্দ্যোপাধ্যায়, হয়তো- প্রেমেন্দ্র মিত্র, Term- III (Lectures -10) **Paper CC-11T : নাট্য পাঠ খ)** সাজাহান- দ্বিজেন্দ্রলাল রায়। **Paper DSE-2 : বাংলা ছোটগল্প, ভ্রমণ কাহিনী ও গোয়েন্দা কাহিনী পাঠ** **ক) ছোটগল্প পাঠ-** অশ্বমেধের ঘোড়া- দীপেন বন্দোপাধ্যায়। ➤ *বিবিধ প্রশ্নালোচনা*
Post Graduate	PG 1St Semester **Paper : BNG - 101 ভাষার ইতিহাস ও পরিচয়-** ৪) লিপির উদ্ভব ও বিকাশ, বাংলা লিপি। (১০ নম্বর) PG. 1St Semester, **Paper: BNG-104 মধ্যযুগের বাংলা সাহিত্য পাঠ-** ১) **বৈষ্ণব পদাবলী** - অধ্যাপক শ্রী খগেন্দ্রনাথ মিত্র, শ্রী সুকুমার সেন, শ্রী বিশ্বপতি চৌধুরী, শ্রী শ্যামাপদ চক্রবর্তী (কলিকাতা বিশ্ববিদ্যালয় প্রকাশিত) **পাঠ্য পদ :** **বিদ্যাপতি-** যব গোধূলি সময় বেলি এ সখি হামারি দুখের নাহি ওর পিয়া যব আওব এ মঝু গেহে তাতল সৈকত বারি বিন্দু সম সখি কি পুছসি অনুভব মোয় **চণ্ডীদাস –** রাধার কি হৈল অন্তরে ব্যথা সই কেমনে ধরিব হিয়া বঁধু কি আর বলিব আমি **জ্ঞানদাস -** রূপ লাগি আঁখি ঝুরে মনের মরম কথা মানস গঙ্গার জল **গোবিন্দদাস–** নীরদ নয়নে নীর ঘন সিঞ্চনে কন্টকগাড়ি কমলসম পদতল আন্ধল প্রেম পহিলে নাহি জানলুঁ (১০ নম্বর) **PG. 1St Semester,** **Paper : BNG -105 - বাংলা গদ্য ও প্রবন্ধ সাহিত্যের ইতিহাস ও পাঠ-**	PG. Semester-I (Total Lectures = 45) Term-I (Lectures -17) **Paper : BNG- 101 ভাষার ইতিহাস ও পরিচয়-** ৪) লিপির উদ্ভব ও বিকাশ **Paper : BNG- 104 মধ্যযুগের বাংলা সাহিত্য পাঠ-** ১) **বৈষ্ণব পদাবলী –পাঠ্য পদ :** **বিদ্যাপতি-** যব গোধূলি সময় বেলি এ সখি হামারি দুখের নাহি ওর পিয়া যব আওব এ মঝু গেহে তাতল সৈকত বারি বিন্দু সম সখি কি পুছসি অনুভব মোয় **Paper : BNG- 105 বাংলা গদ্য ও প্রবন্ধ সাহিত্যের ইতিহাস ও পাঠ-** ১) গদ্য ও প্রবন্ধ সাহিত্যের ধারা - শ্রীরামপুর মিশন, ফোর্ট উইলিয়াম কলেজ, রামমোহন রায়, ভবানীচরণ বন্দ্যোপাধ্যায়, প্যারীচাঁদ মিত্র, কালীপ্রসন্ন সিংহ, বিদ্যাসাগর, অক্ষয়কুমার দত্ত, ৪) **প্রবন্ধ পাঠ-** বঙ্কিমচন্দ্র– শকুন্তলা, মিরন্দা এবং দেসদিমনা। রামেন্দ্রসুন্দর ত্রিবেদী – সুখ না দুঃখ। Term-II (Lectures -17) **Paper : BNG- 101 ভাষার ইতিহাস ও পরিচয়-** ৪) বাংলা লিপি। **Paper : BNG- 104 মধ্যযুগের বাংলা সাহিত্য** ১) **বৈষ্ণব পদাবলী –পাঠ্য পদ :** **চণ্ডীদাস –** রাধার কি হৈল অন্তরে ব্যথা সই কেমনে ধরিব হিয়া

Left column:

১) **গদ্য ও প্রবন্ধ সাহিত্যের ধারা -**

শ্রীরামপুর মিশন, ফোর্ট উইলিয়াম কলেজ, রামমোহন রায়, ভবানীচরণ বন্দ্যোপাধ্যায়, প্যারীচাঁদ মিত্র, কালীপ্রসন্ন সিংহ, বিদ্যাসাগর, অক্ষয়কুমার দত্ত, বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর, বিবেকানন্দ, হরপ্রসাদ শাস্ত্রী, রামেন্দ্রসুন্দর ত্রিবেদী, প্রমথ চৌধুরী, অবনীন্দ্রনাথ ঠাকুর, অন্নদাশঙ্কর রায়, বুদ্ধদেব বসু, আবু সৈয়দ আইয়ুব, শঙ্খ ঘোষ। (১০ নম্বর)

৪) **প্রবন্ধ পাঠ-** বঙ্কিমচন্দ্র– শকুন্তলা, মিরন্দা এবং দেসদিমনা। রামেন্দ্রসুন্দর ত্রিবেদী – সুখ না দুঃখ। প্রমথ চৌধুরী – ভারতচন্দ্র। সৈয়দ মুজতবা আলী – মোপাসাঁ - চেখভ্ ও রবীন্দ্রনাথ। সুনীতিকুমার চট্টোপাধ্যায়ের – শিক্ষা ও সংস্কৃতি। বিবেকানন্দ – সমাজতন্ত্র। (১০ নম্বর)

PG. 3rd Semester,

Paper : BNG -301 বাংলা উপন্যাসের ইতিহাস ও পাঠ-

২) **উপন্যাস পাঠ-** বঙ্কিমচন্দ্র চট্টোপাধ্যায়- কপালকুণ্ডলা। (১০ নম্বর)

PG. 3rd Semester, Paper : BNG- 303 বাংলা নাট্য সাহিত্যের ইতিহাস ও পাঠ-

১) **বাংলা নাটক ও প্রহসনের ধারা (নির্বাচিত নাট্যকার)-** রামনারায়ণ তর্করত্ন, মধুসূদন দত্ত, দীনবন্ধু মিত্র, গিরিশচন্দ্র ঘোষ, জ্যোতিরিন্দ্রনাথ ঠাকুর, রবীন্দ্রনাথ ঠাকুর, দ্বিজেন্দ্রলাল রায়, বিজন ভট্টাচার্য, মন্মথ রায়, উৎপল দত্ত, মনোজ মিত্র, বাদল সরকার। (১০ নম্বর)

৪) **নাটক পাঠ –** বিজন ভট্টাচার্য – নবান্ন। (১০ নম্বর)

PG. 3rd Semester, Paper BNG-305 (Special Paper)-

বিশেষ পত্রের প্রকল্পপত্র রচনা ((৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর) ।

মোট ১০ জন শিক্ষার্থী।

Right column:

বঁধু কি আর বলিব আমি

জ্ঞানদাস -

রূপ লাগি আঁখি ঝুরে

মনের মরম কথা

মানস গঙ্গার জল

Paper : BNG- 105 বাংলা গদ্য ও প্রবন্ধ সাহিত্যের ইতিহাস ও পাঠ।

১) **গদ্য ও প্রবন্ধ সাহিত্যের ধারা -**

বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর, বিবেকানন্দ, হরপ্রসাদ শাস্ত্রী, রামেন্দ্রসুন্দর ত্রিবেদী, প্রমথ চৌধুরী, অবনীন্দ্রনাথ ঠাকুর,

৪) **প্রবন্ধ পাঠ-** প্রমথ চৌধুরী – ভারতচন্দ্র। সৈয়দ মুজতবা আলী – মোপাসাঁ - চেখভ্ ও রবীন্দ্রনাথ।

Term-III (Lectures -11)

Paper : BNG- 104 মধ্যযুগের বাংলা সাহিত্য পাঠ-

১) **বৈষ্ণব পদাবলী –পাঠ্য পদ :**

গোবিন্দদাস–

নীরদ নয়নে নীর ঘন সিঞ্চনে

কন্টকগাড়ি কমলসম পদতল

আঙ্কল প্রেম পহিলে নহি জানলুঁ

Paper : BNG- 105 বাংলা গদ্য ও প্রবন্ধ সাহিত্যের ইতিহাস ও পাঠ।

১) **গদ্য ও প্রবন্ধ সাহিত্যের ধারা -**

অন্নদাশঙ্কর রায়, বুদ্ধদেব বসু, আবু সৈয়দ আইয়ুব, শঙ্খ ঘোষ।

৪) **প্রবন্ধ পাঠ-** সুনীতিকুমার চট্টোপাধ্যায়ের – শিক্ষা ও সংস্কৃতি। বিবেকানন্দ – সমাজতন্ত্র।

➢ *বিবিধ প্রশ্নালোচনা*

PG. Semester-III (Total Lectures = 45)

Term-I (Lectures -17)

Paper : BNG - 301 বাংলা উপন্যাসের ইতিহাস ও পাঠ-

২) **উপন্যাস পাঠ-** বঙ্কিমচন্দ্র চট্টোপাধ্যায়- কপালকুণ্ডলা

Paper : BNG – 303 বাংলা নাট্য সাহিত্যের ইতিহাস ও পাঠ-

১) **বাংলা নাটক ও প্রহসনের ধারা (নির্বাচিত নাট্যকার)-** রামনারায়ণ তর্করত্ন, মধুসূদন দত্ত, দীনবন্ধু মিত্র, গিরিশচন্দ্র ঘোষ, জ্যোতিরিন্দ্রনাথ ঠাকুর,

Special Paper BNG-305,

বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর)।   মোট ১০ জন শিক্ষার্থী।

Term- II(Lectures)

Paper : BNG – 303 বাংলা সাহিত্যের ইতিহাস ও পাঠ-

১) **বাংলা নাটক ও প্রহসনের ধারা (নির্বাচিত নাট্যকার)-** রবীন্দ্রনাথ ঠাকুর, দ্বিজেন্দ্রলাল রায়, বিজন ভট্টাচার্য, মন্মথ রায়, উৎপল দত্ত,

৪) **নাটক পাঠ –** বিজন ভট্টাচার্য – নবান্ন।

Paper BNG-305 (Special Paper)-

বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকারভিত্তিক পরীক্ষা (

		১০ নম্বর) । মোট ১০ জন শিক্ষার্থী।
		Term-III (Lectures -11) **Paper : BNG – 303 বাংলা নাট্য সাহিত্যের ইতিহাস ও পাঠ–** **১) বাংলা নাটক ও প্রহসনের ধারা (নির্বাচিত নাট্যকার)-** মনোজ মিত্র, বাদল সরকার। **৪) নাটক পাঠ –** বিজন ভট্টাচার্য – নবান্ন। **Paper BNG-305 (Special Paper)-** বিশেষ পত্রের প্রকল্পপত্র রচনা (৪০ নম্বর) ও সাক্ষাৎকার ভিত্তিক পরীক্ষা (১০ নম্বর) । মোট ১০ জন শিক্ষার্থী। ➤ *বিবিধ প্রশ্নালোচনা*

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

Kharagpur College

Department of Bengali (UG & PG Studies)

Syllabus Distribution and Teaching Plan

Odd Semester, Session-2022-2023

Dr. Mintu Naskar

Course	Syllabus Allotted	Teaching Plan

UG	**U.G 1st Semester Honours**
	Paper : MI- 1T **Credits : 04**
	(বাংলা ভাষার উদ্ভব, বিকাশ ও ভাষাতাত্ত্বিক পরিচয়)
	➢ ধ্বনি পরিবর্তনের সূত্র
	➢ বাংলা শব্দভাণ্ডার ও শব্দার্থ পরিবর্তনের ধারা
	
	Paper : SEC- 1P **Credits : 03**
	(পেশা সহযোগী বাংলাবিদ্যা চর্চা)
	➢ বাংলা ডিটিপি ও প্রুফ রিডিং
	
	U.G 3rd Semester Honours
	  Paper : CC- 7T **Credits : 06**
	  (প্রবন্ধ সাহিত্য পাঠ)
	➢ নির্বাচিত প্রবন্ধ পাঠ
	কৌতুকহাস্যের মাত্রা (পঞ্চভূত)-- রবীন্দ্রনাথ
	জাত্যভাষা এক স্থানীয় ভাষা (কি লিখি) --
	যোগেশচন্দ্র রায় বিদ্যানিধি
	ভারতীয় সংস্কৃতির গোড়ার কথা --
	অমূল্যচরণ বিদ্যাভূষণ
	বইপড়া-- প্রমথ চৌধুরী
	অপবিজ্ঞান-- রাজশেখর বসু
		U.G 1st Semester Hons.
		  Total Lecture : 34
		  Term-I : 16 Lecture
		➢ বাংলা ধ্বনি পরিবর্তনের বিভিন্ন সূত্রগুলি সম্পর্কে বিস্তারিত আলোচনা (4 lecture)
		➢ বাংলা শব্দভাণ্ডারের বৈচিত্র্য সম্পর্কে পর্যালোচনা (4 lecture)
		➢ বাংলা শব্দার্থ পরিবর্তনের ধারা ও কারণগুলি আলোচনা (4 lecture)
		➢ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (4 lecture)
		
		  Term-II : 18 lecture
		➢ বাংলা মুদ্রণের ইতিহাস (4 lecture)
		➢ প্রুফ রিডিং-এর নিয়মাবলী সম্পর্কে আলোচনা (4 lecture)
		➢ বাংলা ডিটিপি ও প্রুফ রিডিং-এর প্রায়গিক পাঠ (10 lecture)
		
		U.G 3rd Semester Hon.
		  Total Lecture : 34
		  Term-I : 24 lecture
		➢ বাংলা প্রবন্ধ সাহিত্যের বিকাশ ও ক্রমবিবর্তন সম্পর্কিত আলোচনা (2 lecture)
		➢ কৌতুকহাস্যের মাত্রা (3 lecture)
		➢ জাত্যভাষা এক স্থানীয় ভাষা (2 lecture)
		➢ ভারতীয় সংস্কৃতির গোড়ার কথা (3 lecture)
		➢ বইপড়া (2 lecture)
		➢ অপবিজ্ঞান (2 lecture)
		➢ দেশপ্রেম বনাম জাতিপ্রেম (1 lecture)

UG	দেশপ্রেম বনাম জাতিপ্রেম-- অন্নদাশঙ্কর রায় রবীন্দ্রনাথ ও উত্তরসাধক-- বুদ্ধদেব বসু	➢ রবীন্দ্রনাথ ও উত্তরসাধক (4 lecture) ➢ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (6 lecture)
	Paper : SEC- 1T Credits : 02 (বাংলা ব্যকরণ ও অনুবাদতত্ত্ব) ➢ অনুবাদতত্ত্ব (আক্ষরিক অনুবাদ, ভাবানুবাদ ও সংক্ষিপ্ত অনুবাদ) ও পরিভাষা চর্চা	**Term-II : 12 lecture** ➢ অনুবাদের প্রয়োজনীয়তা সম্পর্কিত ধারণা (1 lecture) ➢ বাংলা অনুবাদ চর্চার ইতিহাস (3 lecture) ➢ অনুবাদের প্রকারভেদ সম্পর্কিত বিস্তারিত আলোচনা (3 lecture) ➢ বাংলা পরিভাষার প্রয়োজনীয়তা এবং পরিভাষা চিহ্নিতকরণ (5 lecture)
	U.G 5th Semester Honours **Paper : CC- 14T Credits : 06** (কাব্যতত্ত্ব, পাশ্চাত্য সাহিত্য সমালোচনা ও সাহিত্যের রূপ-রীতি) ➢ কাব্য জিজ্ঞাসা (রস ও ধ্বনি)-- অতুলচন্দ্র গুপ্ত	**U.G 5th Semester Hon.** **Total Lecture : 45** **Term-I : 22 lecture** ➢ দেহাত্মবাদ তত্ত্ব সম্পর্কে ধারণা (1 lecture) ➢ অলংকারবাদ তত্ত্ব সম্পর্কে আলোচনা (2 lecture) ➢ রীতিবাদ (3 lecture) ➢ ধ্বনিবাদ (3 lecture) ➢ ঔচিত্যবাদ (2 lecture) ➢ বক্রোক্তিবাদ (2 lecture) ➢ রসবাদ (3 lecture) ➢ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (6 lecture)
	Paper : DSC- 2T Credits : 06 (বাংলা ছোটোগল্প, ভ্রমণ কাহিনি ও গোয়েন্দা কাহিনি পাঠ) ➢ মরুতীর্থ হিংলাজ- কালিকানন্দ অবধূত	**Term-II : 23 lecture** ➢ ভ্রমণসাহিত্যের সংজ্ঞা ও বৈশিষ্ট্য (1 lecture) ➢ ভ্রমণকাহিনি ও ভ্রমণসাহিত্যের তুলনামূলক আলোচনা (2 lecture) ➢ বাংলা ভ্রমণসাহিত্যের ধারা (3 lecture) ➢ সাজানো বাগান : মূল পাঠ্য পুস্তকে আলোচনা ও বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (17 lecture)

		P.G 1st Semester	P.G 1st Semester

<table>
<tr><td rowspan="6">PG</td><td colspan="2"><u>P.G 1st Semester</u>
Paper : BNG-103   Credits : 05
(প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য পাঠ)
➤ রামায়ণ (আদি, অরণ্য ও লঙ্কা)-- কৃত্তিবাস ওঝা (হরেকৃষ্ণ মুখোপাধ্যায় সম্পাদিত, সাহিত্য সংসদ প্রকাশিত)</td><td><u>P.G 1st Semester</u>
Total Lecture : 56
Term-I : 19 lecture
➤ অনুবাদ সাহিত্য হিসাবে রামায়ণের সার্থকতা (1 lecture)
➤ কৃত্তিবাসের কবিত্ব (1 lecture)
➤ আদিকাণ্ডের বিস্তারিত পাঠ ও আলোচনা (5 lecture)
➤ অরণ্যকাণ্ডের বিস্তারিত পাঠ ও আলোচনা (5 lecture)
➤ লঙ্কাকাণ্ডের বিস্তারিত পাঠ ও আলোচনা (5 lecture)
➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (2 lecture)</td></tr>
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PG

<u>P.G 1st Semester</u>
Paper : BNG-103   **Credits : 05**
(প্রাচীন ও মধ্যযুগের বাংলা সাহিত্য পাঠ)
➤ রামায়ণ (আদি, অরণ্য ও লঙ্কা)-- কৃত্তিবাস ওঝা (হরেকৃষ্ণ মুখোপাধ্যায় সম্পাদিত, সাহিত্য সংসদ প্রকাশিত)

<u>P.G 1st Semester</u>
Total Lecture : 56
Term-I : 19 lecture
➤ অনুবাদ সাহিত্য হিসাবে রামায়ণের সার্থকতা (1 lecture)
➤ কৃত্তিবাসের কবিত্ব (1 lecture)
➤ আদিকাণ্ডের বিস্তারিত পাঠ ও আলোচনা (5 lecture)
➤ অরণ্যকাণ্ডের বিস্তারিত পাঠ ও আলোচনা (5 lecture)
➤ লঙ্কাকাণ্ডের বিস্তারিত পাঠ ও আলোচনা (5 lecture)
➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (2 lecture)

Paper : BNG- 104   **Credits : 05**
(মধ্যযুগের বাংলা সাহিত্য পাঠ)
➤ চৈতন্যচরিতামৃত--কৃষ্ণদাস কবিরাজ (আদি লীলা ৪র্থ পরিচ্ছেদ ও মধ্যলীলা ৮ম পরিচ্ছেদ)

Term-II : lecture : 19
➤ বাংলা ভাষায় লেখা চৈতন্যজীবনী সম্পর্কিত বিস্তারিত আলোচনা (4 lecture)
➤ কৃষ্ণদাস কবিরাজের কাব্যবৈশিষ্ট্য (2 lecture)
➤ চৈতন্য আবির্ভাবের কারণ (2 lecture)
➤ কৃষ্ণতত্ত্ব (1 lecture)
➤ রাধাতত্ত্ব বিচার (1 lecture)
➤ সখীতত্ত্ব বিচার (1 lecture)
➤ বৈষ্ণবীয় রসপর্যায় সম্পর্কে আলোচনা (1 lecture)
➤ সাধ্যসাধন তত্ত্ব সম্পর্কে আলোচনা (২ lecture)
➤ অচিন্ত্য ভেদাভেদ তত্ত্ব সম্পর্কে আলোচনা (1 lecture)
➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (4 lecture)

Paper : BNG- 104   **Credits : 05**
(মধ্যযুগের বাংলা সাহিত্য পাঠ)
➤ পদ্মাবতী-- সৈয়দ আলাওল

Term-III : lecture : 18
➤ আরাকান রাজসভার সাহিত্যচর্চা (2 lecture)
➤ সৈয়দ আলাওলের কাব্যকৃতি (2 lecture)
➤ পদ্মাবতী কাব্যের উৎস ও কাহিনিসূত্র এবং অনুবাদ হিসাবে সার্থকতা (2 lecture)
➤ পদ্মাবতী কাব্যে রোমান্স লক্ষণ (1 lecture)
➤ পদ্মাবতী কাব্যে ইতিহাস প্রসঙ্গ (1 lecture)
➤ পদ্মাবতী কাব্যে সুফি তত্ত্ব ... lecture)
➤ পদ্মাবতী কাব্যের চরিত্র বিচার ... lecture
➤ পদ্মাবতী কাব্যে বঙ্গীয় সমাজ-সংস্কৃতি ... lecture)
➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (4 lecture)

PG	**P.G 3rd Semester**
	Paper : BNG-303 **Credits : 05**
	(বাংলা নাট্য সাহিত্যের ইতিহাস ও পাঠ)
	
	➤ বুড় সালিকের ঘাড়ে রোঁ-- মধুসূদন দত্ত
		P.G 3rd Semester
		Total Lecture : 56
		Term-I : lecture : 16
		➤ মধুসূদন দত্তের নাট্যপ্রতিভা (2 lecture)
		➤ 'বুড় সালিকের ঘাড়ে রোঁ' --প্রহসন হিসাবে সার্থকতা
		   (1 lecture)
		➤ 'বুড় সালিকের ঘাড়ে রোঁ' প্রহসনে সমকালের সমাজ-
		   বাস্তবতা (2 lecture)
		➤ 'একেই কি বলে সভ্যতা' ও 'বুড় সালিকের ঘাড়ে রোঁ'
		   তুলনামূলক বিচার (২ lecture)
		➤ 'বুড় সালিকের ঘাড়ে রোঁ' প্রহসনের চরিত্র বিচার
		   (3 lecture)
		➤ পাঠ্যবিষয় পাঠ এবং প্রশ্নোত্তরের পর্যালোচনা (6 lecture)
		
		Term-II : lecture : 14
		➤ বাংলা নাট্যসাহিত্যে মনোজ মিত্রের অবদান (1 lecture)
		➤ 'সাজানো বাগান' নাটকের নাট্য উপস্থাপনা (1 lecture)
		➤ 'সাজানো বাগান' নাটকের নাট্য দ্বন্দ্ব (1 lecture)
		➤ 'সাজানো বাগান' নাটকে প্রতিফলিত সামন্ততান্ত্রিক শোষণ-
		   বঞ্চনা (২ lecture)
		➤ চরিত্র বিচার : বাঞ্ছারাম (1 lecture)
		➤ চরিত্র বিচার : নকড়ি, ছকড়ি (1 lecture)
		➤ হৌতকা, কৌতকা ও অন্যান্য চরিত্র (1 lecture)
		➤ নাটক পাঠ ও পর্যালোচনা (6 lecture)
		
		Term-III : lecture : 16
		➤ 'বোষ্টমী' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'উলটপুরাণ' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'মাতৃহীন' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'দিবসের শেষে' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'পুন্নাম' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'সুন্দরম্' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'টোপ' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'শহীদের মা' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'স্তনদায়িনী' গল্প আলোচনা ও পর্যালোচনা (1 lecture)
		➤ 'ভারতবর্ষ' গল্প আলোচনা ও পর্যালোচনা (1 lecture)

Paper : BNG- 304 CBCS **Credits : 05**
(বাংলা ভাষা ও সাহিত্য পাঠ : আধুনিক)

➤ নাটক : সাজানো বাগান-- মনোজ মিত্র

Paper : BNG- 304 CBCS **Credits : 05**
(বাংলা ভাষা ও সাহিত্য পাঠ : আধুনিক)

➤ গল্প :

বোষ্টমী-- রবীন্দ্রনাথ ঠাকুর

উলটপুরাণ-- পরশুরাম

মাতৃহীন-- প্রভাতকুমার মুখোপাধ্যায়

দিবসের শেষে-- জগদীশ গুপ্ত
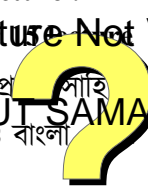
PG	পুন্নাম-- প্রেমেন্দ্র মিত্র	➤ পাঠ্যবিষয়ের প্রশ্নোত্তরের পর্যালোচনা (6 lecture)
	সুন্দরম্-- সুবোধ ঘোষ	
	টোপ-- নারায়ণ গঙ্গোপাধ্যায়	
	শহীদের মা-- সমরেশ বসু	
	স্তনদায়িনী-- মহাশ্বেতা দেবী	**Term-IV : lecture : 10**
	ভারতবর্ষ-- রমাপদ চৌধুরী	➤ ১০ জন শিক্ষার্থীর সেমিনার ও গবেষণাধর্মী প্রকল্প রচনার বিষয় নির্বাচন এবং প্রকল্প পর্যালোচনা (10 lecture)
	Paper : BNG- 305 Credits : 05 **Special Paper** (বিশেষ পত্রের প্রকল্পপত্র উপস্থাপন) ➤ রবীন্দ্র জীবন ও সাহিত্য বিষয়ক প্রকল্প (305C) এবং ➤ কথাসাহিত্য বিষয়ক প্রকল্প (305G)	

Kharagpur College

Department of Bengali (UG & PG Studies)

Syllabus Distribution and Teaching Plan

Odd Semester, Session-2022-2023

Dr. Lily Haldar

Course	Syllabus Allotted	Teaching Plan
UG	**U.G 1st Semester Honours** **Paper : MJ- 1T** **Credits : 04** (বাংলা ভূখণ্ড, বাঙালি জাতি ও বাংলা ভাষার পরিচয়) ➤ বাংলা লোকভাষা-উপভাষা ➤ বাংলা স্বরধ্বনি, ব্যঞ্জনধ্বনি, ধ্বনি পরিবর্তনের কারণ ও সূত্র, অধিধ্বনি, আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA) **U.G 1st Semester Honours** **Paper : MI- 1T** **Credits : 04** (বাংলা ভাষার উদ্ভব, বিকাশ ও ভাষাতাত্ত্বিক পরিচয়) ➤ বাংলা ভাষার উদ্ভব ও বিকাশ ➤ বাংলা স্বরধ্বনি, ব্যঞ্জনধ্বনি, অধিধ্বনি, আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA) **U.G 3rd Semester Honours** **Paper : CC- 5T** **Credits : 06** ➤ (উনিশ ও বিশ শতকের প্রবন্ধ ও কাব্য সাহিত্যের ইতিহাস এবং আখ্যান সাহিত্য পাঠ) শ্রীরামপুর মিশন, ফোর্ট উইলিয়াম কলেজ, রাজা রামমোহন রায়, বিদ্যাসাগর, অক্ষয় কুমার দত্ত, ভূদেব মুখোপাধ্যায়, কালীপ্রসন্ন সিংহ, প্যারিচাঁদ	**U.G 1st Semester Hons.** **Total Lecture : 21** **Term-I : 12 Lecture** ➤ বাংলা বিভিন্ন লোকভাষা ও উপভাষা সম্পর্কে বিস্তারিত আলোচনা (3 lecture) ➤ বাংলা স্বরধ্বনি সম্পর্কে পর্যালোচন (2 lecture) ➤ বাংলা ব্যঞ্জনধ্বনি সম্পর্কে পর্যালোচনা (2 lecture) ➤ ধ্বনি পরিবর্তনের কারণ ও সূত্র (2 lecture) ➤ অধিধ্বনি (1 lecture) ➤ আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA) (1 lecture) ➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture) **Term-II : 09 lecture** ➤ বাংলা ভাষার উদ্ভব ও বিকাশ (2 lecture) ➤ বাংলা স্বরধ্বনি সম্পর্কে পর্যালোচন (2 lecture) ➤ বাংলা ব্যঞ্জনধ্বনি সম্পর্কে পর্যালোচনা (2 lecture) ➤ অধিধ্বনি (1 lecture) ➤ আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA) (1 lecture) ➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture) **U.G 3rd Semester Hon.** **Total Lecture : 21** **Term-I : ~~Lecture~~** ➤ শ্রীরামপুর মিশন ও বাংলা প্র___ সাহি___ (1 lecture) ➤ ফোর্ট উইলিয়াম কলেজ ও বাংলা ___ সাহিত্যে (1 lecture) ➤ প্রাবন্ধিক রাজা র___ ___ lecture) ➤ বাংলা প্রবন্ধ সাহিত্যে বিদ্যাসাগরের অবদান (1 lecture)

UG	মিত্র, বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর, স্বামী বিবেকানন্দ, হরপ্রসাদ শাস্ত্রী, রামেন্দ্রসুন্দর ত্রিবেদী, অমূল্যচরণ বিদ্যাভূষণ, প্রমথ চৌধুরী, অন্নদাশঙ্কর রায়, সুনীতিকুমার চট্টোপাধ্যায়, সৈয়দ মুজতবা আলী, যোগেশচন্দ্র রায় বিদ্যানিধি, বুদ্ধদেব বসু	➤ অক্ষয় কুমার দত্ত ও ভূদেব মুখোপাধ্যায়ের প্রবন্ধ সাহিত্য (1 lecture) ➤ বাংলা প্রবন্ধের বিকাশে কালীপ্রসন্ন সিংহ ও প্যারিচাঁদ মিত্রের অবদান (1 lecture) ➤ প্রাবন্ধিক বঙ্কিমচন্দ্র চট্টোপাধ্যায় (1 lecture) ➤ প্রবন্ধ সাহিত্যে রবীন্দ্রনাথ ঠাকুরের অবদান (1 lecture) ➤ প্রাবন্ধিক স্বামী বিবেকানন্দ (1 lecture) ➤ হরপ্রসাদ শাস্ত্রী ও রামেন্দ্রসুন্দর ত্রিবেদী (1 lecture) ➤ প্রবন্ধ সাহিত্যে অমূল্যচরণ বিদ্যাভূষণ ও অন্নদাশঙ্কর রায়ের অবদান (1 lecture) ➤ প্রাবন্ধিক প্রমথ চৌধুরী (1 lecture) ➤ প্রাবন্ধিক সুনীতিকুমার চট্টোপাধ্যায় (1 lecture) ➤ সৈয়দ মুজতবা আলী ও যোগেশচন্দ্র রায় বিদ্যানিধির প্রবন্ধচর্চা (1 lecture) ➤ প্রাবন্ধিক বুদ্ধদেব বসু (1 lecture)
	Paper : SEC- 1T Credits : 02 (বাংলা ব্যকরণ ও অনুবাদতত্ত্ব) ➤ সমাস, সন্ধি, প্রত্যয়, ছেদ ও যতিচিহ্নের ব্যবহার, বাগ্ধারা ও প্রবাদ-প্রবচন, এক-কথায় প্রকাশ	**Term-II : 06 lecture** ➤ বাংলা সমাস ও সন্ধির প্রয়োগ সম্পর্কিত ধারণ (1 lecture) ➤ প্রত্যয় (2 lecture) ➤ ছেদ ও যতিচিহ্নের ব্যবহার (1 lecture) ➤ বাগ্ধারা ও প্রবাদ-প্রবচন (1 lecture) ➤ এক-কথায় প্রকাশ (1 lecture)
	U.G 5th Semester Honours **Paper : DSC- 1T Credits : 06** (সাহিত্য আন্দোলন সমালোচনা ও রূপ-রীতি) ➤ সমালোচনা মিথ ক্রিটিসিজম্, আর্কেটাইপাল ক্রিটিসিজম্, হিস্টোরিক্যাল ক্রিটিসিজম্, কম্পারেটিভ ক্রিটিসিজম্	**U.G 5th Semester Hon.** **Total Lecture : 07** ➤ পাশ্চাত্য সাহিত্য সমালোচনার ধারা (1 lecture) ➤ মিথ ক্রিটিসিজম্ : উদ্ভব ও বিকাশ (2 lecture) ➤ আর্কেটাইপাল ক্রিটিসিজম্ তত্ত্ব সম্পর্কে বিস্তারিত আলোচনা (1 lecture) ➤ হিস্টোরিক্যাল ক্রিটিসিজম্ উদ্ভব ও বিকাশ এবং আধুনিক সাহিত্য সমালোচন৷ ~~১ম্পর্কে আলোচন৷~~ lecture) ➤ কম্পারেটিভ ক্রিটিসিজম্ ~~সম্পর্কে বিস্তারিত~~ আলোচনা (2 lecture)

PG	**P.G 1st Semester** **Paper : BNG-101** **Credits : 05** (ভাষার ইতিহাস ও পরিচয়) ➤ ইন্দো ইউরোপীয় ভাষাবংশের পরিচয়, প্রাচীন ভারতীয় আর্যভাষা সমূহ	**P.G 1st Semester** **Total Lecture : 21** **Term-I : 07 lecture** ➤ ইন্দো ইউরোপীয় ভাষাবংশ সম্পর্কে বিস্তারিত আলোচনা (3 lecture) ➤ প্রাচীন ভারতীয় আর্যভাষা এবং তার সমসাময়িক ভাষা সম্পর্কিত পাঠ (3 lecture) ➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	Paper : BNG-101 **Credits : 05** (ভাষার ইতিহাস ও পরিচয়) ➤ মধ্যভারতীয় আর্যভাষা সমূহ	**Term-II : lecture : 06** ➤ মধ্যভারতীয় আর্যভাষার শ্রেণিবিভাগ এবং তার বিস্তারিত আলোচনা (5 lecture) ➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	Paper : BNG-101 **Credits : 05** (ভাষার ইতিহাস ও পরিচয়) ➤ নব্যভারতীয় আর্যভাষার বর্গীকরণ, মাগধী প্রাকৃত উদ্ভূত ভাষা সমূহের পরিচয়	**Term-III : lecture : 08** ➤ নব্যভারতীয় আর্যভাষার বর্গীকরণ এবং ভাষা বৈশিষ্ট্য (2 lecture) ➤ মাগধী প্রাকৃত থেকে উদ্ভূত ভাষা সমূহের পরিচয় এবং তার বিস্তারিত আলোচনা (5 lecture) ➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	P.G 3rd Semester **Paper : BNG-301** **Credits : 05** (বাংলা উপন্যাসের ইতিহাস ও পাঠ) ➤ বাংলা উপন্যাসের ধারা : নির্বাচিত ঔপন্যাসিক বঙ্কিমচন্দ্র চট্টোপাধ্যায়, স্বর্ণকুমারী দেবী, রবীন্দ্রনাথ ঠাকুর, শরৎচন্দ্র চট্টোপাধ্যায়, বিভূতিভূষণ বন্দ্যোপাধ্যায়, তারাশঙ্কর বন্দ্যোপাধ্যায়, মানিক বন্দ্যোপাধ্যায়, বনফুল, শরদিন্দু বন্দ্যোপাধ্যায়, সতীনাথ ভাদুড়ী, আশাপূর্ণা দেবী, সমরেশ বসু, মহাশ্বেতা দেবী	**P.G 3rd Semester** **Total Lecture : 36** **Term-I : lecture : 17** ➤ বাংলা উপন্যাসের প্রাক্‌কথন (1 lecture) ➤ ঔপন্যাসিক বঙ্কিমচন্দ্র চট্টোপাধ্যায় (1 lecture) ➤ ঔপন্যাসিক স্বর্ণকুমারী দেবী (1 lecture) ➤ ঔপন্যাসিক রবীন্দ্রনাথ ঠাকুর (1 lecture) ➤ ঔপন্যাসিক শরৎচন্দ্র চট্টোপা (1 lecture) ➤ ঔপন্যাসিক বিভূতিভূষণ বন্দ্যোপাধ্যায় (1 lecture) ➤ কল্লোলের আন্দোলন ও বাংলা উপন্যাস (1 lecture) ➤ ঔপন্যাসিক তারাশঙ্কর বন্দ্যোপাধ্যায় (1 lecture) ➤ ঔপন্যাসিক বনফুল (1 lecture)

PG		➢ ঔপন্যাসিক মানিক বন্দ্যোপাধ্যায় (1 lecture) ➢ বাংলা উপন্যাসে দ্বিতীয় বিশ্বযুদ্ধ, দেশভাগ, উদ্বাস্তু সমস্যার প্রতিফলন (1 lecture) ➢ ঔপন্যাসিক শরদিন্দু বন্দ্যোপাধ্যায় (1 lecture) ➢ বাংলা উপন্যাসে সতীনাথ ভাদুড়ীর অবদান (1 lecture) ➢ বাংলা উপন্যাসে আশাপূর্ণা দেবীর অবদান (1 lecture) ➢ বাংলা উপন্যাসে সমরেশ বসুর অবদান (1 lecture) ➢ ঔপন্যাসিক মহাশ্বেতা দেবী (1 lecture) ➢ পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	Paper : BNG- 304 CBCS Credits : 05 (বাংলা ভাষা ও সাহিত্য পাঠ : আধুনিক) ➢ আধুনিক কবিতা : আত্মবিলাপ-- মধুসূদন দত্ত হঠাৎ দেখা-- রবীন্দ্রনাথ ঠাকুর আট বছর আগের একদিন-- জীবনানন্দ দাশ আমি কবি যত কামারের-- প্রেমেন্দ্র মিত্র সংগতি-- অমিয় চক্রবর্তী উটপাখি-- সুধীন্দ্রনাথ দত্ত কঙ্কাবতী-- বুদ্ধদেব বসু যত দূরেই যাই-- সুভাষ মুখোপাধ্যায় যেতে পারি কিন্তু কেন যাবো-- শক্তি চট্টোপাধ্যায় আয় তবে বেঁধে বেঁধে থাকি-- শঙ্খ ঘোষ	**Term-II : lecture : 11** ➢ 'আত্মবিলাপ' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'হঠাৎ দেখা' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'আট বছর আগের একদিন' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'আমি কবি যত কামারের' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'সংগতি' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'উটপাখি' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'কঙ্কাবতী' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'যত দূরেই যাই' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ যেতে পারি কিন্তু কেন যাবো' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ 'আয় তবে বেঁধে বেঁধে থাকি' বিশ্লেষণ ও পর্যালোচনা (1 lecture) ➢ পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	Paper : BNG- 305 Credits : 05 **Special Paper** (বিশেষ পত্রের প্রকল্পপত্র উপস্থাপন) ➢ রবীন্দ্র জীবন ও সাহিত্য বিষয়ক প্রকল্প (305C) এবং	**Term-III : lecture : 08** ➢ 08 জন শিক্ষার্থীর~~Signature Not Verified~~ বিষয় নির্বাচন এবং প্রকল্প প ... চনা ... 0 lecture) BIDYUT SAMANTA 22.06.2024

PG	➢ কথাসাহিত্য বিষয়ক প্রকল্প (305G)	

TEACHING PLAN OF ODD SEMESTER (1st, 3rd & 5th)

Department of Bengali

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 1st Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : MAJOR/MJA1

Topic Name – বাংলা ভাষার উদ্ভব ও বিবর্তন (4Credits)

Name of the Teacher : Sri Tirtharaj Biswas

1st Term (Total 14 Lectures)

Lecture 1 : পৃথিবীর ১২ টি ভাষাবংশের পরিচয় ও উক্ত ভাষাবংশ থেকে প্রচলিত ভাষার পরিচয়

Lecture 2 : বাংলা ভাষার উদ্ভবের ইতিহাস (পর্ব ১ – ইন্দো-ইউরোপীয় ভাষাবংশ থেকে ভারতীয় আর্যভাষার উদ্ভব)

Lecture 3 : বাংলা ভাষার উদ্ভবের ইতিহাস (পর্ব ২ – প্রাচীন-মধ্য-নব্য ভারতীয় আর্য ভাষার পরিচয় ও তার বৈশিষ্ট্য)

Lecture 4 : বাংলা ভাষার উদ্ভবের ইতিহাস (পর্ব ৩- মধ্যভারতীয় আর্য থেকে তিনটি স্তরের মাধ্যমে নব্যভারতীয় আধুনিক ভাষার উদ্ভবের পূর্ণাঙ্গ বিবরণ)

Lecture 5 : বাংলা ভাষার উদ্ভবের ইতিহাস রেখাচিত্রের মাধ্যমে উপস্থাপন ও ছোটপ্রশ্ন আলোচনা।

Lecture 6 : বাংলা লোকভাষা, উপভাষা ও সমাজভাষার সাধারণ ধারণা প্রদান

Lecture 7 : বাংলা লোকভাষার সংজ্ঞা, স্বরূপ ও বৈশিষ্ট্য

Lecture 8 : উপভাষার সংজ্ঞা, বৈশিষ্ট্য, পরিচয় , বাংলার পাঁচটি উপভাষার সাধারণ ধারণা।

Lecture 9 : আদর্শ কথ্য বাংলা হিসেবে রাঢ়ী উপভাষার বৈশিষ্ট্য।

Lecture 10 : সমাজভাষার সংজ্ঞা, স্বরূপ , সমাজভাষার অঙ্গগুলির পরিচয়।

Lecture 11 : ধর্ম-লিঙ্গ-পেশা ভেদে সমাজভাষার বিবর্তন, ভাষাপরিকল্পনা ।

Lecture 12 : ডায়গ্লসিয়া, রেজিস্টার, কোড-সুইচিং, পিজিন-ক্রেয়ল, লিঙ্গুয়াফ্রাঙ্কা, বহুভাষিকতার পরিচয়।

Lecturre 13 : বিজ্ঞানসম্মত ভাবে বাংলা স্বরধ্বনির বিন্যাস আলোচনা

Lecture 14 : বিজ্ঞানসম্মত ভাবে বাংলা ব্যঞ্জনধ্বনির বিন্যাস আলোচনা।

Term 2 (Total 10 Lectures)

Lecture 15 : অধিধ্বনির সংজ্ঞা, স্বরূপ, ধ্বনিপরিবর্তনের কারণ

Lecture 16 : ধ্বনিপরিবর্তনের সূত্র (পর্ব ১ – ধ্বনির লোপ , ধ্বনির আগম)

Lecture 17 : ধ্বনিপরিবর্তনের সূত্র (পর্ব ২ – ধ্বনির রূপান্তর , ধ্বনির স্থানান্তর)

Lecture 18 : IPA – আন্তর্জাতিক ধ্বনিমূলক বর্ণমালার ধারণা, পরিচিতি ও গঠনবিন্যাস

Lecture 19 : বাংলা শব্দভাণ্ডার (পর্ব ১ – মৌলিক শব্দের পরিচয়)

Lecture 20 : বাংলা শব্দভাণ্ডার (পর্ব ২ – আগন্তুক ও নবগঠিত শব্দের পরিচয়)

Lecture 21 : শব্দার্থ পরিবর্তনের কারণ

Lecture 22 : বাংলা শব্দার্থ পরিবর্তনের ধারার সামগ্রিক পরিচয়

Lecture 23 : বাংলা ধ্বনিতত্ত্ব ও শব্দার্থতত্ত্ব থেকে সামগ্রিক ছোটপ্রশ্ন আলোচনা।

Lecture 24 : পাঠ্যান্তর্গত যেকোনো বিষয়ের উপর ক্লাস সেমিনার।

Department of Bengali

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 1st Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : SEC

Topic Name – পেশা সহযোগী বাংলা বিদ্যাচর্চা (3Credits)

Name of the Teacher : Sri Tirtharaj Biswas

1st Term (Total 8 Lectures)

Lecture 1 : কোর্সের উদ্দেশ্য ও প্রয়োজনীয়তা

Lecture 2 : প্রুফ রিডিং সম্পর্কে সাধারণ ধারণা, সংজ্ঞা, বৈশিষ্ট্য

Lecture 3 : আদর্শ প্রুফ-রিডারের গুণাবলী , প্রয়োজনীয়তা।

Lecture 4 : প্রুফ-রিডিং এর নিয়মাবলী ও চিহ্ন সমূহের ধারণা

Lecture 5 : বাংলা ছাপাখানার ইতিহাস

Lecture 6 : দুই শতকের বাংলার মুদ্রণ ও প্রকাশন

Lecture 7 : ডি টি পি –র ধারণা, বাংলা টাইপের ধারণা।

Lecture 8 : বাংলা হরফের প্রকার ও পরিচয়।

Term 2 (Total 6 Practical Class)

Practical 1 : প্রুফ-রিডিং অভ্যাস

Practical 2 : প্রুফ-রিডিং অভ্যাস

Practical 3 : প্রুফ-রিডিং অভ্যাস

Practical 4 : কম্পিউটারে বাংলা টাইপ অভ্যাস

Practical 5 : কম্পিউটারে বাংলা টাইপ অভ্যাস

Practical 6 : কম্পিউটারে বাংলা টাইপ অভ্যাস.

<u>TEACHING PALN OF ODD SEMESTER (1st, 3rd & 5th)</u>

Department of Bengali

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 3rd Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : DSC3A

Topic Name – বাংলা কথাসাহিত্য, নাটক ও প্রবন্ধ (6 CREDITS)

Name of the Teacher : Sri Tirtharaj Biswas

1st Term (Total 16 Lectures)

Lecture 1 : বাংলা ছোটগল্পের সংজ্ঞা, স্বরূপ ও বৈশিষ্ট্য

Lecture 2 : 'ফুলের মূল্য' গল্পপাঠ বিশ্লেষণ

Lecture 3 : 'চিকিৎসা সংকট' গল্পপাঠ বিশ্লেষণ

Lecture 4 : 'চিকিৎসা সংকট' গল্পের হাস্যরস ও চরিত্র বিশ্লেষণ

Lecture 5 : 'চতুর্থ পানিপথের যুদ্ধ' গল্পের পাঠ বিশ্লেষণ

Lecture 6 : 'চতুর্থ পানিপথের যুদ্ধ' গল্পের চরিত্র বিশ্লেষণ

Lecture 7 : 'মতিলাল পাদরী' গল্পের পাঠবিশ্লেষণ

Lecture 8 : 'মতিলাল পাদরী' গল্পের চরিত্র বিশ্লেষণ

Lecture 9 : 'স্তনদায়িনী' গল্পের পাঠবিশ্লেষণ

Lecture 10 : 'আম্রজা' গল্পের পাঠবিশ্লেষণ

Lecture 11 : পাঠ্যান্তর্গত ছোটগল্পের সামগ্রিক ছোটপ্রশ্নোত্তর আলোচনা

Lecture 12 : উপন্যাসের সাধারণ ধারণা, বৈশিষ্ট্য, আধুনিক বাংলা উপন্যাসের গতিপ্রকৃতি ও বিভূতিভূষণের আবির্ভাব।

Lecture 13 : বিভূতিভূষণের ব্যক্তিজীবনের পরিচয় ও কথাসাহিত্যিক রূপে পরিচয়, 'পথের পাঁচালী' রচনার প্রেক্ষাপট

Lecture 14 : 'পথের পাঁচালী' উপন্যাসের গঠনগত দিক , সামগ্রিক পরিচিতি, চরিত্র পরিচিতি।

Lecture 15 : 'পথের পাঁচালী' উপন্যাসের 'বল্লালী-বালাই' অংশের কাহিনি উপস্থাপন

Lecture 16 : 'পথের পাঁচালী' উপন্যাসের 'আম আঁটির ভেঁপু' অংশের কাহিনি উপস্থাপন

Lecture 17 : 'পথের পাঁচালী' উপন্যাসের 'অক্রুর সংবাদ' অংশের কাহিনি উপস্থাপন।

Lecture 18 : 'পথের পাঁচালী' উপন্যাসের নামকরণের সার্থকতা

Lecture 19 : "পথের পাঁচালী' উপন্যাসের প্রকৃতিভাবনা

Lecture 20 : উপন্যাসের শ্রেণিবিচার

2nd Term (21 Lectures)

Lecture 21 : পথের পাঁচালী উপন্যাসের অপু চরিত্র বিশ্লেষণ

Lecture 22 : 'পথের পাঁচালী' উপন্যাসের দুর্গা চরিত্র ও তার অন্তর্ভুক্তির কারণ

Lecture 23 : 'পথের পাঁচালী' উপন্যাসের অপ্রধান চরিত্র বিশ্লেষণ

Lecture 24 : 'পথের পাঁচালী' উপন্যাসের সামগ্রিক ছোটপ্রশ্ন আলোচনা

Lecture 25 : নাটকের সংজ্ঞা, স্বরূপ , বৈশিষ্ট্য, নাটক সম্পর্কিত সাধারণ পরিচিতি, বাংলা নাটকের গতিপ্রকৃতি

Lecture 26 : নাট্যকার দ্বিজেন্দ্রলাল রায়ের ব্যক্তিজীবন ও সাহিত্যজীবনের পরিচয়, 'সাজাহান' নাটকের প্রেক্ষাপট

Lecture 27 : 'সাজাহান' মূল নাটক পাঠ ও বিশ্লেষণ (প্রথম অঙ্ক)

Lecture 28 : 'সাজাহান' মূল নাটক পাঠ ও বিশ্লেষণ (দ্বিতীয় অঙ্ক)

Lecture 29 : 'সাজাহান' মূল নাটক পাঠ ও বিশ্লেষণ (তৃতীয় অঙ্ক)

Lecture 30 : 'সাজাহান' মূল নাটক পাঠ ও বিশ্লেষণ (চতুর্থ অঙ্ক)

Lecture 31 : 'সাজাহান' মূল নাটক পাঠ ও বিশ্লেষণ (পঞ্চম অঙ্ক)

Lecture 32 : ঐতিহাসিক প্রেক্ষিতে 'সাজাহান' নাটক বিচার

TEACHING PALN OF ODD SEMESTER (1ST, 3RD & 5th)

Department of Bengali

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 3rd Semester

Session – 2023-2024

Term I : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : SEC1A

Topic Name – লিখন নৈপুণ্য বৃদ্ধি 2 Credits

Name of the Teacher : Sri Tirtharaj Biswas

1st Term (Total 8 Lectures)

Lecture 1 : Skill ও **Ability** সম্পর্কিত ধারণা প্রদান। মানুষের চারটি **Skill** সম্পর্কে আলোচনা

Lecture 2 : ভাবার্থ ও ভাবসম্প্রসারণের গোড়ার কথা , স্বরূপ ও বৈশিষ্ট্য আলোচনা।

Lecture 3 : প্রতিবেদনের সংজ্ঞা, স্বরূপ ও বৈশিষ্ট্য।

Lecture 4 : প্রতিবেদনের উপযোগিতা, শ্রেণিবিন্যাস, গঠন।

Lecture 5 : অনুচ্ছেদ রচনার স্বরূপ ও বৈশিষ্ট্য আলোচনা

Lecture 6 : পত্র লিখনের স্বরূপ , পত্রের শ্রেণিবিন্যাস , প্রাতিষ্ঠানিক পত্র সম্পর্কিত ধারণা।

Lecture 7 : বিজ্ঞাপনের সংজ্ঞা, স্বরূপ ও বৈশিষ্ট্য।

Lecture 8 : বিজ্ঞাপনের প্রয়োজনীয়তা , শ্রেণিবিভাগ , মাধ্যম, আদর্শ বিজ্ঞাপন রচনার গঠনকাঠামোর পরিচয়।

Term 2 (Total 6 Practical)

Practical 1 : আদর্শ ভাবার্থ লিখন অভ্যাস

Practical 2 : আদর্শ ভাবসম্প্রসারণ লিখন অভ্যাস

Practical 3 : আদর্শ সংবাদপত্রের উপযোগী প্রতিবেদন লিখন অভ্যাস

Practical 4 : অনুচ্ছেদ লিখন অভ্যাস

Practical 5 : প্রাতিষ্ঠানিক পত্র লিখন অভ্যাস

Practical 6 : একটি বিজ্ঞাপনের খসড়া রচনার অভ্যাস

<mark>TEACHING PALN OF ODD SEMESTER (1st, 3rd & 5th)</mark>

Department of Bengali

B.A General (Morning Shift)

SUBJECT - BENGALI

<mark>**Syllabus distribution and Teaching Plan of 5th Semester**</mark>

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

<mark>**Paper – DSE-1AT**</mark>

<mark>Topic Name – বাংলা নাটক ও কবিতা</mark> 6 Credits

Name of The Teacher – **Sri Tirtharaj Biswas**

<mark>1st Term (Total 15 Lectures)</mark>

Lecture 1 : বাংলা নাটক ও তার উদ্ভবের ইতিবৃত্ত

Lecture 2 : মাইকেল মধুসূদন দত্ত-র ব্যক্তিজীবন ও নাট্যকার হিসেবে পরিচিতি।

Lecture 3 : কৃষ্ণকুমারী মূল নাটকপাঠ (প্রথমাঙ্ক)

Lecture 4 : কৃষ্ণকুমারী মূল নাটকপাঠ (দ্বিতীয় অঙ্ক –প্রথম গর্ভাঙ্ক)

Lecture 5 : কৃষ্ণকুমারী মূল নাটকপাঠ (দ্বিতীয় অঙ্ক – দ্বিতীয় ও তৃতীয় গর্ভাঙ্ক)

Lecture 6 : কৃষ্ণকুমারী মূল নাটকপাঠ (তৃতীয় অঙ্ক – প্রথম গর্ভাঙ্ক)

Lecture 7 : কৃষ্ণকুমারী মূল নাটকপাঠ (তৃতীয় অঙ্ক – দ্বিতীয় ও তৃতীয় গর্ভাঙ্ক)

Lecture 8 : কৃষ্ণকুমারী মূল নাটকপাঠ (চতুর্থ অঙ্ক – প্রথম, দ্বিতীয় ও তৃতীয় গর্ভাঙ্ক)

Lecture 9 : কৃষ্ণকুমারী মূল নাটকপাঠ (পঞ্চম অঙ্ক – প্রথম, দ্বিতীয় ও তৃতীয় গর্ভাঙ্ক)

Lecture 10: ঐতিহাসিক নাটকরূপে কৃষ্ণকুমারী নাটকের সার্থকতা বিচার

Lecture 11: ট্র্যাজেডি নাটক হিসেবে কৃষ্ণকুমারী নাটকের সার্থকতা বিচার।

Lecture 12 : কৃষ্ণকুমারী নাটকে প্রাচ্য ও পাশ্চাত্য প্রভাব।

Lecture 13 : কৃষ্ণকুমারী চরিত্র বিশ্লেষণ।

Lecture 14 : কৃষ্ণকুমারী নাটকের অপ্রধান চরিত্র পর্যালোচনা।

Lecture 15 : কৃষ্ণকুমারী নাটকের সামগ্রিক আলোচনা ও ছোটপ্রশ্নোত্তর আলোচনা।

2nd Term (Total 10 Lectures)

Lecture 16 : আধুনিক বাংলা কবিতার গতিপ্রকৃতি ও স্বরূপসন্ধান

Lecture 17 : 'বঙ্গভূমির প্রতি' কবিতার পাঠপর্যালোচনা

Lecture 18 : 'বলাকা' কবিতার পাঠপর্যালোচনা

Lecture 19 : 'সংগতি' কবিতার পাঠপর্যালোচনা

Lecture 20 : 'আমরা' কবিতার পাঠপর্যালোচনা

Lecture 21 : 'আমরা' কবিতার পাঠপর্যালোচনা

Lecture 22 : 'শাশ্বতী' কবিতার পাঠপর্যালোচনা

Lecture 23 : 'অবনী বাড়ি আছো' কবিতার পাঠপর্যালোচনা

Lecture 24 : আধুনিক কবিতার সামগ্রিক ছোটপ্রশ্নোত্তর আলোচনা।

Lecture 25 : পাঠ্যসূচির অন্তর্ভুক্ত যেকোন বিষয়ের উপর ক্লাস সেমিনার।

TEACHING PALN OF ODD SEMESTER (1st, 3rd & 5th)

Department of Bengali

B.A General (Morning Shift)

SUBJECT - BENGALI

Syllabus distribution and Teaching Plan of 5th Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper – GE-1B

Topic Name – কাব্য 6 Credits

Name of The Teacher – **Sri Tirtharaj Biswas**

1ST Term (Total 12 lectures)

Lecture 1 : কবি রবীন্দ্রনাথের পরিচয় – রবীন্দ্রকাব্যের ভুবনে 'চিত্রা'-র প্রকাশ

Lecture 2 : 'চিত্রা' ঃ আর্থ-সামাজিক ও রাজনৈতিক প্রেক্ষিত এবং কবিমানস, বিষয়-বৈচিত্র্য ও কবিতাগুলির বিন্যাস

Lecture 3 : 'চিত্রা', জ্যোৎস্না রাত্রে , 'প্রেমের অভিষেক', 'আবেদন' কবিতার বিশ্লেষণ।

Lecture 4 : 'জীবনদেবতা', 'অভ্যর্থমী', 'সিন্ধুপারে' কবিতার বিশ্লেষণ।

Lecture 5 : ''এবার ফিরাও মোরে' , 'স্বর্গ হইতে বিদায়' কবিতার বিশ্লেষণ।

Lecture 6 : 'ব্রাহ্মণ', 'পুরাতন ভৃত্য', 'দুই বিঘা জমি' কবিতার বিশ্লেষণ।

Lecture 7 : 'উর্বশী', 'বিজয়িনী' কবিতার বিশ্লেষণ।

Lecture 8 : 'চিত্রা' কাব্যের নামকরণের সার্থকতা

Lecture 9 : 'চিত্রা' কাব্যে প্রেম ও সৌন্দর্যচেতনা

Lecture 10 : 'চিত্রা' কাব্যে প্রতিফলিত জীবনদেবতা ভাবনা।

Lecture 11 : 'চিত্রা' কাব্যের মর্ত্য ও জীবনানুরাগ ।

Lecture 12 : 'চিত্রা' কাব্যের সামগ্রিক ছোটপ্রশ্নোত্তর পর্যালোচনা।

Term 2 : (Total 10 Lectures)

Lecture 13 : কবি অমিয় চক্রবর্তী ও তার কাব্যভাবনা ।

Lecture 14 : অমিয় চক্রবর্তীর পারাপার ঃ রচনার প্রেক্ষাপট ও বৈশিষ্ট্য ।

Lecture 15 : 'মাটি', 'মার্কিনি', 'ওক্লাহোমা', 'শিল্প' কবিতার বিশ্লেষণ।

Lecture 16 : '১৩৫০', 'সাবেকি', 'সামুদ্রিক', ' রবীন্দ্রনাথ' কবিতার পাঠ-বিশ্লেষণ।

Lecture 17 : 'ফ্রাইবুর্গের পথে', 'সমুদ্রে', 'বৃষ্টি', 'পারাপার' কবিতার পাঠ-বিশ্লেষণ।

Lecture 18 : 'পারাপার' কাব্যের দার্শনিক ভাবনা

Lecture 19 : 'পারাপার' কাব্যের বিরহভাবনা

Lecture 20 : 'পারাপার' কাব্যের প্রেমচেতনা

Lecture 21 : 'পারাপার' কাব্যের আন্তর্জাতিক ভাবনা।

Lecture 22 : 'পারাপার' কাব্যের সামগ্রিক ছোটপ্রশ্নোত্তর আলোচনা।

Kharagpur College
Department of Bengali
Dr. Tapas Kumar Btattacharya
Syllabus Distribution and Teaching Plan
Even Semester, Session: 2022-2023
Term I: Commencement of classes to 1st internal Examination;
Term II: 1st internal to 2nd internal Examination;
Term III: 2nd internal Examination to ESE preparatory break

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**UG.2nd Sem. Honours** Paper CC-3 প্রাচীন ও মধ্যযুগের পদপাঠ: ক) চর্যাপদ (পাঠ্য পদ - ১,২,৫,৭,৮,১০,১৪,২৪,২৮) (২০ নম্বর)	**UG.Semester-II** (Total Lectures = 30) **Term-I** (Lectures -11) **Paper CC-3T:** প্রাচীন ও মধ্যযুগের পদপাঠ: ক) চর্যাপদ (পাঠ্য পদ - ১,২,৫,) **Term II** (Lectures -11) **Paper CC-3T** : প্রাচীন ও মধ্যযুগের পদপাঠ: ক) চর্যাপদ (পাঠ্য পদ - ৭,৮,১০) **Term-III** (Lectures -8) **Paper CC-3T** : প্রাচীন ও মধ্যযুগের পদপাঠ: ক) চর্যাপদ (পাঠ্য পদ - ১৪,২৪,২৮)
	UG.4th Sem Honours Paper -CC-9: কাব্য পাঠ - ক) বীরাঙ্গনা -মাইকেল মধুসূদন দত্ত (দ্বারকানাথের প্রতি রুক্মিণী, লক্ষ্মণের প্রতি সুর্পনখা, দশরথের প্রতি কেকয়ী, সোমের প্রতি তারা, দুষ্মন্তের প্রতি শকুন্তলা, নীলধ্বজের প্রতি জনা) (২০ নম্বর) UG.4th Sem. Project Paper-SEC-2 : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। মোট ১৪ জন শিক্ষার্থী (৪০ নম্বর)	**UG.Semester -IV** (Total Lectures = 40) **Term-I** (Lectures -15) Paper CC-9T: কাব্য পাঠ - ক) বীরাঙ্গনা -মাইকেল মধুসূদন দত্ত (দ্বারকানাথের প্রতি রুক্মিণী, লক্ষ্মণের প্রতি সুর্পনখা) **Paper SEC-2** : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। (মোট ১৪ জন শিক্ষার্থী) **Term-II** (Lectures -15) Paper CC-9T: কাব্য পাঠ - ক) বীরাঙ্গনা -মাইকেল মধুসূদন দত্ত (দশরথের প্রতি কেকয়ী, সোমের প্রতি তারা) Paper SEC-2 : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। (মোট ১৪ জন শিক্ষার্থী) **Term-III** (Lectures -10) Paper CC-9T: কাব্য পাঠ -

		ক) বীরাঙ্গনা -মাইকেল মধুসূদন দত্ত (দুষ্মন্তের প্রতি শকুন্তলা, নীলধ্বজের প্রতি জনা) Paper SEC-2 : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। (মোট ১৪ জন শিক্ষার্থী) **UG.Semester –VI** (Total Lecture = 48) **Term-I** (Lectures -18) **Paper CC-14:** সংস্কৃত, ইংরেজি ও প্রতিবেশী সাহিত্যের ইতিহাস- খ) ইংরেজি সাহিত্যের ইতিহাস (শেক্সপিয়ার, ওয়ার্ডসওয়ার্থ) **Paper : DSE-4:** উপন্যাস সাহিত্য পাঠ - গ) টানাপোড়েন -সমরেশ বসু। **Term- II** (Lectures -18) **Paper- CC-14:** সংস্কৃত, ইংরেজি ও প্রতিবেশী সাহিত্যের ইতিহাস- খ) ইংরেজি সাহিত্যের ইতিহাস (চার্লস ডিকেন্স, বায়রণ) **Paper : DSE-4:** উপন্যাস সাহিত্য পাঠ - গ) টানাপোড়েন -সমরেশ বসু। **Term- III** (Lectures -12) **Paper- CC-14:** সংস্কৃত, ইংরেজি ও প্রতিবেশী সাহিত্যের ইতিহাস- খ) ইংরেজি সাহিত্যের ইতিহাস (শেলী, টি.এস.এলিয়ট) **Paper : DSE-4:** উপন্যাস সাহিত্য পাঠ - গ) টানাপোড়েন -সমরেশ বসু।
	UG.6th Sem Honours Paper- CC-14: সংস্কৃত, ইংরেজি ও প্রতিবেশী সাহিত্যের ইতিহাস- খ) ইংরেজি সাহিত্যের ইতিহাস (শেক্সপিয়ার ওয়ার্ডসওয়ার্থ, চার্লস ডিকেন্স, বায়রণ, শেলী, টি.এস.এলিয়ট। Paper : DSE-4: উপন্যাস সাহিত্য পাঠ - গ) টানাপোড়েন -সমরেশ বসু।	
Post Graduate	**PG. 2nd Semester** PG.2nd Sem. Paper- BNG- 203: রবীন্দ্র সাহিত্য পাঠ - ২.রবীন্দ্র নাটক – রক্তকরবী। (১০ নম্বর) ৪. রবীন্দ্র- ছোটগল্প- পোস্টমাস্টার,একরাত্রি,নিশীথে,বোষ্টমী,স্ত্রীর পত্র,ল্যাবরেটরী। (১০ নম্বর) PG.2nd Sem. Project Paper BNG-205 : সেমিনার ও গবেষণাধর্মী প্রকল্প রচনা : মোট ১০ জন শিক্ষার্থী (৪০ + ১০ = ৫০ নম্বর)	**PG.Semester -II** (Total Lectures = 55) **Term-I** (Lectures -25) **Paper : BNG- 203 :** রবীন্দ্র সাহিত্য পাঠ - ২.রবীন্দ্র নাটক – রক্তকরবী। ৪. রবীন্দ্র- ছোটগল্প- (পোস্টমাস্টার,একরাত্রি) **PG.2nd Sem. Project Paper BNG-205 :** সেমিনার ও গবেষনাধর্মী প্রকল্প রচনা : মোট ১০ জন শিক্ষার্থী **Term-II** (Lectures-...) **Paper : BNG- 203 :** রবীন্দ্র সাহিত্য পাঠ - ২.রবীন্দ্র নাটক – রক্তকরবী। ৪. রবীন্দ্র- ছোটগল্প- (স্ত্রীর পত্র,ল্যাবরেটরী)

	  Term-III (Lectures -10) Paper : BNG- 203 : রবীন্দ্র সাহিত্য পাঠ - ২.রবীন্দ্র নাটক – রক্তকরবী। ৪. রবীন্দ্র- ছোটগল্প- (নিশীথে,বোষ্টমী) PG.2nd Sem. Project Paper BNG-205 : সেমিনার ও গবেষনাধর্মী প্রকল্প রচনা : মোট ১০ জন শিক্ষার্থী

PG. 4th Semester,

PG.4th sem. Paper- BNG-403 : পাশ্চাত্য সাহিত্যতত্ত্ব

২. পোয়েটিকস্- অ্যারিস্টটল (১৫-নম্বর)

৩. অন দ্য আর্থ অফ পোয়েট্রি- হোরেস।(১০-নম্বর)

PG.4th sem Paper- BNG-404 : বহির্বঙ্গীয় বাংলা সাহিত্য চর্চা ও ভাষা আন্দোলন (৮নম্বর)

ত্রিপুরা: উপন্যাস- জয়া গোয়ালা, দুলাল ঘোষ, বিমল সিংহ।

আসাম: উপন্যাস – অঞ্জলি লাহিড়ী, সমর দেব।

বিহার: ভ্রমণ/উপন্যাস -সতীনাথ ভাদুড়ী, বিভূতিভূষণ মুখোপাধ্যায়, সুবিমল বসাক।

ঝাড়খন্ড: উপন্যাস – কমল চক্রবর্তী।

PG.4th sem. Special Paper -BNG-405F (কথা সাহিত্য পাঠ): (১০ নম্বর)

১. বাংলা উপন্যাস ও ছোটগল্পের সংজ্ঞা,স্বরূপ, উদ্ভব ও বিকাশ, রূপও রীতি,বৈচিত্র্য, শৈলী বিচার এবং গতিপ্রকৃতি।

PG. Semester-IV (Total Lectures = 60)

Term-I (Lectures -20)

PG.4th sem. Paper- BNG-403 : পাশ্চাত্য সাহিত্যতত্ত্ব

২. পোয়েটিকস্- অ্যারিস্টটল

PG.4th sem Paper- BNG-404 : বহির্বঙ্গীয় বাংলা সাহিত্য চর্চা ও ভাষা আন্দোলন।

ত্রিপুরা: উপন্যাস- জয়া গোয়ালা, দুলাল ঘোষ, বিমল সিংহ।

আসাম: উপন্যাস – অঞ্জলি লাহিড়ী, সমর দেব।

Term- II(Lectures -20)

PG. 4th Semester,

PG.4th sem. Paper- BNG-403 : পাশ্চাত্য সাহিত্যতত্ত্ব

৩. অন দ্য আর্থ অফ পোয়েট্রি- হোরেস।

PG.4th sem Paper- BNG-404 : বহির্বঙ্গীয় বাংলা সাহিত্য চর্চা ও ভাষা আন্দোলন:

বিহার: ভ্রমণ/উপন্যাস -সতীনাথ ভাদুড়ী, বিভূতিভূষণ মুখোপাধ্যায়, সুবিমল বসাক।

ঝাড়খন্ড: উপন্যাস – কমল চক্রবর্তী।

Term-III (Lectures -20)

PG.4th sem. Special Paper -BNG-405F (কথা সাহিত্য পাঠ):

১. বাংলা উপন্যাস ও ছোটগল্পের সংজ্ঞা,স্বরূপ, উদ্ভব ও বিকাশ, রূপও রীতি,বৈচিত্র্য, শৈলী বিচার এবং গতিপ্রকৃতি।

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Term III: 2nd internal Examination to ESE preparatory break

Name	Syllabus Allotted	Teaching Plan
Under Graduate	UG 2nd Sem (Hons) Paper CC 4 - চৈতন্যজীবনী ও সত্তলকাব্য সাহিত্য পাঠ: চন্ডীমঙ্গল আখ্যায়িক খন্ড (২০ নম্বর) UG 4th Sem (Hons) Paper CC-8 - প্রাচীন ও মধ্যযুগ বাংলা সাহিত্যের ইতিহাস ও ভূগোলসমূহ পাঠ। সমূহ: অতিথি, সমাপ্তি, কবি সংসদ, তাহিনী মাসি, উপায়বলী, মনসা, ফেলনগোপার আবিষ্কার (২০ নম্বর) Paper CC-10 - উপন্যাস পাঠ (২০ নম্বর) কপালকুন্ডলা - বঙ্কিমচন্দ্র Paper SEC 2: বাংলা ভাষা ও সাহিত্য বিষয়ক প্রবন্ধ রচনা ও উপস্থাপনা (সেম ১৪ তৃন শিক্ষার্থী (৪০ নম্বর)	UG Sem – II (Total Lectures = 30) Term – I (Lectures - 10) সত্তলকাব্যের পরিচয়, চন্ডীমঙ্গলের পরিচয়, কবির পরিচয়, সমাজ ও সংস্কৃতির পরিচয় Term – II (Lectures - 10) মুখ্যচরিত্রগুলি বর্ণনা, গৌণচরিত্র বর্ণনা, কবির ধর্মন চরিত্র সমূহের আলোচনা, Term – III (Lectures - 10) অনুবর্তন চরিত্র সমূহের আলোচনা, গল্পের ঘটনার উপর প্রাসঙ্গিক সম্পাদ ধারণা, চন্ডীমঙ্গল কাব্যে উপন্যাসের লক্ষণ দেখা যায় কি? UG SEM – IV (Total Lectures : 40) Term – I (Lectures - 15) Paper - CC 8 - সমূহ পাঠ - অতিথি, সমাপ্তি, কবি সংসদ, তাহিনী মাসি Paper - SEC 2 : প্রবন্ধ রচনা ও উপস্থাপনা (সেম ১৪ তৃন শিক্ষার্থী) Term – II (Lectures - 15) Paper - CC-8 - সমূহ পাঠ। উপায়বলী, মনসা, ফেলনগোপার আবিষ্কার। Paper - CC-10: উপন্যাস পাঠ - কপালকুন্ডলা, লেখক পরিচয়, DNN ... আলোচনা, ... সময় সমস্যা

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Name	Syllabus Allotted	Teaching Plan
	UG 6th Sem (Hons) Paper CC 14 - সংস্কৃত ও প্রাচীনকাবী সাহিত্যের ইতিহাস - ক) হিন্দি ভক্তি সাহিত্য, মহাদেবী বর্মা, প্রেমচন্দ, ফকির মোহন সেনাপতি, রমাকান্ত রথ, কাশীরাম দাস, লক্ষ্মীনাথ বেজবরুয়া, বিরিঞ্চিকুমার বড়ুয়া, কুঞ্জনী কান্ত বরদলৈ (২০ নম্বর) Paper DSE-4: উপন্যাস সাহিত্য পাঠ- মুতুল নাচের ইতিকথা - কানিক বন্দ্যোপাধ্যায় (২০ নম্বর)	Paper - SEC - 2: মুক্রন্ধ রচনা ও প্রন্নারলন (মোট ২৪ জন শিক্ষার্থী) Term - III (Lectures - 10) Paper - CC 10 - উপন্যাস পাঠ: ... উপন্যাসকুতলা উপন্যাসের শ্রেণী বিভাজন। উপন্যাসের প্রকৃতি, নবর্ধমার সূত্র। উপন্যাসকুতলা সূত্র। রীতিবরি ধবে ও অনুভান করে আলোচনা। Paper - SEC 2: মুক্রন্ধ রচনা ও প্রন্নারলন (মোট ২৪ জন শিক্ষার্থী) UG Sem - VI (Total Lectures - 48) Term - I (Lectures - 18) Paper CC -14: সংস্কৃত ও প্রাচীনকাবী ইতিহাস- হিন্দি ভক্তি সাহিত্য, মহাদেবী বর্মা, প্রেমচন্দ, ফকির সেনাপতি। Paper DSE-4: উপন্যাস সাহিত্য পাঠ- মুতুল নাচের ইতিকথা Term - II (Lectures - 18) Paper CC -14: সংস্কৃত ও প্রাচীনকাবী সাহিত্যের ইতিহাস - রমাকান্ত রথ, কাশীরাবী ধবে, লক্ষ্মীনাথ বেজবরুয়া, বিরিঞ্চি কুমার, কুঞ্জনী কান্ত বরদলৈ। Paper DSE ...

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Syllabus Distribution and Teaching Plan
Even Semester, Session: 2022-2023
Term I: Commencement of classes to 1ˢᵗ internal Examination;
Term II: 1ˢᵗ internal to 2ⁿᵈ internal Examination;
Term III: 2ⁿᵈ internal Examination to ESE preparatory break

Name	Syllabus Allotted	Teaching Plan
		Term - III (Lectures - 12) *Paper DSE 4:* উপন্যাস সাহিত্য পাঠ - দুর্গম নগরের ইতিকথা।
POST Graduate	PG 2nd Sem Paper - BNG 202 - বাংলা কাব্য কবিতার ইতিহাস ও পাঠ: উনিশ বিশ শতকের বাংলা কবিতা পাঠ বড়দিন - ঈশ্বরগুপ্ত। স্বাধীনতা সংগীত - রঙ্গলাল বন্দ্যোপাধ্যায় প্রেমের প্রতি - বিহারীলাল চক্রবর্তী প্রণয় বর্ষা - কামিনী রায় শাশ্বতী - সুধীন্দ্রনাথ দত্ত ঘোড়সওয়ার - বিষ্ণু দে বন্দীর বন্দনা - বুদ্ধদেব বসু মেঘদূত - সমর সেন ফুল ফুটুক না ফুটুক - সুভাষ মুখো: যেতে পারি কিন্তু কেন যাবো - শক্তি চট্টো. সুন্দরের ভিতরে ঢেউ - শঙ্খ ঘোষ (১০ নম্বর) Paper BNG 203: রবীন্দ্র জীবন ও সাহিত্য সম্পর্কে সম্যক জ্ঞান। উপন্যাস পাঠ: চতুরঙ্গ (১০ নম্বর)	*PG Sem -II (Total Lectures - 55)* *Term - I (Lectures - 25)* Paper BNG 202 - বাংলা কাব্য কবিতার ইতিহাস ও পাঠ - বড়দিন, স্বাধীনতা সংগীত, প্রেমের প্রতি, প্রণয় বর্ষা, শাশ্বতী, কবি ও কবিতা বিষয়ক আলোচনা। Paper BNG-205 - সেমিনার ও পারদর্শিতা ধর্মী প্রবন্ধ রচনা (মোট ২০ জন শিক্ষার্থী) *Term - II (Lectures - 20)* Paper BNG 202 - বাংলা কাব্য কবিতার ইতিহাস ও পাঠ - ঘোড়সওয়ার, বন্দীর বন্দনা, মেঘদূত, ফুল ফুটুক না ফুটুক, যেতে পারি কিন্তু কেন যাবো, সুন্দরের ভিতরে ঢেউ কবি ও কবিতা বিষয়ক আলোচনা। Paper BNG 203 - রবীন্দ্র জীবন ও সাহিত্য সম্পর্কে জ্ঞান উপন্যাস পাঠ

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	Paper BNG-205- সেমিনার ও গবেষণাধর্মী প্রবন্ধ রচনা। (মোট ২০ জন শিক্ষার্থী (৪০+২০=৬০ নম্বর)	Paper BNG-205 - সেমিনার ও গবেষণাধর্মী প্রবন্ধ রচনা (মোট ২০জন শিক্ষার্থী) Term-III (Lecture-10) Paper BNG 203 - রবীন্দ্রজীবন ও সাহিত্য সম্পর্কে সম্যক ধারণা। উপন্যাস পাঠ: ঘরে বাইরে Paper BNG 205 - সেমিনার ও গবেষণাধর্মী প্রবন্ধ রচনা (মোট ২০জন শিক্ষার্থী
	PG 4th Sem Paper BNG 401: বাংলা সাহিত্যের রূপান্তর ও পাঠান্তর, অনুবাদ সাহিত্য প্রেরনা ১/ বঙ্গরঙ্গালয়ের রূপরীতি (পাঠান্তর) [২৫ নম্বর] Paper BNG 404 - বহির্বঙ্গীয় বাংলা সাহিত্য চর্চা ও তার আন্দোলন। নাটক: ত্রিপুরা - কমল রায় চৌধুরী, চন্দন সেনগুপ্ত অসম - শোভন দেবরায়, প্রদোষ চক্রবর্তী। বিহার - হনুফুল, শারদিন্দু Paper BNG 405 (F) বিশেষ পত্র: কথাসাহিত্য ছোটগল্প পাঠ (২০ নম্বর)	PG Sem - IV (Total Lecture-60) Term-I (Lecture-20) Paper BNG 401: বাংলা সাহিত্যের রূপান্তর ও পাঠান্তর, অনুবাদ (প্রেরনা) রূপরীতি (পাঠান্তর) বিস্তর আলোচনা Paper BNG 404 - বহির্বঙ্গীয় বাংলা সাহিত্যচর্চা ও তার আন্দোলন নাটক: ত্রিপুরা - কমল রায় চৌধুরী, চন্দন সেনগুপ্ত Paper BNG 405 (F) বিশেষ পত্র ছোটগল্প পাঠ: দ্রুত চরিত, অন্ধকারের রূপ

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	১/ জীবনানন্দ দাশ :- বোধ কবিতা ২/ ভারতচন্দ্র রায় - এরকম প্রভা ৩/ শরদিন্দু রায়ো:- সীমন্ত হীরা ৪/ নরেন্দ্রনাথ মিত্র- এক্সপ্রেনিকা ৫/ রমাপদ চৌধুরী- এবং বর্ষা ৬/ শীর্ষেন্দু রায়ো:- নীরুর দুঃখ	Term -II (Lecture-20) Paper BNG 401: বাংলা সাহিত্যের ক্লাস ও নাটকের অনুবাদ সাহিত্যের প্রভাব রূপলী (নাটক) বিশ্লেষণ আলোচনা Paper BNG 404 ঐতিহ্যিক বাংলা সাহিত্য ইতি ও কৃষ্ণ আন্দোলন। নাটক: থিয়েটার - মেঘর দারুণ প্রবোধ ঝরবর্ষ Paper BNG 405 (F) বিভাগের ক্লাসিক নাটি: সীমন্ত হীরা, এক্সপ্রেনিকা Term -III (Lecture-20) Paper BNG 401: বাংলা সাহিত্য ক্লাস ভারতচন্দ্র এরকম প্রভা প্রভাব - রূপলী নাটকের শিক্ষক আলোচনা। Paper BNG 404 - ঐতিহ্যিক বাংলা সাহিত্য ইতি ও কৃষ্ণ আন্দোলন। নাটক: থিয়েটার - এরকম, শরদিন্দু। Paper - BNG 405 (F) বিভাগের ক্লাসিক নাটি - ভারতবর্ষ

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Under Graduate	UG 2nd Semester Honours Paper CC-3T: প্রাচীন ও মধ্যযুগের পাঠ খ. বৈষ্ণব পদাবলী (নির্বাচিত ৮টি পদ) : (২০ নম্বর) বিদ্যাপতি- এ সখি হামারি দুখের নাহি ওর; আজু রজনী হাম ভাগে পোহায়লুঁ চণ্ডীদাস - যত নিবারিয়ে তায় নিবার না যায় রে; রাধার কি হইল অন্তরে ব্যথা জ্ঞানদাস - রূপ লাগি আঁখি ঝুরে গুনে মন ভোর গোবিন্দ দাস- গগনহি নিমগন দিনমণি কাঁতি; কন্টক গাড়ি কমল-সম পদতল বলরামদাস- শ্রীদাম সুদাম দাম শুন ওরে বলরাম। UG 2nd Sem. Paper GE-2T নাট্য সাহিত্যে ধারা এবং কাব্য ও নাটক পাঠ ক. বাংলা নাট্য সাহিত্যের ধারা: (২০ নম্বর) - মধুসূদন দত্ত, দীনবন্ধু মিত্র, গিরিশচন্দ্র ঘোষ, রবীন্দ্রনাথ ঠাকুর, দ্বিজেন্দ্রলাল রায়, মন্মথ রায়। UG.4th Sem Honours Paper CC-8T: উনিশ ও বিশ শতকের নাট্য ও কথা সাহিত্যের ইতিহাস এবং ছোটগল্প পাঠ:	UG.Semester-II (Total Lecture= 36) Term-I (Lecture -14) Paper CC-3T খ. বৈষ্ণব পদাবলী : বিদ্যাপতি- এ সখি হামারি দুখের নাহি ওর; আজু রজনী হাম ভাগে পোহায়লুঁ চণ্ডীদাস - যত নিবারিয়ে তায় নিবার না যায় রে; রাধার কি হইল অন্তরে ব্যথা Paper GE-2T : ক. বাংলা নাট্য সাহিত্যের ধারা- মধুসূদন দত্ত, দীনবন্ধু মিত্র, গিরিশচন্দ্র ঘোষ, Term II (Lecturer -12) Paper CC-3T বৈষ্ণব পদাবলী : জ্ঞানদাস - রূপ লাগি আঁখি ঝুরে গুনে মন ভোর গোবিন্দ দাস- গগনহি নিমগন দিনমণি কাঁতি; Paper GE-2T : ক. বাংলা নাট্য সাহিত্যের ধারা - রবীন্দ্রনাথ ঠাকুর, দ্বিজেন্দ্রলাল রায়. Term-III (Lecture -10) Paper CC-3T বৈষ্ণব পদাবলী : গোবিন্দ দাস- কন্টক গাড়ি কমল-সম পদতল বলরাম দাস- শ্রীদাম সুদাম দাম শুন ওরে বলরাম। Paper GE-2T : ক. বাংলা নাট্য সাহিত্যের ধারা- মন্মথ রায়। - *বিচিত্র প্রশ্নালোচনা* UG.Semester-IV (Total Lecture= 46) Term-I (Lecture 22.06.2024

ক. উনিশ ও বিশ শতকের নাট্য সাহিত্যের ইতিহাস : (২০ নম্বর) রামনারায়ণ তর্করত্ন, মধুসূদন দত্ত, দীনবন্ধু মিত্র, অমৃতলাল বসু, গিরিশচন্দ্র ঘোষ, জ্যোতিরিন্দ্রনাথ ঠাকুর, ক্ষীরোদপ্রসাদ বিদ্যাবিনোদ, রবীন্দ্রনাথ ঠাকুর, মন্মথ রায়, বিজন ভট্টাচার্য, তুলসী লাহিড়ী, বাদল সরকার, মনোজ মিত্র। CC-9T কাব্য পাঠ: গ. বনলতা সেন – জীবনানন্দ দাশ : (২০ নম্বর) SEC-2 : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। : (৪০ নম্বর) মোট ১৪ জন শিক্ষার্থী।	Paper CC-8T: ক. উনিশ ও বিশ শতকের নাট্য সাহিত্যের ইতিহাস : রামনারায়ণ তর্করত্ন, মধুসূদন দত্ত, দীনবন্ধু মিত্র, অমৃতলাল বসু, গিরিশচন্দ্র ঘোষ, Paper CC-9T : কাব্য পাঠ ; গ. বনলতা সেন – জীবনানন্দ দাশ Paper SEC-2 : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। (মোট ১৪ জন শিক্ষার্থী) Term-II (Lecturer -17) Paper CC-8T: ক. উনিশ ও বিশ শতকের নাট্য সাহিত্যের ইতিহাস : জ্যোতিরিন্দ্রনাথ ঠাকুর, ক্ষীরোদপ্রসাদ বিদ্যাবিনোদ, রবীন্দ্রনাথ ঠাকুর, মন্মথ রায়, বিজন ভট্টাচার্য, Papr CC-9T, কাব্য পাঠ: গ. বনলতা সেন – জীবনানন্দ দাশ Paper SEC-2 : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। (মোট ১৪ জন শিক্ষার্থী) Term-III (Lecture -12) Paper CC-8T: ক. উনিশ ও বিশ শতকের নাট্য সাহিত্যের ইতিহাস : তুলসী লাহিড়ী, বাদল সরকার, মনোজ মিত্র। Paper CC-9T; কাব্য পাঠ: গ. বনলতা সেন – জীবনানন্দ দাশ Paper SEC-2 : বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পের উপস্থাপনা। (মোট ১৪ জন শিক্ষার্থী) • *বিচিত্র প্রশ্নালোচনা*
UG.6th Sem Honours Paper CC-13: লোকসাহিত্য- গ. বাংলার ব্রত : (২০ নম্বর) Paper DSE-3 নাট্য সাহিত্য পাঠ : গ. একাঙ্ক নাটক : (২০ নম্বর) শিককাবাব- বনফুল, রাজপুরী- মন্মথ রায়, চৌর্যানন্দ- তুলসী লাহিড়ী, এক পশলা বৃষ্টি – ধনঞ্জয় বৈরাগী, সরীসৃপ – বিধায়ক ভট্টাচার্য।	**UG.Semester –VI** (Total Lecture -40) Term-I (Lecture -15) Paper CC-13: লোকসাহিত্য- গ. বাংলার ব্রত Paper DSE-3 নাট্য সাহিত্য পাঠ : গ. একাঙ্ক নাটক শিককাবাব- বনফুল, রাজপুরী- Term- II (Lecturer Paper CC-13: লোকসাহিত্য- গ. ব___র ব্রত Paper DSE-3 নাট্য সাহিত্য___ নাটক

		চৌর্যানন্দ- তুলসী লাহিড়ী, এক পশলা বৃষ্টি – ধনঞ্জয় বৈরাগী,
		Paper CC-13: লোকসাহিত্য- গ. বাংলার ব্রত **Paper DSE-3** নাট্য সাহিত্য পাঠ : গ. একাঙ্ক নাটক সরীসৃপ – বিধায়ক ভট্টাচার্য।
		• *বিচিত্র প্রশ্নালোচনা*
Post Graduate	**PG. 2nd Sem. Paper : BNG- 202** **১. বাংলা কাব্য সাহিত্যের ধারা:** (১০ নম্বর) ঈশ্বরচন্দ্র গুপ্ত, মধুসূদন দত্ত, বিহারীলাল চক্রবর্তী, হেমচন্দ্র বন্দ্যোপাধ্যায়, নবীনচন্দ্র সেন, গিরীন্দ্রমোহিনী দাসী, রবীন্দ্রনাথ ঠাকুর, সত্যেন্দ্রনাথ দত্ত, যতীন্দ্রনাথ সেনগুপ্ত, মোহিতলাল মজুমদার, কালিদাস রায়, নজরুল ইসলাম, জীবনানন্দ দাশ, বিষ্ণু দে, অমিয় চক্রবর্তী, সুধীন্দ্রনাথ দত্ত, অরুণ মিত্র, সমর সেন, সুভাষ মুখোপাধ্যায়, শক্তি চট্টোপাধ্যায়, শঙ্খ ঘোষ, কবিতা সিংহ। ৪. জীবনানন্দ দাশ- শ্রেষ্ঠ কবিতা (ভারবি): নির্বাচিত কবিতা : (১০ নম্বর) — মৃত্যুর আগে, বোধ, পাখিরা, বনলতা সেন, অন্ধকার, আট বছর আগের একদিন, হাওয়ার রাত, বিড়াল, শিকার, বাংলার মুখ আমি দেখিয়াছি, অদ্ভুত আঁধার এক, ১৯৪৬-৪৭, হায় চিল, রাত্রি, সুচেতনা। **Paper BNG-205 :** সেমিনার ও গবেষণাধর্মী প্রকল্প রচনা : (৪০ + ১০ = ৫০ নম্বর) মোট ১০ জন শিক্ষার্থী	**PG.Semester -II** (Total Lecture= 60) Term-I (Lecture -25) **Paper : BNG- 202 : ১. বাংলা কাব্য সাহিত্যের ধারা:** ঈশ্বরচন্দ্র গুপ্ত, মধুসূদন দত্ত, বিহারীলাল চক্রবর্তী, হেমচন্দ্র বন্দ্যোপাধ্যায়, নবীনচন্দ্র সেন, গিরীন্দ্রমোহিনী দাসী, রবীন্দ্রনাথ ঠাকুর, সত্যেন্দ্রনাথ দত্ত, যতীন্দ্রনাথ সেনগুপ্ত । ৪. জীবনানন্দ দাশ- শ্রেষ্ঠ কবিতা (ভারবি): নির্বাচিত কবিতা : (১০ নম্বর) — মৃত্যুর আগে, বোধ, পাখিরা, বনলতা সেন, অন্ধকার, আট বছর আগের একদিন। **Paper BNG-205 :** সেমিনার ও গবেষণাধর্মী প্রকল্প রচনা : (৪০ + ১০ = ৫০ নম্বর) মোট ১০ জন শিক্ষার্থী Term-II (Lecturer -25) **Paper : BNG- 202** **১. বাংলা কাব্য সাহিত্যের ধারা:** মোহিতলাল মজুমদার, কালিদাস রায়, নজরুল ইসলাম, জীবনানন্দ দাশ, বিষ্ণু দে, অমিয় চক্রবর্তী, সুধীন্দ্রনাথ দত্ত, অরুণ মিত্র, সমর সেন, ৪. জীবনানন্দ দাশ- শ্রেষ্ঠ কবিতা (ভারবি): নির্বাচিত কবিতা : হাওয়ার রাত, বিড়াল, শিকার, বাংলার মুখ আমি দেখিয়াছি, অদ্ভুত আঁধার এক, ১৯৪৬-৪৭, **Paper BNG-205 :** সেমিনার ও গবেষণাধর্মী প্রকল্প রচনা : (৪০ + ১০ = ৫০ নম্বর) মোট ১০ জন শিক্ষার্থী Term-III (Lecture -10)

		Paper : BNG- 202
		১. বাংলা কাব্য সাহিত্যের ধারা: সুভাষ মুখোপাধ্যায়, শক্তি চট্টোপাধ্যায়, শঙ্খ ঘোষ, কবিতা সিংহ।
		৪. জীবনানন্দ দাশ- শ্রেষ্ঠ কবিতা (ভারবি): নির্বাচিত কবিতা : হায় চিল, রাত্রি, সুচেতনা।
		Paper BNG-205 : সেমিনার ও গবেষনাধর্মী প্রকল্প রচনা : (৪০ + ১০ = ৫০ নম্বর) মোট ১০ জন শিক্ষার্থী
		• *বিচিত্র প্রশ্নালোচনা*
		PG. Semester-IV (Total Lecture = 50)
		Term-I (Lecture -20)
		Paper : BNG- 402
	PG. 4th Sem.	৩) রবীন্দ্রনাথ ঠাকুরের সাহিত্যতত্ত্ব বিষয়ক নির্বাচিত প্রবন্ধ : আধুনিক সাহিত্য, চিত্র ও সঙ্গীত,
	Paper : BNG- 402	Paper BNG-404 বহিরঙ্গীয় বাংলা সাহিত্যচর্চা ও ভাষা আন্দোলন। :
	৩) রবীন্দ্রনাথ ঠাকুরের সাহিত্যতত্ত্ব বিষয়ক নির্বাচিত প্রবন্ধ : (১০ নম্বর) আধুনিক সাহিত্য, চিত্র ও সঙ্গীত, সাহিত্যের বিচার, সাহিত্যের তাৎপর্য, 'পঞ্চভূত' গ্রন্থের 'কাব্যের তাৎপর্য' প্রবন্ধ।	ত্রিপুরা : প্রাবন্ধিক -রমাপ্রসাদ দত্ত, বিকচ চৌধুরী, মঞ্জরী চৌধুরী।
	Paper BNG-404 বহিরঙ্গীয় বাংলা সাহিত্যচর্চা ও ভাষা আন্দোলন। : (১০ নম্বর)	Special Paper -BNG-405D (Drama) :
	ত্রিপুরা : প্রাবন্ধিক -রমাপ্রসাদ দত্ত, বিকচ চৌধুরী, মঞ্জরী চৌধুরী।	৩) গল্প হেকিম সাহেব - মনোজ মিত্র
	আসাম: প্রাবন্ধিক – তপোধীর ভট্টাচার্য উষারঞ্জন ভট্টাচার্য।	৪) একাঙ্ক নাটক (নির্বাচিত) :
	বিহার: প্রাবন্ধিক - নন্দদুলাল রায় সুধীর কুমার করন।	ক) সীমান্তের ডাক- দিগিন্দ্র চন্দ্র বন্দ্যোপাধ্যায়।
	ঝাড়খন্ড: প্রাবন্ধিক - বারীন ঘোষাল, বিনয় মাহাতো।	Term- II(Lecturer -20)
		Paper : BNG- 402
	Special Paper -BNG-405D (Drama) :	৩) রবীন্দ্রনাথ ঠাকুরের সাহিত্যতত্ত্ব বিষয়ক নির্বাচিত প্রবন্ধ : সাহিত্যের বিচার, সাহিত্যের তাৎপর্য।
	৩) গল্প হেকিম সাহেব - মনোজ মিত্র : (১০ নম্বর)	Paper BNG-404 বহিরঙ্গীয় বাংলা সাহিত্যচর্চা ও ভাষা আন্দোলন :: আসাম : প্রাবন্ধিক – তপোধীর ভট্টাচার্য, উষারঞ্জন ভট্টাচার্য।
	৪) একাঙ্ক নাটক (নির্বাচিত) : (১০ নম্বর) ক) সীমান্তের ডাক- দিগিন্দ্র চন্দ্র বন্দ্যোপাধ্যায়, খ) যান্ত্রিক- সলিল সেন। গ) বাজপাখি – মোহিত চট্টোপাধ্যায়। ঘ) আগন্তুক – ধনঞ্জয় বৈরাগী।	Signature Not Verified BIDYUT SAMANTA
		Special Paper -BNG-405D (Drama) : ৩) গল্প হেকিম সাহেব - মনোজ মিত্র ৪) একাঙ্ক নাটক (নির্বাচিত) : ক) সীমান্তের ডাক- দিগিন্দ্র চন্দ্র বন্দ্যোপাধ্যায়, খ) 22.06.2024 সলিল সেন। গ)

		বাজপাখি – মোহিত চট্টোপাধ্যায়। ঘ) আগন্তুক – ধনঞ্জয় বৈরাগী।
		 Term-III (Lecture -10) **Paper : BNG- 402** ৩) রবীন্দ্রনাথ ঠাকুরের সাহিত্যতত্ত্ব বিষয়ক নির্বাচিত প্রবন্ধ : 'পঞ্চভূত' গ্রন্থের 'কাব্যের তাৎপর্য' প্রবন্ধ। **Paper BNG-404** বহিরঙ্গীয় বাংলা সাহিত্যচর্চা ও ভাষা আন্দোলন : বিহার: প্রাবন্ধিক - নন্দদুলাল রায় সুধীর কুমার করন। ঝাড়খন্ড: প্রাবন্ধিক - বারীন ঘোষাল, বিনয় মাহাতো। **Special Paper -BNG-405D (Drama) :** ৩) গল্প হেকিম সাহেব - মনোজ মিত্র। ৪) একাঙ্ক নাটক (নির্বাচিত) : ঘ) আগন্তুক – ধনঞ্জয় বৈরাগী। • *বিচিত্র প্রশ্নালোচনা*

Kharagpur College

Department of Bengali (UG & PG Studies)

Syllabus Distribution and Teaching Plan
Even Semester, Session-2022-2023
Dr. Mintu Naskar

Course	Syllabus Alloted	Teaching Plan
UG	**U.G 2nd Semester Honours** **Paper : CC- 4T** (চৈতন্যজীবনী ও মঙ্গলকাব্য সাহিত্য পাঠ) ➢ চৈতন্যভাগবত (আদিখণ্ড)-বৃন্দাবন দাস (২০ নম্বর)	**U.G 2nd Semester Hons.** **Total Lecture : 28** ➢ বাংলা সাহিত্য ও সংস্কৃতিতে চৈতন্যদেবের প্রভাব (2 lecture) ➢ বাংলা ও সংস্কৃত ভাষায় লেখা চৈতন্যজীবনীর তুলনামূলক আলোচনা (6 lecture) ➢ চৈতন্যভাগবত : মূল পাঠ্য পুস্তকের আলোচনা ও বিষয়ভিত্তিক পাঠবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (20 lecture)
	U.G 4th Semester Honours **Paper : CC- 8T** (উনিশ ও বিশ শতকের নাট্য ও কথাসাহিত্যের ইতিহাস এবং ছোটোগল্প পাঠ) উনিশ ও বিশ শতকের ছোটোগল্পের ইতিহাস : (২০ নম্বর) রবীন্দ্রনাথ ঠাকুর, প্রভাতকুমার মুখোপাধ্যায়, পরশুরাম, জগদীশ গুপ্ত, প্রেমেন্দ্র মিত্র, বনফুল, সুবোধ ঘোষ, নরেন্দ্রনাথ মিত্র, সমরেশ বসু, নারায়ণ গঙ্গোপাধ্যায়, জ্যোতিরিন্দ্র নন্দী, শরদিন্দু বন্দ্যোপাধ্যায়, বিমল কর, আশাপূর্ণা দেবী	**U.G 4th Semester Hon.** **Total Lecture : 49** **Term-I : 24 lecture** ➢ বাংলা ছোটোগল্পের উদ্ভব, বিকাশ ও ক্রমবিবর্তন সম্পর্কিত আলোচনা (3 lecture) ➢ ছোটোগল্পকার রবীন্দ্রনাথ ঠাকুর (2 lecture) ➢ ছোটোগল্পকার প্রভাতকুমার মুখোপাধ্যায় (1 lecture) ➢ ছোটোগল্পকার পরশুরাম (1 lecture) ➢ ছোটোগল্পকার জগদীশ গুপ্ত (1 lecture) ➢ কল্লোলের আন্দোলন ও বাংলা ছোটোগল্প (1 lecture) ➢ ছোটোগল্পকার প্রেমেন্দ্র মিত্র (1 lecture) ➢ বাংলা অনুগল্পের ধারা ও বনফুল (1 lecture) ➢ ছোটোগল্পকার সুবোধ ঘোষ (1 lecture) ➢ বাংলা ছোটোগল্পে দ্বিতীয় বিশ্বযুদ্ধ, দেশভাগ, উদ্বাস্তু সমস্যার প্রতিফলন (1 lecture) ➢ ছোটোগল্পকার নরেন্দ্রনাথ মিত্র (1 lecture) ➢ ছোটোগল্পকার সমরেশ বসু (1 lecture) ➢ ছোটোগল্পকার নারায়ণ গঙ্গোপাধ্যায় (1 lecture) ➢ ছোটোগল্পকার জ্যোতিরিন্দ্র নন্দী (1 lecture) ➢ ছোটোগল্পকার শরদিন্দু বন্দ্যোপাধ্যায় (1 lecture)

UG	**Paper : CC- 10T** (উপন্যাস পাঠ) ➢ শেষের কবিতা- রবীন্দ্রনাথ ঠাকুর (২০ নম্বর) **Paper : SEC- 2T** ➢ বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পপত্র উপস্থাপনা (৪০ নম্বর) ➢ **U.G 6th Semester Honours** **Paper : CC- 14T** (সংস্কৃত, ইংরেজি ও প্রতিবেশী সাহিত্যের ইতিহাস) ➢ সংস্কৃত সাহিত্যের ইতিহাস : (২০ নম্বর) বৈদিক সাহিত্য, রামায়ণ, মহাভারত, কালিদাস, অশ্বঘোষ, ভাস	➢ ছোটোগল্পকার বিমল কর (1 lecture) ➢ ছোটোগল্পকার আশাপূর্ণা দেবী (1 lecture) ➢ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (4 lecture) **Term-II : 15 lecture** ➢ বাংলা উপন্যাস সাহিত্যে রবীন্দ্রনাথের অবদান ও রবীন্দ্র উপন্যাসের পর্যালোচনা (2 lecture) ➢ শেষের কবিতা উপন্যাস রচনার প্রেক্ষাপট (1 lecture) ➢ শেষের কবিতা : মূল পাঠ্য পুস্তকের আলোচনা ও বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (12 lecture) **Term-II : 10 lecture** ➢ ১২ জন শিক্ষার্থীর বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনার বিষয় নির্বাচন এবং প্রকল্প পর্যালোচনা (10 lecture) **U.G 6th Semester Hon.** **Total Lecture : 45** **Term-I : 26 lecture** ➢ বৈদিক সাহিত্য আলোচনা, পর্যালোচনা (4 lecture) ➢ সংস্কৃত সাহিত্যের কালপর্ব ও ঐতিহ্য সম্পর্কে বিস্তারিত আলোচনা (2 lecture) ➢ রামায়ণ (2 lecture) ➢ মহাভারত (2 lecture) ➢ কালিদাসের আবির্ভাবকাল, ব্যক্তি পরিচিতি ও সাহিত্য পরিধি (2 lecture) ➢ কাব্য সাহিত্যে কালিদাসের অবদান (3 lecture) ➢ নাট্য সাহিত্যে কালিদাসের অবদান (3 lecture) ➢ ভাসের আবির্ভাবকাল ও ব্যক্তি পরিচিতি (1 lecture) ➢ নাট্য সাহিত্যে ভাসের অবদান (2 lecture) ➢ অশ্বঘোষের ব্যক্তি পরিচয় এবং কাব্য ও নাট্য সাহিত্যে অশ্বঘোষের অবদান (2 lecture) ➢ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (2 lecture)

	Paper : DSC- 3T (নাট্য সাহিত্য পাঠ) ➢ সাজানো বাগান- মনোজ মিত্র (২০ নম্বর)	**Term-II : 19 lecture** ➢ বাংলা নাট্যসাহিত্যে মনোজ মিত্রের অবদান (1 lecture) ➢ নবনাট্য আন্দোলন ও মনোজ মিত্র (2 lecture) ➢ সাজানো বাগান নাটকের চলচ্চিত্র রূপায়ণ "বাঞ্ছারামের বাগান" চলচ্চিত্র প্রদর্শন (2 lecture) ➢ সাজানো বাগান : মূল পাঠ্য পুস্তকের আলোচনা ও বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (14 lecture)
PG	**P.G 2nd Semester** **Paper : BNG-203** (রবীন্দ্র সাহিত্য পাঠ) ➢ রবীন্দ্র কবিতা (নির্বাচিত) (১০ নম্বর) সুরদাসের প্রার্থনা, সিন্ধুতরঙ্গ (মানসী), সোনার তরী, নিরুদ্দেশ যাত্রা (সোনার তরী), চিত্রা, উর্বশী, জীবনদেবতা, এবার ফিরাও মোরে (চিত্রা), স্বপ্ন, দুঃসময় (কল্পনা), বলাকা (বলাকা), তপভঙ্গ (পূরবী), রূপ সাগরে ডুব দিয়েছি (গীতাঞ্জলি), সবলা (মহুয়া), বাঁশি (পুনশ্চ), আমি (শ্যামলী), প্রথম দিনের সূর্য (শেষলেখা)	**P.G 2nd Semester** **Total Lecture : 57** **Term-I : 27 lecture** ➢ রবীন্দ্রনাথের কাব্যভুবন : একটি সামগ্রিক পর্যালোচনা (4 lecture) ➢ সুরদাসের প্রার্থনা : কবিতা পাঠ ও আলোচনা (1 lecture) ➢ সিন্ধুতরঙ্গ : কবিতা পাঠ ও আলোচনা (1 lecture) ➢ সোনার তরী কাব্য রচনার প্রেক্ষাপট (1 lecture) ➢ রবীন্দ্র সাহিত্যে প্রতিফলিত জীবনদেবতা তত্ত্বের স্বরূপ সন্ধান (1 lecture) ➢ সোনার তরী কবিতার অন্তর্নিহিত তাৎপর্য (1 lecture) ➢ নিরুদ্দেশ যাত্রা কবিতার অন্তর্নিহিত তাৎপর্য (1 lecture) ➢ চিত্রা কবিতা পাঠ ও আলোচনা (1 lecture) ➢ উর্বশী কবিতায় সৌন্দর্য চেতনা (1 lecture) ➢ জীবনদেবতা কবিতায় জীবনদেবতার স্বরূপ সন্ধান (1 lecture) ➢ এবার ফিরাও মোরে কবিতার অন্তর্নিহিত তাৎপর্য (1 lecture) ➢ স্বপ্ন কবিতা পাঠ ও আলোচনা (1 lecture) ➢ দুঃসময় কবিতা পাঠ ও আলোচনা (1 lecture) ➢ বলাকা কবিতার গতিতত্ত্ব (1 lecture) ➢ তপভঙ্গ কবিতার অন্তর্নিহিত তাৎপর্য (1 lecture) ➢ রূপ সাগরে ডুব দিয়েছি কবিতায় উপলব্ধি (1 lecture) ➢ সবলা কবিতায় নারীর আত্মজাগরণ (lecture) ➢ বাঁশি কবিতা পাঠ ও পর্যালোচনা (1 lecture) ➢ আমি কবিতায় রবীন্দ্রনাথের সৌন্দর্যচেতনা (1 lecture)

PG		➤ প্রথম দিনের সূর্য কবিতা পাঠ ও পর্যালোচনা (1 lecture)
		➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (4 lecture)
	Paper : BNG- 204 CBCS	**Term-II : lecture : 11**
	(বাংলা ভাষা ও সাহিত্য পাঠ : মধ্যযুগ)	➤ বৈষ্ণব পদাবলী সাহিত্য ও রসপর্যায় সম্পর্কিত বিস্তারিত আলোচনা (4 lecture)
	➤ বৈষ্ণব পদাবলী (১০ নম্বর) বিদ্যাপতি-	➤ বিদ্যাপতির পাঠ্যপদের রসপর্যায় ভিত্তিক পর্যালোচনা ও কাব্যসৌন্দর্য বিচার (2 lecture)
	১. মাধব বহুত মিনতি করি তোয়	➤ চণ্ডীদাসের পাঠ্যপদের রসপর্যায় ভিত্তিক পর্যালোচনা ও কাব্যসৌন্দর্য বিচার (2 lecture)
	২. পিয়া যব আওব এ মুঝ গেহে চণ্ডীদাস-	➤ জ্ঞানদাসের পাঠ্যপদের রসপর্যায় ভিত্তিক পর্যালোচনা ও কাব্যসৌন্দর্য বিচার (1 lecture)
	১. এমন পিরীতি কভু নাহি দেখি শুনি জ্ঞানদাস-	➤ গোবিন্দদাসের পাঠ্যপদের রসপর্যায় ভিত্তিক পর্যালোচনা ও কাব্যসৌন্দর্য বিচার (1 lecture)
	১. আলো মুঞি জানো না গোবিন্দদাস	➤ বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	১. মন্দির বাহির কঠিন কপাট	**Term-III : lecture : 11**
		➤ ময়মনসিংহ গীতিকার পরিচয় (2 lecture)
	➤ ময়মনসিংহ গীতিকা (১০ নম্বর) চন্দ্রাবতী / মহুয়া পালা	➤ মধ্যযুগীয় সাহিত্যে ময়মনসিংহ গীতিকার গুরুত্ব ও তাৎপর্য (2 lecture)
		➤ ময়মনসিংহ গীতিকার ব্যালার্ড লক্ষণ (1 lecture)
		➤ ময়মনসিংহ গীতিকায় প্রেমমনস্তত্ত্ব ও নাট্যধর্মীতা (1 lecture)
		➤ মহুয়া পালার বিষয়ভিত্তিক আলোচনা, পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (5 lecture)
PG	**Paper : BNG- 205** (সেমিনার ও গবেষণাধর্মী প্রকল্প রচনা) (৪০+১০ নম্বর)	**Term-IV : lecture : 8**
		➤ ১০ জন শিক্ষার্থীর সেমিনার ও গবেষণাধর্মী প্রকল্প রচনার বিষয় নির্বাচন এবং প্রকল্প পর্যালোচনা (8 lecture)
	P.G 4th Semester	
	Paper : BNG- 401 (বাংলা সাহিত্যের অনুবাদ, পাঠান্তর ও রূপান্তর সম্পর্কে জ্ঞান অর্জন)	**P.G 4th Semester**
		Total Lecture : 66 ....: 14
		➤ কালিদাসের সময়পর্ব এবং কাব্যকৃতি (2 lecture)

➢ মেঘদূত (পূর্বমেঘ)- রাজশেখর বসুর অনুবাদ (১৫ নম্বর)	➢ মেঘদূত কাব্যের অনুবাদের ইতিহাস (2 lecture)
	➢ বাংলা ভাষায় মেঘদূত কাব্যের অন্যান্য অনুবাদের সঙ্গে রাশেখর বসুর অনুবাদের তুলনামূলক পাঠ ও আলোচনা (10 lecture)
	Term-II : lecture : 10
Paper : BNG- 402 (প্রাচ্য সাহিত্যতত্ত্ব ও সাহিত্যতত্ত্ব বিষয়ে রবীন্দ্র ভাবনা সম্পর্কে জ্ঞান বৃদ্ধি)	➢ প্রাচ্য সাহিত্যতত্ত্বের প্রাথমিক পরিচয় (2 lecture)
➢ প্রাচ্য সাহিত্যতত্ত্ব : অলংকার, রীতি, বক্রোক্তি, ঔচিত্যবাদ, ধ্বনি ও রস (১৫ নম্বর)	➢ অলংকার (1 lecture)
	➢ রীতি (1 lecture)
	➢ বক্রোক্তি (1 lecture)
	➢ ঔচিত্যবাদ (1 lecture)
	➢ ধ্বনি (1 lecture)
	➢ রস (1 lecture)
	➢ পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (2 lecture)
	Term-III : lecture : 16
Paper : BNG- 404 (বহির্বঙ্গীয় বাংলা সাহিত্যচর্চা ও ভাষা আন্দোলন)	➢ বহির্বঙ্গীয় বাংলা সাহিত্যচর্চার গুরুত্ব (2 lecture)
➢ ত্রিপুরা : গল্প (১৫ নম্বর) ভীষ্মদেব ভট্টাচার্য, দেবব্রত দেব, মীনাক্ষী সেন	➢ ভীষ্মদেব ভট্টাচার্য (1 lecture)
	➢ দেবব্রত দেব (1 lecture)
	➢ মীনাক্ষী সেন (1 lecture)
➢ আসাম : গল্প অরিজিৎ চৌধুরী, বদরুজ্জামান চৌধুরী	➢ অরিজিৎ চৌধুরী (1 lecture)
	➢ বদরুজ্জামান চৌধুরী (1 lecture)
➢ বিহার : গল্প সতীনাথ ভাদুড়ী, বিভূতিভূষণ মুখোপাধ্যায়, বনফুল	➢ সতীনাথ ভাদুড়ী (1 lecture)
	➢ বিভূতিভূষণ মুখোপাধ্যায় (1 lecture)
	➢ বনফুল (1 lecture)
➢ ঝাড়খণ্ড : গল্প অজিত রায়, সুবল দত্ত	➢ অজিত রায় (1 lecture)
	➢ সুবল দত্ত (1 lecture)
	➢ পাঠ্যবিষয়ের প্রশ্নোত্তরের পর্যালোচনা (4 lecture)
	Term-IV : lecture : 16
	➢ তারাশঙ্করের সাহিত্যে আঞ্চলিকতা (2 lecture)
Paper : BNG- 405F : Special Paper (কথাসাহিত্য পাঠ)	➢ হাঁসুলী বাঁকের উপকথা : মূল পাঠ্য পুস্তকের আলোচনা ও বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা
➢ হাঁসুলী বাঁকের উপকথা- তারাশঙ্কর বন্দ্যোপাধ্যায় (১০ নম্বর)	

Kharagpur College

Department of Bengali (UG & PG Studies)

Syllabus Distribution and Teaching Plan

Even Semester, Session-2022-2023

Dr. Lily Haldar

Course	Syllabus Alloted	Teaching Plan
UG	**U.G 2nd Semester Honours** **Paper : CC- 4T** (চৈতন্যজীবনী ও মঙ্গলকাব্য সাহিত্য পাঠ) ➤ অন্নদামঙ্গল- রায়গুণাকর ভারতচন্দ্র (২০ নম্বর) **Paper : GE- 2T** (নাট্য সাহিত্যের ধারা এবং কাব্য ও নাটক পাঠ) ➤ কথা ও কাহিনী- রবীন্দ্রনাথ ঠাকুর (২০ নম্বর) **U.G 4th Semester Honours** **Paper : CC- 8T** (উনিশ ও বিশ শতকের নাট্য ও কথাসাহিত্যের ইতিহাস এবং ছোটোগল্প পাঠ) ➤ উনিশ ও বিশ শতকের উপন্যাসের ইতিহাস : (২০ নম্বর) বঙ্কিমচন্দ্র চট্টোপাধ্যায়, রবীন্দ্রনাথ ঠাকুর, শরৎচন্দ্র চট্টোপাধ্যায়, বিভূতিভূষণ বন্দ্যোপাধ্যায়,	**U.G 2nd Semester Hons.** **Total Lecture : 32** **Term-I : 16 lecture** ➤ বাংলা মঙ্গলকাব্যের ইতিহাস (2 lecture) ➤ বাংলা মঙ্গলকাব্যের ধারায় অন্নদামঙ্গল কাব্যের গুরুত্ব (1 lecture) ➤ অষ্টাদশ শতাব্দীর আর্থ-সামাজিক-রাজনৈতিক প্রেক্ষাপট (1 lecture) ➤ যুগসন্ধির কাব্য হিসাবে অন্নদামঙ্গল (1 lecture) ➤ অন্নদামঙ্গল : নূতনমঙ্গল হিসাবে বিচার (1 lecture) ➤ অন্নদামঙ্গল : মূল পাঠ্য পুস্তকের আলোচনা ও বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (10 lecture) **Term-II : 16 lecture** ➤ রবীন্দ্র কাব্য সাহিত্যের সংক্ষিপ্ত পরিচয় (2 lecture) ➤ রবীন্দ্র সাহিত্যে বৌদ্ধ প্রভাব (2 lecture) ➤ কথা ও কাহিনী : মূল পাঠ্য পুস্তকের আলোচনা ও বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (12 lecture) **U.G 4th Semester Hon.** **Total Lecture : 21** **Term-I : 16** ➤ বাংলা উপন্যাসের প্রাক্কথন (1 lecture) ➤ ঔপন্যাসিক বঙ্কিমচন্দ্র চট্টোপাধ্যায় ➤ ঔপন্যাসিক রবীন্দ্রনাথ ঠাকুর (2 lecture) ➤ ঔপন্যাসিক শরৎচন্দ্র চট্টোপাধ্যায় (1 lecture)

UG	তারাশঙ্কর বন্দ্যোপাধ্যায়, মানিক বন্দ্যোপাধ্যায়, বনফুল, শরদিন্দু বন্দ্যোপাধ্যায়, মহাশ্বেতা দেবী	➤ ঔপন্যাসিক বিভূতিভূষণ বন্দ্যোপাধ্যায় (1 lecture)
		➤ কল্লোলের আন্দোলন ও বাংলা উপন্যাস (1 lecture)
		➤ ঔপন্যাসিক তারাশঙ্কর বন্দ্যোপাধ্যায় (1 lecture)
		➤ ঔপন্যাসিক বনফুল (1 lecture)
		➤ ঔপন্যাসিক মানিক বন্দ্যোপাধ্যায় (1 lecture)
		➤ বাংলা উপন্যাসে দ্বিতীয় বিশ্বযুদ্ধ, দেশভাগ, উদ্বাস্তু সমস্যার প্রতিফলন (1 lecture)
		➤ ঔপন্যাসিক মহাশ্বেতা দেবী (1 lecture)
		➤ ঔপন্যাসিক শরদিন্দু বন্দ্যোপাধ্যায় (1 lecture)
		➤ পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (2 lecture)
	Paper : SEC- 2T ➤ বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনা ও প্রকল্পপত্র উপস্থাপনা (৪০ নম্বর)	**Term-II : 5 lecture** ➤ ১০ জন শিক্ষার্থীর বাংলা ভাষা ও সাহিত্য বিষয়ক প্রকল্প রচনার বিষয় নির্বাচন এবং প্রকল্প পর্যালোচনা (5 lecture)
	U.G 6th Semester Honours **Paper : CC- 13T** (লোকসাহিত্য) ➤ ময়মনসিংহগীতিকা : মহুয়া পালা (২০ নম্বর)	**U.G 6th Semester Hon.** **Total Lecture : 23** **Term-I : 10 lecture** ➤ ময়মনসিংহ গীতিকার পরিচয় (2 lecture) ➤ মধ্যযুগীয় সাহিত্যে ময়মনসিংহ গীতিকার গুরুত্ব ও তাৎপর্য (2 lecture) ➤ ময়মনসিংহ গীতিকার ব্যালার্ড লক্ষণ (1 lecture) ➤ ময়মনসিংহ গীতিকায় প্রেমমনস্তত্ত্ব ও নাট্যধর্মীতা (1 lecture) ➤ মহুয়া পালার বিষয়ভিত্তিক আলোচনা, পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (4 lecture)
	Paper : DSC- 4T (উপন্যাস সাহিত্য পাঠ) ➤ তুঙ্গভদ্রার তীরে - শরদিন্দু বন্দ্যোপাধ্যায় (২০ নম্বর) **P.G 2nd Semester**	**Term-II : 13 lecture** ➤ ঔপন্যাসিক শরদিন্দু বন্দ্যোপাধ্যায় (1 lecture) ➤ বাংলা ঐতিহাসিক উপন্যাসের ধারায় শরদিন্দুর অবদান (2 lecture) ➤ তুঙ্গভদ্রার তীরে : মূল পাঠ্য পুস্তকের আলোচনা ও বিষয়ভিত্তিক পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (10 lecture)

PG	**Paper : BNG-203** (সাধারণ ভাষাবিজ্ঞান) ➢ ধ্বনিতত্ত্ব (১০ নম্বর) ফোন, ফোনিম, অ্যালোফোন ও সেই সংক্রান্ত আলোচনা, অবিভাজ্য ধ্বনি, ধ্বনির অবস্থান, ধ্বনির স্ব-লক্ষণ, স্বরধ্বনি, ব্যঞ্জনধ্বনি ও আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা	<u>**P.G 2nd Semester**</u> **Total Lecture : 48** **Term-I : 10 lecture** ➢ ফোন, ফোনিম, অ্যালোফোন ও সেই সংক্রান্ত আলোচনা (2 lecture) ➢ অবিভাজ্য ধ্বনি (1 lecture) ➢ ধ্বনির অবস্থান ও ধ্বনির স্ব-লক্ষণ (1 lecture) ➢ স্বরধ্বনি (3 lecture) ➢ ব্যঞ্জনধ্বনি (2 lecture) ➢ আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (1 lecture)
	➢ রূপতত্ত্ব (১০ নম্বর) মর্ফ, মর্ফিম, অ্যালোমর্ফ ও সেই সংক্রান্ত আলোচনা, বাংলা ভাষার রূপ বৈচিত্র্যের আলোচনা ও বিভক্তি	**Term-II : 8 lecture** ➢ মর্ফ, মর্ফিম, অ্যালোমর্ফ ও সেই সংক্রান্ত আলোচনা (4 lecture) ➢ বাংলা ভাষার রূপ বৈচিত্র্যের আলোচনা ও বিভক্তি (4 lecture)
	➢ অন্বয়তত্ত্ব (১০ নম্বর) বাক্য, বাক্যখণ্ড, বাংলা বাক্যের গঠন বৈশিষ্ট্য, রূপান্তরমূলক সঞ্জননী তত্ত্ব	**Term-III : 5 lecture** ➢ বাক্য ও বাক্যখণ্ড (2 lecture) ➢ বাংলা বাক্যের গঠন বৈশিষ্ট্য (1 lecture) ➢ রূপান্তরমূলক সঞ্জননী তত্ত্ব (2 lecture)
	➢ সমাজভাষা বিজ্ঞান (১০ নম্বর) সমাজ ভাষা, সমাজ উপভাষার সাধারণ আলোচনা, রেজিস্টার, ডাইগ্লসিয়া, ধর্ম-বয়স-পেশা-লিঙ্গ অনুসারে ভাষাপ্রভেদ, ভাষাপরিবর্তন ও ভাষাসংযোগ এবং তজ্জনিত ফলাফল, ভাষা পরিকল্পনা	**Term-IV : 10 lecture** ➢ সমাজ ভাষা ও সমাজ উপভাষার সাধারণ আলোচনা (2 lecture) ➢ রেজিস্টার, ডাইগ্লসিয়া (1 lecture) ➢ ধর্ম-বয়স-পেশা-লিঙ্গ অনুসারে ভাষাপ্রভেদ (2 lecture) ➢ ভাষাপরিবর্তন ও ভাষাসংযোগ এবং তজ্জনিত ফলাফল (3 lecture) ➢ ভাষা পরিকল্পনা (2 lecture)
	Paper : BNG- 204 CBCS (বাংলা ভাষা ও সাহিত্য পাঠ : মধ্যযুগ) ➢ বাংলা ভাষার উদ্ভব, বিকাশ ও বিবর্তন, স্বরধ্বনি, ব্যঞ্জনধ্বনি এবং IPA (১০ নম্বর)	**Term-V : lecture : 10** ➢ বাংলা ভাষার উদ্ভব, বিকাশ ও বিবর্তন (4 lecture) ➢ স্বরধ্বনি (2 lecture) ➢ ব্যঞ্জনধ্বনি (2 lecture) ➢ IPA (1 lecture) ➢ বিষয়ভিত্তিক সংক্ষিপ্ত প্রশ্নোত্তর ও প্রশ্নান্তরের পর্যালোচনা (1 lecture)
	Paper : BNG- 205 (সেমিনার ও গবেষণাধর্মী	

	প্রকল্প রচনা) (৪০+১০ নম্বর)	**Term-VI : lecture : 5**
		➢ ১০ জন শিক্ষার্থীর সেমিনার ও গবেষণাধর্মী প্রকল্প রচনার বিষয় নির্বাচন এবং প্রকল্প পর্যালোচনা (5 lecture)
PG	**P.G 4th Semester**	**P.G 4th Semester**
	Paper : BNG- 402 (প্রাচ্য সাহিত্যতত্ত্ব ও সাহিত্যতত্ত্ব বিষয়ে রবীন্দ্র ভাবনা সম্পর্কে জ্ঞান বৃদ্ধি)	**Total Lecture : 28**
		Term-I : lecture : 8
	➢ সাহিত্যদর্পণ : (তৃতীয় পরিচ্ছেদ, স্থায়ী ভাবের লক্ষণ- রতি হাসশ্চ... ইত্যাদি থেকে পরবর্তী অংশ এবং অষ্টম পরিচ্ছেদ) (১৫ নম্বর)	➢ সাহিত্যদর্পণ : (তৃতীয় পরিচ্ছেদ, স্থায়ী ভাবের লক্ষণ- রতি হাসশ্চ... ইত্যাদি থেকে পরবর্তী অংশ এবং অষ্টম পরিচ্ছেদ) (8 lecture)
	Paper : BNG- 403 (পাশ্চাত্য সাহিত্যতত্ত্ব)	**Term-II : lecture : 8**
	➢ পাশ্চাত্য সাহিত্যতত্ত্ব ও সাহিত্য বিচার পদ্ধতি : রোমান্টিক মুভমেন্ট, হিস্টোরিক্যাল ক্রিটিসিজম্, সাব-অল্টার্ন কনসেপ্ট, ফেমিনিজম্, সাইকো-অ্যানালাইসিস, পোস্ট-স্ট্রাকচারলিজম্, কম্পারেটিভ ক্রিটিসিজম্ (১৫ নম্বর)	➢ রোমান্টিক মুভমেন্ট (1 lecture) ➢ হিস্টোরিক্যাল ক্রিটিসিজম্ (1 lecture) ➢ সাব-অল্টার্ন কনসেপ্ট (1 lecture) ➢ ফেমিনিজম্ (1 lecture) ➢ সাইকো-অ্যানালাইসিস (1 lecture) ➢ পোস্ট-স্ট্রাকচারলিজম্ (1 lecture) ➢ কম্পারেটিভ ক্রিটিসিজম্ (1 lecture) ➢ পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	Paper : BNG- 404 (বহির্বঙ্গীয় বাংলা সাহিত্যচর্চা ও ভাষা আন্দোলন)	**Term-III : lecture : 4**
	➢ বাংলা ভাষাকেন্দ্রিক আন্দোলন (১০ নম্বর)	➢ বরাক উপত্যকার ভাষা আন্দোলন (2 lecture) ➢ বাংলাদেশের ভাষা আন্দোলন (1 lecture) ➢ পাঠ্যবিষয়ের সংক্ষিপ্ত এবং রচনাধর্মী প্রশ্নোত্তরের পর্যালোচনা (1 lecture)
	Paper : BNG- 405D : Special Paper (নাট্যসাহিত্য পাঠ)	**Term-IV : lecture : 8**
	➢ নাটকের সংজ্ঞা, স্বরূপ, শ্রেণিবিভাগ, নাট্যমঞ্চ সম্পর্কিত ধারণা (১০ নম্বর)	➢ নাটকের সংজ্ঞা, স্বরূপ ও শ্রেণিবিভাগ (4 lecture) ➢ নাট্যমঞ্চ সম্পর্কিত ধারণা (4 lecture)

Syllabus distribution for Prof. Mahenga Singh , Deptt. Of Botany

Semester: 3rd   Honours paper CC 5

Unit	Topic
Unit 1: Introduction and scope of Plant Anatomy	Introduction and scope of Plant Anatomy
Unit 2: Structure and Development of Plant Body	Internal organization of plant body: The three tissue systems, types of cells and tissues. Development of plant body: polarity, cytodifferentiation and organogenesis during embryogenic development, Root-stem transition, Nodal anatomy – Basic concept.
Unit 2: Tissues	Classification of tissues; Simple and complex tissues (no phylogeny); cytodifferentiation of tracheary elements and sieve elements; Pits and plasmodesmata; Wall ingrowths and transfer cells, adcrustation and incrustation, Ergastic substances. Hydathodes, cavities, lithocysts and laticifers.
Unit 3: Apical meristems	Evolution of concept of organization of shoot apex (Apical cell theory, Histogen theory, Tunica Corpus theory, continuing meristematic residue, cytohistological zonation); Types of vascular bundles; Structure of dicot and monocot stem. Origin, development, arrangement and diversity in size and shape of leaves; Structure of dicot and monocot leaf, Kranz anatomy. Organization of root apex (Apical cell theory, Histogen theory, Korper-Kappe theory); Quiescent centre; Root cap; Structure of dicot and monocot root; Endodermis, exodermis and origin of lateral root.
Unit 4: Vascular Cambium and Wood	Structure, function and seasonal activity of cambium; Secondary growth in root and stem. Anomalous secondary growth in Bignonia, Boerhaavia, Aristolochia and Dracaena. Axially and radially oriented elements; Types of rays and axial parenchyma; Cyclic aspects and reaction wood; Sapwood and heartwood; Ring and diffuse porous wood; Early and late wood, tyloses; Dendrochronology. Development and composition of periderm, rhytidome and lenticels.
Unit 5: Adaptive and Protective Systems	Epidermal tissue system, cuticle, epicuticular waxes, trichomes(uni-and multicellular, glandular and nonglandular, two examples of each), stomata (classification); Adcrustation and incrustation; Anatomical adaptations of xerophytes and hydrophytes. Mechanical tissue – distribution and significance.
Practical CC5	1. Study of anatomical details through permanent slides/temporary stain mounts/ macerations/museum specimens with the help of suitable examples. 2. Apical meristem of root, shoot and vascular cambium. 3. Distribution and types of parenchyma, collenchyma and sclerenchyma. 4. Xylem: Tracheary elements-tracheids, vessel elements; thickenings; perforation plates; xylem fibres. 5. Wood: ring porous; diffuse porous; tyloses; heart- and sapwood. 6. Phloem: Sieve tubes-sieve plates; companion cells; phloem fibres. 7. Epidermal system: cell types, stomata types; trichomes: non-glandular and glandular. 8. Root: monocot, dicot, secondary growth. 9. Stem: monocot, dicot - primary and secondary growth; periderm; lenticels. 10. Leaf: isobilateral, dorsiventral, C4 leaves (Kranz anatomy). 11. Adaptive Anatomy: xerophytes, hydrophytes. 12. Secretory tissues: cavities, lithocysts and laticifers.
C6P: Economic Botany	Practical
	actical 1. Cereals: Wheat (habit sketch, L. S/T.S. grain, starch grains, micro-chemical tests) Rice (habit sketch, study of paddy and grain, starch grains, micro-chemical tests). 2. Legumes: Soybean, Groundnut, (habit, fruit, seed structure, micro-chemical tests). 3. Sources of sugars and starches (habit sketch; cane juice- microchemical tests), Potato (habit sketch, tuber morphology, T.S. tuber to show localization of starch grains, w.m. starch grains, microchemical tests). 4. Spices: Black pepper, Fennel and Clove (habit and sections). Beverages: Tea (plant specimen, tea leaves), Coffee (plant specimen, beans). Sources of oils and

	fats: Coconut- T.S. nut, Mustard–plant specimen, seeds; tests for fats in crushed seeds. 7. Essential oil-yielding plants: Habit sketch of Rosa, Vetiveria, Santalum and Eucalyptus (specimens/photographs). 8. Rubber: specimen, photograph/model of tapping, samples of rubber products. 9. Drug-yielding plants: Specimens of Digitalis, Papaver and Cannabis. 10. Tobacco: specimen and products of Tobacco. 11. Woods: Tectona, Pinus: Specimen, Section of young stem. 12. Fiber-yielding plants: Cotton (specimen, whole mount of seed to show lint and fuzz; whole mount of fiber and test for cellulose), Jute (specimen, transverse section of stem, test for lignin on transverse section of stem and fiber).
	C7T: Genetics Theory
Unit 1: Mendelian genetics and its extension	Mendelism: History; Principles of inheritance; Chromosome theory of inheritance; Autosomes and sex chromosomes; Probability and pedigree analysis; Incomplete dominance and codominance; Multiple alleles, Lethal alleles, Epistasis, Pleiotropy, Recessive and Dominant traits, Penetrance and Expressivity, Numericals; Polygenic inheritance.
Unit 2: Extrachromosomal Inheritance	Chloroplast mutation: Variegation in Four o'clock plant; Mitochondrial mutations in yeast; Maternal effects-shell coiling in snail; Infective heredity- Kappa particles in Paramecium.
Unit 3: Linkage, crossing over and chromosome mapping	Linkage and crossing over-Cytological and molecular basis of crossing over; Recombination frequency, two factor and three factor crosses; Interference and coincidence; Numericals based on gene mapping; Sex Linkage.
Unit 4: Variation in chromosome number and structure	Deletion, Duplication, Inversion, Translocation, Position effect, Euploidy and Aneuploidy
Unit 5: Gene mutations	Types of mutations; Molecular basis of Mutations; Mutagens – physical and chemical (Base analogs, deaminating, alkylating and intercalating agents); Detection of mutations: ClB method. Role of Transposons in mutation.DNA repair mechanisms.
Unit 6: Fine structure of gene	Classical vs molecular concepts of gene; Cis-Trans complementation test for functional allelism; Structure of Phage T4, rII Locus.
Unit 6. Population and Evolutionary Genetics	Allele frequencies, Genotype frequencies, Hardy-Weinberg Law, role of natural selection, mutation, genetic drift. Genetic variation and Speciation.
SEC Theory	
Unit- 1:	: General account about the microbes used as biofertilizer – Rhizobium – isolation, identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.
Unit- 2	: Azospirillum: isolation and mass multiplication – carrier based inoculant, associative effect of different microorganisms.Azotobacter: classification, characteristics – crop response to Azotobacter inoculum, maintenance and mass multiplication.
Unit- 3:	Cyanobacteria (blue green algae), Azolla and Anabaena azollae association, nitrogen fixation, factors affecting growth, blue green algae and Azolla in rice cultivation.
Unit- 4:	Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.
Unit-5:	Organic farming – Green manuring and organic fertilizers, Recycling of biodegradable municipal, agricultural and Industrial wastes – biocompost making methods, types and method of vermicomposting – field Application.

Syllabus distribution for Prof. Mahenga Singh , Deptt. Of Botany

5th Sem Honours

Unit	Topic
Unit 1: Plant-water relations	Water Potential and its components, water absorption by roots, aquaporins, pathway of water movement, symplast, apoplast, transmembrane pathways, root pressure, guttation. Ascent of sap – cohesion-tension theory. Transpiration and factors affecting transpiration, antitranspirants, mechanism of stomatal movement.
Unit 2: Mineral nutrition	Unit 2: Mineral nutrition Essential and beneficial elements, macro and micronutrients, methods of study and use of nutrient solutions, criteria for essentiality, mineral deficiency symptoms, roles of essential elements, chelating agents.
Unit 3: Nutrient Uptake	Unit 3: Nutrient Uptake Soil as a nutrient reservoir, transport of ions across cell membrane, passive absorption, electrochemical gradient, facilitated diffusion, active absorption, role of ATP, carrier systems, proton ATPase pump and ion flux, uniport, co-transport, symport, antiport.
Unit 4: Translocation in the phloem	Experimental evidence in support of phloem as the site of sugar translocation. Pressure– Flow Model; Phloem loading and unloading; Source–sink relationship.
Unit 5: Plant growth regulators	Discovery, chemical nature (basic structure), bioassay and physiological roles of Auxin, Gibberellins, Cytokinin, Abscisic acid, Ethylene, Brassinosteroids and Jasmonic acid.
Unit 6: Physiology of flowering	Photoperiodism, flowering stimulus, florigen concept, vernalization, seed dormancy
Unit 7: Phytochrome , crytochromes and phototropins	Discovery, chemical nature, role in photomorphogenesis, low energy responses (LER) and high irradiance responses (HIR), mode of action.
	Practical
	1. Determination of osmotic potential of plant cell sap by plasmolytic method. 2. Determination of water potential of given tissue (potato tuber) by weight method. 3. Study of the effect of wind velocity and light on the rate of transpiration in excised twig/leaf. 4. Calculation of stomatal index and stomatal frequency from the two surfaces of leaves of a mesophyte and xerophyte. 5. To calculate the area of an open stoma and percentage of leaf area open through stomata in a mesophyte and xerophyte (both surfaces). 6. To study the phenomenon of seed germination (effect of light). 7. To study the effect of different concentrations of IAA on Avena coleoptile elongation (IAA Bioassay). 8. To study the induction of amylase activity in germinating barley grains.
	DSE1 Theory
: Unit- 1: Natural resources	Definition and types.
Unit- 2: Sustainable utilization :	Concept, approaches (economic, ecological and sociocultural).
Unit- 3: Land	Utilization (agricultural, pastoral, horticultural, silvicultural); nature and management.
Unit- 4: Water	Fresh water (rivers, lakes, groundwater, aquifers, watershed). Marine. Estuarine. Wetlands; Threats and management strategies.

Unit- 5: Biological Resources	Biodiversity-definition and types; Significance; Threats; Management strategies; Bioprospecting; IPR; CBD; National Biodiversity Action Plan).
Unit - 6: Forests	Definition, Cover and its significance (with special reference to India); Major and minor Forest products; Depletion; Management.
Unit- 7: Energy	: Renewable and non-renewable sources of energy
Unit- 8: Contemporary practices in resource management	EIA, GIS, Participatory Resource Appraisal, Ecological Footprint with emphasis on carbon footprint, Resource Accounting; Waste management.
	Unit- 9: National and international efforts in resource management and conservation
	DSE2 Theory
Unit -1: Plant Breeding	Introduction and objectives. Breeding systems: modes of reproduction in crop plants. Important achievements and undesirable consequences of plant breeding.
Unit -2: Methods of Crop improvement	Introduction: Centres of origin and domestication of crop plants, plant genetic resources; Acclimatization; Selection methods: For self pollinated, cross pollinated and vegetatively propagated plants; Hybridization: For self, cross and vegetatively propagated plants – Procedure, advantages and limitations.
Unit -3: Quantitative inheritance	Concept, mechanism, examples of inheritance of Kernel colour in wheat, Skin colour in human beings. Monogenic vs polygenic Inheritance.
Unit - 4: Inbreeding depression and heterosis	History, genetic basis of inbreeding depression and heterosis : Applications.
Unit - 5: Crop improvement and breeding	Role of mutations; Polyploidy; Distant hybridization and role of biotechnology in crop improvement.
	DSE2P: Plant Breeding (Practical)
	Practical 1. Identification of offspring's having parental genotypes and recombinant genotypes, based on combination of morphological attributes in a dihybrid cross. 2. Processes of emaculation – a) By applying higher temperature, b) By amputing anthers. 3. Determination of genetic inheritance of characters in monohybrid and dihybrid crosses by Chi-square test (including Mendelian ratios and the ratios of gene interactions e.g. Dominant Epistasis, Supplementary gene action, Polymeric Gene action, Complementary Gene action, Inhibitory Gene action and Duplicating Gene action. 4. Identification of fertile and sterile pollens with carmine stain and TTC test.

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SEM 1 Botany Major

Unit	Topic
1	Introduction to microbial diversity; Whittaker's five-kingdom system and Carl Richard Woese's three-domain system

2	Virus: General characteristics; classification (Baltimore), idea aboutviroids and prions; detailed structure T4-phage and SARS-COV2, lytic and lysogenic cycle; Economic importance of viruses.
3	Bacteria: General characteristics; Types-archaebacteria, eubacteria, wall-less forms (mycoplasma and spheroplasts); Bergey's classification, Cell structure; Nutritional types; vegetative and Reproductive structure - asexual and recombination (conjugation, transformation and transduction).Economic importance of bacteria.
5	Fungi: General characteristics; Affinities with plants and animals; Thallus organization; Heterothallism and parasexuality. Classification Ainsworth (up to Order). Life cycles of Synchitrium, Saccharomyces, Ascobolus, Agaricus. Symbiotic associations: Lichen and Mycorrhiza. Economic importance.
	Practical
	1. Electron micrographs/Models of viruses – T-Phage and Sars-CoV2, 2. Sketches of Lytic and Lysogenic Cycle. 3. Study ofcurd organisms curd through Gram staining. 4. Endospore staining. 5. Study of vegetative and reproductive structures of Nostoc, Oedogonium and Polysiphonia. 6. Study of reproductive structures of Ascobolus, and Agaricus. 7. Study of reproductive structure of Saccharomyces and Penicillium.
	SEC SEC 1: Biofertilizers
1	General account about the microbes used as biofertilizer – Rhizobium – isolation, identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.
2	Azospirillum: isolation and mass multiplication – carrier based inoculant, associative effect of different microorganisms. Azotobacter: classification, characteristics – crop response to Azotobacter inoculum, maintenance and mass multiplication.
3	Cyanobacteria (blue green algae), Azolla and Anabaena azollae association, nitrogen fixation, factors affecting growth, blue green algae and Azolla in rice cultivation.
4	Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.
5	Organic farming – Green manuring and organic fertilizers, Recycling of biodegradable municipal, agricultural and Industrial wastes – biocompost making methods, types and method of vermicomposting – field Application.

TEACHING PLAN OF ODD SEMESTER (1ST, 3RD & 5TH)

SESSION -2023-2024   DEPARTMENT OF BOTANY

NAME OF THE TEACHER- MR. HAPPY DAS

SEMESTER –I		
SYLLABUS ALLOTTED – MJ-1T & MJ-1P PLANTS AND MICROBIAL DIVERSITY AND ITS EVOLUTION	MJ-1P (TOTAL LECTURE-15)	MJ-1T (TOTAL LECTURE-30)
	5. Study of vegetative and reproductive structures of Nostoc, Oedogonium and Polysiphonia. 9. Marchantia- Morphology of thallus, whole mount of rhizoids & Scales, vertical section of thallus through Gemma cup, whole mount of Gemmae (all temporary slides), vertical section of antheridiophore, archegoniophore, longitudinal section of sporophyte (all permanent slides). 10. Anthoceros- Morphology of thallus, dissection of sporophyte (to show spores, pseudoelaters, columella) (temporary slide), vertical section of thallus (permanent slide). 11. Pogonetum- Morphology, whole mount of leaf, rhizoids, operculum, peristome, annulus, spores (temporary slides); Permanent slides showing antheridial and archegonial heads, longitudinal section of capsule and protonema. 12. Selaginella- Morphology, whole mount of leaf with ligule, transverse section of stem, whole mount of strobilus, whole mount of microsporophyll and megasporophyll (temporary slides), longitudinal section of strobilus (permanent slide). 13. Equisetum- Morphology, transverse section of internode, longitudinal section of strobilus,	4 Algae: General characteristics; Ecology and distribution; range of thallus organization; Classification (Van Den Hoek, 1995), reproduction and life cycles of Nostoc, Oedogonium, Chara, and Polysiphonia. 6 Archegoniate: Unifying features of archegoniates, Bryophytes: General characteristics; Adaptations to land habit; Range of thallus organization. Idea about different orders. Outline classification (Mishler), Morphology, anatomy and reproduction of Marchantia, Porella, Anthoceros, Notothylas and Funaria; Economic importance with special reference to Sphagnum. 7 Pteridophytes: General characteristics; Idea about different orders. Classification (Sporne, 1975), Early land plants (Rhynia and Asteroxylon)Morphology, anatomy and reproduction of Lycopodium, Selaginella, Equisetum and Pteris. Economic importance. 8 Gymnosperms: General characteristics, idea about different orders, Classification (Sporne, 1965), morphology, anatomy and reproduction of Cycas, Pinus and Gnetum; Economic importance.

	transverse section of strobilus, whole mount of sporangiophore, whole mount of spores, transverse section of rhizome (all permanent slide). 14. Pteris- Morphology, transverse section of rachis, vertical section of sporophyll, wholemount of sporangium, whole mount of spores (temporary slides), transverse section of rhizome, whole mount of prothallus with sex organs and young sporophyte (permanent slide). 15. Cycas- Morphology (leaf),vertical section of leaflet, vertical section of microsporophyll, whole mount of spores (temporary slides), longitudinal section of ovule, transverse section of root (permanent slide). 16. Pinus- Morphology (long and dwarf shoots, whole mount of dwarf shoot, male and female cones), transverse section of Needle (temporary slide), transverse section of stem, longitudinal section of / transverse section of male cone, whole mount of microsporophyll, whole mount of Microspores (temporary slides), longitudinal section of female cone, tangential longitudinal section &radial longitudinal sections stem (permanent slide).	
SYLLABUS ALLOTTED – MI-1T & MI-1P PLANT SCIENCE I	MI-1P(TOTAL LECTURE-15)	MI-1T (TOTAL LECTURE-15)
	1. Study of leaf types (Simple and Compounds). 2. Study of inflorescence types(recemose and cymose) 3. Study of floral diversity with special reference to adhesion and cohesion. 4. Study of fruit types: Berry: Cucumis sativus, Capsicum annuum, Solanum melongena Drupe: Mangifera indica, Borasus flaballifer Hesperidium: Citrus Nut: Arachis hypogea	1. Algae: General characteristics; habitat, classification (Van Den Hoek, 1995), lifecycle patterns of Volvox and Batrachospermum, Economic importance. 2. Bryophytes: General characteristics, classification (Proskauer, 1957), morphology, anatomy and reproduction of Riccia, Anthoceros and Marchantia, Economic importance of bryophytes. Pteridophytes: General characteristics, Classification (Sporne,

	5. Study of vegetative and floral characters of the following families Malvaceae – Sida sp. / Abutilon sp. Acanthaceae – Ruellia sp./Barleria sp. Papilionaceae – Tephrosia sp./Crotalaria sp. Verbenaceae – Lantana sp./Duranta sp	1975), morphology, anatomy and reproduction of Lycopodium, Adiantum and Marsilea. Economic importance 3. Gymnosperms: General characteristics, Classification (Sporne, 1965), morphology, anatomy and reproduction of Cycas and Pinus. Economic importance.
	SEMESTER –III	
SYLLABUS ALLOTTED – CC 6 T & CC 7 P ECONOMIC BOTANY & GENETICS	CC 7 P (TOTAL LECTURE-15)	CC 6 T (TOTAL LECTURE-15)
	1. Demonstration on pretreatment, fixation, staining and squash and smear preparation. 2. Study of Mitosis from Onion / Garlic / Lentil root. 3. Study of Meiosis with pollen mother cell (PMC) of Onion / Solanum / Datura by smear preparation. 4. Mendel's laws through seed ratios. Laboratory exercises in probability and chisquare. 5. Chromosome mapping using point test cross data. 6. Pedigree analysis for dominant and recessive autosomal and sex linked traits. 7. Incomplete dominance and gene interaction through seed ratios (9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4). 8. Blood Typing: groups & Rh factor. 9. Study of aneuploidy: Down's, Klinefelter's and Turner's syndromes. 10. Photographs/Permanent Slides showing Translocation Ring, Laggards and Inversion Bridge. 11. Study of human genetic traits: Sickle cell anemia, Xeroderma Pigmentosum, Albinism, red-green Colour blindness, Widow's peak, Rolling of tongue, Hitchhiker's thumb and Attached ear lobe.	Unit 1: Origin of Cultivated Plants Concept of Centres of Origin, their importance with reference to Vavilov's work. Examples of major plant introductions; Crop domestication and loss of genetic diversity; evolution of new crops/varieties, importance of germplasm diversity. Unit 2: Cereals Wheat and Rice (origin, morphology, cultivation, management processing & uses); Brief account of millets. Unit 3: Legumes Origin, morphology cultivation, management and uses of Chick pea, Pigeon pea and fodder legumes. Importance to man and ecosystem. Unit 4: Sources of sugars and starches Morphology cultivation, management and processing of sugarcane, products and byproducts of sugarcane industry. Potato – morphology, propagation & uses. Unit 5: Spices Listing of important spices, their family and part used. Economic importance with special reference to fennel, saffron, clove and black pepper. Unit 6: Beverage Tea, Coffee (morphology, processing & uses) Unit 7: Sources of oil and fats General description, classification,

		extraction, their uses and health implications groundnut, coconut, linseed, soybean, mustard and coconut (Botanical name, family & uses). Essential Oils: General account, extraction methods, comparison with fatty oils & their uses. Unit 8: Natural Rubber Para-rubber: tapping, processing and uses. Unit 9: Drug-yielding plants Therapeutic and habit-forming drugs with special reference to Cinchona, Digitalis, Papaver and Cannabis; Tobacco (Morphology, processing, uses and health hazards). Unit 10: Timber plants General account with special reference to teak and pine. Unit 11: Fibers Classification based on the origin of fibers; Cotton, Coir and Jute (morphology, extraction and uses)

SEMESTER –V		
SYLLABUS ALLOTTED – CC 11 T & CC 11 P REPRODUCTIVE BIOLOGY OF ANGIOSPERMS	CC 11 P (TOTAL LECTURE-15)	CC 11 T (TOTAL LECTURE-15)
	1. Anther: Wall and its ontogeny; Tapetum (amoeboid and glandular); MMC, spore tetrads, uninucleate, bicelled and dehisced anther stages through slides/micrographs, male germ unit (MGU) through photographs and schematic representation. 2. Pollen grains: Fresh and acetolyzed showing ornamentation and aperture, psuedomonads, polyads, pollinia	Unit 1: Introduction History (contributions of G.B. Amici, W. Hofmeister, E. Strasburger, S.G. Nawaschin, P. Maheshwari, B.M. Johri, W.A. Jensen, J. Heslop-Harrison) and scope. Unit 2: Reproductive development Induction of flowering; flower is a modified determinate shoot. Flower development; genetic and molecular aspects. Unit 3: Anther and pollen biology

| | | (slides/photographs,fresh material), ultrastructure of pollen wall(micrograph); Pollen viability: Tetrazolium test.germination: Calculation of percentage germination in different media using hanging drop method.
 3. Ovule: Types-anatropous, orthotropous, amphitropous/campylotropous, circinotropous, unitegmic, bitegmic; Tenuinucellate and crassinucellate; Special structures: Endothelium, obturator, hypostase, caruncle and aril (permanent slides/specimens/photographs).
 4. Female gametophyte through permanent slides/ photographs: Types, ultrastructure of mature egg apparatus.
 5. Intra-ovarian pollination; Test tube pollination through photographs.
 6. Endosperm: Dissections of developing seeds for endosperm with free-nuclear haustoria.
 7. Embryogenesis: Study of development of dicot embryo through permanent slides; dissection of developing seeds for embryos at various developmental stages; Study of suspensor through electron micrographs. | Anther wall: Structure and functions, microsporogenesis, callose deposition and its significance. Microgametogenesis; Pollen wall structure, MGU (Male Germ Unit) structure, NPC system; Palynology and scope (a brief account); Pollen wall proteins; Pollen viability, storage and germination; Abnormal features: Pseudomonads, polyads, massulae, pollinia.
 Unit 4: Ovule Structure; Types; Special structures–endothelium, obturator, aril, caruncle and hypostase; Female Gametophyte – megasporogenesis (monosporic, bisporic and tetrasporic) and megagametogenesis (details of Polygonum type); Organization and ultrastructure of mature embryo sac.
 Unit 5: Pollination and fertilization Pollination types and significance; adaptations; structure of stigma and style; path of pollen tube in pistil; double fertilization.
 Unit 6: Self incompatibility Basic concepts (interspecific, intraspecific, homomorphic, heteromorphic, GSI and SSI); Methods to overcome self-incompatibility: mixed pollination, bud pollination, stub pollination; Intra-ovarian and in vitro pollination; Modification of stigma surface, parasexual hybridization; Cybrids, in vitro fertilization.
 Unit 7: Embryo, Endosperm and Seed Structure and types; General pattern of development of dicot and monocot embryo and endosperm; Suspensor: structure and functions; Embryo-endosperm relationship; Nutrition of embryo; Unusual features of endosperm development in Paeonia. Seed structure, importance and dispersal |

		mechanisms Unit 8: Polyembryony and apomixis Introduction; Classification; Causes and applications

Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Botany

Name of Teacher:	Class/Semester 2nd SEM Hons.	Name of the Paper : C3 T : Mycology and Phytopathology	Topics/ Unit Plan	Syllabus Allotted
Prof. Mahanga Singh			Unit- 1: Introduction to true fungi	General characteristics; Affinities with plants and animals; Thallus organization; Cell wall composition; Nutrition; Classification.
			Unit- 2: Chytridiomycota and Zygomycota	Characteristic features; Ecology and significance; Thallus organisation; Reproduction; Life cycle with reference to Synchytrium, Rhizopus .
			Unit-3: Ascomycota	General characteristics (asexual and sexual fruiting bodies); Ecology; Life cycle, Heterokaryosis and parasexuality; Life cycle and classification with reference to Saccharomyces, Aspergillus, Penicillium, Alternaria, Neurospora and Peziza.
			Unit- 4: Basidiomycota	General characteristics; Ecology; Life cycle and Classification with reference to black stem rust on wheat Puccinia (Physiological Specialization), loose and covered smut (symptoms only), Agaricus; Bioluminescence, Fairy Rings and Mushroom Cultivation with special reference to Oyster Mashroom..
			Unit- 5: Allied Fungi	General characteristics; Status of Slime molds, Classification; Occurrence; Types of plasmodia; Types of fruiting bodies.
			Unit- 6: Oomycota	General characteristics; Ecology; Life cycle and classification with reference to Phytophthora, Albugo.
			Unit -7: Symbiotic associations	Lichen – Occurrence; General characteristics; Growth forms and range of thallus organization; Nature of associations of algal and fungal partners; Reproduction; Mycorrhiza-Ectomycorrhiza, Endomycorrhiza and their significance.
			Unit- 8: Applied Mycology	Role of fungi in biotechnology; Application of fungi in food industry (Nalt, NNuture, Fermentation, Baking, Organic acids, Enzymes, Mycoproteins); Secondary metabolites (Pharmaceutical preparations); Agriculture (Biofertilizers); Mycotoxins; Biological control (Mycofungicides, Mycoherbicides, Mycoinsecticides, Myconematicides); Medical mycology.

			Unit- 9: Phytopathology	Terms and concepts; General symptoms; Geographical distribution of diseases; Etiology; Symptomology; Host-Pathogen relationships; Disease cycle and environmental relation; prevention and control of plant diseases, and role of quarantine. Bacterial diseases – Citrus canker and angular leaf spot of cotton. Viral diseases – Tobacco Mosaic viruses, vein clearing. Fungal diseases – Early blight of potato, Black stem rust of wheat, White rust of crucifers.
Prof. Mahanga Singh		C3P: Mycology and Phytopathology		1. Introduction to the world of fungi (Unicellular, coenocytic/septate mycelium, ascocarps & basidiocarps). 2. Rhizopus: study of asexual stage from temporary mounts and sexual structures through permanent slides. 3. Aspergillus and Penicillium: study of asexual stage from temporary mounts. Study of Sexual stage from permanent slides/photographs. 4. Peziza: Ascobulus sectioning through ascocarp. 5. Alternaria: Specimens/photographs and temporary mounts. 6. Puccinia: Herbarium specimens of Black Stem Rust of Wheat and infected Barberry leaves; sections/ mounts of spores on wheat and permanent slides of both the hosts. 7. Agaricus: Specimens of button stage and full grown mushroom; sectioning of gills of Agaricus, fairy rings and bioluminescent mushrooms to be shown. 8. Study of phaneroplasmodium from actual specimens and /or photograph. Study of Stemonitis sporangia. 9. Albugo: Study of symptoms of plants infected with Albugo; asexual phase study through section/ temporary mounts and sexual structures through permanent slides. 10. Lichens: Study of growth forms of lichens (crustose, foliose and fruticose) on different substrates. Study of thallus and reproductive structures (soredia and apothecium) through permanent slides. Mycorrhizae: ectomycorrhiza and endomycorrhiza (Photographs) 11. Phytopathology : Herbarium specimens of bacterial diseases; Citrus Canker; Angular leaf spot of cotton. Viral diseases: TMV. Vein clearing. Fungal diseases: Early blight of potato, Black stem rust of wheat and White rust of crucifers.

Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Botany

Name of Teacher:	Class/Semester 4th SEM Hons.	Name of the Paper : C8T: Molecular Biology	Topics/ Unit Plan	Syllabus Allotted
Prof. Mahanga Singh			Unit- 1: Nucleic acids: Carriers of genetic information	Historical perspective; DNA as the carrier of genetic information (Griffith's, Hershey & Chase, Avery, McLeod & McCarty, Fraenkel-Conrat's experiment.
			Unit -2. The Structures of DNA and RNA / Genetic Material	DNA Structure: Miescher to Watson and Crick- historic perspective, DNA structure, Salient features of double helix, Types of DNA, Types of genetic material, denaturation and renaturation, cot curves; Organization of DNA-Prokaryotes, Viruses, Eukaryotes.RNA Structure-Organelle DNA -- mitochondria and chloroplast DNA.The NucleosomeChromatin structure-Euchromatin, Heterochromatin-Constitutive and Facultative heterochromatin.
			Unit- 2:The replication of DNA	Chemistry of DNA synthesis (Kornberg's discovery); General principles – bidirectional, semiconservative and semi discontinuous replication, RNA priming; Various models of DNA replication, including rolling circle, θ (theta) mode of replication, replication of linear ds-DNA, replication of the 5'end of linear chromosome; Enzymes involved in DNA replication.
			Unit- 3: Central dogma and genetic code	Key experiments establishing-The Central Dogma (Adaptor hypothesis and discovery of mRNA template), Genetic code (deciphering & salient features)
			Unit 4: Transcription	Transcription in prokaryotes and eukaryotes. Principles of transcriptional regulation; Prokaryotes: Regulation of lactose metabolism and tryptophan synthesis in E.coli. Eukaryotes:transcription factors, heat shock proteins, steroids and peptide hormones; Gene silencing.
			Unit 5: Processing and modification of RNA	Split genes-concept of introns and exons, removal of introns, spliceosome machinery, splicing pathways, group I and group II intron splicing, alternative splicing eukaryotic mRNA processing(5' capping, 3'end processing);RNAediting; Ribozymes, RNA splicing; mRNA transport.

			Unit 6: Translation	Ribosome structure and assembly, mRNA; Charging of tRNA, aminoacyl tRNA synthetases; Various steps in protein synthesis, proteins involved in initiation, elongation and termination of polypeptides; Fidelity of translation; Inhibitors of protein synthesis; Post-translational modifications of proteins.
Prof. Mahanga Singh		C8P: Molecular Biology		1. Preparation of LB medium and raising E.Coli. 2. Isolation of genomic DNA from E.Coli. 3. DNA isolation from cauliflower head. 4. DNA estimation by diphenylamine reagent/UV Spectrophotometry. 5. Study of DNA replication mechanisms through photographs (Rolling circle, Theta replication and semi-discontinuous replication). 6. Study of structures of prokaryotic RNA polymerase and eukaryotic RNA polymerase II through photographs. 7. Photographs establishing nucleic acid as genetic material (Messelson and Stahl's, Avery et al,Griffith's, Hershey & Chase's and Fraenkel & Conrat's experiments) 8. Study of the following through photographs: Assembly of Spliceosome machinery; Splicing mechanism in group I & group II introns; Ribozyme and Alternative splicing.

Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Botany

Name of Teacher:	Class/Semester 6th SEM Hons.	Name of the Paper : C13T: Plant Metabolism	Topics/ Unit Plan	Syllabus Allotted
Prof. Mahanga Singh			Unit 1: Concept of metabolism	Introduction, anabolic and catabolic pathways, regulation of metabolism, role of regulatory enzymes (allosteric ,covalent modulation and Isozymes).
			Unit 2: Carbon assimilation	Historical background, photosynthetic pigments, role of photosynthetic pigments (chlorophylls and accessory pigments), antenna molecules and reaction centres, photochemical reactions, photosynthetic electron transport, PSI, PSII, Q cycle, CO_2 reduction, photorespiration, C4 pathways; Crassulacean acid metabolism; Factors affecting CO_2 reduction.
			Unit 3: Carbohydrate metabolism	Synthesis and catabolism of sucrose and starch.
			Unit 4: Carbon Oxidation	Glycolysis, fate of pyruvate, regulation of glycolysis, oxidative pentose phosphate pathway, oxidative decarboxylation of pyruvate, regulation of PDH, NADH shuttle; TCA cycle,amphibolic role, anaplerotic reactions, regulation of the cycle, mitochondrial electron transport, oxidative phosphorylation, cyanide-resistant respiration, factors affecting respiration.
			Unit 5: ATP-Synthesis	Mechanism of ATP synthesis, substrate level phosphorylation, chemiosmotic mechanism (oxidative and photophosphorylation), ATP synthase, Boyers conformational model, Racker's experiment, Jagendorf's experiment; role of uncouplers.
			Unit 6: Lipid metabolism	Synthesis and breakdown of triglycerides, β-oxidation, glyoxylate cycle, gluconeogenesis and its role in mobilisation of lipids during seed germination, α oxidation.
			Unit 7: Nitrogen metabolism	Nitrate assimilation, biological nitrogen fixation (examples of legumes and non-legumes); Pathway of biological nitrogen fixation, Ammonia assimilation and transamination.

			Unit 8: Mechanisms of signal transduction	Receptor-ligand interactions; Second messenger concept, Calcium calmodulin, MAP kinase cascade.
Prof. Mahanga Singh		C13P: Plant Metabolism		1. Chemical separation of photosynthetic pigments. 2. Experimental demonstration of Hill's reaction. 3. To study the effect of light intensity on the rate of photosynthesis. 4. Effect of carbon dioxide on the rate of photosynthesis. 5. To compare the rate of respiration in different parts of a plant. 6. To demonstrate activity of Nitrate reductase in germinating leaves of different plant sources. 7. To study the activity of lipases in germinating oilseeds and demonstrate mobilization of lipids 1. during germination. 8. Demonstration of fluorescence by isolated chlorophyll pigments. 9. Demonstration of absorption spectrum of photosynthetic pigments.

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BIDYUT SAMANTA

22.06.2024

Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Botany

Name of Teacher:	Class/Semester 6th SEM Hons.	Name of the Paper : DSE-3T: Industrial and Environmental Microbiology	Topics/ Unit Plan	Syllabus Allotted
Prof. Mahanga Singh			Unit 1: Scope of microbes in industry and environment	
			Unit 2: Bioreactors / Fermenters and fermentation processes	Solid-state and liquid-state (stationary and submerged) fermentations; Batch and continuous fermentations. Components of a typical bioreactor, Types of bioreactorslaboratory, pilotscale and production fermenters; Constantly stirred tank fermenter, tower fermenter, fixed bed and fluidized bed bioreactors and air-lift fermenter. A visit to any educational institute/ industry to see an industrial fermenter, and other downstream processing operations.
			Unit 3: Microbial production of industrial products	Microorganisms involved, media, fermentation conditions, downstream processing and uses; Filtration, centrifugation, cell disruption, solvent extraction, precipitation and ultrafiltration, lyophilization, spray drying; Hands on microbial fermentations for the production and estimation (qualitative and quantitative) of Enzyme: amylase or lipase activity, Organic acid (citric acid or glutamic acid), alcohol (Ethanol) and antibiotic (Penicillin)
			Unit 4: Microbial enzymes of industrial interest and enzyme immobilization	Microorganisms for industrial applications_and hands on screening microorganisms for casein hydrolysis; starch hydrolysis; cellulose hydrolysis. Methods of immobilization, advantages and applications of immobilization, large scale applications of immobilized enzymes (glucose isomerase and penicillin acylase).
			Unit 5: Microbes and quality of environment.	Distribution of microbes in air; Isolation of microorganisms from soil, air and water.
			Unit 6: Microbial flora of water.	Water pollution, role of microbes in sewage and domestic waste water treatment systems. Determination of nature of water and food water and microorganisms as indicators of water quality, check coliform and noncoliform in water samples.

			Unit 7: Microbes in agriculture and remediation of contaminated soils.	Biological fixation; Mycorrhizae; Bioremediation of contaminated soils. Isolation of root nodulating bacteria, arbuscular mycorrhizal colonization in plant roots.
Prof. Mahanga Singh		C13P: DSE-3P: Industrial and Environmental Microbiology		1. Principles and functioning of instruments in microbiology laboratory 2. Hands on sterilization techniques and preparation of culture media.

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22.06.2024

Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Botany

Name of Teacher:	Class/Semester 6th SEM Hons.	Name of the Paper : DSE4T: Research Methodology	Topics/ Unit Plan	Syllabus Allotted
Prof. Mahanga Singh			Unit 1: Basic concepts of research	Research-definition and types of research (Descriptive vs analytical; applied vs fundamental; quantitative vs qualitative; conceptual vs emperical).Research methods vs methodology. Literature-review and its consolidation; Library research; field research; laboratory research.
			Unit 2: General laboratory practice	Common calculations in botany laboratories. Understanding the details on the label of reagent bottles. Molarity and normality of common acids and bases.Preparation of solutions. Dilutions. Percentage solutions. Molar, molal and normal solutions.Technique of handling micropipettes; Knowledge about common toxic chemicals and safety measures in their handling.
			Unit 3: Data collection and documentation of observations	Maintaining a laboratory record; Tabulation and generation of graphs. Imaging of Tissue specimens and application of scale bars. The art of field photography.
			Unit 4: Overview of Biological Problems	History; Key biology research areas, Model organisms in biology (A Brief overview): Genetics, Physiology, Biochemistry, Molecular Biology, Cell Biology, Genomics, Proteomics Transcriptional regulatory network.
			Unit 5: Methods to study plant cell/tissue structure	Whole mounts, peel mounts, squash preparations, clearing, maceration and sectioning; Tissue preparation: living vs fixed, physical vs chemical fixation, coagulating fixatives, non-coagulant fixatives; tissue dehydration using graded solvent series; Paraffin and plastic infiltration; Preparation of thin and ultrathin sections.
			Unit 6: Plant microtechniques	Staining procedures, classification and chemistry of stains. Staining equipment. Reactive dyes and fluorochromes (including genetically engineered protein labeling with GFP and other tags). Cytogenetic techniques with squashed plant materials.
			Unit 7: The art of scientific writing and its presentation	Numbers, units, abbreviations and nomenclature used in scientific writing. References. Power point presentation,Poster presentation, Scientific writing and ethics, Introduction to copyright-academic misconduct/plagiarism.
Prof. Mahanga Singh		DSE4P: Research		1. Experiments based on chemical

	Methodology Industrial and Environmental Microbiology		calculations. 2. Plant microtechnique experiments. 3. The art of imaging of samples through microphotography and field photography. 4. Poster presentation on defined topics. 5. Technical writing on topics assigned.

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22.06.2024

Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Botany

Name of Teacher:	Class/Semester 6th SEM Gen	Name of the Paper : DSE2T: Research Methodology	Topics/ Unit Plan	Syllabus Allotted
Prof. Mahanga Singh			Unit 1: Basic concepts of research	Research-definition and types of research (Descriptive vs analytical; applied vs fundamental; quantitative vs qualitative; conceptual vs emperical).Research methods vs methodology. Literature-review and its consolidation; Library research; field research; laboratory research.
			Unit 2: General laboratory practice	Common calculations in botany laboratories. Understanding the details on the label of reagent bottles. Molarity and normality of common acids and bases.Preparation of solutions. Dilutions. Percentage solutions. Molar, molal and normal solutions.Technique of handling micropipettes; Knowledge about common toxic chemicals and safety measures in their handling.
			Unit 3: Data collection and documentation of observations	Maintaining a laboratory record; Tabulation and generation of graphs. Imaging of Tissue specimens and application of scale bars. The art of field photography.
			Unit 4: Overview of Biological Problems	History; Key biology research areas, Model organisms in biology (A Brief overview): Genetics, Physiology, Biochemistry, Molecular Biology, Cell Biology, Genomics, Proteomics Transcriptional regulatory network.
			Unit 5: Methods to study plant cell/tissue structure	Whole mounts, peel mounts, squash preparations, clearing, maceration and sectioning; Tissue preparation: living vs fixed, physical vs chemical fixation, coagulating fixatives, non-coagulant fixatives; tissue dehydration using graded solvent series; Paraffin and plastic infiltration; Preparation of thin and ultrathin sections.
			Unit 6: Plant microtechniques	Staining procedures, classification and chemistry of stains. Staining equipment. Reactive dyes and fluorochromes (including genetically engineered protein labeling with GFP and other tags). Cytogenetic techniques with squashed plant materials.
			Unit 7: The art of scientific writing and its presentation	Numbers, units, abbreviations and nomenclature used in scientific writing. References. PowerPoint presentation, Poster presentation, Scientific writing and ethics, Introduction to copyright-academic misconduct/plagiarism.
Prof. Mahanga Singh		DSE2P: Research		1. Experiments based on chemical

	Methodology		calculations. 2. Plant microtechnique experiments. 3. The art of imaging of samples through microphotography and field photography. 4. Poster presentation on defined topics. 5. Technical writing on topics assigned.

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BIDYUT SAMANTA

22.06.2024

TEACHING PLAN OF EVEN SEMESTER (2ND, 4TH & 6TH)

SESSION -2022-2023   DEPARTMENT OF BOTANY

NAME OF THE TEACHER- MR. HAPPY DAS

SEMESTER –II		
SYLLABUS ALLOTTED – CC 4T & CC4P Archegoniate	CC 4P (TOTAL LECTURE-15)	CC 4T (TOTAL LECTURE-30)
TERM I (CC4P- LECTURE-5) (CC4T- LECTURE-10)	1. *Riccia* – Morphology of thallus. 2. *Marchantia*- Morphology of thallus, whole mount of rhizoids & Scales, vertical section of thallus through Gemma cup, whole mount of Gemmae (all temporary slides), vertical section of Antheridiophore, Archegoniophore, longitudinal section of Sporophyte (all permanent slides). 3. *Anthoceros*- Morphology of thallus, dissection of sporophyte (to show stomata, spores, pseudoelaters, columella) (temporary slide), vertical section of thallus (permanent slide). 4. *Pellia, Porella*- Permanent slides. 5. Sphagnum- Morphology of plant, whole mounts of leaf (permanent slide only)	Unit 1: Introduction : Unifying features of archegoniates; Transition to land habit; Alternation of generations. Unit 2: Bryophytes : General characteristics; Adaptations to land habit; Classification; Range of thallus organization.
TERM II (CC4P- LECTURE-5) (CC4T- LECTURE-10)	6. *Funaria- Pogonatum/ Polytrichum* Morphology, whole mount of leaf, rhizoids, operculum, peristome, annulus, spores (temporary slides); permanent slides showing antheridial and archegonial heads, longitudinal section of capsule and protonema. 7. *Psilotum*- Study of specimen, transverse section of synangium (permanent slide). 8. *Selaginella*- Morphology, whole mount of leaf with ligule, transverse section of stem, whole mount of strobilus, whole mount of microsporophyll and megasporophyll (temporary slides), longitudinal section of strobilus (permanent slide). 9*. Equisetum*- Morphology, transverse section of internode, longitudinal section of strobilus, transverse section of strobilus**,** whole mount of sporangiophore, whole mount of spores (wet and dry) (temporary slide), transverse section of rhizome (permanent slide). 10. *Pteris*- Morphology, transverse section of rachis, vertical section of sporophyll,	Unit 3: Type Studies- Bryophytes :Classification (up to family), morphology, anatomy and reproduction of *Riccia, Marchantia, Pellia, Porella, Anthoceros, Sphagnum* and *Funaria*; *Pogonatum*,Reproduction and evolutionary trends in *Riccia, Marchantia, Plagichasma Anthoceros* and *Funaria* . Ecological and economic importance of bryophytes with special reference to *Sphagnum*. Unit 4: Pteridophytes: General characteristics; Classification; Early land plants (Cooksonia and Rhynia)

	wholemount of sporangium, whole mount of spores (temporary slides), transverse section of rhizome, whole mount of prothallus with sex organs and young sporophyte (permanent slide)	
TERM III (CC4P- LECTURE-5) (CC4T- LECTURE-10)	11. *Cycas*- Morphology (coralloid roots, bulbil, leaf), whole mount of microsporophyll, transverse section of coralloid root, transverse section of rachis, vertical section of leaflet, vertical section of microsporophyll, whole mount of spores (temporary slides), longitudinal section of ovule, transverse section of root (permanent slide). 12. *Pinus*- Morphology (long and dwarf shoots, whole mount of dwarf shoot, male and female cones), transverse section of Needle, transverse section of stem, longitudinal section of / transverse section of male cone, whole mount of microsporophyll, whole mount of Microspores (temporary slides), longitudinal section of female cone, tangential longitudinal section &radial longitudinal sections stem (permanent slide). 13. *Gnetum*- Morphology (stem, male & female cones), transverse section of stem, vertical section of ovule (permanent slide)	Unit 5: Type Studies- Pteridophytes :Classification (up to family), morphology, anatomy and reproduction of *Psilotum, Selaginella, Equisetum* and *Pteris* (Developmental details not to be included).Apogamy, and apospory, heterospory andseed habit, telome theory, stelar evolution; Ecological and economic importance. Unit 6: Gymnosperms :General characteristics, classification (up to family), morphology, anatomy and reproduction of *Cycas, Pinus* and *Gnetum* ,Ecological and economic importance.
SYLLABUS ALLOTTED – GE-2T & GE-2P Plant Ecology and Taxonomy	GE-2P (TOTAL LECTURE-15)	GE-2T (TOTAL LECTURE-15)
TERM I (LECTURE-5)	Study of vegetative and floral characters of the following families Brassicaceae - *Brassica,Alyssum / Iberis;* Asteraceae -*Sonchus/Launaea, Vernonia/Ageratum, Eclipta/Tridax*	Unit- 6: Introduction to plant taxonomy: Identification, Classification, Nomenclature. Unit- 7 : Identification: Functions of Herbarium, important herbaria and botanical gardens of the world and India; Documentation: Flora, Keys: single access and multi-access Unit 8 : Taxonomic evidences from palynology, cytology, phytochemistry and molecular data
TERM II (LECTURE-5)	Study of vegetative and floral characters of the following families Solanaceae -*Solanum nigrum, Withania;* Lamiaceae -*Salvia, Ocimum*	Unit 9 : Taxonomic hierarchy: Ranks, categories and taxonomic groups Unit 10: Botanical nomenclature: Principles and rules (ICN); ranks and names; binominal system, typification, author citation, valid publication, rejection of names, principle of priority and its limitations
TERM III (LECTURE-5)	Study of vegetative and floral characters of the following familiy Liliaceae - *Asphodelus / Lilium / Allium*.	Unit 11: Classification: Types of classification-artificial, natural and phylogenetic. Bentham and Hooker (upto series), Engler and Prantl (upto series) Unit 12: Biometrics, numerical taxonomy and cladistics: Characters and attributes, OTUs, character weighting and coding; cluster analysis; phenograms, cladograms (definitions and differences).

SYLLABUS ALLOTTED – DSC-1B (CC -2) Plant Ecology and Taxonomy	DSC 1B (C2P)	DSC 1B (C2T)
TERM I (LECTURE-5)	Study of vegetative and floral characters of the following families Brassicaceae - *Brassica,Alyssum / Iberis;* Asteraceae -*Sonchus/Launaea, Vernonia/Ageratum, Eclipta/Tridax*	Unit- 6: Introduction to plant taxonomy: Identification, Classification, Nomenclature. Unit- 7 : Identification: Functions of Herbarium, important herbaria and botanical gardens of the world and India; Documentation: Flora, Keys: single access and multi-access Unit 8 : Taxonomic evidences from palynology, cytology, phytochemistry and molecular data
TERM II (LECTURE-5)	Study of vegetative and floral characters of the following families Solanaceae -*Solanum nigrum, Withania;* Lamiaceae -*Salvia, Ocimum*	Unit 9 : Taxonomic hierarchy: Ranks, categories and taxonomic groups Unit 10: Botanical nomenclature: Principles and rules (ICN); ranks and names; binominal system, typification, author citation, valid publication, rejection of names, principle of priority and its limitations
TERM III (LECTURE-5)	Study of vegetative and floral characters of the following familiy Liliaceae - *Asphodelus / Lilium / Allium*.	Unit 11: Classification: Types of classification-artificial, natural and phylogenetic. Bentham and Hooker (upto series), Engler and Prantl (upto series). Unit 12: Biometrics, numerical taxonomy and cladistics: Characters; variations; OTUs, character weighting and coding; cluster analysis; phenograms, cladograms (definitions and differences).

SEMESTER –IV		
SYLLABUS ALLOTTED – CC 10 T & CC 10 P Plant Systematics	CC 1OP (TOTAL LECTURE-15)	CC 10T (TOTAL LECTURE-15)
TERM I (LECTURE-5)	Study of vegetative and floral characters of the following families 1. Ranunculaceae - *Ranunculus, Delphinium.* 2. Brassicaceae - *Brassica, Alyssum / Iberis.* 3. Malvaceae – *Sida* Sp. *Urena lobota.* 4. Myrtaceae - *Eucalyptus, Callistemon* 5. Umbelliferae - *Coriandrum /Anethum / Foeniculum*. 6. Asteraceae - *Sonchus/Launaea, Vernonia/Ageratum, Eclipta/Tridax*	Unit 1: Significance of Plant systematic: Introduction to systematics; Plant identification, Classification, Nomenclature. Evidences from palynology, cytology, phytochemistry and molecular data. Field inventory; Functions of Herbarium; Important herbaria and botanical gardens of the world and India; Virtual herbarium; E-flora; Documentation: Flora, Monographs, Journals; Keys:Single access and Multi-access. Unit 2: Taxonomic hierarchy: Concept of taxa (family, genus, species); Categories and taxonomic hierarchy; Species concept (taxonomic, biological)
TERM II (LECTURE-5)	Study of vegetative and floral characters of the following families 7. Solanaceae - *Solanum nigrum/Withania, Nicotina, Plumbaginefolia.* 8. Lamiaceae - *Salvia/Ocimum*.	Unit 3: Botanical nomenclature: Principles and rules (ICN); ranks and rules; Typification, author citation, valid publication, rejection of names, principle of priority and its limitations. Names of

	9. Euphorbiaceae - *Euphorbia hirta/E.milii, Jatropha*. 10. Fasaceae – *Tephrosia* Sp.,*Crotalaria* Sp., 11. Caesalpineaeceae – *Cassia* Sp.	hybrids Unit 4: Systems of classification: Major contributions of Theophrastus, Bauhin, Tournefort, Linnaeus, Adanson, de Candolle, Bessey, Hutchinson, Takhtajan and Cronquist; Classification systems of Bentham and Hooker (upto series) and Engler and Prantl (upto series); Brief reference of Angiosperm Phylogeny Group (APG III) classification
TERM III (LECTURE-5)	Study of vegetative and floral characters of the following families 12. Asclepiadaeceae- *Pesgularia Gygnema* 13. Apocynaceae – *Hollorhen, Catharanthus*. 14. Rubiaceae – *Oldenladeae, Spermoeoceae,* 15. Liliaceae - *Asphodelus/Lilium/Allium*. 16. Poaceae - *Triticum/Hordeum/Avena*	Unit 5: Biometrics, numerical taxonomy and cladistics: Characters; Variations; OTUs, character weighting and coding; Cluster analysis; Phenograms, cladograms (definitions and differences). Unit 6: Phylogeny of Angiosperms: Terms and concepts (primitive and advanced, homology and analogy, parallelism and convergence, monophyly, Paraphyly, polyphyly and clades). Origin and evolution of angiosperms; Co-evolution of angiosperms and animals; Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram)

SEMESTER –VI		
SYLLABUS ALLOTTED – CC 14 T & CC 14 P Plant Biotechnology	CC 14 P (TOTAL LECTURE-15)	CC 14 T (TOTAL LECTURE-15)
TERM I (LECTURE-5)	1. (a) Preparation of MS medium. (b) Demonstration of in vitro sterilization and inoculation methods using leaf and nodal explants of tobacco, Datura, Brassica etc. 2. Study of anther, embryo and endosperm culture, micropropagation, somatic embryogenesis & artificial seeds through photographs. 3. Isolation of protoplasts	Unit -1: Plant Tissue Culture: Historical perspective; Composition of media; Nutrient and hormone requirements (role of vitamins and hormones); Totipotency; Organogenesis; Embryogenesis (somatic and zygotic); Protoplast isolation, culture and fusion; Tissue culture applications (micropropagation, androgenesis, virus elimination, secondary metabolite production, haploids, triploids and hybrids; Cryopreservation; Germplasm Conservation)
TERM II (LECTURE-5)	4. Construction of restriction map of circular and linear DNA from the data provided. 5. Study of methods of gene transfer through photographs: *Agrobacterium*-mediated, direct gene 6. transfer by electroporation, microinjection, microprojectile bombardment	Unit- 2: Recombinant DNA technology: Restriction Endonucleases (History, Types I-IV, biological role and application); Restriction Mapping (Linear and Circular); Cloning Vectors: Prokaryotic (pUC 18 and pUC19, pBR322, Ti plasmid, BAC); Lambda phage, M13 phagemid, Cosmid, Shuttle vector; Eukaryotic Vectors (YAC). Unit- 3: Gene Cloning: Bacterial Transform... selection of recombinant clon... PCR... ed gene clonin... construction of genomic and cDNA lib... screening DNA libraries to obtain ... ne of interest by genetic selection; complementation, colony

		hybridization; PCR
TERM III (LECTURE-5)	7. Study of steps of genetic engineering for production of Bt cotton, Golden rice, Flavr Savr tomato through photographs. 8. Isolation of plasmid DNA. 9. Restriction digestion and gel electrophoresis of plasmid DNA.	Unit- 4: Methods of gene transfer: *Agrobacterium*-mediated, Direct gene transfer by Electroporation, Microinjection, Microprojectile bombardment; Selection of transgenics– selectable marker and reporter genes (Luciferase, GUS, GFP). Unit - 5: Applications of Biotechnology: Pest resistant (Bt-cotton); herbicide resistant plants (RoundUp Ready soybean); Transgenic crops with improved quality traits (Flavr Savr tomato, Golden rice); Improved horticultural varieties (Moondust carnations); Role of transgenics in bioremediation (Superbug); edible vaccines; Industrial enzymes (Aspergillase, Protease, Lipase); Gentically Engineered Products– Human Growth Hormone; Humulin; Biosafety concerns

Teaching Plan

Department of Chemistry

Session 2023-24

Odd Semester

Dr. Gagan Chandra Mandal

Department of Chemistry

Semester III		
Syllabus Allotted	CC-6: Inorganic Chemistry II **Chemical Bonding-II** CC 6 P: INORGANIC CHEMISTRY-II Quantitative Estimations (Prac)	
	Lecture No	**Topics to be covered**
	01	Course outcome and Introduction of given topic
	02	*Ionic bond:* General characteristics, types of ions and size effects
	03	Radius ratio rule and its application and limitations
	04	Packing of ions in crystals
	05	Born-Landé equation with derivation and importance of Kapustinskii expression for lattice energy
	06	Madelung constant, Born-Haber cycle and its application
	07	Discussion about solvation energy
	08	Defects in solids
	09	Solubility energetics of dissolution process
CC-6T	10	*Covalent bond:* Polarizing power and polarizability
	11	Ionic potential, Fazan's rules. And it's application
	12	Lewis structures, formal charge. Valence Bond Theory
	13	The hydrogen molecule (Heitler-London approach)
	14	Directional character of covalent bonds, hybridizations, equivalent and nonequivalent hybrid orbitals
	15	Bent's rule, Dipole moments
	16	VSEPR theory, shapes of molecules and ions containing lone pairs and bond pairs
	17	Assignments and problem discussion
	11	Assignments and problem discussion
Semester V		
Syllabus Allotted	CC-11: Inorganic Chemistry - IV C11P: Chromatography and Spectrophotometry	
C11T	01	Course outcome
	02	General discussion about transition elements
	03	General comparison of 3d, 4d and 5d elements
	04	Discussion about electronic configuration and oxidation states
	05	Redox properties of transition elements
	06	Coordination chemistry
	07	Coordination chemistry of about transition elements
	08	Problem solving
	09	Problem solving

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BIDYUT SAMANTA

22.06.2024

Teaching Plan - 2023-24 (Odd semester)
Prasanna Kumar Duley
Department of chemistry

Semester III		
Syllabus allotted	**C5T:** Physical Chemistry-II **C5P:** Physical Chemistry-II	
	Lecture No	**Topics to be covered**
	1	<u>Fick's law</u>: Flux, force, phenomenological coefficients & their inter-relationship (general form), different examples of transport properties
	2	<u>Viscosity</u>: General features of fluid flow (streamline flow and turbulent flow); Newton's equation,
	3	viscosity coefficient; Poiseuille's equation; principle of determination of viscosity coefficient of liquids by falling sphere method
	4	Temperature variation of viscosity of liquids and comparison with that of gases
	5	Chemical potential and activity, partial molar quantities, relation between Chemical potential and Gibb's free energy and other thermodynamic state functions,
	6	variation of Chemical potential (μ) with temperature and pressure; Gibbs-Duhem equation;
	7	fugacity and fugacity coefficient; Variation of thermodynamic functions for systems with variable composition; Equations of states for these systems, Change in G, S H and V during mixing for binary solutions
	8	Chemical Equilibrium: Thermodynamic conditions for equilibrium, degree of advancement, van't Hoff's reaction isotherm (deduction from chemical potential);
	9	Variation of free energy with degree of advancement; Equilibrium constant and standard Gibbs free energy change, Definitions of K_P, K_C and K_X; van't Hoff's reaction isobar and isochore from different standard states;
	10	Shifting of equilibrium due to change in external parameters e.g. temperature and pressure; variation of equilibrium constant with addition to inert gas; Le Chatelier's principle and its derivation
	11	Nernst's distribution law; Application- (finding out K_{eq} using Nernst dist law for $KI + I_2 = KI_3$ and dimerization of benzene
	12	Pure ideal gas-its Chemical potential and other thermodynamic functions and their changes during a change of;
	13	Thermodynamic parameters of mixing; Chemical potential of an ideal gas in an ideal gas mixture, Concept of standard states and choice of standard states of ideal gases
	14	Chemical potential of pure solid and pure liquids, [ ] tion – Definition, Raoult's law;

	15	Mixing properties of ideal solutions, chemical potential of a component in an ideal solution, Choice of standard states of solids and liquids
	16	Wave-particle duality, light as particles, photoelectric and Compton effects;
	17	electrons as waves and the de Broglie hypothesis; Uncertainty relations (without proof)
	18	Schrodinger time-independent equation;
	19	nature of the equation, acceptability conditions imposed on the wave functions and probability interpretations of wave function
	20	Elementary concepts of operators, eigenfunctions and eigenvalues, Linear operators; Commutation of operators
	21	commutator and uncertainty relation; Expectation value; Hermitian operator; Postulates of Quantum Mechanics
	22	<u>Particle in a box</u>: Setting up of Schrodinger equation for one-dimensional box and its solution, Comparison with free particle eigenfunctions and eigenvalues.
	23	Properties of PB wave functions (normalisation, orthogonality, probability distribution)
	24	Expectation values of x, x^2, p_x and p_x^2 and their significance in relation to the uncertainty principle
	25	Extension of the problem to two and three dimensions and the concept of degenerate energy levels
	26	<u>Simple Harmonic Oscillator</u>: setting up of the Schrodinger stationary equation
	27	energy expression (without derivation), expression of wave function for $n = 0$ and $n = 1$ (without derivation) and their characteristic features
	28	

Semester III

Syllabus allotted	**GE-3:** Physical Chemistry-II **GE-3:** Physical Chemistry-II	
	Lecture No	**Topics to be covered**
	1	Intensive and extensive variables; state and path functions; isolated, closed and open systems; zeroth law of thermodynamics
	2	Concept of heat, work, internal energy and statement of first law; enthalpy, H; relation between heat capacities
	3	calculations of q, w, U and H for reversible, irreversible and free expansion of gases Standard states
	4	Heats of reaction; enthalpy of formation of molecules and ions and enthalpy of combustion and its applications
	5	Laws of thermochemistry; bond energy, bond dissociation energy and resonance energy from thermochemical data

	6	Kirchhoff's equations and effect of pressure on enthalpy of reactions, Adiabatic flame temperature; explosion temperature Statement of the second law of thermodynamics
	7	Concept of heat reservoirs and heat engines; Carnot cycle, Physical concept of Entropy, Carnot engine, refrigerator and efficiency
	8	Entropy changes of systems and surroundings for various processes and transformations, Auxiliary state functions (G and A) and Criteria for spontaneity and equilibrium.
	9	Chemical Equilibrium- introduction, Thermodynamic conditions for equilibrium, degree of advancement
	10	Equilibrium constant and standard Gibbs free energy change
	11	Definitions of KP, KC and KX and relation among them
	12	van't Hoff's reaction isotherm, isobar and isochore from different standard states;
	13	Shifting of equilibrium due to change in external parameters e.g., temperature and pressure
	14	variation of equilibrium constant with addition to inert gas; Le Chatelier's principle

Semester V

Syllabus allotted	**DSE1T:** Advanced Physical Chemistry	
	Lecture No	**Topics to be covered**
	1	Crystal Structure – Introduction, Bravais Lattice and Laws of Crystallography, Types of solid, Bragg's law of diffraction
	2	Laws of crystallography (Haüy's law and Steno's law); Permissible symmetry axes in crystals
	3	Lattice, space lattice, unit cell, crystal planes, Bravais lattice, Packing of uniform hard sphere, close packed arrangements (fcc and hcp);
	4	Tetrahedral and octahedral voids. Void space in p-type, F-type and I-type cubic systems
	5	Distance between consecutive planes [cubic, tetragonal and orthorhombic lattices];
	6	Indexing of planes, Miller indices; calculation of d_{hkl}, Relation between molar mass and unit cell dimension for cubic system
	7	Bragg's law (derivation), application
	8	Determination of crystal structure: Powder method
	9	Structure of NaCl and KCl crystals
	10	Statistical Thermodynamics – Introduction, Configuration: Macrostates, microstates and configuration
	11	calculation with harmonic oscillator, variation of W with E; equilibrium configuration
	12	Boltzmann distribution: Thermodynamic probability and probability
	13	Boltzmann distribution formula (with derivation)
	14	Applications to barometric distribution; Partition function

15	concept of ensemble - canonical ensemble and grand canonical ensembles
16	Partition function: molecular partition function and thermodynamic properties
17	Maxwell's speed distribution; Gibbs' paradox
18	Specific heat of solid: Coefficient of thermal expansion, thermal compressibility of solids
19	Dulong –Petit's law; Perfect Crystal model
20	Einstein's theory – derivation from partition function, limitations;
21	Debye's T3 law – analysis at the two extremes
22	3rd law: Absolute entropy, Plank's law, Calculation of entropy,
23	Adiabatic demagnetization: Approach to zero Kelvin
24	adiabatic cooling, demagnetization, adiabatic demagnetization – involved curves
25	Polymers: Classification of polymers, nomenclature, Molecular forces and chemical bonding in polymers, Texture of Polymers
26	Criteria for synthetic polymer formation; Relationships between functionality, extent of reaction and degree of polymerization
27	Mechanism and kinetics of step growth polymerization
28	Mechanism and kinetics of copolymerization; Conducting polymers

Semester V

Syllabus allotted	**DSE-1T: Polymer Chemistry**	
	Lecture No	**Topics to be covered**
	1	Nature and structure of polymers – Structure Property relationships.
	2	Mechanism and kinetics of step growth, radical chain growth, ionic chain (both cationic and anionic)
	3	coordination polymerizations
	4	Mechanism and kinetics of copolymerization
	5	polymerization techniques.
	6	Recap and discussion.
	7	Questions and answer discussion.
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Teaching Plan - 2023-24 (Odd semester)
DR. INDRANIL CHAKRABORTY
Department of Chemistry

Semester-I		
Syllabus allotted	**MJ-1(Organic chemistry)**	
	Lecture No	**Topics to be covered**
MJ-1	01	Introduction to organic chemistry
	02	Course outcome of Stereochemistry
	03	Basics of hybridization and drawing of orbital picture
	04	Concepts and requirement of different projection formula
	05	Concept of Isomerism
	06	Optical activity of chiral compounds
	07	Optical rotation, specific rotation and molar rotation; racemic compounds.
	08	Concepts of racemisation. Process of racemisation through cationic and anionic intermediate.
	09	Racemisation through radical intermediates and through reversible formation of stable achiral intermediates.
		Concepts of Resolution of racemic modifications
	10	Procedure of resolution of optically active acids & bases.
	11	Resolution of alcohols via diastereomeric salt formation.
	12	Different examples on resolution and racemisation of optically active compounds.
	13	Definition and examples of optical purity and enantiomeric excess.
	14	Invertomerism of chiral trialkylamines
	15	Problem discussion
	16	Problem discussion
	17	Problem discussion

SEC-1: COSMETICS CHEMISTRY		
SEC 1	PR1	Introduction to Lab safety and use of instruments
	PR2	Preparation of Talcum Powder
	PR3	Preparation of Shampoo (Eggless)
	PR4	Preparation of Shampoo (with egg)
	PR5	Preparation of nail polish
	PR6	Preparation of nail polish remover
	PR7	Preparation of hair remover
	PR8	Preparation of lip stick
	PR9	Practice
	PR10	Practice
	PR11	Practice
	PR12	Practice
	PR13	Practice
	PR14	Practice

SEMESTER V	
Syllabus Allotted	DSE 2T ANALYTICAL METHODS IN CHEMISTRY

	01	Chromatography: Classification, principle and efficiency of the technique.
	02	Mechanism of separation: adsorption, partition & ion exchange.
	03	Development of chromatograms: frontal, elution and displacement methods; Qualitative and quantitative aspects of chromatographic methods of analysis.
	04	Concepts, procedure and use of IC.
	05	Concepts, procedure and use of GLC.
	06	Concepts, procedure and use of GPC.
	07	Concepts, procedure and use of TLC.
	08	Concepts, procedure and use of HPLC.
	09	Stereoisomeric separation and analysis: Measurement of optical rotation,
DSE 2 T	10	Enantiomeric excess (ee) /diastereomeric excess (de)
	11	Ratios and determination of enantiomeric composition using NMR, Chiral solvents and chiral shift reagents.
	12	Chiral chromatographic techniques using chiral columns (GC and HPLC).
	13	Problem discussion
	14	Problem discussion
	15	Problem discussion

	Semester V
	B.Sc General

Syllabus Allotted	POLYMER CHEMISTRY DSE1 T	
	Lecture	**Topics to be covered**
	01	Course outcome
	02	Molecular weight distribution and its significance. Different types of molecular weight of polymers, *Mn*, *Mw*, etc
	03	Determination of molecular weight of polymers (*Mn*, *Mw*, etc) by end group analysis & viscometry
	04	Determination of molecular weight of polymers, light scattering and osmotic pressure methods.
	05	Polydispersity index., Glass transition temperature (Tg) and determination of Tg
	06	Free volume theory, WLF equation, Factors affecting glass transition temperature (Tg).
	07	Polymer Solution, polymer solubility, Solubility parameter,
	08	Thermodynamics of polymer solutions,entropy, enthalpy, and free energy change of mixing of polymers solutions,
	09	Flory- Huggins theory.
	10	Lower and Upper critical solution temperatures.
	11	Problem discussion
	12	Problem discussion

Teaching Plan-2023-2024 (Odd Semester)

Kuheli Pramanik

Department of chemistry
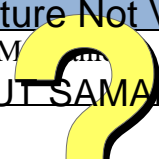
Semester I	
Syllabus allotted	**CEMHMJ101(Theory):** Physical Properties, Aromaticity **CEMHMJ101(Practical):** Separation, Determination of Boiling point, Identification of Pure Organic Compounds
No of Classes (Hour) per week	**CEMHMJ101(Theory):** 01 **CEMHMJ101(Practical):** 03
Teaching Plan	**Lecture 1:** Course outcome and introduction on Physical Properties of compounds. **Lecture 2:** influence of hybridization on bond properties: bond dissociation energy (BDE) and bond energy. **Lecture 3:** bond distances, bond angles **Lecture 4:** concept of bond angle strain (Baeyer's strain theory). **Lecture 5:** melting point/boiling point and solubility of common organic compounds in terms of covalent & non-covalent intermolecular forces. **Lecture 6:** polarity of molecules and dipole moments **Lecture 7:** relative stabilities of isomeric hydrocarbons in terms of heat of hydrogenation, heat of combustion and heat of formation. **Lecture 8:** Hückel's rules for aromaticity up to [10]-annulene (including mononuclear heterocyclic compounds up to 6-membered ring). **Lecture 9:** concept of antiaromaticity and homoaromaticity, non-aromatic molecules. **Lecture10:** Frost diagram. **Lecture 11:** elementary idea about α and β; measurement of delocalization energies in terms of β for buta-1,3-diene, cyclobutadiene, hexa-1,3,5-triene and benzene. **Lecture 12:** Discussion of questions on Physical Properties of organic compounds. **Lecture 13:** Discussion of questions on Aromaticity. **Lecture 14:** Tutorial (Discussion on VU previous year questions) **Lecture 15:** Tutorial (Discussion on VU previous year questions)
Semester III	
Syllabus allotted	**C7T:** Aromatic Substitution **C7P**: Qualitative Analysis of Single Solid Organic Compounds
No of Classes (Hour) per week	**C7T: 1** **C7P: 3**
Teaching Plan	**Lecture 1:** Course outcome and introduction on related topics **Lecture 2***:* What is Electrophilic Aromatic Substitution, mechanism, evidence in favour of it. **Lecture 3:** orientation and reactivity of reactions. **Lecture 4:** nitration, nitrosation reaction. **Lecture 5:** sulfonation, halogenation.

Lecture 6: Friedel-Crafts reaction.
Lecture 7: one-carbon electrophiles reactions: chloromethylation, Gatterman-Koch.
Lecture 8: Gatterman, Houben-Hoesch, Vilsmeier-Haack
Lecture 9: Reimer-Tiemann, Kolbe-Schmidt
Lecture 10: Ipso substitituion.
Lecture 11: Nucleophilic aromatic substitution: addition-elimination mechanism and evidence in favour of it.
Lecture 12: S_N1 mechanism; cine substitution (benzyne mechanism), structure of benzyne.
Lecture 13: Questions answer discussion.
Lecture 14: Discussion on VU previous year questions

Semester V	
Syllabus allotted	**C12T:** Pericyclic reactions **C12P:** A. Chromatographic Separations, B. Spectroscopic Analysis of Organic Compounds **DSE2P:** Analytical Methods in Chemistry (lab)
No of Classes (Hour) per week	**C12T: 1** **C12P: 3** **DSE2P: 3**
Teaching Plan	**Lecture 1:** Course outcome and introduction of the given topics. **Lecture 2:** What is Pericyclic reaction, different examples, classification of pericyclic reaction.MO orbital symmetry. **Lecture 3:** Electrocyclic reactions: Ring opening and Ring closing, its mechanism, Stereochemistry. **Lecture 4:** Regioselectivity of electrocyclic reaction *by* FMO approach involving 4π- and 6π-electrons (thermal and photochemical) and corresponding cycloreversion reactions. **Lecture 5:** Cycloaddition reactions: its mechanism, stereochemistry explanation through FMO approach. **Lecture 6:** Diels-Alder reaction, Retro-Diels Alder Reaction, photochemical [2+2] cycloadditions. **Lecture 7:** Sigmatropic reactions: FMO approach. sigmatropic shifts and their order. **Lecture 8:** [1,3]- and [1,5]-H shifts and [3,3]-shifts with reference to Claisen and Cope rearrangements. **Lecture 9:** Questions answer discussion. **Lecture 10:** Discussion on VU previous year questions **Lecture 11:** Discussion on VU previous year questions

Semester V(General)	
Syllabus allotted	**DSE-1T: Properties of Polymer**s (Physical, thermal, Flow & M⬚⬚⬚⬚ Properties).
No of Classes	**DSE-1T:** 01

(Hour) per week	
Teaching Plan	**Lecture 1:** Course outcome and introduction of the given topics. **Lecture 2:** Brief introduction to preparation, structure, properties, and application of the following polymers: polyolefins, **Lecture 3:** Brief introduction to preparation, structure, properties, and application of the following polymers: polystyrene and styrene copolymers, **Lecture 4:** Brief introduction to preparation, structure, properties, and application of the following polymers: poly (vinyl chloride) and related polymers, **Lecture 5:** poly (vinyl acetate) and related polymers, acrylic polymers **Lecture 6:** Brief introduction to preparation, structure, properties, and application of the following polymers: fluoro polymers, polyamides, and related polymers. **Lecture 7:** Brief introduction to preparation, structure, properties, and application of the following polymers: Phenol formaldehyde resins (Bakelite, Novalac), polyurethanes **Lecture 8:** Brief introduction to preparation, structure, properties, and application of the following polymers: silicone polymers, polydienes, Polycarbonates **Lecture 9:** Brief introduction to preparation, structure, properties, and application of the following polymers: Conducting Polymers, [polyacetylene, polyaniline, poly (p-phenylene sulphide polypyrrole, polythiophene)] **Lecture 10:** Questions answer discussion. **Lecture 11:** Discussion on VU previous year questions

DR. FORID SAIKH

Department of Chemistry

Semester I

Syllabus allotted	MJ-1(Organic chemistry)	
MJ-1	**Lecture No**	**Topics to be covered**
	01	Bonding geometries of carbon compounds
	02	3D representation of molecules
	03	tetrahedral nature of carbon and concept of asymmetry
	04	Fischer, sawhorse, flying-wedge and Newman projection formulae and their inter translations
	05	symmetry elements and point groups ($C_{\alpha v}$, C_{nh}, C_{nv}, C_n, $D_{\alpha h}$, D_{nh}, D_{nd}, D_n, S_n (C_s, C_i)
	06	symmetry elements and point groups ($C_{\alpha v}$, C_{nh}, C_{nv}, C_n, $D_{\alpha h}$, D_{nh}, D_{nd}, D_n, S_n (C_s, C_i)
	07	molecular chirality and centre of chirality; asymmetric and dissymmetric molecules; enantiomers and diastereomers
	08	concept of epimers; concept of stereogenicity, chirotopicity and pseudoasymmetry
	09	chiral centres and number of stereoisomerism: systems involving 1/2/3-chiral centre
	10	Problem discussion
SEC-1: COSMETICS PREPARATION		

Semester III

Syllabus Allotted	CC-7T : ORGANIC CHEMISTRY-IV *Addition to C=O* CC 6 P :INORGANIC CHEMISTRY-IV Quantitative Estimations (Prac) SEC 2T : BASIC ANALYTICAL CHEMISTRY (Theory)	
	Lecture No	**Topics to be covered**
CC-7 T	01	*Addition to C=O:* structure, reactivity and preparation of carbonyl compounds
	02	Mechanism (with evidence), reactivity, equilibrium and kinetic control;
	03	Burgi-Dunitz trajectory in nucleophilic additions
	04	formation of hydrates, cyano hydrins and bisulphite adduct; nucleophilic addition-elimination reactions with alcohols, thiols and nitrogen- based nucleophiles
	05	benzoin condensation, Cannizzaro and Tischenko reactions
	06	Reactions with ylides: Wittig and Corey-Chaykovsky reaction
	07	Rupe rearrangement, oxidations
	08	reductions: Clemmensen, Wolff-Kishner,
	09	LiAlH4, NaBH4, MPV
	10	Oppenauer, Bouveault-Blanc, acyloin condensation

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	11	oxidation of alcohols with PDC and PCC; periodic acid and lead tetraacetate oxidation of 1,2-diols
	12	Assignments and problem discussion
	13	Assignments and problem discussion
	01	Aerobic and anaerobic fermentation
	02	Production of Ethyl alcohol and citric acid,
	03	Production of Penicillin, Cephalosporin
	04	Production of Chloromycetin and Streptomycin
	05	Production of Lysine, Glutamic acid
	06	Production of Vitamin B2, Vitamin C
	07	Production of Vitamin B12
SEC 1 T	14	Problem solving
	15	Problem solving

Semester V

Syllabus Allotted	CC 12 T : Carbocycles & Heterocycles(Theory) CC12P: TLC & 1H NMR (Practical)	
	Lecture	**Topics to be covered**
	01	Course outcome
	02	synthetic methods include Haworth, Bardhan-Sengupta, Bogert-Cook
	03	other useful syntheses
	04	fixation of double bonds and Fries rule
	05	reactions (with mechanism) of naphthalene
	06	reactions (with mechanism) of anthracene
	07	reactions (with mechanism) of phenanthrene and their derivatives
CC 12T	08	*Heterocyclic compounds:* 5- and 6-membered rings with one heteroatom; reactivity, orientation
	09	*Heterocyclic compounds:* 5- and 6-membered rings with one heteroatom important reactions (with mechanism) of furan
	10	*Heterocyclic compounds:* 5- and 6-membered rings with one heteroatom important reactions (with mechanism) of thiophene
	11	*Heterocyclic compounds:* 5- and 6-membered rings with one heteroatom important reactions (with mechanism) of pyrrole
	12	*Heterocyclic compounds:* 5- and 6-membered rings with one heteroatom important reactions (with mechanism) of pyridine
	13	*Heterocyclic compounds:* 5- and 6-membered rings with one heteroatom important reactions (with mechanism) of quinoline
	14	*Heterocyclic compounds:* 5- and 6-membered rings with one heteroatom important reactions (with mechanism) of indole
	15	Problem answer

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	15	Problem & solution
	SEMESTER _III(General)	
	Theory:Organic Chemistry	
	Practical: Organic Qualitative estimation, Quantative eastimation,	
DSC 1T	01	Course outcome
	02	Chemistry of carboxylic acid and their derivatives
	03	Chemistry of carboxylic acid and their derivatives aliphatic
	04	Chemistry of amines and diazonium salt
	05	Chemistry of amino acids
	06	Chemistry of amino acids
	07	Chemistry of amino acids
	08	Chemistry of carbohydrates
	09	Chemistry of carbohydrates
	10	Chemistry of carbohydrates
	11	Problem solving
	12	Problem solving

Teaching Plan - 2022-23 (Even semester)

DR. SUBHRA MISHRA

Department of Chemistry

Semester I		
Syllabus allotted	CEMHMJ 101: ORGANIC CHEMISTRY-(Theory) General Treatment of Reaction Mechanism I	
No. of classes (Hour) per week	CEMHMJ 101: 01	
CC4T	**Lecture No**	**Topics to be covered**
	01	Course outcome of the topic
	02	Mechanistic classification: ionic, radical and pericyclic (definition with example)
	03	Type of reactions: addition, elimination and substitution reactions (definition with example)
	04	Introduction to Homolytic and heterolytic bond fission, homogenic and heterogenic bond formation
	05	Elementary ideas about electrophiles and nucleophiles with examples
	06	Discussion on electrophilicity and nucleophilicity in terms of FMO approach
	07	General introduction of reaction kinetics (Order, Molecularity,Transition state, Intermediate etc)
	08	Discussion on generation, stability, structure of carbocations (using orbital picture)
	09	Discussion on generation, stability, structure of carbanions (using orbital picture)
	10	Generation, stability, structure of carbon radicals (using orbital picture)
	11	Generation, stability, structure of carbenes (using orbital picture)
	12	Elementary idea on electrophilic/nucleophilic behavior of reactive intermediates
	13	Problems discussion
	14	University questions discussion
Semester III		
Syllabus allotted	**C7T:** Organic Chemistry-III **C7P:** Qualitative functional group analysis **SEC1P:**Pharmaceutical Chemistry **GE3P:**Organic Chemistry-LAB	
No. of classes (Hour) per week	**C7T: 1** **C7P: 3** **SEC1P: 3** **GE3 P: 2**	

	Lecture No	Topics to be covered
	01	Course outcome of the syllabus
	02	Elementary ideas of Green Chemistry
	03	Discussion about the Twelve (12) principles of green chemistry
	04	Discussion about the Twelve (12) principles of green chemistry
	05	Planning of green synthesis; common organic reactions and their counterparts: reactions: Aldol condensation and Friedel-Crafts reactions
	06	Planning of green synthesis; common organic reactions and their counterparts: reactions: Michael and Knoevenagel condensation.
C7T	**07**	Planning of green synthesis; common organic reactions and their counterparts: reactions: Cannizzaro, benzoin condensation and Dieckmann reaction
	08	Substitution at sp^2 carbon (C=O system): mechanism (with evidence): $B_{AC}2$, $A_{AC}2$, (in connection to acid and ester); acid derivatives: amides, anhydrides & acyl halides (formation and hydrolysis including comparison).
	09	Mechanism (with evidence): $A_{AC}1$, $A_{AL}1$ (in connection to acid and ester); acid derivatives: amides, anhydrides & acyl halides (formation and hydrolysis including comparison).
	10	Grignard reagent; preparation and reactions (mechanism with evidence)
	11	Organolithiums; Gilman Cuprates preparation and reactions (mechanism with evidence)
	12	Substitution on -COX; directed ortho metalation of arenes using organolithiums, conjugate addition by Gilman cuprates; Corey-House synthesis
	13	Abnormal behavior of Grignard reagents; comparison of reactivity among Grignard, organolithiums and organocopper reagents
	14	Reformatsky reaction; Blaise reaction; concept of *umpolung* and base-nucleophile dichotomy in case of organometallic reagents
	15	Problem discussion
	16	University questions discussion

Semester V

Syllabus Allotted	C12 T: Organic Chemistry – V DSE1 T: Polymer Chemistry
Lecture	**Topics to be covered**

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CC12 T	01	Course outcome and application of Bioorganic chemistry
	02	Bio-molecules –Introduction
	03	Classification structure of Amino acids
	04	Synthesis with mechanistic details: Strecker, Gabriel, acetamido malonic ester, azlactone
	05	Synthesis with mechanistic details Bücherer hydantoin synthesis, synthesis involving diketopiperazine.
	06	Iso-electric point, zwitterions; electrophoresis, reaction (with mechanism): ninhydrin reaction, Dakin-West reaction. resolution of racemic amino acids
	07	*Peptides:* peptide linkage and its geometry; syntheses (with mechanistic details) of peptides using *N*-protection & *C*-protection, solid-phase (Merrifield) synthesis
	08	Peptide sequence: *C*-terminal and *N*-terminal unit determination (Edman, Sanger & 'dansyl' methods)
	09	Partial hydrolysis; specific cleavage of peptides: use of CNBr, Overlapping technique
	10	Pyrimidine and purine bases (only structure & nomenclature); nucleosides and nucleotides corresponding to DNA and RNA
	11	Mechanism for acid catalysed hydrolysis of nucleosides (both pyrimidine and purine types); comparison of alkaline hydrolysis of DNA and RNA
	12	Elementary idea of double helical structure of DNA (Watson-Crick model); complimentary base–pairing in DNA
	16	Assignment and problem discussion
	17	University questions discussion
Syllabus Allotted	**DSE1 T: Polymer Chemistry**	
No. of classes (Hour) per week	**DSE1 T: 1**	
DSE1 T	01	Course outcome
	02	Introduction to the polymer Chemistry
	03	Classification and Characterisation of Polymer
	04	Structure of polymer
	05	Functionality and its importance: Criteria for synthetic polymer formation.Classification of polymerization processes
	06	Structure –Function relationship
	07	Problem solving
	08	Problem solving

Dr. Sumit Kumar Ray

Department of Chemistry

Semester I		
Syllabus allotted	MJ-1(Organic chemistry) MJ1P: Organic Chemistry Lab-1	
MJ-1	**Lecture No**	**Topics to be covered**
	01	Course outcome and Introduction of given topic
	02	Valence Bond Theory*: concept of 18ybridization, shapes of molecules, resonance (including hyperconjugation)
	03	Calculation of formal charges and double bond equivalent (DBE). Prediction the structure of molecules from DBE.
	04	Orbital pictures of bonding (sp^3, sp^2, sp: C-C, C-N & C-O systems and *s-cis* and *s-trans* geometry for suitable cases).
	05	Electronic displacements: inductive effect, field effect, mesomeric effect and their applications in organic chemistry.
	06	Resonance: it's application in organic chemistry. Resonance energy calculation for various molecules.
	07	Bond polarization and bond polarizability: Application of dipole moment.
	08	Discuss the concept of electromeric effect; steric effect and steric inhibition of resonance. Their applications in organic chemistry.
	09	MO theory: qualitative idea about molecular orbitals, bonding and antibonding interactions, idea about σ, σ^*, π, π^*, n – Mos
	10	Basic idea about Frontier Mos (FMO); concept of HOMO, LUMO and SOMO; interpretation of chemical reactivity in terms of FMO interactions
	11	Sketch and energy levels of π Mos of i) acyclic p orbital system (C=C, conjugated diene, triene, allyl and pentadienyl systems)
	12	Sketch and energy levels of π Mos of i) cyclic p orbital system (neutral systems: [4], [6]-annulenes; charged systems: 3-,4-,5-membered ring systems) etc
	13	Problem discussion
	14	Class test
Semester III		
Syllabus Allotted	CC-6T : Inorganic Chemistry II **Chemical Bonding-II** CC 6 P : INORGANIC CHEMISTRY-II Quantitative Estimations (Prac) CC-7T : Organic Chemistry III : Chemistry of Alkenes and Alkynes. SEC1T: Pharmaceutical Chemistry	
	Lecture No	**Topics to be covered**
	01	Course outcome and Introduction of given topic

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	02	Discussion about concept of molecular orbital bonding (The approximations of the theory, Linear combination of atomic orbitals (LCAO)) (elementary pictorial approach)
	03	Formation of sigma and pi bonds and delta interaction, multiple bonding. Orbital designations: *gerade*, *ungerade,* HOMO, LUMO. Orbital mixing,
	04	MO diagrams of H_2, Li_2, Be_2, B_2 and their bond energies, bond lengths and magnetic moments
	05	MO diagrams of C_2, N_2, O_2, F_2 and their ions wherever possible
	06	Heteronuclear molecular orbitals of CO, NO, NO^+, CN^-, HF
CC-6T	07	Sketch and energy levels of Mos of BeH_2, CO_2 and H_2O
	08	Internal class test
	09	Discussion about bond properties: bond orders, bond lengths
	10	Assignments and problem discussion
	11	Assignments and problem discussion

	Lecture No	Topics to be covered
	01	Course outcome and Introduction of given topic
	02	Drug discovery, design and development
SEC1T	03	Basic Retrosynthetic approach for design of drugs.
	04	Synthesis of the representative drugs of the following classes: analgesics agents, antipyretic agents
	05	Synthesis of antiinflammatoryagents (Aspirin, paracetamol, lbuprofen); antibiotics (Chloramphenicol); antibacterial and antifungal agents (Sulphonamides; Sulphanethoxazol, Sulphacetamide, Trimethoprim)
	06	Discussion about antiviral agents (Acyclovir), Central Nervous System agents (Phenobarbital, Diazepam), Cardiovascular (Glyceryl trinitrate), antilaprosy (Dapsone),
	07	Discussion about HIV-AIDS related drugs (AZT- Zidovudine).
	08	Problem discussion
	09	Class test

	01	Course outcome and Introduction of given topic
	02	Heat of hydrogenation, Stability and reactivity of alkenes and alkynes.
	03	Addition to C=C: mechanism (with evidence wherever applicable), reactivity and regioselectivity (Markownikoff and anti-Markownikoff additions)
	04	Stereoselective reactions: hydrogenation, halogenations, iodolactonisation, hydrohalogenation, hydration, oxymercuration-demercuration
	05	Hydroboration-oxidation and application in organic synthesis
	06	Epoxidation reactions and epoxide ring opening and its application in organic synthesis.

CC-7T	07	*syn* and *anti* hydroxylation and ozonolysis reaction
	08	Addition of singlet and triplet carbenes, Simmon Smith reactions
	09	Electrophilic addition to diene (conjugated dienes and allene) and addition reactions via radical mechanism
	10	HBr addition; mechanism of allylic and benzylic bromination in competition with brominations across C=C; and use of NBS
	11	Birch reduction of benzenoid aromatics
	12	Interconversion of *E* - and *Z* - alkenes; contra-thermodynamic isomerization of internal alkenes.
	13	Addition to C≡C (in comparison to C=C): mechanism, reactivity, regioselectivity (Markownikoff and anti Markownikoff addition) and stereoselectivity
	14	Hydrogenation, halogenations, hydrohalogenation, hydration, oxymercuration-demercuration, hydroboration-oxidation reactions of alkyne
	15	Dissolving metal reduction of alkynes (Birch reduction)
	16	Reactions of terminal alkynes by exploring its acidity and interconversion of terminal and non-terminal alkynes.
	17	Problem solving
	18	Problem solving

Semester V		
Syllabus Allotted		CC-12T: Organic Chemistry - V CC12P: TLC & 1H NMR (Practical) CC-11: Inorganic Chemistry - IV DSE-1: Advanced Physical Chemistry
	Lecture	**Topics to be covered**
	01	Course outcome
	02	General concept about carbohydrates chemistry
	03	Monosaccharides: Aldoses up to 6 carbons; structure of D-glucose & D-fructose (configuration & conformation)
	04	Ring structure of monosaccharides (furanose and pyranose forms)
	05	Haworth representations and non-planar conformations; anomeric effect (including stereoelectronic explanation)
	06	Mutarotation and epimerization reactions (mechanisms in relevant cases)
CC 12T	07	Fischer glycosidation, osazone formation, bromine water oxidation, HNO3 oxidation of D-glucose & D-fructose.
	08	Selective oxidation of terminal –CH2OH of aldoses and reduction to alditols
	09	Lobry de Bruyn-van Ekenstein rearrangement
	10	Stepping–up (Kiliani-Fischer method) and stepping down (Ruff's & Wohl's methods) of aldoses

	11	End-group-interchange of aldoses; acetonide (isopropylidene) and benzylidene protections; ring-size determination
	12	Fischer's proof of configuration of (+)-glucose
	13	Disaccharides: Glycosidic linkages, concept of glycosidic bond formation by glycosyl donor-acceptor; structure of sucrose, inversion of cane sugar. heteroatom important reactions (with mechanism) of Quinoline
	14	Polysaccharides: starch (structure and its use as an indicator in titrimetric analysis).
	15	Problem answer
	15	Problem & solution
C11T	01	Course outcome
	02	Valence Bond Theory and it's application
	03	Limitation of VBT
	04	Elementary Crystal Field Theory: splitting of d^n configurations in octahedral, square planar and tetrahedral fields
	05	Crystal field stabilization energy (CFSE) in weak and strong fields; pairing energy
	06	Spectrochemical series. Jahn- Teller distortion
	07	Discussion about Octahedral site stabilization energy (OSSE)
	08	Application of CFT
	09	Metal ligand bonding (MO concept, elementary idea), sigma- and pi-bonding in octahedral complexes
	10	Qualitative pictorial approach for Metal ligand bonding and their effects on the oxidation states of transitional metals
	12	Problem solving
	13	Problem solving

Teaching Plan-2023-24 (Odd semester)

Kalyan Sur

Department of Chemistry

Semester-V(5H)		
Syllabus allotted	**LANTHANOIDS AND ACTINOIDS**	
	Lecture No	**Topics to be covered**
INORGANIC CHEMISTRY	01	General Comparison on Electronic Configuration.
	02	Oxidation states, Colour.
	03	Spectral and magnetic properties.
	04	Lanthanide contraction.
	05	Separation of lanthanides (ion-exchange methods only).
	06	Previous Year Question (VU, CU).
	07	Frequently asked questions, IIT-JAM.
	08	Multiple choice question.

Semester-V(5G)		
Syllabus allotted	**Lecture No**	**DSE-1 POLYMER CHEMISTRY**
CRYSTALLISATION AND CRYSTALLINITY	01	Determination of Crystalline.
	02	Melting point and degree of crystallinity.
	03	Morphology of crystallinity polymer.
	04	Factors affecting crystalline melting point.
	05	Most probable question answers.
	06	Question & Answer Discussion.

SEMESTER-III(GENERIC)		
Syllabus Allotted	**Lecture No**	**GE3T EQUILIBRIA, CARBONYL COMPOUNDS**
IONIC EQUILIBRIUM	01	Strong, moderate and weak electrolytes, factor affecting degree of ionization.
	02	Ionization constant and ionic product of water.
	03	Ionization of weak acids and bases, pH scale, common ion effect.
	04	Salt hydrolysis-calculation of hydrolysis constant.
	05	Degree of hydrolysis and pH for different salts; Buffer solution.
	06	Solubility and solubility product of sparingly soluble salts-applications of solubility product principle.

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	07	Aldehydes and Ketones (aliphatic and aromatic): (Formaldehyde, acetaldehyde, acetone and benzaldehyde).
CARBONYL COMPOUNDS	08	Preparation: from acid chlorides, from nitriles and from Grignard reagents: general properties of aldehydes and ketones.
	09	Reactions: with HCN, ROH, NaHSO3, NH2-G derivatives and with Tollens' and Fehling's reagents; iodoform test; aldol condensation (with mechanism).
	10	Cannizzaro reaction (with mechanism), Wittig reaction, benzoin condensation; Clemmensen reduction.
	11	Wolff- Kishner reduction and Meerwein- Pondorff-Verley (MPV) reduction.
	12	Question & Answer discussion
	13	PYQ'S, MCQ'S, FAQ'S

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SEMESTER-III
B.Sc General

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Syllabus Allotted	DSC-3T ELECTROCHEMISTRY, PHASE EQILIBRIUM	
	Lecture	**Topics to be covered**
	01	Phases, components and degrees of freedom of a system.
	02	Criteria Of Phase Equilibrium. Gibbs Phase Rule and Its Thermodynamic Derivation.
	03	Derivation of Clausius - Clapeyron equation and its importance in phase equilibria.
PHASE EQUILIBRIUM & ELECTROCHEMISTRY	04	Phase diagrams of one-component systems (water and Sulphur) and two component systems involving eutectics.
	05	congruent and incongruent melting points (lead-silver, FeCl3-H2O and Na-K only).
	06	Reversible and irreversible cells. Concept of EMF of a cell.
	07	Measurement of EMF of a cell. Nernst equation and its importance. Types of electrodes. Electrochemical series.
	08	Thermodynamics of a reversible cell, calculation of thermodynamic properties: AG, AH and AS from EMF data.
	09	Calculation of equilibrium constant from EMF data. Concentration cells with transference and without transference.
	10	Previous year questions solved
	11	MCQ'S & PYQ'S
	12	FAQ'S

SEMESTER -III (CC-06)

Syllabus Allotted	C6T WEAK CHEMICAL FORCES, METALLIC BON	
	Lecture	**Topics to be covered**
	01	Qualitative idea of valence bond and band theories.
METALIC BOND & WEAK CLASSICAL FORCES		Semiconductors and insulators, defect in solids.
	02	van der Waals forces, ion-dipole forces, dipole-dipole interactions, induced dipole interactions, Instantaneous dipole-induced dipole interactions. Repulsive forces, Intermolecular forces.
	03	Hydrogen bonding (theories of hydrogen bonding, valence bond treatment), receptor-guest interactions, Halogen bonds.
	04	Frequently asked questions discussion.
	05	PYQ'S question discussion.

Teaching Plan - 2023-24(Odd semester)
Name of the Teacher -**Sanjoy Kumar Bera**
Department of chemistry

	Semester III	
Syllabus Allotted	DSC3T: Conductance, Solutions. GE3T: Aromatic Hydrocarbons, Organometallic Compounds,Aryl Halides, Alcohols, Phenols and Ethers. GE3P: Physical Chemistry-LAB + Organic Chemistry-LAB.	

	Lecture No	**Topics to be covered**
	01	Definition of conductance, cell constant, specific and equivalent Conductance and their relationship.
	02	Variation of specific and equivalent Conductance with dilution, kohlrausch's law, numerical problem.
	03	Ostwald's dilution law, application of conductance measurement(Determination of solubility and ionic product of water)
	04	Definition of transport number, abnormal transport number,How transport number change with temperature and concentration.
	05	Principles of Hittorf's equation and moving boundary method for determining transport number.
	06	Numerical problem solution.
DSC-3	**07**	Previous year question ans discussion.
	08	Tutorial classes.
	09	Definition of Ideal , non Ideal solutions,and Raoult's law, devia of Raoult's law - non ideal solution.
	10	Vapour pressure composition and temperature - composition curves for Ideal and non ideal solutions.
	11	Distillation of Solutions Lever rule Azeotropes critical solution temperature.
	12	Effect of impurities of partial miscibility of liquids.
	13	Principles of steam distillation and it's applications.
	14	Nernst distribution law and it's applications.
	15	Solvent extraction and it's applications.
	16	Question answer discussion.
	01	Course outcome and introduction on related topics.
	02	Benzene: Preparation: from phenol, by decarboxylation, from acetylene, from Benzene. sulphonic acid. Reactions: electrophilic substitution (general mechanism); nitration (with mechanism); halogenations (chlorination and bromination), sulp
	03	Friedel-Craft's reaction (alkylation and acyla 0 (to 4 carbons on benzene); side chain oxidation of alkyl benz (up to 4 carbons on benzen.

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GE3T	**04**	Introduction; Grignard reagents: Preparations (from alkyl and aryl halide); concept of umpolung; Reformatsky reaction.
	05	nucleophilic aromatic substitution (replacement by –OH group)and effect of nitro substituent (activated nucleophilic substitution).
	06	Preparation: 1°-, 2°- and 3°- alcohols: using Grignard reagent, reduction of aldehydes, ketones, carboxylic acid and esters.
	07	Reactions: With sodium, HX (Lucas test), oxidation (alkaline KMnO4, acidic dichromate, concentrated HNO3); Oppenauer oxidation .
	08	pinacol- pinacolone rearrangement (with mechanism) (with symmetrical diols only). Reimer -Tiemann reaction.
	09	Houben–Hoesch condensation, Schotten –Baumann reaction,
	10	Fries rearrangement and Claisen rearrangement.
	11	Williamson's ether synthesis; Reaction: cleavage of ethers with HI.
	12	Questions answers discussion.
	13	Previous years questions answers discussion.
	14	Unit questions answers discussion.

Semester V		
Syllabus Allotted	DSE-1: Polymer Chemistry. (Kinetics of Polymerization). DSE1P: Polymer Chemistry (Lab).	
	Lecture	**Topics to be covered**
	01	Introduction of polymer chemistry and its aims and objectives.
	02	Introduction, Addition polymerisation. Free radical polymerisation .
	03	Mechanism and kinetics of free radical polymerisation,cationic polymerisation. condensation polymerisation.
	04	Co-ordination polymerisation. Co- polymerisation.
	05	Mechanism and kinetics of co- polymerisation.
	06	Polymerisation Techniques, solution polymerisation.y
DSE 1T	**07**	Bulk polymerisation, suspension polymerisation, Emulsion polymerisation.
	08	Tutorial class
	09	Questions answers discussion.
	10	Problem solving.

DSE1P	**1**	Preparation of urea-formaldehyde res
	2	Determination of molecular weight by end group analysis: Polyethylene glycol (PEG)(OH group).
	3	Preparation of urea-formaldehyde resin
	4	Polystyrene synthesis.
	5	Revision classes.
	6.	Viva questions discussion.

Teaching Plan - 2023-24(Odd semester)
Name of the Teacher -**Laboni Giri**
Department of chemistry

	Semester III
Syllabus Allotted	**DSC1CT:** Carboxylic acids and their derivatives, Amines and Diazonium Salts **CC6T: Radioactivity** **C5P:** Physical Chemistry-II Lab **DSC1CP:** Physical Chemistry-LAB + Organic Chemistry-Lab.

	Lecture No	Topics to be covered
DSC-1CT	01	Preparation: Acidic and Alkaline hydrolysis of esters. Reactions: Hell – Vohlard - Zelin
	02	Carboxylic acid derivatives (aliphatic): (Upto 5 carbons) Preparation: Acid chlorides, Anhydrides from acids and their inter-conversion.
	03	Preparation: Esters and Amides from acids and their inter-conversion.
	04	Comparative study of nucleophilicity of acyl derivatives.
	05	Reformatsky Reaction, Perkin condensation
	06	Numerical problem solution.
	07	Previous year question answer discussion.
	08	Tutorial classes.
	09	Amines and Diazonium Salts Amines (Aliphatic and Aromatic): (Upto 5 carbons) Preparation: from alkyl halides, Gabriel's Phthalimide synthesis, Hofmann Bromamide reaction.
	10	Reaction:Hoffmann vs. Saytzeff elimination, Carbylamine test
	11	Hinsberg test, with HNO2, Schotten – Baumann Reaction.
	12	Electrophilic substitution (case aniline): nitration, bromination, Sul phonation.
	13	Diazonium salts: Preparation: from aromatic amines.
	14	Diazonium salts:Reactions: conversion to benzene, phenol, dyes.
	15	Previous year question answer discussion.
	16	Class test
	01	Nuclear stability and nuclear binding energy.
	02	Nuclear forces: meson exchange theory.

	03	Nuclear models (elementary idea): Concept of nuclear quantum number, magic numbers.
	04	Nuclear Reactions: Artificial radioactivity
	05	Transmutation of elements,nuclear fission
	06	Discuss on Nuclear fusion and spallation.
	07	Nuclear energy and power generation.
CC-6T	08	Separation and uses of isotopes
	09	Tutorial class
	10	Previous years questions answers discussion.
	11	Questions answers discussion.
	12	Unit questions answers discussion.
	13	Class test

Semester V		
Syllabus Allotted	**CC11T:** Coordination Chemistry-II **DSE1T**: Polymer solution	
	Lecture	**Topics to be covered**
	01	VB description and its limitations.
	02	Elementary Crystal Field Theory: splitting of dn configurations in octahedral fields.
	03	Elementary Crystal Field Theory: splitting of dn configurations in square planar and tetrahedral fields
	04	crystal field stabilization energy (CFSE) in weak and strong fields
	05	Discuss on Pairing energy
	06	Spectrochemical series. Jahn- Teller distortion.
CC11T	07	Tutorial classes
	08	Previous years questions answers discussion
	09	Problem solving.
	10	Class test
	1	Criteria for polymer solubility, Solubility parameter
	2	Thermodynamics of polymer solutions, entropy, enthalpy and free energy change of mixing of polymers solutions

DSE1T	**3**	Flory-Huggins theory,
	4	Lower and Upper critical solution temperatures.
	5	Previous years questions answers discussion
	6.	Unit questions answers discussion.
	7.	Class test

Teaching Plan
Department of Chemistry
Session 2022-23
Even Semester

Term I: From commencement of class to 1st Internal Assessment

Term II: 1st Internal Assessment to 2nd Internal Assessment

Term III : 2nd Internal Assessment to end semester exam

Teaching plan : 2022-23 (Even Semester)
Dr. Gagan Chandra Mandal
Dept. of Chemistry

	Semester II	
Syllabus allotted	**C3T:** Extra nuclear Structure of atom	
	C3P: CHEMISTRY (LAB	
C3T: Extra nuclear Structure of atom	Lec No	
		Term I
	01	Course out come and Introduction to Atomic structure
	02	Bohr's theory, its limitations
	03	Atomic spectrum of hydrogen atom, Sommerfeld's Theory.
	04	Wave mechanics: de Broglie equation
	05	Heisenberg's Uncertainty Principle and its significance
	06	Mathematica problems
	07	Schrödinger's wave equation, significance of ψ and $\psi2$
	08	Quantum numbers and their significance
		Term II
	09	Radial and angular wave functions for hydrogen atom.
	10	Radial and angular distribution curves. Shapes of s, p, d and f orbitals
	11	Pauli's Exclusion Principle, Hund's rules and multiplicity
	12	Exchange energy, Aufbau principle and its limitations
		Term III
	13	Ground state Term symbols and their implications
	14	Ground state Term symbols of different atoms and ions
	15	Problem solving
	16	Problem solving
C3P: CHEMISTRY (LAB) Acid and Base Titrations& Oxidation-Reduction Titrimetric	**Lab**	
		Term I
	01	Estimation of carbonate and hydroxide present together in mixture
	02	Estimation of carbonate and bicarbonate present together in a mixture.
	03	Estimation of free alkali present in soaps
	04	Estimation of free alkali present in detergents
		Term II
	05	Estimation of Fe(II) using standardized KMnO4 solution
	06	Estimation of oxalic acid and sodium oxalate in a given mixture
	07	Estimation of Fe(II) and Fe(III) in a given mixture using K2Cr2O7 solution
	08	Estimation of Fe(III) and Mn(II) using standardized KMnO4 solution
	09	Estimation of Fe(III) and Cu(II) in a mixture using K2Cr2O7
		Term III
	10	Estimation of Fe(III) and Cr(III) in a mixture using K2Cr2O7
	11	Practice
	12	Practice
	13	Practice
	14	Practice
	15	Practice
	Semester IV	
Syllabus Allotted	**Lec No**	**C9T: Inorganic Chemistry-III Metallurgy**

		Term I
	01	Introduction to metallurgy
	02	General Principles of Metallurgy
	03	Chief modes of occurrence of metals based on standard electrode potentials
	04	Ellingham diagrams for reduction of metal oxides using carbon and carbon monoxide as reducing agent.
	05	Electrolytic Reduction
	06	Hydrometallurgy with examples
		Term II
	07	Different methods of purification of metals
	08	Metal purification through electrolytic Kroll process
	09	Parting process
	10	Van Arkel-de Boer process
		Term III
	11	Mond's process
	12	Zone refining
	13	Problem solving
	14	Problem discussion

Semester VI

Syllabus Allotted	CI3T: INORGANIC CHEMISTRY V- Reaction Kinetics and Mechanism

		Term I
	01	Reaction mechanism and its importance
	02	Introduction to inorganic reaction mechanisms
	03	Substitution reactions in square planar complexes
	04	Trans- effect& application of Trans effect in complex synthesis
	05	Theories of trans effect
	06	Mechanism of nucleophilic substitution
	07	Square planar complexes
		Term II
	08	Thermodynamic and Kinetic stability,
	09	Kinetics of octahedral substitution
	10	Specific examples and case study
	11	Ligand field effects and reaction rates,
		Term III
	12	Mechanism of substitution in octahedral complexes.
	13	Assignments
	14	Problem solving and discussion
	15	Problem solving and discussion

Semester IV	
Syllabus Allotted	C8T: PHYSICAL CHEMISTRY-III:a) Application of Thermodynamics – II b) Electrical Properties of molecules,C) Quantum Chemistry C8P:Practical : Experiment 1: Determination of solubility of sparingly soluble salt in water, in electrolyte with common ions and in neutral electrolyte (using common indicator) Experiment 2: Potentiometric titration of Mohr's salt solution against standard K2Cr2O7 solution Experiment 3: Determination of Ksp for AgCl by potentiometric titration of AgNO3 solution against standard KCl solution Experiment 4: Effect of ionic strength on the rate of Persulphate – Iodide reaction Experiment 5: Study of phenol-water phase diagram Experiment 6: pH-metric titration of acid (mono- and di-basic) against strong base GE4T :, Phase Eequilibria,Electrochemistry GE4T: Practical:

	Lec No	Topics to be coveredC8T: PHYSICAL CHEMISTRY-III:a) Application of Thermodynamics – II b) Electrical Properties of molecules,C) Quantum Chemistry
		Term I
	01	Colligative properties: Vapour pressure of solution; Ideal solutions, ideally diluted solutions and colligative properties; Raoult's law;
	02	Thermodynamic derivation using chemical potential to derive colligative properties (i) relative lowering of vapour pressure, (ii) elevation of boiling point,
	03	Thermodynamic derivation for(iii) Depression of freezing point, (iv) Osmotic pressure
	04	Applications in calculating molar masses of normal, dissociated and associated solutes in solution; Abnormal colligative properties
CC-08 T	**05**	Phase rule: Definitions of phase, component and degrees of freedom; Phase rule and its Derivations.
	06	Definition of phase diagram; Phase diagram for water, CO2, Sulphur First order phase transition and Clapeyron equation; Clausius-Clapeyron equation - derivation
	07	Liquid vapour equilibrium for two component systems; Phenol-water system.Three component systems, water-chloroform-acetic acid system, triangular plots
		Term II
	08	Duhem-Margules equation; Henry's law; Konowaloff's rule; Positive and negative deviations from ideal behavior; Azeotropic solution; Liquid-liquid phase diagram using phenolwater system; Solid-liquid phase diagram; Eutectic mixture
	09	Dipole moment and polarizability: Polarizability of atoms and molecules, dielectric constant and polarisation, molar polarisation for polar and non-polar molecules; Clausius-Mosotti equation and Debye equation (both without derivation) and their application; Determination of dipole moments
	10	C) Quantum Chemistry Angular momentum: Commutation rules, quantization of square of total angular momentum and z-component
	11	Rigid rotator model of rotation of diatomic molecule; Schrödinger equation, transformation to spherical polar coordinates; Separation of variables. Spherical harmonics; Discussion of solution

	12	Qualitative treatment of hydrogen atom and hydrogen-like ions: Setting up of Schrödinger equation in spherical polar coordinates, radial part, quantization of energy (only final energy expression)
	13	Average and most probable distances of electron from nucleus; Setting up of Schrödinger equation for many-electron atoms (He, Li)
	Term III	
	14	LCAO and HF-SCF: Covalent bonding, valence bond and molecular orbital approaches, LCAO-MO treatment of H2+; Bonding and antibonding orbitals
	15	Qualitative extension to H2; Comparison of LCAO-MO and VB treatments of H2 and their limitations
	16	Hartree-Fock method sdevelopment, SCF and configuration interaction (only basics)
GE4T GE4T&GE4P	**Term I**	
	01	Phase Equilibria :Phases, components and degrees of freedom of a system, criteria of phase equilibrium; Gibbs Phase Rule and its thermodynamic derivation; Derivation of Clausius – Clapeyron equation and its importance in phase equilibria
	02	Phase diagrams of one-component systems (water and sulphur)
	03	two component systems involving eutectics, congruent and incongruent melting points (lead-silver, FeCl3-H2O and Na-K)
	04	Conductance, cell constant, specific conductance and molar conductance; Variation of specific and equivalent conductance with dilution for strong and weak electrolytes
	05	; Application of conductance measurement (determination of solubility product and ionic product of water); Conductometrictitrations (acid-base) Transport Number and principles of Hittorf's and Moving-boundary method
	06	Electromotive force Faraday's laws of electrolysis, rules of oxidation/reduction of ions based on half-cell potentials, applications of electrolysis in metallurgy and industry; Chemical cells, reversible and irreversible cells with examples
	07	Electromotive force of a cell and its measurement, Nernst equation; Standard electrode (reduction) potential; Electrochemical series; Thermodynamics of a reversible cell, calculation of thermodynamic properties: G, H and S from EMF data
	Term II	
	08	Concentration cells with and without transference, liquid junction potential
	09	pH determination using hydrogen electrode and quinhydrone; Qualitative discussion of potentiometric titrations (acid-base, redox, precipitation)
	10	Study of the equilibrium of one of the following reactions by the Distribution method: $I_2(aq) + I^-(aq) = I_3^-(aq) Cu^{2+}(aq) + xNH_2(aq) = [Cu(NH_3)_x]^2$
	11	a) Determination of dissociation constant of a weak acid (cell constant, equivalent conductance are also determined)
	12	b) Perform the following conductometric titrations: (Any one) (i) Strong acid vs. strong base (ii) Weak acid vs. strong base
	13	potentiometric titrations: (i) Weak acid vs. strong base
	Term III	
	14	potentiometric titrations:ii) Potassium dichromate vs. Mohr's salt
	15	Problem solving
	16	Problem solving

		Semester VI		
Syllabus Allotted		C14T:Photochemistry&Surface phenomenon		
		C14P : LAB:Practical		
		Experiment 1: Determination of surface tension of a liquid using Stalagmometer		
		Experiment 2: Determination of CMC from surface tension measurements		
		Experiment 3: Verification of Beer and Lambert's Law for KMnO4 and K2Cr2O7 solution		
		Experiment 4: Study of kinetics of K2S2O8 + KI reaction, spectrophotometrically		
		Experiment 5: Determination of pH of unknown buffer, spectrophotometrically		
		Experiment 6: Spectrophotometric determination of CMCsical Chemistry-V:		

	Lec no	**Topics to be covered**
C14T		**Term I**
	01	Lambert-Beer's law: Characteristics of electromagnetic radiation, Lambert-Beer's law and its limitations, physical significance of absorption coefficients
	02	Laws of photochemistry, Stark-Einstein law of photochemical equivalence& quantum yield
	03	actinometry, examples of low and high quantum yields Photochemical Processes: Potential energy curves (diatomic molecules), Frank-Condon principle
	04	vibrational structure of electronic spectra; Bond dissociation and principle of determination of dissociation energy (ground state); Decay of excited states by radiative and non-radiative paths; Pre-dissociation
	05	Fluorescence and phosphorescence, Jablonskii diagram
	06	Rate of Photochemical processes: Photochemical equilibrium and the differential rate of photochemical reactions, Photostationary state; HI decomposition
	07	H2-Br2 reaction, dimerisation of anthracene; photosensitised reactions, quenching; Role of photochemical reactions in biochemical processes, photostationary states, chemiluminescence.
	08	Surface tension and energy: Surface tension, surface energy, excess pressure, capillary rise and surface tension; Work of cohesion and adhesion, spreading of liquid over other surface; Vapour pressure over curved surface; Temperature dependence of surface tension
		Term II
	09	Adsorption: Physical and chemical adsorption; Freundlich and Langmuir adsorption isotherms; multilayer adsorption and BET isotherm (no derivation required)
	10	Gibbs adsorption isotherm and surface excess; Heterogenous catalysis (single reactant)
	11	Colloids: Lyophobic and lyophilic sols, Origin of charge and stability of lyophobic colloids, Coagulation and Schultz-Hardy rule, Zeta potential and Stern double layer (qualitative idea)
	12	Tyndall effect; Electrokinetic phenomena (qualitative idea only); Determination of Avogadro number by Perrin's method; Stability of colloids and zeta potential; Micelle formation
		Term III
	13	Problem & solution
	14	Problem & solution
	15	Problem & solution
	Lab	
C14P		**Term I**
	01	Experiment 1: Determination of surface tension of a liquid using Stalagmometer
	02	Experiment 2: Determination of CMC from surface tension measurements
	03	Experiment 3: Verification of Beer and Lambert's Law for KMnO4 and K2Cr2O7 solution
	04	Experiment 4: Study of kinetics of K2S2O8 + KI reaction, spectrophotometrically

	05	Experiment 5: Determination of pH of unknown buffer, spectrophotometrically
	Term II	
	06	Experiment 6: Spectrophotometric determination of CMC
	07	PRACTICAL REVISION
	08	PRACTICAL REVISION
	09	PRACTICAL REVISION
	Term III	
	10	PRACTICAL REVISION
	11	PRACTICAL REVISION
	12	PRACTICAL REVISION

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

Teaching Plan - 2022-23 (Even semester)
DR. INDRANIL CHAKRABORTY
Department of Chemistry

Semester II		
Syllabus allotted	C4T: ORGANIC CHEMISTRY-II (Theory)Stereochemistry C4T: ORGANIC CHEMISTRY-II (Practical)	
	Lec No	**Topics to be covered**
	Term I	
	01	Course outcome and different types of chirality
	02	Chirality arising out of stereoaxis, axial chirality with examples
	03	stereoisomerism of substituted cumulenes with even and odd number of double bonds; chiral axis in allenes, spiro compounds
	04	Stereoisomerism ofalkylidenecycloalkanes and biphenyls
	05	Configurational descriptors (Ra/Sa and P/M). Atropisomerism
C4T	06	Racemisation of chiral biphenyls; buttressing effect. Concept of prostereoisomerism: prostereogenic centre
	07	Concept of (pro) n -chirality: topicity of ligands and faces, with examples and symmetry criteria
	Term II	
	08	Elementary idea about pro-R/pro-S, pro-E/pro-Z
	09	Re/Si descriptorsof ligands on propseudoasymmetric centre
	10	Dihedral angle, torsion angle and their difference
	11	Conformation: conformational nomenclature: eclipsed, staggered, gauche, syn and anti
	12	Klyne-Prelog terminology; P/M descriptors
	13	Energy barrier of rotation, concept of torsional and steric strains
	Term III	
	14	Relative stability of conformers on the basis of steric effect, dipole-dipole interaction and H-bonding, butane gauche interaction
	15	Problem discussion
	16	Problem discussion
Semester IV		
Syllabus Allotted	CC-10 T : ORGANIC CHEMISTRY-IV Organic spectroscopy (Theory) CC 10 P :ORGANIC CHEMISTRY-IV Quantitative Estimations (Prac) SEC 2T : BASIC ANALYTICAL CHEMISTRY (Theory) SEC 2T: BASIC ANALYTICAL CHEMISTRY (Prac)	
	Lec No	**Topics to be covered**
	Term I	
	01	Course outcome of CC 10 T & P, Basics of Organic Spectroscopy
	02	Introduction to UV Spectroscopy, types, of transitions. Chromophores and auxochromes; Wavelength &intensity of absorptions
	03	Application of Woodward's Rules for calculation of λ_{max} for conjugated diene, α,β unsaturated aldehydes and ketones.

	04	Steric effect, solvent effect, effect of pH;:Different systems etc.	
	05	Assignments & Problem discussion	
	06	Introduction to IR Spectroscopy, Modes of molecular vibrations	
	07	IR active molecules; application of Hooke's law, force constant, fingerprint region ,overtone bands; vibrational couplings etc.	
CC-10 T		**Term II**
	08	Characteristic and diagnostic stretching frequencies of C-H, N-H, O-H, C-O, C-N, C-X, C=C ,C=O, C=N, N=O, C≡C, C≡N	
	09	Class Assignment & discussion of problems	
	10	Introduction to NMR Spectroscopy, basic principles of Proton Magnetic Resonance; equivalent and non-equivalent protons	
	11	Chemical shift and factors influencing it, Spin coupling and coupling constant (1st order spectra)	
	12	Pascal's triangle;non-first-order splitting with examples	
		Term III
	13	NMR peak area, integration; coupling patterns of common organic compounds	
	14	Interpretation of NMR spectra of organic compounds	
	15	Applications of IR, UV and NMR spectroscopy for identification of simple organic molecules.	
	16	Assignments and problem discussion	

		Term I
	01	Course outcome and general importance of Basic Analytical Chemistry	
	02	Composition of Soil and its different types	
	03	pH of soil, and necessity to maintain soil pH	
	04	Nutrient content and pH	
	05	pH measurement using Complexometric titrations, Chelation, Chelating agents, use of indicators	
	06	Assignment and discussion	
	07	Water: Source, type and possible pollutants	
SEC 2 T		**Term II**
	08	Importance of water analysis	
	09	Different kinds of water purification process	
	10	Analysis of water	
	11	Definition of pure water water sampling methods	
	12	sources responsible for contaminating water,	
		Term III
	13	water purification methods	
	14	BOD & COD and the process of determination	
	15	Problem solving	
	16	Problem solving	

Semester VI

	Lecture	Topics to be covered
Syllabus Allotted		DSE3T: Green Chemistry (Theory) DSE4T: Polymer Chemistry (Theory) DSE4P: Polymer Chemistry (Practical)
DSE 4 T	**Lecture**	**Topics to be covered**
		Term I
	01	Course outcome, and Importance of Polymer in todays life
	02	Introduction and history of development of polymeric materials
	03	Different schemes of classification of polymers with example and structure, Pending group.
	04	Polymer nomenclature, Degree of polymerisation
	05	Molecular forces and chemical bonding in polymers,
	06	Texture of Polymers. Functionality and its importance: Criteria for synthetic polymer formation,
		Term II
	07	Classification of polymerization processes, Relationships between functionality, extent of reaction and degree of polymerization.
	08	Bifunctional systems, Poly-functional systems
	09	Molecular weight distribution in polymers, Different types of molecular weight in polymers (Mn, Mw, etc)
	10	Determination of (Mn, Mw, etc) by end group analysis& viscometry,
	11	Determination of (Mn, Mw, etc) by light scattering and osmotic pressure methods.
		Term III
	12	Determination of molecular weight of polymers
	13	Molecular weight distribution and its significance. Polydispersity index
	14	Problem & solution
	15	Problem & solution
DSE 3 T		**Term I**
	01	Course outcome and necessity of green chemistry
	02	What is Green Chemistry? Its development
	03	Need and Goals of Green Chemistry.
	04	Limitations/ Obstacles in the pursuit of the goals of Green Chemistry
	05	Twelve principles of Green Chemistry with their explanations and examples
	06	Prevention of chemical accidents designing greener processes, inherent safer design, principle of ISD
	07	Greener alternative to Bhopal Gas Tragedy (safer route to carcarbaryl) and Flixiborough accident
		Term II
	08	Safer route to cyclohexanol, subdivisions of ISD,
	09	Green solvents
	10	supercritical fluids, Supercritical water, Supercritical CO_2
	11	water as a solvent for organic reactions,
	12	Ionic liquids, fluorous biphasic solvent, PEG,
	13	Solventless processes, immobilized solvents and how to compare greenness of solvents
		Term III
	14	Development of Fully Recyclable Carpet: Cradle to Cradle design
	15	Problem solving
	16	Problem solving

Teaching Plan - 2022-23 (Even semester)
PROF. KUHELI PRAMANIK
Department of Chemistry

Semester II		
Syllabus allotted	CC4T (DSC-1B): ORGANIC CHEMISTRY-II (Theory)	
	Lecture No	**Topics to be covered**
	Term I	
C4T	01	Course outcome is discussed
	02	Aromatic hydrocarbons- preparation from phenol, by decararboxylation, acetylene, benzene sulfonic acid.
	03	Reactions –Electrophicilic substitutions (nitration, halogenations, sulphonation)
	04	Reactions-Friedle craft alkylation and acylation, side chain oxidation of alkyl benzenes.
	05	Alkyl halides-types of nucleophilic substitution reactions-SN1, SN2 and SNi
	Term II	
	06	Preparation – alkyl halide preparation from alkenes and alcohols
	07	Reactions-Hydrolysis, nitrite and nitro formation, Nitrile and iso nitrile formation
	08	Williamson's ether synthesis-Elimination vs substitution
	09	Aryl halides-Preparation from phenol, Sandmeyer &Gattermann reactions
	10	Reactions-Aromatic nucleophilic substitution and effect of nitro substituent
	Term I	
	11	Benzyne mechanism, Reactivity and relative strength of C- halogen bond in alkyl allyl, benzyl, vinyl and aryl halides
	12	Problem discussion
	13	Problem discussion
Semester IV		
Syllabus Allotted	CC-10 T : ORGANIC CHEMISTRY-IV; Rearrangements (Theory)	
	CC 10 P: ORGANIC CHEMISTRY-IV Quantitative Estimations (Prac)	

	Lecture No	Topics to be covered
		Term I
	01	Course outcome, Definitions and classifications
	02	Mechanism with evidence and stereochemical features for the following Rearrangement to electron-deficient carbon: Wagner-Meerwein rearrangement, pinacol rearrangement
	03	dienone-phenol; Wolff rearrangement in Arndt-Eistert synthesis
	04	benzil-benzilic acid rearrangement, Demjanov rearrangement, Tiffeneau–Demjanov rearrangement.
	05	Rearrangement to electron-deficient nitrogen: Hofmann, Curtius rearrangements
	06	Rearrangement to electron-deficient nitrogen: Lossen, Schmidt and Beckmann.
		Term II
	07	Rearrangement to electron-deficient oxygen: Baeyer-Villiger oxidation
	08	Rearrangement to electron-deficient oxygen: cumene hydroperoxide-phenol rearrangement and Dakin reaction.
CC-10 T	09	Aromatic rearrangements: Migration from oxygen to ring carbon: Fries rearrangement and Claisen rearrangement.
	10	Migration from nitrogen to ring carbon: Hofmann-Martius rearrangement, Fischer-Hepp rearrangement, N-azo to C-azo rearrangement.
	11	Bamberger rearrangement, Orton rearrangement and benzidine rearrangement.
		Term III
	12	Rearrangement reactions by green approach: Fries rearrangement, Claisen rearrangement
	13	Beckmann rearrangement, Baeyer-Villiger oxidation.
	14	Problem discussion
	15	Problem discussion
	16	Problem discussion

Syllabus Allotted	GE-4T: **Chemical Analysis**
	Lecture No
	Term I

	01	Gravimetric analysis: solubility product and common ion effect; requirements of gravimetry;
	02	gravimetric estimation of chloride, sulphate, lead, barium, nickel, copper and zinc.
	03	Volumetric analysis: primary and secondary standard substances; principles of acidbase, oxidation –reduction
	04	complexometric titrations; indicators: acid-base, redox and metal ion
GE-4T	**Term II**	
	05	principles of estimation of mixtures: NaHCO3 and Na2CO3 (by acidimetry)
	06	iron, copper, manganese and chromium (by redox titration)
	07	zinc, aluminum, calcium and magnesium (by complexometric EDTA titration)
	08	Chromatography: chromatographic methods of analysis: column chromatography
	Term III	
	09	Chromatography: thin layer chromatography.
	10	Assignments
	11	Problem discussion

Semester VI

Syllabus Allotted	DSE-4T: Polymer Chemistry (Theory) DSE-3P: Green Chemistry (Practical)

	Lecture	**Topics to be covered**
		Term I
	01	Course outcome, Properties of polymers
	02	preparation, structure, properties and application of polyolefins
	03	preparation, structure, properties and application ofpolystyrene and styrene copolymers
	04	preparation, structure, properties and application of poly(vinyl chloride) and related polymers, poly(vinyl acetate) and related polymers
		Term II
	05	preparation, structure, properties and applicaiton of polymers, fluoro polymers
	06	preparation, structure, properties and application of polyamides and related polymers. Phenol formaldehyde resins (Bakelite, Novalac)
DSE-4T	**07**	preparation, structure, properties and applicaiton thanes, silicone polymers, polydienes

	08	preparation, structure, properties and application of Conducting Polymers, [polyacetylene, polyaniline, poly(p-phenylene sulphide polypyrrole, polythiophene)].
	Term III	
	09	preparation, structure, properties and application of Polycarbonates
	10	Problem discussion
	11	Problem discussion
	12	Problem discussion
DSE-2T	DSE-2T: **Green Chemistry**	
	Term I	
	01	Course outcome, definition and necessity of green chemistry
	02	Goals of Green Chemistry. Limitations/ Obstacles in the pursuit of the goals of Green Chemistry
	03	Green Synthesis of the following compounds: adipic acid, catechol
	04	Green Synthesis of the following compounds: disodium iminodiacetate
	05	Microwave assisted reactions in water: Hofmann Elimination, methyl benzoate to benzoic acid, oxidation of toluene and alcohols
	06	microwave assisted reactions in organic solvents Diels-Alder reaction and Decarboxylation reaction
	Term II	
	07	Ultrasound assisted reactions: sonochemical Simmons-Smith Reaction (Ultrasonic alternative to Iodine)
	08	Surfactants for carbon dioxide – replacing smog producing and ozone depleting solvents with CO_2 for precision cleaning and dry cleaning of garment
	09	Designing of Environmentally safe marine antifoulant
	10	Rightfit pigment: synthetic azopigments to replace toxic organic and inorganic pigments.
	Term III	
	11	Enzymatic Inter esterification for production of no Trans Fats and Oils
	12	Development of Fully Recyclable Carpet: Cradle to Cradle Carpeting
	13	Problem solving
	14	Problem solving

Teaching Plan : 2022-23 (Even semester)
DR. FORID SAIKH
Department of Chemistry

Semester II		
Syllabus allotted	C4T: ORGANIC CHEMISTRY-II (Theory) **General Treatment of Reaction Mechanism II**	
	Lec no	**Topics to be covered**
		Term I
	01	Rate constant and free energy of activation
	02	Concept of order and molecularity; free energy profiles for one-step, two-step and three-step reactions
	03	Catalyzed reactions: electrophilic and nucleophilic catalysis;
	04	Kinetic control and thermodynamic control of reactions
	05	Isotope effect: primary and secondary kinetic isotopic effect (k_H/k_D)
C4T		**Term II**
	06	Examples and different mechanisms
	07	Principle of microscopic reversibility; Hammond's postulate.
	08	free energy and equilibrium, enthalpy and entropy factor
	09	calculation of enthalpy change via BDE
		Term III
	10	Exampleas and calculations of BDE
	11	intermolecular & intramolecular reactions
	12	Problem discussion
	13	Problem discussion
Semester IV		
Syllabus Allotted	CC-10 T : ORGANIC CHEMISTRY-IV **The Logic of Organic Synthesis**(Theory) CC 10 P :ORGANIC CHEMISTRY-IV Quantitative Estimations (Prac) SEC 2T : BASIC ANALYTICAL CHEMISTRY (Theory) SEC 2T: BASIC ANALYTICAL CHEMISTRY (Prac)	
	Lec No	**Topics to be covered**
		Term I
	01	disconnections; synthons, donor and acceptor synthons; natural reactivity and *umpolung*;
	02	latent polarity in bifunctional compounds: consonant and dissonant polarity; illogical electrophiles and nucleophile
	03	synthetic equivalents (FGI and FGA)
	04	C-C disconnections 1,1 difunctional
	05	C-C disconnections 1,2 difunctional
	06	C-C disconnections 1,3 difunctional
		Term II
CC-10 T	07	C-C disconnections 1,4 difunctional

	08	C-C disconnections 1,5 difunctional
	09	reconnection (1,6-dicarbonyl)
	10	Protection deprotection strategy alcohol.
	11	Protection deprotection strategy amine, carbonyl, acid.
	Term III	
	12	*Strategy of ring synthesis:* thermodynamic and kinetic factors; synthesis of large rings, application of high dilution technique.
	13	stereoselective and stereospecific reactions
	14	diastereoselectivity and enantioselectivity:
	15	Assignments and problem discussion
	16	Assignments and problem discussion
	Term I	
	01	Course outcome and general importance of Basic Analytical Chemistry
	02	Necessity of error analysis
	03	Concept of sampling. Importance of accuracy, precision and sources of error in analytical measurements.
	04	Presentation of experimental data and results, from the point of view of significant figures.
	05	Nutritional value of foods
	06	idea about food processing and food preservations
SEC 2 T	**Term II**	
	07	Adulteration in food
	08	Definition, general introduction on principles of chromatography
	09	Paper chromatography, TLC
	10	Column, ion-exchange chromatography
	11	Major and minor constituents and their function of cosmetics
	Term III	
	12	Major and minor constituents and their function of cosmetics
	13	Major and minor constituents and their function of cosmetics
	14	Problem solving
	15	Problem solving

Semester VI

Syllabus Allotted	DSE3T: Green Chemistry (Theory) DSE4T: Polymer Chemistry (Theory) DSE4P: Polymer Chemistry (Practical)

	Lec no	Topics to be covered
		Term I
	01	Course outcome, Properties of polymers
	02	Determination of crystalline melting point and degree of crystallinity
	03	Morphology of crystalline polymers, Factors affecting crystalline melting point.

	04	Structure Property relationships
	05	(Mn, Mw, etc) by end group analysis & viscometry
	06	(Mn, Mw, etc) by osmometry & light scatering
	Term II	
DSE 4 T	07	Molecular weight distribution and its significance. Polydispersity index.
	08	Free volume theory, WLF equation
	09	Factors affecting glass transition temperature (Tg).
	10	preparation, structure, properties and application of polyolefins, polystyrene and styrene copolymer
	11	preparation, structure, properties and application of poly(vinyl chloride) and related polymers,poly(vinyl acetate)
	Term III	
	12	preparation, structure, properties and application of polyamides and related polymers. Phenol formaldehyde resins (Bakelite, Novalac), polyurethanes, silicone polymers, polydiene
	13	preparation, structure, properties and application of Polycarbonates, Conducting Polymers, [polyacetylene, polyaniline, poly(p-phenylene sulphide polypyrrole, polythiophene)
	14	Problem & solution
	15	Problem & solution
	Term I	
	01	Course outcome and necessity of green chemistry
	02	Green Synthesis of the following compounds: adipic acid, catechol
	03	Green Synthesis of disodium imino diacetate
	04	Microwave assisted reactions in water: Hofmann Elimination, methyl benzoate to benzoic acid, oxidation of toluene and alcohols;
	05	Microwave assisted reactions in organic solvents
	06	Diels-Alder reaction and Decarboxylation reaction
	07	Ultrasound assisted reactions: sonochemical Simmons-Smith Reaction (Ultrasonic alternative to Iodine)
DSE 3 T	**Term II**	
	08	Surfactants for carbon dioxide – replacing smog producing and ozone depleting solvents with CO_2 for precision cleaning and dry cleaning of garment
	09	Designing of Environmentally safe marine antifoulant
	10	Rightfit pigment: synthetic azopigments to replace toxic organic and inorganic pigments.
	Term III	
	11	Enzymatic esterification for production of no Trans-Fats and Oils
	12	Development of Fully Recyclable Carpet: Cradle to Cradle Carpeting
	13	Problem solving
	14	Problem solving

Teaching Plan - 2022-23 (Even semester)
DR. SUBHRA MISHRA
Department of Chemistry

Semester II		
Syllabus allotted	CC4T: ORGANIC CHEMISTRY-II (Theory)Substitution and Elimination Reactions	
	CC4P: Organic Preparations	
	CC4T (DSc-1B): Alcohol, Phenol and Ethers	
	Lec No	**Topics to be covered**
	01	Course outcome of the topic
	02	**Substitution reaction:**Free-radical substitution reaction: halogentaion of alkanes, mechanism (with evidence)
	03	Stereochemical features; reactivity-selectivity principle in the light of Hammond's postulate.
	04	Nucleophilic substitution reactions: substitution at sp3 centre: mechanisms (with evidence) S_N1, S_N2, S_Ni
	05	Relative rates &stereochemical features: S_N1, S_N2, S_Ni
CC4T	06	Mechanisms (with evidence), relative rates &stereochemical features: of S_N2', S_N1' (allylic rearrangement)
	07	Effects of solvent, substrate structure, leaving group and nucleophiles
	08	Ambident nucleophiles-cyanide & nitrite and their effect on substitution
	09	Substitutions involving NGP (Mechanism, stereochemical consequences, Effect of structure, solvent etc.)
	10	Role of crown ethers and phase transfer catalysts; [systems: alkyl halides, allyl halides, benzyl halides, alcohols, ethers, epoxides].
	11	**Elimination reactions:** E1, E2 (mechanism with evidence)
	12	Formation of alkenes and alkynes; E1, E2 mechanisms (with evidence),
	13	Formation of alkenes and alkynes; E1cB and Ei (pyrolyticsyn eliminations)
	14	Reactivity, regioselectivity (Saytzeff/Hofmann) and stereoselectivity;
	15	Comparison between substitution and elimination; importance of Bredt's rule relating to the formation of C=C.
	16	Problem discussion
	17	Problem discussion
C4P		
CC4T (DSc-1B	01	Alcohol, Phenol and Ethers-program outcome discussion
	02	**Alcohols:** Preparation: Preparation, properties of 1º,2º and 3º alcohols: using Grignard reagent, Ester hydrolysis,
	03	Preparation using reduction of aldehydes, ketones, carboxylic acid and ester
		Reactions: With sodium, HX (Lucas test), esterification,
	04	Oxidation reaction with PCC, alk. $KMnO_4$, acidic dichromate, conc. HNO_3
	05	Oppeneauer oxidation Diols: (Upto 6 Carbons) oxidation of diols.
	06	Pinacol-Pinacolone rearrangement, application, examples
	07	**Phenols:** Preparation: Cumenehydroperoxide method, from diazonium salts.
	08	Electrophilic substitution reactions (Nitration, halogenation and sulphonation)
	09	Reimer Tiemann Reaction, Gattermann-Koch Reaction
	10	Houben–Hoesch Condensation, Schotten – Baumann Reaction
	11	Problems discussion
	12	Assignment
Semester IV		
Syllabus Allotted	SEC2T: BASIC ANALYTICAL CHEMISTRY(Theory) Chromatography	
	SEC 2T: BASIC ANALYTICAL CHEMISTRY (Practical)	
	SEC-2T: Analytical Clinical Biochemistry (Theory)	

	Lec No	Topics to be covered
		Term I
	01	Course outcome of Basic Analytical Chemistry
	02	**Chromatography:** Definition, general introduction on principles of chromatography
	03	Paper chromatography-principle, methodology
	04	Procedure and and application
	05	General introduction of TLC,
	06	Procedure and uses
		Term II
	07	**Ion-exchange:** Principle, procedure of Column chromatography
	08	Principle, procedure of Ion-exchange chromatography
SEC 2 T	09	Application of Ion-exchange chromatography
	10	**Analysis of cosmetics:** Major constituents and their function-I
	11	**Analysis of cosmetics:** Major constituents and their function-II
		Term III
	12	Minor constituents and their function
	13	Problem discussion
	14	Problem discussion
		Term I
	01	Program outcome and necessity of the course
	02	**Proteins:** Classification, biological importance
	03	Protein structure: Primary and secondary and tertiary structures of proteins
	04	Isolation, characterization of proteins
	05	Denaturation of proteins: Chemical and physical denaturant; Renaturation.
	06	**Enzymes:** Nomenclature, Characteristics and Classification
	07	Mechanism of enzyme action, Stereospecificity of enzymes
SEC 2 T (4G)		**Term II**
	08	Active site, coenzymes, cofactors and enzyme inhibitors with example
	09	Introduction to Biocatalysis: Importance in "Green Chemistry" and Chemical Industry
	10	**Biochemistry of disease:** Anemia**;Blood**-Composition and functions of blood, blood coagulation
	11	Blood collection and preservation methods ofsamples
	12	Biochemistry of diseases: Estimation and interpretation of data for blood sugar, urea, creatinine,cholesterol and bilirubin.
		Term III
	13	**Urine:** Collection and preservation of samples. Formation of urine.
	14	Composition an estimation ofconstituents of normal and patho... ... ne
	15	Problems discussion

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BIDYUT SAMANTA

Semester VI	22.06.2024
Syllabu	DSE3T: Green Chemistry (Theory)

s Allotted	DSE4T: Polymer Chemistry (Theory) DSE3P: Green Chemistry (Practical)	
	Lec no	**Topics to be covered**
DSE 3 T	**Term I**	
	01	Course outcome and application of green chemistry
	02	Twelve principles of Green Chemistry with explanations and examples (1 to 4)
	03	Twelve principles of Green Chemistry with explanations and examples (5 to 8)
	04	Twelve principles of Green Chemistry with explanations and examples (9 to 12)
	05	Introduction to Atom Economy, calculation of atom economy
	06	Calculation of atom economy for substitution and elimination reactions
	07	Designing a Green Synthesis using these principles, examples
	08	Prevention of Waste/ byproducts and its application
	09	Energy requirements for reactions – alternative sources of energy: use of microwaves and ultrasonic energy
	Term II	
	10	Procedure for selection of starting materials; avoidance of unnecessary derivatization
	11	Catalysis and green chemistry, comparison of heterogeneous and homogeneous catalysis
	12	Biocatalysis, asymmetric catalysis and photocatalysis
	13	Future Trends in Green Chemistry: Oxidation reagents and catalysts;
	Term III	
	14	Combinatorial greenchemistry; Proliferation of solventless reactions
	15	Co crystal controlled solid state synthesis, Green chemistry in sustainable development
	16	Assignment and problem discussion
	17	Problem discussion
SEC3 P / **DSE 4 T**	**Term I**	
	01	Course outcome
	02	Functionality and its importance:Criteria for synthetic polymer formation.
	03	Classification of polymerization processes
	04	Relationships between functionality, extent of reaction and degree of polymerization
	05	Bifunctional systems,
	06	Poly-functional systems
	07	Kinetics of Polymerization :Mechanism and kinetics of step growth, radical chain growth,
	Term II	
	08	Mechanism and kinetics of copolymerization,
	09	Polymerization techniques
	10	Ionic chain (both cationic anionic)
	11	Coordination polymerizations
	Term III	
	12	Mechanism and kinetics of copolymerization
	13	Problem solving
	14	Problem solving

Teaching Plan - 2022-23 (Even semester)
DR. SUMIT KUMAR RAY
Department of Chemistry

	Semester II	
Syllabus allotted	C4T: ORGANIC CHEMISTRY-II (Theory) Reaction Mechanism II C3T: INORGANIC CHEMISTRY-I (Theory) Redox Reactions and precipitation reactions	
	Lec No	**Topics to be covered**
	Term I	
C4T	01	Course outcome
	02	Reaction thermodynamics: free energy and equilibrium, enthalpy and entropy factor,calculation of enthalpy change via BDE
	03	Calculation of enthalpy change via BDE, intermolecular & intramolecular reactions.
	04	Concept of organic acids and bases: effect of structure, substituent and solvent on acidity and basicity
	05	Proton sponge; gas-phase acidity and basicity; comparison between nucleophlicity and basicity; HSAB principle
	06	Application of thermodynamic principles in acid-base equilibria
	07	Tautomerism: prototropy (keto-enol, nitro - aci-nitro, nitroso-oximino, diazo-amino and enamine-imine systems)
	Term II	
	08	Valence tautomerism and ring-chain tautomerism; composition of the equilibrium in different systems (simple carbonyl; 1,2- and 1,3-dicarbonyl systems, phenols and related systems)
	09	Factors affecting keto-enol tautomerism;
	10	Application of thermodynamic principles in tautomeric equilibria
	11	Reaction kinetics: rate constant and free energy of activation; concept of order and molecularity
	12	Free energy profiles for one-step, two-step and three-step reactions; catalyzed reactions
	Term III	
	13	Electrophilic and nucleophilic catalysis; kinetic control and thermodynamic control of reactions; isotope effect
	14	Primary and secondary kinetic isotopic effect (k_H/k_D); principle of microscopic reversibility; Hammond's postulate.
	15	Problem discussion
	16	Problem discussion
C3T		**Term I**
	01	Course Outcome
	02	Ion-electron method of balancing equation of redox reaction.
	03	Elementary idea on standard redox potentials with sign conventions.
	04	Nernst equation
	05	Influence of complex formation, precipitation and change of pH on redox potentials; formal potential.
	06	Feasibility of a redox titration, redox potential at the equivalence point, redox indicators.
		Term II
	07	Redox potential diagram (Latimer) of common elements and their applications.

	08	Frost diagrams
	09	Disproportionation and comproportionation reactions (typical examples)
	10	Complementary and Non Complementary redox reaction
	11	Equivalent weight calculation
	Term III	
	12	Solubility product principle, common ion effect
	13	Applications of solubility product to the precipitation and separation of common metallic ions as hydroxides, sulfides, phosphates, carbonates, sulfates and halides
	14	Problem discussion
	15	Problem discussion

Semester IV

Syllabus Allotted	CC-10 T : ORGANIC CHEMISTRY-IV Nitrogen compounds (Theory) CC 10 P :ORGANIC CHEMISTRY-IV Quantitative Estimations (Prac) CC-9 T: INORGANIC CHEMISTRY-III CC-9 P: COMPLEXOMETRIC TITRATION

	Lecture No	Topics to be covered
		Term I
	01	Course outcome of CC 10 T & P
	02	Amines: Aliphatic & Aromatic: preparation
	03	Separation (Hinsberg's method) and identification of primary, secondary and tertiary amines
	04	Eschweiler–Clarke methylation : Application.
	05	Diazo coupling reaction
	06	Mannich reaction : Application in organic synthesis
	07	Formation and reactions of phenylenediamines
		Term II
CC-10 T	08	Diazomethane and diazoacetic ester.
	09	Nitro compounds (aliphatic and aromatic): preparation and reactions.
	10	Reduction of nitro compounds under different conditions; Nef carbonyl synthesis
	11	Alkylnitrile and isonitrile: preparation and reaction (with mechanism)
	12	Thorpe nitrile condensation, von Richter reaction.
		Term III
	13	Diazonium salts and their related compounds: reactions
	14	Reactions of Diazonium salts
	15	Gomberg, Meerwein and Japp-Klingermann reactions.
	16	Assignments and problem discussion

		Term I
	01	Course outcome and general concepts of s and p Block Elements
	02	Diagonal relationship and anomalous behaviour of first member of each group

CC-9 T	03	Allotropy and catenation
	04	Study of the following compounds with emphasis on structure, bonding, preparation, properties and uses. Beryllium hydrides and halides.
	05	Boric acid and borates, boron nitrides
	06	Borohydrides (diborane) and graphitic compounds
	07	Silicates
	Term II	
	08	Silanes, Oxides and oxoacids of nitrogen, phosphorus, sulphur and chlorine
	09	Peroxo acids of sulphur
	10	Sulphur-nitrogen compounds
	11	Interhalogen compounds
	12	polyhalide ions, pseudohalogens ,
	Term III	
	13	Fluorocarbons and basic properties of halogens
	14	Assignments and problem discussion
	15	Problem solving

Semester VI

Syllabus Allotted	C13T: Inorganic Chemistry-V Bioinorganic Chemistry	
C13T	**Lec no**	**Topics to be covered**
	Term I	
	01	Course outcome
	02	Elements of life: essential and beneficial elements, major, trace and ultratrace elements
	03	Basic chemical reactions in the biological systems and the role of metal ions
	04	Metal ion transport across biological membrane Na_+/K_+-ion pump
	05	Dioxygen molecule in life
	06	Dioxygen management proteins: Haemoglobin, Myoglobin, Hemocyanine and Hemerythrin ,
	07	Electron transfer proteins: Cytochromes and Ferredoxins.
	Term II	
	08	Hydrlytic enzymes: carbonate bicarbonate buffering system and carbonic anhydrase and carboxyanhydrase A
	09	Biological nitrogen fixation
	10	Photosynthesis: Photosystem-I and Photosystem-II. ,
	11	Toxic metal ions and their effects, chelation therapy
	12	Pt and Au complexes as drugs
	Term III	
	13	Metal dependent diseases
	14	Problem & solution
	15	Problem & solution

Teaching plan: 2022-23 (Even Semester)
Kalyan Sur
Dept. of Chemistry

Semester II		
Syllabus allotted	**DSC – IBT: Ionic equilibria:** (Theory) **Alcohols, Phenols and ethers** **C3T: Chemical Periodicity**	
DSC – IBT	**Lec No**	**Topics to be covered**
		Term I
Alcohols, phenols & ethers	01	Prep^n of 1^0, 2^0 and 3^0 alcohols, Ester hydrolysis reduction of aldehydes, ketones, carboxylic acids and esters.
	02	**Reaction:** with Na, HX (Lucas Test), victor mayer method, Esterification, oxid^n with Pcc, alkaline $KMnO_4$, acidic dichromate, Conc. HNO_3
	03	Opprnaur oxid^n, diols: oxid^n of diols. MPV reduction, Piracol – Pinacolone Rearrangement.
	04	Prepn. Of Phenol, Cumenephenol process from diazonium salts **Reactions:** Electrophilic Substitution, Nitration, halogenations & Sulphonation.
	05	Reimer-tiemann reaction, Gattermann-koch reaction, Houben-Hoesch Condensation, Schotten-Baumann Reaction.
	06	PYQ's discussion.
	07	Frequently asked Questions (FAQ's) Discussion.
		Term II
	08	Moderate, strong & weak electrolyte, degree of ionisation factors affecting degree of ionisation, ionisation constants.
	09	Ionic product of water. Ionisation of weak acids & Bases, pH scale; common ion effect.
	10	Salt hydrolysis – calculation of hydrolysis constant Degree of hydrolysis and pH of different salts.
	11	Buffer solutions, solubility and solubility pdt of sparingly soluble salts – application of solubility product Principle.
	12	Numerical practice.
	13	PYQ's Discussion
	14	FAQ's discussion.
Syllabus Allotted	**Paper C3T: Chemical Periodicity**	
Chemical Periodicity		**Term I**
	01	Modern IUPAC Periodic Table, Effective nuclear charge, Screening effects and penetration, slater's Rule
	02	Atomic radii, ionic radii, Covalent radii Lanthanide contruction
	03	IP, electron gain enthalpy, EN. (Pauling's, Mulliken's and AR scales)
	04	Factors affecting these properties, group electronegativities group trends & Periodic trends in these properties in respect of S, p and d-elements.
	05	Secondary periodicity, Relativistic effect, Inert pair effect
	06	PYQ's MCQ's
	07	FAQ's, most probable Question discussion
Semester IV		

Syllabus Alloted	C9T: Inorganic Chemistry-III {Noble gases, inorganic polymers.} DSC IDT: Transition elements (3d series) Coordination chemistry, CFT.	

C9T	Lec No.	Topics to be Covered
Inorganic Chemistry-III		**Term I**
	01	**Noble gases:-** occurrence and uses, rationalisation of inertness of noble gases;
		Clathrates; prepn. & properties of XeF_2, XeF_4 and XeF_6.
	02	Nature of bonding in noble gas compounds (VBT & MOT).
	03	Xenon-oxygen compds,
	04	Molecular shapes of noble gas compounds (VSEPR Theory)
	05	Assignments
	06	PYQ's, MCQ's, FAQ's
		Term II
	07	**Inorganic polymers:** Types of inorganic polymers,.
	08	composition with organic polymers, synthesis, structure and applications of silicone
	09	Composition with organic polymers, synthesis, structure and applications siloxanes
	10	Borazines, phosphazenes.
		Term III
	11	Silicates.
	12	PYQ's, FAQ's, MCQ's
	13	Problem discussion

Transitions elements and coordination Chemistry.	Lect No.	Topics to be covered
		Term I
	01	General group trends wrt EC, valency, colour, magnetic property and catalytic properties
	02	Ability to form completes and stability of various oxidation state (Latimer diagrams) for Mn, Fe & Cu.
	03	Lanthanoids and actinoids:- EC, OS, colour, magnetic proper
		Term II
	04	Lanthanide contruction, separation of lanthadies. (ion exchange method)
	05	CFT, oh. Symmetry, CFSE, crystal field effects of weak and strong fields.
	06	Tetrahedral symmetry, factors affecting the magnitude of D., spectrochemical series.
	07	Comparison of CFSE for oh and Td completes, Tetragonal distortion of oh. Geometry.
		Term III
	08	Jahn-Teller distortions, square planar coordination
	09	Qus.-Ans. Discussion
	10	PYQ's and MCQ's.

Semester VI		
Syllabus Allotted	CI3T: organometallic Chemistry	
	Lec	Topics to be covered

	no	
	Term I	
	01	Definition and classification of OMC on the basis of bond type.
	02	Concept of hapticity of organic ligands; Formal charge
	03	18-electron and 16 $\bar{e}$ rules (pictorial mo approach).
	04	Application of 18 $\bar{e}$ rule to metal carbonyls; nitrosyls and cyanides.
	05	General methods of preparation of mono and binuclear carbonyls of 3D-series.
	Term II	
	06	Structures of mononuclear and binuclear carbonyls.
	07	π-acceptor ligands, π-acceptor behaviour of CO, synergic effect and use of IR data to explain extent of back-bonding
	08	Zeise's salts: prepn., structure, evidences of synergic effect.
	09	Ferrocene: prepn., reactions (acetylation, alkylation, metallation)
	10	Mannich condensation.
	Term III	
	11	Reactions of om complexes: substitution, oxidative addition
	12	Reductive elimination and insertion reactions.
	13	Questions and Discussion.
	14	PYQ's of JAM & CSIR NET and SET exam.

Teaching Plan - 2022-23 (Even semester)
Sanjoy Kumar Bera
Department of Chemistry

Semester II		
Syllabus allotted	DSC2P: physical+Organic practical No Theory classes	
Semester IV		
Syllabus Allotted	GE4T: Conductance, Solutions. DSC4T: chemical kinetics, solids GE4P: physical+ Analytical and Environmental chemistry (prac) SEC2P: qualitative and quantitative Identification and estimation of carbohydrates, proteins,lipids practical	
	Lec No	**Topics to be covered**
	Term I	
	01	Definition of conductance, cell constant, specific and equivalent Conductance and their relationship.
	02	Variation of specific and equivalent Conductance with dilution, kohlrausch's law, numerical problem.
	03	Ostwald's dilution law, application of conductance measurement(Determination of solubility and ionic product of water)
	04	Definition of transport number, abnormal transport number,How transport number change with temperature and concentration.
	05	Principles of Hittorf's equation and moving boundary method for determining transport number.
GE4T	06	Numerical problem solution.
	07	Previous year question ans discussion.
	Term II	
	08	Tutorial classes.
	09	Definition of Ideal , non Ideal solutions,and Raoult's law, devia of Raoult's law - non ideal solution.
	10	Vapour pressure composition and temperature - composition curves for Ideal and non ideal solutions.
	11	Distillation of Solutions Lever rule Azeotropes critical solution temperature.
	12	Effect of impurities of partial miscibility of liquids.
	13	Principles of steam distillation and it's applications.
	Term III	
	14	Nernst distribution law and it's applications.
	15	Solvent extraction and it's applications.
	16	Question answer discussion.
	Term I	
	01	The concept of reaction rates. Effect of temperature, pressure, catalyst on

		reaction rates.
	02	Order and molecularity of a reaction,. Derivation of integrated rate equations for zero, first and second order reactions.
	03	Half life equations for zero, first, second order reactions, unit of rate constants.
	04	General methodsbfor determination of order of a reactions.
	05	Concept of activation energy, Arrhenius equation and it's application.
	06	Collision theory and activated complex theory of bimolecular reactions.
DSC4T	**07**	Numerical problem discussion.
	08	Forms of solids, symmetry elements, unit cells, crystal system concept
		Term II
	09	Types of Bravais Lattice and identification of lattice planes.
	10	Law of crystallography, concept of interfacial angles, law of rational indices.
	11	Concept of Miller indices, x - Ray diffraction by crystal, Bragg's law.
	12	Structure of NaCl, kCl, CsCl(qualitative treatment only).
		Term III
	13	Defects in crystals.
	14	Glasses and liquid crystal.
	15	Numerical problem solving
	16	Unit questions answers discussion.

Semester VI	
Syllabus Allotted	DSE2T:Green chemistry DSE2P: Green synthesis practical	
	Lect	**Topics to be covered**
		Term I
	01	What is Green chemistry? Need, Goals, Limitations of green chemistry
	02	Obstacles in the pursuit of the goals of green chemistry.
	03	Twelve principles of Green chemistry and explanations and examples.
	04	Designing a Green synthesis, prevention of waste and byproducts.
	05	Prevention/ minimization of toxic products reducing toxicity.
	06	Use of Green solvents.
		Term II
	07	Energy requirements for reactions -use of microwaves and ultrasonic energy.
	08	Selection of starting materials, avoidance of unnecessary derivatization.
DSE 2T	**09**	Use of catalytic reagents for Green synthesis.
	10	Prevention of chemical accidents Designing greener Principle of ISD.,Bhopal Gas tragedy.
		Term III
	11	Strengthening/ development of analytical techniques prevent and minimize the hazardous substances in chemical process
	12	Tutorial class
	13	Question answer discussion

	14	Problem solving
	15	All unit problem discussion.

Teaching Plan - 2022-23 (Even semester)
Laboni Giri
Department of Chemistry

Semester II		
Syllabus allotted	DSC2P: physical+Organic practical	
Semester IV		
Syllabus Allotted	CC9T:Co-Ordination chemistry -l GE4T: Environmental chemistry DSC4T: Kinetic Theory of gases, Liquid state GE4P: physical+ Analytical and Environmental chemistry (prac) SEC2P: qualitative and quantitative Identification and estimation of carbohydrates, proteins,lipids practical	

	Lec No	Topics to be covered
	Term I	
	01	Introduction of Coordinate bonding
	02	Defination of Double salt and complex salt
	03	Sidwick concept of co-ordinate bond,limitation of sidwick concept
	04	Pauling's Electroneutraluty principle,application of this principle
	05	Werner's theory of coordination complexes,
	06	Classification of ligands, defination of ligands and examples
	07	Defination of Ambidentate ligands, chelating ligand,Flexidentate ligands and examples
	Term II	
CC9T	08	Previous year question answer discussion
	09	Tutorial classes
	10	Coordination numbers, IUPAC nomenclature of coordination complexes (up to two metal centers
	11	Discussion about Isomerism in coordination compounds
	12	constitutional and stereo isomerism,example
	13	Geometrical and optical isomerism in square planar complexes
	Term III	
	14	Geometrical and optical isomerism in octahedral complexes
	15	Chapter revision
	16	Previous year Question answer discussion.
		Term I
DSC4T	01	Postulates of Kinetic Theory of Gases and derivation of the kinetic gas equation
	02	viation of real gases from ideal behaviour, compressibility ctor, causes of deviation. Van der Waals equation of state for real gases

	03	Boyle temperature (derivation not required). Critical phenomena, critical constants and their calculation from van der Waals equation
	04	Andrews isotherms of CO2. Maxwell Boltzmann distribution laws of molecular velocities and molecular energies (graphic representation –derivation not required) and their importance.
	05	Temperature dependence of these distributions. Most probable, average and root mean square velocities (no derivation)
	06	Collision cross section, collision number, collision frequency, collision diameter and mean free path of molecules.
	07	Viscosity of gases and effect of temperature and pressure on coefficient of viscosity (qualitative treatment only).
Term II
	08	Numerical problem solve
	09	Previous year question answer discussion
	10	Surface tension and its determination using stalagmometer.
	11	Viscosity of a liquid and determination of coefficient of viscosity using Ostwald viscometer
	12	Effect of temperature on surface tension and coefficient of viscosity of a liquid (qualitative treatment only).
Term III
	13	Tutorial class
	14	Question ans answer discussion
	15	Previous year question answer discussion
		Term I
GE4T	01	The Atmosphere: composition and structure of the atmosphere; troposphere, stratosphere, mesosphere and thermosphere; ozone layer and its role.
	02	Major air pollutants: CO, SO2, NOx and particulate matters – their origin and harmful effects.
	03	Problem of ozone layer depletion; green house effect; acid rain and photochemical smog.
	04	Air pollution episodes: air quality standard; air pollution control measures: cyclone collector, electrostatic precipitator, catalytic converter.
	05	The Hydrosphere: environmental role of water, natural water sources.
	06	Water treatment for industrial, domestic and laboratory uses.
	07	Water pollutants; action of soaps and detergents, phosphates, industrial effluents, agricultural runoff, domestic wastes.
		Term II
	08	Thermal pollution, radioactive pollution and their effects on animal and plant leaf
	09	Water pollution episodes: water pollution control measures : waste water treatment;
	10	Water pollution control measures :chemical treatment and microbial treatment
	11	Water quality standards: DO,BOD,COD,TDS and hardness parameter
	12	Desalination of sea water : reverse osmosis,electrodialysis
		Term III

	13	The Lithosphere: water and air in soil, waste matters and pollutants in soil
	14	Waste classification, treatment and disposal.
	15	soil pollution and control measures.
	16	Unit questions answers discussion.

Semester VI		
Syllabus Allotted	CC- 13T:Catalysis by Organometallic Compounds DSE2P: Green synthesis practical	
	Lec no	**Topics to be covered**
	Term I	
	01	Synthetic and catalytic applications of organometallic compounds
	02	Classification of catalyst on the basis of nature and physical state
	03	Theory of homogeneous and heterogeneous catalyst.
	04	Defination of homogeneous and heterogeneous catalyst,TON(Turn over number)
	05	Hydrogenation of alkenes using of wilkinson's catalyst,features of wilkinson catalyst.
	06	Hydroformylation reaction(oxo process)
	Term II	
CC13T	07	Wacker Process and mechanism
	08	Synthetic gasoline (Fischer Tropsch reaction)
	09	Ziegler-Natta catalysis for olefin polymerization.
	10	All unit revision
	11	Tutorial class
	Term III	
	12	Previous year question answer discussion
	13	Question answer discussion
	14	Problem solving
	15	All unit problem discussion.

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BIDYUT SAMANTA

22.06.2024

Kharagpur College

Department of Commerce

Teaching Plan

Name of the Teacher: Rabindranath Changdar

Term 1: Commencement of classes to 1st Internal exam., Term 2: 1st Internal to 2nd Internal exam., Term 3: 2nd Internal to ESE preparatory break

Semester I	
Syllabus Allotted	**MDC 01T : BUSINESS ORGANIZATION**
No. of Classes(Hours) per week	**MDC 01: 2**
Teaching Plan	**MDC 01T : BUSINESS ORGANIZATION**
	Term 1
	Unit-IV: Business intermediaries
	Lecture 1: Meaning and primary discussion
	Lecture 2: Concept of wholesalers
	Lecture 3: Concept of retailers
	Lecture 4: Concept of distributors
	Lecture 5: Role and significance of wholesalers
	Lecture 6: Role and significance of retailers
	Lecture 7: Role and significance of distributors
	Lecture 8: Functions of wholesalers
	Lecture 9: Functions of retailers
	Lecture 10: Functions of distributors
	Lecture 11: Tutorial (Misc. Discussion)
	Lecture 12: Tutorial(Misc. Discussion)
	Lecture 13: Tutorial (Doubt Clearing)
	Term 2
	Unit –V: Administrative Organization in Business:
	Lecture 14: Concept and preliminary discussion
	Lecture 15: Different types of Organization Structure-Basic concept
	Lecture 16: Formal and Informal Organisation (first)
	Lecture 17: Formal and Informal Organisation (first)
	Lecture 18: Line and Staff organization (first)
	Lecture 19: Line and Staff organization (first)
	Lecture 20: Tutorial (Misc. Discussion)
	Lecture 21: Tutorial (Misc. Discussion)
	Lecture 22: Centralization and Decentralization (first)
	Lecture 23: Centralization and Decentralization (Sec
	Lecture 24: Centralization and Decentralisation (Th
	Lecture 25: Nature and Objectives

	Term 3
	Lecture 26: Advantages
	Lecture 27: Disadvantages
	Lecture 28: Tutorial (Misc. Discussion)
	Lecture 29: Tutorial (Misc. discussion)
	Lecture 30: Tutorial- (Doubt clearing)
	Lecture 31: Tutorial (Discussion on previous year VU question)
Semester III	
Syllabus Allotted	**SEC1T:E-COMMERCE (HONOURS)** **C5T: COMPANY LAW (GENERAL)**
No. of Classes(Hours) per week	**SEC 1 T: 2** **C5T: 2**
Teaching Plan	
	SEC1T : E-Commerc(Hons.)
	Term 1
	Unit 1: Introduction
	Lecture 1: Meaning, nature, concepts of e-commerce
	Lecture 2: Advantages, disadvantages of e-commerce
	Lecture 3: Reasons for transacting online
	Lecture 4: Types of E-commerce, E-commerce business model
	Lecture 5: Modern forces behind E-commerce
	Lecture 6: Introduction of internet and meaning
	Lecture 7: Evolution and features of Internet
	Lecture 8: The dynamics of world wide web
	Lecture 9: Designing of e-commerce website
	Lecture 10: Building and Launching of E-commerce website
	Lecture 11: Outsourcing vs inhouse development of a website
	Term 2
	Unit 2: Security and Encryption
	Lecture 12: Need and concept of e-commerce security environment
	Lecture 13: Security threats in e-commerce environment
	Lecture 14: Hacking, Sniffing, Cyber Vandalism
	Lecture 15: Technology solution
	Lecture 16: Tutorial (Doubt clearing)
	Lecture 17: Tutorial (Misc. Discussion)
	Lecture 18: Tutorial (Discussion on previous year VU question)
	Lecture 19: Tutorial (Discussion on previous year VU question)
	Term 3
	Unit 3: IT Act 2000 and Cyber Crimes
	Lecture 20: IT Act 2000: Definitions
	Lecture 21: IT Act 2000: Definitions
	Lecture 22: Digital signature
	Lecture 24: Electronic governance

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	Lecture 25: Attribution, acknowledgement and dispatch of electronic records
	Lecture 26: Regulation of certifying authorities
	Lecture 27: Digital signatures certificates, Duties of subscribers
	Lecture 28: Penalties and adjudication
	Lecture 29: Appellate Tribunal, Offences and Cyber-crimes
	Lecture 30: Tutorial (Misc. Discussion)
	Lecture 31: Tutorial (Misc. Discussion)
	Lecture 32: Tutorial (Discussion on previous year VU question)
	C5T: COMPANY LAW (GENERAL)
	Term 1
	<u>UNIT 1: Introduction</u>
	Lecture 1: Administration of Company Law [including National Company Law Tribunal (NCLT) (First)
	Lecture 2: Administration of Company Law [including National Company Law Tribunal (NCLT) (Second)
	Lecture 3: National Company Law Appellate Tribunal (NCLAT)
	Lecture 4: National Company Law Appellate Tribunal (NCLAT)
	Lecture 5: National Company Law Appellate Tribunal (NCLAT)
	Lecture 6: Special Courts
	Lecture 7: Characteristics of a company
	Lecture 8: Lifting of corporate veil
	Lecture 9: Types of companies
	Lecture 10: One person company
	Lecture 11: Tutorial (Misc. Discussion)
	Lecture 12: Tutorial (Misc. Discussion)
	Lecture 13: Small company
	Lecture 14: Dormant company
	Lecture 15: Association not for profit
	Lecture 16: Illegal association
	Lecture 17: Formation of company
	Lecture 18: On-line filing of documents
	Lecture 19: Tutorial (Misc. Discussion)
	Lecture 20: Tutorial (Misc. Discussion)
	Lecture 21: promoters, their legal position
	Lecture 22: pre-incorporation contract
	Lecture 23: on-line registration of a company
	<u>UNIT 2: Documents</u>
	Lecture 24: Memorandum of association
	Lecture 25: Articles of association
	Lecture 26: Doctrine of constructive notice and indoor management prospectus-shelf and red herring prospectus
	Lecture 27: Misstatement in prospectus, GDR
	Lecture 28: Book building

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	Lecture 29: Allotment and forfeiture of share, Transmission of shares
	Lecture 30: Buyback and provisions regarding buyback; Issue of bonus shares
	Lecture 31: Tutorial (Misc. Discussion)
	Lecture 32: Tutorial (Discussion on Previous year VU Question)
Semester V	
Syllabus Allotted	**DSE2T: FINANCIAL MARKET, INSTITUTION, FINANCIAL SERVICES (HONOURS)** **SEC3T: ENTREPRENEURSHIP(GENERAL)**
No. of Classes(Hours) per week	**DSE2T:2** **SEC3T:2**
	DSE2T: FINANCIAL MARKET, INSTITUTION, FINANCIAL SERVICES (HONOURS)
	Term 1
	Unit 1: Introduction
	Lecture 1: Financial markets and institutions
	Lecture 2: Financial intermediation
	Lecture 3: Flow of funds matrix
	Lecture 4: Financial system and economic development
	Lecture 5: An overview of Indian financial system
	Unit 2: Financial Markets
	Lecture 6: Money market – functions
	Lecture 7: Organisation and instruments of Money market
	Lecture 8: Role of central bank in money market
	Lecture 9: Indian money market – An overview
	Lecture 10: Capital Markets – functions
	Lecture 11: Organisation and instruments of Capital market
	Lecture 12: Indian debt market
	Lecture 13: Indian equity market – primary and secondary markets
	Lecture 14: Role of stock exchanges in India
	Lecture 15: Tutorial (Misc. Discussion)
	Lecture 16: Tutorial (Doubt Clearing)
	Term 2
	Unit 3: Financial Institutions
	Lecture 17: Commercial banking – introduction
	Lecture 18: Role of Commercial banking in project finance and working capital finance
	Lecture 19: Development Financial institutions (DFIs) – An overview and role in Indian economy (First)
	Lecture 20: Development Financial institutions (DFIs) – An overview and role in Indian economy (Second)
	Lecture 21: Life and non-life insurance companies in India
	Lecture 22: Tutorial (Misc. Discussion)
	Term 3
	Lecture 23: Mutual Funds – Introduction and their market development (First)

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Lecture 24: Mutual Funds – Introduction and their role in capital market development (Second)
Lecture 25: Non-banking financial companies (NBFCs).
Lecture 26: Tutorial (Misc. Discussion)
Lecture 27: Tutorial (Doubt Clearing)
Lecture 28: Tutorial (Discussion on previous year VU question)
SEC3T: ENTREPRENEURSHIP(GENERAL)
Term 1
<u>Unit 1: Introduction</u>
Lecture 1: Meaning, elements
Lecture 2: Determinants and importance of entrepreneurship and creative behaviour
Lecture 3: Entrepreneurship and creative response to the society' problems and at work
Lecture 4: Dimensions of entrepreneurship: intrapreneurship, technopreneurship
Lecture 5: Cultural entrepreneurship, international entrepreneurship
Lecture 6: Netpreneurship, ecopreneurship,
Lecture 7: Social entrepreneurship
Lecture 8: Tutorial (Misc. Discussion)
Term 2
<u>Unit 2: Entrepreneurship and Micro, Small and Medium Enterprises</u>
Lecture 9: Concept of business groups and role of business houses
Lecture 10: Family business in India
Lecture 11: The contemporary role models in Indian business: their values, business philosophy and behavioural orientations (First)
Lecture 12: The contemporary role models in Indian business: their values, business philosophy and behavioural orientations (Second)
Lecture 13: Conflict in family business and its resolution
Lecture 14: Tutorial (Misc. Discussion)
<u>Unit 3: Various aspect of Entrepreneurship</u>
Lecture 15: Public and private system of stimulation
Lecture 16: Support and sustainability of entrepreneurship
Lecture 17: Requirement, availability and access to finance
Lecture 18: Marketing assistance, technology, and industrial accommodation
Term 3
Lecture 19: Role of industries/entrepreneur's associations
Lecture 20: Role of self help group
Lecture 21: The concept, role and functions of business incubators
Lecture 22: Angel investors
Lecture 23: Venture Capital
Lecture 24: Private Equity Fund
Lecture 25: Tutorial (Misc. Discussion)
Lecture 26: Tutorial (Misc. Discussion)
Lecture 27: Tutorial (Doubt Clearing)
Lecture 28: Tutorial (Discussion on previous year V.U. question)

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Department of Commerce

Teaching Plan

Name of the Teacher: Anupam Roy

Term 1: Commencement of classes to 1st Internal exam., Term 2: 1st Internal to 2nd Internal exam., Term 3: 2nd Internal to ESE preparatory break

Semester I	
Syllabus Allotted	**MDC 01T : BUSINESS ORGANIZATION** **COASEC 01 P: SECRETARIAL PRACTICE**
No. of Classes(Hours) per week	**MDC 01: 2** **COASEC 01: 2**
Teaching Plan	**MDC 01T : BUSINESS ORGANIZATION**
	Term 1
	UNIT 1- INTRODUCTION
	Lecture 1: Business and its concept
	Lecture 2: Nature and Scope of Business
	Lecture 3: Objectives of Business
	Lecture 4: Social responsibility of Business
	Lecture 5: Classification of Business
	Lecture 6: Cocepts of Industry
	Lecture 7: Concept of Trade and Commerce
	Lecture 8: Functions and Importance of Industry Trade and Commerce
	Lecture 9: Socialistic Economy
	Lecture 10: Capitalistic Economy
	Lecture 11: Mixed Economy
	Lecture 12: Tutorial(Misc. Discussion)
	Lecture 13: Tutorial (Misc. Discussion)
	Term 2
	UNIT 2- FORMS OF BUSINESS ORGANIZATION
	Lecture 14: Sole Proprietorship
	Lecture 15: Partnership
	Lecture 16: Limited liability partnership
	Lecture 17: Joint Stock Company
	Lecture 18: One person company
	Lecture 19: Private limited company
	Lecture 20: Tutorial (Misc. Discussion)
	Lecture 21: Tutorial (Misc. Discussion)
	UNIT 3- Business Combination and Concentration
	Lecture 22: Concept of Business Combination
	Lecture 23: Causes of Business Combination
	Lecture 24: Types, Advantages and Disadvantages

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	Lecture 25: Types, Advantages and Disadvantages
	Term 3
	Lecture 27: Vertical combination
	Lecture 28: Horizontal combination
	Lecture 29: Pool and Cartel
	Lecture 30: Tutorial (Misc. discussion)
	Lecture 31: Tutorial- (Misc. discussion)
	Lecture 32: Tutorial (Discussion on previous year VU question)

Semester III	
Syllabus Allotted	**C5T: HUMAN RESOURCE MANAGEMENT (HONOURS)** **SEC1T:E-COMMERCE (HONOURS)** **C5T: COMPANY LAW (GENERAL)**
No. of Classes(Hours) per week	**C5T: 2** **SEC 1 T: 2** **C5T: 2**
Teaching Plan	**C5T: HUMAN RESOURCE MANAGEMENT (HONOURS)**
	Term 1
	UNIT 3: Training and Development
	Lecture 1: Concept and Importances
	Lecture 2: Identifying Training and Development Needs
	Lecture 3: Designing Training Programmes
	Lecture 4: Role-Specific and Competency-Based Training
	Lecture 5: Evaluating Training Effectivenes
	Lecture 6: Training Process Outsourcing
	Lecture 7: Management Development
	Lecture 8: Career Development
	Lecture 9: Tutorial (Misc. Discussion)
	Term 2
	UNIT 4: Performance Appraisal
	Lecture 10: Nature, objectives and importance
	Lecture 11: Modern techniques of performance appraisal
	Lecture 12: Modern techniques of performance appraisal
	Lecture 13: Potential appraisal and employee counseling
	Lecture 14: Job changes - transfers and promotions
	Lecture 15: Compensation
	Lecture 16: Job evaluation
	Lecture 17: Methods of wage payments and incentive plans
	Lecture 18: Fringe benefits
	Lecture 19: Performance linked compensation.
	Lecture 20: Tutorial
	Lecture 21: Tutorial
	Lecture 22: Tutorial
	Term 3
	Unit 5: Maintenance

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Lecture 23: Employee health and safety
Lecture 24: Employee welfare
Lecture 25: Social security
Lecture 26: Employer-Employee relations- an overview
Lecture 27: Grievance-handling and redressal
Lecture 28: Industrial Disputes: causes and settlement machinery
Lecture 29: Tutorial (Misc.Discussion)
Lecture 30: Tutorial (Discussion on previous year VU question)
SEC1T : E-Commerc(Hons.)
Term 1
Unit 1: Introduction
Lecture 1: Meaning, nature, concepts of e-commerce
Lecture 2: Advantages, disadvantages of e-commerce
Lecture 3: Reasons for transacting online
Lecture 4: Types of E-commerce, E-commerce business model
Lecture 5: Modern forces behind E-commerce
Lecture 6: Introduction of internet and meaning
Lecture 7: Evolution and features of Internet
Lecture 8: The dynamics of world wide web
Lecture 9: Designing of e-commerce website
Lecture 10: Building and Launching of E-commerce website
Lecture 11: Outsourcing vs inhouse development of a website
Term 2
Unit 2: Security and Encryption
Lecture 12: Need and concept of e-commerce security environment
Lecture 13: Security threats in e-commerce environment
Lecture 14: Hacking, Sniffing, Cyber Vandalism
Lecture 15: Technology solution
Lecture 16: Tutorial (Doubt clearing)
Lecture 17: Tutorial (Misc. Discussion)
Lecture 18: Tutorial (Discussion on previous year VU question)
Lecture 19: Tutorial (Discussion on previous year VU question)
Term 3
Unit 3: IT Act 2000 and Cyber Crimes
Lecture 20: IT Act 2000: Definitions
Lecture 21: IT Act 2000: Definitions
Lecture 22: Digital signature
Lecture 24: Electronic governance
Lecture 25: Attribution, acknowledgement and dispatch of electronic records
Lecture 26: Regulation of certifying authorities
Lecture 27: Digital signatures certificates, Duties of subscribers
Lecture 28: Penalties and adjudication
Lecture 29: Appellate Tribunal, Offences and Cyber Crime
Lecture 30: Tutorial (Misc. Discussion)
Lecture 31: Tutorial (Misc. Discussion)

	Lecture 32: Tutorial (Discussion on previous year VU question)
	C5T: COMPANY LAW (GENERAL)
	Term 1
	<u>UNIT 3: Management</u>
	Lecture 1: Classification of directors
	Lecture 2: Disqualifications of directors
	Lecture 3: Director identity number (DIN)
	Lecture 4: Appointment; Legal positions
	Lecture 5: Powers and duties of a Director
	Lecture 6: Removal of directors
	Lecture 7: Key managerial personnel, managing director, manager
	Lecture 8: Meetings of shareholders and board; Types of meeting, convening and conduct of meetings
	Lecture 9: Postal ballot, meeting through video conferencing, evoting
	Lecture 10: Committees of Board of Directors - Audit Committee, Nomination and Remuneration Committee, Stakeholders Relationship Committee, Corporate Social Responsibility Committee.
	Lecture 11: Tutorial (Misc. Discussion)
	Lecture 12: Tutorial (Misc. Discussion)
	Term 2
	<u>UNIT 4: Dividends, Accounts, Audit</u>
	Lecture 13: Provisions relating to payment of Dividend
	Lecture 14: Provisions relating to Books of Account
	Lecture 15: Provisions relating to Audit
	Lecture 16: Auditors' Appointment
	Lecture 17: Rotation of Auditors, Auditors' Report
	Lecture 18: Secretarial Audit
	Lecture 19: Tutorial (Misc. Discussion)
	Lecture 20: Tutorial (Misc. Discussion)
	Term 3
	<u>UNIT V: Winding Up -Insider-Trading, Whistle-Blowing</u>
	Lecture 21: Concept and modes of Winding Up (First)
	Lecture 22: Concept and modes of Winding Up (Second)
	Lecture 23: Insider-Trading; meaning and legal provisions
	Lecture 24: Whistle blowing: Concept and Mechanism
	Lecture 25: Tutorial (Misc. Discussion)
	Lecture 26: Tutorial (Misc. Discussion)
	Lecture 27: Tutorial (Discussion on Previous year VU Question)
	Semester V
Syllabus Allotted	**C11T: PRINCIPLES OF MARKETING(HONOURS) DSE2T: FINANCIAL MARKET, INSTITUTIO[N] FINANCIAL SERVICES (HONOURS) SEC3T: ENTREPRENEURSHIP(GENERAL)**

No. of Classes(Hours) per week	**C11T:2** **DSE2T:2** **SEC3T:2**
Teaching Plan	**C11T: PRINCIPLES OF MARKETING(HONOURS)**

	Term 1
	Unit 3: Product
	Lecture 1: Concept and importance
	Lecture 2: Product classifications
	Lecture 3: Concept of product mix
	Lecture 4: Branding
	Lecture 5: Packaging and labelling
	Lecture 6: Product-Support Services
	Lecture 7: Product life-cycle
	Lecture 8: New Product Development Process
	Lecture 9: Consumer adoption process
	Lecture 10: Tutorial (Doubt Clearing)
	Term 2
	Unit 4: a. Pricing b. Distribution Channels and Physical Distribution
	Lecture 11: Significance of Pricing
	Lecture 12: Factors affecting price of a product
	Lecture 13: Pricing policies and strategies
	Lecture 14: Channels of distribution - meaning and importance
	Lecture 15: Types of distribution channels
	Lecture 16: Functions of middle man
	Lecture 17: Factors affecting choice of distribution channel
	Lecture 18: Wholesaling and retailing
	Lecture 19: Types of Retailers; e-tailing
	Lecture 20: Physical Distribution
	Lecture 21: Tutorial (Misc. Discussion)
	Lecture 22: Tutorial (Doubt Clearing)
	Lecture 23: Tutorial (Discussion on Previous year VU question)
	Term 3
	Unit 5: a. Promotion b. Recent developments in marketing
	Lecture 24: Nature and importance of promotion
	Lecture 25: Communication process
	Lecture 26: Types of promotion: advertising, personal selling, public relations & sales promotion, and their distinctive characteristics (First)
	Lecture 27: Types of promotion: advertising, personal selling, public relations & sales promotion, and their distinctive characteristics (Second)
	Lecture 28: Promotion mix
	Lecture 29: Factors affecting promotion mix decision
	Lecture 30: Social Marketing, online marketing
	Lecture 31: direct marketing, services marketing, green marketing, Rural marketing; Consumerism

Lecture 32: Tutorial (Misc. Discussion)
Lecture 33: Tutorial (Discussion on Previous year VU questions)
DSE2T: FINANCIAL MARKET, INSTITUTION, FINANCIAL SERVICES (HONOURS)
Term 1
Unit 1: Introduction
Lecture 1: Financial markets and institutions
Lecture 2: Financial intermediation
Lecture 3: Flow of funds matrix
Lecture 4: Financial system and economic development
Lecture 5: An overview of Indian financial system
Unit 2: Financial Markets
Lecture 6: Money market – functions
Lecture 7: Organisation and instruments of Money market
Lecture 8: Role of central bank in money market
Lecture 9: Indian money market – An overview
Lecture 10: Capital Markets – functions
Lecture 11: Organisation and instruments of Capital market
Lecture 12: Indian debt market
Lecture 13: Indian equity market – primary and secondary markets
Lecture 14: Role of stock exchanges in India
Lecture 15: Tutorial (Misc. Discussion)
Lecture 16: Tutorial (Doubt Clearing)
Term 2
Unit 3: Financial Institutions
Lecture 17: Commercial banking – introduction
Lecture 18: Role of Commercial banking in project finance and working capital finance
Lecture 19: Development Financial institutions (DFIs) – An overview and role in Indian economy (First)
Lecture 20: Development Financial institutions (DFIs) – An overview and role in Indian economy (Second)
Lecture 21: Life and non-life insurance companies in India
Lecture 22: Tutorial (Misc. Discussion)
Term 3
Lecture 23: Mutual Funds – Introduction and their role in capital market development (First)
Lecture 24: Mutual Funds – Introduction and their role in capital market development (Second)
Lecture 25: Non-banking financial companies (NBFCs).
Lecture 26: Tutorial (Misc. Discussion)
Lecture 27: Tutorial (Doubt Clearing)
Lecture 28: Tutorial (Discussion on previous year VU question)
SEC3T: ENTREPRENEURSHIP(GENERAL)
Term 1
Unit 1: Introduction
Lecture 1: Meaning, elements
Lecture 2: Determinants and importance of entrepreneurship and creative behaviour

	Lecture 3: Entrepreneurship and creative response to the society' problems and at work
	Lecture 4: Dimensions of entrepreneurship: intrapreneurship, technopreneurship
	Lecture 5: Cultural entrepreneurship, international entrepreneurship
	Lecture 6: Netpreneurship, ecopreneurship,
	Lecture 7: Social entrepreneurship
	Lecture 8: Tutorial (Misc. Discussion)
	Term 2
	Unit 2: Entrepreneurship and Micro, Small and Medium Enterprises
	Lecture 9: Concept of business groups and role of business houses
	Lecture 10: Family business in India
	Lecture 11: The contemporary role models in Indian business: their values, business philosophy and behavioural orientations (First)
	Lecture 12: The contemporary role models in Indian business: their values, business philosophy and behavioural orientations (Second)
	Lecture 13: Conflict in family business and its resolution
	Lecture 14: Tutorial (Misc. Discussion)
	Unit 3: Various aspect of Entrepreneurship
	Lecture 15: Public and private system of stimulation
	Lecture 16: Support and sustainability of entrepreneurship
	Lecture 17: Requirement, availability and access to finance
	Lecture 18: Marketing assistance, technology, and industrial accommodation
	Term 3
	Lecture 19: Role of industries/entrepreneur's associations
	Lecture 20: Role of self help group
	Lecture 21: The concept, role and functions of business incubators
	Lecture 22: Angel investors
	Lecture 23: Venture Capital
	Lecture 24: Private Equity Fund
	Lecture 25: Tutorial (Misc. Discussion)
	Lecture 26: Tutorial (Misc. Discussion)
	Lecture 27: Tutorial (Doubt Clearing)
	Lecture 28: Tutorial (Discussion on previous year V.U. question)

Kharagpur College

Department of Commerce

Teaching Plan

Name of the Teacher: Rabindranath Changdar

Term1: Commencement of classes to 1st Internal exam., Term2: 1stInternalto2nd Internal exam., Term3:2nd Internal to ESE preparatory break

Semester VI (Hons.)	
Syllabus Allotted	**C13T: Auditing and Corporate Governance**
No. of Classes (Hours) per week	**C13T: 2**
Teaching Plan	**C13T: Auditing and Corporate Governance**
	Term 1
	Unit 1: Introduction
	Lecture1: Introduction, Meaning, Objectives,
	Lecture2: Basic Principles and Techniques; Classification of Audit, Audit Planning,
	Lecture3: Internal Control – Internal Check and Internal Audit;
	Lecture4: Audit Procedure Vouching and verification of Assets & Liabilities.
	Unit 2: Audit of Companies
	Lecture5: Audit of Limited Companies: Company Auditor- Qualifications and disqualifications,
	Lecture6: Appointment, Rotation, Removal of Auditor
	Term 2
	Unit 2: Audit of Companies
	Lecture 7: Remuneration, Rights and Duties of Auditor
	Lecture 8: Auditor's Report- Contents and Types. Liabilities of Statutory Auditors under the Companies Act 2013
	Unit 3: Special Areas of Audit
	Lecture 9: Special Areas of Audit: Special features of Cost audit,
	Lecture10: Tax audit, and Management audit; Recent Trends in Auditing:
	Lecture11: Basic considerations of audit in EDP Environment; Computer aided audit techniques and tools;
	Lecture12: Auditing Standards; Relevant Case Studies/Problems;
	Term 3
	Lecture 13: Tutorial (Misc. discussion)
	Lecture 14: Tutorial (Misc. discussion)
	Lecture 15: Tutorial (Misc. discussion)
	Lecture 16: Tutorial (Discussion on previous year VU question)
	Lecture 17: Tutorial (Discussion on previous year VU question)
	Lecture 18: Tutorial (Discussion on previous year VU question)

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Semester II (Gen.)	
Syllabus Allotted	**C3T: Business Law**
No. of Classes (Hours) per week	**C3T: 2**
Teaching Plan	**Term 1**
	Unit 3: The Sale of Goods Act, 1930
	Lecture 1: Introduction
	Lecture 2: Contract of sale, meaning and difference between sale and agreement to sell.
	Lecture 3: Conditions and warranties
	Lecture 4: Transfer of ownership in goods including sale by a non-owner
	Lecture 5: Performance of contract of sale;
	Lecture 6: Unpaid seller – meaning, rights of an unpaid seller against the goods and the buyer.
	Term 2
	Unit 4: B) The Limited Liability Partnership Act, 2008
	Lecture 7: Salient Features of LLP
	Lecture 8: Differences between LLP and Partnership, LLP and Company
	Lecture 9: LLP Agreement,
	Lecture10: Partners and Designated Partners
	Lecture11: Incorporation Document, Incorporation by Registration
	Lecture12: Partners and their Relationship
	Term 3
	Lecture 13: Tutorial (Misc. discussion)
	Lecture 14: Tutorial (Misc. discussion)
	Lecture 15: Tutorial (Misc. discussion)
	Lecture 16: Tutorial (Discussion on previous year VU question)
	Lecture 17: Tutorial (Discussion on previous year VU question)
	Lecture 18: Tutorial (Discussion on previous year VU question)

Semester II (Hons.)	
Syllabus Allotted	**C4T : Corporate Laws**
No. of Classes (Hours) per week	**C4T: 2**
Teaching Plan	**Term 1**
	Unit 1: Introduction
	Lecture 1: Administration of Company Law [including NCLT & NCLAT]
	Lecture 2: Characteristics of a company;
	Lecture 3: Lifting of corporate veil; types of companies
	Lecture 4: One person company, small company, and dormant company;
	Lecture 5: association not for profit; illegal association; formation of company, on-line filing of documents,
	Lecture 6: Promoters, their legal position, pre-incorporation contract; on-line registration of a company.
	Term 2
	Unit 5: Depositories Law
	Lecture 7: Introduction
	Lecture 8: The Depositories Act 1996 – Definitions;
	Lecture 9: Rights of depositories;
	Lecture10: Obligations of depositories;
	Lecture11: Participants issuers and beneficial owners;
	Lecture12: Inquiry and inspections, penalty.
	Term 3
	Lecture 13: Tutorial (Misc. discussion)
	Lecture 14: Tutorial (Misc. discussion)
	Lecture 15: Tutorial (Misc. discussion)
	Lecture 16: Tutorial (Discussion on previous year VU question)
	Lecture 17: Tutorial (Discussion on previous year VU question)
	Lecture 18: Tutorial (Discussion on previous year VU question)

Teaching Plan

Name of the Faculty: **Ashoke Kumar Das**

Department of Commerce

Session: 2022-23

Class: 2nd Sem Hons.

Subject – Corporate Accounting

No. of class per week- 01

TERM 1

Syllabus	Lesson Plan	Topic
Unit 1: Accounting for share capital and Debenture	LP 1	Concept of Issue, forfeiture and reissue of shares
	LP 2	Worked out problems on issue, forfeiture and reissue of shares
	LP 3	DO
	LP 4	DO
	LP 5	DO

TERM 2

Syllabus	Lesson Plan	Topic
Unit 1: Accounting for share capital and Debenture	LP 1	Concepts of Right share and Bonus shares
	LP 2	Provisions regarding issue of bonus shares
	LP 3	Worked out problems on issue of right shares and bonus shares
	LP 4	DO
	LP 5	DO

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TERM 3

Syllabus	Lesson Plan	Topic
Unit 1: Accounting for share capital and Debenture	LP 1	Redemption of preference shares- Concepts and Provisions
	LP 2	Worked out problem on Redemption of preference shares
	LP 3	DO
	LP 4	Issue and redemption of debentures- Worked out problems
	LP 5	Do

Class: 2nd Sem General

Subject – Business Math and Stat

No. of class per week- 01

TERM 1

Syllabus	Lesson Plan	Topic
UNIT 1- MATRICES	LP 1	Basic Concepts and Definitions
	LP 2	Types of Matrices with examples
	LP 3	Algebric laws of Matrices
	LP 4	Worked out problems on Matrices
	LP 5	Solving algebric equations using Matrix method

TERM 2

Syllabus	Lesson Plan	Topic
UNIT 1- DETERMINANTS	LP 1	Concepts and Definitions
	LP 2	Properties
	LP 3	Worked out problems
	LP 4	DO
	LP 5	Cramer's Rule

TERM 3

Syllabus	Lesson Plan	Topic
UNIT 2-	LP 1	Mathematical functioning and their types
	LP 2	Concepts of Limit and Continuity of a function
	LP 3	Worked out problems on Mathematical functions
	LP 4	Worked out problems on Limit
	LP 5	Worked out problems on Continuity

Class: 4th Sem Hons.

Subject – Business Math

No. of class per week- 02

TERM 1

Syllabus	Lesson Plan	Topic

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UNIT 2- Calculus I	LP 1	Mathematical functions and their types
	LP 2	Linear quadratic polynomial and exponential functions
	LP 3	Sums on mathematical function
	LP 4	Concepts of limit
	LP 5	Sums on Limit
	LP 6	Concepts of Continuity
	LP 7	Sums on Continuity
	LP 8	Sums on Limit and Continuity
	LP 9	Solution of previous question papers
	LP 10	Doubt clearing

TERM 2

Syllabus	Lesson Plan	Topic
UNIT 2- Calculus I	LP 1	Concepts of Differentiations
	LP 2	Using First Principle differentiations
	LP 3	Do
UNIT 3- Calculus II	LP 4	Do
	LP 5	Sum using direct rules of differentiation
	LP 6	Do
	LP 7	Concepts of minima and maxima
	LP 8	Concepts of second and higher order derivatives
	LP 9	Application of minima and maxima concept in real life
	LP 10	Partial derivatives

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TERM 3

Syllabus	Lesson Plan	Topic
UNIT 3- Calculus II	LP 1	Euler's Theorem- Proof
	LP 2	Sums on Euler's Theorem
	LP 3	Integration by substitution method
	LP 4	DO
	LP 5	Integration by Parts
	LP 6	Definite Integration
	LP 7	Definite Integration as an area
	LP 8	Discussion on previous question paper
	LP 9	Doubt clearing
	LP 10	Doubt clearing

Class: 4th Sem Hons.

Subject – Cost Accounting

No. of class per week- 02

TERM 1

Syllabus	Lesson Plan	Topic
UNIT 2- Elements of Cost: Material	LP 1	Concepts of different stock levels
	LP2	Sums on stock level
	LP 3	EOQ – its meaning and factors

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	LP 4	Sums on EOQ
	LP 5	Do
	LP 6	Methods of pricing of materials issued
	LP 7	Sums on FIFO and LIFO
	LP 8	Sums on simple and weighted average method
	LP 9	Treatment of material losses
	LP 10	Doubt clearing

TERM 2

Syllabus	Lesson Plan	Topic
UNIT 3- Elements of Cost- Overhead	LP 1	Definition and classification
	LP 2	Concepts of allocation , apportionment and absorption
	LP 3	Under and over absorption concepts of overheads
	LP 4	Sum on Under and over absorption
	LP 5	Sum on primary distribution of overheads
	LP 6	DO
	LP 7	Sum on secondary distribution of overhead
	LP 8	Do

TERM 3

Syllabus	Lesson Plan	Topic
UNIT 4- Job and	LP 1	Features,advantages, disadvantages of Job costing

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Contract costing	LP 2	Features, advantages and disadvantages of Contract Costing, Difference between the two
	LP 3	Sum on Job Costing
	LP 4	DO
	LP 5	Cost plus Contract, Retention money, escalation and de-escalation clause, profit/loss on incomplete contract
	LP 6	Problems on Contract costing
	LP 7	DO
	LP 8	DO
	LP 9	DO
	LP 10	DO

Class: 6th sem General

Subject – Management Accounting

No. of class per week- 02

TERM 1

Syllabus	Lesson Plan	Topic
UNIT 1-Introduction UNIT 2-Budgetary Control	LP 1	Meaning and Objectives of Management Accounting
	LP 2	Nature and scope of management accounting
	LP 3	Difference between cost accounting and management accounting
	LP 4	Cost control and cost reduction, cost management
	LP 5	Concept of budget, Budgeting and Budgetary control

	LP 6	Objectives, merits and limitations of budgetary control
	LP 7	Budget administration, zero based budgeting
	LP 8	Functional budget, fixed and flexible budget
	LP 9	Sum on flexible budget
	LP 10	Do

TERM 2

Syllabus	Lesson Plan	Topic
UNIT 2- Budgetary Control	LP 1	Sum on Cash Budget
	LP 2	DO
	LP 3	DO
UNIT 3- Standard Costing	LP 4	Sum on purchase budget
	LP 5	Sum on sales budget
	LP 6	Meaning of standard cost, standard costing and variance
	LP 7	Advantages, limitations and applications of standard costing

TERM 3

Syllabus	Lesson Plan	Topic
UNIT 3- Standard Costing	LP 1	Variance analysis- Its meaning and objectives
	LP 2	Classification of variances
	LP 3	Sum on material variances
	LP 4	DO
	LP 5	Sum on labor Variances

	LP 6	DO
	LP 7	Sum on material and labor variances
	LP 8	Sum on overhead variances
	LP 9	DO
	LP 10	Sum on Material, Labor and overhead variances

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Teaching Plan
Name of Faculty: Tarun Kumar Ray
Department of Commerce

(Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term

III: 2nd internal to ESE preparatory break)

Session: 2022-23 ; Class : 2nd Sem Hons

Syllabus Alloted : Corporate Accounting (Honours);   Number of Classes allotted per week : 03

Term 1

Subject and Syllabus	Lesson Plan	Topic
Corporate Accounting	LP-1	Concepts and definitions of **Consolidated Financial Statements**
Unit 5. Accounts of	LP-2	Pre-acquisition and Post-acquisition Profit
Holding Companies	LP-3	Analysis of Profit; Minority Interest
(Single Subsidiary)	LP-4	Relevant provisions of Accounting Standard: 21 (ICAI).
	LP-5	Consolidated Profit & Loss Account
	LP-6	Consolidated Balance Sheet
	LP-7	Practical examples
	LP-8	Do
	LP-9	Do
	LP-10	Do

Term 2

Subject	Lesson Plan	Topic
Corporate Accounting	LP-1	Concepts and Importance of Valuation of Share
Unit 3. Valuation of Goodwill and Valuation of Shares	LP-2	Factors determining the Valuation of shares
Concepts and calculation:	LP-3	Asset Backing Value
Simple problems only	LP-4	Yield Value; Fair Value
	LP-5	Problem& Solution –Goodwill
	LP-6	Problem& Solution –Goodwill
	LP-7	Problem& Solution –Share
	LP-8	Problem& Solution –Share
	LP-9	Combined- Goodwill and Share
	LP-10	Do

Term 3

Subject	Lesson Plan	Topic
Corporate Accounting	LP-1	Holding Company – Problem & Solution

Unit 3 and Unit 5	LP-2	Holding Company – Problem & Solution
	LP-3	Holding Company – Problem & Solution
	LP-4	Holding Company – Problem & Solution
	LP-5	Valuation of Shares- Problem & Solution
	LP-6	Valuation of Shares- Problem & Solution
	LP-7	Valuation of Shares- Problem & Solution
	LP-8	Valuation of Shares- Problem & Solution
	LP-9	Doubt Clearing
	LP-10	Discussion on Question Paper

Session: 2022-23 ; Class : 4ᵗʰ Sem Hons,); Number of Classes allotted per week : 04

Term-1

Subject	Lesson Plan	Topic
Business Mathematics	LP-1	Basic Concepts and Definitios
Unit 1: Matrices and Determinants	LP-2	Types with example
(Definitions,Types,Operations of	LP-3	Operations
Matrix,Solutions	LP-4	Practical Applications
Determinants:	LP-5	Concepts and Definitions
(Definition,Properties,Minors	LP-6	Properties
and Co-factors, Adjoint, Cramers	LP-7	Properties
Rule, Input output analysis)	LP-8	Proof of Determinants
	LP-9	Proof of Determinants
	LP-10	Cramer's Rule

Term 2

Subject and Syllabus	Lesson Plan	Topic
Business Mathematics	LP-1	Solution by Inverse Method
Unit-4 Mathematics of Finance	LP-2	Solution by Inverse Method
Compound Interest and Annuity	LP-3	Compounding; Effective Rate
	LP-4	Discounting; Annuities Types
Unit-5 Linear Programming	LP-5	Concepts and Objectives
	LP-6	Formulation of
	LP-7	Graphical Method

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	LP-8	Simplex Method-Maximisation
	LP-9	Simplex Method-Minimisation
	LP-10	Input Output Analysis

Term 3

Subjects and syllabus	Lesson Plan	Topic
Cost Accounting (Hons and General)	LP-1	Definitions and concepts
Unit-1: An Overview	LP-2	Methods ,Scope,Objectives
Cost Concepts and Classification	LP-3	Cost Sheet
Unit -2 : Labour Cost	LP-4	Do
Time Keeping and Time Booking	LP-5	Methods of Labour Payment
Unit 4: Process Costing	LP-6	Do
	LP-7	Incentive Payment System
	LP-8	Process Costing : Concepts
	LP-9	Accounting Treatment
	LP-10	Necessary Accounts

Session: 2022-23 ;   Class : 6th Sem Hons

Syllabus Allotted : Research Methods and Project Work; Indirect Taxation); Classes allotted per week : 4

Term -1

Subject and Syllabus	Lesson Plan	Topic
Research Methods	LP-1	Concepts, Objectives and Importance
Unit-1 Introduction	LP-2	Types of Research
Meaning, Scope , Types	LP-3	Steps of Research
Unit-2: Research Process	LP-4	Research Design
Unit -3:Measurement and Hypothesis Testing	LP-5	Sample Design
	LP-6	Types of Sampling
	LP-7	Hypothesis
	LP-8	Measurement Scale
	LP-9	Testing of Hypothesis
	LP-10	Do

Term -2	Lesson Plan	Topic
Project Work	LP-1	Steps of Business Research Project
Unit-4: Project Report Preparation	LP-2	Mutual Fund Performance Analysis
	LP-3	IT Sector Performance Analysis
	LP-4	Insurance Sector
	LP-5	Pharma Sector
Indirect Taxation	LP-6	GST: Rationale
Goods and Service Tax	LP-7	GST Council; Rates; Types
Unit:1 Indirect Taxation,	LP-8	Registration under GST
Background of GST,GST Council	LP-9	Input Tax Credit
	LP-10	Input Service Distribution
Term - 3	**Lesson Plan**	**Topic**
GST	LP-1	Supply under GST
Unit-2 Supply under GST	LP-2	Classification of Supply
Types; Time of Supply; Place of Supply	LP-3	Time of Supply
	LP-4	Place of Supply
Unit-3 Input Tax Credit,Registration	LP-5	GST Returns
	LP-6	Composition Scheme
Unit-5: Customs Act	LP-7	Basic Concepts of Customs act
	LP-8	Types of Custom Duties
	LP-9	Customs Valuation and Charges
	LP-10	Duty Drawback

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Kharagpur College
Syllabus Distribution and Teaching Plan
Even Semester, Session-2022-2023
Dr Subhabrata Chakrabarti,
Associate Professor in Economics

(Term I: Commencement of classes to 1st internal; Term II: 1st internal to

2nd internal; Term III: 2 nd internal to ESE preparatory break)

Semester -II

	Syllabus Allotted	Teaching Plan
	GE2T : Macro Economics **Course Content for Term-1** **Unit 1: Introduction**	**Course Content for Term-1** **Unit 1: Introduction** **Number of Lecture-12** concepts and variables of macroeconomics, income, expenditure and the circular flow, components of expenditure. Static macroeconomic analysis short and the long run – determination of supply, determination of demand, and conditions of equilibrium **Unit 2: Economy in the short run** **Number of Lecture-16** IS–LM framework, fiscal and monetary policy, determination of aggregate demand, shifts in aggregate demand, aggregate supply in the short and long run, and aggregate demand aggregate supply analysis. **Course Content for Term-2** **Number of Lecture-16** **Unit 3: Inflation, Unemployment and Labour market**

Inflation: Causes of rising and falling inflation, inflation and interest rates, social costs of
inflation; Unemployment – natural rate of unemployment, frictional and wait unemployment. Labour market and its interaction with production system; Phillips curve,
the trade-off between inflation and unemployment, sacrifice ratio, role of expectations
adaptive and rational

Unit 4: Open economy
Number of Lecture-14

Open economy – flows of goods and capital, saving and investment in a small and a large
open economy, exchange rates, Mundell – Fleming model with fixed and flexible prices in
a small open economy with fixed and with flexible exchange rates, interest-rate differentials case of a large economy.

Course Content for Term-3
Number of Lecture-15

Unit 5:
Behavioral Foundations- Investment – determinants of business fixed investment, effect of
tax, determinants of residential investment and inventory investment. Demand for Money
– Portfolio and transactions theories of demand for real balances, interest and income

		elasticities of demand for real balances. Supply of money

Semester-IV

	GE4T : Indian Economy	**Course Content for Term -1** **Unit 1: Basic Issues in Economic Development** **Number of Lecture-10** Concept and Measures of Development and Underdevelopment; Human Development **Unit 2: Basic Features of the Indian Economy at Independence** **Number of Lecture-12** Composition of national income and occupational structure, the agrarian scene and Industrial structure **Course Content for Term -2** **Number of Lecture-12** **Unit 3: Policy Regimes** a) The evolution of planning and import substituting industrialization. b) Economic Reforms since 1991. c) Monetary and Fiscal policies with their implications on economy **Number of Lecture-16** **Unit 4: Growth, Development and Structural Change**

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a) The experience of Growth, Development and Structural Change in different
phases of growth and policy regimes across sectors and regions.
b) The Institutional Framework: Patterns of assets ownership in agriculture and industry; Policies for restructuring agrarian relations and for regulating concentration of economic power;
c) Changes in policy perspectives on the role of institutional framework after 1991.
d) Growth and Distribution; Unemployment and Poverty; Human Development;
Environmental concerns.
e) Demographic Constraints: Interaction between population change and economic
development.

Course Content for Term -3
Number of Lecture-10
Unit 5: Sectoral Trends and Issues
a) *Agriculture Sector:* Agrarian growth and performance in different phases of policy regimes i.e. pre green revolution and the two phases of green revolution; Factors influencing productivity and growth; the role of technology and institutions; price policy, the public distribution system and food security.
b) *Industry and Services Sector:* Phases of Industrialisation – the rate and pattern of
industrial growth across alternative policy regimes; Public sector – its role,

		performance and reforms; The small scale sector; Role of Foreign capital. *c) Financial Sector*: Structure, Performance and Reforms. Foreign Trade and balance of Payments: Structural Changes and Performance of India's Foreign Trade and Balance of Payments; Trade Policy Debate; Export policies and performance; Macro EconomicStabilisation and Structural Adjustment; India and the WTO, Role of FDI, Capital account con*vertibility,*
Semester-VI		
	C9T : Business Mathematics	**Unit 2: Calculus I** **Number of Lecture-07** a. Mathematical functions and their types- linear, quadratic, polynomial, exponential, b. Logarithmic function Concepts of limit, and continuity of a function c. Concept and rules of differentiation, Maxima and Minima involving second or higher order derivatives. d. Concept of Marginal Analysis, Concept of Elasticity, Applied Maximum and Minimum Problems including effect of Tax on Monopolist's optimum price and Quantity, Economic Order Quantity. **Unit 3: Calculus II** **Number of Lecture-08**

		a. Partial Differentiation: Partial derivatives up to second order; Homogeneity of functions and Euler's theorem; Total differentials; Differentiation of implicit functions with the help of total differentials b. Maxima and Minima: Cases of two variables involving not more than one constraint including the use of the Lagrangian multiplier. c. Integration: Standard forms. Methods of integration – by substitution, by parts, and by use of partial fractions; Definite integration; Finding areas in simple cases d. Application of Integration to marginal analysis. Consumer's and Producer's Surplus, Rate of Sales and the Learning Curve.
	GE 2T : Indian Economy	**Course Contents for Term-1** **Number of Lecture-08** **Unit 1: Basic Issues and features of Indian Economy** Concept and Measures of Development and Underdevelopment; Human Development**;** Composition of national income and occupational structure **Unit 2: Policy Regimes** **Number of Lecture-10** a) The evolution of planning and import substituting industrialization. b) Economic Reforms since 1991.

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		c) Monetary and Fiscal policies with their implications on economy
		Course Contents for Term-2 **Number of Lecture-12**
		Unit 3: Growth, Development and Structural Change a) The experience of Growth, Development and Structural Change in different phases of growth and policy regimes across sectors and regions. b) The Institutional Framework: Patterns of assets ownership in agriculture and industry; Policies for restructuring agrarian relations and for regulating concentration of economic power; c) Changes in policy perspectives on the role of institutional framework after 1991. d) Growth and Distribution; Unemployment and Poverty; Human Development; Environmental concerns. e) Demographic Constraints: Interaction between population change and economic development.
		Unit 4: Sectoral Trends and Issues **Number of Lecture-08** a) *Agriculture Sector:* Agrarian growth and performance in different phases of policy

		regimesi.e.pre green revolution and the two phases of green revolution; Factors influencing productivity and growth; the role of technology and institutions; price policy, the public distribution system and food security.
		b) *Industry and Services Sector:* Phases of Industrialisation – the rate and pattern of industrial growth across alternative policy regimes; Public sector – its role, performance and reforms; The small scale sector; Role of Foreign capital.
		c) *Financial Sector*: Structure, Performance and Reforms. Foreign Trade and balance of Payments: Structural Changes and Performance of India's Foreign Trade and Balance of Payments; Trade Policy Debate; Export policies and performance; Macro Economic Stabilisation and Structural Adjustment; India and the WTO, Role of FDI, Capital account convertibility,
		Unit 5: Inflation, Unemployment and Labour market **Number of Lecture-07** Inflation: Causes of rising and falling inflation, inflation and interest rates, social costs of inflation; Unemployment – natural rate of unemployment, frictional and wait

		unemployment. Labour market and its interaction with production system; Phillips curve, the trade-off between inflation and unemployment, sacrifice ratio, role of expectations adaptive and rational.

Kharagpur College

Department of Commerce

Teaching Plan

Name of the Teacher: Anupam Roy

Term 1: Commencement of classes to 1st Internal exam., Term 2: 1st Internal to 2nd Internal exam., Term 3: 2nd Internal to ESE preparatory break

Semester II	
Syllabus Allotted	C4T: Corporate Law(Honours) C3T: Business Law(General)
No. of Classes(Hours) per week	C4T: 2 C3T: 2
Teaching Plan	C4T: Corporate Law(Honours)
	Term 1
	Lecture 1: Introduction, Memorandum of Association
	Lecture 2: Article of Association
	Lecture 3: Doctrine of constructive notice and indoor management
	Lecture 4: Prospector- shelf
	Lecture 5: Redherring prospectus
	Lecture 6: Misstatement in prospectus
	Lecture 7: GDR- Global depository receipts
	Lecture 8: Book building concept
	Lecture 9: Issue and allottment of share
	Lecture 10: Forfeiture of share
	Lecture 11: Transmission of share
	Lecture 12: Buyback and provision regarding buyback of share
	Lecture 13: Issue of Bonus share
	Term 2
	Lecture 14: Classification of Directors
	Lecture 15: Disqualifiction of Directors
	Lecture 16: Director Identity number
	Lecture 17: Appointment of Directors
	Lecture 18: Legal position of directors
	Lecture 19: Power and duties of directors
	Lecture 20: Removal of Directors
	Lecture 21: Key managerial personnel, managing director, manager
	Lecture 22: Meeting of shareholder and board of directors, Types
	Lecture 23: Convening and conduct of meeting
	Lecture 24: Requisites of a valid meeting, postal ballot
	Lecture 25: Meeting through video conference, e-voting

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	Lecture 26: Committees of board of directors
	Term 3
	Lecture 27: Provisions relating to payment of dividend
	Lecture 28: Provisions relating to books of accounts
	Lecture 29: Audit, auditors appointment, Auditors report
	Lecture 30: Concpt and Modes of Winding up, Insider trading, whistle blowing
	Lecture 31: Tutorial- (Misc. discussion)
	Lecture 32: Tutorial (Discussion on previous year VU question)
	C3T: Business Law(General)
	Term 1
	Lecture 1: Introducion, Contract
	Lecture 2: Essentials of a valid contract, Void agreement
	Lecture 3: Discharge of a contract
	Lecture 4: Breach of a contract and remedies
	Lecture 5: Contingent contract and Quasi contract
	Lecture 6: Contract of Indemnity and Gurantee
	Lecture 7: Contract of Bailment
	Lecture 8: Contract of Agency
	Term 2
	Lecture 9: Nature of partnership
	Lecture 10: Characteristics of partnership
	Lecture 11: Registration of a Partnership firm
	Lecture 12: Types of Partners
	Lecture 13: Rights and duties of Partners
	Lecture 14: Implied authority of a Partner
	Lecture 15: Incoming and outgoing partner
	Lecture 16: Dissolution of Partnership
	Lecture 17: Mode of dissolution of partnership
	Lecture 18: LLP introduction
	Lecture 19: Features of LLP
	Lecture 20: Difference between LLP and Partnership
	Lecture 21: Difference between LLP and Company
	Lecture 22: LLP agreements, Partners, Designated partners
	Lecture 23: Partners and their relationship
	Term 3
	Lecture 24: Introduction, meaning of Negotiable instrument
	Lecture 25: Characteristics of Negotiable instrument
	Lecture 26: Types, Promissory note, bill of exchange, cheque
	Lecture 27: Difference among the various instrument
	Lecture 28: Dishonour of bill, Crossing of Cheque etc
	Lecture 29: Tutorial (Misc. Discussion)
	Lecture 30: Tutorial (Misc. Discussion)
	Lecture 31: Tutorial (Discussion on VU previous year question)

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Semester IV	
Syllabus Allotted	C7T: Corporate Accounting(General) SEC2T:E-Commerce(General)
No. of Classes(Hours) per week	C7T: 2 SEC2T: 1 SEC2P: 3 C10P: 3
Teaching Plan	C7T: Corporate Accounting(General)
	Term 1
	Lecture 1: Issue of share
	Lecture 2: Forfeiture of share and reissue of share
	Lecture 3: Issue of Right and Bonus share
	Lecture 4: Buy back of share and redemption of preference share
	Lecture 5: Issue and redemption of debenture
	Lecture 6: Preparation of Profit and Loss account and Balancesheet
	Lecture 7: Problem solving on Final Accounts One
	Lecture 8: Problem solving on Final Accounts Two
	Lecture 9: Problem solving on Finl Accounts Three
	Term 2
	Lecture 10: Valuation of Goodwill concepts
	Lecture 11: Valuation of Share concepts
	Lecture 12: Problem solving on valuation of goodwill first
	Lecture 13: Problem solving on valuation of goodwill second
	Lecture 14: Problem solving on valuation of share first
	Lecture 15: Problem solving on valuation of share second
	Lecture 16: Concept of amalgamation
	Lecture 17: Accounting treatment of amalgamation first
	Lecture 18: Accounting treatment of amalgamation second
	Lecture 19: Internal reconstruction concepts
	Lecture 20: Problem solving on amalgamation First
	Lecture 21: Problem solving on amalgamation Second
	Lecture 22: Problem solving on amalgamation Third
	Term 3
	Lecture 23: Concept of fund and cash flow
	Lecture 24: Cash flow statement
	Lecture 25: Preparation of cash flow statement as per IND AS 7
	Lecture 26: Problem solution on Cash flow statement
	Lecture 27: Tutorial 1 (Doubt clearing)
	Lecture 28: Tutorial 2 (Misc. Discussion)
	Lecture 29: Tutorial 3 (Misc.Discussion)
	Lecture 30: Tutorial 4 (Discussion on previous year question)
	SEC2T:E-Commerce(General)

	Term 1
	Lecture 1: Introduction and meaning of Online Transaction
	Lecture 2: Nature, Concepts, advantages and disadvantages of online transaction
	Lecture 3: Specific reason for transacting online and example
	Lecture 4: Types of E-commerce, E-commerce business model
	Lecture 5: Modern forces behind E-commerce
	Lecture 6: Introduction of internet and meaning
	Lecture 7: Evolution and features of Internet
	Lecture 8: The dynamics of world wide web
	Lecture 9: Designing of e-commerce website
	Term 2
	Lecture 10: Building and Launching of E-commerce website
	Lecture 11: Outsourcing vs inhouse development of a website
	Lecture 12: Need and concept of e-commerce security environment
	Lecture 13: Security threats in e-commerce environment
	Lecture 14: Technology solution
	Term 3
	Lecture 15: Tutorial (Doubt clearing)
	Lecture 16: Tutorial (Discussion on previous year VU question)
Semester VI
Syllabus Allotted	DSE3T: Fundamentals of Investment (Honours) DSE – 4: Fundamentals of Investment(General)
No. of Classes(Hours) per week	DSE3T: 2 DSE-4: 2
Teaching Plan	Same for both Honours and General
	Term 1
	Lecture 1: Introduction, the investment decision process
	Lecture 2: Different types of Investment
	Lecture 3: Concept of Indian securities market
	Lecture 4: The market participants
	Lecture 5: Trading of securities
	Lecture 6: Security market indices and sources of financial information
	Lecture 7: Concept of return and risk
	Lecture 8: Impact of taxes and inflation on return
	Term 2
	Lecture 9: Introduction and features of Bond
	Lecture 10: Various types of Bonds
	Lecture 11: Estimating bond yields, Bond valuation

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	Lecture 12: Types of Bond Risk
	Lecture 13: Concept of credit rating and agencies
	Lecture 14: Credit rating need and system
	Lecture 15: Introduction to fundamental analysis of equity
	Lecture 16: Technical analysis, efficient market hypothesis
	Lecture 17: Dividend capitalization model
	Lecture 18: Price earning multiple approach to equity
	Lecture 19: Problem solution one
	Lecture 20: Promlem solution two
	Lecture 21: Problem solution three
	Term 3
	Lecture 22: Introduction to Investors awareness and protection
	Lecture 23: Role of SEBI in investors protection
	Lecture 24: Investor grievances
	Lecture 25: Redressal system of grievances
	Lecture 26: Insider trading
	Lecture 27: Investors awreness and activism
	Lecture 28: Tutorial (Discussion on any doubt)
	Lecture 29: Tutorial (Discussion on Misc. Topic)
	Lecture 30: Tutorial (Discussion on previous year VU question)

Kharagpur College

Department of Commerce

Teaching Plan

Name of the Teacher: Ram Ranjan Routh

Term1: Commencement of classes to 1st Internal exam., Term2: 1stInternalto2nd Internal exam., Term3:2nd Internal to ESE preparatory break

Semester IV (Hons.)	
Syllabus Allotted	**C8T: Cost Accounting, C10T: Computer Application in Business**
No. of Classes (Hours) per week	**C8T: 2** **C10T: 2** **C10P: 6**
Teaching Plan	**C8T: Cost Accounting**
	Term1
	Unit 1: Introduction
	Lecture1: Meaning, objectives of cost accounting
	Lecture2: Advantages of cost accounting, Difference between cost accounting and financial accounting
	Lecture3: Cost concepts and classifications
	Lecture4: Elements of cost
	Lecture5: Installation of a costing system
	Lecture6: Role of a cost accountant in an organisation
	Term2
	Unit 3: Elements of Cost: Overheads
	Lecture 7: Classification of Cost
	Lecture 8: Allocation of Cost
	Lecture 9: Apportionment and absorption of overheads
	Lecture10: Under- and over absorption
	Lecture11: Capacity Levels and Costs
	Lecture12: Treatments of certain items in costing like interest on capital
	Lecture13: Packing expenses and bad debts
	Lecture14: Research and development expenses
	Lecture15: Activity based cost allocation
	Term3
	Lecture16: Tutorial (Misc. discussion)
	Lecture17: Tutorial (Misc. discussion)
	Lecture18: Tutorial (Misc. discussion)
	Lecture19: Tutorial(Discussion on previous year VU question)
	Lecture20: Tutorial (Discussion on previous year VU question)
	Lecture21: Tutorial (Discussion on previous year VU question)

Teaching Plan	**C10T: Computer Application in Business**
	Term1
	Unit 1: Word Processing (MS WORD)
	Lecture1: Introduction to word Processing; Word processing concepts, Use of Templates.
	Lecture2: Working with word document: Editing text, Find and replace text,
	Lecture3: Formatting, spell check, Autocorrect, Auto text; Bullets and numbering
	Lecture4: Tabs, Paragraph Formatting, Indent, Page Formatting, Header and footer,
	Lecture5: Tables: Inserting, filling and formatting a table; Inserting Pictures and Video;
	Lecture6: Mail Merge: including linking with Database;
	Lecture7: Printing documents Creating Business Documents using the above facilities
	Term2
	Unit 2: Preparing Presentations (MS Power Point)
	Lecture 7: Introduction, Basics of presentations
	Lecture 8: Fonts, Drawing and Editing;
	Lecture 9: Inserting: Tables, Images, texts, Symbols, Media;
	Lecture10: Design; Transition; Animation; and Slideshow
	Lecture11: Business Presentations using above facilities
	Lecture12: Business Presentations using above facilities
	Term3
	Lecture13: Tutorial (Misc. discussion)
	Lecture14: Tutorial (Misc. discussion)
	Lecture15: Tutorial (Misc. discussion)
	Lecture16: Tutorial (Discussion on previous year VU question)
	Lecture 17: Tutorial (Discussion on previous year VU question)
	Lecture18: Tutorial (Discussion on previous year VU question)

Semester IV (Gen)	
Syllabus Allotted	**C7T: Corporate Accounting (Gen.), C8T: Cost Accounting (Gen.), SEC2T: E-Commerce (Gen.)**
No. of Classes (Hours)per week	**C7T: 1** **C8T: 1** **SEC2T: 1**
Teaching Plan	**C7T:CorporateAccounting(General)**
	Term1
	Unit 5. Accounts of Holding Companies/Parent Companies
	Lecture1: Introduction
	Lecture2: Preparation of consolidated balance sheet with one subsidiary company;
	Lecture3: Relevant provisions of Accounting Standard: 21 (ICAI).
	Lecture4: Problem solving on Holding Companies
	Lecture5: Problem solving on Holding Companies
	Lecture6: Problem solving on Holding Companies
	Term2
	Unit 6. Accounts of Banking Companies
	Lecture 7: Introduction
	Lecture 8: Difference between balance sheet of banking and non-banking companies;
	Lecture 9: Prudential norms;
	Lecture 10: Asset structure of a commercial bank;
	Lecture 11: Non-performing assets (NPA)
	Lecture 12: Problem solving on Banking Companies
	Lecture 13: Problem solving on Banking Companies
	Term 3
	Lecture 14: Tutorial1(Doubt clearing)
	Lecture 15: Tutorial2(Misc. Discussion)
	Lecture 16: Tutorial (Discussion on previous year VU question)
	Lecture 17: Tutorial (Discussion on previous year VU question)

Teaching Plan	C8T: Cost Accounting (General)
	Term1
	Unit 1: Introduction
	Lecture1: Meaning, objectives of cost accounting
	Lecture2: Advantages of cost accounting, Difference between cost accounting and financial accounting
	Lecture3: Cost concepts and classifications
	Lecture4: Elements of cost
	Lecture5: Installation of a costing system
	Lecture6: Role of a cost accountant in an organisation
	Term 2
	Unit 3: Elements of Cost: Overheads
	Lecture 7: Classification of Cost; Allocation of Cost
	Lecture 8: Apportionment and absorption of overheads
	Lecture 9: Under- and over absorption
	Lecture10: Capacity Levels and Costs
	Lecture11: Treatments of certain items in costing like interest on capital
	Lecture12: Packing expenses and bad debts
	Term 3
	Lecture13: Tutorial (Misc. discussion)
	Lecture14: Tutorial (Discussion on previous year VU question)
	Lecture15: Tutorial (Discussion on previous year VU question)

Teaching Plan	**SEC2T: E-Commerce (Gen.)**
	Term1
	Unit 3: IT Act 2000 and Cyber Crimes
	Lecture 1: Introduction, IT Act 2000: Definitions,
	Lecture 2: Digital signature, Electronic governance, Attribution,
	Lecture 3: acknowledgement and dispatch of electronic records, Regulation of certifying authorities
	Lecture 4: Digital signatures certificates, Duties of subscribers,
	Lecture5: Penalties and adjudication, Appellate Tribunal,
	Lecture6: Offences and Cyber-crimes,
	Term 2
	Unit 4: E-payment System:
	Lecture 7: Introduction, Models and methods of e–payments (Debit Card, Credit Card, Smart Cards, e-money),
	Lecture 8: digital signatures (procedure, working and legal position), payment gateways,
	Lecture 9: online banking (meaning, concepts, importance, electronic fund transfer,
	Lecture10: automated clearing house, automated ledger posting), risks involved in e-payments.
	Term 3
	Lecture11: Tutorial (Misc. discussion)
	Lecture12: Tutorial (Discussion on previous year VU question)
	Lecture13: Tutorial (Discussion on previous year VU question)

Semester VI (Hons.)	
Syllabus Allotted	**DSE3T: Fundamentals of Investment (Hons.)** **DSE4T: Business Research Methods and Project Work (Hons.)**
No. of Classes (Hours) per week	**DSE3T: 1** **DSE4T: 2**
Teaching Plan	**DSE3T: Fundamentals of Investment (Hons.)**
	Term 1
	Unit 3: Approaches to Equity Analysis
	Lecture 1: Introductions to Fundamental Analysis,
	Lecture 2: Technical Analysis and Efficient Market Hypothesis,
	Lecture 3: Dividend capitalisation models,
	Lecture 4: price-earnings multiple approach to equity valuation.
	Term 2
	Unit 5: Investor Protection
	Lecture 5: Introduction Investor Protection
	Lecture 6: Role of SEBI and stock exchanges in investor protection;
	Lecture 7: Investor grievances and their redressal system,
	Lecture 8: investors' awareness and activism,
	Term 3
	Lecture 9: Tutorial (Misc. discussion)
	Lecture 10:Estimatingbondyields,Bondvaluation
	Lecture 11: Tutorial (Discussion on previous year VU question)
	Lecture 12: Tutorial (Discussion on previous year VU question)

Teaching Plan	DSE4T: Business Research Methods and Project Work (Hons.)
	Term 1
	Unit 2: Research Process
	Lecture 1: Introductions, An Overview to Research Process;
	Lecture 2: Problem Identification and Definition;
	Lecture 3: Selection of Basic Research Methods- Field Study,
	Lecture 4: Laboratory Study, Survey Method,
	Lecture 5: Observational Method,
	Lecture 6: Existing Data Based Research,
	Lecture 7: Longitudinal Studies,
	Lecture 8: Panel Studies
	Term 2
	Unit 4: Report Preparation
	Lecture 9: Introduction and meaning of Report Preparation;
	Lecture 10: Types and layout of research report;
	Lecture 11: Steps in report writing;
	Lecture 12: Steps in report writing;
	Lecture 13: Citations, Bibliography;
	Lecture 14: Annexure in report;
	Lecture 15: JEL Classification
	Lecture 16: Tutorial (Misc. discussion)

Semester VI (Gen.)	
Syllabus Allotted	**DSE4T: Fundamentals of Investment (Gen.)** **SEC4T: Personal Selling and Salesmanship (Gen.)**
No. of Classes (Gen) per week	**DSE4T: 1** **SEC4T: 1**
Teaching Plan	**DSE3T: Fundamentals of Investment (Gen.)**
	Term 1
	Unit 3: Approaches to Equity Analysis
	Lecture 1: Introductions to Fundamental Analysis,
	Lecture 2: Technical Analysis and Efficient Market Hypothesis,
	Lecture 3: Dividend capitalisation models,
	Lecture 4: price-earnings multiple approach to equity valuation.
	Term 2
	Unit 4: Portfolio Analysis and Financial Derivatives
	Lecture 5: Portfolio and Diversification,
	Lecture 6: Portfolio Risk and Return;
	Lecture 7: Mutual Funds;
	Lecture 8: Introduction to Financial Derivatives;
	Lecture 9: Financial Derivatives Markets in India
	Term 3
	Lecture 10: Tutorial (Misc. discussion)
	Lecture 11: Tutorial (Discussion on previous year VU question)
	Lecture 12: Tutorial (Discussion on previous year VU question)

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Teaching Plan	SEC4T: Personal Selling and Salesmanship (Gen.)
	Term 1
	Unit 1: Introduction to Personal Selling
	Lecture 1: Introduction, Nature and importance of personal selling,
	Lecture 2: Myths of selling, Difference between Personal Selling,
	Lecture 3: Salesmanship and Sales Management,
	Lecture 4: Characteristics of a good salesman, types of selling situations,
	Lecture 5: Types of salespersons, Career opportunities in selling,
	Lecture 6: Measures for making selling an attractive career.
	Term 2
	Unit 2: Buying Motives:
	Lecture 7: Introduction, Concept of buying motivation,
	Lecture 8: Maslow's theory of need hierarchy;
	Lecture 9: Dynamic nature of motivation;
	Lecture 10: Buying motives and their uses in personal selling;
	Term 3
	Lecture 11: Tutorial (Misc. discussion)
	Lecture 12: Tutorial (Discussion on previous year VU question)
	Lecture 13: Tutorial (Discussion on previous year VU question)

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Department of Economics

Syllabus Distribution and Teaching Plan, Odd Semester,Session: 2023-2024

Term I: Commencement of classes to 1st internal; **Term II**: 1st internal to 2nd internal; **Term III:** 2nd internal to ESE preparatory break

SEMESTER I

Name	SyllabusAllotted	Teaching Plan
Dr.Bikash Kumar Ghosh	**MJ-1: Introductory Microeconomics**	Term I (4lectures) 1.Scope and Method of Economics: defining economics, basic economics questions, production possibility curve, households and firms, production and distribution, microeconomics and macroeconomics, normative economics and positive economics Term II (8 lectures) 2. Elementary theory of Demand: factors influencing household demand and market demand, the demand curve, movement along the demand curve and shift of the demand curve 3. Elementary theory of Supply: factors influencing household and market supply, the supply curve, movement along the supply curve and shift of the supply curve 4. The Elementary theory of market price: determination of equilibrium price in a competitive market. Term III (8 lectures) 5.Ordinal utility approach: Assumptions on preference ordering, Indifference curve and its properties; The consumption decision - budget constraint, consumption and income and price changes, consumer's optimum choice : price, income and substitution effects, consumption curve, income consumption curve and Engel curve.

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	SEC 1P: Basic Computer Applications in Economics (Practical)	**Term-1 (4 lectures)** 1.Word Processing (using MS Word): Basic features of Text formatting: changing the font, size, color, alignment, indentation, spacing, bullets and numbering 2. Insert and formatting: Table, shapes, pictures, page number, equation and symbols Term-II (4 lectures) 3.Page Layout: Margins, orientation, size, columns, page breaks, watermark 4. Mailing: Mail Merge 5. Review: Spelling and Grammar check, Tracking Term-III (4 lectures) Practical on word Processing
	MI – 1: Introductory Microeconomics	Term I (4 lectures) 1. Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; Term-II (3lectures) 2. market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; Term-III (5 lectures) Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets
Kuntal Das	**MJ-1: Introductory Microeconomics**	Term 1 (8 lectures) Cardinal Utiliy: total and marginal utility, utility and choice maximization, theory of demand Term2 (6 lectures) Perfect Competition, Monopoly, Monopolistic Competition Term 3 (6 lectures)

		Oligopoly markets: basic concepts and characteristics.
	MI-1:Introductory Microeconomics	Term1 (10 lectures) Behaviour of profit maximizing firms and the production process. Short run Costs and output decisions. Term2 (6 lectures) Cost and Output in long run. Monopoly and anti- trust policy Term 3 (4 lectures) Government Policies towards Competition, Imperfect Competition.
Pranim Rai	**Major-1 T: Introductory Microeconomics** Input Markets	**Term I** *(8 lectures)* Land and labour markets: basic concepts : derived demand, productivity of an input, marginal productivity of labour, marginal revenue product Demand for labour; **Term II** *(8 lectures)* Demand for labour; input demand curves; shifts in input demand curves, competitive labour markets Ricardian Theory of rent : Scarcity Rent and Differential Rent Marshallian theory of Rent **Term III** *(4 lectures)* Modern theory of rent : Quasi Rent
	SEC ECOSEC01 P: **Basic Computer Applications in Economics** (Practical) Spread Sheet Solutions	**Term I** *(8 lectures)* Basic features of Spreadsheets: understanding the layout, functions and features of MS Excel Data entry and formatting: entering, editing, selecting, copying, pasting, moving, deleting data in cells short, filter, sort tools **Term II** *(6 lectures)*

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| | | (using MS Excel) | Mathematical Functions: performing basic arithmetic operations such as addition, subtraction, multiplication, division, percentage and exponentiation
Financial functions: calculating present value, future value, interest rate, payment amount, loan duration and other financial parameters

Term III *(4 lectures)*

Creating simple Line, Bar and Pie charts: Creating and formatting different types of charts to visualize data Simple Statistical Functions: count, growth, max, min, roundup, average |

Semester III

Name	SyllabusAllotted	Teaching Plan
Dr.Sukla Mondal Shah	**C6T: Intermediate Macroeconomics – I** **C7T: Statistical Methods for Economics**	**Term I:** **Income Determination in the short-run** Simple Keynesian System: Multipliers; equilibrium in both closed and open economy and stability; autonomous expenditure, balanced budget, and net exports; paradox of thrift. **Term II:** **Univariate Probability Distribution** Discrete distribution-Binomial, Poisson; Continuous Distributions-Uniform, Normal, Exponential (Properties of each distribution; mean and variance). **Jointly Distributed Random Variables** Density function of Bivariate normal distribution and obtaining means, variances, and correlation coefficients. **Term III:** **Sampling** Concept of sampling and random sampling. Principal

		steps in a sample survey; methods of sampling; SRSWR, SRSWOR, Stratified sampling. Sampling vs non-sampling error **Estimation** Parameters and statistics; Point estimation - Properties of a good estimator; Maximum Likelihood Method and the method of moments; Estimation of population parameters using SRSWR and SRSWOR; Interval estimation.
	SEC1T: Data Analysis	**Term I:** Analysis of Indian Data: Economic Survey, **Term II:** Analysis of Indian Data: RBI Bulletin on currency and finance, **Term III:** Analysis of Indian Data: NSS Consumer surveys.
Dr.Bikash Kumar Ghosh	CC-6: Intermediate Macroeconomics – I SEC-1 – Data Analysis CC-7: Statistical Methods fo Economics	**Term I (14Lectures)** Derivation of aggregate demand assuming price flexibility; Derivation of aggregate supply curves both in the presence and absence of wage rigidity; equilibrium, stability, and comparative statics-effects of monetary and fiscal policies; Unemployment and its causespossible solutions, including real balance effect and wage cut policy. 1. Sources of data. Population census versus sample surveys. Random sampling. 2. Frequency distribution and summary Statistics. **Term II (18lectures)** Descriptive Statistics: Presentation of Data; Frequency Distribution; Measures of central tendency; Dispersion; Moments, Skewness and Kurtosis; Frequency Distribution- correlation and regre **Term III (10 lectures)**

		Index Number: Price and quantity index number; Different formula; Tests for an ideal index applicationCost of living index; Real GDP
Kuntal Das	**CC5-Intermediate Microeconomics-1**	Term 1 (12 lectures) Technology, Concepts of production function, return to factor and return to scale .Isoquant and diminishing rate of factor substitution. Cobb Douglas and CES production function. Homogeneous and Homothetic Production function. Term 2 (8 lectures) Isocost line, expansion path, short run and long run costs, Cost curves in the SR and LR, relation between SR and LR costs. Term 3 (8 lectures) SR and LR competitive equilibrium. SR supply curve of firm and industry. External Economics and Diseconomics of Scale.
	CC6-Intermediate Macroeconomics-1	Term 1(6 lectures) Inflation and Unemployment trade off: Short run and Long run. Term 2(6 lectures) Philips Curve under adaptive expectation. Output under rational expectation.
Pranim Rai	**C5T: Intermediate Microeconomics I**	**Term I** *(12 lectures)* Cardinal utility; Preference:ordering,properties of ordinal utility; existence of utility function, different utility functions and their properties, compensating and equivalent variation, Slutsky equation, consumption-

	Consumer Theory Input market in perfect competition	leisure choice and labour supply; **Term II** *(8 lectures)* Choice under uncertainty (expected utility and risk aversion), inter- temporal choice and savings decision; revealed preference approach. **Term III** *(8 lectures)* Derived demand for input, marginal product and marginal revenue product, input demand for competitive firm and competitive industry, returns to scale and product exhaustion.
	C6T: **Intermediate Macroeconomics – I** IS-LM Model IS-LM in the open economy under fixed and flexible exchange rate	**Term I** *(6 lectures)* IS-LM Model - equilibrium, stability and comparative statics; effects of fiscal and monetary policies, real balance effects; **Term II** *(6 lectures)* IS-LM in the open economy under fixed and flexible exchange rate with perfect and imperfect capital mobility (Mundell-Fleming model).

SemesterV

Name	SyllabusAllotted	Teaching Plan
Dr.Sukla Mondal Shah	**C12T: Public Economics**	**Term1:** **Taxation:** Classification of Taxes; Canons of Taxation; Benefit Principle; Equal Sacrifice Principle; Ability to Pay Principle; Incidence and burden of tax; Effect of taxation on income distribution, on exports, and on savings; the Laffer Curve Hypothesis;

		Term II: **Public Expenditure and Public Debt:** Meaning and Classification of Public Expenditure; government budget and its types; government expenditure and tax multiplier**s**, balanced budget multiplier; Fiscal Federalism in India; **Term III:** **Public Expenditure and Public Debt:** Meaning of Public Debt; Sources of Public Borrowings: internal and external borrowing; Effects of Public Debt.
	DSE2T: Money and Financial Markets	**Term1:** **Banking System** 1. Balance sheet and portfolio management; Multiple Deposit Creation, Determinants of the Money Supply. 2. Indian banking system: Changing role and structure; banking sector reforms. **Term II:** **Central Banking and Monetary Policy** Functions, balance sheet;goals, targets, indicators and instruments of monetary control; **Term III:** **Central Banking and Monetary Policy** Monetary management in an open economy; current monetary policy of India.
Dr.Bikash Kumar Ghosh	C12T: Public Economics	**Term I** Nature and Scope of Public Economics: Definition and Scope of Public Economics; Internal and Market Failure and Government Intervention; Coase Theorem; Public Expenditure to finance Development.

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	DSE-2: Money and Financial Markets	Introduction to money and BankingMoney Concept, functions, measurement; theories of money supply determination.
	C12T: Public Economics	**Term II** Theory of Public Good: Overview of Public Good; Characteristics of Pure Public Good; Distinction between Pure Public Good and Private Good; Market Failure in case of Pure Public Good; Optimal provision of Public Goods; Private Provision and Public Provision of Public Goods; Lindahl Equilibrium, Voting Equilibrium.
	DSE-2: Money and Financial Markets	Financial Institutions, Markets, Instruments and Financial Innovations: 1. Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises. 2. Money and capital markets: organization, structure and reforms in India; role of financial derivatives and other innovations.
	C12T: Public Economics	**Term III** Private Provision and Public Provision of Public Goods; Lindahl Equilibrium, Voting Equilibrium.
	DSE-2: Money and Financial Markets	Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India.
Dr.Subhabrata Chakrabarty	**C11T:** **International Economics**	**Term I** Balance of Payment accounts in an open economy; Determination of National Income, Transfer problem, Introduction of foreign Country & repercussion effect - open economy multiplier with & without repercussion effect
	Balance of Payments & Exchange Rate	**Term II** Fixed &Flexible Exchange Rate: adjustment of demand and supply of Foreign Exchange, Effect of devaluation, Effects of exchange rate on domestic prices and ToT, Marshall-Lerner Condition, J Curve effect

Kuntal Das	**CC11: International Economics**	Term 1(12 lectures) H-O theorem, Physical and Price definition, properties of H-O theorem, Factor Intensity Reversal. Stolper Samuelson Theorem, Rybczynski theorem. Term2(10 lectures) Effect of trade on factor price and income distribution, Leontief Paradox, Factor Price Equalisation. Partial Equilibrium effect of tariff. Quota, Comparison between tariff and quota. Term 3(8 lectures)- Subsidy and Voluntary Export Restraint, General equilibrium analysis of tariff. Offer Curve. Tariff ridden offer curve. Optimum tariff. Metzler"s Paradox.
	DSE-1: Economic History of India	Term 1(8 Lectures) Railways, the de-industrialisation debate, evolution of entrepreneurial and industrial structure, nature of industrialization in the interwar period Term2(6 lectures) Constraints to industrial breakthrough, labor relations, The imperial priorities and the Indian economy, drain of wealth, emergence of Economic Nationalism, Laissez Faire. Term 3(6 lectures) International trade policies, capital flows and the colonial economy- changes and continuities, Government and Fiscal Policy, Managing Agency System.
Pranim Rai	**C11T:** **International Economics** Basics of trade theory	**Term I** *(12 lectures)* Arbitrage as basis and direction of trade; fundamental sources of cross-country price differences and arbitrage; concept of comparative advantage; externalities, regulation and perverse comparative advantage; International equilibrium offer curves, ToT

		and stability; Gains from Trade (GFT) Theorem; Concepts of Production possibility Frontier and Community Indifference curves;
	Technology and Trade (Ricardian Model):	**Term II** *(12 lectures)*
		Illustration of GFT; Decomposition of GFT; Substitution possibilities and magnitude of GFT. Comparative versus Absolute Advantage, One-factor economy, production possibility frontier, relative demand and relative supply, terms of trade;
		Term III *(8 lectures)*
		Trade in Ricardian world, Determination of intermediate ToT, Complete specialization & GFT
	DSE1T: **Economic History of India (1857-1947)** Introduction: Colonial India: Background and Introduction Macro Trends Agriculture	**Term I** *(7 lectures)* Overview of the colonial economy National Income; Population; **Term II** *(8 lectures)* Occupational structure. Agrarian structure and land relations; agricultural markets and institutions – credit, commerce and technology; **Term II** *(5 lectures)* Trends in performance and productivity; famines, commercialization of agriculture.

Department of Economics

Syllabus Distribution and Teaching Plan, Even Semester, Session:

2022-2023

Term I: Commencement of classes to 1st internal; **Term II**: 1st internal to 2nd internal; **Term III:** 2nd internal to ESE preparatory break

Semester II

Name	Syllabus Allotted	Teaching Plan
Dr. Sukla Mondal Saha	**C3T: Introductory Macroeconomics**	**Term1:** **Money and Inflation** Monetary system- definitions of money and determinants of money supply – money multiplier and central bank's role in controlling money supply; quantity theory of money; inflation and its costs. **Term II:** **The Closed Economy in the Short Run** Theory of aggregate demand- components and their interrelations - crowing out- Factors causing shift in the function; **Term III:** **The Closed Economy in the Short Run** Theory of aggregate supply- determinants of supply and shift factors; Interaction of aggregate demand and supply.

	GE2T: Introductory Macroeconomics	**Term1:**
		Money
		Functions of money; quantity theory of money; **Term**
		II:
		Money
		Determination of money supply and demand; **Term**
		III:
		Money
		Credit creation; tools of monetary policy.

Dr. Bikash Kumar Ghosh	**C4T: Mathematical Methods in Economics-II** 1. Function of several variables (Economic Applications) 2. Multi-variable optimization 3. Differential Equations	**Term I**	Lectures
		1.1 Mathematical Applications of function of several variables on Theory of Consumer Behaviour	03
		1.2 Mathematical Applications of function of several variables on Theory of production	03
		1.3 Tutorial class for the above part of the syllabus	02
		2.1 Concept of Convex, concave, and quasi-concave functions.	01
		2.2 Basic idea of the Optimization of nonlinear functions: Convex, concave, and quasi-concave functions.	02
		2.3 Unconstrained optimization.	
		2.4 Constrained optimization with equality constraints.	01
		2.5 Lagrangian multiplier method	02
		2.6 Role of Hessian determinant	03
		2.7 Inequality constraints and Kuhn-Tucker	01
			02

		Conditions.	
		2.7 Value function and Envelope theorem	02
		2.8 Mathematical Applications of multi-variable optimization on Theory of consumer behavior 2.9	06
		Mathematical Applications of multi-variable optimization on Theory of production	06
		2.10 Tutorial class for the above part of the syllabus	04
		Internal examination – I	01
		Term II	
		3.1 Solution of Differential equations of first order	02
		3.2 Solution of Differential equations of second order 3.3	04
		Economic application - price dynamics in a single market.	02
		3.4 Economic application - price dynamics in a multimarket supply demand model with two independent markets.	03
		3.5 Qualitative graphic solution to 2x2 linear simultaneous differential equation system. 3.6	02
		Phase diagram, fixed point and stability.	03
		3.7 Tutorial class for the above part of the syllabus	04
		Internal examination – II	01
	GE2T: Introductory Macroeconomics	**Term I**	
		1.1 Classical model of Income and employment determination.	03
	The Closed Economy in the Short Run	1.2 Keynesian systems: Simple Keynesian model of income determination	04
		1.4 Tutorial class for the above part of the syllabus	03
		Internal examination – I	01

		Term II	
		1.4 IS- LM model.	04
		1.5 Fiscal and monetary multipliers	04
		1.6 Tutorial class for the above part of the syllabus	04
		Internal examination – II	01
Kuntal Das	**C4T: Mathematical Methods in Economics-II**	**Term I (20 Lectures)** Matrix: its elementary operations, different types of matrix, Rank of a matrix, Determinants and inverse of a square matrix, Solution of System of linear equations. **Term II (16 Lectures)** Eigen values and Eigen vectors. System of nonlinear equations-Jacobean determinant and existence of solution. **Term III (12 Lectures)** Optimization of linear function: Linear programming, concept of slack and surplus variables (graphical solution), concept of convex set.	
	GE2: Introductory Macroeconomics	**Term I (12 Lectures)** Inflation and social costs **Term II (6 Lectures)**	

Pranim Rai	**C3 T : Introductory Macroeconomics** National income accounting, unemployment, and open economy issues	**Term I (20 Lectures)** Macroeconomic data- National Income accounting and cost of living;
		Concept of Growth Role of savings, investment, and financial intermediation; **Term II (20 Lectures)** Open Economy- Balance of Payments, Exchange rates, and capital flow, Concept of unemployment- Types and their characteristics **Term III (06 Lecture)** Growth accounting and Solow residual.

Semester IV

Name	Syllabus Allotted	Teaching Plan

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Dr. Sukla Mondal Saha	C9T: Intermediate Macroeconomics – II	**Term1:** **Macroeconomic Foundations** Consumption: Keynesian consumption function; Fisher's theory of optimal intertemporal choice; life-cycle and permanent income hypotheses; Dusenberry's relative income hypothesis; rational expectations and random-walk of consumption expenditure. **Term II:** **Macroeconomic Foundations** Investment: MEC and MEI- Jorgenson's neo-classical theory- Acceleration principle- fixed and variable.

	C10T: Introductory Econometrics	Demand for money: Regressive expectations and Tobin's portfolio choice models; Baumol's inventory theoretic money demand **Term III:** **Statistical Concepts** Sampling Distributions-, t- and F-distributions and their application in testing of hypothesis; Defining hypothesis; Distribution of test-statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test.

		Term I	Lectures
Dr. Bikash Kumar Ghosh	**C10T: Introductory Econometrics**		
		1.1 Definition and Scope of Econometrics.	02
	1. Nature and Scope of Econometrics	1.2 Importance of Error Term.	01
		1.3 Tutorial class for the above part of the syllabus	01
	2. Classical Linear Regression Model: Two Variable Case	2.1 The CLRM model.	02
		2.2 The role of disturbance term.	01
		2.3 Estimation of parameters present in the model by method of ordinary least squares (OLS).	02
		2.4 Gauss-Markov theorem.	02
		2.5 Reverse Regression.	02
		2.6 BLUE Properties of estimators.	04
		2.7 Goodness of fit	02
		2.8 Testing of hypotheses and confidence intervals 2.9 Scaling and units of measurement	04
			01
		2.10 Prediction and forecasting.	02
		2.11 Problems in OLS Method	02
		2.12 Tutorial class for the above part of the syllabus	04
		Internal examination – I	01
	3. Multiple Classical Linear	**Term II**	

	Regression Model	3.1 Motivation for multiple regression.	01
		3.2 Estimation by OLS method	02
		3.3 Properties of OLS estimators	04
		3.4 Testing hypotheses – individual and joint	03
		3.5 Partial correlation and regression coefficients.	03
		3.6 Goodness of fit –role of R^2 and adjusted R^2 3.7	03
		Use of qualitative (dummy) independent variables.	02
		3.8 Tutorial class for the above part of the syllabus.	04
	4. Violations of Classical Assumptions: Consequences, Detection and Remedies	4.1 Problems of Multi-collinearity.	02
		4.2 Problems of Heteroscedasticity	01
		4.3 Problems of Auto correlation	01
		4.4 Consequences of applying OLS under Heteroscedasticity .	02
		4.5 Consequences of applying OLS under Autocorrelation and their detection.	02
		4.6 DurbinWatson Test	02
		4.7 Glesjer Test and Goldfeld-Quandt Test.	02
		4.8 Tutorial class for the above part of the syllabus.	04
	5. Specification Problem	5.1 Omission of a relevant variable.	02
		5.2 Inclusion of an irrelevant variable.	02
		5.3 Tests of specification errors.	02
		5.4 Tutorial class for the above part of the syllabus	02
		Internal examination – I	01
	SEC2T: Research Methodology	**Term I**	
	1. Unit-1	1.1 Understand the nature of research.	02
		1.2 Formulating a research topic	02
		1.3 Review of literature	02
		1.4 Tutorial class for the above part of the syllabus	01

		Internal examination – I	01
	2. Unit-2	**Term II**	
		2.1 Approaches to research and research strategy	02
		2.2 Research Ethics	02
		2.3 Using Secondary data	02
		2.4 Using Primary data- collecting data through observations/ interviews/ questionnaire	02
		2.5 Tutorial class for the above part of the syllabus	02
		Internal examination – II	01

| Kuntal Das | C8T: Intermediate Microeconomics – II | **Term I (18 lectures)**

Monopoly, pricing with market power, degree of monopoly, price discrimination of different degrees,
Multiplant monopoly, peak-load pricing, two-part tariff, monopolistic competition.
Co-operative and Non Cooperative static games, simultaneous move and sequential move games.

Term II (12 lectures)

Non –cooperative games of perfect information, the Prisoner's dilemma, Nash equilibrium in pure and mixed strategies, Backward induction solutions and SPNE.

Term III (10 lectures)

Applications of game theory in oligopolistic markets, Cournot equilibrium, Bertrand Equilibrium model, Stackelberg model, Concept of collusion and cartel, solution by backward induction |

	C9T: Intermediate Macroeconomics – II	**Term I (10 Lectures)** Harrod – Domar model, Solow one sector Growth models. Golden rule. **Term II (8 Lectures)** Dynamic efficiency, technological progress and elements of endogenous growth theory.
Pranim Rai	**C8T: Intermediate Microeconomics – II** General Equilibrium, Efficiency, and Welfare Input Market under Imperfect Competition	**Term I (20 Lectures)** Exchange Economy, Consumption Allocation and Pareto Optimality; Edgeworth box and contract curve; Equilibrium and efficiency under pure exchange. Pareto efficiency with production: Concepts of PPF, SIC, and resource allocation; **Term II (20 Lectures)** Perfect competition, Pareto efficiency and market failure (externalities and public good); Property right and Coase Theorem. Monopsony, bilateral monopoly in labour market; **Term III (08 Lectures)** Externalities; public goods and markets with asymmetric information.

C9T: Intermediate Macroeconomics II	Term I (08 Lectures)
Schools of Macroeconomic Thoughts	Classical System: Say's law and quantity theory; Friedman's restatement; classical dichotomy and neutrality of money; **Term II (06 Lectures)** Keynesian vs classical system; Basic tenets of New Classical and New Keynesian System.

Semester VI

Name	Syllabus Allotted	Teaching Plan

Dr. Sukla Mondal Saha	**C13T: Indian Economy**	**Term1:** **Growth and Distribution** Trends and policies in poverty including Sen's Entitlement Analysis; Inequality and unemployment. **Term II:** **Economic Growth** An overview and policy implications of one sector growth models- Harrod-Domar,
	C14T: Development Economics	**Term III:** **Economic Growth** An overview and policy implications of one sector growth models- Solow; Sources of economic growth, international comparisons.

	DSE3T: Environmental Economics	**Term1:** **The Theory of Externalities** Pareto optimality, Pareto optimality and market failure in the presence of externalities; Property rights and the Coase theorem.	
	DSE4: Project Work	**Term II:** **Project Work** Field Survey for Project Work. **Term III: Project** **Work** Preparation of Project based on Field Survey data.	
Dr. Bikash Kumar Ghosh	**C13T: Indian Economics** 1. Population and Human Development	**Term I** 1.1 Demographic trends of India. 1.2 Demographic issues in India. 1.3 Tutorial class for the above part of the syllabus **Internal examination – I** **Term II** 1.3 Education Sector in India. 1.4 Health and malnutrition in Indiaa. 1.5 Tutorial class for the above part of the syllabus **Internal examination – II**	**Lectures** 02 02 01 01 02 03 02 01

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	DSE3T: Environmental Economics 1. Introduction	**Term I**	
		1.1 What is environmental economics?	01
		1.2 Review of microeconomics and welfare economics.	04
		1.3 Tutorial class for the above part of the syllabus	01

	2. Measuring the Benefits of Environmental Improvements	1.1 Economic Perspectives of value in Environmental context.	02
		1.2 Non-Market values of environmental improvement.	02
		1.3 Measurement methods of environmental improvement.	04
		1.4 Expressed preference Methods.	02
		1.5 The Revealed Preference methods.	02
		1.6 Contingent Valuation Methods.	02
		1.7 Hedonic Pricing Methods.	02
		1.8 Cost-Benefit Methods	02
		1.9 Risk assessment and perception.	02
		1.10 Tutorial class for the above part of the syllabus	04
		Internal examination – I	01
	3. Sustainable Development	**Term II** 1.1 Concepts of Sustainable Development 1.2 Goals of Sustainable Development.	02 03
		1.3 Measurement of Sustainable Development.	06
		1.4 Tutorial class for the above part of the syllabus	04
		Internal examination – II	01

	DSE 4 Project Work 1. Field Survey based Project work.	1.1 Selection of topic of the Project work.	01
		1.2 Questioners Preparation.	02
		1.3 Field survey / village survey to collect primary data.	15
		1.4 Preparation of statistical tables based on collected data.	02
		1.5 Tutorial classes for preparation of statistical tables and data analysis using computer.	04
		1.6 Analysis of Data using different methodology.	06
		1.7 Writing the result analysis and conclusion.	04
		1.8 Project book preparation.	02
		1.9 Tutorial classes for project viva.	04
		1.10 Demonstration of Project Work.	01

Dr. Subhabrata Chakrabarty	**C13T: Indian Economics** Economic Reforms in India	**Term I (06 Lectures)** Monetary and Fiscal Policy Reforms **Term II (03 Lectures)** Trade Policy Reforms

Kuntal Das	**C13T: Indian Economics**	**Term I (16 Lectures)**
		Main features of economy since independent, Planning, development goals and strategies, structural constraints, Debate between growth and Distribution.
		Term II (10 Lectures)
		Public sector vs Private Sector, Consumer goods vs Capital goods, Import Substitution vs Export Promotion , Growth and Development under policy regimes
		Term III (6 Lectures)
		Sustainability and regional constraints, Structural Changes, Saving and investment and Saving Investment Paradox.
	C14T: Development Economics	**Term I (10 Lectures)**
		Poverty and Inequality: Inequality axioms, Commonly used inequality measures, Gender inequality,

		Connections between inequality and development.
		Term II (6 Lectures)
		Poverty measurement, HPI, poverty traps and path dependence of growth process.

	DSE3T: Environmental Economics	**Term I (6 Lectures)** Trans-boundary environmental problems, economics of climate change. **Term I (4 Lectures)** Trade and environment.
	DSE4: Project Work Supervision of Students' Project Work	Selection of topic of the Project work. Questioners Preparation. Field survey / village survey to collect primary data. Preparation of statistical tables based on collected data. Tutorial classes for preparation of statistical tables Writing the result analysis and conclusion.

Pranim Rai	**C14T: Development Economics** Meaning of Economic Development, Political Institutions and the State	**Term I (18 Lectures)** Income Approach and Capability Approach, Construction and interpretation of HDI; International variations in development measures; Comparing development trajectories across nations and within them. Dependency school of development.
		Term II (12 Lectures) Definition of institutions, Evolution of Political and Economic Institutions; The determinants of democracy; Alternative institutional trajectories and their relationship with economic performance; **Term III (04 Lectures)** Within-country differences in the functioning of state institutions; State ownership and regulation; government failures and corruption.

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BIDYUT SAMANTA

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	DSE3T: Environmental Economics	**Term I (07 Lectures)** Overview; pigouvian taxes and effluent fees; tradable permits; **Term II (04 Lectures)** Choice between taxes and quotas under uncertainty; **Term III (03 Lectures)** The Design and Implementation of Environmental Policy
	DSE 4: Project Work Supervision of Students' Project Work	Selection of topic and area of Project. Preparation of questionnaire. Field survey to collect primary data. Preparation of statistical tables based on collected data. Tutorial classes for preparation of statistical tables Writing the result analysis and conclusion.

Teaching Plan for the odd semester (2023-24)

Name of the Teacher: Mr. SOUMYABRATA SIL

Term I: Commencement of classes to 1st internal,

Term II: 1st internal to 2nd internal.

Term III: 2nd internal to ESE preparatory break.

Semester III	
Syllabus allotted	**CC 6- T.S. Eliot- The Love Song of J. Alfred Prufrock** **CC 6 -Katherine Mansfield- The Fly**
No of Classes (Hour) per week	4 Hrs
Teaching Plan	**The Love Song of J. Alfred Prufrock** Lecture 1 to Lecture 3: Modernism, its traits, departure from previous literary eras Lecture 4 and Lecture 5: Modern Literature and its features Lecture 6 and Lecture 7: Modern Poetry Lecture 8: T S Eliot and his poetry Lecture 9: Introduction to Prufrock Lecture 10 to Lecture 14: discussion of the text of Love song Of J Alfred Prufrock Lecture 15 and lecture 16: Discussion of important issues and probable university questions Lecture 17: Tutorial **The Fly** Lecture 1: Crisis of identity and the inter-war years Lecture 2 to Lecture 4: advent of modern literature and modern short story Lecture 5: Features of modern short story Lecture 6: Introduction to Mansfield and The Fly Lecture 7 to Lecture 11: Text of The Fly Lecture 12 to lecture 14: Discussion of important issues and probable University questions Lecture 15: Tutorial
Semester V	
Syllabus allotted	**CC 12- Mahasweta Devi- Draupadi** **CC 12- Eunice D'Souza- Advice to Women** **DSE 2- Julio Cortazar- Blow up**
No of Classes	4 hrs

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BIDYUT SAMANTA

22.06.2024

(Hour) per week	
Teaching Plan	**Draupadi** Lecture 1: Introduction to Indian literature with special focus on Bhasa Literature Lecture 2: Introduction to translation studies and related theories and problems of translation Lecture 3: Social milieu, socio-political condition of 1970 Bengal under the backdrop Naxalite movement Lecture 4: Necessity of Women's studies, Women's Literature, gender sensitivity and awareness Lecture 5: Mahasweta Devi- times. Life, works and philosophy Lecture 6: Tribal studies, subalterns and introduction to Draupadi Lecture 7 to Lecture 12: Text of Draupadi Lecture 13 to Lecture 15: Discussion of relevant issues and probable University questions Lecture 16: tutorial **Advice to Women** Lecture 1: Introduction to Indian English Literature Lecture 2: Introduction to Indian English Poetry Lecture 3: Eunice D'Souza- works and philosophy Lecture 4: Text of Advice to Women Lecture 5: Discussion of probable University questions Lecture 6: Tutorial **Blow-Up** Lecture 1: Introduction to Latin American Literature Lecture 2: Introduction continued Lecture 3: Julio Cortazar- Life, relevance, works and philosophy Lecture 4: Introduction to Cortazar continued Lecture 5 to Lecture 9: Text of Blow-Up Lecture 10 and Lecture 11: Discussion of issues pertaining to the text and probable University questions Lecture 11: Tutorial

PG 1st Semester	
Syllabus allotted	**Course 102: Shakespeare: A Midsummer Night's Dream** **Course 104: Rosetti: Goblin Market**
No of Classes (Hour) per week	5 hrs
Teaching Plan	**102: A Midsummer Night's Dream** Lecture 1: Introduction to comedy- Greek, Aristotelian, romantic, sentimental, anti-sentimental, modern etc. Lecture 2: Revision of Shakespearean comedy- discussion of the comic masterpieces Lecture 3: Introduction to A Midsummer Night's Dream

	Lecture 5 to lecture 8: Screening of A Midsummer Night's Dream
	Lecture 9 to lecture 13: Discussion of the text of A Midsummer Night's Dream
	Lecture 14 to lecture 17: Discussion of important issues and probable university questions.
	Lecture 18: Tutorial and doubt clearance session
	104: Goblin Market
	Lecture 1: Introduction to Victorian Literature
	Lecture 2: Victorian Poetry- features and characteristics
	Lecture 3: Pre- Raphaelite poetry and its departure from Victorian poetry
	Lecture 4: Pre- Raphaelite poetry continued
	Lecture 5: Introduction to Critina Georgina Rosetti
	Lecture 6: Introduction to Goblin Market
	Lecture 7 to lecture 12: Text of Goblin Market
	Lecture 13 and lecture 14: Discussion of important issues and probable University questions
	Lecture 15: Tutorial and doubt clearing session

PG 3rd Semester	
Syllabus allotted	**Course 302: Critical terms related to Literary Theory** **Course 305: Mahasweta Devi: Mother of 1084** **Course 305: Meena Kandasamy**
No of Classes (Hour) per week	5 hrs
Teaching Plan	**302: Critical terms related to Literary Theory** Lecture 1: introduction to Literary Theory Lecture 2: Necessity of Literary theory and its applications Lecture 3 & lecture 4: Evolution of Literary Theory- a chronological analysis Lecture 5 to lecture 14: discussion and analysis of 10 terms related to Literary Theory Lecture 15 and Lecture 16: Doubt clearance session Lecture 17: Tutorial **305: Mother Of 1084** Lecture 1: Introduction to Indian literature with special focus on Bhasa Literature Lecture 2: Introduction to translation studies and related theories and problems of translation Lecture 3: Social milieu, socio-political condition of 1970 Bengal under the backdrop Naxalite movement Lecture 4: Necessity of Women's studies, Women's Literature, gender sensitivity and awareness Lecture 5: Mahasweta Devi- times. Life, works and philosophy Lecture 6: Introduction to Mother of 1084 Lecture 7 to Lecture 9: Screening of Mother of 1084 Lecture 10 to lecture 14: Discussion of the text of Mother of 1084

Lecture 15 and Lecture 16: Doubt clearance session and discussion of important University questions
Lecture 17: Tutorial

305: Meena Kandasamy
Lecture 1: Introduction to Postcolonial Indian English literature
Lecture 2: Introduction to Dalit studies and Dalit Literature
Lecture 3: Gender, Identity, and associated politics
Lecture 3: Meena Kandasamy: life, works, art, relevance
Lecture 4: Discussion on Kandasamy continued
Lecture 5 to lecture 7: Poem 1: Mascara
Lecture 8 to lecture 10: poem 2: My Lover speaks of Rape
Lecture 11 to lecture 13: poem 3: Mrs. Sunshine
Lecture 14 and lecture 15: Discussion of important issues and University questions
Lecture 16: Tutorial

DEPARTMENT OF ENGLISH

UG AND PG STUDIES

Teaching Plan for the odd semester (2023-24)

Name of the Teacher: Mr. CHINMOY MONDAL

Term I: Commencement of classes to 1st internal,

Term II: 1st internal to 2nd internal.

Term III: 2nd internal to ESE preparatory break.

Semester III	
Syllabus allotted	**CC 6- W.B. Yeats: "The Lake Isle of Innisfree", "No Second Troy"** **CC6- Owen: "Anthem for Doomed Youth"** **CC 7-Faulkner: "Dry September"**
No of Classes (Hour) per week	4 Hrs
Teaching Plan	**CC 6 - The Lake Isle of Innisfree, No Second Troy** Lecture 1 to Lecture 3: Late Victorian Period, its literary traits. Modernism, its traits and emerging literary theories Lecture 4 and Lecture 5: Yeats and his poetic theory Lecture 6 and Lecture 7: Modern Poetry Lecture 8: Introduction of the poem Lecture 9 to 11: Discussion of the text of "The Lake Isle of Innisfree" Lecture 12 to Lecture 13: Discussion of the text of "No Second Troy" Lecture 14-15: Discussion of important issues and probable university questions Lecture 16: Tutorial **CC 6 – Anthem for Doomed Youth** Lecture 1: Life and works of Wilfred Owen Lecture2: War poetry, its traits Lecture 3 to 4: The text Lecture 5: Owen as a War poet Lecture 6 & 7: Discussion of important issues and probable university questions Lecture 8: Tutorial **CC 7- Dry September** Lecture 1-2: History of American Literature Lecture 3 to Lecture 4: Advent of modern literature and modern American short story Lecture 5: Features of modern short story Lecture 6: Introduction to Faulkner and "Dry September" Lecture 7 to Lecture 11: Text Lecture 12 to lecture 14: Discussion of important issues and probable University questions Lecture 15: Tutorial

Semester V	
Syllabus allotted	**CC 11- Chinua Achebe: "Things Fall Apart** **CC 12- Plath: "Lady Lazarus"**
No of Classes (Hour) per week	4 hrs
Teaching Plan	**CC 11 – Things Fall Apart** Lecture 1: Introduction to African Literature Lecture 2: Colonialism and Post-colonialism Lecture 3: Social milieu, socio-political condition of Africa during that era Lecture 4: Race, gender, ethnicity and the framing of identity Lecture 5: Life, carrier, works and philosophy of Achebe Lecture 6: Okonkwo as a tragic hero Lecture 7 to Lecture 12: Cultural practices, superstitions and prejudices of the Igbo tribe and the rituals of the tribe and other issues Lecture 13 to Lecture 15: Discussion of relevant issues and probable University questions Lecture 16: tutorial **CC 12 - Lady Lazarus** Lecture 1: Works and philosophy of Sylvia Plath Lecture 2: Confessional Poetry, its traits and tenets Lecture 3: Text of Lady Lazarus Lecture 4: Lady Lazarus as a Confessional poem Lecture 5: Religious elements in Lady Lazarus Lecture 6: Discussion of probable University questions Lecture 7: Tutorial
PG 1st Semester	
Syllabus allotted	**Course 102: The Tempest** **Course 101: Donne: "Canonization" , "The Ecstasy", & "Good Morrow"**
No of Classes (Hour) per week	5 hrs
Teaching Plan	**102: The Tempest** Lecture 1: Introduction to comedy, tragedy and tragic-comedy- Greek, Aristotelian, Shakespearean, sentimental, anti-sentimental, modern etc. Lecture 3: Introduction to The Tempest Lecture 5 to lecture 8: Screening of The Tempest Lecture 9 to lecture 13: Discussion of the text of The Tempest Lecture 14 to lecture 17: Discussion of important issues and probable university questions. Lecture 18: Tutorial and doubt clearance session

	101: Donne
	Lecture 1: John Donne, life, work and social history
	Lecture 2 & 4: Metaphysical poetry, its traits and tenets, (Dr. Johnson & T.S .Eliot)
	Lecture 5 & 6: Poem 1: "Canonization"
	Lecture 7 & 8: Poem 2: "The Ecstasy"
	Lecture 9 & 10: Poem 3: "Good Morrow"
	Lecture 11 and lecture 12: Discussion of important issues and probable University questions
	Lecture 15: Tutorial and doubt clearing session

PG 3rd Semester	
Syllabus allotted	**Course 301: Aristotle: *Poetics*** **Course 302: Roland Barthes: *Death of the Author*** **Course 305: Sylvia Plath (Selections)**
No of Classes (Hour) per week	5 hrs
Teaching Plan	**301: Poetics** Lecture 1-2: Imitation, its modes and manners Lecture 3-6: Text Lecture 7 & lecture 8: Definition of Tragedy, its various constituents Lecture 9 & lecture 10: Epic, Comedy and Tragedy, their differentiations Lecture 11 and Lecture 12: Doubt clearance session Lecture 13: Tutorial **302: Death of the Author** Lecture 1: Introduction to the works of Roland Barthes Lecture 2: Concept of Author and Authorship before and after Barthes Lecture 3: New Criticism and I.A. Richards Lecture 4: Saussure and Structuralism Lecture 5: Post-structuralism Lecture 6 to 10: Text Lecture 11 and Lecture 12: Doubt clearance session and discussion of important University questions Lecture 13: Tutorial **305: Sylvia Plath (selections)** Lecture 1: Introduction to American Poetry Lecture 2: Confessional poetry, its traits Lecture 3: Gender, Identity, and associated politics Lecture 3: World War and its impact on Sylvia Plath Lecture 4 o 5: Poem 1: "Daddy" Lecture 6 to lecture 8: Poem 2: "Lady Lazarus" Lecture 9: Holocaust imageries in "Daddy" & "Lady Lazarus" Lecture 10 to lecture 11: Discussion of important issues and University questions Lecture 12: Tutorial

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Department of English

Teaching Plan for the odd semesters (2023-24)

Name of the Teacher: Jayanta Kumar Murmu

UG

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Semester I	
Syllabus allotted	**MJ-1: History of English Literature and English Language**
No of Classes (Hour) per week	**03**
Teaching Plan	**MJ1T:C: Chaucer: *The Wife of Bath's Prologue*** **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the "General Prologue" of *The Canterbury Tales* by Chaucer **Lecture 4:** Discussion on the character introduction (Wife of Bath) by Chaucer in the text **Lecture 5:** Discussion on whether the character of Wife of Bath and Chaucer himself could be considered as Feministic **Lecture 6:** Reading the text with proper discussion on the various references **Lecture: 7:** Discussion on the 14th Century England **Lecture: 8:** Discussion on the Ecclesiastical, Aristocrat and Common characters as represented by Chaucer in the text **Lecture: 9:** Discussion on some essay topics from the text **Lecture: 10:** Discussing the Wife of Bath's Tale using ICT **Lecture: 11: Tutorial** **Lecture: 12: Tutorial**
Semester III	
Syllabus allotted	**CC5T: British Literature: 19th Century (1832-1900)** **CC7T: American Literature**
No of Classes (Hour) per week	04
Teaching Plan	**CC7T: American Literature: Robert Frost: 'The Road not Taken'** **Lecture 1:** Introduction to the text and the poet **Lecture 2:** Discussion on the life and works of the poet **Lecture 3:** Discussion on the background of the poem **Lecture 4:** Discussion on the text and reading **Lecture 5:** Discussion on the rhyme scheme of the poem **Lecture 6:** Analysing the text using ICT **Lecture 7:** Discussion of the theme 'The Power of Hindsight' **Lecture 8:** Discussion on the theme 'Perspective and Memory' **Lecture 9:** Discussion on some latent motifs and symbols in the text **Lecture 10:** Discussion on some poetic devices used in the poem through

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	ICT **Lecture 11: Tutorial** **Lecture 12: Tutorial** **CC7T: American Literature: Langston Hughes: 'Harlem to be Answered'** **Lecture 1:** Introduction to the text and the poet **Lecture 2:** Discussion on the life and works of the poet **Lecture 3:** Discussion on the topic of biographical facts of the author reflected in the poem **Lecture 4:** Analysing the text using ICT **Lecture 5:** Discussion on the 'Depression Era' the USA its importance in the text **Lecture 6:** Discussion on the topic of *Salvery* **Lecture 7:** Discussion on the important topic of *American Civil War* **Lecture 8:** Discussion on the topic of mass migration of the African American people from south to North America **Lecture 9:** Discussion on some latent themes and symbols from the text **Lecture 10:** Discussion on some essay topics from the text **Lecture 11: Tutorial** **Lecture 12: Tutorial**
Semester V	
Syllabus allotted	**C11T: Postcolonial Literatures** **DSE2T: World Literatures**
No of Classes (Hour) per week	**04**
Teaching Plan	**C11T: Postcolonial Literatures: Ama Ta Aidoo:** *The Girl Who Can* **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the Western Feminism and African Feminism **Lecture 4:** Summarising and analysing the text based on above mentioned topics using **ICT** **Lecture 5:** Discussion on the role of Adoja as a child narrator **Lecture 6:** Discussion on the oral story telling method, how it has been used narrating the story **Lecture 7:** Discussion on the narrativizing mother's silence **Lecture 8:** Discussion on symbols and metaphors in the story like walking and running= tradition and modernity **Lecture 9:** Discussion on some important essay type questions **Lecture 10: Tutorial** **Lecture 11: Tutorial** **DSE2T: World Literatures: V.S. Naipaul:** *Bend in the River* **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the diasporic literature **Lecture 4:** Discussion on the history of colonization of African continent
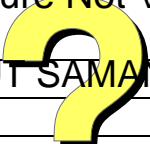
	Lecture 5: Summarising and analysing the text **Lecture 6:** Discussion on the characters **Lecture 7:** Discussion on the "Big Man" **Lecture 8:** Discussion on some latent themes and symbols from the text **Lecture 9:** Discussion on some essay topics from the text **Lecture 10: Tutorial** **Lecture 11: Tutorial**
PG	**Semester I**
Syllabus Alotted	**ENG-101:Unit-01: Chaucer:** *Prologue to the Canterbury Tales* **ENG-104:Unit-02: Keats: 'Ode to Psyche', 'Ode to Melancholy'**
No. of Classes (Hour) Per week	**03**
Teaching Plan	**ENG-101:** *Chaucer: Prologue to the Canterbury Tales* **Lecture 1:** Introduction to the text and the poet **Lecture 2:** Discussion on the life and works of the poet **Lecture 3:** Discussion on the "General Prologue" of *The Canterbury Tales* by Chaucer **Lecture 4:** Discussion on the introduction of the characters by Chaucer in the text **Lecture 5:** Discussion on the mastery of Chaucer while describung the characters **Lecture 6:** Reading the text with proper discussion on the various references **Lecture: 7:** Discussion on the 14th Century England **Lecture: 8:** Discussion on the Ecclesiastical, Aristocrat and Common characters as represented by Chaucer in the text **Lecture: 9:** Discussion on some essay topics from the text **Lecture: 10:** Discussing the interesting Tales told by some of the important characters using **ICT** **Lecture: 11: Tutorial** **Lecture:12: Tutorial** **ENG-104: Keats: 'Ode to Psyche', 'Ode to Melancholy'** **Lecture 1:** Introduction to the text and the poet **Lecture 2:** Discussion on the life and works of the poet **Lecture 3:** Discussion: Briefly on the Romantic Poets **Lecture 4:** Summarising and analysing the text based on above mentioned topics using **ICT (Ode to Melancholy)** **Lecture 5: Summarising and analysing the text based on above mentioned topics using ICT (Ode to Psyche)** **Lecture 6:** Discussion on the Greek mythological references used in the text **Lecture 7:** Discussion on some important essay type questions **Lecture 8: Tutorial** **Lecture 9: Tutorial**
	SEMSTER III
Syllabus	**ENG-302: Unit-03: Freud:** *Beyond the Pleasure Principles*

Alotted	ENG-303: Unit-01: Ngugi: *Decolonising the Mind*
No. of Classes (Hour) Per week	04
Teaching Plan	**ENG: 303: Sigmund Freud: Beyond the Pleasure Principle** **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the importance of *Psychoanalysis* and how it came to be **Lecture 4:** Discussion on the topographical model of the human mind by Freud using **ICT** **Lecture 5:** Discussion on Conscious, Unconscious and Sub-Consciousness mind using **ICT** **Lecture 6:** Discussion on ID, EGO and Super EGO using **ICT** **Lecture 7:** Discussion on *Eros* and *Thanatos* **Lecture 8:** Discussion on the *Defence Mechanism* of the Psyche (Unconscious Mind) using **ICT** **Lecture 9:** Discussion on the *Psychosexual Stages iusing* **ICT** **Lecture: 10:** Discussion on the main text **Lecture 10: Tutorial** **ENG: 303: Ngugi Wa Thingo: Decolonizing the Mind** **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the topic of biographical facts of the author reflected in the text **Lecture 4:** Analysing the text using ICT **Lecture 5:** Discussion on the cultural colonisation **Lecture 6:** Discussion on how cultural colonisation is harmful to a nation **Lecture 7:** Discussion on the topic that what is decolonisation of the mind, how is it possible **Lecture 8:** Discussion on some essay topics from the text **Lecture 9: Tutorial** **Lecture 10: Tutorial**

Department of English

Teaching Plan for the Odd semesters (2023-2024)

Name of the Teacher: Dr. Somnath Mahato

Semester I	
Syllabus allotted	**History of English Literature: Beginnings to the Commonwealth /SEC 1-Soft Skills ,Introduction to Emotional Intelligence(1-4)**
No of Classes (Hour) per week	2hrs
Teaching Plan	**Major 1- History of English Literature: Beginnings to the Commonwealth** Lecture 1: Introduction to English language & literature & various forms/genre of literature Lecture 2: Introduction of Heroic poetry & analysis of Beowulf. Lecture 3: Screening "Beowulf"(Film Adaptation Starred by Angelina Jolie) Lecture 4: Analysis of Widsith , Battle of Maldan, Fight at Finnsburh, Battle of Brunanburh Lecture 5: Introduction Old English Elegiac poetry Deor's Lament, Husband Message, Wife's Complaint Lecture 6: Introduction to Anglo Saxon Prose(Analysis of King Alfred, Aelfric, Wulfstan 's literary works) Lecture 7:Introduction & Analysis to Middle English alliterative poetry/allegorical poetry Lecture 8: Analysis of Metrical Romance Lecture 9: Renaissance & Elizabethan Age: An Overview Lecture 10:Introduction & Analysis Pre Shakespearean Drama/University Wits Lecture 11: Analysis of Shakespearean Drama Lecture 12.Analysis of Elizabethan Songs, Sonnets and Lyrics Lecture 13: Analysis of Jacobean Drama & post Jacobean literature(till Commonwealth) Lecture 14: Tutorial Lecture15: Doubt Clearance Session Lecture16:Introduction to Soft Skills/Need for Soft Skills, Soft Skills vs Hard Skills, Skills to Master Lecture17:Introduction to personality Development./Types of Personality, Elements of Personality development Lecture18:Continue ...Positive thinking, Johri's window, Communication Skills Lecture19: Introduction to Emotional Intelligence /Skills to develop emotional intelligence and other issues related to this field Lecture20: Introduction to Interpersonal relationship: Analysis of importance and types of interpersonal relationship Lecture21:Tutorial Lecture22: Question Answer Session/ Doubt Clearance Session

Semester III	
Syllabus allotted	**C5T- Robert Browning: My Last Duchess, The Last Ride Together, CC7- Walt Whitman –" O Captain, My Captain**
No of Classes (Hour) per week	3 hrs
Teaching Plan	**C5T- Robert Browning: My Last Duchess, The Last Ride Together,** Lecture 1: Introduction to Victorian literature & Victorian poetry Lecture 2:. Introduction of Robert Browning's life and writings. Lecture 3: Discussion of the text 'My Last Duchess' with full annotation and explanation Lecture 4: Discussion of the text 'The Last Ride Together" with full annotation and explanation Lecture 5: Text Continue... (The Last Ride Together) Lecture 6: Critical analysis/Comparative Study Lecture 7: Character sketch of the Duke and the Duchess Lecture 8: Analysis of both the poems My Last Duchess' and The Last Ride Together" as a dramatic monologue. Lecture 9: Psychological study of the lover in 'The Last Ride Together". Lecture 10: Discussion of other important issues and probable university questions Lecture 11: Question Answer Session/ Doubt Clearance Session Lecture 12: Tutorial **CC7- Walt Whitman –" O Captain, My Captain** Lecture 1: Introduction to American Literature. Lecture 2: Introduction to Walt Whitman's life and writings Lecture 3:Discussion of the text –" O Captain, My Captain" With full annotation and explanation. Lecture 4:Critical analysis of the poem Lecture 5: Tutorial Lecture 6: Question Answer Session/ Doubt Clearance Session
Semester V	
Syllabus allotted	**C11T- Mamang Dai: Small Towns and the River, The Voice of the Mountain** **C12T- Tony Morrison- Beloved**
No of Classes (Hour) per week	2 hrs
Teaching Plan	**C11T- The Voice of the Mountain, Small Towns and the Ri... ..s** Lecture 1: Introduction to North East Literature Lecture 2: Introduction to pre- independence Indian Poetry in English

Lecture 3: Introduction to Mamang Dai and his writings
Lecture 4: Social and cultural condition of north East India
Lecture 5: Discussion of the text The Voice of the Mountain with full annotation and explanation.

Lecture 6: Critical analysis/appreciation of the text
Lecture: 7 Discussion of the text 'Small towns and the Rivers' with full annotation and explanation.
Lecture 8: Critical analysis/appreciation of the text
Lecture 7 :- Discussion of important issues and probable University questions
Lecture 8-: Question Answer Session/Doubt clearance
Lecture 9: Tutorial

C12T: Tony Morrison: Beloved
Lecture 1: Introduction to American Literature
Lecture 2: Introduction to Tony Morrison's life and her literary contribution
Lecture 3: Analysis of the text 'Beloved' with explanation 1st Part
Lecture 4: Analysis of the text Beloved with explanation 1st Part
Lecture 5: (Analysis of the text Beloved with explanation 1st Part
Lecture 6 :(Analysis of the text Beloved with explanation 2nd Part
Lecture 7: Analysis of the text Beloved with explanation 3rd Part
Lecture 8: Summary analysis and Critical discussion of Beloved.
Lecture 9: Analysis of various major and minor themes
Lecture 10: Character analysis Sethe
Lecture 11: Analysis of motifs and symbols
Lecture: 12: Analysis of Black feminist criticism and Beloved
Lecture 13: Analysis on collective class struggle/saga of black suffering
Lecture:14: Narrative technique and motherhood in Beloved
Lecture 15: Discussion of other important issues and probable University questions
Lecture 16: Question Answer Session/Doubt clearance
Lecture 17: Discussion of other important issues and university questions
Lecture: 18: Tutorial

PG 1st Semester	
Syllabus allotted	**Course 102: Oliver Goldsmith: She Stoops to Conquer** **Course 103: Defoe : Robinson Crusoe**
No of Classes (Hour) per week	4 hrs
Teaching Plan	**102: Oliver Goldsmith: She Stoops to Conquer** Lecture 1: Introduction to 18th Century English literature/ Social and critical setting, Lecture 2: Introduction of Goldsmith's life and writings. Lecture 2: Introduction to Sentimental comedy and Reaction against it.

Lecture 4: Overview of the condition of English comedy before and during the time of Goldsmith
Lecture 5:Analysis of Text ACT I
Lecture6: Analysis of Text ACT I
Lecture 7: Analysis of Text ACT II
Lecture 8: Analysis of Text ACT II
Lecture9: Analysis of Text ACT III
Lecture 10: Analysis of Text ACT III
Lecture 11: Analysis of text ACT IV
Lecture 12: Analysis of text ACT IV
Lecture 13: Analysis of text ACT V
 Lecture 14: Analysis of text ACT V
Lecture 15: Discussion of Goldsmith as a Dramatist and his comedies.
Lecture 16: Analysis of She Stoops to Conquer as an anti sentimental comedy.
 Lecture 17: Analysis of the character Tony Lumpkin and Kate Hardcastle
Lecture 18: Discussion of other important issues and university questions
Lecture 19: Doubt clearance session/Questions and Answer Session
Lecture 20 Tutorial

103:Defoe : Robinson Crusoe
Lecture 1: Introduction to the history of English literature (Late 17th century and early 18th century.)
Lecture 2: Introduction of Daniel Defoe's life and his literary contribution.
Lecture 3: Forerunner of English novel : An overview
Lecture 4: Analysis of the text Robinson Crusoe
'Lecture 5: Analysis of the text Robinson Crusoe(continued)
Lecture 6: Analysis of the text Robinson Crusoe(continued)
Lecture 7: Analysis of the text Robinson Crusoe(continued)
 Lecture 8: Analysis of the text Robinson Crusoe(continued)
Lecture9: Analysis of the text Robinson Crusoe(continued)
Lecture 10: Analysis of the text Robinson Crusoe(continued)
Lecture 11: Analysis of the text Robinson Crusoe(continued)
Lecture 12: Analysis of the text Robinson Crusoe(continued)
Lecture 13: Discussion on the character of Robinson Crusoe
Lecture 14: Discussion on Symbolical elements and allegorical significance in Robinson Crusoe
Lecture 15: Discussion on the character of Friday and his relationship with Robinson Crusoe.
Lecture16: Discussion of other important issues and university questions.
Lecture 17: Doubt clearance session/Questions and Answer Session.
Lecture 18: Tutorial

PG 3rd Semester	
Syllabus allotted	**Course 301: Preface to the Lyrical Ballads** **Course 303: A Passage to India** **Course3 04 (CBCS): Content Development ‚Journalistic writing**
No of Classes	5 hrs

(Hour) per week	
Teaching Plan	**Course 301: Preface to the Lyrical Ballads** Lecture 1: Introduction to Romantic age and Literature of the period. Lecture 2: Introduction to the life and works of William Wordsworth Lecture 3: Analysis of text 'Preface to the Lyrical Ballads' Lecture 4: Analysis of text 'Preface to the Lyrical Ballads'...cont. Lecture 5: Analysis of text 'Preface to the Lyrical Ballads'...cont. Lecture 6: Analysis of text 'Preface to the Lyrical Ballads'..cont. Lecture 7: Analysis of text 'Preface to the Lyrical Ballads'..cont Lecture 8: Analysis on the nature and function of a poet. Lecture 9: Critical analysis on Wordsworth's views on the use of metre in poetry. Lecture 10: Discussion on the poetic process and function of poetry. Lecture 11: Discussion on Wordsworth's views on language of poetry Lecture 12:Analysis on the qualification of a poet/distinction between a poet and a man of science Lecture 13: Discussion of other important issues and university questions Lecture 14: Question Answer Session /Doubt Clearance. Lecture 15: Tutorial **Course 303: A Passage to India** Lecture 1: Introduction to the age of E.M.Forster Lecture 2: : Introduction to E.M.Forster's life and his Literary works Lecture 3: Analysis of the text 'A Passage to India'. Lecture 4 Analysis of the text 'A Passage to India' (continued.) Lecture 5: Analysis of the text 'A Passage to India' (continued.) Lecture 6: Analysis of the text 'A Passage to India' (continued.) Lecture 7: Analysis of the text 'A Passage to India' (continued.) Lecture 8: Analysis of the text 'A Passage to India' (continued.) Lecture 9: Analysis of the text 'A Passage to India' (continued.) Lecture 10: Analysis of the text 'A Passage to India'. (Continued.) Lecture 11: Discussion on E.M Forster as a novelist /Characteristics of his novels Lecture 12: Discussion of Major themes Lecture 13: Discussion regarding the Justification of the title' A Passage to India' Lecture 14: Analysis on the character sketch of Dr. aziz. Lecture 15: Analysis on the significance of Masque , Caves ,Temple/Symbolism Lecture 16:Discussion on the social life /Depiction of India in 'A Passage to India' Lecture 17:Analyusis on the character sketch of Mrs. Moore and Prof. Godbole Lecture 18: Discussion of other important issues and University questions Lecture 19: Question Answer Session /Doubt Clearance Lecture 20: Tutorial

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304 (CBCS): Content Development , Journalistic writing,
Lecture 1:Introduction to Skill Development
Lecture 2: Overview of various career options for Skilled people./Career Counselling
Lecture 3:Intoduction to Content development
 Lecture 4: Analysis of researching, writing, organizing , and editing information for publication
Lecture 5: Analysis of journalism relating to electronic mediums
Lecture 6: Analysis on how to write a news report
Lecture 7: Analysis on **j**ournalistic Writing Style**,** purpose, writing process etc.
 Lecture 8: Discussion of other important issues and university questions
Lecture 9: Doubt clearance session/Questions and Answer Session
Lecture 10: Tutorial

Department of English

Teaching Plan for the odd semesters, UG (2023-24)

Name of the Teacher: Shreyasi Roy

Semester I	
Syllabus allotted	
No of Classes (Hour) per week	
Teaching Plan	
Semester III	
Syllabus allotted	C5T: Arnold: *Dover Beach* CC7: Mark Twain: *The Adventures of Huckleberry Finn*
No of Classes (Hour) per week	3hrs
Teaching Plan	**C5T:** Arnold: *Dover Beach* **Lecture 1-2:** Introduction to Victorian Age **Lecture 3:** Introduction to the historical and socio-political overview of Victorian England **Lecture 4:** Introduction to Arnold **Lecture 5-8:** Text and analysis **Lecture 9:** Evaluation/appropriateness of the title of the poem **Lecture 10:** Tutorial **CC7**: Mark Twain: *The Adventures of Huckleberry Finn* **Lectures 1 to 3**: Introduction to the Literature of America **Lecture 4:** Introduction to the historical and socio-political overview of America from 1865-1914 **Lecture 5:** Mark Twain and America: An Introduction Lecture 6: American Fiction: The Rise of Realism **Lecture 7:** Background of the novel *The Adventures of Huckleberry Finn* **Lectures 7 to 13:** Text and analysis **Lecture 14:** Slavery in the US: A Historical View **Lecture 15-17:** Critical analysis of the characters **Lecture 18:** The narrative structure of *Huckleberry Finn* **Lecture 19:** Features of Narrative: i) Picaresque form **Lecture 20:** Use of language in *Huckleberry Finn* **Lecture 21:** Humour and other issues in the *Huckleberry Finn*

	i) Humour in Character ii) Humour in the Situation iii)Humour in Language **Lecture 22:** Critical Approaches to *Huckleberry Finn* **Lecture 23:** Tutorial
Semester V	
Syllabus allotted	C11T: Derek Walcott- "A Far Cry from Africa", "Names" C12T: Rassundari Devi: Amar Jiban
No of Classes (Hour) per week	3hrs
Teaching Plan	**C11T:** Derek Walcott- "A Far Cry from Africa", "Names" **Lecture 1-5:** Introduction to Post Colonialism **Lecture 6-8:** Introduction to Caribbean Literature **Lectures 8 -9:** Introduction to Derek Walcott and his contribution **Lecture 10-15:** Text and Analysis of "A Far Cry from Africa" **Lecture 16-21:** Text and Analysis of "Names" **Lecture 22:** References from various Post Colonial texts **Lecture 23-25**: Critical evaluation of other significant approaches to the poems **Lecture 26:** Tutorial **Lecture 27:** Tutorial **C12T: Rassundari Devi: Amar Jiban** **Lecture 1 to 2:** Historical and socio-political overview of Bengal **Lectures 3 to 4:** Introduction to the Women's Writings special reference to autobiography **Lecture 5-8:** Different aspects of feminist literature **Lecture 6:** A documentary on women's empowerment **Lecture 7 to 8:** Introduction to Rassundari Devi and the social and cultural context **Lecture 9-14:** Text and Analysis **Lecture 15:** Amar Jiban as the first autobiography-Discussion **Lecture 16:** References and Suggested Readings **Lectures 17:** Tutorial

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22.06.2024

Teaching Plan for the Even Semesters, PG (2023-24)

	Semester I
Syllabus allotted	**Course 101: William Blake: Selections from** *Songs of Innocence*, *Songs of Experience* **Course 202: Fictional and Non-fictional Prose II (19ᵗʰ and 20ᵗʰ Centuries)** **D.H.Lawrence:** *Sons and Lovers*
No of Classes (Hour) per week	5 hrs
Teaching Plan	**Course 101: William Blake: Selections from** *Songs of Innocence*, *Songs of Experience* **Lecture 1-3:** Introduction to the Transitional Period **Lecture 4-6:** Introduction to the Romantic Period **Lecture 7:** William Blake: An Introduction **Lecture 8:** Discussion of "The Lamb" from *Songs of Innocence* **Lecture 9:** Discussion of "The Tyger" from *Songs of Experience* **Lecture 10:** Tutorial **Course 103 Thomas Hardy: Tess** *of the D'urbervilles* **Lecture 1:** Britain in the late 19ᵗʰ century **Lecture 2:** The socio-cultural contexts and economic changes **Lecture 3:** British novelists of the late 19ᵗʰ century-Victorian Period **Lecture 4:** Introduction to Thomas Hardy **Lecture 5**: *Tess of the D'urbervilles* is a novel about working-class life **Lectures 6 to 12:** Text and analysis **Lectures 13 to 15:** Critical analysis of the characters **Lecture 16:** Structure of the novel **Lecture 17:** Hardy's chance and coincidence **Lecture 18:** Issues of gender **Lecture 19:** Evaluation/appropriateness of the title of the novel **Lecture 20:** Tutorial

	Semester-III
Syllabus allotted	**Course 303: Rabindranath Tagore:** *Nationalism* **Course 305: Virginia Woolf:** *A Room of One's Own*
No of Classes (Hour) per week	5 hrs
Teaching Plan	**Course 303: Rabindranath Tagore:** *Nationalism* **Lecture 1** : Introduction to Swadeshi Movement **Lecture 2:** Partition of Bengal in 1905 **Lecture 3-5:** Colonialism, Postcolonialism, Neocolonialism

Lecture 6-8: Rabindranath Tagore and his contribution
Lectures 9 to 13: Text and analysis
Lecture 14: Critical Approaches to *Nationalism*
Lecture 15: Tutorial

Course 305: Virginia Woolf: *A Room of One's Own*
Lectures 1 to 4: Introduction to the Modern England
Lecture 5-8: Social and Cultural Background
              i)   Of the Age
              ii)   Position of Women
Lectures 9 to 15: Text and analysis
Lecture 16: Critical evaluation of the quest for self-identity
Lecture17: Tutorial

Department of English
Teaching Plan for the Odd semesters (2023-2024)
Name of the Teacher: Somali Nandi

Semester I	
Syllabus Allotted	Major -1 History of English Literature and English Language
No of classes (Hour) per week	2 hours
Topics	The Restoration to the Romantics And History of English Language
	Lecture 1: A Short Introduction to the History of English Literature
	Lecture 2: Discussion on the Sociocultural and Political Background of Restoration Period
	Lecture 3:An Overview of Poetry
	Lecture 4: An Overview of Drama (Tragedy and Comedy)
	Lecture5:An Overview of Novels.
	Lecture6:An overview of Prose.
	Lecture 7: A brief introduction to the history and origin of English Language.
	Lecture8: Making of English Language.
	Lecture 9:Influence of Greek Language
	Lecture 10:Influence of Latin Language.
	Lecture11: Influence of Scandinavian Language.
	Lecture 12:Influence of French Language.
	Lecture 13: A discussion on the origin of words (Philology)
	Lecture 14: Questionnaire
	Lecture 15: Tutorial

Semester III	
Syllabus Allotted	Paper CC 6 and Paper CC 7
Class allotted	3hours
Paper	CC 6
Topic	Arms And The Man by G.B.Shaw
	Lecture 1. An introduction to Modern Period.
	Lecture 2. An overview of Modern Drama
	Lecture 3. Bernard Shaw and British dramatic tradition
	Lecture 4. Bernard Shaw and Socialism
	Lecture 5:Shaw and Ibsen
	Lecture 6-11 :Textual analysis of Act 1,2,3
	Lecture 12: Discussion on the characters of the play
	Lecture 13: Discussion on Stage Direction
	Lecture 14. Questionnaire
	Lecture 15. Tutorial
Paper	CC 7
Topic	The Raven by Edgar Alan Poe
	Lecture 1. An brief introduction to American Literature
	Lecture 2. An expository on American Poetry
	Lecture 3. The poet and his works
	Lecture 4. The Background of the Poem
	Lecture 5-8. Textual analysis of the Poem
	Lecture 9. Discussion on the various themes of the poem
	Lecture 10.Discussion on the Literary Devices
	Lecture 11. Discussion on symbols and Images
	Lecture 12. Questionnaire
	Lecture 13. Tutorial

Semester V	
Syllabus Allotted	Pablo Neruda And Emily Dickinson
Classes Allotted	2hrs
Paper	CC 11, CC 12
Topics	Tonight I cannot write the saddest lines, The Way Spain Was
	Lecture 1. Introduction to Postcolonialism
	Lecture 2. The Poet and his works.
	Lecture 3. Historical Context of the poems
	Lecture 4-8. Textual analysis of the poems
	Lecture 9. Discussion on the central idea of the poems
	Lecture 10.Discussion on the various themes of the poems
	Lecture11.Discussion on the literary devices
	Lecture 12.Discussion on symbols and images
	Lecture 13. Questionnaire
	Lecture 14. Tutorial
	CC 12
Topics	"I cannot Live with You" and "I'm Wife ,I've finished"
	Lecture1. An introduction to Women's writing (Feminism)
	Lecture 2. Preceptors of Dickinson
	Lecture 3.Religious Context
	Lecture 4.Social and Political Context
	Lecture 5.Transcendentalism
	Lecture 6.Dickinson as a woman Poet.
	Lecture 7-11. Textual analysis of the poems.
	Lecture 12. Discussion on the central idea of the poems
	Lecture 13.Discussion on the themes, images and symbols.
	Lecture 14. Questionnaire
	Lecture 15. Tutorial

Department of English

Syllabus Distribution and Teaching Plan of Odd Semesters (1st/3rd /5th)

SESSION – 2023-2024

Name of the Teacher: *Dr. Sudipta Narayan Das Mandal*

Semester-I

Name of The Course	Syllabus Allotted	Teaching Plan
UG COURSE	Major-I:History of English Literature and English Language Topic – **The Victorian Period to the 1950s.** Topic- SEC-I**: Soft Skills**	**Lecture 1** : A Short Introduction to the History of English Literature. **Lecture 2** : Special Focus on the Socio-Cultural and Political Background of Victorian England . **Lecture 3** : Discussion of Victorian Poetry. **Lecture 4** : Sketch of Victorian Novel . **Lecture 5** : Short glimpse of Victorian Prose Writers . **Lecture 6** : A Special Reading of Different Movements in Victorian England. **Lecture 7** :An Introduction to Modernism. **Lecture 8** : Background Study of the Modern Period **Lecture 9** : Styles and Techniques of Modernist Poetry. **Lecture 10**: Themes and Contents of Modernist Novels. **Lecture 11**: Special Attention to Modernist Drama **Lecture12**. Critical Works of the Modern Period. **Lecture 13**: Introduction to Soft Skills. **Lecture14**:Importance of Interpersonal Relationship Skills.

		Lecture15:Need for Problem Solving Skills.
		Lecture 16: Team Management Skills.
		Lecture 17: Leadership and Team Building

Semester-III

Name of The Course	Syllabus Allotted	Teaching Plan
UG COURSE	Paper CC7: American Literature. Topic –Tennessee Williams: **A Streetcar Named Desire** Paper CC5:British Literature: Victorian Period. Topic –Thomas Hardy: **The Return of the Native.**	**Lecture 1** : An Introduction to American Drama. **Lecture 2** : Tennessee Williams and His Dramatic Works. **Lecture 3** : A Detailed Study of the Play **A Streetcar Named Desire** **Lecture 4** : A Detailed Study of the Play **A Streetcar Named Desire** **Lecture 5** : A Detailed Study of the Play **A Streetcar Named Desire** **Lecture 6** :Tennesssee Williams's Dramatic Techniques. **Lecture 7** : A Close Reading of the Major Characters and Important Themes of the Play **Lecture 8** : Question-Answer Session. **Lecture 9** : An Introductory Class on Victorian Novel. **Lecture 10** : A Study of Thomas Hardy's Philosophy.

Name of The Course	Syllabus Allotted	Teaching Plan
		Lecture 11 :A Short discussion of Plot Summary of the Novel **The Return of the Native.** **Lecture 12** : Discussion of Some Important Themes and Character-Analysis . **Lecture 13** : The Narrative style of Thomas Hardy **Lecture 14** : Critical Appraisal of **The Return of the Native** **Lecture 15** : Feminist Approach to the novel **The Return of the Native** **Lecture 16** : Question-Answer Session.

Semester- V

Name of The Course	Syllabus Allotted	Teaching Plan
UG COURSE	**Paper CC11:Postcolonial Literatures** **Topic-** Bessie Head**:The Collector of Treasures** **DSE-1: 19thCentury European Realism.**	**Lecture 1**. An Introduction to Postcolonial Literatures. **Lecture 2**: A Short Discussion on Bessie Head and Her Works. **Lecture 3**: A Thorough Reading of the Text **The Collector of Treasures.** **Lecture 4**: A Critical Interpretation of the Text **Lecture 5**: Bessie Head's Writing Style and Technique **Lecture 6** : Discussion of Major Themes and Issues like Gender Inequality, Male Violen

	Topic- Gustave Flaubert**: Madame Bovary**	Marginalization and the Exploitation of Women. **Lecture 7**: Problem-Solving Session. **Lecture 8** : Focus on Realism, Naturalism and Beyond. **Lecture 9 :** A special Attention to Gustave Flaubert and Literary Realism. **Lecture 10 :** A critical Analysis of **Madame Bovary. Lecture 11:** Application of Narrative and Narratology. **Lecture 12**: Focus on Major Characters and Central Themes of the Novel. **Lecture 13**: Critical Responses of the Novel **Madame Bovary. Lecture 14**: Theoretial Approach to **Madame Bovary.** **Lecture 15:** Problem-Solving Session

Semester I	
Syllabus allotted	Not Allotted
No of Classes (Hour) per week	
Teaching Plan	
Semester II	
Syllabus allotted	**CC4T: British Literature: Romantic Period** Percy Bysshe Shelley:"Ozymandias", "Ode to the West Wind" JohnKeats:"Ode to a Nightingale", "To Autumn"
No of Classes (Hour) per week	CC5T: 1
Teaching Plan	**Lecture 1:** Introduction to Romantic Age **Lecture 2:** Introduction P.B. Shelley and his poetic features. **Lecture 3:** Analysis of the text of the poem "Ozymandias" **Lecture 4:** Analysis of the text of the poem "Ode to the West Wind". **Lecture 5:** Analysis of the text of the poem "Ode to the West Wind". **Lecture 6:** Discussion on the previous years's questions. **Lecture 7:** Tutorial **Lecture 8:**Introduction to John Keats and his poetic features. **Lecture 9:** Textual analysis of the poem "Ode to Autumn". **Lecture 10:** Textual analysis of the poem "Ode to Autumn" **Lecture 11:** Discussion on the previous years's questions. **Lecture 12:** Tutorial
Semester III	

Syllabus allotted	CC5T: A. L. Tennyson : "Ulysses" CC6T: James Joyce: Araby ; W. H. Auden: "The Unknown Citizen"
No of Classes (Hour) per week	CC5T & CC6T**:** 2
Teaching Plan	**CC5T: Tennyson: "Ulysses"** **Lecture 1:** Introduction to Victorian Age **Lecture 2:** Introduction to Victorian poetry, Tennyson and his poetic features. **Lecture 3:** Line by line analysis of the poem **Lecture 4:** Line by line analysis of the poem **Lecture 5:** Line by line analysis of the poem **Lecture 6:** Discussion on Dramatic Monologue with reference to the poem and as a Victorian representative poem. **Lecture 7:** Tutorial **CC6T: James Joyce: Araby** **Lecture 1:** Introduction to short story as a literary genre, James Joyce and his writings. **Lecture 2:** Analysis of the text **Lecture 3:** Analysis of the text **Lecture 4:** Analysis of the text **Lecture 5:** Discussion on the important issues of the text. **Lecture 6:** Tutorial **CC6T: W. H. Auden: "The Unknown Citizen"** **Lecture 1:** Introduction to Modern Age. **Lecture 2:** Introduction to Modern poetry, its features, W. H. Auden and his poetic features. **Lecture 3:** Analysis of the text **Lecture 4:** Analysis of the text **Lecture 5:** Discussion on the important issues of the poem **Lecture 6:** Tutorial
Semester IV
Syllabus allotted	C8T: Sophocles: Oedipus the King
No of Classes (Hour) per week	C8T**:** 2

Teaching Plan	**C8T: Sophocles: Oedipus the King** **Lecture 1:** Introduction to the European Classical Literature. **Lecture 2:** Introduction to the origin and development of European Classical Drama. **Lecture 3:** Tragedy and Comedy in Classical Drama. **Lecture 4:** Tragic Hero, Hamartia, Hubris, Catharsis, Pity and Fear, Peripeteia, Anagnorisis **Lecture 5:** Introduction to Sophocles, Theban Plays and Theban Mythology. **Lecture 6:** Text and analysis of Oedipus Rex **Lecture 7:** Text and analysis of Oedipus Rex **Lecture 8:** Text and analysis of Oedipus Rex **Lecture 9:** Text and analysis of Oedipus Rex **Lecture 10:** Text and analysis of Oedipus Rex **Lecture 11:** Text and analysis of Oedipus Rex **Lecture 12:** Critical discussion on Oedipus Rex as a Greek Tragedy. **Lecture 13:** Critical discussion on the role of Chorus in Greek Tragedies. **Lecture 14:** Critical discussion on the character of Oedipus as a Tragic hero. **Lecture 15:** Critical discussion on the character of Jocasta. **Lecture 16:** Critical discussion on the role of Tiresias. **Lecture 17:** Tutorial
	Semester V
Syllabus allotted	**DSE1T: Nineteenth Century EuropeanRealism** Fyodor Dostoyvesky: *Crime and Punishment* **DSE2T: World Literatures** Judith Wright: **'Bora Ring'**
No of Classes (Hour) per week	DSE1T & DSE2T **:** 3
Teaching Plan	**DSE1T; Fyodor Dostoyvesky :** *Crime and Punishment* **Lecture 1:** Introduction to the 19th century European realism. **Lecture 2:** Introduction to Russian literature, Westernisers and Slavophiles**.** **Lecture 3:** Introduction to Fydor Dostovsky and his writing career. **Lecture 4:** Discussion on the plot of the novel. **Lecture 5:** Discussion on the setting of the novel.

	Lecture 6: Discussion on Nietzsche, Ubermesh and Nihilism **Lecture 7:** Discussion on the Characters of the novel. **Lecture 8:** Discussion on the characters of the novel. **Lecture 9:** Discussion on the title of the novel. **Lecture 10:** Remedial **Lecture 11:** Remedial **JudithWright : Judith Wright: 'Bora Ring'** **Lecture 1:** Introduction to World Literature **Lecture 2:** Introduction to the Commonwealth of Australia, European Colonialism in Australia **Lecture 3:** Discussion on Terra Nullius, Race, Hybridity and Culture. **Lecture 4:** Discussion on the life of Judith Wright, her poetic world and Indigenous and Aboriginal People and Culture. **Lecture 5:** Discussion on the text. **Lecture 6:** Discussion on the title of the poem, symbols of the poem and cultural loss of Indigenous people. **Lecture 7:** Remedial **Lecture 8:** Remedial
Semester VI	
Syllabus allotted	**C13T: Indian Classical Literature** Sudraka : Mrcchakatika **DSE4T:** Amitav Ghosh: The Shadow Lines
No of Classes (Hour) per week	C13T: 1 DSE4T**:** 1
Teaching Plan	**C13T: Sudraka:** *Mrcchakatika* **Lecture 1:** Introduction to Indian Classical Literature **Lecture 2:** Introduction to the origin and development of Indian Classical Drama, Natyasastra **Lecture 3:** Nataka, Prakarana, Sutradhar, Sanskrit Theatre **Lecture 4:** Text(Act l & ll) and analysis of Mrcchakatika **Lecture 5:** Text(Act lll & IV) and analysis of Mrcchakatika

Lecture 6: Text (Act V & Vl) and analysis of Mrcchakatika

Lecture 7: Text (Act Vll &Vlll) and analysis of Mrcchakatika

Lecture 8: Text (Act lX & X) and analysis of Mrcchakatika

Lecture 9: Critical discussion on the significance of the title of Mrcchakatika

Lecture 10: Critical discussion on Mrcchakatika as a socio-political play

Lecture 11: Critical discussion on the characters of Charudatta, Vasantasena and Sakara.

DSE4T: Amitav Ghosh: *The Shadow Lines*

Lecture 1: Introduction to Indian writing in English, Colonialism, Nationalism.

Lecture 3: Introduction to Partition Literature, Communal riots and violence.

Lecture 4: Introduction to Post Colonialism, Homelessness and Exile, Imaginary Homelands.

Lecture 5: Critical discussion on Amitav Ghosh's works and plot of The Shadow Lines.

Lecture 6: Critical discussion on Amitav Ghosh's treatment of History in The Shadow Lines.

Lecture 7: Critical discussion on the title of the novel and structure of the novel.

Lecture 8: Theme of Partition, Home/ Homelessness in the novel.

Lecture 9: Critical discussion on the theme of diaspora, identity and Nationalism in The Shadow Lines

Lecture 10: Critical discussion on the characters of Tridib, Thamma

Lecture 11: Tutorial

Lecture 12: Tutorial

Department of English

Teaching Plan for the even semesters (2022-23)

Name of the Teacher: Soumyabrata Sil

Semester II	
Syllabus allotted	Revised syllabus not yet received from University
No of Classes (Hour) per week	
Teaching Plan	
Semester IV	
Syllabus allotted	CC10- Agatha Christie: The Murder of Roger Ackroyd Sukumar Ray: Abol Tabol
No of Classes (Hour) per week	3 hrs
Teaching Plan	C10T- Murder of Roger Ackroyd Lecture 1: Introduction to detective fiction Lecture 2: characteristics and importance of detective fiction Lecture 3: evolution of detective fiction through the years Lecture 4: introduction to Agatha Christie Lecture 5: significance of Agatha Christie Lecture 6: introduction to the text of Murder of Roger Ackroyd Lecture 7 to lecture 12: discussion of the text Lecture 13: discussion of important issues and probable university questions Lecture 14: Tutorial Lecture 15: tutorial C10T- Abol Tabol Lecture 1: introduction to nonsense literature Lecture 2: introduction to nonsense literature ... (contd) Lecture 3: significance of nonsense literature and their position in global academia Lecture 4: introduction to the world of Sukumar Ray Lecture 5 to lecture 9: discussion of selected texts from Abol Tabol Lecture 10: discussion of significan issues and probable university questions Lecture 11: tutorial Lecture 12: tutorial
Semester VI	
Syllabus allotted	C14T- Kamala Das : Introduction DSE3T- Arthur Conan Doyle: The Hound of Baskervilles DSE4T- Sa'adat Hasan Manto- Toba Tek Singh

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No of Classes (Hour) per week	4 hrs
Teaching Plan	C14T- Introduction Lecture 1: introduction to Postcolonial literature, key concepts in postcolonialism, Said, Spivak, Bhaba and other theorists Lecture 2: introduction to Indian writing in English Lecture 3: introduction to pre- independence Indian Poetry in English Lecture 4: introduction to Post- independence Indian poetry in English Lecture 5: introduction to Kamala Das and her writings Lecture 6 to lecture 9- discussion of the text of Introduction Lecture 10 and lecture 11- discussion of important issues and probable University questions Lecture 12- Tutorial Lecture 13- Tutorial DSE3T- The Hound of Baskervilles Lecture 1: Victorian society and its associated parameters, Victorianism, Victorian crimes, Victorian degradation Lecture 2: Victorian literature of the margins Lecture 3: Arthur Conan Doyle: the iconoclast of Victorianism Lecture 4: Sherlock Holmes: the global phenomenon and his place in the genre of detective fiction Lecture 5: a comparative study of Holmes with other detectives of literary fiction Lecture 6 to lecture 8: Screening of Hound of Baskervilles Lecture 9 to lecture 12: discussion of the text of Hound of Baskervilles Lecture 13: Discussion of important issues and probable University questions DSE4T- Toba Tek Singh Lecture 1: Introduction to Partition literature, key concepts like division, identity, nation formation etc Lecture 2: introduction Manto, Chughtai and PWA Lecture 3: Manto, his philosophy and his writings Lecture 4 to lecture 7: discussion of the text of Toba Tek singh Lecture 8 : discussion of important issues and probable university questions Lecture 9 : tutorial Lecture 10: tutorial
PG 2nd Semester	
Syllabus allotted	Course 201: Harold Pinter: The Birthday Party Course 205: Shakespeare: Hamlet Course 204 (CBCS): English Grammer
No of Classes (Hour) per week	5 hrs
Teaching Plan	201: The Birthday party Lecture 1: introduction to modernism, modern literature, war-litera

	Lecture 2: introduction to key concepts- existentialism, surrealism, avant-garde movement, abstractism. Imagism, Dadaism Lecture 3: introduction to absurd theatre- Ionesco, Pirandello, Beckett, Pinter Lecture 4: the art of Harold Pinter- his works and philosophy Lecture 5 to lecture 8: screening of The Birthday Party Lecture 9 to lecture 12: Discussion of the text of The Birthday Party Lecture 13 to lecture 15: discussion of important issues and probable university questions Lecture 16: doubt clearance session 205: Hamlet Lecture 1: introduction to tragedy- Greek, Aristotelian, Shakesparean, heroic tragedy, modern tragedy Lecture 2: revision of Shakesparean tragedy- discussion of the four masterpieces- King Lear, Macbeth, Othello, Hamlet Lecture 3: introduction to Hamlet Lecture 5 to lecture 8: screening of Hamlet Lecture 9 to lecture 13: discussion of the text of hamlet Lecture 14 to lecture 17: discussion of important issues and probable university questions. Lecture 18: tutorial 204 (CBCS): English grammar Lecture 1: introduction to English grammar Lecture 2: basic parts of speech Lecture 3 to lecture 5: words and sentences Lecture 6 tom lecture 9: subject-verb agreement, syntax Lecture 10: revision

PG 4th Semester	
Syllabus allotted	Course 401: Robert Frost Course 402A: Premchand: Godan Course 403B: Allen Ginsberg
No of Classes (Hour) per week	5 hrs
Teaching Plan	401: Robert Frost Lecture 1: introduction to American literature Lecture 2: introduction to American Modernism Lecture 3 & lecture 4: introduction to American poetry Lecture 5: Robert Frost: life, art , philosophy Lecture 6 to lecture 8: poem 1: stopping by woods on a snowy evening Lecture 9 to lecture 11: poem 2: two tramps in mud time Lecture 12 to lecture 15: poem 3: after apple picking Lecture 16 to lecture 18: discussion of relevant issues and probable university questions 402A: Godan Lecture 1: introduction to the history of translation

| | Lecture 2: introduction to the history of hindi literature
Lecture 3: importance of translated texts in a postcolonial literary world
Lecture 4: introduction to Premchand
Lecture 5 to lecture 10: discussion of the text of Godan
Lecture 11 to lecture 13: screening of Godan
Lecture 14 & lecture 15: discussion of important issues and relevant university questions

403B: Allen Ginsberg
Lecture 1: introduction to beat generation literature
Lecture 2: introduction continued
Lecture 3: Allen Ginsberg: life, works, art, relevance
Lecture 4: discussion on Ginsberg continued
Lecture 5 to lecture 7: poem 1: supermarket in California
Lecture 8 to lecture 10: poem 2: America
Lecture 11 to lecture 13: poem 3: Howl
Lecture 14 and lecture 15: discussion of important issues and university questions |

Department of English

Teaching Plan for the even semesters (2022-23)

Name of the Teacher: Chinmoy Mondal

Semester II	
Syllabus allotted	Revised syllabus not yet received from University
No of Classes (Hour) per week	
Teaching Plan	
Semester IV	
Syllabus allotted	**C9T- Samuel Beckett: Waiting for Godot**
No of Classes (Hour) per week	1 hr
Teaching Plan	C9T- **Samuel Beckett: Waiting for Godot** Lecture 1: Introduction to Samuel Beckett Lecture 2: Introduction to Existentialism Lecture 3: Evolution of Existentialism and Absurd drama through the years Lecture 4: Introduction to the Greek and Classical myths: Myth of Sisyphus, Prometheus Tantalus Lecture 5: Significance of the title and Christian elements6: Plot of Waiting for Godot and character analysis Lecture 6: Screening of Waiting for Godot Lecture 7 to lecture 12: Discussion of the text Lecture 13: Discussion of important issues and probable university questions Lecture 14: Tutorial Lecture 15: tutorial
Semester VI	
Syllabus allotted	**C14T- Nissim Ezekiel: 'The Night of the Scorpion'** **DSE4T- Dibyendu Palit: 'Alam's Own House', tr. Sarika Chaudhuri**
No of Classes (Hour) per week	3 hrs
Teaching Plan	C14T- **Nissim Ezekiel: 'The Night of the Scorpion'** Lecture 1: Introduction to Nissim Ezekiel and his contemporary ____ ____ their writings Lecture 2: Introduction to Indian writing in English Lecture 3: Introduction to pre- independence Indian Poetry in Engli____

	Lecture 4: Introduction to Post-independence Indian poetry in English Lecture 5 to lecture 7- Discussion of the text Lecture 8 - Discussion of important issues and probable University questions Lecture 9- Tutorial Lecture 10- Tutorial DSE4T- **Dibyendu Palit: 'Alam's Own House'** Lecture 1: Introduction to Partition literature, key concepts like division, identity, nation formation etc Lecture 2: Discussion of themes like Memory, trauma, property-exchanges etc. Lecture 3 to 9: Discussion of the text Lecture 10 : Discussion of important issues and probable university questions Lecture 11 : Tutorial Lecture 12: Tutorial
PG 2ⁿᵈ Semester	
Syllabus allotted	**Course 205: Unit 1: Background to Shakespeare and the Life, Time and Stage: Western and Sub-continental stage responses (*Macbeth* and *Twelfth Night*)** **Course 205: Unit 3: Shakespeare Criticism** **Course 204 (CBCS): English Grammer**
No of Classes (Hour) per week	5 hrs
Teaching Plan	Course 205: Unit 1: **Background to Shakespeare and the Life, Time and Stage: Western and Sub-continental stage responses (*Macbeth* and *Twelfth Night*)** Lecture 1: Introduction to Shakespeare Lecture 2: Social and Literary background of Elizabethan age Lecture 3: Greek and Shakespearean drama Lecture 4: Elizabethan theatre and its structure Lecture 5: screening of Piya Behrupiya, a Hindi adaptation of *Twelfth Night* Lecture 6: Discussion on Piya Behrupiya Lecture 7: Discussion on Utpal Dutt's *Macbeth* Lecture 8 and 9: Discussion of important issues and probable university questions Lecture 10: Doubt clearance session Course 205: Unit 3: **Shakespeare Criticism** Lecture 1 and 2: Johnson and the 18ᵗʰ century Neoclassical tradition Lecture 3 and 4: Coleridge on Shakespeare (Romantic Tradition) Lecture 5 and 6: A.C. Bradley (19ᵗʰ Century tradition) Lecture 7 and 8: Stephan Greenblatt (20ᵗʰ Century tradition) Lecture 9: Significance of the First Folio Lecture 10: Discussion of important issues and probable university questions. Lecture 11 and 12: Tutorial **204 (CBCS): English grammar**

	Lecture 1: Introduction to English grammar Lecture 2: Basic parts of speech Lecture 3 to lecture 5: Words and sentences Lecture 6 to lecture 9: Subject-verb agreement, syntax Lecture 10: Revision
PG 4th Semester	
Syllabus allotted	**Course 401 American Literature** **Sylvia Plath (Selections)** **Course: ENG 403 B (Special Paper-II): American Literature** **Langston Hughes (Selections)**
No of Classes (Hour) per week	3 hrs
Teaching Plan	Course 401 American Literature **Sylvia Plath (Selections)** Lecture 1: Introduction to American Literature Lecture 2: Introduction to Sylvia Plath and her contemporary poets Lecture 3: Pre and post-war socio-cultural and economic conditions of America and its reflection on literature Lecture 4: Confessional Poetry Lecture 5 to 7- Discussion of the text, "Daddy" Lecture 8 and 9 - Discussion of the text, "Lady Lazarus" Lecture 10- Discussion of important issues and probable University questions Lecture 11 and 12- Tutorial Course: ENG 403 B (Special Paper-II): American Literature **Langston Hughes (Selections)** Lecture 1: Introduction to Langston Hughes and his contemporary poets Lecture 2: Discussions on American dream 'black' American and narratives Lecture 3 and 4: Discussion of the text, "Harlem" Lecture 5 and 6: Discussion of the text, "Freedom" Lecture 7 and 8: Discussion of the text, "Negro" Lecture 9: Discussion of important issues and probable University questions Lecture 10: Tutorial

Semester II	
Syllabus allotted	Syllabus not been defined by the University yet
No of Classes (Hour) per week	
Teaching Plan	
Semester IV	
Syllabus allotted	C10T: Popular Literature: Lewis Carrol: *Through the Looking Glass* C10T: Popular Literature: Shyam Selvadurai: *Funny Boy*
No of Classes (Hour) per week	03
Teaching Plan	**C10T: Popular Literature: Lewis Carrol-** *Through the Looking Glass* **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the concept of Children's Literature **Lecture 4:** Discussion on the text whether it can be considered as Children's Literature or not **Lecture 5:** Discussion on Lewis Carrol and Through the Looking Glass Background **Lecture 6:** Analysing the text using ICT **Lecture 7:** Discussion on the adventure Alice went through in the Looking Glass World **Lecture 8:** Discussion on some latent themes in the text **Lecture 9:** Discussion on some latent motifs and symbols in the text **Lecture 10:** Discussion on some essay topics from the text **Lecture 11: Tutorial** **Lecture 12: Tutorial** **C10T: Popular Literature: Shyam Selvadurai:** *Funny Boy* **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the topic of semi-autobiographical novel and biographical facts of the author **Lecture 4:** Analysing the text using ICT **Lecture 5:** Discussion on the Sri Lankan Civil War and its importance in the text **Lecture 6:** Discussion on the topic of *Homosexuality* and *Marginalization* **Lecture 7:** Discussion on important characters from the text

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	Lecture 8: Discussion on the protagonist of the text and his life **Lecture 9:** Discussion on some latent themes and symbols from the text **Lecture 10:** Discussion on some essay topics from the text **Lecture 11: Tutorial** **Lecture 12: Tutorial**
Semester VI
Syllabus allotted	**C14T: Indian Writing in English: Salman Rushdie:** *The Free Radio* **DSE3T: Science Fiction and Detective Literature: Wilkie Collins:** *The Woman in White*
No of Classes (Hour) per week	03
Teaching Plan	**C14T: Indian Writing in English: Salman Rushdie:** *The Free Radio* **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the History of Emergency and the general idea of the Family Planning policy **Lecture 4:** Summarising and analysing the text based on above mentioned topics **Lecture 5:** Discussion on the basic idea of human psychology **Lecture 6:** Psychological evaluation of the Protagonist **Lecture 7:** Discussion on some latent themes and symbols from the text **Lecture 8:** Discussion on some essay topics from the text **Lecture 9: Tutorial** **Lecture 10: Tutorial** **DSE3T: Science Fiction and Detective Literature: Wilkie Collins:** *The Woman in White* **Lecture 1:** Introduction to the text and the author **Lecture 2:** Discussion on the life and works of the author **Lecture 3:** Discussion on the literary history of detective fiction **Lecture 4:** Discussion on the concept of sensational novels **Lecture 5:** Summarising and analysing the text **Lecture 6:** Discussion on the characters **Lecture 7:** Discussion on the Victorian Society and how it plays an important role in the novel **Lecture 8:** Discussion on some latent themes and symbols from the text **Lecture 9:** Discussion on some essay topics from the text **Lecture 10: Tutorial** **Lecture 11: Tutorial**

Department of English

Teaching Plan for the even semesters (2022-23)

Name of the Teacher: Dr. Somnath Mahato

Semester II	
Syllabus allotted	Revised syllabus not yet received from University
No of Classes (Hour) per week	4hrs
Teaching Plan	
Semester IV	
Syllabus allotted	**C8T- Homer : Iliad(Book 1)**
No of Classes (Hour) per week	3 hrs
Teaching Plan	C8T- Homer : Iliad(Book 1) Lecture 1: Introduction to European Classical literature Lecture 2: Homer and Ancient Greece: Mythology and poetry Lecture 3: The literary and Historical context of Iliad Lecture 4 :Screening "Troy" (Film adaptation of Iliad) Lecture 5: : Screening "Troy" (Film adaptation of Iliad) Lecture 6 to lecture 12: Interpretation and close analysis of the text. Lecture 13: Critical discussion of the Main Characters in Iliad with special emphasis on Achilles. Lecture 14: Critical analysis of the major themes. /Epic Elements/Moral message etc. Lecture 15 Discussion of other important issues and probable university questions Lecture 16: Doubt Clearance Session Lecture 17: Tutorial
Semester VI	
Syllabus allotted	**C13T- Kalidasa. Abhijnana Shakuntalam,tr.Chandra Rajan,in Kalidaas:The Loom of Time** **C14T- H.L.V.Derozio: The Harp of India**
No of Classes (Hour) per week	2 hrs
Teaching	**C14T- The Harp of India**

Plan	Lecture 1: Introduction to Indian writing in English Lecture 2: Introduction to pre- independence Indian Poetry in English Lecture 3: Introduction of H.V.L.Derozio and his writings Lecture 4: Social and cultural condition of India during the time of Derozio Lecture 5: Discussion of the text with full annotation and explanation Lecture 6: Critical analysis/appreciation of the text Lecture 7 :- Discussion of important issues and probable University questions Lecture 8-: Question Answer Session Lecture 9: Tutorial **C13T: Kalidasa. Abhijnana Shakuntalam,** Lecture 1: Introduction to Indian Classical Literature Lecture 2: Introduction to Sanskrit theatre , Origin and Development Lecture 3: Introduction of Kalidasa and his Literary contribution Lecture 4: Act I(Analysis of the text Abhigyan Shakuntalam with annotation and explanation) Lecture 5: Act II(Analysis of the text Abhigyan Shakuntalam with annotation and explanation) Lecture 6 : Act III(Analysis of the text Abhigyan Shakuntalam with annotation and explanation) Lecture 7: Discussion Act IV(Analysis of the text Abhigyan Shakuntalam with annotation and explanation) Lecture 8: Act V(Analysis of the text Abhigyan Shakuntalam with annotation and explanation) Lecture 9: Act VI(Analysis of the text Abhigyan Shakuntalam with annotation and explanation) Lecture 10: Act VII(Analysis of the text Abhigyan Shakuntalam with annotation and explanation) Lecture 11: Critical discussion of the major themes with special emphasis on Love and romance Lecture 12: Analysis of the character of Shakuntala and Dushyanta Lecture 13: Discussion of other important issues and probable University questions Lecture 14: Question Answer Session Lecture 15: Tutorial

PG 2ⁿᵈ Semester	
Syllabus allotted	**Course 201: John Galsworthy : Justice** **Course 203: Wilfred Owen: Spring offensive, Strange Meeting** **Course 204 (CBCS): Phonetics**
No of Classes (Hour)	4 hrs

per week	
Teaching Plan	**201: John Galsworthy : Justice** Lecture 1: Introduction to modernism, modern literature, Lecture 2: Introduction of Galsworthy's life and writings. Lecture 2: Introduction to Problem plays :Galsworthy and G.B.Shaw Lecture 4: Overview of tragedy and its features, hamartia, catharsis, anagnorisis, Peripeteia etc. Lecture 5:Analysis of Text ACT I Lecture6: Analysis of Text ACT I Lecture 7: Analysis of Text ACT II Lecture 8: Analysis of Text ACT II Lecture9: Analysis of Text ACT III(Scene i) Lecture 10: Analysis of Text ACT III(Scene ii & iii) Lecture 11: Analysis of text ACT IV Lecture 12: Discussion of Galsworthy as a Dramatist and his social tragedies. Lecture 13: Analysis of Justice as a problem play Lecture 14:Character sketch of Falder/ as a tragic hero and character sketch of Ruth Honeywill Lecture 15: Discussion of other important issues and university questions Lecture 16: Doubt clearance session/Questions and Answer Session Lecture 17: Tutorial **Wilfred Owen: Spring offensive, Strange Meeting** Lecture 1: Introduction to the history of English literature during the Inter war period and after the Inter war period. Lecture 2: A brief overview of the social history of Europe during and before the first world war Lecture 3: Introduction of Wilfred Owen and his literary contribution. Lecture 4: Analysis of the text 'Spring Offensive'(continued) Lecture 5: Analysis of the text Spring Offensive. Lecture 6: Discussion on 'Spring offensive' as an anti war poem Lecture 7: Analysis of the text 'Strange Meeting' (continued) Lecture8: Analysis of the text' Strange Meeting'. Lecture 9: Discussion on Strange Meeting as an anti war poem/Major themes Lecture10: Discussion of other important issues and university questions from both the poems. Lecture 11: Doubt clearance session/Questions and Answer Session. Lecture 12: Tutorial **204 (CBCS): Phonetics** Lecture 1:Introduction to Linguistics Lecture 2: Overview of the branches of Linguistics Lecture 3:Phonetics (definition) and its branches, organs of speech, speech articulators etc. Lecture 4: Analysis of speech mechanism. Lecture 5: Discussion of Phonemes (Consonants and vowels) Lecture 6: Classification and description of the consonants Lecture 7: Classification and description of the vowels Lecture 8: Discussion of other important issues and university questions

	Lecture 9: Doubt clearance session/Questions and Answer Session Lecture 10: Tutorial

PG 4th Semester	
Syllabus allotted	**Course 404B: Sankar Prasad Singha &Indranil Acharya(eds): Survival and other Stories** **Course 404B: : Omprakash Valmiki: Joothan**
No of Classes (Hour) per week	3 hrs
Teaching Plan	**Course 404B: Survival and other Stories** Lecture 1: Introduction to Dalit Literature with past and present.. Lecture 3: Discussion regarding the elements of short stories , its origin and development. Lecture 4: Analysis of text 'Reincarnation of Parashuram' Lecture 5 : Analysis of text 'Reincarnation of Parashuram' (Last portion) Lecture 6: Discussion of major and minor themes Lecture 7: Critical discussion regarding impact of poverty and superstition on family life. Lecture 8: Critical analysis on the significance of the title "Reincarnation of Parashuram"and "The Other Jew" Lecture 10: Analysis of the text 'The Other Jew'(Last portion) Lecture 11: Critical analysis on "The Other Jew" as a typical dalit story with a difference. Lecture 12: Discussion on the role of Feru Mian and other important Characters. Lecture 13: Discussion of other important issues and university questions Lecture 14: Question Answer Session /Doubt Clearance. Lecture 15: Tutorial **Course 404B: : Omprakash Valmiki: Joothan** Lecture 1: Introduction to Dalit Literature and Dalit Literary Theory Lecture 2: Overview of Hindi and Marathi Dalit Literature Lecture 3: Introduction to Dalit autobiographies and influence of Ambedkar Lecture 4: Introduction to Omprakash Valmiki and his Literary works Lecture 5: Introduction of Omprakash Valmiki's Joothan by Arun Prabha Mukherjee Lecture 6: Analysis of the text Joothan(continued....) Lecture 7: Analysis of the text Joothan(continued....) Lecture 8: Analysis of the text Joothan(continued....) Lecture 9: Analysis of the text Joothan(continued....) Lecture 10: Analysis of the text Joothan(continued....) Lecture 11: Analysis of the text Joothan. Lecture 12: Discussion of Major themes Lecture 13: Discussion regarding the Justification of the title Joothan. Lecture 14: Discussion Joothan as a typical dalit autobiography. Lecture 15: Discussion of other important issues and university questions

	Lecture 16: Question Answer Session /Doubt Clearance Lecture 17: Tutorial

Department of English

Teaching Plan for the even semesters, UG (2022-23)

Name of the Teacher: Shreyasi Roy

Semester II	
Syllabus allotted	
No of Classes (Hour) per week	
Teaching Plan	
Semester IV	
Syllabus allotted	C9T: Henrik Ibsen: *Ghosts* SEC2T- Creative Writing
No of Classes (Hour) per week	3hrs
Teaching Plan	**C9T:** Henrik Ibsen: *Ghosts* **Lecture 1:** Introduction to European Drama **Lecture 2:** Introduction to the origin and development of European Drama from the Classical to Modern period **Lecture 3:** Introduction to the historical and socio-political overview of Norway **Lecture 4:** Henrik Ibsen and Norway: An introduction **Lecture 5:** Ibsen as a playwright **Lecture-6:** Discussion of the background and stage direction of the play *Ghosts* **Lecture 7-14:** Text and analysis of *Ghosts* 　　　　　　　Act-1, Act-2, Act-3 **Lecture 15-17:** Critical analysis of the characters **Lecture 18:** Ibsen and Realism **Lecture 19:** Evaluation/appropriateness of the title of the play **Lecture 20:** Evaluation of *Ghosts* as a domestic drama **Lecture 21:** Evaluation of *Ghosts* as a tragedy **Lecture 22:** Exhibition of a film adaptation of *Ghosts* **Lecture 23:** Tutorial **SEC2T- Creative Writing** **Lecture 1**: Introduction to Creative Writing **Lecture 2:** The Art and craft of writing **Lecture 3:** The Art and craft of writing

Lecture 4: Modes of creative writing
Lecture 5: Different types of creative writing:
          Biographies
Lecture 6: Fiction- novels, novellas, short stories etc
Lecture7: Poetry
Lecture8: Playwriting and scriptwriting
Lecture:9 Essays
Lecture 10: Some techniques used in creative writing
Lecture11: Writing for the media
Lecture12: Principles and methods
Lectures 13 to 15- Preparing for publication
Lecture 16- Tutorial

Semester VI	
Syllabus allotted	C13T: Vyasa: 'The Dicing' and 'The Sequel to Dicing, 'The Book of the Assembly Hall', 'The Temptation of Karma', Book V 'The Book of Effort', in *The Mahabharata*. DSE4T: Jibananda Das: 'I Shall Return to This Bengal'
No of Classes (Hour) per week	3hrs

Teaching Plan	**C13T: Vyasa: 'The Dicing' and 'The Sequel to Dicing, 'The Book of the Assembly Hall', 'The Temptation of Karma', Book V 'The Book of Effort', in *The Mahabharata*.**
	 Lecture 1: Introduction to *The Mahabharata*: An overview
	 Lecture 2: Introduction to "The Dicing" from The Book of *The Assembly Hall*
	 Lectures 3 to 5: Text and analysis
	 Lecture 6: Discussion: - Reversal of Fortune
	 Lecture 7: Discussion: - i) Importance of the Game of Dice
	                     ii)Yudhisthira's Dharma
	                     iii) Consequence of losing the kingdom,
	                          brothers, self in gambling
	 Lecture 8: Discussion: -i) Humiliation of Draupadi
	                     ii) Draupadi's question
	 Lecture 9: References from various revisionist feminist texts (The *Palace of Illusion, Yajnaseni etc*) and a few glimpses from Saoli Mitra's play *Nathabati Anathbath (*Tr.by Rita Datta into English as *Five Lords, Yet None a Protector)*
	 Lecture 11: Introduction to "The Sequel to Dicing" from The Book of *The Assembly Hall*
	 Lectures 12 to 14: Text and analysis
	 Lecture 15: Discussion: - i) Motif of a Father's blind love for his son
	                     ii)The importance of loyalty and Dharma

	Lecture 16: Discussion: - The Second Game of Dicing and Departure to the Forest **Lecture 17:** Introduction to 'The Temptation of Karma', Book V 'The Book of Effort' **Lectures 18 to 20:** Text and analysis **Lecture 21:** Understanding the character of Karna **Lecture 22:** The predicament of Karna- Temptation Understanding the conversation with Krishna **Lecture 23:** Discussion: - Relationship between Kunti and Karna **Lecture 24:** Tutorial **Lecture 25:** Tutorial **DSE4T:** Jibananda Das: 'I Shall Return to This Bengal' **Lecture 1 to 2:** Historical and socio-political overview of Partition **Lecture 3 to 4:** Introduction to the Partition literature **Lecture 5:** Different aspects of partition literature **Lecture 6:** A documentary on partition **Lecture 7 to 8:** Introduction to Jibananda Das and Kallol Group of poets **Lecture 9:** Jibananda Das and his poetic sensibility **Lecture 10:** Discussion of the poem, 'I Shall Return to This Bengal', tr. Sukanta Chaudhuri, in *Modern Indian Literature* (New Delhi: OUP, 2004). **Lecture 11**: Critical evaluation of 'I Shall Return to This Bengal' as a poem on partition. **Lecture 12:** Critical evaluation of other significant approaches of the poem **Lecture 13:** A documentary on Jibananda Das **Lectures 14 to 15:** Tutorial

Teaching Plan for the Even Semesters, PG (2022-23)

Semester II	
Syllabus allotted	**Course 201: Drama II (19th and 20th Centuries)** $\quad$ **Henrik Ibsen: *A Doll's House*** $\quad$ **Course 202: Fictional and Non-fictional Prose II (19th and 20th Centuries)** $\quad$ **D.H.Lawrence: *Sons and Lovers***
No of Classes (Hour) per week	5 hrs
Teaching Plan	**Course 201:** Henrik Ibsen: *A Doll's House* **Lecture 1:** Introduction to European Drama **Lecture 2:** Introduction to the origin and development of European Drama from the Classical to Modern period **Lecture 3:** Introduction to the historical and socio-political overview of Norway **Lecture 4:** Henrik Ibsen and Norway: An introduction **Lecture 5:** Ibsen as a playwright **Lecture-6:** Discussion of the background and stage direction of the play *A Doll's House* **Lecture 7-14:** Text and analysis of *A Doll's House* $\quad\quad\quad$ Act-1, Act-2, Act-3 **Lecture 15-17:** Critical analysis of the characters **Lecture 18:** Ibsen and Realism **Lecture 19:** Evaluation/appropriateness of the title of the play **Lecture 20:** Evaluation of Nora's journey from powerlessness to empowerment **Lecture 21:** Evaluation of *A Doll's House* as a tragedy **Lecture 22:** Exhibition of a film adaptation of *A Doll's House* **Lecture 23:** Tutorial **Course 202 D.H.Lawrence: *Sons and Lovers*** **Lecture 1:** Britain in the early twentieth century $\quad\quad\quad$ i) Political conditions in early twentieth-century Britain $\quad\quad\quad$ ii) The Edwardian period $\quad\quad\quad$ iii) World War 1 **Lecture 2:** The socio-cultural contexts and economic changes **Lecture 3:** British novelists of the early twentieth century **Lecture 4:** Introduction to D.H.Lawrence **Lecture 5:** *Sons and Lovers* is a novel about working-class life **Lectures 6 to 12:** Text and analysis **Lectures 13 to 15:** Critical analysis of the characters **Lecture 16:** Structure of the novel **Lecture 17:** Autobiographical elements in *Sons and Lovers* **Lecture 18:** Use of symbols in the novel **Lecture 19:** Psychoanalytic Reading of *Sons and Lovers* **Lecture 20:** Issues of gender **Lecture 21:** Evaluation/appropriateness of the title of the novel **Lecture 22:** Tutorial

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Semester-IV	

Syllabus allotted	**Course 403 B: American Literature**
	   Unit 1: Mark Twain: *The Adventures of Huckleberry Finn*
	
	Course 404B: Dalit Literature
	   Unit 1: Bama: *Karukku*

No of Classes (Hour) per week	5 hrs

Teaching Plan	**Course 403 B: Mark Twain: *The Adventures of Huckleberry Finn***
	
	Lectures 1 to 3: Introduction to the literature of America
	Lecture 4: Introduction to the historical and socio-political overview of America from 1865-1914
	Lecture 5: Mark Twain and America: An Introduction Lecture 6: American Fiction: The Rise of Realism
	Lecture 7: Background of the novel *The Adventures of Huckleberry Finn*
	Lectures 7 to 13: Text and analysis
	Lecture 14: Slavery in the US: A historical view
	Lecture 15-17: Critical analysis of the characters
	Lecture 18: The narrative structure of *Huckleberry Finn*
	Lecture 19: Features of Narrative:
	       i) Picaresque form
	Lecture 20: Use of language in *Huckleberry Finn*
	Lecture 21: Humour and other issues in the *Huckleberry Finn*
	      i) Humour in Character
	      ii) Humour in the Situation
	      iii) Humour in Language
	Lecture 22: Critical approaches to *Huckleberry Finn*
	Lecture 23: Tutorial
	
	Course 404B: Bama: *Karukku*
	Lectures 1 to 4: Introduction to the Dalit Literature
	Lecture 5: Bama's contribution to the Dalit literature
	Lectures 6 to 10: Text and analysis
	Lecture 11: Bama's *Karukku* as an autobiography of a Dalit Christian woman
	Lecture 12: Critical evaluation of the claim Dalit autobiography does not talk of the self but community
	Lecture 13: Critical evaluation of the quest for self-identity
	Lecture14: Critical evaluation of Dalit resistance through language
	Lecture 15: Tutorial

Department of English

Teaching Plan for the even semesters (2022-2023)

Name of the Teacher: Somali Nandi

Semester II	
Syllabus Allotted	
No of classes (Hour) per week	
Teaching plan	

Semester IV	
Syllabus allotted	Ovid's Metamorphosis- Bacchus (Book III) Pyramus and Thisbe (Book IV) Plautus Pot of Gold
Classes allotted	3hrs
Paper	CC 8
	Bacchus Book III
Teaching Plan	Lecture 1. Roman Lit: An Introduction
	Lecture 2. Ovid: Life and Literature and Works
	Lecture 3. Definition of epic and it's characteristics
	Lecture 4. The Metamorphoses and other Traditional Epics
	Lecture 5. The Structure of Metamorphoses.
	Lecture 6. Books in Metamorphoses
	Lecture 7. Origin of Greek Mythology.
	Lecture 8-10. Textual Analysis Book III
	Lecture 11-13. Textual Analysis Book IV.
	Lecture 14. Questionnaire
	Lecture 15. Tutorial.
	Pyramus and Thisbe Book IV
	Lecture 1. Origins of Roman Comedy.
	Lecture 2. Livieus Andronicus and the Beginning of Roman Drama.
	Lecture 3. Indigenous Roman Tradition.
	Lecture 4. Roman theatre during the Ancient Period.
	Lecture 5. End of Classical Drama.
	Lecture 6. Plautus -An Introduction.
	Lecture 7. Pot of Gold -1(Text) Prologue, Euclio and the Slaves.
	Lecture 8. The Marriage Proposal: It's Implications, The Slave Pageant.
	Lecture 9. Pot of Gold -II Text A view of Society in Rome, The People of Rome.
	Lecture 10. The Audience in Plautus's Play
	Lecture 11. 'Renouncing' Phaedria
	Lecture 12. Questionnaire
	Lecture 13. Tutorial

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Sem VI	
Syllabus allotted	Two Lady Rams by Mulk Raj Anand , The Final Solution by Manik Bandhopadhay
Classes allotted	3 hrs
Paper	CC 14T, DSC4T
Teaching Plan	Two Lady Rams
	Lecture 1. Introduction to Indian English Short Stories.
	Lecture 2. Mulk Raj Anand: Life and Works.
	Lecture 3. Summary of the Text.
	Lecture 4-5. Text and Analysis.
	Lecture 6. Predicament of Indian Women in the story Two Lady Rams.
	Lecture 7. Themes of the story.
	Lecture 8. As a critique on Colonialism
	Lecture 9. As a Satire.
	Lecture 10. Character Analysis
	Lecture 11. Tutorial
	The Final Solution
	Lecture 1. Partition Literature.
	Lecture 2. Historical Overview of Bengal partition.
	Lecture 3. Importance of Partition Literature in Modern Academia
	Lecture 4. Manik Bandyopadhyay: Life and Works
	Lecture 5-8. Textual Analysis
	Lecture 9. Plight of women in Partition Narratives.
	Lecture 10. Partition and Films: Discussion on Pinjar, Mati, Tamas etc.
	Lecture 11. Questionnaire
	Lecture 12. Tutorial.

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Syllabus Distribution and Teaching Plan of Even Semesters (2nd/4th/6th)

SESSION – 2022-2023

Name of the Teacher: *Dr. Sudipta Narayan Das Mandal*

Term I   : Commencement of Classes to 1st Internal.

Term II   : 1st Internal to 2nd Internal.

Term III : 2nd Internal to ESE Preparatory Break.

Semester-IV

Name of The Course	Syllabus Allotted	Teaching Plan
UG COURSE	Paper C9T: Modern European Drama Topic – Bertolt Brecht: *The Good Woman of Setzuan*	**Lecture 1** : A Short Glimpse on Modern European Drama. **Lecture 2** : Classification of Modern British Drama. **Lecture 3** : Background Study of Modern British drama. **Lecture 4** : Realism, Naturalism and Beyond. **Lecture 5** : Bertolt Brecht and Epic Theatre. **Lecture 6** : A Special Reading of Brecht's Play *The Good Woman of Setzuan*. **Lecture 7** : *The Good Woman of Setzuan*: A critical Analysis. **Lecture 8** : Structure of the play *The Good Woman of Setzuan.* **Lecture 9** : Styles and Techniques of the play *The Good Woman of Setzuan*. **Lecture 10**: Focus on Some Critical Works. **Lecture 11**: Problem Solving Session.

Name of The Course	Syllabus Allotted	Teaching Plan
UG COURSE	Paper C14T: Indian Writing in English. Topic – R.K. Narayan: *Swami & Friends*. Paper C14T: Indian Writing in English. Topic –Girish Karnad: *Tughlaq*.	**Lecture 1** : Literary Background of Indian English Fiction in Pre- Independence Era. **Lecture 2** : The Art of R.K.Narayan. **Lecture 3** : A Special Focus on *Swami and Friends.* **Lecture 4** : Outline Story of the novel *Swami and Friends.* **Lecture 5** : Some Important Aspects of the novel *Swami and Friends*. **Lecture 6** : Application of Narrative and Narratology. **Lecture 7** : Theoretical Approach to *Swami and Friends.* **Lecture 8** : Discussion of Some Probable Questions. **Lecture 9** : Recommendation of Some Critical Books on the novel *Swami and Friends.* **Lecture 10** : An Introduction to Indian Drama in English. **Lecture 11** : Girish Karnad as a Dramatist. **Lecture 12** : Girish Karnad and Existentialism. **Lecture 13** : A Reading of Karnad's play *Tughlaq.* **Lecture 14** : Treatment of History in *Tughlaq.* **Lecture 15** : A Short Summary of the play *Tughlaq.* **Lecture 16** : Discussion of Different Issues like Plot, Characterization Modern Appeal and so on. **Lecture 17** : Focus on Some Important Questions. **Lecture 18** : Recommended Bibliography. **Lecture 19 :** Problem Solving Session. Signature Not Verified BIDYUT SAMANTA 22.06.2024

Semester-II

.	Syllabus Allotted	Teaching Plan
PG COURSE	**Course No: ENG 201: Drama II (19th and 20th Centuries)** **Topic- T.S.Eliot:** *Murder in the Cathedral* **Course No: ENG 202: Fictional and Non-fictional Prose II (19th and 20th Century Texts)** **Topic- James Joyce:** *A Portrait of the Artist as a Young man.*	**Lecture 1:** Modern British Drama: A Short Introduction. **Lecture 2**: The Rise of Poetic Drama in the 20thCentury. **Lecture 3**: T.S.Eliot's Views on the Theory and Practice of Poetic Drama. **Lecture 4**: A Critical Interpretation of *Murder in the Cathedral*. **Lecture 5**: *Murder in the Cathedral*: A Historical Background. **Lecture 6** : *Murder in the Cathedral*: A Verse Play. **Lecture 7**: Greek Classical Drama and *Murder in the Cathedral*. **Lecture 8** : Other Important Aspects of the Play- Plot, Temptation Episode, Theme of Martyrdom. **Lecture 9 :** Versification and Imagery in *Murder in the Cathedral*. **Lecture 10 :** Select Literary Criticism. **Lecture 11:** Problem Solving Session. **Lecture 12**: A Short Introduction to Modern Novel. **Lecture 13**: The European Background of Joyce's Writings. **Lecture 14**: Joyce and High Modernism. **Lecture 15**: *A Portrait of the Artist as a Young man*: A Modernist Text. **Lecture 16**: *A Portrait of the Artist as a Young man*: A Psychological Novel. **Lecture 17**: The Styles of Realism and Fantasy in *A Portrait of the Artist as a Young man.* **Lecture 18**: Themes, Structures and Techniques of *A Portrait of the Artist as a Young man.* **Lecture 19**: Joyce, Colonialism and Nationalism. **Lecture 20**: Focus on Some Critical Works. **Lecture 21**: Problem Solving Session.

.	Syllabus Allotted	Teaching Plan
PG COURSE	**Course No: ENG 402A: Literature of the Indian Sub-Continent: Fiction and Non-Fiction in English** **Topics- R.K.Narayan:** *The Guide* **&** **Tagore:** *The Home and the World.*	**Lecture 1:** A Brief Introduction to Indian English Fiction. **Lecture 2:** Literary Background of Indian English Fiction in the 20th Century. **Lecture 3:** A Short Review of R. K. Narayan's Selected Novels. **Lecture 4:** A Synopsis of the Novel *The Guide.* **Lecture 5:** Themes, Ideas and concept of R.K.Narayan's *The Guide.* **Lecture 6 :** A Theoretical Approach to the Novel *The Guide.* **Lecture 7:** Selected Literary Criticisms on *The Guide.* **Lecture 8** : Problem Solving Session. **Lecture 9** : Rabindranath Tagore as a Novelist. **Lecture 10** : Historical and Political Context of Indian English Fiction in the Early 20th Century. **Lecture 11** : Tagore and Nationalism. **Lecture 12** : Plot Summary of the Novel *The Home and The World.* **Lecture 13** : Major Themes and Characters in the Novel *The Home and The World.* **Lecture 14** : *The Home and The World:* A Modernist Perspective. **Lecture 15** : A Psychoanalytic Reading of *The Home and The World.* **Lecture 16** : Problem Solving Session. **Lecture 17** : Reference to Some Critical Works.

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BIDYUT SAMANTA

22.06.2024

Department of English

Teaching Plan for the even semesters of U.G (2022-23)

Name of the Teacher: Shishir Santra

Semester IV	
Syllabus allotted	**C8T: Sophocles:** *Oedipus the King*
No of Classes (Hour) per week	**C8T: 2**
Teaching Plan	**C8T: Sophocles:** *Oedipus the King* **Lecture 1:** Introduction to the European Classical Literature. **Lecture 2:** Introduction to the origin and development of European Classical Drama. **Lecture 3:** Tragedy and Comedy in Classical Drama. **Lecture 4:** Tragic Hero, Hamartia, Hubris, Catharsis, Pity and Fear, Peripeteia, Anagnorisis. **Lecture 5:** Introduction to Sophocles, Theban Plays and Theban Mythology. **Lecture 6:** Text and analysis of *Oedipus Rex.* **Lecture 7:** Text and analysis of *Oedipus Rex.* **Lecture 8:** Text and analysis of *Oedipus Rex.* **Lecture 9:** Text and analysis of *Oedipus Rex.* **Lecture 10:** Text and analysis of *Oedipus Rex.* **Lecture 11:** Text and analysis of *Oedipus Rex.* **Lecture 12:** Critical discussion on *Oedipus Rex* as a Greek Tragedy. **Lecture 13:** Critical discussion on the role of Chorus in Greek Tragedies. **Lecture 14:** Critical discussion on the character of Oedipus as a Tragic hero. **Lecture 15:** Critical discussion on the character of Jocasta. **Lecture 16:** Critical discussion on the role of Tiresias. **Lecture 17:** Tutorial **Lecture 18:** Tutorial
Semester VI	
Syllabus allotted	**C13T: Sudraka** : *Mrcchakatika* **DSE4T**: **Amitav Ghosh**: *The Shadow Lines*
No of Classes (Hour) per week	**2**
Teaching Plan	**C13T: Sudraka:** *Mrcchakatika* **Lecture 1:** Introduction to Indian Classical Literature **Lecture 2:** Introduction to the origin and development of Indian Classical Drama, *Natya Sastra.*

Lecture 3: Nataka, Prakarana, Sutradhar, Sanskrit Theatre
Lecture 4: Text(Act l &ll) and analysis of *Mrcchakatika.*
Lecture 5: Text(Act lll&IV)and analysis of *Mrcchakatika.*
Lecture 6: Text (Act V &Vl) and analysis of *Mrcchakatika.*
Lecture 7: Text (Act Vll&Vlll) and analysis of *Mrcchakatika.*
Lecture 8: Text (Act lX & X) and analysis of *Mrcchakatika.*
Lecture 9: Critical discussion on the significance of the title of *Mrcchakatika.*
Lecture 10: Critical discussion on *Mrcchakatika* as a socio-political play
Lecture 11: Critical discussion on the characters of Charudatta, Vasantasena and Sakara.
Lecture 12 : Tutorial
Lecture 13 : Tutorial

DSE4T: Amitav Ghosh: *The Shadow Lines*

Lecture 1: Introduction to Indian writing in English, Colonialism and Nationalism.
Lecture 3: Introduction to Partition Literature, Communal riots and violence.
Lecture 4: Introduction to Post Colonialism, Homelessness and Exile, Imaginary Homelands.
Lecture 5: Critical discussion on Amitav Ghosh's works and plot of *The Shadow Lines.*
Lecture 6: Critical discussion on Amitav Ghosh's treatment of History in *The Shadow Lines.*
Lecture 7: Critical discussion on the title of the novel and structure of the novel.
Lecture 8: Theme of Partition, Home/ Homelessness in the novel.
Lecture 9: Critical discussion on the theme of diaspora, identity and Nationalism in *The Shadow Lines.*
Lecture 10: Critical discussion on the characters of Tridib, Thamma
Lecture 11: Tutorial
Lecture 12: Tutorial

Teaching Plan

Department of Geography

Session: 2023-24

Odd Semester

TermI:Fromcommencement ofclassto1ˢᵗInternalAssessment

Term II: 1ˢᵗ Internal Assessment to 2ⁿᵈ Internal Assessment

TermIII:2ⁿᵈInternal AssessmenttoEndSemester Exam

TeachingPlan: 2023-24
(Odd Semester)
Sharmistha Manna
Dept. of Geography

Semester-I		
No of Classes (Hour) allotted per week: 02(MJ -1,MI-1)		

| Syllabus allotted for theory classes | **MJ-1T: Geotectonics and Geomorphology (Theory)**

1.Geomorphic processes and resultant forms: Weathering, Mass wasting, River, Glacier and Wind
MJ-1P: Geotectonics and Geomorphology (Practical)
1.Geological Maps: Homoclinal
MI – 1T: Fundamentals of Earth System Science.
1.Geomorphology: Working of processes and landforms developed by weathering, mass wasting, river, glacier and wind. Landscape evolution models of Davis, Penck, King and Hack.
2.Hydrology and Oceanography: Hydrological Cycle. Hydrological Parameters: Run off, Infiltration and evapotranspiration. Occurrence and storage of Groundwater. Major relief features of the ocean floor: Pacific, Atlantic and Indian Ocean. Formation of coral reefs. Distribution of Salinity and Temperature in Pacific, Atlantic and Indian Ocean. | |

Total Lecture	Term I	Paper
06	Geomorphic processes and resultant forms: Weathering, Mass wasting.	**MJ-1T**
06	Geomorphology: Working of processes and landforms developed by weathering, mass wasting, river, glacier and wind. Landscape evolution models of Davis, Penck, King and Hack.	
Term II		
10	River, Glacier and Wind	**MJ-1T**
09	Hydrology and Oceanography: Hydrological Cycle. Hydrological Parameters: Run off, Infiltration and evapotranspiration. Occurrence and storage of Groundwater. Major relief features of the ocean floor: Pacific, Atlantic and Indian Ocean. Formation of coral reefs. Distribution of Salinity and Temperature in Pacific, Atlantic and Indian Ocean.	**MI-1T**
Term III		
04	**End - Semester questions discussion on selective topic of MJ-1T & discussion about writing techniques**	**MJ-1T**
03	**End - Semester questions discussion on selective topic of MI-1T & discussion about writing techniques**	
Syllabus allotted for practical classes	**MJ-1P: Geotectonics and Geomorphology (Practical)**	**MJ-1**
Total Lecture **05**	**MJ-1P: Geotectonics and Geomorphology (Practical)**	

	Semester-III	
	No of Classes (Hour) allotted per week: 04 *****Each Lecture carried 01 Hour*****	

Syllabus allotte d for theory classes	**C5T: Climatology**
	 Unit II: Atmospheric Phenomena and Climatic Classification.
	 1.Tropical and mid-latitude cyclones.
	 2.Monsoon circulation and mechanism with reference to India.
	 C6T: Statistical Methods in Geography
	 Unit II:
	 Association and correlation: Rank correlation, product moment correlation
	 C6 P – Statistical Methods in Geography
	 Based on of the sample set and using two relevant attributes, a scatter diagram and regression line would be plotted and residual from regression would be mapped with a short interpretation.
	  C7T: Geography of India
	 Unit I: Geography of India
	  1.Tectonic and stratigraphic provinces, physiographic divisions.
	  2.Climate, soil and vegetation: Characteristics and classification.
	  3.Population: Distribution, growth, structure and policy.
	 Unit II: Geography of West Bengal
	 1.Resources: Mining, agriculture and industries.	

Total Lecture	**Term I**	
04	Tropical and mid-latitude cyclones	**C5T**
06	Association and correlation: Rank correlation, product moment correlation	**C6T**
08	Tectonic and stratigraphic provinces, physiographic divisions. Climate, soil and vegetation: Characteristics and classification	**C7T**
	Term II	
04	Monsoon circulation and mechanism with reference to India.	**C5T**
04	Population: Distribution, growth, structure and policy	**C7T**
06	Resources: Mining, agriculture and industries	**C7T**
	Term III	
02	Revision class over C5T and doubt clearance	**C5T**
02	Doubt clearance on C6T and revision of selective topic	**C6T**
02	Revision class over C7T and doubt clearance	**C7T**
03	**End - Semester questions discussion on selective topic of C5T, C6T, C7T & discussion about writing techniques**	
06	**C6 P – Statistical Methods in Geography** Based on of the sample set and using two relevant attributes, a scatter diagram and regression line would be plotted and residual from regression would be mapped with a short interpretation.	**C6P**

Semester-V

No of Classes (Hour) allotted per week: 04
Each Lecture carried 01 Hour

Syllabus allotted for theory classes	**C11T: Field Work and Research Methodology** . **Unit I: Research Methodology**. Research in Geography: Meaning, types and significance **CC-12: Remote Sensing and GIS** 1**.**Principles of Remote Sensing (RS): Types of RS satellites and sensors. 2.Sensor resolutions and their applications with reference to IRS and Landsat missions, image referencing schemes and data acquisition. **DSE-1: Hydrology and Oceanography** 1.Coral reefs: Formation, classification and threats . 2.Sea level change: Types and causes. **DSE2T: Resource Geography** **Unit I**: 1.Problems of resource depletion—global scenario (forest, water, fossil fuels). **Unit II:** 1.Distribution, Utilisation, Problems and Management of Energy Resources: Conventional and Non-Conventional. 2.Contemporary Energy Crisis and Future Scenario. 3.Politics of Power resources.

Total Lecture	Term I	Paper
06	Research in Geography: Meaning, types and significance	**C11T**
04	Principles of Remote Sensing (RS): Types of RS satellites and sensors	**C12T**
03	Coral reefs: Formation, classification and threats .	**DSE 1T**
02	Problems of resource depletion—global scenario (forest, water, fossil fuels).	**DSE 2T**
05	Distribution, Utilisation, Problems and Management of Energy Resources: Conventional and Non-Conventional.	**DSE 2T**
	Term II	
05	Sensor resolutions and their applications with reference to IRS and Landsat missions, image referencing schemes and data acquisition.	**C12T**
03	Sea level change: Types and causes	**DSE 1T**
02	Contemporary Energy Crisis and Future Scenario.	**DSE 2T**
02	Politics of Power resources	**DSE 2T**
	TermIII	
02	Class test on selective topic.	**C11T,C12T, DSE1T & DSE2T**
02	Doubt clearance on selective topics and revision	
02	**End - Semester questions discussion on selective topic of C11T, C12T & discussion about writing techniques**	**C13T,C14T**
02	**End - Semester questions discussion on selective topic of DSE1T, DSE2T & discussion about writing techniques**	**DSE1T & DSE2T**

Department of Geography

Teaching Plan

Name of the Teacher: SK SAFIKUL HAQUE

Semester II	
Syllabus allotted	**MJ 1:** Geotectonic and Geomorphology **MI T:** Fundamentals of the earth science **MJ A1/B1 T:** Fundamentals of the earth science
No of Classes (Hour) per week	**MJ 1:** 1 **MI T:** 1 **MJ A1/B1:** 1
Teaching Plan	**Lecture 1:** Geological time scale: Tectonic history of the earth. **Lecture 2:** Geological time scale: Geological history of the earth. **Lecture 3:** Dating of the rocks: absolute. **Lecture 4:** Dating of the rocks: relative. **Lecture 5:** Short test. **Lecture 6:** Short test. **Lecture 7:** Short test. **Lecture 8:** Tutorial. **Lecture 9:** Tutorial. **Lecture 10:** Interior structure of the earth with the special reference of seismological study. **Lecture 11:** Isostasy: Model of Airy's. **Lecture 12:** Isostasy: Model of Pratt's. **Lecture 13:** Short test. **Lecture 14** Tutorial. **Lecture 15:** Tutorial. **Lecture 16:** Composition of the Atmosphere. **Lecture 17:** Layering of the Atmosphere. **Lecture 18:** Isolation: controlling factors. **Lecture 19:** Heat budget of the atmosphere **Lecture 20:** Short test. **Lecture 21:** Temperature: horizontal and vertical distribution. **Lecture 22:** Mechanism of precipitation: Bergeron-Findeisen theory **Lecture 23:** Mechanism of precipitation: Collision and Coalescence theory **Lecture 24:** Forms of precipitation **Lecture 25:** Short test. **Lecture 26:** Circulation in the atmosphere **Lecture 27:** Pressure belt. **Lecture 28:** Mechanism of Monsoon. **Lecture 29:** Climatic classification after Köppen **Lecture 30:** Climatic classification after Thornthwaite **Lecture 31:** Short test. **Lecture 32:** Composition of the Atmosphere. **Lecture 33:** Layering of the Atmosphere. **Lecture 34:** Isolation: controlling factors. **Lecture 35:** Heat budget of the atmosphere **Lecture 36:** Forms of precipitation **Lecture 37:** Short test. **Lecture 38:** Circulation in the atmosphere **Lecture 39:** Pressure belt. **Lecture 40:** Mechanism of Monsoon. **Lecture 41:** Climatic classification after Köppen **Lecture 42:** Climatic classification after Thornthwaite

	Lecture 43: End - Semester questions & problems discussion. Lecture 44: Revision. Lecture 45: Class test

Semester III	
Syllabus allotted	**CC-5**: Climatology. **CC-6**: Statistical Methods in Geography. **CC-7**: Geography of India. **SEC1T**: Coastal Geography.
No of Classes (Hour) per week	**C5+6T: 2** **C10T & SEC2T:** 1 **C6P:** 2
Teaching Plan	**Lecture 1:** Nature of the Atmosphere. **Lecture 2:** Composition of the Atmosphere. **Lecture 3:** Layering of the Atmosphere. **Lecture 4:** Short test. **Lecture 5:** Short test. **Lecture 6:** Tutorial. **Lecture 7:** Tutorial. **Lecture 8:** Insolation: controlling factors. **Lecture 9:** Heat Budget of the Atmosphere. **Lecture 10:** Short test. **Lecture 11:** Short test. **Lecture 12:** Measures of dispersion: mean deviation. **Lecture 13:** Measures of dispersion: standard deviation. **Lecture14:** Measures of dispersion: coefficient of variation. **Lecture15:** Tutorial.

	Lecture 16: Central Tendency. **Lecture 17:** Mean. **Lecture 18:** Median. **Lecture19:** Mode. **Lecture20:** Partition values. **Lecture 21:** Short test. **Lecture 22:** Short test. **Lecture 23:** Measures of dispersion. **Lecture 24:** Measures of dispersion: Range. **Lecture 25:** Short test. **Lecture 26:** Short test. **Lecture 27:** Coastal hazards and their management using structural and non-structural measures: Erosion. **Lecture 28:** Coastal hazards and their management using structural and non-structural measures: Flood. **Lecture 29:** Coastal hazards and their management using structural and non-structural measures: Sand encroachment. **Lecture 30:** Coastal hazards and their management using structural and non-structural measures: dune degeneration. **Lecture 31:** Coastal hazards and their management using structural and non-structural measures: estuarine sedimentation. **Lecture 32:** Coastal hazards and their management using structural and non-structural measures: estuarine pollution. **Lecture 33:** Short test. **Lecture 34:** Short test. **Lecture 35:** Tutorial. **Lecture 36:** Population: Distribution. **Lecture 37:** Population: Growth. **Lecture 38:** Population: Structure. **Lecture 39:** Population: Policy. **Lecture 40:** Short test. **Lecture 41:** Short test **Lecture 42:** End - Semester questions & problems discussion. **Lecture 43:** Revision. **Lecture 44:** Revision. **Lecture 45:** Revision.
Semester VI
Syllabus allotted	**C11T**: Field Work and Research Methodology. **C12T**: Remote Sensing and GIS. **DSE1**: Hydrology and Oceanography. **DSE2**: Resource Geography.

No of Classes (Hour) per week	**C11T+ C12T:** 1 **DSE1+DSE2:** 1 **C14P:** 2
Teaching Plan	**Lecture 1:** Landscape survey using transects. **Lecture 2:** Landscape survey using quadrants. **Lecture 3:** Landscape survey using constructing a sketch. **Lecture 4:** Landscape survey using photo. **Lecture 5:** Short test. **Lecture 6:** Short test. **Lecture 7:** Landscape survey using video recording. **Lecture 8:** Preparation of False Colour Composites from IRS LISS-3. **Lecture 9:** Preparation of False Colour Composites from Landsat TM. **Lecture 10:** Preparation of False Colour Composites from OLI data. **Lecture 11:** Short-test. **Lecture 12:** Tutorial. **Lecture 13:** Tutorial. **Lecture 14:** Principles of image interpretation. **Lecture 15:** Preparation of inventories of landuse land cover (LULC) features from satellite images

Lecture 16: Ocean temperature: Distribution.
Lecture 17: Ocean temperature: Determinants.
Lecture 18: Ocean salinity: Distribution.
Lecture 19: Ocean salinity: Determinants.
Lecture 20: Short-test.
Lecture 21: Shorts test.
Lecture 22: Marine resources: Classification.
Lecture 23: Marine resources: Sustainable utilization.
Lecture 24: Significance of Resources: Backbone of Economic growth.
Lecture 25: Significance of Resources: Backbone of Economic development.
Lecture 26: Tutorial.
Lecture 27: Distribution, Utilisation, Problems and Management of Metallic Mineral Resources: Iron ore,.
Lecture 28: Distribution, Utilisation, Problems and Management of Metallic Mineral Resources: Bauxite and copper.
Lecture 29: End- semester questions discussion
Lecture 30: Class test

Teaching Plan

Department of Geography

Session: 2023-24

Odd Semester

Term I: From commencement of class to 1st Internal Assessment

Term II: 1st Internal Assessment to 2nd Internal Assessment

Term III: 2nd Internal Assessment to End Semester Exam

Semester-I		
No of Classes (Hour) allotted per week: 03		
Syllabus allotted for theory classes	MJ 1T: Continental Drift; Plate Tectonics: Processes along different margins and resulting landforms. Types of Fold and Fault; Sea floor spreading. MJ A1: 1. Geotectonics: Origin of Earth, Earth's interior, Isostasy, Continental drift and Plate tectonics. MI: 1. Geo-tectonics: Origin of Earth, Earth's interior, Isostasy, Continental drift and Plate tectonics. 2. Soil Geography: Factors or soil formation. Soil profile development in Lateritic, Podzol and Chernozem soils. Physical and chemical properties: soil texture, structure, pH, organic matter and NPK. Principles of soil classification: Genetic and USDA	

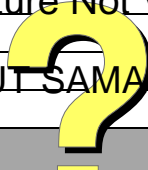| Lecture No.	Term I	Paper
01	Concept of Continental Drift theory.	**MJ 1T**
02	Concept of Plate Tectonics	
03	Processes along different margins and resulting landforms.	
04	Concept and Types of Fold	
05	Resultant landforms of fold	
06	Origin of Earth : concept	**MJ A1** **MI 1**
07	Earth's interior structure	
08	Concept and discussion of Isostasy model.	
09	Class test	
Term II		
10	Concept and Types of Fault	MJ 1T
11	Resultant landforms of fault	
12	Concept of Sea floor spreading	
13	Evidence of sea floor spreading.	
14	Concept of continental drift theory.	**MJ A1** **MI 1**
15	Evidence and criticism of continental drift theory.	
Term III		
16	End - Semester questions discussion on selective topic of MJ1T & discussion about writing techniques	MJ 1T
17	Concept and discussion of plate tectonic theory	**MJ A1** **MI 1**
18	Processes along different margins and resulting landforms.	
19	End - Semester questions discussion on selective topic of MjA1 & MI 1 discussion about writing techniques	
20	Class test on selective topics	

Syllabus allotted for practical classes	MJ 1P: Geological succession and geological history through construction of geological section on Homoclinal structure.	

Lecture No.	Term I	Paper
01	Discuss about the concept of Geological succession	
02	Concept of geological history through construction of geological section	MJ 1P
03	Discuss about homoclinal structure	
04	drawing of geological map on homoclinal structure.	
	Term II	
05	Practice of geological map	
06	Class test	MJ 1P
07	Doubt clear of different problem facing in the time of drawing	
	Term III	
08	End - Semester questions discussion on diagrammatic representation of data.	MJ 1P

Semester-III		
No of Classes (Hour) allotted per week: 02 (C5+C6T+C7T+SEC1T, C6P) ***Each Lecture carried 01 Hour***		

| Syllabus allotted for theory classes | **C5T: Climatology** 1.Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences. 2. Greenhouse effect and importance of ozone layer. 3. Climatic classification after Köppen, Thornthwaite **C6T:** Statistical Methods in Geography 1. Regression (linear and non-linear) and time series analysis (moving average) **C7T:** Geography of India 1. Distribution of population by race, caste, religion, language, tribes and their correlates 2. Agricultural regions. Green revolution and its consequences 3. Mineral and power resources distribution and utilisation of iron ore, coal, petroleum, gas; 4. Regional Problem: Darjeeling Hills **SEC1T:** Coastal Management 1. Components of a coastal zone. Coastal morphodynamic variables and their role in evolution of coastal forms. | |

Lecture No.	Term I	Paper
01	Concept of horizontal and vertical distribution of temperature.	**C5T**
02	Concept and types of Inversion of temperature	
03	Greenhouse effect and importance of ozone layer.	
04	causes and consequences of temperature inversion.	
05	Concept of race, caste, religion, language	**C7T**
06	Distribution of population by race, caste, religion, language, tribes and their correlates	
07	Agricultural regions.	
08	Green revolution and its consequences	

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09	Concept of Regression (linear and non-linear) and time series analysis (moving average)	C6T
10	Concept of time series analysis (moving average)	
11	Concept of Components of a coastal zone	SEC2T
12	Coastal morphodynamic variables. and their role in evolution of coastal forms.	
13	Coastal morphodynamic variables and their role in evolution of coastal forms.	
14	Class test on selective topics	C5T, C6T C7T& SEC1T
Term II		
15	Climatic classification after Köppen,	C5T
16	Climatic classification after Thornthwaite	
17	Concept of Mineral and power resources	C7T
18	distribution and utilisation of iron ore, coal,	
19	distribution and utilisation of petroleum, gas;	
20	Class test on selective topic	C5T, C7T
Term III		
21	Regional Problem: Darjeeling Hills	C7T
22	Revision class over C7T and doubt clearance	
23	Questions discussion	
24	Revision class over C6T and doubt clearance	C6T
25	Revision class over C5T and doubt clearance	C5T
26	Revision class over SEC1T and doubt clearance	SEC1T
27	End - Semester questions discussion on selective topic of C8T, C9T, C10T, SEC2T & discussion about writing techniques	C5T, C6T, C7T & SEC1T
Syllabus allotted for practical classes	**C6 P:** 1. Histograms and frequency curve would be prepared on the dataset.	
Lecture No.	**Term I**	
1.	Concept and drawing of histogram	C6P
	Term II	
2.	Concept and drawing of frequency curve	
	Term III	
3.	Revision classes	
Semester-V		

No of Classes (Hour) allotted per week: 06 (C11T+C12T+DSE1T+DSE2T)
Each Lecture carried 01 Hour

Syllabus allotted for theory classes	**C11T:** Field Work and Research Methodology 1. Fieldwork in Geographical studies – Role and significance. Selection of study area and objectives. Pre-field preparations. Ethics of fieldwork 2. Field techniques and tools: Observation (participant, non participant), questionnaires (open, closed, structured, non-structured). Interview with special reverence to focused group discussions. **C12T** Remote Sensing and GIS 1. GIS data structures: types (spatial and non-spatial), raster and vector 2. Principles of preparing attribute tables, data manipulation and overlay analysis **DSE 1T:** Hydrology and Oceanography 1. Run off: controlling factors. Infiltration and evapotranspiration. Run off cycle 2. Drainage basin as a hydrological unit. Principles of water harvesting and watershed management 3. Air-Sea interactions, ocean circulation, wave and tide. **DSE 2T:** Resource Geography 1. Natural Resources: Concept and classification 2. Approaches to Resource Utilization: Utilitarian, Conservational, Community based adaptive

Lecture No.	Term I	Paper
01	Run off: controlling factors	**DSE1T**
02	Infiltration and evapotranspiration	
03	Run off cycle	
04	Drainage basin as a hydrological unit.	
05	Principles of water harvesting and watershed management	
06	Natural Resources: Concept	**DSE2T**
07	Natural Resources: classification	
08	Doubt clearance	
09	Fieldwork in Geographical studies – Role and significance	**C11T**
10	Selection of study area and objectives.	
11	Pre-field preparations.	
12	Ethics of fieldwork	
13	Fieldwork in Geographical studies with suitable examples.	
14	GIS data structures: concept	**CC12T**
15	GIS data structures: types (spatial and non-spatial)	
16	GIS data structures: raster and vector	
Term II		
17	Air-Sea interactions	**DSE 1T**
18	ocean circulation	
19	Approaches to Resource Utilization: Utilitarian	DSE2T
20	Conservational, Community based adaptive	
21	Field techniques and tools	**C11T**
22	Observation method (participant, non participant)	

23	questionnaires (open, closed)	
24	questionnaires (structured, non-structured).	
25	Principles of preparing attribute tables,	**C12T**
26	data manipulation	
Term III		
26	Concept of wave	**DSE1T**
27	Tides	
28	Doubt clearance on selective topics and revision	
29	End - Semester questions discussion on selective topic of DSE1T, & discussion about writing techniques	
30	Class test	DSE2T
31	Interview with special reverence to focused group discussions	CC11
32	End - Semester questions discussion on selective topic of DSE3T, DSE4T & discussion about writing techniques	**DSE1T & DSE2T CC11, CC12**
Syllabus allotted for practical classes	**C11P:** Research Methodology and Field Work Lab	
Lecture No.	**Term I**	**Paper**
01	Pre field work	
02	Preparation of questionnaire	
03	Field work and data collection	**C14P**
04	Data tabulation	
05	Data tabulation	
Term II		
06	Tabulation and calculation	
07	Graphical representation of field data	**C14P**
08	Map making depends on field survey data	
Term III		
09	Analysis and interpretation	
10	Analysis and interpretation	
11	Analysis and interpretation	**C14P**

Teaching Plan
Department of Geography
Session: 2023-24
Odd Semester

Term I: From commencement of class to 1st Internal Assessment

Term II: 1st Internal Assessment to 2nd Internal Assessment

Term III: 2nd Internal Assessment to End Semester Exam

Teaching Plan: 2023-24 (Odd Semester)
Mukul Maity
Dept. of Geography

Semester-I		
No of Classes (Hour) allotted per week: 03 ****Each Lecture carried 01 Hour****		
Syllabus allotted for theory classes	**MJ-1: Geotectonics and Geomorphology (Theory)** 1. Structural impact on landforms: Drainage and landform development on Horizontal, Homoclinal, Folded and Faulted structure **MJ A1/B1T: Fundamentals of Earth System Science** 1. Hydrology and Oceanography: Hydrological Cycle. Hydrological Parameters: Run off, Infiltration and evapotranspiration. Occurrence and storage of Groundwater. Major relief features of the ocean floor: Pacific, Atlantic and Indian Ocean. Formation of coral reefs. Distribution of Salinity and Temperature in Pacific, Atlantic and Indian Ocean. 2. Soil Geography: Factors or soil formation. Soil profile development in Lateritic, Podzol and Chernozem soils. Physical and chemical properties: soil texture, structure, pH, organic matter and NPK. Principles of soil classification: Genetic and USDA	
Lecture No.	**Term I**	**Paper**
01	Concept of Geomorphology and Geotectonic	
02	General idea about Landforms	
03	Detailed study about structural impact on landforms	
04	Landform development factors on Horizontal structure	
05	Development of drainage pattern over Horizontal structure	
06	Landform evolution over Horizontal structure	**MJ-1**
07	Landform development factors on Homoclinal structure	
08	Development of drainage pattern over Homoclinal structure	
09	Landform evolution over Homoclinal structure	
10	Visualization of different Horizontal and Homoclinal landforms by using ICT tool	
11	Doubt clearance on selective topics	
12	Class test on selective topics	
13	Concept about Hydrology and Oceanography	
14	Details study about Hydrological Cycle	
15	Hydrological Parameters: Run off, Infiltration	
16	Hydrological Parameters: Evaporation & evapotranspiration.	
17	Occurrence and storage of Groundwater.	**MJ A1/B1T**
18	Major relief features of the ocean floor: Pacific, Atlantic and Indian Ocean.	
19	Formation of coral reefs and related theory	
20	Distribution of Salinity and Temperature in Pacific, Atlantic and Indian Ocean.	
21	Doubt clearance on selective topics	
22	Class test on selective topics	
Term II		
23	Landform development factors on Folded structure	
24	Development of drainage pattern over Folded structure	
25	Landform evolution over Folded structure	**MJ-1**
26	Visualization of different Folded landforms by using ICT tool	
27	Doubt clearance on selective topics	
28	Concept development about Soil Geography	
29	Factors or soil formation.	**MJ A1/B1T**
30	Soil profile development in Lateritic, Podzol and Chernozem soils.	

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31	Physical properties: soil texture, structure	
32	Doubt clearance on selective topics	
Term III		
33	Landform development factors on Faulted structure	
34	Development of drainage pattern over Faulted structure	
35	Landform evolution over Faulted structure	
36	Visualization of different Faulted landforms by using ICT tool	**MJ-1**
37	Doubt clearance on selective topics	
38	End - Semester questions discussion on selective topic of MJ-1 & discussion about writing techniques	
39	Chemical properties: pH, organic matter and NPK	
40	Principles of soil classification: Genetic	
41	Principles of soil classification: USDA	**MJ A1/B1T**
42	End - Semester questions discussion on selective topic of MJ A1/B1T & discussion about writing techniques	

Syllabus allotted for practical classes	**MJ-1P: Geotectonics and Geomorphology (Practical)**
	1. Characteristics of Rocks and minerals and their identification.
	SEC 1: Computer Basics and Applications (Practical)
	    1. Knowing computer: what is computer, basic application of computer, computer memory,concepts of hardware and software; operating system; running an application, viewing of file, folders and directories, creating and renaming of files and folders.
	    2. Making a small presentation: MS PowerPoint.	

Lecture No.	Term I	Paper
01	Discuss about computer	
02	Basic application of computer	
03	Computer memory, concepts of hardware and software	**SEC 1**
04	Operating system; running an application	
05	Doubt clearance on selective topics	
Term II		
06	Viewing of file, folders and directories,	
07	Creating and renaming of files and folders	**SEC 1**
08	Doubt clear of different problem and practice in computer.	
Term III		
09	Characteristics of Rocks and identifications	
10	Characteristics of minerals and their identifications	
11	Rediscussing and identification of rocks and minerals	**MJ-1P**
12	Individually practices	
13	End - Semester questions discussion	

Semester-III		
No of Classes (Hour) allotted per week: 04 ***Each Lecture carried 01 Hour***		

Syllabus allotted for theory classes	**C5T: Climatology**
	 1. Condensation: Process and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation.
	 2. Air mass: Typology, origin, characteristics and modification.
	 3. Circulation in the atmosphere: Planetary winds, jet stream, index cycle
	 C6T: Statistical Methods in Geography
	      1. Importance and significance of Statistics in Geography. Discrete and continuous data, population and samples, scales of measurement (nominal, ordinal, interval and ratio), sources of data
	      2. Collection of data and formation of statistical tables
	 C7T: Geography of India
	      1. Industrial development: Automobile and information technology
	 SEC-1T: Coastal Management
	      1. Environmental impacts and management of mining, oil exploration, salt manufacturing, land reclamation and tourism.	

Lecture No.	**Term I**	**Paper**
01	Condensation: Process and forms.	**C5T**
02	Mechanism of precipitation: Bergeron-Findeisen theory	
03	Mechanism of precipitation: collision and coalescence theory	
04	Forms of precipitation	
05	Industrial development: Automobile	**C7T**
06	Importance and significance of Statistics in Geography.	**C6T**
07	Discrete and continuous data	
08	Population and samples	
09	Environmental impacts and management of mining	**SEC-1T**
Term II		
11	Air mass: Typology, origin	**C5T**
12	Air mass: characteristics and modification	
13	Scales of measurement (nominal, ordinal, interval and ratio)	**C6T**
14	Sources of data	
15	Environmental impacts and management of oil exploration	**SEC-1T**
16	Environmental impacts and management of salt manufacturing,	
17	Industrial development: information technology	**C7T**
Term III		
18	Circulation in the atmosphere: Planetary winds	**C5T**
19	Pressure Belt	
20	Jet stream	
21	Index cycle	
22	Revision class over C5T and doubt clearance	
23	Collection of data	**C6T**
24	Formation of statistical tables	
25	Environmental impacts and management of land reclamation	**SEC-1T**
26	End - Semester questions discussion on selective topics of C5T, C6T, C7T & SEC1T	**C5T, C6T, C7T & SEC1T**

Syllabus allotted for practical classes	C6 P – Statistical Methods in Geography 1. From the data matrix a sample set (20%) would be drawn using, random, systematic and stratified methods of sampling and locate the samples on a map with a short note on methods used.	
Lecture No.	**Term I**	**Paper**
01	Preparation of matrix table	
02	Calculation of random sampling	
03	Practice of random sampling	**C6P**
	Term II	
04	Calculation of systematic sampling	
05	Practice of systematic sampling	**C6P**
	Term III	
06	Calculation of stratified sampling	
07	Practice of stratified sampling	
08	End - Semester questions discussion on selective topic	**C6P**

	Semester-V	

No of Classes (Hour) allotted per week: 04
Each Lecture carried 01 Hour

Syllabus allotted for theory classes	**C11T: Field Work and Research Methodology**
	1. Defining research problem, objectives and hypothesis. Research materials and methods
	2. Techniques of writing scientific reports: Preparing notes, references, bibliography, abstract and keywords
	C12T: Remote Sensing and GIS
	1. Principles of GNSS positioning and waypoint collection
	DSE1T: Hydrology and Oceanography
	1. Major relief features of the ocean floor: characteristics and origin according to plate tectonics.
	2. Physical and chemical properties of ocean water
	DSE2T: Resource Geography
	1. Sustainable Resource Development
	2. Limits to Growth and Sustainable Use of Resources; Concept of Resource sharing

Lecture No.	Term I	Paper
01	Defining research and research problem	C11T
02	Research objectives	
03	Research hypothesis	
04	Research materials and methods	
05	Concept about Hydrology and Oceanography	DSE1T
06	Major relief features of the ocean floor	
07	Characteristics and origin of major relief according to plate tectonics.	
08	Visualization of different ocean landforms by using ICT tool	
09	Sustainable Resource Development	DSE2T
10	Principles of GNSS	C12T
11	GNSS positioning and waypoint collection	
12	Doubt clearance on selective topics	
Term II		
13	Techniques of writing scientific reports	C11T
14	Preparing notes, references, bibliography	
15	Physical properties of ocean water	DSE 1T
16	Chemical properties of ocean water	
17	Limits to Growth and Sustainable Use of Resources	DSE 2T
18	Concept of Resource sharing	
19	Class test on selective topic	DSE1T, C11T, DSE2T & C12T
Term III		
20	Abstract and keywords	C11T
21	GNSS positioning and waypoint collection	C12T
22	Class test on evolution of selective topic.	C11T, C12T, DSE1T & DSE2T
23	Doubt clearance on selective topics and revision	
24	End - Semester questions discussion on selective topic of C11T, C12T & discussion about writing techniques	
25	End - Semester questions discussion on selective topic of DSE1T, DSE2T & discussion about writing techniques	DSE1T & DSE2T

Syllabus allotted for practical classes	C12 P: Remote Sensing and GIS Lab 1. Georeferencing of maps and images 2. Image enhancement. Preparation of reflectance libraries of LULC features across different image bands of IRS L3 or Landsat OLI data	
Lecture No.	Term I	Paper
01	Discussion about function of software QGIS	
02	Georeferencing of maps	
03	Georeferencing of images	C12P
04	Practice	
05	Practice	
	Term II	
06	Image enhancement	
07	Preparation of reflectance libraries of LULC features across different image bands of IRS L3 or Landsat OLI data	C12P
08	Practice	
	Term III	
09	Practice	
10	Practice	
11	Instruction for arrangement of practical work book	C12P

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Teaching Plan

Department of Geography

Session: 2023-24

Odd Semester

Term I: From commencement of class to 1st Internal Assessment

Term II: 1st Internal Assessment to 2nd Internal Assessment

Term III: 2nd Internal Assessment to End Semester Exam

Semester-I

No of Classes (Hour) allotted per week: 02 **Each lecture carried 01 Hour**

Syllabus allotted for theory classes	**MJ-1T: Geotectonics and Geomorphology (Theory)** 1. Models of landscape evolution: Views of Davis, Penck, King and Hack **MJ A1/B1: Fundamentals of Earth System Science** Geomorphology: Working of processes and landforms developed by weathering, mass wasting, river, glacier and wind. Landscape evolution models of Davis, Penck, King and Hack

Lecture No.	Term I	Paper
01	Introduction about normal cycle of erosion, Davis's assumption, principle	MJ1T
02	Discuss about Davis's Model of landform evolution with criticism	
03	Discuss about Penck's Model of landform evolution with criticism	
04	Weathering process and types	MJ A1
05	Process of Mass wasting	
06	Morphological process and erosional landform by river	
07	Morphological process and depositional landform by river	
08	Discuss about Davis's Model of landform evolution with criticism	
09	Discuss about Penck's Model of landform evolution with criticism	
Term II		
10	Discuss about King's Model of landform evolution with criticism	MJ1T
11	Morphological process and erosional landform by Glacier	MJ A1
12	Morphological process and depositional landform by Glacier	
13	Morphological process and erosional landform by wind	
14	Morphological process and depositional landform by wind	
15	Discuss about King's Model of landform evolution with criticism	
Term III		
16	Discuss about Hack's Model of landform evolution with criticism	MJ1T
17	Discuss about Hack's Model of landform evolution with criticism	MJ A1
18	Doubt clearance on selective topics	MJ1T
19	Doubt clearance on selective topics	MJ A1
20	End - Semester questions discussion on selective topic of MJ1T & Discussion about writing techniques	MJ1T
21	End - Semester questions discussion on selective topic of MJ A1 & Discussion about writing techniques	MJ A1
22	Class test on selective topics to prepare final exam	MJ1T & MJ A1
Syllabus allotted for practical classes	**MJ-1P: Geotectonics and Geomorphology (Practical)** 1. Geological Maps: Understanding topography, structure, relation between topography and structure, geological succession and geological history through construction of geological section on faulted Structure **SEC 1: Computer Basics and Applications (Practical)** 1. Understanding word processing.	

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Lecture No.	Term I	Paper
	2. Using spreadsheet: basics of spreadsheet; manipulation of cells; formulas and functions; editing of spreadsheet, printing of spreadsheet. 3. Concept of internet; application of internet; World Wide Web; email.	
01	Basic discussion about the concept of Geological map	MJ-1P
02	Detail discussion about the topography, structure, relation between topography and structure	
03	Understanding geological succession and geological history	
04	Drawing Geological map on faulted Structure	
05	Understanding basic word processing	SEC 1
06	Word processing and different trick and techniques	
07	Basics of spreadsheet and manipulation of cells editing of spreadsheet, printing of spreadsheet.	
08	Use of formulas and functions in Spreadsheet, use of Pivot Table and AI	
Term II		
09	Practice of Geological map on faulted Structure	MJ-1P
10	Editing of spreadsheet and Printing of spreadsheet	
11	Giving the concept of internet and about its application	SEC 1
12	Discussion on World Wide Web	
13	Discuss the email process	
Term III		
14	Revision class over SEC-1 and doubt clearance	MJ-1P
15	Revision class over SEC-1 and doubt clearance	SEC 1

Semester-III

No of Classes (Hour) allotted per week: 01 (C5T+C6T+C7T+SEC1T+C6P)   ***Each lecture carried 01 Hour***

Syllabus allotted for theory classes	**C5T: Climatology** 1. Fronts: warm and cold; frontogenesis and frontolysis. 2. Weather: stability and instability; barotropic and baroclinic conditions. 3. Climatic classification after Oliver **C6T: Statistical Methods in Geography** 1. Sampling: Need, types, and significance and methods of random sampling 2. Theoretical distribution: frequency, cumulative frequency, normal and probability **C7T: Geography of West Bengal** 1. Physical perspectives: Physiographic divisions, forest and water resources 2. Population: Growth, distribution and human development 3. Regional Problem: Jangalmahal and Sundarban **SEC1T: Coastal Management** 1. Principles of Coastal Zone Management.Exclusive Economic Zone and Coastal Regulation Zones with reference to India.

Lecture No.	**Term I**	**Paper**
01	Providing the concepts of Weather fronts and basic concepts of Air masses	C5T
02	Discuss about the types of Air masses, Characteristics, and formation factors	C5T
03	Discussion about the mechanism of frontogenesis and frontolysis	C5T
04	Discussion about warm and cold fronts	C5T
05	Give an idea about Sampling with its necessity and significance and inform about types of Probability and Non probability sampling	C6T
06	Discussion the characteristics and method of different Sampling in Geographical research	C6T
07	Detail discussion of methods of all types of random sampling	C6T
08	Discuss about West Bengal's Physiographic divisions: Northern Mountain, Rarh Region and western plateau	C7T
09	Discuss about West Bengal's Plain region and delta	C7T
10	Talk on West Bengal's Forest division and forest resources	C7T
11	Talk on West Bengal's Water resources	C7T
12	Introduction to Indian and West Bengal Coast, basic coastal morphodynamic and its importance from different angle	SEC-1T
13	Exclusive Economic Zone and different coastal regulation for India and other foreign countries also other principles of Management	SEC-1T
14	Doubt clearance on selected topics	C5T, C6T, C7T & SEC-1
Term II		
15	Detail discussion about the science behind atmospheric stability and instability	C5T
16	Discussion on barotropic and baroclinic conditions	C5T
17	Concept of Theoretical distribution, basic concept frequency	C6T
18	Discussion about different parts of frequency distribution table and ex.	C6T
19	Cumulative frequency and graphical representation	C6T
20	Concept of probability and frequency	C6T
21	West Bengal's population growth asper last census and Population distribution of different districts and its determinants	C7T
22	Concept of different HDI indicators and discussion about West Bengal's human development	C7T
23	Importance of Coastal regulation zone (CRZ), principle of CRZ, violation of	

	CRZ rules in India, Changes in CRZ rule by different commission	**SEC-1**
24	Characteristics of different Coastal regulation Zone with forbidden and permissible work	

Term III		
25	Discussion on Climatic classification after Oliver	**C5T**
26	Practice of frequency distribution normally and by probability with various example	**C6T**
27	Addressing Jangalmahal as Problematic region	**C7T**
28	Addressing Sundarban as Problematic region	
29	Revision class over SEC-1 and doubt clearance	**SEC-1**
30	End - Semester questions discussion on selective topic and discussion about writing techniques	**C5T, C6T, C7T, SEC-1**
Syllabus allotted for practical classes	**C6 P – Statistical Methods in Geography** 1. Construction of data matrix with each row representing an aerial unit (districts / blocks / *mouzas* / towns) and corresponding columns of relevant attributes.	

Lecture No.	Term I	Paper
01	Concept of variable, choose of relevant attribute, data collection procedure and use for matrix table	
Term II		
02	Construct a data matrix where row representing an aerial unit and corresponding columns of relevant attributes	**C6P**
Term III		
03	Construct data matrix table on various data	**C6P**

Semester-V		
	No of Classes (Hour) allotted per week: 07 **(C11T+C12T+DSE1T+DSE2T+C11P+C12P)** *****Each lecture carried 01 Hour*****	
Syllabus allotted for theory classes	**C11T: Field Work and Research Methodology** 1. Literature review and formulation of research design 2. Positioning and collection of samples. Preparation of inventory from field data. Post-field tasks. **C12T: Remote Sensing and GIS** 1. Transferring of waypoints to GIS. Area and length calculations from GNSS data. **DSE-1: Hydrology and Oceanography** 1. Systems approach in hydrology. Global hydrological cycle: Its physical and biological Role. 2. Groundwater: Occurrence and storage. Factors controlling recharge, discharge and movement. 3. Water mass, T–S diagram **DSE-2: Resource Geography** 1. Distribution, Utilisation, Problems and Management of Non-Metallic Mineral Resources: Limestone, Mica, Gypsum	

Lecture No.	Term I	Paper
01	Basic concept, method of Literature review	
02	Caution about Literature review, Characteristics of good literature review, Concept of Systematic review and Meta analysis	**C11T**
03	Practical demonstration of Literature review from various research article	
04	Discuss about different types of research design	
05	Formulation of research design with example	
06	Give idea about GNSS and handheld GPS	
07	Field book preparation and way point collection by GPS device	

Lecture No.		Paper
08	Transferring of waypoints from GPS device to computer that installed with a GIS software	C12T
09	Calculation of Area and Length by the help GNSS data	
10	Discuss about systems approach in hydrology	
11	Discussion on Global hydrological cycle	
12	Global hydrological cycle and its physical and biological role	DSE1T
13	Water mass	
14	T–S diagram	
15	Distribution, utilization of Limestone mineral	
16	Problems and management of Limestone mineral	DSE2T
17	Class test on selective topic	C11T & DSE1T
18	Class test on selective topic	C12T & DSE2T
Lecture No.	**Term II**	**Paper**
19	Concept of Sample, Filed positioning and step for data collection	
20	Talking about different sample collection techniques	
21	Giving idea about inventories and its different parts.	
22	Preparation of sample inventory on existed data	C11T
23	Preparation of inventory on field data	
24	Plotting of waypoints data on paper	
25	Plotting of waypoints data on GIS and layout	C12T
26	Basic idea about groundwater occurrence and storage	
27	Factors controlling ground water recharge, discharge	DSE1T
28	Factors controlling of ground water movement.	
29	Distribution, utilization of Mica, mineral	DSE2T
31	Problems and management of Mica mineral	
32	Doubt clearance on selected topics	C11T, C12T, DSE1T & DSE2T
33	Class test on selective topic	C11T & DSE1T
34	Class test on selective topic	C12T & DSE2T
Lecture No.	**Term III**	**Paper**
35	Discussion about different techniques of data processing and analysis	C11T
36	Different process related to post-field tasks	
37	Revision class over C11T and doubt clearance	
38	Revision class over C12T and doubt clearance	C12T
39	Revision class over DSE1T and doubt clearance	DSE1T
40	Distribution, utilization of Gypsum, mineral	
41	Problems and management of Gypsum mineral	DSE2T
42	Revision class over DSE2T and doubt clearance	
43	Doubt clearance on selected topics	C11T, C12T, DSE1T & DSE2T
44	End - Semester questions discussion on selective topic of C11T, C12T & Discussion about writing techniques	C11T & C12T
45	End - Semester questions discussion on selective topic of DSE1T, DSE2T & discussion about writing techniques	DSE1T & DSE2T
Syllabus	**C11P: Research Methodology and Field Work Lab**	

allotted for practical classes	C12 P: Remote Sensing and GIS Lab 1. Image classification, post-classification analysis and class editing 2. Digitisation of features. Data attachment, overlay and preparation ofthematic map	
Lecture No.	**Term I**	**Paper**
01	Pre field work	
02	Preparation of questionnaire	
03	Instruction for physical survey	
04	Field work and data collection	**C11P**
05	Data sorting and tabulation	
06	Data tabulation	
07	Giving idea about digital image and collection of LANDSAT & LISS-III data	
08	Image classification in Supervised and unsupervised method in QGIS software	
09	Class Editing and layout	**C12P**
10	LULC map preparation and area calculation of under each class	
Lecture No.	**Term II**	**Paper**
11	Tabulation and calculation	
12	Graphical representation of field data	
13	Map making depends on field survey data	**C11P**
14	Map making based on GIS	
15	Digitisation of images and maps by point and line	
16	Digitisation of images and maps by polygon	
17	Data attachment with attribute table and editing of attribute table	**C12P**
18	Data representation (single data choropleth and cartogram)	
19	Data representation (bivariate data)	
20	Overlay analysis and preparation of thematic map	
Lecture No.	**Term III**	**Paper**
21	Analysis and interpretation	
22	Analysis and interpretation	**C11P**
23	Instruction for field book arrangement	
24	Practice class for Digitisation	
25	Practice class for Image classification	**C12P**
26	Practice class for Overlay analysis and thematic map preparation	

Teaching Plan

Department of Geography

Session: 2022-23

Even Semester

TermI:Fromcommencement ofclassto1stInternalAssessment

Term II: 1st Internal Assessment to 2nd Internal Assessment

TermIII:2ndInternal AssessmenttoEndSemester Exam

TeachingPlan: 2022-23
(Even Semester)
Sharmistha Manna
Dept. of Geography

Semester-II		
No of Classes (Hour) allotted per week: 02		

Syllabus allotted for theory classes	**C3T: Human Geography**
	  1.Human adaptation to environment: Eskimo, Masai, Jarwa, Gaddi, Santhals.
	  2.Human population and environment with special reference to development-environment conflict.
	
	C4T: Cartograms and Thematic Mapping
	  1.Representation of point data: Isopleths.	

Total Lecture	**Term I**	**Paper**
08	Human adaptation to environment: Eskimo, Masai, Jarwa, Gaddi, Santhals.	**C3T**
02	Representation of point data: Isopleths.	**C4T**
	Term II	
02	Human population and environment with special reference to development-environment conflict	**C3T**
	Term III	
02	**End - Semester questions discussion on selective topic of C3T & discussion** **about writing techniques**	**C3T**
02	**End - Semester questions discussion on selective topic of C4T & discussion** **about writing techniques**	**C4T**

Syllabus allotted for practical classes	**C4P: Cartography (Lab)** Thematic maps: Choropleth, isoline map, chorochromatic map.
Total Lecture **08**	Thematic maps: Choropleth, isoline map, chorochromatic map.

	Semester-IV	
	No of Classes (Hour) allotted per week: 04 *****Each Lecture carried 01 Hour*****	
Syllabus allotted for theory classes	**C8T: Regional Planning and Development** 1. Tools and techniques of regional planning, need for regional planning in India. 2. Concept and strategies of regional development with reference to India. **C9T: Economic Geography** 1. Primary activities: Subsistence and commercial agriculture, forestry, fishing and mining. 2. International agreements and trade blocs: GATT and OPEC. **C10T: Environmental Geography** 1. Perception of environment in different stages of civilization. 2. Environmental pollution and degradation: Land, water and air. **SEC2T: Research Methods** 1. Data Analysis: Qualitative and Quantitative Analysis; Techniques Data Representation.	
Total Lecture	**Term I**	
04	Tools and techniques of regional planning, need for regional planning in India.	**C8T**
08	Primary activities: Subsistence and commercial agriculture, forestry, fishing and mining.	**C9T**
02	Perception of environment in different stages of civilization.	**C10T**
06	Data Analysis: Qualitative and Quantitative Analysis; Techniques Data Representation	**SEC2T**
	Term II	
02	Concept and strategies of regional development with reference to India.	**C8T**
03	International agreements and trade blocs: GATT and OPEC	**C9T**
08	Environmental pollution and degradation: Land, water and air.	**C10T**
	Term III	
02	Revision class over C8T and doubt clearance	**C8T**
02	Doubt clearance on C9T and revision of selective topic	**C9T**
02	Revision class over C10T, SEC2T and doubt clearance	**C10T, SEC2T**
02	**End - Semester questions discussion on selective topic of C8T, C9T, C10T, SEC2T & discussion about writing techniques**	
04	**C10P Environment Geography** Preparation of questionnaire for perception survey on environmental problems	

	Semester-VI

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No of Classes (Hour) allotted per week: 05
Each Lecture carried 01 Hour

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| **Syllabus allotted for theory classes** | **C13T: Evolution of Geographical Thought**
1. Development of Geography and contributions of Greek, Chinese, and Indian geographers.
2. Impact of 'Dark Age' on Geography and Arab contributions.
3. Contributions of Humboldt and Ritter.
C14TDisaster Management
1.Earthquake: Factors, vulnerability, consequences and management
DSE 3T: Soil and Biogeography
1. Soil profile. Origin and profile characteristics of Lateritic, Podzol and Chernozem soils.
2. Soil erosion and degradation: Factors, processes and mitigation measures.
3. Geographical extent and characteristic features of: Tropical rain forest.
DSE 4T: Urban Geography
1.Urban Geography: nature and scope, different approaches and recent trends in urban geography.
2. Patterns of urbanisation in developed and developing countries. |

Total Lecture	**Term I**	**Paper**
08	Development of Geography and contributions of Greek, Chinese, and Indian geographers.	**C13T**
02	Impact of 'Dark Age' on Geography and Arab contributions	
03	Earthquake: Factors, vulnerability, consequences and management	**C14T**
06	Soil profile. Origin and profile characteristics of Lateritic, Podzol and Chernozem soils.	**DSE 3T**
03	Urban Geography: nature and scope, different approaches and recent trends in urban geography.	**DSE 4T**
	Term II	
03	Contributions of Humboldt and Ritter.	**C13T**
05	Soil erosion and degradation: Factors, processes and mitigation measures.	**C14T**
02	Geographical extent and characteristic features of: Tropical rain forest.	**DSE 3T**
02	. Patterns of urbanisation in developed and developing countries.	**DSE 4T**
	TermIII	
02	Class test on selective topic.	**C13T,C14T, DSE3T & DSE4T**
02	Doubt clearance on selective topics and revision	
02	**End - Semester questions discussion on selective topic of C13T, C14T & discussion about writing techniques**	**C13T,C14T**
02	**End - Semester questions discussion on selective topic of DSE3T, DSE4T & discussion about writing techniques**	**DSE3T & DSE4T**

Teaching Plan

Department of Geography

Session: 2022-23

Even Semester

Term I: From commencement of class to 1st Internal Assessment

Term II: 1st Internal Assessment to 2nd Internal Assessment

Term III: 2nd Internal Assessment to End Semester Exam

Teaching Plan: 2022-23(Even Semester)
Dinabandhu Patra
Dept. of Geography

Semester-II		
No of Classes (Hour) allotted per week: 03 ***Each lecture carried 01 Hour***		
Syllabus allotted for theory classes	**C3T: Human Geography** 1. Nature and scope and recent trends. Elements of Human Geography 2. Approaches to the study of Human Geography; Resource, Locational, Landscape, Environmental **C4T: Cartograms and Thematic Mapping** 1. Preparation and interpretation of large-scale thematic maps: Geomorphological maps 2. Preparation and interpretation of large-scale thematic maps: Climatological maps	
Lecture No.	**Term I**	**Paper**
01	Brief idea and different terminology related to Human Geography and its importance in both academic and real-life situation	C3T
02	General idea about Nature of human Geography	
03	Discuss about Scope, different field, and sub field of Human Geography	
04	Concept about different elements of human Geography and discussion about their interrelationship	
05	Discussion on worldwide new trends of progress of Human Geography	
06	Class test on all previous topics of discussion of Human Geography	
07	Discuss about the basic concept of Map and Thematic map, purpose of Drawing and importance	C4T
08	Different types and drawing technique of Thematic map with ICT visualization	
09	Theoretical discussion on preparation and interpretation of Geomorphological map	
10	Practically preparation of Geomorphological map	
11	Class test on Geomorphological map	
Term II		
12	Discuss about the basic approaches to the study of Human Geography	C3T
13	Giving an idea about Human perception about resources, population pressure and resource management and sustainability	
14	Initiate to different optimistic and pessimistic view of Human-resource (environment) conflict (e.g., view of Paul Ehrlich, Julian Simon and so on)	
15	Theoretical discussion of human spatial behavior, Spatial components	
16	Discuss about landscape, cultural landscape and human role in present context; ICT visualization of different landscapes	
17	Discussion about the different elements of climatic map	C4T
18	Preparation and interpretation of Climatic map	
19	Class test on Human Geography approaches and Climatic map	C3T & C4T
Term III		
20	Interrelationship between man and environment, discuss about Determinism	C3T
21	Discuss about Possibilism and Neo-determinism	
22	Doubt clearance on selective topics	
23	End - Semester questions discussion on selective topic of C3T & discussion	

Lecture No.		Paper
	about writing techniques	
24	End - Semester questions discussion on selective topic of C4T & discussion about writing techniques	**C4T**
25	Class test on selective topics to prepare final exam	**C3T & C4T**
Syllabus allotted for practical classes	**C4P: Cartography (Lab)** Levelling by Dumpy Level	

Lecture No.	Term I	Paper
01	Basic discussion about the concept of levelling	
02	Detail discussion about the different terminology related to dumpy level survey	
03	Doubt clearance of different terminologies that discussed in previous class	
	Practically demonstrate the Dumpy level instrument and discussion about it's all parts and their function	**C4P**
04	Practically demonstrate of leveling-staff reading procedure and instrument levelling after proper placement of Dumpy Level instrument on tripod stand	
05	Pre-field discussion about field book preparation and station marking; discussion about all sources of error in whole data collection method	
06	Collection of data from field and instant solution of all doubt or confusion	
07	Properly collection of data from field	
Term II		
08	Tabulation and calculation for Collimation method	
09	Tabulation and calculation for Rise-Fall method	
10	Doubt clear of different problem facing in the time of calculation	**C4P**
11	Drawing of Longitudinal profile	
12	Determination of gradient between two stations of longitudinal profile	
13	Doubt clear of different problem facing in the time of profile drawing	
Term III		
14	Practice of data collection from field	
15	Practice of data collection from field	
16	Tabulation and calculation	**C4P**
17	Drawing of Longitudinal profile	
18	End - Semester questions discussion on Dumpy Level surveying	

	Semester-IV	
	No of Classes (Hour) allotted per week: 03 ****Each lecture carried 01 Hour****	

| Syllabus allotted for theory classes | **C8T: Regional Planning and development** 1.Metropolitan concept: metropolitan areas, and urban agglomerations 2. Regional development in India, regional inequality, disparity and diversity 3. Need and measures for balanced development in India **C9T: Economic Geography** 1. Economic distance and transport costs 2. Transnational sea-routes, railways, and highways with reference to India **C10T: Environmental Geography** 1. Space–time hierarchy of environmental problems: Local, regional and global **SEC2T: Research Methods** 1.Geographic Enquiry: Definition and Ethics; Literature Review; Framing Research Questions, Objectives and Hypothesis; Preparing Sample Questionnaires and inventories | |

Lecture No.	Term I	Paper
01	Providing the concepts of Metropolitan city, discussion about metropolitan city of India at present and past time	C8T
02	Discuss about the urban agglomerations, Characteristics, and factors of urban agglomeration in Indian Context	
03	Discussion on different types of distance, Basic concept of economic distance in transport geography (concept of Isotims, Isodapanes, Break of Bulk Point)	C9T
04	Concept of Space–time hierarchy related to environment issues	C10T
05	ICT visualization of environmental problems and information collection (e.g., environmental problem related documentary, any published report etc.)	
06	Local level environmental problems	
07	Introduction to Research, definition, types, importance	SEC-2
08	Introduce with research ethics, discuss about different types of unethical practices in every step of research process (from beginning to end)	
09	Discussion of Importance of ethical research and consequences of unethical research	
10	Concept of IRB, informed consent, plagiarism, also discussion of other terminology related to research ethics	
11	Doubt clearance on selected topics	C8T & C9T
12	Doubt clearance on selected topics	C10T & SEC-2
13	Class test on Regional Planning and development and Economic Geography	C8T & C9T
14	Class test on Environmental Geography and Research Methods	C10T & SEC-2
	Term II	
15	Detail discussion about the concept of regional development, underlying controlling factors of regional development	C8T
16	Discussion about different indicators of regional development in India	
17	Focusing on the regional inequality, disparity and diversity both in macro and micro level in India	
18	Discussion about the regional inequality, disparity in different an̲ ̲types, govt. role & policy, challenges etc.)	
19	Discuss about the Causes of Regional Disparity	
20	Discussion about the regional diversity of India both physically an̲ ̲ulturally in respect of development perspective	
21	Role of Transportation in Logistics	C9T
22	Cost Characteristics by mode in different zone	

No.	Topic	Paper
23	Regional level environmental problems	C10T
24	Discussion Literature Review: purposes, importance, Sources	SEC-2
25	Literature review types, parameters, steps	
26	Framing Research Questions: steps, characteristics of standard questionnaire	
27	Preparing Sample Questionnaires on selected topics	
Term III		
28	Need for balanced regional development in India	C8T
29	Measures for balanced regional development by Govt. policy, public awareness etc.	
30	Types of Transport Costs (e.g., Terminal cost, Linehaul cost etc.)	C9T
31	Global level environmental problems	C10T
32	Introduce with research Objectives, Characteristics, importance, formulation etc.	SEC-2
33	Discussion about hypothesis, types, how to write Hypothesis, example etc.	
34	Preparation of inventories	
35	End - Semester questions discussion on selective topic of C8T & C9T with discussion about writing techniques	C8T & C9T
36	End - Semester questions discussion on selective topic of C10T & SEC-2 with discussion about writing techniques	C10T & SEC-2
37	Class test on selective topics to prepare final exam	C8T & C9T
38	Class test on selective topics to prepare final exam	C10T & SEC-2
Syllabus allotted for practical classes	**C10P: Environmental Geography- Lab** 1.Interpretation of air quality using CPCB / WBPCB data	

Lecture No.	Term I	Paper
01	Basic discussion about the CPCB / WBPCB and introduce with AQI	C10P
02	ICT visualization of data source CPCB / WBPCB and other necessary issues	
03	Practically showing (through ICT tool) how to collect data from CPCB also collection of the bulletin and published reports	
Term II		
04	Data arrangement and tabulation from collected data and bulletin and report	C10P
05	Analysis of data, showing of result, graphical presentation	
06	Interpretation of result	
07	Doubt clear of different problem facing in the time of calculation	
Term III		
08	Practice of data collection and data arrangement	C10P
09	Practice of data analysis and interpretation	
10	End - Semester questions discussion on C10P paper	
Semester-VI		
	No of Classes (Hour) allotted per week: 04 *****Each lecture carried 01 Hour*****	
Syllabus allotted for theory classes	**C13T: Evolution of Geographical Thought** 1. Evolution of Geographical thoughts in Germany, France, Britain and United States of America. 2. Evolution of Geography in India: formative periods, establishments and emerging trends **C14T: Disaster Management** 1. Classification of hazards and disasters. 2. Approaches to hazard study: Risk perception and vulnerability assessment, Hazard paradigms **DSE3T: Soil and Biogeography** 1. Definition and significance of soil properties: Texture, structure and moisture 2. Bio-geochemical cycles with special reference to carbon dioxide and nitrogen 3. Geographical extent and characteristic features of: Taiga biome **DSE4T: Urban Geography** 1. Theories of Urban Evolution and Growth: Hydraulic Theory, Economic Theory	

	2. Policies on urbanization. Urban change/landscape in post-liberalized period in India	
Lecture No.	**Term I**	**Paper**
01	Definition of soil and significance of soil in nature	**DSE3T**
02	Discussion about soil Texture as an important soil property	**DSE3T**
03	Definition and significance of soil properties: structure	**DSE3T**
04	Evolution of Geographical thoughts in Germany	**C13T**
05	Basic discussion about urban evolution and change	**DSE4T**
06	Theories of Urban Evolution and Growth: Hydraulic Theory	**DSE4T**
07	Evolution of Geographical thoughts in Britain	**C13T**
08	Definition of hazards and disasters and brief discussion about it	**C14T**
09	Classification of hazards and disasters	**C14T**
10	Evolution of Geographical thoughts in France	**C13T**
11	Doubt clearance on selected topics	**C13T, C14T, DSE3T & DSE4T**
12	Class test on selective topic	**C13T & DSE3T**
13	Class test on selective topic	**C14T & DSE4T**
Lecture No.	**Term II**	**Paper**
14	Definition and significance of soil properties: moisture	**DSE3T**
15	Evolution of Geographical thoughts in United States of America	**C13T**
16	Bio-geochemical cycle: Carbon dioxide	**DSE3T**
17	Theories of Urban Evolution and Growth: Economic Theory	**DSE4T**
18	Different Policies on urbanization	**DSE4T**
19	Approaches to hazard study: Risk perception	**C14T**
20	Approaches to hazard study: vulnerability assessment	**C14T**
21	Doubt clearance on selected topics	**C13T, C14T, DSE3T & DSE4T**
22	Class test on selective topic	**C13T & DSE3T**
23	Class test on selective topic	**C14T & DSE4T**
Lecture No.	**Term III**	**Paper**
24	Bio-geochemical cycle: Nitrogen	**DSE3T**
25	Geographical extent and characteristic features of: Taiga biomes	**DSE3T**
26	Urban change/landscape in post-liberalized period in India	**DSE4T**
27	Hazard paradigms	**C14T**
28	Evolution of Geography in India: formative periods,	**C13T**
29	Establishments and emerging trends of Geographical thought in India	**C13T**
30	Doubt clearance on selected topics	**C13T, C14T, DSE3T & DSE4T**
31	End - Semester questions discussion on selective topic of C13T, C14T & Discussion about writing techniques	C13T & C14T
32	End - Semester questions discussion on selective topic of DSE3T, DSE4T & discussion about writing techniques	DSE3T & DSE4T
Syllabus allotted for practical classes	**C14P: Disaster Management based Project Work**	

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22.06.2024

Lecture No.	Term I	Paper
01	Pre field work	
02	Preparation of questionnaire	
03	Instruction for physical survey	**C14P**
04	Field work and data collection	
05	Data sorting and tabulation	
06	Data tabulation	
Lecture No.	**Term II**	**Paper**
07	Tabulation and calculation	
08	Graphical representation of field data	
09	Map making depends on field survey data	**C14P**
10	Map making based on GIS	
Lecture No.	**Term III**	**Paper**
11	Analysis and interpretation	
12	Analysis and interpretation	**C14P**
13	Instruction for field book arrangement	

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22.06.2024

Teaching Plan

Department of Geography

Session: 2022-23

Even Semester

Term I: From commencement of class to 1ˢᵗ Internal Assessment

Term II: 1ˢᵗ Internal Assessment to 2ⁿᵈ Internal Assessment

Term III: 2ⁿᵈ Internal Assessment to End Semester Exam

Teaching Plan: 2022-23 (Even Semester)
Mukul Maity
Dept. of Geography

Semester-II		
No of Classes (Hour) allotted per week: 04 ***Each Lecture carried 01 Hour***		
Syllabus allotted for theory classes	**C3T: Human Geography** 1. Evolution of humans. Concept of race and ethnicity. 2. Evolution of human societies: Hunting and food gathering, pastoral nomadism, subsistence farming, industrial and urban societies. 3. Types and patterns of urban settlements. **C4T: Cartograms and Thematic Mapping** 1. Preparation and interpretation of large-scale thematic maps: Land use landcover maps. 2. Preparation and interpretation of large-scale thematic maps: Socio-economic maps.	

Lecture No.	Term I	Paper
01	Concept of Human Geography	C3T
02	General idea about Evolution of humans	C3T
03	Detailed study about Evolution of humans	C3T
04	Concept about urban settlement and discussion about its site and situation	C3T
05	Types of urban settlements	C3T
06	Pattern of urban settlement	C3T
07	Visualization of different types of urban settlement by using ICT tool	C3T
08	Class test on evolution of humans and urban settlements	C3T
09	Discuss about the concept of map and thematic map	C4T
10	Theoretical discussion of Preparation and interpretation of Landuse – landcover map	C4T
11	Practically Preparation of Landuse – landcover map	C4T
12	Class test on Landuse – landcover map	C4T
Term II		
13	Concept of race	C3T
14	Concept of ethnicity	C3T
15	India and Worldwide distribution of race and ethnicity and its differentiation	C3T
16	Visualization of different race and ethnic group by using ICT tool	C3T
17	Discuss about different parameter of socio-economic maps	C4T
18	Preparation and interpretation of socio-economic maps	C4T
19	Class test on race, ethnicity and socio-economic maps	C3T & C4T
Term III		
20	Concept about evolution of human societies	C3T
21	Discussion about hunting and food gathering	C3T
22	Discussion about pastoral nomadism, subsistence farming	C3T
23	Discussion about industrial and urban societies	C3T
24	Class test on evolution of human societies	C3T
25	Doubt clearance on selective topics	C3T
26	End - Semester questions discussion on selective topic of C3T & discussion about writing techniques	C3T
27	End - Semester questions discussion on selective topic of C4T & discussion about writing techniques	C4T
28	Class test on selective topics	C3T & C4T

Syllabus allotted for practical classes	C4P: Cartography (Lab) Levelling by Dumpy Level and Prismatic Compass.	
Lecture No.	**Term I**	**Paper**
01	Discuss about the concept of levelling	
02	Introduce the Dumpy Level instrument and its function	
03	Introduce the Prismatic Compass instrument and its function	**C4P**
04	Collection of data from field	
05	Collection of data from field	
	Term II	
06	Tabulation and calculation	
07	Representation of Contour survey	**C4P**
08	Doubt clear of different problem facing in the time of drawing	
	Term III	
09	Practice of data collection from field	
10	Practice of data collection from field	
11	Tabulation and calculation	**C4P**
12	Drawing of contour survey	
13	End - Semester questions discussion on contour survey	

Semester-IV

No of Classes (Hour) allotted per week: 03
Each Lecture carried 01 Hour

Syllabus allotted for theory classes	**C8T: Regional Planning and Development** 1. Theories and models for regional development: Growth pole model of Perroux; growth center model in Indian context 2. Changing concept of development, concept of underdevelopment; efficiency-equity debate 3. Indicators of development: Economic, social and environmental. Human development. **C9T: Economic Geography** 1. Meaning and approaches to Economic Geography, new Economic Geography 2. Concepts in Economic Geography: Goods and services, production, exchange and consumption **C10T: Environmental Geography** 1. Urban environmental issues with special reference to waste management **SEC2T: Research Methods** 1. Structure of a Research Report: Text; Citation, Notes	
Lecture No.	**Term I**	**Paper**
01	Concept Theories and models for regional development	**C8T**
02	Growth pole model of Perroux	
03	Growth pole model of Perroux and its implementation in present context	
04	Growth center model in Indian context	
05	Meaning and approaches to Economic Geography	**C9T**
06	Concept of new Economic Geography	
07	Structure of a Research Report	**SEC2T**
08	Details about text of research	
09	Concept of Citation and Notes	
10	Class test on selective topics	**C8T, C9T & SEC2T**

	Term II	
11	Urban environmental issues	**C10T**
12	Details study about waste management	
13	Changing concept of development	**C8T**
14	Concept of underdevelopment & efficiency-equity debate	
15	Concepts in Economic Geography: Goods and services	**C9T**
16	Concepts in Economic Geography: production, exchange and consumption	
17	Class test on selective topic	**C10T, C9T & C8T**

	Term III	
18	Indicators of development: Economic	**C8T**
19	Indicators of development: Social	
20	Indicators of development: Environmental	
21	Human development and present status of HDI in India	
22	Revision class over C8T and doubt clearance	
23	Doubt clearance on C9T and revision of selective topic	**C9T**
24	Revision class over C10T, SEC2T and doubt clearance	**C10T,SEC2T**
25	End - Semester questions discussion on selective topic of C8T, C9T, C10T, SEC2T & discussion about writing techniques	**C8T, C9T, C10T & SEC2T**
Syllabus allotted for practical classes	**C10P Environment Geography** 1. Quality assessment of soil using field kit: pH and NPK	

Lecture No.	Term I	Paper
01	Quality assessment of soil using soil kit: pH	**C10P**
02	Practice of soil pH testing	
03	Practice of soil pH testing	
04	Quality assessment of soil using field kit: N	
05	Practice of soil Nitrogen (N) testing	
	Term II	
06	Quality assessment of soil using field kit: P	**C10P**
07	Practice of soil Phosphorus (P) testing	
08	Practice of soil Phosphorus (P) testing	
	Term III	
09	Quality assessment of soil using field kit: K	**C10P**
10	Practice of soil Potassium (K) testing	
11	Practice of soil Potassium (K) testing	
12	End - Semester questions discussion on quality assessment of soil and a class test on selective topic	

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22.06.2024

	Semester-VI	
	No of Classes (Hour) allotted per week: 03 ***Each Lecture carried 01 Hour***	
Syllabus allotted for theory classes	**C13T: Evolution of Geographical Thought** 1. Trends of Geography in the post-World War-II period. 2. Towards Post Modernism: Changing concept of space in geography. Geography in the 21st Century **C14T Disaster Management** 1. Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building. 2. Hazards mapping: Data and techniques. **DSE 3T: Soil and Biogeography** 1. Definition and significance of soil properties: pH, organic matter and NPK 2. Concepts of biosphere, ecosystem, biome, ecotone, community and ecology 3. Geographical extent and characteristic features of: Grassland biomes **DSE 4T: Urban Geography** 1. Urban Hierarchies: Central Place Theory; August Losch's theory of Market Centers 2. Theories of city structure-concentric zone theory, sector theory, multiple nuclei theory	

Lecture No.	Term I	Paper
01	Urban Hierarchies: Central Place Theory	**DSE4T**
02	August Loch's theory of Market Centers	
03	Difference and present-day scenario of Christaller and Losch theory	
04	Definition and significance of soil properties: pH	**DSE3T**
05	Definition and significance of soil properties: Organic matter and Nitrogen	
06	Definition and significance of soil properties: Phosphorus (P), Potassium (K)	
07	Geographical extent and characteristic features of: Grassland biomes	
08	Trends of Geography in the post-World War-II period	**C13T**
09	Discuss about the contribution of different geographer after World War-II	
10	Responses to hazards: Preparedness, trauma and aftermath	**CC14T**
11	Resilience and capacity building	
12	Class test on selective topic	
	Term II	
13	Hazards mapping: Data and techniques.	**C14T**
14	Discuss about represent of different hazard mapping	
15	Theories of city structure: Concentric zone theory, Sector theory	**DSE 4T**
16	Theories of city structure: multiple nuclei theory	
17	Towards Post Modernism: Changing concept of space in geography	**C13T**
18	Geography in the 21st Century	
19	Class test on selective topic	**DSE4T C13T & C14T**
	Term III	
20	Concepts of biosphere, ecosystem	
21	Concept of biome, ecotone	
22	Concept about community and ecology	**DSE3T**
24	Class test on evolution of selective topic.	**C13T, C14T, DSE3T & DSE4T**
25	Doubt clearance on selective topics and revision	
26	End - Semester questions discussion on selective topic of C13T, C14T & discussion about writing techniques	
27	End - Semester questions discussion on selective topic of DSE3T, DSE4T & discussion about writing techniques	**DSE3T & DSE4T**

Syllabus allotted for practical classes	C14P: Disaster Management based Project Work	
Lecture No.	**Term I**	**Paper**
01	Pre field work	C14P
02	Preparation of questionnaire	
03	Field work and data collection	
04	Data tabulation	
05	Data tabulation	
	Term II	
06	Tabulation and calculation	C14P
07	Graphical representation of field data	
08	Map making depends on field survey data and GIS tools	
	Term III	
09	Analysis and interpretation	C14P
10	Analysis and interpretation	
11	Instruction for arrangement of field book and final discussion on project work	

Teaching Plan

Department of Geography

Session: 2022-23

Even Semester

Term I: From commencement of class to 1st Internal Assessment

Term II: 1st Internal Assessment to 2nd Internal Assessment

Term III: 2nd Internal Assessment to End Semester Exam

Teaching Plan: 2022-23 (Even Semester)
Teacher Name: Rimpa Mula
Dept. of Geography

Semester-II		
No of Classes (Hour) allotted per week: 02 *Each lecture carried 01 hour*		

| Syllabus allotted for theory classes | **C3T: Human Geography** 1. Social morphology and rural house types in India. 2. Types and patterns of rural settlements **C4T: Cartograms and Thematic Mapping** 1. Diagrammatic representation of data: Line, Bar, and Circle. 2. Representation of area data: Dots, proportional circles and choropleth | |

Lecture No.	Term I	Paper
01	Concept of Social morphology	
02	Rural house types in India.	
03	Concept about rural settlement and discussion about its site and situation	
04	Pattern of rural settlement	C3T
05	Class test on evolution of humans and rural settlements	
06	Discuss about the concept of diagrammatic representation of data	
07	Theoretical discussion of Preparation and interpretation of line diagram	
08	Theoretical discussion of Preparation and interpretation of bar diagram	C4T
09	Theoretical discussion of Preparation and interpretation of circle diagram	
Term II		
10	Types of rural settlement	
11	Visualization of different types of rural settlement by using ICT tool	
12	Theoretical discussion of Preparation and interpretation of dot diagram	C3T
13	Theoretical discussion of Preparation and interpretation of proportional circle diagram	
14	Class test on dot and proportional circle diagram	C3T & C4T
Term III		
15	End - Semester questions discussion on selective topic of C3T & discussion about writing techniques	CT3
16	Theoretical discussion of Preparation and interpretation of choropleth map	C4T
17	End - Semester questions discussion on selective topic of C4T & discussion about writing techniques	
18	Class test on selective topics	C3T & C4T

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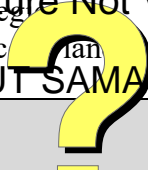
	C4P: Cartography (Lab)	
Syllabus allotted for practical classes	1.Thematic maps: Proportional squares, pie diagrams with proportional circles, dots and spheres	

Lecture No.	Term I	Paper
01	Discuss about the concept of Proportional squares	
02	Drawing of Proportional squares	
03	Discuss and drawing of proportional circles	C4P
04	Discuss and drawing of proportional circles with pie diagram	
	Term II	
05	Discuss and drawing of sphere diagram	
06	Discuss and drawing of dot diagram	C4P
07	Doubt clear of different problem facing in the time of drawing	
	Term III	
08	End - Semester questions discussion on diagrammatic representation of data.	C4P

Semester-IV		

No of Classes (Hour) allotted per week: 03
Each Lecture carried 01 Hour

Syllabus allotted for theory classes	**C8T: Regional Planning and Development** 1.Concept of regions: Types of regions and their delineation. 2.Types of planning, principles and objectives of regional planning, multi- level planning in India **C9T: Economic Geography** 1.Concept and classification of economic activities. 2.Agricultural systems: Case studies of tea plantation in India and mixed farming in Europe **C10T: Environmental Geography** 1.Geographers' approach to environmental studies 2.Concept of holistic environment and system approach 3.Ecosystem: Concept structure and functions **SEC2T: Research Methods** 1. Data Analysis: Qualitative and Quantitative Analysis; Techniques Data Representation

Lecture No.	Term I	Paper
01	Concept of region	**C8T**
02	Types of region	
03	Delineation methods of region	
04	Concept of regional planning	
05	Concept of economic activities.	**C9T**
06	Classification of economic activities.	
07	Geographers' approach to environmental studies	C10T
08	Concept of data analysis	**SEC2T**
09	Data Analysis: Qualitative Analysis	
10	Quantitative Analysis	
11	Class test on selective topics	**C8T,**

		C9T & SEC2T
Term II		
12	Concept of holistic environment and system approach	**C10T**
13	Ecosystem: Concept, structure and functions	
14	Types of planning,	**C8T**
15	principles of planning and objectives of regional planning	
16	Agricultural systems: Case studies of tea plantation in India	**C9T**
17	Class test on selective topic	**C10T, C9T & C8T**
Term III		
18	Concept of Multi- level planning in India	**C8T**
19	Discussion with example about Multi- level planning in India	
20	Revision class over C8T and doubt clearance	
21	Mixed farming in Europe	**C9T**
22	Techniques of Data Representation	**SEC2T**
23	Revision class over C10T, SEC2T and doubt clearance	**C10T,SEC 2T**
24	End - Semester questions discussion on selective topic of C8T, C9T, C10T, SEC2T & discussion about writing techniques	**C8T, C9T, C10T & SEC2T**

Semester-VI

No of Classes (Hour) allotted per week: 05
Each Lecture carried 01 Hour

Syllabus allotted for theory classes	**C13T: Evolution of Geographical Thought**
	1.Contributions of Richthofen, Hettner and Ratzel
	2. Schools of geographical thought: French, British and American;
	3.Quantitative Revolution and its impact, behaviouralism, systems approach, radicalism, feminism
	C14T Disaster Management
	1.Landslide: Factors, vulnerability, consequences and management
	
	DSE 3T: Soil and Biogeography
	  1. Principles of soil classification: Genetic and USDA. Concept of land capability and its classification.
	  2. Concepts of biosphere, ecosystem, biome, ecotone, community and ecology
	  3. Bio-diversity: Definition, types, threats and conservation measures
	DSE 4T: Urban Geography
	1.Aspects of urban places: Location, site and situation, Size and Spacing of Cities: The
	2.Rank Size Rule, The Law of the Primate City
	3.Ecological processes of urban growth; Urban fringe; City- Region
	4.Case studies of Delhi, Kolkata, and Chandigarh with reference to land use

Lecture No.	Term I	Paper
01	Aspects of urban places: Location, site and situation, 22.06.2024	**DSE4T**

02	The Rank Size Rule,	
03	The Law of the Primate City	
	Urban fringe	
	City- Region	
04	Concepts of biosphere, ecosystem,	**DSE3 T**
05	Concepts of biome,	
06	Concepts of community and ecology	
07	Contributions of Richthofen,	**C13T**
09	Contributions of Hettner and Ratzel	
10	French schools of geographical thought:	
11	British schools of geographical thought:	
12	American schools of geographical thought	
13	Landslide: Factors, vulnerability	**CC14T**
14	Landslide: consequences and management	
15	Class test on selective topic	
Term II		
16	Case studies of Delhi with reference to land use	**DSE 4T**
17	Case studies of Kolkata with reference to land use	
18	Principles of soil classification: Genetic and USDA.	DSE3T
19	Concept of land capability and its classification.	
20	Quantitative Revolution and its impact,	**C13T**
21	Concept of Behaviouralism	
22	Concept radicalism,	
23	Concept of feminism	
24	Class test on selective topic	**DSE4T C13T & C14T**
Term III		
25	Case studies of Chandigarh with reference to land use	**DSE4T**
26	Class test on evolution of selective topic.	
27	Doubt clearance on selective topics and revision	
28	End - Semester questions discussion on selective topic of C13T, C14T & discussion about writing techniques	
29	Bio-diversity: Definition, types,	DSE3T
30	Bio-diversity: threats and conservation measures	
31	Systems approach	CC13
32	End - Semester questions discussion on selective topic of DSE 4T & discussion about writing techniques	**DSE3T & DSE4T CC13, CC14**

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Syllabus allotted for practical classes	C14P: Disaster Management based Project Work	
Lecture No.	**Term I**	**Paper**
01	Pre field work	
02	Preparation of questionnaire	
03	Field work and data collection	C14P
04	Data tabulation	
05	Data tabulation	
	Term II	
06	Tabulation and calculation	
07	Graphical representation of field data	C14P
08	Map making depends on field survey data	
	Term III	
09	Analysis and interpretation	
10	Analysis and interpretation	
11	Analysis and interpretation	C14P

GE2 T : Geospatial Technology
No of Classes (Hour) allotted per week: 01
Each Lecture carried 01 Hour

Syllabus allotted	GE2 T : Geospatial Technology	
Lecture No.	**Term I**	**Paper**
01	Components, scope and historical development of geospatial technology	
02	Concepts of spheroid, ellipsoid and projection systems.	
03	Significance of WGS 84 and UTM	
04	Data types and structures in spatial technology.	GE2T
05	Classification of Remote Sensing platforms, sensors and resolution. IRS (Resourcesat and Cartosat) and Landsat systems	
06	Classification of Sensors and resolution.	
07	Concept of IRS (Resourcesat and Cartosat) and Landsat systems	
	Term II	
08	Principles of land-based surveying with reference to auto level	
09	Principles of land-based surveying with reference to total station	GE2T
10	Doubt clearance	
	Term III	
11	Principles of georeferencing of maps and images	
12	Discussion of previous year question.	GE2T

Department of Geography

Teaching Plan

Name of the Teacher: SK SAFIKUL HAQUE

Semester II	
Syllabus allotted	**C3T:** Human Geography **C4T:** Cartograms and Thematic Mapping **GE2T:** Geospatial Technology
No of Classes (Hour) per week	**C3T:** 2 **C4P:** 1 **GE2T:** 1
Teaching Plan	**Lecture 1:** Space. **Lecture 2:** Society. **Lecture 3:** Population–Resource regions (Ackerman). **Lecture 4:** Population growth. **Lecture 5:** Concepts of rounding, scientific notation. **Lecture 6:** Image enhancement. **Lecture 7:** Band combination. **Lecture 8:** Band rationing. **Lecture 9:** Short test. **Lecture 10:** Short test. **Lecture 11:** Tutorial. **Lecture 12:** Tutorial. **Lecture 13:** Tutorial. **Lecture 14** Tutorial. **Lecture 15:** Tutorial. **Lecture 16:** world language. **Lecture 17:** Indian language **Lecture 18:** Population growth. **Lecture 19:** Indian population growth **Lecture 20:** Population distribution. **Lecture 21:** Logarithm and anti-logarithm. **Lecture 22:** Vegetation indices **Lecture 23:** Image classification **Lecture 24:** preparation of thematic maps **Lecture 25:** Raster to vector conversion **Lecture 26 :** Sources of GIS data **Lecture 27:** Preparation of GIS data **Lecture 28:** Manipulation of GIS data **Lecture 29:** Tutorial **Lecture 30:** Tutorial **Lecture 31:** population composition **Lecture 32:** demographic transition model **Lecture 33:** Natural scales **Lecture 34:** Log scales **Lecture 35:** Traversing **Lecture 36:** Description of prismatic compass **Lecture 37:** Spatial modelling and overlay analysis. **Lecture 38:** Principles of preparing DEMs from optical. **Lecture 39:** GNSS: Principles of satellite positioning and navigation. **Lecture 40:** Collection of waypoints and exporting to GIS

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	Lecture 41: RADAR sensors with reference to CartoDEM and SRTM data. **Lecture 42:** Integration of different components of spatial technology **Lecture 43:** End - Semester questions & problems discussion. **Lecture 44:** Revision. **Lecture 45:** Class test
Semester IV	
Syllabus allotted	**CC-8**: Regional Planning and Development **CC-9**: Economic Geography **CC-10**: Environmental Geography **SEC2T**: Research Methods
No of Classes (Hour) per week	**C8+9T:** 1 **C10T & SEC2T:** 1
Teaching Plan	**Lecture 1:** Metropolitan concept: metropolitan areas. **Lecture 2:** Urban agglomerations. **Lecture 3:** Concept of economic man. **Lecture 4:** Theories of choices. **Lecture 5:** Factors affecting location of economic activity with special reference to agriculture (Von Thunen). **Lecture 6:** Factors affecting location of economic activity with special reference to a industry (Weber). **Lecture 7:** Secondary activities: Manufacturing cotton textile **Lecture 8:** Perception of environment in different stages of civilization. **Lecture 9:** Secondary activities: Manufacturing iron and steel. **Lecture 10:** Structure of a Research Report: References **Lecture 11:** Short test. **Lecture 12:** Short test. **Lecture 13:** Tutorial **Lecture14:** Tutorial. **Lecture15:** Tutorial.

	Lecture 16: Development: Meaning. **Lecture 17:** Concept of manufacturing regions, special economic zones and technology parks. **Lecture 18:** Environmental programmers and policies – Global. **Lecture19:** Environmental programmers and polices- local. **Lecture20:**Environmental programmers and polices- Regional **Lecture 21:** Structure of a Research Report: Bibliography **Lecture 22:** Development: growth versus development **Lecture 23:** Structure of a Research Report: Abstract **Lecture 24:** Structure of Research Report :Key words **Lecture25:** Tutorial **Lecture 26:** Tutorial **Lecture 27:** End - Semester questions & problems discussion. **Lecture 28:** Revision. **Lecture 29:** Revision. **Lecture 30:** Class-test.
Semester VI	
Syllabus allotted	**C13T**: Evolution of Geographical Thought **C14T**: Disaster Management. **DSE3**: Soil & Bio-Geography. **DSE4**: Urban Geography.
No of Classes (Hour) per week	**C13T+ C14T:** 1 **DSE3+DSE4:** 2 **C14P:** 2
Teaching Plan	**Lecture 1:** Geography during the Age of 'Discovery' and 'Exploration'. **Lecture 2:** Contributions of Portuguese Voyages, Columbus. **Lecture 3:** Geography during the Age of 'Discovery' and 'Exploration- Vasco da Gama, Magellan, Thomas Cook). **Lecture 4:** Cyclone: Factors, vulnerability, consequences and management. **Lecture 5:** Cyclone: Consequences and management **Lecture 6:** Fire: Factors, vulnerability, consequences and management. **Lecture 7:** Fire: Consequences and management **Lecture 8:** Factors or soil formation. **Lecture 9:** Deforestation: Causes, consequences and management. **Lecture 10:** Origin of urban places in Ancient period. **Lecture 11:** Short-test. **Lecture 12:** Origin of urban places in Medieval period. **Lecture 13:** Origin of urban places in Post-Modern periods factors, stages, and characteristics. **Lecture 14:** Urban Issues: problems of housing, slums **Lecture 15:** Man as an active agent of soil transformation

	Lecture 16: Transition from Cosmography to Scientific Geography (Contributions of Bernard Varenius and Immanuel Kant). **Lecture 17:** Transition from Cosmography to Scientific Geography Dualism and Dichotomies. (General vs. Particular). **Lecture 18:** Transition from Cosmography to Scientific Geography Physical vs. Human, Regional vs. Systematic. **Lecture 19:** Transition from Cosmography to Scientific Geography, Determinism vs. Possibilism, Ideographic vs. Nomeothetic). **Lecture 20:** Short-test. **Lecture 21:** Urban Issues: problems of slums. **Lecture 22:** Urban Issues: problems of civic amenities (water and transport). **Lecture 23:** Short test. **Lecture 24:** Short test. **Lecture 25:** Tutorial. **Lecture 26:** Tutorial. **Lecture 27:** Tutorial. **Lecture 28:** Tutorial. **Lecture 29:** End- semester questions discussion **Lecture 30:** Class test

Syllabus Distribution and Teaching Plan, Odd Semester,Session: 20223

Term I: Commencement of classes to 1st internal; **Term II**: 1st internal to 2nd internal; **Term III:** 2nd internal to ESE
preparatory break of DR. PANKAJ SAHA

Semester I

Name	SyllabusAllotted	Teaching Plan
डा. पंकज साहा	**CC-I** हिन्दी साहित्य : आदिकाल से पुर्व मध्यकाल–रचनाएँ व इतिहास • आदिकाल (संपूर्ण)	**(25 Lectures):** • आदिकाल (संपूर्ण) • पाठ्यक्रम की उपयोगिता एवं महत्व • हिन्दी साहित्य के इतिहास का परिचय • हिन्दी साहित्य के इतिहास–लेखन की परंपरा • हिन्दी साहित्य के इतिहास का पुनलेखन की आवश्यकता • हिन्दी साहित्य के इतिहास का काल विभाजन एवं नामकरण • आदिकाल का परिचय • आदिकाल की परिस्थितियाँ, राजनीतिक, सामाजिक, सांस्कृतिक, आर्थिक, धार्मिक एवं साहित्यिक • आदिकाल की प्रवृतियाँ • रासो साहित्य का परिचय • रासो साहित्य के कवियों एवं रचनाओं का परिचय • रासो साहित्य की प्रवृतियाँ • सिद्ध साहित्स का परिचय • सिद्ध कवियों एवं रचनाओं का परिचय • सिद्ध साहित्स की विशेषताएँ • नाथ साहित्य का परिचय • नाथ कवियों एवं रचनाओं का परिचय • नाथ साहित्य की विशेषताएँ • जैन साहित्स का परिचय • जैन कवियों एवं रचनाओं का परिचय • जैन साहित्स जैन साहित्स • आदिकालीन लोक एवं गद्य साहित्य का परिचय एवं विशेषताएँ

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Semester III

Name	SyllabusAllotted	Teaching Plan
डॉ0 पंकज साहा	**CC-5T** कथा साहित्य कहानी एवं उपन्यास • कहानी उसने कहा था – चंद्रधर शर्मा गुलेरी माँ –प्रेमचंद • उपन्यास रागदरबारी –श्रीलाल शुक्ल	**(25 Lectures)** हिन्दी कहानी का विकास चंद्रधर शर्मा गुलेरी का परिचय एवं रचनाओं का परिचय उसने कहा था कहानी का परिचय एवं प्रकाशन वर्ष उसने कहा था कहानी के कथानक की समीक्षा उसने कहा था कहानी का पात्र परिचय, चारित्रिक विशेषताएँ उसने कहा था कहानी का प्रतिपाद्य या उद्देश्य • उपन्यास रागदरबारी श्रीलाल शुक्ल का परिचय एवं रचनाओं का परिचय श्रीलाल शुक्ल का निबंध शैली रागदरबारी उपन्यास का परिचय एवं प्रकाशन वर्ष रागदरबारी उपन्यास के कथानक की समीक्षा रागदरबारी उपन्यास का पात्र परिचय रागदरबारी उपन्यास के पात्रों काचारित्रिक विशेषताएँ रागदरबारी उपन्यास का प्रतिपाद्य या उद्देश्य रागदरबारी उपन्यास की भाषाशैली
	CC-5T – हिन्दी नाट्यसाहित्य • नाटक अंधेरनगरी – भारतेन्दु हरिश्चंद	**(16 Lectures)** नाटक हिन्दी नाटक का उद्भव और विकास भारतेन्दु हरिश्चंद का परिचय एवं रचनाओं का परिचय अंधेरनगरी का परिचय एवं प्रकाशन वर्ष अंधेरनगरी के कथानक की समीक्षा अंधेरनगरी का पात्र परिचय अंधेरनगरी के पात्रों काचारित्रिक विशेषताएँ अंधेरनगरी का प्रतिपाद्य या उद्देश्य अंधेरनगरी की भाषाशैली अंधेरनगरी की रंगमंचियता
	CC-6T – कथेतर गद्यसाहित्य हिन्दी निबंध ईर्ष्या– रामचंद्र शुक्ल	**(12 Lectures)** हिन्दी निबंध की परिभाषा वैविध्य रामचंद्र शुक्ल का परिचय एवं रचनाओं का परिचय

	नाखुन क्यों बढ़ते हैं–हजारी प्रसाद द्विवेदी	रामचंद्र शुक्ल की निबंधशैली का परिचय
		ईर्ष्या निबंध का परिचय
		ईर्ष्या निबंध का समीक्षा
		ईर्ष्या निबंध का प्रतिपाद्य या उद्देश्य
		ईर्ष्या निबंध की भाषाशैली
		हजारी प्रसाद द्विवेदी का परिचय एवं रचनाओं का परिचय
		हजारी प्रसाद द्विवेदी की निबंधशैली का परिचय
		नाखुन क्यों बढ़ते हैं निबंध का परिचय
		नाखुन क्यों बढ़ते हैं निबंध का समीक्षा
		नाखुन क्यों बढ़ते हैं निबंध का प्रतिपाद्य या उद्देश्य
		नाखुन क्यों बढ़ते हैं निबंध की भाषाशैली

Semester V

Name	SyllabusAllotted	Teaching Plan
डॉ0 पंकज साहा	**CC-11T** हिन्दी नाटक एवं एकांकी • नाटक अंधेरनगरी – भारतेन्दु हरिश्चंद स्कन्दगुप्त – जयशंकर प्रसाद • एकांकी विषकन्या –गोबिन्द बल्लभ पंत	**(25 Lectures)** हिन्दी नाटक का उद्भव और विकास भारतेन्दु हरिश्चंद का परिचय एवं रचनाओं का परिचय अंधेरनगरी का परिचय एवं प्रकाशन वर्ष अंधेरनगरी के कथानक की समीक्षा अंधेरनगरी का पात्र परिचय अंधेरनगरी के पात्रों काचारित्रिक विशेषताएँ अंधेरनगरी का प्रतिपाद्य या उद्देश्य अंधेरनगरी की भाषाशैली अंधेरनगरी की रंगमंचियता स्कन्दगुप्त – जयशंकर प्रसाद जयशंकर प्रसाद का परिचय एवं रचनाओं का परिचय स्कन्दगुप्त का परिचय एवं प्रकाशन वर्ष स्कन्दगुप्त के कथानक की समीक्षा स्कन्दगुप्त का पात्र परिचय स्कन्दगुप्त के पात्रों काचारित्रिक विशेषता स्कन्दगुप्त का प्रतिपाद्य या उद्देश्य स्कन्दगुप्त की भाषाशैली स्कन्दगुप्त की रंगमंचियता

		(08 Lectures)
		• एकांकी
		विषकन्या –गोबिन्द वल्लभ पंत
		एकांकी नाटक का उद्भव और विकास
		गोबिन्द वल्लभ पंत का परिचय एवं रचनाओं का परिचय
		विषकन्या कथानक की समीक्षा
		विषकन्या के पात्रों काचारित्रिक विशेषताएँ
		विषकन्या का प्रतिपाद्य या उद्देश्य
		विषकन्या की रंगमंचियता
	CC-12T – हिन्दी निबंध एवं गद्य विधाएँ	**(16 Lectures)**
	हिन्दी निबंध	हिन्दी निबंध का उद्भव और विकास
	करुणा– रामचंद्र शुक्ल	रामचंद्र शुक्ल का परिचय एवं रचनाओं का परिचय
	मजदूरी और प्रेम –सारदार पूर्ण सिंह	रामचंद्र शुक्ल की निबंधशैली का परिचय
	देवदारु–हजारी प्रसाद द्विवेदी	करूणा निबंध का परिचय
		करूणा निबंध का समीक्षा
		करूणा निबंध का प्रतिपाद्य या उद्देश्य
		करूणा निबंध की भाषाशैली
		हजारी प्रसाद द्विवेदी का परिचय एवं रचनाओं का परिचय
		हजारी प्रसाद द्विवेदी की निबंधशैली का परिचय
		देवदारु–निबंध का परिचय
		देवदारु–निबंध का समीक्षा
		देवदारु–निबंध का प्रतिपाद्य या उद्देश्य
		देवदारु–निबंध की भाषाशैली
		सारदार पूर्ण सिंह का परिचय एवं रचनाओं का परिचय
		सारदार पूर्ण सिंह की निबंधशैली का परिचय
		मजदूरी और प्रेम निबंध का परिचय
		मजदूरी और प्रेम –निबंध का समीक्षा
		मजदूरी और प्रेम –निबंध का प्रतिपाद्य या
	DSC-1T – प्रेमचंद	मजदूरी और प्रेम –निबंध की भाषाशैली
	• नाटक	
		(16 Lectures)
	कर्बला – प्रेमचंद	नाटक
		हिन्दी नाटक का उद्भव और विकास

		प्रेमचंद का परिचय एवं रचनाओं का परिचय
		प्रेमचंद के नाट्यकला का परिचय
		कर्बला नाटक का परिचय एवं प्रकाशन वर्ष
		कर्बला के कथानक की समीक्षा
		कर्बला का पात्र परिचय
		कर्बला के पात्रों काचारित्रिक विशेषताएँ
		कर्बला का प्रतिपाद्य या उद्देश्य
		कर्बला की भाषाशैली
		कर्बला की रंगमंचियता
	● निबंध साहित्य का उद्देय – प्रेमचंद	**(12 Lectures)** हिन्दी निबंध की परिभाषा वैविध्य प्रेमचंद का परिचय एवं रचनाओं का परिचय प्रेमचंद की निबंधशैली का परिचय साहित्य का उद्देय निबंध का परिचय साहित्य का उद्देय निबंध का समीक्षा साहित्य का उद्देय निबंध का प्रतिपाद्य या उद्देश्य ईर्ष्या निबंध की भाषाशैली

DEPARTMENT OF HINDI
(HONOURS)

Syllabus distribution and teaching Plan, Odd semester Session 2023-24 : Term I : Commencement of Classes to 1st internal of classes, Term II: 1st internal to 2nd internal, Term III : 2nd internal to ESE of DR. SANJAY PASWAN

SEMESTER-I

Name	Syllabus Allotted	Teaching Plan
डॉ. संजय पासवान	**MJ-I** हिन्दी साहित्य : आदिकाल से पुर्व मध्यकाल–रचनाएँ व इतिहास • भक्तिकाल संपूर्ण	**Total 14 Lectures** **Term - 1** Lecture 1- भक्तिकाल – सामान्य परिचय Lecture 2- भक्ति काल की राजनीतिक, सामाजिक, धार्मिक एवं सांस्कृतिक परिस्थितियों पर विहंगम दृष्टिपात एवं परिचर्चा। Lecture 3- भक्ति काल का वर्गीकरण एवं प्रमुख कवियों का सामान्य परिचय एवं परिचर्चा। Lecture 4 - सूफी साहित्य का सामान्य परिचय, विशेषताएँ। Lecture-5- सूफी साहित्य की विशेषताएँ एवं प्रमुख प्रवृतियों का विवेचन विश्लेशण। **Term - II** Lecture 1- संत साहित्य का सामान्य परिचय, विशेषताएँ। Lecture 2- संत काव्यधारा के प्रमुख कवियों का परिचय, प्रमुख सिद्धांतों का परिचय। Lecture 3- संत संत की प्रवृतियों का विवेचन विश्लेशण। Lecture 4 - सगुण भक्ति एवं राम काव्य परम्परा का सामान्य परिचय। Lecture-5- राम काव्य परम्परा के पमुख कवियों का परिचय **Term - III** Lecture 1- राम काव्य परम्परा के विशेषताएँ एवं प्रमुख प्रवृतियों का विवेचन विश्लेशण। Lecture 2- कृष्ण काव्य परम्परा के पमुख कवियों का परिचय। Lecture 3- अष्टछाप की व्याख्या प्रमुख कवियों का व्याख्या एवं परिचर्चा। Lecture 4- कृष्ण काव्य परम्परा के विशेषताएँ प्रमुख प्रवृतियों का विवेचन विश्लेशण।

	MI-I : हिन्दी भाषा और लिपि का विकास	**Total 08 Lectures** **Term - 1** Lecture 1- देवनागरी लिपि का सामान्य परिचय Lecture 2- देवनागरी लिपि का उद्भव Lecture 3- देवनागरी लिपि का विकास **Term - II** Lecture 1- देवनागरी लिपि की विशेषताएँ एवं कमजोरियाँ। Lecture 2- देवनागरी लिपि का मानकीकरण Lecture 3- देवनागरी लिपि का मानकीकरण **Term - III** Lecture 1- कंप्यूटर में हिन्दी Lecture 2- देवनागरी लिपि का और कंप्यूटर में हिन्दी
	SEC-I : कार्यालयी अनुवाद	**Total 06 Lectures** **Term - 1** Lecture 1- कार्यालयी अनुवाद का सामान्य परिचय Lecture 2- राजभाषा अनुपालन में धारा 3 (3) के अंतर्गत निर्धारित दस्तावेजों का अनुवाद **Term - II** Lecture 1- शासकीयए अर्धशासकीय पत्र का प्रारूप Lecture 2- परिपत्र (सर्कुलर) ज्ञपन(प्रेजेंटेशन) का प्रारूप **Term - III** Lecture 1- कार्यालय आदेश, अधिसूचना,संकल्प प्रस्ताव का स्वरूप Lecture 2- निविदा–संविदा लेखन एवं विज्ञापन लेखन का स्वरूप

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BIDYUT SAMANTA

22.06.2024

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Name	Syllabus Allotted	Teaching Plan
डॉ. संजय पासवान	**CC-5T :** कथा साहित्य : कहानी एवं उपन्यास ● कहानी ● पुरस्कार : जयशंकर प्रसाद ● मलवे का मालिक : मोहन राकेस ● रोज : अज्ञेय	**Total 21 Lectures** **Term - 1** Lecture 1- हिन्दी कहानी का उद्भव एवं विकास Lecture 2- - हिन्दी कहानी का विविध रूप Lecture 3- जयशंकर प्रसाद का परिचय एवं कहानी कला Lecture 4 – पुरस्कार कहानी की परिचर्चा Lecture-5- पुरस्कार कहानी की उद्देश्य की चर्चा Lecture 6 – जयशंकर प्रसाद की भाषा शैली की चर्चा Lecture-7- प्रेमचंद का जीवन परिचय Lecture-8- उनके उपन्यासों का परिचय **Term - II** Lecture 1- प्रेमचंद के उपन्यास कला का विवेचन Lecture 2- मोहन राकेस एवं उनके कहानी संसार का परिचय Lecture 3- मलवे के मालिक कहानी की परिचर्चा Lecture 4 – गोदान का सामान्य परिचय Lecture-5- गोदान के कथानक की चर्चा Lecture-6 - गोदान के उद्देश्य की चर्चा Lecture-7 - प्रेमचंद के भाषा शैली की चर्चा **Term - III** Lecture 1- अज्ञेय एवं उनके कहानी संसार का परिचय Lecture 2- रोज कहानी की परिचर्चा Lecture 3- गोदान के पात्र योजना Lecture 4- गोदान के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 5- गोदान मे कृषि संस्कृति की चर्चा Lecture 6- गोदान मे दोहरा कथानक

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BIDYUT SAMANTA

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	CC-6T : हिन्दी नाट्य साहित्य ● नाटक – आषाढ का एक दिन ● एकांकी – दीपदान	**Total 18 Lectures** **Term – 1** नाटक : आषाढ का एक दिन – मोहन राकेश Lecture 1- मोहन राकेश का परिचय Lecture 2- मोहन राकेश के रचनाओ का परिचय Lecture 3- आषाढ का एक दिन परिचय Lecture 4- आषाढ का एक दिन कथाननक की चर्चा Lecture 5- आषाढ का एक दिन का अभिनेयता Lecture 6- आषाढ का एक दिन के उद्देश्य की चर्चा **Total 20 Lectures** **Term - 1** Lecture 1- एकांकी का उद्भव Lecture 2- - एकांकी का विकास Lecture 3- रामकुमार वर्मा का परिचय Lecture 4- रामकुमार वर्मा रचनाओं का परिचय Lecture 5- दीपदान एकांकी का परिचय Lecture 6- दीपदान एकांकी के कथानक की समीक्षा **Term - II** Lecture 1- आषाढ का एक दिन के भाषा शैली की चर्चा Lecture 2- दीपदान एकांकी के उद्देश्य की चर्चा Lecture 3- हिन्दी आलोचना का द्वितीय चरण का विवरण Lecture 4 – दीपदान एकांकी के भाषा शैली की चर्चा Lecture-5- दीपदान एकांकी के पात्र योजना की चर्चा Lecture-6 - आषाढ का एक दिन के पात्र योजना की चर्चा
	CC-7T : कथेतर गद्य साहित्य रेखाचित्र एवं संस्मरण ये है प्रोफेसर शशांक – विष्णुकांत शास्त्री पगदंडियों का जमाना – हरिशंकर परसाई	**Total 15 Lectures** **Term - 1** Lecture 1- रेखाचित्र का सामान्य परिचय Lecture 2- - संस्मरण का सामान्य परिचय Lecture 3- रेखाचित्र का सामान्य विशेषताएँ Lecture 4- संस्मरण का सामान्य विशेषताएँ

	SEC-I : अनुवाद कौशल	Lecture 5- रेखाचित्र और संस्मरण में सामान्य अंतर **Term - II** Lecture 1- विष्णुकांत शास्त्री का परिचय Lecture 2- विष्णुकांत शास्त्री के रचनाओं का परिचय Lecture 3 – ये है प्रोफेसर शशांक का पाठ परिचय Lecture-4- ये है प्रोफेसर शशांक के कथानक की समीक्षा Lecture-5 - ये है प्रोफेसर शशांक का प्रतिपाद्य या उद्देश्य **Term - III** Lecture 1- हरिशंकर परसाई का परिचय Lecture 2- हरिशंकर परसाई के रचनाओं का परिचय Lecture 3- पगदंडियों का जमाना का पाठ परिचय Lecture 4- पगदंडियों का जमाना कथानक की समीक्षा Lecture 5- पगदंडियों का जमाना प्रतिपाद्य या उद्देश्य **Total 06 Lectures** **Term - 1** Lecture 1- अनुवाद का सामान्य परिचय Lecture 2- अनुवाद के अर्थ एवं चरिभाषा Lecture -3- अनुवाद के विभिन्न आचार्यों की परिभाषएँ **Term - II** Lecture 1- अनुवाद के स्वरूप की चर्चा Lecture 2- अनुवाद के क्षेत्रों की चर्चा **Term - III** Lecture 1- अनुवाद के महत्व की चर्चा Lecture 2- अनुवाद के आवश्यकता परचर्चा

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Name	Syllabus Allotted	Teaching Plan
डॉ. संजय पासवान	CC-11T : हिन्दी नाटक एवं एकांकी ● नाटक ● एकांकी	**Total 23 Lectures** **Term - 1** Lecture 1- हिन्दी नाटक का उद्भव एवं विकास Lecture 2- नाटक के तत्व Lecture 3- मोहन राकेस का परिचय एवं नाटकों का परिचय Lecture 4 – मोहन राकेस का नाट्य कला Lecture-5- आषाढ़ का के दिन का परिचय Lecture 6 – आषाढ़ का के दिन का कथानक की चर्चा Lecture-7- आषाढ़ का के दिन का उद्देश्य Lecture-8- आषाढ़ का के दिन भाषा शैली की चर्चा Lecture-9-- आषाढ़ का के दिन का रंगमंचियता **Term - II** Lecture 1- हिन्दी एकांकी का उद्भव एवं विकास Lecture 2- एकांकी के तत्व Lecture 3- विष्णु प्रभाकर का परिचय एवं उनकी एकांकीं का परिचय Lecture 4 – और वह जा न सकी का सामान्य परिचय Lecture-5- और वह जा न सकी का कथानक की चर्चा Lecture-6- और वह जा न सकी के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture-7 - और वह जा न सकी का उद्देश्य की चर्चा **Term - III** Lecture 1- जगदीश चंद्र माथुर का परिचय Lecture 2- जगदीश चंद्र माथुर के एकांकियां का परिचय Lecture 3- भोर का तारा का परिचय Lecture 4- भोर का तारा के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 5- भोर का तारा के कथानक की चर्चा Lecture 6- भोर का तारा के पात्रों का चारित्रिक विशेषता की Lecture 7- भोर का तारा उद्देश्य की चर्चा

	CC-12T : हिन्दी निबंध एवं गद्य की अन्य विधाएँ	**Total 28 Lectures** **Term - 1** Lecture 1- हिन्दी निबंध का उद्भव एवं विकास Lecture 3- डॉ. नगेन्द्र निबंध शैली का परिचय Lecture 3- डॉ. नगेन्द्र का परिचय एवं उनके निबंधों का परिचय Lecture 4 – दादा स्वर्गीय बालकृष्ण शर्मा नवीन निबंध का परिचय Lecture 5 – दादा स्वर्गीय बालकृष्ण शर्मा नवीन के कथानक की चर्चा Lecture-6- दादा स्वर्गीय बालकृष्ण शर्मा नवीन का उद्देश्य की चर्चा Lecture-7- दादा स्वर्गीय बालकृष्ण शर्मा नवीन के भाषा शैली की चर्चा **Term - II** Lecture 1- माखन लाल चतुर्वेदी का जीवन परिचय Lecture 2- तुम्हारी स्मृति का परिचय Lecture 3- तुम्हारी स्मृति का कथानक की चर्चा Lecture 4 – तुम्हारी स्मृति के उद्देश्य की चर्चा Lecture-5- विष्णुकांत शास्त्री का परिचय Lecture-6- ये है प्रोफेसर शशांक का परिचय Lecture-6- ये है प्रोफेसर शशाक का कथानक की चर्चा Lecture-7 - ये है प्रोफेसर शशांक के उद्देश्य की चर्चा
	DSE -1T प्रेमचंद कहानी	**Term - III** Lecture 1- प्रेमचंद का परिचय Lecture 2- प्रेमचंद के कहानी कला का परिचय Lecture 3- पंच परमेश्वर का परिचय Lecture 4- पंच परमेश्वर के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 5- पंच परमेश्वर के कथानक की चर्चा Lecture 6- पंच परमेश्वर के उद्देश्य की चर्चा Lecture 7- ईदगाह का परिचय Lecture 8- ईदगाह के कथानक की चर्चा Lecture 9 – ईदगाह के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 10- ईदगाह के उद्देश्य की चर्चा Lecture 11-दो बैलों की कथा का परिचय Lecture 12- दो बैलों की कथा के कथानक की चर्चा Lecture 13- दो बैलों की कथा के पात्रों का चारित्रिक विशेषताओं की चर्चा

		Lecture 14- दो बैलों की कथा के उद्देश्य की चर्चा
		Total 41 Lectures
		Term - 1
		Lecture 1- प्रवासी शब्द की उत्पत्ति एवं परिभाषा
		Lecture 3- प्रवासी साहित्य की अवधारणा
		Lecture 3- गिरमिटिया मजदूरों व्याख्या
DSE -2T प्रवासी साहित्य		Lecture 4 – प्रवासी साहित्यकारों का परिचय
		Lecture 5 – अभिमन्यु अनत का परिचय एवं रचना संसार
		Lecture-6 अभिमन्यु अनत का निबंध शैली की चर्चा
		Lecture-7- लाल पसीना उपन्यास का परिचय
		Lecture-8- लाल पसीना के कथानक की चर्चा
		Lecture-9- लाल पसीना के कथानक की चर्चा
		Lecture-10-लाल पसीना के कथानक की चर्चा
		Lecture-11- लाल पसीना के कथानक की चर्चा
		Lecture-12- लाल पसीना के कथानक की चर्चा
		Lecture-13- लाल पसीना के पात्रों का चारित्रिक विशेषताओं की चर्चा
		Lecture-14- लाल पसीना के पात्रों का चारित्रिक विशेषताओं की चर्चा
		Lecture-15- लाल पसीना के उद्देश्य की चर्चा
		Lecture-16- लाल पसीना के भाषा शैली की चर्चा
		Term - II
		Lecture 1- नीना पॉल का जीवन परिचय
		Lecture 2- नीना पॉल का रचना संसार
		Lecture 3- कुछ गाांव गांव शहर शहर उपन्यास का परिचय
		Lecture 4 – कुछ गाांव गांव शहर शहर उपन्यास के कथानक की चर्चा
		Lecture-5- कुछ गाांव गांव शहर शहर उपन्यास के कथानक की चर्चा
		Lecture-6- कुछ गाांव गांव शहर शहर उपन्यास के कथानक की चर्चा
		Lecture-6- कुछ गाांव गांव शहर शहर की उद्देश्य की चर्चा
• प्रवासी कहानी		Lecture-7 - कुछ गाांव गांव शहर शहर की भाषा शैली की चर्चा
		Term - III
		Lecture 1- प्रवासी कहानीकारों का परिचय
		Lecture 2- उषा राजे सक्सेना का परिचय
		Lecture 3- ऑन्टाप्रोन्योर कहानी का परिचय
		Lecture 4- ऑन्टाप्रोन्योर कहानी के कथानक की चर्चा

		Lecture 5- ऑन्टाप्रोन्योर कहानी पात्रों का चारित्रिक विशेषताओं की चर्चा
		Lecture 6- ऑन्टाप्रोन्योर कहानी के उद्देश्य की चर्चा
		Lecture 7- पूर्णिमा वर्मन का परिचय
		Lecture 8- पूर्णिमा वर्मन का रचना संसार
		Lecture 9- यों हीं चलते हुए कहानी का परिचय
		Lecture 10- यों हीं चलते हुए कहानी के कथानक की चर्चा
		Lecture 11–यों हीं चलते हुए पात्रों का चारित्रिक विशेषताओं की चर्चा
		Lecture 12- यों हीं चलते हुए कहानी के उद्देश्य की चर्चा
		Lecture 13- अनिल प्रभा कुमार का परिचय
		Lecture 14- अनिल प्रभा कुमार का रचना ससार
		Lecture 15- बे मौसम के बर्फ का परिचय
		Lecture 16- बे मौसम के बर्फ के कथानक की चर्चा
		Lecture 17- बे मौसम के बर्फ के पात्रों का चारित्रिक विशेषताओं की चर्चा
		Lecture 18- बे मौसम के बर्फ के उद्देश्य की चर्चा

Syllabus distribution and teaching Plan, Odd semester Session 2023-24 : Term I : Commencement of Classes to 1st internal of classes, Term II: 1st internal to 2nd internal, Term III : 2nd internal to ESE of DR. PRAKASH KR.AGRAWAL

SEMESTER-I

Name	Syllabus Allotted	Teaching Plan
डॉ. प्रकाश कुमार अग्रवाल	**MJ-I** हिन्दी साहित्य : आदिकाल से पुर्व मध्यकाल–रचनाएँ व इतिहास • रीतिकाल संपूर्ण	**Total 17 Lectures** Lecture 1- रीतिकाल – सामान्य परिचय Lecture 2- रीतिकाल का नामकरण Lecture 3- रीतिकाल की राजनीतिक, सामाजिक, परिस्थितियों पर विहंगम दृष्टिपात एवं परिचर्चा। Lecture 4- रीतिकाल की धार्मिक एवं सांस्कृतिक परिस्थितियों पर विहंगम दृष्टिपात एवं परिचर्चा। Lecture 5- रीतिकाल का वर्गीकरण एवं प्रमुख कवियों का सामान्य परिचय एवं परिचर्चा। Lecture 6- रीतिकाल का वर्गीकरण एवं प्रमुख कवियों का सामान्य परिचय एवं परिचर्चा। Lecture 7 - रीतिकाल का बर्गीकरण, रीतिबद्ध, रीतिसिद्ध, रीतिमुक्त Lecture-8- रीतिकाल प्रमुख प्रवृतियों का विवेचन विश्लेशण। Lecture 9- रीतिबद्ध, साहित्य के प्रमुख कवियों का परिचय, Lecture 10 रीतिबद्ध, साहित्य की प्रवृतियों का विवेचन विश्लेशण। Lecture 11- रीतिसिद्ध, परम्परा के पमुख कवियों का परिचय Lecture-12- रीतिसिद्ध, परम्परा प्रमुख प्रवृतियों का विवेचन विश्लेशण। Lecture 13-रीतिमुक्त काव्य परम्परा के प्रमुख कवियों का सामान्य परिचय Lecture 14- रीतिमुक्त काव्य परम्परा के प्रमुख कवियों का

	MI-I : हिन्दी भाषा और लिपि का विकास	**Total 14 Lectures** **Term - 1** Lecture 1- हिन्दी भाषा का विकास Lecture 2- भारतीय आर्यभाषाएँ का परिचय Lecture 3- हिन्दी शब्द का अर्थ और प्रयोग Lecture 4- हिन्दी का विकास आदिकालीन, मध्यकालीन Lecture 5- हिन्दी का विकास आधुनिक कालीन Lecture 6- हिन्दी भाषा का क्षेत्र और विस्तार Lecture 7- हिन्दी भाषा की बोलियों का परिचय Lecture 8- हिन्दी के विविध रूपों का परिचय Lecture 9- हिन्दी का अखिल भारतीय स्वरुप की चर्चा Lecture 10- लिपि का विकास का सामान्य परिचय Lecture 11- लिपि का आरंभीक रूप का परिचय Lecture 12- चित्रलिपि, भावलिपि, ध्वनिलिपि का सामान्य परिचय Lecture 13- भारत में लिपि का विकास का सामान्य परिचय Lecture 14- भाषा और लिपि का अंतःसंबंध
	SEC-I : अनुवाद विज्ञान	**Total 09 Lectures** Lecture 1- अनुवाद का सामान्य परिचय अर्थ एवं विभिन्न आचार्यों की परिभाषएँ Lecture 2- अनुवाद के क्षेत्रों एवं महत्व की चर्चा Lecture -3- अनुवाद के आवश्यकता परचर्चा Lecture 4- अनुवाद प्रकिया के चरणएवं प्रकार Lecture 5- शाब्दिक अनुवाद, भावानुवाद का परिचय Lecture 6- छायानुवाद और सारानुवाद का परिचय Lecture 7- सर्जनात्मक साहित्य के अनुवाद की अपेक्षाएँ Lecture 8 सर्जनात्मक साहित्य के अनुवाद और तकनीकि अनुवाद में अंतर Lecture 9- अनुवाद की समस्याएँ

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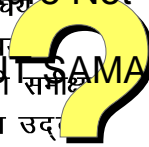
Name	Syllabus Allotted	Teaching Plan
डॉ. प्रकाश कुमार अग्रवाल	CC-5T : कथा साहित्य : कहानी एवं उपन्यास ● कहानी ● रोज : अज्ञेय ● मैं हार गई : मन्नू भंडारी ● उपन्यास पचपन खंबे लाल दीवारें–उषा प्रियंवदा	**Total 20 Lectures** Lecture 1- अज्ञेय एवं उनके कहानी संसार का परिचय Lecture 2- अज्ञेय की कहानी कला Lecture 3 –रोज कहानी की परिचर्चा Lecture-4- रोज कहानी की उद्देश्य की चर्चा Lecture 5 –अज्ञेय की भाषा शैली की चर्चा Lecture 6- मन्नू भंडारी एवं उनके कहानी संसार का परिचय Lecture 7- मन्नू भंडारी की कहानी कला Lecture 8- मैं हार गई कहानी की परिचर्चा Lecture-9- मैं हार गई कथानक की चर्चा Lecture-10 - मैं हार गई उद्देश्य की चर्चा Lecture-11 - मन्नू भंडारी की भाषा शैली की चर्चा Lecture 12- उषा प्रियंवदा का परिचय Lecture 13- उषा प्रियंवदा रचना संसार का परिचय Lecture 14- पचपन खंबे लाल दीवारें का परिचय Lecture 15- पचपन खंबे लाल दीवारें कथाननक की चर्चा Lecture 16- पचपन खंबे लाल दीवारें कथाननक की चर्चा Lecture 17- पचपन खंबे लाल दीवारें के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 18- पचपन खंबे लाल दीवारें उद्देश्य की चर्चा Lecture 19- उषा प्रियंवदा की उपन्यास कला Lecture 20- उषा प्रियंवदा के उपन्यासों की भाषा शैली की चर्चा

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BIDYUT SAMANTA

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		Total 12 Lectures

	CC-6T : हिन्दी नाट्य साहित्य
	
	● नाटक –
	  आठवाँ सर्ग – सुरेन्द्र वर्मा
	● एकांकी
	  तौलिए – उपेन्द्र नाथ अश्क
		नाटक : आषाढ का एक दिन – मोहन राकेश
		Lecture 1- सुरेन्द्र वर्मा का परिचय
		Lecture 2- सुरेन्द्र वर्मा के रचनाओ का परिचय
		Lecture 3- आठवाँ सर्गएक परिचय
		Lecture 4- आठवाँ सर्ग कथाननक की चर्चा
		Lecture 5 आठवाँ सर्ग का अभिनेयता
		Lecture 6- आठवाँ सर्ग के उद्देश्य की चर्चा
		Lecture 7- उपेन्द्र नाथ अश्क का परिचय
		Lecture 8- उपेन्द्र नाथ अश्क रचनाओं का परिचय
		Lecture 9- तौलिए एकांकी का परिचय
		Lecture 10- तौलिए एकांकी के कथानक की समीक्षा
		Lecture 11- तौलिए के भाषा शैली की चर्चा
		Lecture 12- तौलिए एकांकी के उद्देश्य की चर्चा

	CC-7T : कथेतर गद्य साहित्य रेखाचित्र एवं संस्मरण	**Total 20 Lectures** Lecture 1- जीवनी का सामान्य परिचय स्वरुप एवं वैशिष्ट्य Lecture 2- - डायरी का सामान्य परिचय Lecture 3- डायरी का सामान्य विशेषताएँ Lecture 4- रेखाचित्र का सामान्य परिचय Lecture 5- रेखाचित्र का सामान्य विशेषताएँ Lecture 6- रिपोतार्ज लेखन का सामान्य परिचय Lecture 7- रिपोतार्ज लेखन की सामान्य विशेषताएँ Lecture 8- पत्र लेखन का सामान्य परिचय Lecture 9- पत्र लेखन के प्रकार Lecture 10- पत्र लेखन का महत्व एवं विशेषताएँ Lecture 11- विष्णुकांत शास्त्री का परिचय Lecture 12- विष्णुकांत शास्त्री के रचनाओं का परिचय Lecture 13 – ये है प्रोफेसर शशांक का पाठ परिचय Lecture-14- ये है प्रोफेसर शशांक के कथानक की समीक्षा Lecture-15 - ये है प्रोफेसर शशांक का प्रतिपाद्य या उद्देश्य

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	SEC-I : अनुवाद कौशल	Lecture 16- हरिशंकर परसाई का परिचय Lecture 17- हरिशंकर परसाइ के रचनाओं का परिचय Lecture 18- पगदंडियों का जमाना का पाठ परिचय Lecture 19- पगदंडियों का जमाना कथानक की समीक्षा Lecture 20- पगदंडियों का जमाना प्रतिपाद्य या उद्देश्य **Total 07 Lectures** Lecture 1- भाषा शिक्षण और अनुवाद का सामान्य परिचय Lecture 2- भाषा शिक्षण में अनुवाद का महत्व Lecture -3- अनुवाद की प्रयोजनीयता Lecture 4- अनुवाद प्रकिया के चरणों का परिचय Lecture 5- अनुवाद के विश्लेषण प्रकिया की चर्चा Lecture 6- अनुवाद के अंतरण प्रकिया की चर्चा Lecture 7- अनुवाद के पुनर्गठन प्रकिया की चर्चा

Name	Syllabus Allotted	Teaching Plan
डॉ. प्रकाश कुमार अग्रवाल	CC-11T : हिन्दी नाटक एवं एकांकी ● नाटक माधवी– भीष्म साहनी ● एकांकी औरंगजेब की आखिरी रात– रामकुमार वर्मा	**Total 15 Lectures** Lecture 1- हिन्दी नाटक का उद्भव एवं विकास Lecture 2- नाटक के तत्व Lecture 3- भीष्म साहनी का परिचय एवं नाटकों का परिचय Lecture 4 – भीष्म साहनी का नाट्य कला Lecture-5- माधवी का कथानक की चर्चा Lecture-6- माधवी का उद्देश्य Lecture-7- माधवी भाषा शैली की चर्चा Lecture-8-- माधवी का रंगमंचियता Lecture 9- हिन्दी एकांकी का उद्भव एवं विकास Lecture 10- एकांकी के तत्व Lecture 11- रामकुमार वर्मा का परिचय एवं उनकी एकांकी का परिचय Lecture 12– औरंगजेब की आखिरी रात का सामान्य परिचय Lecture-13- औरंगजेब की आखिरी रात का कथानक की चर्चा Lecture-14- औरंगजेब की आखिरी रात के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture-15 - औरंगजेब की आखिरी रात का उद्देश्य की चर्चा **Total 15 Lectures** Lecture 1- विद्यानिवास मिश्र एवं उनकी रचनाओं का परिचय Lecture 3- विद्यानिवास मिश्र निबंध शैली का परिचय Lecture 3- डॉ. नगेन्द्र का परिचय एवं उनके निबंधों का परिचय Lecture 4 – मेरे राम का मुकुट भीग रहा है निबंध का परिचय Lecture 5 – मेरे राम का मुकुट भीग रहा है के कथानक की चर्चा Lecture-6- मेरे राम का मुकुट भीग रहा है का उद्देश्य की Lecture-7- मेर राम का मुकुट भीग रहा है के भाषा शैली की चर्चा Lecture 8- शिवपुजन सहाय एवं उनकी रचनाओं का परिचय Lecture 9- महाकवि जयशंकर प्रसाद का परिचय Lecture 10- महाकवि जयशंकर प्रसाद का कथानुक की चर्चा
	CC-12T : हिन्दी निबंध एवं गद्य की अन्य विधाएँ मेरे राम का मुकुट भीग रहा है–विद्यानिवास मिश्र महाकवि जयशंकर प्रसाद–शिवपुजन सहाय रजिया– रामबृक्ष बेनीपुरी	

		Lecture 11 – महाकवि जयशंकर प्रसाद के उद्देश्य की चर्चा
		Lecture-12- रामबृक्ष बेनीपुरी एवं उनकी रचनाओं का परिचय
		Lecture-13- रजिया का परिचय
		Lecture-14- रजिया का कथानक की चर्चा
		Lecture-15- रजिया के उद्देश्य की चर्चा
		Total 14 Lectures
	DSE -1T प्रेमचंद कहानी पूस की रात शतरंज के खिलाड़ी ● उपन्यास सेवासदन	Lecture 1- प्रेमचंद का परिचय Lecture 2- प्रेमचंद के कहानी कला का परिचय Lecture 3- पूस की रात के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 4- पूस की रात के कथानक एवं उद्देश्य की चर्चा Lecture 5- शतरंज के खिलाड़ी के कथानक एवं उद्देश्य की चर्चा Lecture 6- शतरंज के खिलाड़ी के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 7- प्रेमचंद रचना संसार का परिचय Lecture 8- सेवासदन का परिचय Lecture 9 – सेवासदन कथानक की चर्चा Lecture 10- सेवासदन के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 11- सेवासदन के पात्रों का चारित्रिक विशेषताओं की चर्चा Lecture 12- सेवासदन उद्देश्य की चर्चा Lecture 13- प्रेमचंद की उपन्यास कला Lecture 14- प्रेमचंद के उपन्यासों की भाषा शैली की चर्चा

DSE -2T प्रवासी साहित्य	Total 23 Lectures

• **प्रवासी उपन्यास**
  लौटना –सुषम बेदी
 	
  शाम भर बातें–दिव्य माथुर
 	
• **प्रवासी कहानी**
  कोख का किराया – तेजेन्द्र शर्मा
  सांकल –जाकिया जुबेरी
  गुलमोहर – जय वर्मा
	Lecture 1 – दिव्य माथुर का परिचय एवं रचना संसार
	Lecture-2- दिव्य माथुर का उपन्यास शैली की चर्चा
	Lecture-2-
	Lecture-3- शाम भर बातें के कथानक की चर्चा
	Lecture-4- शाम भर बातें के पात्रों का चारित्रिक विशेषताओं की चर्चा
	Lecture-5-शाम भर बातें के भाषा शैली की चर्चा
	Lecture-6- सुषम बेदी का जीवन एवं रचना संसार परिचय
	Lecture-7- लौटना उपन्यास का परिचय
	Lecture-8- लौटना उपन्यास के कथानक की चर्चा
	Lecture-9- लौटना उपन्यास के कथानक की चर्चा
	Lecture-10- लौटना की उद्देश्य की चर्चा
	Lecture-11- लौटना की भाषा शैली की चर्चा
	Lecture 12- प्रवासी कहानीकारों का परिचय
	Lecture 13- तेजेन्द्र शर्मा का जीवन एवं रचना संसार परिचय
	Lecture 14- कोख का किराया कहानी के कथानक की चर्चा
	Lecture 15 – कोख का किराया कहानी पात्रों का चारित्रिक विशेषताओं की चर्चा
	Lecture-16- जाकिया जुबेरी का जीवन एवं रचना संसार परिचय
	Lecture-17- सांकल कहानी के कथानक की चर्चा
	Lecture-18- सांकल पात्रों का चारित्रिक विशेषताओं की चर्चा
	Lecture-19 - सांकल कहानी के उद्देश्य की चर्चा
	Lecture 20- जय वर्मा कुमार का जीवन एवं रचना संसार परिचय
	Lecture 21- गुलमोहर के कथानक की चर्चा
	Lecture 22- गुलमोहर के पात्रों का चारित्रिक विशेषताओं की चर्चा
	Lecture 23- गुलमोहर के उद्देश्य की चर्चा

8

DEPARTMENT OF HINDI
HONOURS

Syllabus Distribution and Teaching Plan, Even Semester, Session: 2022-2023

Term I: Commencement of classes to 1st internal; **Term II**: 1st internal to 2nd internal; **Term III**: 2nd internal to ESE preparatory break

Semester II

Name	SyllabusAllotted	Teaching Plan
• डा0 पंकज साहा	पत्र–CC-III – भरतेन्दु यगीन कविता से छायावादी कविता तक रचनाएँ व इतिहास • द्विवेदी युग : जागरण – सुधार काल • अयोध्या सिंह उपाध्याय हरिऔध : प्रार्थना • जयशंकर प्रसाद : हिमाद्रल तुंग श्रृंग स, पेशोला की प्रतिध्वनि पत्र–CC-IV – हिन्दी साहित्य–प्रगतिवाद से बीसवीं शताब्दी तक– रचनाएँ व इतिहास • छायावादोत्तर काव्य परिदृष्य और छायावादोत्तर कविता की भूमिका • समकालीन कविता के प्रमुख कवि और रचनाएँ GE-II लोकनाट्य परंपरा और हिन्दी • भारतीय संस्कृति :अवधारणा– • लोक का अर्थ, लोक साहित्य एवं लोक संस्कृति –	**Term1 (10 Lectures):** द्विवेदी युगीन कविता की प्रमुख प्रवृतियाँ, विभिन्न काव्य रूपों का प्रयोग, छंद एवं भाषा सौष्ठव आदि। **TermII (04 Lectures):** प्रार्थना (कविता) **TermIII (03 Lectures):** हिमाद्रल तुंग श्रृंग से, पेशोला की प्रतिध्वनि (कविता) **Term1 (04 Lectures):** छायावादोत्तर काव्य धारा : पमुख प्रवृतियाँ, **Term11 (10 Lectures):** प्रयोगवादी काव्य धारा : पमुख प्रवृतियाँ, नयी कविता : ऐतिहासिक परिदृष्य,काव्य प्रवृतियाँ और प्रमुख कवि – **Term III (04 Lectures):** अज्ञेय – नदी के द्वीप, कलगी बाजरे की। –(कविता) **Total=(22 Lectures):** **Term1 (06 Lectures):** भारतीय संस्कृति :अवधारणा– **Term1I (06 Lectures):** लोक का अर्थ, लोक साहित्य एवं लोक संस्कृति

डा0 संजय पासवान	पत्र–CC-III भारतेन्दु युग (नवजागरण) – डा0 संजय पासवान
	
	• भारतेन्दु : निज भाषा उन्निति अहै।
	• मैथिली श्सरण गुप्त : कैकेयी का अनुताप
	• सुमित्रा नंदन पंत : नौका बिहार,
	
	पत्र–CC-IV – प्रगतिवादी काव्य धारा : पमुख प्रवृतियाँ –
	
	• केदारनाथ अग्रवाल :
	
	GE-II - हिन्दी क्षेत्र के लोक नाट्य रुप
	    (क) धार्मिक लोक नाट्य : रामलीला, रासलीला
	    (ख) सामाजिक लोक नाट्य : नौटंकी, भांड माच, नाच्या,
	ख्याल, स्वांग आदि
		Term1 (14 Lectures):
		भारतेन्द पूर्व काव्य धारा, सांस्कृतिक, आर्थिक और राजनीतिक परिवेश, राष्ट्रीय चेतना, समस्यापूर्ति, हास्य आदि।
		
		Term II (02 Lectures)
		निज भाषा उन्निति अहै। (कविता)
		TermIII (08 Lectures):
		नौका बिहार, ताज। (कविता)
		प्रगतिवादी काव्य धारा : पमुख प्रवृतियाँ
		बसंती हवा अग्रवाल (कविता)
		
		. **Term 1 (04 Lectures):**
		रामलीला, रासलीला
		Term II (03 Lectures)
		नौटंकी, भांड माच, नाच्या,
		TermIII (08 Lectures):
		ख्याल, स्वांग आदि

• डा0 प्रकाश कुमार अग्रवाल	पत्र–CC-III छायावादी युग– • मखन लाल चतुर्वेदी : पुष्प की अभिलाषा – डा0 प्रकाश कुमार अग्रवाल • राष्ट्रीय सांस्कृतिक काव्यधारा की रचनाएँ • सुर्यकांत त्रिपाठल निराला : महादेवी वर्मा • नागार्जुन : पत्र–CC-IV – धूमिल : GE-II - लोक नाट्य, लोक रंगमंच एवं अभिजात्य या भाषायी रंगमंच का स्वरुप भारतीय राष्ट्रीय संस्कृति के निर्माण में लोकनाट्यों की भूमिका	**Term1 (10 Lectures):** छायावाद, नामकरण का आधार और परिवेश एवं प्रवृतियाँ प्रयोगवाद, नई कविता, समकालीन कविता। **Term II (08 Lectures)** तोड़ती पत्थर, भिक्षुक (कविता) मैं नीर भरी दुख की बदली, धीरे धीरे उतर क्षितिज से(कविता) अकाल और उसके बाद, शासन की बंदुक (कविता) **TermIII (04 Lectures):** बीस साल, रोटी और संसद।(कविता) . **Term 1 (06 Lectures):** लोक नाट्य, लोक रंगमंच एवं अभिजात्य या भाषायी रंगमंच का स्वरुप। **Term II (06 Lectur...)** भारतीय राष्ट्रीय संस्कृति के निर्माण में ... नाट्यों की भूमिका

Name	SyllabusAllotted	Teaching Plan
डा0 पंकज साहा	❖ पत्र–CC-8T : हिन्दी गद्य साहित्य का इतिहास – डा0 पंकज साहा (संपूर्ण) • हिन्दी कथा साहित्य का विकास : भारतेन्दु से अद्यतन। • हिन्दी नाट्य साहित्य का विकास : भारतेन्दु से अद्यतन। • हिन्दी निबंध साहित्य का विकास : भारतेन्दु से अद्यतन। • हिन्दी की कथेतर विधाओं का विकास : जीवनी, संस्मरण, यात्रा वृतांत।	**Term 1 (10 Lectures):** हिन्दी कथा साहित्य का विकास : भारतेन्दु से अद्यतन। हिन्दी नाट्य साहित्य का विकास : भारतेन्दु से अद्यतन। **Term II (04 Lectures)** हिन्दी निबंध साहित्य का विकास : भारतेन्दु से अद्यतन। **Term III (04 Lectures)** हिन्दी की कथेतर विधाओं का विकास : जीवनी, संस्मरण, यात्रा वृतांत। **Total=(18 Lectures)**

डा0 संजय पासवान	पत्र–CC-9T : हिन्दी आलोचना – डा0 संजय पासवान (संपूर्ण)
	• हिन्दी आलोचना की पृष्ठभूमि, परम्परा और विकास
	• भारतेन्दुयुगीन आलोचना, द्विवेदीयुगीन आलोचना, शुक्लयुगीन आलोचना
	• हिन्दी के प्रमुख आलोचक और उनकी आलोचना दृष्टि
	  ➤ आचार्य रामचंद्र शुक्ल
	  ➤ डॉ0 हजारी प्रसाद द्विवेदी
	  ➤ डॉ0 नन्ददुलारे वाजपेयी
	  ➤ डॉ0 नगेन्द्र
	  ➤ डॉ0 रामविलास शर्मा
	  ➤ डॉ0 नामवर सिंह
	
	पत्र–SEC-1IT : कार्यालयी हिन्दी
	कार्यालयी पत्राचार के विविध रुप
	कार्यालयी हिन्दी की पारिभाषिक शाब्दावली
		Term I (18 Lectures):
		हिन्दी आलोचना की पृष्ठभूमि, परम्परा और विकास
		भारतेन्दुयुगीन आलोचना, द्विवेदीयुगीन आलोचना, शुक्लयुगीन आलोचना
		
		Term II(10 Lectures):
		आचार्य रामचंद्र शुक्ल
		डॉ0 हजारी प्रसाद द्विवेदी
		डॉ0 नन्ददुलारे वाजपेयी
		Term III (10 Lectures):
		डॉ0 नगेन्द्र
		डॉ0 रामविलास शर्मा
		डॉ0 नामवर सिंह
		
		. **Term I (06 Lectures):**
		कार्यालयी पत्राचार के विविध रुप।
		
		Term II(06 Lectures)
		
		कार्यालयी हिन्दी की पारिभाषिक शाब्दावली

Name	Syllabus Allotted	Teaching Plan
डा0 प्रकाश कुमार अग्रवाल	**पत्र–CC-9T : हिन्दी भाषा एवं भाषा विज्ञान – (संपूर्ण)** • भाषा : परिभाषा, स्वरुप और प्रवृतियाँ • भाषा और बोलीयाँ • हिन्दी का मानकीकरण • ध्वनि : परिभाषा और हिन्दी स्वर और व्यंजन ध्वनियों का वर्गीकरण • वाक्य : परिभाषा वाक्य के अनिवार्य तत्व और संरचना के आधार पर वर्गीकरण • अर्थ : परिभाषा, अर्थ परिवर्तन के कारण और दिशाएँ • देवनागरी लिपि का इतिहास, देवनागरी लिपि की वैज्ञानिकता **पत्र–SEC-1IT : कार्यालयी हिन्दी** कार्यालयी हिन्दी • कार्यालयी हिन्दी का क्षेत्र • कार्यालयी हिन्दी की समस्याएँ	**Term I (14 Lectures):** भाषा : परिभाषा, स्वरुप और प्रवृतिया, भाषा और बोलीयाँ, हिन्दी का मानकीकरण। **Term II(12 Lectures):** ध्वनि : परिभाषा और हिन्दी स्वर और व्यंजन ध्वनियों का वगीकरण वाक्य : परिभाषा वाक्य के अनिवार्य तत्व और संरचना के आधार पर वर्गीकरण **Term III (10 Lectures):** अर्थ : परिभाषा, अर्थ परिवर्तन के कारण और दिशाएँ देवनागरी लिपि का इतिहास, देवनागरी लिपि की वैज्ञानिकता **Term I (06 Lectures):** कार्यालयी हिन्दी, कार्यालयी हिन्दी का क्षेत्र **Term II (04 Lectures):** कार्यालयी हिन्दी की समस्याएँ

Semester VI

Name	SyllabusAllotted	Teaching Plan
डा0 पंकज साहा	**पत्र– CC-14T : प्रयोजनमूलक हिन्दी** • मातृभाषा एवं अन्य भाषा के रूप में हिन्दी, संपर्क भाषा, राजभाषा के रूप में हिन्दी, बोलचाल की सामान्य हिन्दी, मानक हिन्दी और साहित्यिक हिन्दी, संबिधान में हिन्दी। • हिन्दी की शैलियाँ : हिन्दी उर्दू और हिन्दुसतानी। • हिन्दी भाषा का उद्भव और विकास। • हिन्दी का मानकीकरण। • हिन्दी के प्रयोग क्षेत्र : भाषा प्रयुक्ति की संकल्ना, वार्ता – प्रकार और शैली। • प्रयोजनमूलक हिन्दी के प्रमुख प्रकार : कार्यालयी हिन्दी और उसके	**Term I (16 Lectures):** मातृभाषा एवं अन्य भाषा के रूप में हिन्दी, संपर्क भाषा, राजभाषा के रूप में हिन्दी, बोलचाल की सामान्य हिन्दी, मानक हिन्दी और साहित्यिक हिन्दी, संबिधान में हिन्दी। हिन्दी की शैलियाँ : हिन्दी उर्दू और हिन्दुसतानी। हिन्दी भाषा का उद्भव और विकास। **Term II (... res)** हिन्दी का मानकीकरण। हिन्दी के प्रयोग क्षेत्र : भाषा प्रयुक्ति की संकल्ना, वार्ता – प्रकार और शैली। प्रयोजनमूलक हिन्दी के प्रमुख प्रकार : कार्यालयी हिन्दी और उसके प्रमुख लक्षण, वैज्ञानिक हिन्दी और उसके प्रमुख लक्षण, व्यवसायिक हिन्दी और उसके

	प्रमुख लक्षण, वैज्ञानिक हिन्दी और उसके प्रमुख लक्षण, व्यवसायिक हिन्दी और उसके लक्षण, संचार माध्यम(आकाशवाणी, दुरदर्शन, चलचित्र) की हिन्दी और उसके प्रमुख लक्षण। • भाषा व्यवहार : सरकारी पत्राचार, टिप्पणी तथा मसौदा लेखन, सरकारी अथवा व्यवसायिक पत्र–लेखन। • हिन्दी में पारिभाषिक शब्द निर्माण प्रकिया एवं प्रस्तुति।	लक्षण, संचार माध्यम(आकाशवाणी, दुरदर्शन, चलचित्र) की हिन्दी और उसके प्रमुख लक्षण। **Term III (10 Lectures)** भाषा व्यवहार : सरकारी पत्राचार, टिप्पणी तथा मसौदा लेखन, सरकारी अथवा व्यवसायिक पत्र–लेखन। हिन्दी में पारिभाषिक शब्द निर्माण प्रकिया एवं प्रस्तुति।
डा0 संजय पासवान	**CT13** - हिन्दी की साहित्यिक पत्रकारिता • साहित्यिक पत्रिकारिता : अर्थ अवधारणा और महत्व। • भारतेन्दुयुगीन साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। • द्विवेदीयुगीन साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। • प्रेमचंद और छायावादी साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। • स्त्र्योत्तर साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। **DSE -3T** – लोक साहित्य ➢ लोक और लोक वार्ता, लोक संस्कृति की अवधारणा, लोक वार्ता और लोक संस्कृति, लोक संस्कृति और साहित्य, साहित्य और लोक का अंतःसंबंध, लोक साहित्य का अन्य सामाजिक विज्ञानों से संबंध, लोक साहित्य के अध्ययन की समस्याएँ। ➢ भारत में लोक साहित्य के अध्ययन का इतिहास, लोक साहित्य के प्रमुख रूपों का वर्गीकरण। लोक गीत : संस्कारगीत, व्रतगीत, श्रमगीत, ऋतुगीत, जातिगीत। ➢ लोकनाट्य : रामलीला, रासलीला, कीर्तनियाँ, स्वांग, यक्षगान, विदेशिया, भांड, तमाशा, नौटंकी। हिन्दी लोकनाट्य की परंपरा एवं प्रविधि। हिन्दी नाटक एवं रंगमंच पर लोकनाट्य का प्रभाव। ➢ लोककथा : व्रतकथा, परीकथा, नाग–कथा, कथारूढ़ियाँ और अंधविश्वास। ➢ लोकभाषा : लोक संभावित मुहावरे, कहावतें, लाकोक्तियाँ, पहेलियाँ। ➢ लोकनृत्य एवं लोकसंगित।	**Term I (12 Lectures):** पत्रिकारिता : अर्थ अवधारणा और महत्व। भारतेन्दुयुगीन साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। द्विवेदीयुगीन साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। . **Term II: (08 Lectures):** प्रेमचंद और छायावादी साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। **Term III: (06 Lectures):** स्वात्र्योत्तर साहित्यिक पत्रिकारिता : परिचय और प्रवृत्तियाँ। **Total=(26 Lectures)** **Term I (12 Lectures):** भारत में लोक साहित्य के अध्ययन का इतिहास, लोक साहित्य के प्रमुख रूपों का वर्गीकरण। लोक गीत : संस्कारगीत, व्रतगीत, श्रमगीत, ऋतुगीत, जातिगीत। **Term II: (12 Lectures):** भारत में लोक साहित्य के अध्ययन का इतिहास, लोक साहित्य के प्रमुख रूपों का वर्गीकरण। लोक गीत : संस्कारगीत, व्रतगीत, श्रमगीत, ऋतुगीत, जातिगीत। **Term III: (10 Lectures):** लोकनाट्य : रामलीला, रासलीला, कीर्तनियाँ, स्वांग, यक्षगान, विदेशिया, भांड, तमाशा, नौटंकी। हिन्दी लोकनाट्य की परंपरा एवं प्रविधि। हिन्दी नाटक एवं रंगमंच पर लोकनाट्य का प्रभाव।

	DSE 4T-असमतामूलक विमर्श और हिन्दी साहित्य *विमर्श की सैद्धांतिकी :* • दलित विमर्श : अवधारणा और आन्दोलन, फुले और अंबेडकर। • स्त्री विमर्श : अवधारणा और मुक्ति आन्दोलन(पाश्चात्य और भारतीय संदर्भ) • आदिवासी वमर्श : अवधारणा और आन्दोलन,	**Term I (10 Lectures):** दलित विमर्श : अवधारणा और आन्दोलन, फुले और अंबेडकर। **Term II: (10 Lectures):** स्त्री विमर्श : अवधारणा और मुक्ति आन्दोलन(पाश्चात्य और भारतीय संदर्भ) **Term III: (08 Lectures):** आदिवासी वमर्श : अवधारणा और आन्दोलन
डा0 प्रकाश कुमार अग्रवाल	**CT13 - हिन्दी की साहित्यिक पत्रकारिता** • समकालीन साहित्यिक पत्रकारिता : परिचय और प्रवृत्तियाँ। • साहित्यिक पत्रकारिता में अनुवाद की भूमिका। • महत्वपूर्ण पत्र–पत्रिकाएँ : बनारस अखबार, भारत मित्र, हिन्दी प्रदीप, हिंदोस्थान, आज, स्वदेश, प्रताप, कर्मवीर, विशाल भारत तथा जनसत्ता। **CT13 - हिन्दी की साहित्यिक पत्रकारिता** • लोक और लोक वार्ता, लोक संस्कृति की अवधारणा, लोक वार्ता और लोक संस्कृति, लोक संस्कृति और साहित्य, साहित्य और लोक का अंतःसंबंध, लोक साहित्य का अन्य सामाजिक विज्ञानों से संबंध, लोक साहित्य के अध्ययन की समस्याएँ। • लोककथा : व्रतकथा, परीकथा, नाग–कथा, कथारूढ़ियाँ और अंधविश्वास। • लोकभाषा : लोक संभावित मुहावरे, कहावतें, लोकोक्तियाँ, पहेलियाँ। • लोकनृत्य एवं लोकसंगित। **DSE 4T-असमतामूलक विमर्श और हिन्दी साहित्य** ➤ विमर्शमूलक कथा साहित्य : क) ओमप्रकाश वाल्मीकि — सलाम ख) जयप्रकाश कर्दम — नौ बार ग) हरिराम मीणा — धूणी तपे तीर, पृष्ठ	**Term I (04 Lectures):** समकालीन साहित्यिक पत्रकारिता : परिचय और प्रवृत्तियाँ। **Term II (08 Lectures):** महत्वपूर्ण पत्र–पत्रिकाएँ : बनारस अखबार, भारत मित्र, हिन्दी प्रदीप, हिंदोस्थान, आज, स्वदेश, प्रताप, कर्मवीर, विशाल भारत तथा जनसत्ता। **Term III(06 Lectures):** साहित्यिक पत्रकारिता में अनुवाद की भूमिका। **Term I (10 Lectures):** लोक और लोक वार्ता, लोक संस्कृति की अवधारणा, लोक वार्ता और लोक संस्कृति, लोक संस्कृति और साहित्य, साहित्य और लोक का अंतःसंबंध, लोक साहित्य का अन्य सामाजिक विज्ञानों से संबंध, लोक साहित्य के अध्ययन की समस्याएँ। **Term II (08 Lectures):** महत्वपूर्ण पत्र–पत्रिकाएँ : बनारस अखबार, भारत मित्र, हिन्दी प्रदीप, हिंदोस्थान, आज, स्वदेश, प्रताप, कर्मवीर, विशाल भारत तथा जनसत्ता। **Term III(04 Lectures):** साहित्यिक पत्रकारिता में अनुवाद की भूमिका। **Term I (10 Lectures):** कथा साहित्य : सलाम, नौ बार, धूणी तपे तीर, पृष्ठ ➤ विमर्शमूलक कविता : दलित ... पड़े रहेंगे, कितनी व्यथा, दलित विमर्श, सोनवा का पिंजरा **Term II (18 Lectures):** कथा साहित्य : मुक्तिपर्व , व्यक्तित्व की खोज, खुदा की वापसी दलित कविता :– दलित कब तक पढ़े ... कितनी व्यथा,

158–167
घ) मोहनदास नैमिशराय   –   मुक्तिपर्व (उपन्यास)का अंश (पृष्ठ 24–33)
ङ) सुमित्रा कुमारी सिन्हा   –   व्यक्तित्व की भूख
च) नासिरा शर्मा   –   खुदा की वापसी
    ➤ विमर्शमूलक कविता :
 	
क) दलित कविता :
1) अछूतानंद   –   दलित कहाँ तक पड़े रहेंगे
2) नगीना सिंह   –   कितनी व्यथा
3) कालीचरण सनेही   –   दलित विमर्श
4) माता प्रसाद   –   सोनवा का पिंजरा
ख) स्त्री कविता :
1) कीर्ति चौधरी   –   सीमा रेखा
      2) कात्यायनी   –   सात भाइयों के बीच चम्पा
3) सविता सिंह   –   मैं किसकी औरत हूँ
    ➤ विमर्शमूलक अन्य गद्य विधाएँ
 	
1) प्रभा खेतान – अन्या से अनन्या (पृष्ठ : 28–42)
2) तुलसीराम –मुर्दहिया (चाचा चौधरी से प्रारंभ, पृष्ठः 125–135)
3) महादेवी वर्मा –स्त्री के अर्थ स्वातंत्र्य का प्रश्न
4) डॉ. धर्मवीर – अभिशप्त चिंतन से इतिहास चिंतन की ओर
	विमर्शमूलक अन्य गद्य विधाएँ – अन्या से अनन्या (पृष्ठ : 28–42), मुर्दहिया (चाचा चौधरी से प्रारंभ, पृष्ठः 125–135, स्त्री के अर्थ स्वातंत्र्य का प्रश्न, अभिशप्त चिंतन से इतिहास चिंतन की ओर
	
	Term III(04 Lectures):
	मैं किसकी औरत हूँ, सोनवा का पिंजरा।

DEPARTMENT OF HINDI

B.A GENERAL

Syllabus Distribution and Teaching Plan, Even Semester, Session: 2022-2023

Term I: Commencement of classes to 1st internal; **Term II**: 1st internal to 2nd internal; **Term III**: 2nd internal to ESE preparatory break

Semester II

Name	SyllabusAllotted	Teaching Plan
• राकेश कुमार चौबे	पत्र–DSC-1BT – मध्यकालीन हिन्दी कविता • कबीर • सूरदास • तुलसीदास • बिहारी लाल • धनानंद • भूषण • रसखान पत्र–AECC-2 (MIL-1) – हिन्दी व्याकरण और संप्रेषण हिन्दी व्याकरण एवं रचना – संज्ञा, सर्वनाम, विशेषण, किया एवं अव्यय का परिचय। उपसर्ग, प्रत्यय तथा समास। पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द, शब्द शुद्धि, मुहाबरे और लोकोक्तियाँ, पल्लवन एवं संक्षेपण। o संप्रेषण की अवधारण और महत्व o संप्रेषण के प्रकार o संप्रेषण के माध्यम o संप्रेषण की तकनीक o अध्ययन, वाचन एवं चर्चा : प्रकिया और बोध o साक्षात्कार, भाषण कला एवं रचनात्मक लेखन।	**Term 1 (10 Lectures):** • कबीर के पद, साखी, सूरदास के पद, तुलसीदास के पद **TermII (08 Lectures):** • बिहारी लाल के पद, धनानंद के पद के पद **TermIII (08 Lectures):** भूषण के पद, रसखान के पद **Term 1 (10 Lectures):** हिन्दी व्याकरण एवं रचना – संज्ञा, सर्वनाम, विशेषण, किया एवं अव्यय का परिचय। उपसर्ग, प्रत्यय तथा समास। पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द, शब्द शुद्धि, मुहाबरे और लोकोक्तियाँ, पल्लवन एवं संक्षेपण। o संप्रेषण की अवधारण और महत्व **Term II (08 Lectures):** संप्रेषण के प्रकार o संप्रेषण के माध्यम o संप्रेषण की तकनीक o अध्ययन, वाचन एवं चर्चा : प्रकिया और बोध o साक्षात्कार, भाषण कला एवं रचनात्मक लेखन। Signature Not Verified BIDYUT SAMANTA 22.06.2024

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Name	SyllabusAllotted	Teaching Plan
राकेश कुमार चौबे	पत्र–DSC-1DT – हिन्दी गद्य साहित्य उपन्यास : • त्यागपत्र – जैनेन्द्र कहानी : • नमक का दारोगा – प्रेमचंद • आकाशदीप – जयशंकर प्रसाद • परदा –यशपाल पत्र–AECC-4 CORE (MIL-2) – हिन्दी भाषा और संप्रेषण भाषा की परिभाषा, प्रकृति एवं विविध रूप हिन्दी भाषा की विशेषताएँ : किया, विभक्ति, सर्वनाम, विशेषण एवं अव्यय। हिन्दी की वर्ण व्यवस्था : स्वर एवं व्यंजन। स्वर के प्रकार – ह्रस्व, दीर्घ तथा संयुक्त। व्यंजन के प्रकार – स्पर्श, अंतस्थ, ऊष्म, अल्पप्राण, महाप्राण, घोष तथा अघोष। वर्णों का उच्चारण स्थान : कण्ठय, तालव्य, मूर्घन्य, दन्तय, ओष्ठय तथा दंतोष्ठय बलाघात, संगम, अनुतान तथा संधि। संप्रेषण के चरण : ज्ञवण, अभिव्यक्ति, वाचन तथा लेखन। हिन्दी वाक्य रचना, वाक्य उपवाक्य। वाक्य भेद। वाक्य रूपांतर भावार्थ और व्याख्या, आशय, लेखन, विविध प्रकार के पत्र लेखन। पत्र–SEC-2T – अनुवाद विज्ञान अनुवाद का तात्पर्य, अनुवाद के विभिन्न प्रकार– कार्यालयी, साहित्यिक, ज्ञान–विज्ञान परक,विधिक, वाणिज्यिक। अनुवाद केशिल्पगत भेद अविकल अनुवाद(लिटरल), भावानुवाद/छायानुवाद,आशुनुवाद, डबिंग कंप्यूटर अनुवाद। साहित्यिक अनुवाद के प्रमुख रूप – काव्यानुवाद, कळानुवाद, नाट्यानुवाद अनुवाद की अर्हता हिन्दी अनुवाद का भविष्य।	**Term 1 (08 Lectures):** त्यागपत्र , नमक का दारोगा **TermII (04 Lectures):** आकाशदीप, परदा **TermIII (06Lectures):** भूषण के पद, रसखान के पद **Term 1 (08 Lectures):** भाषा की परिभाषा, प्रकृति एवं विविध रूप हिन्दी भाषा की विशेषताएँ : किया, विभक्ति, सर्वनाम, विशेषण एवं अव्यय। हिन्दी की वर्ण व्यवस्था : स्वर एवं व्यंजन। स्वर के प्रकार – ह्रस्व, दीर्घ तथा संयुक्त। व्यंजन के प्रकार – स्पर्श, अंतस्थ, ऊष्म, अल्पप्राण, महाप्राण, घोष तथा अघोष। **Term II (08Lectures):** वर्णों का उच्चारण स्थान : कण्ठय, तालव्य, मूर्घन्य, दन्तय, ओष्ठय तथा दंतोष्ठय बलाघात, संगम, अनुतान तथा संधि। संप्रेषण के चरण : ज्ञवण, अभिव्यक्ति, वाचन तथा लेखन। हिन्दी वाक्य रचना, वाक्य उपवाक्य। वाक्य भेद। वाक्य रूपांतर। **Term II 0606(Lectures):** भावार्थ और व्याख्या, आशय, लेखन, विविध प्रकार के पत्र लेखन। **Term II (Lectures):** अनुवाद का तात्पर्य, अनुवाद के विभिन्न प्रकार– कार्यालयी, साहित्यिक, ज्ञान–विज्ञान परक,विधिक, वाणिज्यिक। **Term II (Lectures):** **Term III (Lectures):** टनुवाद के शिल्पगत भेद अविकल अनुवाद (लिटरल) ,भावानुवाद/छायानुवाद,आशुनुवाद, डबिंग कंप्यूटर अनुवाद। साहित्यिक अनुवाद के प्रमुख रूप – काव्यानुवाद अनुवाद की अर्हता हिन्दी अनुवाद का भविष्य।

Name	SyllabusAllotted	Teaching Plan
राकेश कुमार चौबे	पत्र–DSE-1BT –सूर्यकांत त्रिपाठी निराला कविताएँ 1) सखि, बसंत आ गया 2) जुही की कली 3) जागो फिर एक बार : 2 4) बादल राग 6 5) वर दे वीणा वाणी वर दे 6) भारति, जय विजय करो 7) तोड़ती पत्थर 8) बाहर मैं कर दिया गया हूँ 9) सनेह निर्झर बह गया 10) गहन है यह अंधकारा SEC – 4–चलचित्र लेखन भारतीय सिनेमा का इतिहास। हिन्दी की आरंभिक मूक और सवाक् फिल्में। विगत शताब्दी की लोकप्रिय हिन्दी फिल्में, लोकप्रिय फिल्मी गीत तथा प्रसिद्ध संवाद प्रमुख निर्देशक एवं अभिनेता। हालीवुड फिल्मों की हिन्दी डबिंग। बॉलिवुड का हिन्दी फिल्मी उद्योग। फिल्म निर्माण की प्रकिया। हिन्दी पटकथा लेखन(सिनेरियो) का कमिक विकास या प्रविधि। रीमेक फिल्मों का भाषिक पक्ष, समकालीन हिन्दी फिल्मों की भाषिक संरचना। वृत्त चित्र की निर्माण पद्धति, फीचर। हिन्दी में निर्मित विज्ञापन फिल्में(एड–फिल्में)। फिल्मी अभिनेताओं द्वारा उच्चरित संवादों का हिन्दी की विश्व व्यापित में फिल्मों की भूमिका। हिन्दी की प्रमुख फिल्मों के आधार पर भाषिक संरचना का व्यवहारिक प्रशिक्षण–(निर्मितियाँ) तथा शोले।	**Term 1 (10 Lectures):** सखि, बसंत आ गया, जुही की कली, जागो फिर एक बार : 2, बादल राग 6 **TermII (1018Lectures):** वर दे वीणा वाणी वर दे, भारति, जय विजय करो, तोड़ती पत्थर **TermIII (Lectures):** बाहर मैं कर दिया गया हूँ, सनेह निर्झर बह गया, गहन है यह अंधकारा **Term I (08 Lectures):** भारतीय सिनेमा का इतिहास। हिन्दी की आरंभिक मूक और सवाक् फिल्में। विगत शताब्दी की लोकप्रिय हिन्दी फिल्में, लोकप्रिय फिल्मी गीत तथा प्रसिद्ध संवाद। प्रमुख निर्देशक एवं अभिनेता। हालीवुड फिल्मों की हिन्दी डबिंग। बॉलिवुड का हिन्दी फिल्मी उद्योग।फिल्म निर्माण की प्रकिया। **Term II (08Lectures):** हिन्दी पटकथा लेखन(सिनेरियो) का कमिक विकास या प्रविधि। रीमेक फिल्मों का भाषिक पक्ष, समकालीन हिन्दी फिल्मों की भाषिक संरचना। वृत्त चित्र की निर्माण पद्धति, फीचर। हिन्दी में निर्मित विज्ञापन फिल्में(एड–फिल्में)। **Term III (08 Lectures):** फिल्मी अभिनेताओं द्वारा उच्चरित संवादों का हिन्दी की विश्व व्यापित में फिल्मों की भूमिका। हिन्दी की प्रमुख फिल्मों के आधार पर भाषिक संरचना का व्यवहारिक प्रशिक्षण–(निर्मितियाँ) तथा शोले। Signature Not Verified BIDYUT SAMANTA 22.06.2024

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Term I: Commencement of classes to 1st internal;

Term II: 1st internal to 2nd internal;

Term III: 2nd internal to ESE preparatory break

Dr. Rakhal Chandra Bhunia, Associate Professor,
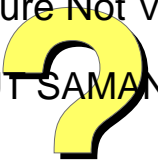
Name	SyllabusAllotted	Teaching Plan
Under Graduate SEMESTER - I	**Syllabus for 4 Year B.A. Major in History 1st Semester :** (No. of Classes(Hour) per week:1) **Paper 1: Ancient India from the Earliest Times to 600 BCE (Credits 04)** Unit II Module II Cults, doctrines and metaphysics 2.1 The religion of the Vedas 2.2 The unorthodox sects – Buddhism, Jainism and the doctrine of the Ajivikas 2.3 Scepticism and materialism Module III Aspects of economy in the age of Buddha 3.1 Economic changes: use iron, rural economy, trade and crafts, guilds 3.2 Taxation 3.3 The second urbanization	**Syllabus for 4 Year B.A. Major in History 1st Semester :** (No. of Classes(Hour) per week:1) **(Total Lecture = 16+ Tutorial -2)=18** Paper 1: Ancient India from the Earliest Times to 600 BCE (Credits 04) **Term –I (Lecture-08 + Tutorial -1)=9** Unit II Module II Cults, doctrines and metaphysics 2.1 The religion of the Vedas 2.2 The unorthodox sects – a)Buddhism, b)Jainism and c)The doctrine of the Ajivikas 2.3 Scepticism and materialism **Term II (Lecture-06 + Tutorial -1)=7** Module III Aspects of economy in the age of Buddha 3.1 Economic changes: a)Use iron, b) Rural economy, c) Trade and crafts, d)Guilds 3.2 Taxation **Term III (Lecture-02)** 3.3 The second urbanization

Under Graduate SEMESTER-III	-- **Under Graduate, SEMESTER–III :** (No. of Classes(Hour) per week:2) **CC-5: Delhi Sultanate, Credits 06** V. Religion, Society and Culture a) Sufism – silsilas, doctrines and practice – Socio-cultural impact b) Bhakti movements in south and north India – Kabir, Nanak and Sant tradition c) Art, architecture and literature – Consolidation of regional identities. **CC-7: Akbar and the Making of Mughal India** VI. Religion and Culture- Religious tolerance and Sulh-i-kul, Din-i-ilahi, Sufi mystical and intellectual interventions-Development of Mughal painting and architecture	**SEMESTER –III** (No. of Classes(Hour) per week:2) **(Total Lecture = (34+ Tutorial -4)=38** **Term –I (Lecture-08 + Tutorial -1)=9** **CC-5: Delhi Sultanate** V. Religion, Society and Culture a) Sufism – silsilas, doctrines and practice – Socio-cultural impact **Term II (Lecture-06 + Tutorial -1)=7** b) Bhakti movements in south and north India – Kabir, Nanak and Sant tradition **Term III (Lecture-04)** c) Art, architecture and literature – Consolidation of regional identities. **CC-7: Akbar and the Making of Mughal India** **Term –I (Lecture-07 + Tutorial -1)=8** VI. Religion and Culture- a) Religious tolerance and Sulh-i-kul, b)Din-i-ilahi, **Term II (Lecture-06 + Tutorial -1)=7** Sufi mystical and intellectual interventions, **Term III (Lecture-03)** Development of Mughal painting and architecture

| Under Graduate SEMESTER- V | **Under Graduate:**
 SEMESTER –V : (No. of Classes (Hour) per week:2)

 4. Census and Caste — Colonial ethnology Sanskritisation, Westernisation and Social reform Brahma Samaj & Parthana Samaj

 5. Reformism and Revivalism:The Aryadharma and Ramkrishna Vivekananda Movement. | **SEMESTER –V (Total Lecture -34+ Tutorial -2)=36**

 Term –I (Lecture-16 + Tutorial -1)=17
 Unit -IV
 4.a) Census,
   b) Caste,
   c) Colonial ethnology,
   d) Sanskritisation,
   e)Westernisation and Social reform,
 Term II (Lecture-16 + Tutorial -1)=17
 Unit -IV
  f) Brahma Samaj
  g) Parthana Samaj
 Unit -V
 5. Reformism and Revivalism:
 5.a) The Aryadharma and

 Term III (Lecture-04)
 Unit -V
 5.b) Ramkrishna and Vivekananda Movement. |

| Post Graduate SEMESTER - I | Post Graduate,SEMESTER I:(No. of Classes(Hour) per week:4) *Compulsory Course (iv) -* HIS 102
 SOCIO RELIGIOUS REFORM MOVEMENTS IN COLONIAL INDIA

 UNIT I: Orientalists, Utilitarians and the Bengal Renaissance – debates on 'Renaissance', reform and social Change – evolution of socio-religious reform movements – the difference between social and religious movements – debate over strategies - Vidyasagar and Rammohan Roy.

 UNIT II: Reform or Revival – definitions and debates – Hindu shastras and social reform – religion as the basis of social reform – Hindu-Brahmo relations – Prarthana Samaj and Arya Samaj - Vedanta and revitalization of Indian life: Ramkrishna, Vivekananda and the Ramkrishna Mission - response to the movement in press and literature: a review of the work of Bhudeb Mukhopadhyay, Bankim Chandra Chattopadhyay, Nabin Chandra Sen, and Akshay Chandra Sarkar. | **Post Graduate**
 SEMESTER I (Total Lecture-78+ Tutorial -2) =80
 SEMESTER I : (No. of Classes(Hour) per week:4)

 Term –I (Lecture-35+ Tutorial -1) =36

 Compulsory Course (iv) - **HIS 102**

 SOCIO RELIGIOUS REFORM MOVEMENTS IN COLONIAL INDIA

 UNIT I:-
 1.a) Orientalists, Utilitarians and the Bengal Renaissance, <br> b) Debates on 'Renaissance', reform and social Change, <br> c) Evolution of socio-religious reform movements, <br> d) The difference between social and religious movements , <br> e) Debate over strategies - Vidyasagar and Rammohan Roy.
 UNIT II:-
 2.a) Reform or Revival, <br> b)Definitions and debates–Hindu shastras and social reform <br> c)Religion as the basis of social reform <br> d) Hindu - Brahmo relations, <br> e) Prarthana Samaj and Arya Samaj . |

Post Graduate SEMESTER - I	**UNIT III:** Nationalism, modernity, and Muslim identity in India before 1947: Islamic reformers and their movements in India - educational movements, faith, and revival movements – Syed Ahmed Khan and the Aligarh Movement, Wahabi Movement, Deoband Movement.	**Term –II (Lecture-35+ Tutorial -1) =36** **UNIT II:** f) Vedanta and revitalization of Indian life: Ramkrishna, Vivekananda and the Ramkrishna Mission, g) Response to the movement in press and literature: i) A review of the work of Bhudeb Mukhopadhyay, ii) Bankim Chandra Chattopadhyay, iii) Nabin Chandra Sen, iv) Akshay Chandra Sarkar. **UNIT III:** **3.a)** Nationalism, modernity, and Muslim identity in India before 1947 : b) Islamic reformers and their movements in India, c) Educational movements, faith, and revival movements , **Term –III (Lecture-6) =08** **UNIT III:** d) Syed Ahmed Khan and the Aligarh Movement, e) Wahabi Movement, f) Deoband Movement.
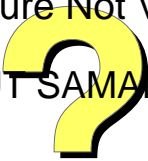
Post Graduate EMESTER - III	**Post Graduate,SEMESTER I:** **(No. of Classes(Hour) per week:4)** *Compulsory Course (Xii)*, **HIS 302** **STATE AND ECONOMY IN COLONIAL INDIA** **UNIT I:** The colonial state: Brief overview of British expansion in India – British Parliament and the East India Company – Structure of administration: police, judiciary, bureaucracy, army. **UNIT II:** The colonial ideology: Orientalist and Utilitarian phases; paternalist attitude – White racism – Divide and rule policy – Social-cultural policies and their impact (education, tribe, caste etc.). **UNIT III:** The colonial economy and its impact (1): Changing pattern of English trade – Land revenue settlements – Commercialisation of agriculture. **UNIT IV:** The colonial economy and its impact (2): Decline of traditional handicrafts – Emergence of modern industries and colonial industrial policy – impact of railways.	**Post Graduate, SEMESTER III : (No. of Classes(Hour) per week:4)** **SEMESTER I : (Total Lecture-78+ Tutorial -2) =80** **Term –I (Lecture-35+ Tutorial -1) =36** *Compulsory Course (Xii)*, **HIS 302** **STATE AND ECONOMY IN COLONIAL INDIA** **UNIT I:** The colonial state: 1.a) Brief overview of British expansion in India, b) British Parliament and the East India Company , c) Structure of administration: c.i) Police, c.ii) Judiciary, c.iii) Bureaucracy, c.iv) Army. **UNIT II:** The colonial ideology: 2.a) Orientalist and Utilitarian phases; 2.b) paternalist attitude, 2.c) White racism, **Term –I (Lecture-35+ Tutorial -1) =36** **UNIT II:** 2.d) Divide and rule policy , 2.e) Social-cultural policies and their impact (education, tribe, caste etc.). **UNIT IV:** **4.a)** The colonial economy and its impact (2): 4.b) Decline of traditional handicrafts

		Term –III (Lecture-6) =08 **UNIT IV:** 4.c)Emergence of modern industries and colonial industrial policy, 4.d) Impact of railways.

Submitted by—

Dr. Rakhal Chandra Bhunia
Associate Professor in History
Kharagpur College
 Date:30.09.2023

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

KHARAGPUR COLLEGE
Department of History
Syllabus Distribution and Teaching Plan, Odd Semester, Session: 2022-2023
Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term III: 2nd internal to ESE preparatory break

Name of Teacher: Dr. Abinash Sengupta

Course	Syllabus Allotted	Teaching Plan
Undergraduate	**SEMESTER: I** **Major- 1 Ancient India from the Earliest Times to 600 BCE** **Course Content** **Unit-1: Module-I: Understanding Early India** **1.1: Historical theories and interpretations about the Indian past** **1.2: The idea of Bharatvarsha: Indian subcontinent with all its diversity and cultural traditions** **1.3: An overview of literary and archaeological sources** **Module-IV: The cultural milieu** **4.3: Science and technology** **SEMESTER: III** **CC-6: The Feudal Society** **Unit: 3** **Feudal Society and Economy (c.800 – c.1100): Feudalism- origin and features: manorialism – chivalry and romanticism – emergence of towns-trade and commerce- guilds.** **SEC-1: Archaeology and Museum Making in Colonial India**	**SEMESTER: I (Total Lecture- 15)** **Major- 1 Ancient India from the Earliest Times to 600 BCE** **Term-I (Lecture-5)** **Course Content** **Unit-1: Module-I: Understanding Early India** **1.1: Historical theories and interpretations about the Indian past** **Term-II (Lecture- 5)** **1.2: The idea of Bharatvarsha: Indian subcontinent with all its diversity and cultural traditions** **1.3: An overview of literary and archaeological sources** **Term-III (Lecture- 5)** **Module-IV: The cultural milieu** **4.3: Science and technology** **SEMESTER: III (Total Lecture-36)** **CC-6: The Feudal Society** **Term-I (Lecture-12)** **Unit: 3** **Feudal Society and Economy (c.800 – c.1100): Feudalism- origin and features: manorialism – chivalry and romanticism – emergence of towns-trade and commerce- guilds.**

22.06.2024

Unit-I: The development of archaeological knowledge – early archaeological explorations: Establishment of the Archaeological Survey of India: the archaeological mapping by Alexander Cunningham – Curzon and the new impetus for archaeological conservation: Sir John Marshall and the development of Indian archaeology in the early twentieth century

Unit- II: Archaeology as the new foundation for an authentic history of India – Archaeological explorations, excavations and conservation and the creation of heritage sites – A few major sites of archaeological excavations: Public archaeology and popularization of archaeological sites – Archaeology in travel writings – competing cultural visions around a few major heritage sites.

SEMESTER- V

DSE-2 : Modern Transformation of Japan

Unit-1: Pre-Meiji Japan: Tokugawa Shogunate- the feudal society and the government, economic condition; encounter with the West; the Perry Mission; the opening up of Japan to the west; the crisis and fall of the Shogunate.

Unit-2: Meiji Restoration: Causes, nature; Process of modernization – social, economic, political and military reforms; Meiji Constitution; rise of political parties.

Unit- 3: Popular and Democratic Movements: Satsuma Rebellion and Popular Rights Movement.

Unit-4: Emergence of Japan as an Imperial Power: Sino-Japanese War (1894-95); Anglo-Japanese Alliance; the Russo-Japanese War.

Unit-5: Japan through the two World Wars: Japan and World War I; Twenty-One Demands; Washington Conference; Manchurian Crisis- the role of the League of

Term-II (Lecture-12)
SEC-1: Archaeology and Museum Making in Colonial India

Unit-I: The development of archaeological knowledge – early archaeological explorations: Establishment of the Archaeological Survey of India: the archaeological mapping by Alexander Cunningham – Curzon and the new impetus for archaeological conservation: Sir John Marshall and the development of Indian archaeology in the early twentieth century

Term-III (Lecture- 12)
Unit- II: Archaeology as the new foundation for an authentic history of India – Archaeological explorations, excavations and conservation and the creation of heritage sites – A few major sites of archaeological excavations: Public archaeology and popularization of archaeological sites – Archaeology in travel writings – competing cultural visions around a few major heritage sites.

SEMESTER- V (Total Lecture-42)
Term-I (Lecture- 14)
DSE-2 : Modern Transformation of Japan

Unit-1: Pre-Meiji Japan: Tokugawa Shogunate- the feudal society and the government, economic condition; encounter with the West; the Perry Mission; the opening up of Japan to the west; the crisis and fall of the Shogunate.

Unit-2: Meiji Restoration: Causes, nature; Process of modernization – social, economic, political and military reforms; Meiji Constitution; rise of political parties.

Unit- 3: Popular and Democratic Movements: Satsuma Rebellion and Popular Rights Movement.

Term-II (Lecture- 14)

	Nations; the failure of the democratic system; the rise of militarism in the 1930s and 1940s; Japan and World War II- from Pearl Harbour to Hiroshima-Nagasaki.	**Unit-4: Emergence of Japan as an Imperial Power:** Sino-Japanese War (1894-95); Anglo-Japanese Alliance; the Russo-Japanese War. **Term-III (Lecture- 14)** **Unit-5: Japan through the two World Wars:** Japan and World War I; Twenty-One Demands; Washington Conference; Manchurian Crisis- the role of the League of Nations; the failure of the democratic system; the rise of militarism in the 1930s and 1940s; Japan and World War II- from Pearl Harbour to Hiroshima-Nagasaki.
Post Graduate	**SEMESTER-I** **Paper: HIS 101** **History and Historiography** **Unit-II: History writing and different version of the Idea of Progress-** T. B. Macaulay and the Idea of Liberty – Karl Marx and the principle of equality – G. M. Trevelyan and the Literary and Social history. Development of economic and social history in the early twentieth century – Maurice Dobb and the Rise of Capitalism – R. H. Tawney and the Gentry Thesis – G. Lefevre and A. Soboul and the French Revolution. **Unit-IV: Debate in Indian History –** Historiography of feudalism in India, Eighteenth century crisis in India, Indian Awakening in Nineteenth century, Indian nationalism, Partition of India. Modern Indian History with socio-economic perspective – peasantry and working classes, caste, tribe, gender, environment, science and technology. **Paper: HIS 103** **Environmental History of India in the Anthropocene Age**	**SEMESTER-I (Total Lecture- 75)** **Paper: HIS 101** **Term-I (Lecture- 10)** **History and Historiography** **Unit-II: History writing and different version of the Idea of Progress-** T. B. Macaulay and the Idea of Liberty – Karl Marx and the principle of equality – G. M. Trevelyan and the Literary and Social history. Development of economic and social history in the early twentieth century – Maurice Dobb and the Rise of Capitalism – R. H. Tawney and the Gentry Thesis – G. Lefevre and A. Soboul and the French Revolution. **Term-II (Lecture- 10)** **Unit-IV: Debate in Indian History –** Historiography of feudalism in India, Eighteenth century crisis in India, Indian Awakening in Nineteenth century, **Term-III (Lecture- 10)** Indian nationalism, Partition of India. Modern Indian History with socio-economic perspective – peasantry and working classes, caste, tribe, gender, environment, science and technology.

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Unit-I: The Concept of Anthropocene- in Indian Context – Historiography of environmental history; The relationship among environmental history, climate history and environmental humanities. Unit-II: i) Arrival of the British and cataloguing of landscape and eco-system ii) History of Forest, Water and Wildlife iii) Colonial Deforestation, Timber Trade, Wildlife destruction iv) Making of Garden: Tea, Jute and Rubber plantation Unit-III: i) Colonial policies on Environmental Change, Famines, and Migration ii) Colonial Flood Control and Disaster management Unit-IV: i) Colonial Conservation of Ideas on Environment; Indigenous perception of Environment ii) Borderland Environment. **SEMESTER- III** **Paper: HIS 301** **State and Economy in Early Modern India** Unit-I: State and economy in early modern India: the establishment of a centralized state under the Mughals; emphasis on military and revenue administration – extension of the core Mughal model into other areas viz. Gujarat, Ahmadnagar, Bengal. Unit-II: Impact on agrarian society, especially in terms of the high revenue demand – relationship between the state and the landed elites viz. social and administrative – expansion and integration of the agrarian base during the Mughal period; drive for revenue and the new agrarian	**Paper: HIS 103** **Term-I (Lecture- 15)** **Environmental History of India in the Anthropocene Age** Unit-I: The Concept of Anthropocene- in Indian Context – Historiography of environmental history; The relationship among environmental history, climate history and environmental humanities. **Term-II (Lecture- 15)** Unit-II: i) Arrival of the British and cataloguing of landscape and eco-system ii) History of Forest, Water and Wildlife iii) Colonial Deforestation, Timber Trade, Wildlife destruction iv) Making of Garden: Tea, Jute and Rubber plantation **Term-III (Lecture- 15)** Unit-III: i) Colonial policies on Environmental Change, Famines, and Migration ii) Colonial Flood Control and Disaster management Unit-IV: i) Colonial Conservation of Ideas on Environment; Indigenous perception of Environment ii) Borderland Environment. **SEMESTER- III (Total Lecture-75)** **Paper: HIS 301** **Term-I (Lecture- 10)** State and Economy in Early Modern India Unit-I: State and economy in early modern India: the establishment of a centralized state under the Mughals; emphasis on military and revenue administration – extension of the core Mughal model into other areas viz. Gujarat, Ahmadnagar, Bengal.

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frontiers.

Paper: HIS 303
Adivasi History in Colonial Bengal
Unit- I: Concept of Tribe, Tribe in Indian Civilization and history, The problem of nomenclature; Adivasis, Tribes and Indigenous people, Representation of the Adivasis/Tribes; Sanskritik and Colonial
Colonial Archives: A Critical Survey, sources for Adivasi History Writing, Historiography of Tribe in India, is there a tribal history? Adivasi collective memory and myth as their own history

Unit-II: Broad Trends and Tendencies in Adivasi Studies, The Conflict between Political and Moral Economy, Land, Forest and Water Cosmologies, their perception of water and their method of water management; Adivasi economy, Polity and contours of culture, Adivasi Medicinal system and practices, Adivasi Migration; Impact of Colonial Policies on land, Forests and water

Term-II (Lecture- 10)
Unit-II: Impact on agrarian society, especially in terms of the high revenue demand –
Term-II (Lecture- 10)
RelationIship between the state and the landed elites viz. social and administrative – expansion and integration of the agrarian base during the Mughal period; drive for revenue and the new agrarian frontiers.

Paper: HIS 303
Adivasi History in Colonial Bengal
Term-I (Lecture- 15)
Unit- I: Concept of Tribe, Tribe in Indian Civilization and history, The problem of nomenclature; Adivasis, Tribes and Indigenous people, Representation of the Adivasis/Tribes; Sanskritik and Colonial
Term-II (Lecture- 15)
Colonial Archives: A Critical Survey, sources for Adivasi History Writing, Historiography of Tribe in India, is there a tribal history? Adivasi collective memory and myth as their own history
Term-III (Lecture- 15)
Unit-II: Broad Trends and Tendencies in Adivasi Studies, The Conflict between Political and Moral Economy, Land, Forest and Water Cosmologies, their perception of water and their method of water management; Adivasi economy, Polity and contours of culture, Adivasi Medicinal system and practices, Adivasi Migration; Impact of Colonial Policies on land, Forests and water

KHARAGPUR COLLEGE
Department of History
Syllabus Distribution and Teaching Plan, Odd Semester, Session: 2022-2023
Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term III: 2nd internal to ESE preparatory break

Name of Teacher: Biswajit Koyorhi

Course	Syllabus Allotted	Teaching Plan
Undergraduate	**SEMESTER: I** **Minor -1 Ancient India** **Unit -1:Mauryan Empire: Chandragupta Maurya to Asoka: Polity, Administration, Society, Culture and Mauryan decline** **Unit -2:Gupta Empire: Chandragupta I to Skandagupta: Polity, Administration, Society, Culture and Downfall** **Unit -3: Overview of the the Early Medieval India: Formation of Regional States** **: SEC 1 : Art Appreciation: An Introduction to Indian Art** **Unit -I. Prehistoric and protohistoric art: Rock art; Harappan arts and crafts** **Unit -2 Indian art (c. 600 BCE – 600 CE): World Heritage Site Managers, UNESCO World Heritage Manuals [can be downloaded/ accessed at www.unesco.org] Notions of art and craft Canons of Indian paintings. Major developments in stupa, cave, and temple art and architecture Early Indian sculpture: style and iconography. Numismatic art** **Unit -3 :. Indian Art (c. 600 CE – 1200 CE): Temple forms and their architectural features Early illustrated manuscripts and mural painting traditions Early medieval sculpture: style and iconography Indian bronzes or metal**	**SEMESTER: I (Total Lecture- 45)** **Minor- 1 Ancient India** **SEC-1:Art Appreciation: An Introduction to Indian Art** **Term -I (Lecture-5)** **Course Content** **Unit -1:Mauryan Empire: Chandragupta Maurya to Asoka: Polity, Administration, Society, Culture and Mauryan decline** **Term -I (Lecture-10)** **Unit -I. Prehistoric and protohistoric art: Rock art; Harappan arts and crafts** **Term-II (Lecture-5)** **Course Content** **Unit -2:Gupta Empire: Chandra~~~~o Skandagupta: Polity, Administration, Society, Culture and Downfall** **Term-II (Lecture-10)**

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	icons	**Unit -2 Indian art (c. 600 BCE – 600 CE):** World Heritage Site Managers, UNESCO World Heritage Manuals [can be downloaded/ accessed at www.unesco.org] Notions of art and craft Canons of Indian paintings. Major developments in stupa, cave, and temple art and architecture Early Indian sculpture: style and iconography. Numismatic art **Term-III (Lecture- 5)** **Course Content** **Unit -3: Overview of the the Early Medieval India: Formation of Regional States** **Term-III(Lectures -10)** **Unit -3 :. Indian Art (c. 600 CE – 1200 CE):** Temple forms and their architectural features Early illustrated manuscripts and mural painting traditions Early medieval sculpture: style and iconography Indian bronzes or metal icons
	SEMESTER: III **CC-5: Delhi Sultanate** Unit -I. Interpreting the Delhi Sultanate – A Survey of Sources: literary and archaeological	**SEMESTER: III (Total Lecture-30)** **CC-5: Delhi Sultanate** **Term-I (Lecture-10)** Unit: 1Unit -I. Interpreting the Delhi Sultanate – A Survey

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	Unit -III. Emergence of Regional States: Vijayanagara, Bahmani Kingdom, Bengal **CC-7 : Akbar and the Making of Mughal India** Unit -IV. Expansion and integration- Incorporation of Rajputs and other indigenous groups in Mughal nobility- North-West frontier, Gujarat, Deccan and Bengal Unit -V: Rural Society and Economy- Land rights and land revenue, zamindars and peasants-	of Sources: literary and archaeological Unit -III. Emergence of Regional States: Vijayanagara, Bahmani Kingdom, Bengal **Term-II (Lecture-10)** **CC-7 : Akbar and the Making of Mughal India** Unit -IV. Expansion and integration- Incorporation of Rajputs and other indigenous groups in Mughal nobility- North-West frontier, Gujarat, Deccan and Bengal **Term-III (Lecture- 10)** **CC-7 : Akbar and the Making of Mughal India** Unit -V: Rural Society and Economy- Land rights and land revenue, zamindars and peasants-

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SEMESTER- V (Total Lecture-15)
Term-I (Lecture- 05)
C11T: Select Themes in the Colonial Impact on Indian Economy and Society

Unit -2 : Land Settlements and agricultural change— Commercialisation of Agriculture.

C12T: Peasant and Tribal Uprisings in Colonial India in the 19th Century The Early 19th cen

Unit -1.   The early colonial rule an venue operations, revenue demands and settlements – ' storative rebellions"

	revenue demands and settlements – "restorative rebellions" – peasant –landlord combination against colonial rule in north and south India; Unit - 5. Peasant movements in late 19th century – conflict between landlords and tenants – resistance to taxation – emergence of substantial peasantry – the role of moneylenders and struggle against them.	– peasant –landlord combination against colonial rule in north and south India; **Term-II (Lecture- 05)** **C11T: Select Themes in the Colonial Impact on Indian Economy and Society** **Unit -3:Modern Industrialisation —- Long term Constraints** **Term-III (Lecture- 05)** Unit - 5. Peasant movements in late 19th century – conflict between landlords and tenants – resistance to taxation – emergence of substantial peasantry – the role of moneylenders and struggle against them.
Post Graduate	**SEMESTER-I** **Paper: HIS 101** **History and Historiography** **Unit–III:Social History as History of Movements–Seventeenth century crisis,English Revolution and Christopher Hill.Social** **History as history of classes– Eric J. Hobsbawm and the Age of Capital, E.P.Thompson and the working class,Raphael Samuel and the History of the People.E mergence of new social history.**	**SEMESTER-I (Total Lecture- 45)** **Paper: HIS 101** **Term-I (Lecture- 15)** **History and Historiography** **Unit–III:Social History as History of Movements–Seventeenth century crisis,English Revolution and Christopher Hill.Social** **History as history of classes– Eric J. Hobsbawm and the Age of Capital, E.P.Thompson and the working class,Raphael Samuel and the History of the People.E mergence of new social history.**

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	HIS:102 **SOCIO RELIGIOUS REFORM MOVEMENTS IN COLONIAL INDIA** **UNITIV:Muslim women, reform and patronage:a study of Nawab Sultan Jahan Begam of Bhopal–issues on caste and education:Begam Rokeya Sakhawat Hossein and Sarala Debi–issues on widow remarriage and Sati–orthodox Hinduism and the Age of Consent Bill** **HIS -104** **HISTORY OF EUROPE: FROM REVOLUTION TO WORLD WAR(1789-1914)** **UNITIV:The eastern crisis: nature of the crisis, the war of Greek independence,– the problem of Turkey– the treaty of London and the treaty of Sanstefano –the Crimean war ,the Congress of Berlin –the first Balkan War(1912),the second Balkan War (1913),the formation of Triple Entente –the age of armed peace(1904-1914).** **SEMESTER -III** **PAPER: HIS- 301** **STATE AND ECONOMY IN EARLY MODERN INDIA** **UNITIV:Trade and the Indian Economy :flow of precious metals and currency– the state and the need for monetization– mint administration and towns– internal and overseas markets–inland trade networks.** **PAPER:HIS -304** **CONTEMPORARY INDIA: HISTORICAL**	**Term-II (Lecture- 15)** **Unit-IV: Muslim women, reform and patronage:a study of Nawab Sultan Jahan Begam of Bhopal–issues on caste and education:Begam Rokeya Sakhawat Hossein and Sarala Debi–issues on widow remarriage and Sati–ortho dox Hinduism and** **the Age of Consent Bill** **Term-III (Lecture- 15)** **HISTORY OF EUROPE: FROM REVOLUTION TO WORLD WAR(1789-1914)** **UNITIV:The eastern crisis: nature of the crisis, the war of Greek independence,– the problem of Turkey– the treaty of London and the treaty of Sanstefano –the Crimean war ,the Congress of Berlin –the first Balkan War(1912),the second Balkan War (1913),the formation of Triple Entente –the age of armed peace(1904-1914)** **SEMESTER- III (Total Lecture-45)** **Paper: HIS 301** **Term-I (Lecture- 15)** **STATE AND ECONOMY IN EARLY MODERN INDIA** **UNITIV:Trade and the Indian Economy :flow of precious metals and currency– the state and the need for monetization– mint administration and towns– internal and**

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	UNDERPINNINGS	overseas markets–inland trade networks.
		Term-II (Lecture- 15)
	UNIT I:History of Indian Classical Music– Hindustani–Natyashastra and the background to Indian music–Medieval adaptations–Developments in the Mughal period–Forms of Music in the Eighteenth Century	CONTEMPORARY INDIA: HISTORICAL UNDERPINNINGS
		UNIT I:History of Indian Classical Music– Hindustani–Natyashastra and the background to Indian music–Medieval adaptations–Developments in the Mughal period–Forms of Music in the Eighteenth Century
	UNIT II:History of Indian Sport: Social significance of sport in traditional India–Colonial India:'sport ethic'in colonial policy, football,cricket,and nationalism and communalism –Sport in post-colonial India:promotion of sport by the Indian state, proliferation and popularization of sport,and increasing of, and professionalism in, sport in recent times–Sport and gender in post-colonial Indian society	**Term-III (Lecture- 15)** CONTEMPORARY INDIA: HISTORICAL UNDERPINNINGS
		UNIT II:History of Indian Sport: Social significance of sport in traditional India–Colonial India:'sport ethic'in colonial policy, football,cricket,and nationalism and communalism –Sport in post-colonial India:promotion of sport by the Indian state, proliferation and popularization of sport,and increasing of, and professionalism in, sport in recent times–Sport and gender in post-colonial Indian society

Department of History

Syllabus Distribution and Teaching Plan

Odd Semesters, Session: 2023-2024

Term I: Commencement of classes to 1st internal.
Term II: 1st internal to 2nd internal.
Term III: 2nd internal to ESE preparatory break.

Name of the Teacher**: Dr. Sanjoy Kumar Kar**

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**SEMESTER -I** **SEC-1 Art Appreciation: An Introduction to Indian Art** **Unit-IV** **Indian art and architecture (c.1200 CE to 1800CE)** 4.1 Sultanate and Mughal architecture 4.2 Miniature painting traditions: Mughal, Rajasthani, Pahari Introduction to fort, palace and haveli Architecture **Unit-V** **Modern and Contemporary Indian Art and Architecture** 5.1 The Colonial Period Art Movements: Bengal School of Art, Progressive Artists Group, etc. 5.2 Major artists and their artworks. 5.3 Popular art forms (folk art traditions)	**SEMESTER -I (Total Lectures-10)** **Term –I (Lecture- 3)** **Unit-IV** **Indian art and architecture (c.1200 CE to 1800CE):** *4.1* **Sultanate and Mughal architecture** **TOPIC-1:** *Sultanate Architecture* a) Architecture during the reign of Qutb-Uddin -Aibak. b) Architecture during the reign of Iltutmish. c) Architecture during the reign of Balban. d) Architecture during the reign of Alauddin Khilji. e) Architecture during the reign of Giyasuddin Tughlaq. f) Architecture during the reign of Muhammad Bin Tughlaq. g) Architecture during the reign of Sayyad and Lodi Dynasty. h) Provincial and local Architecture during the Sultanate period. i) Hindu Architecture during the Sultanate period. **TOPIC-2***: Mughal Architecture* a) Background

| | | b) Characteristics of Mughal Architecture
c) Architecture during the reign of Babur.
d) Architecture during the reign of Humayun.
e) Architecture during the reign of Akbar.
f) Architecture during the reign of Jahangir.
g) Architecture during the reign of Shah Jahan
h) Architecture during the reign of Aurangzeb.

4.2 Miniature painting traditions: Mughal, Rajasthani, Pahari
   Introduction to fort, palace and haveli Architecture

 TOPIC-1: *Mughal Miniature painting Traditions*
  A) Background
  B) Origin of painting
  C) Development of painting during the Mughal Period
      a) Miniature painting during the reign of Babur.
      d) Miniature painting during the reign of Humayun.
      c) Miniature painting during the reign of Akbar.
      d) Miniature painting during the reign of Jahangir.
      e) Miniature painting during the reign of Shah Jahan
      f) Miniature painting during the reign of Aurangzeb.
  D) Rajasthani Painting
    a) Background
    b) Painting in North India before Mughals and their Influence
    c) Materials, Technique, Subject matter, Organization
    d)The Growth of Local Styles in the 17th Century
    e) Domination of Rajput Painting in the 18th Century and Later
    f) End of Rajput Painting

  E) *Pahari Introduction to Fort, Palace and haveli Architecture.*
    a) Background
    b) Characteristics
    c) Developments. |

| | **MINOR -1 (M1)**
 [Ancient India]

 Unit-I
 1.1 Harappan Civilization: Features &Town Planning, Decline
 Unit-II

 2.1 Vedic Age: Corpus of Vedic Literature, Society, Economy and Polity in Early and Later Vedic Period
 Unit-III

 3.1 State Formation in Early India: Mahajanapadas. | **MINOR -1 (M1)**
 [Ancient India]
 Unit-I

 TOPIC-1: *Harappan Civilization: Features &Town Planning, Decline*

 a) **Introduction**
 b) **Geographical location**
 c) **Discovery and history of excavation.**

 d) *Phases of Harappan Civilization*
 i) Early Harappan <br> ii) Mature Harappan <br> iii) Late Harappan <br> iv) Post Harappan

 e) *Main features of IVC*
 i) Civic Organization <br> ii) Proper Drainage system <br> iii) Architecture <br> iv) Art and Craft <br> v) Social Life <br> vi) Political life <br> vii) Economic life <br> viii) Religious life

 f) *Town Planning of IVC*
 i) Streets <br> ii) Drainage system <br> iii) The Great Bath <br> iv) Granaries <br> v) Buildings <br> vi) Others <br> g) *Decline of IVC*
 i) Different Causes and Their interpretations by Historians |

| | | **Term II** (Lecture-4)
 SEC-1 Art Appreciation: An Introduction to Indian Art

 Unit-V
 Modern and Contemporary Indian Art and Architecture

TOPIC-1: *The Colonial Period Art Movements: Bengal School of Art,*
　　　　　　　Progressive Artists Group, etc.
　a)　　　Background
　b)　　The Revitalization of Indian History by Bengal School of Art
　c)　　　Rise of Nationalism with the Bengal School of Art.
　d)　　　The Progressive Artists' Group and Its Impact on Indian Modern art.

 Minor -1 (M1)
 [Ancient India]
 Unit-II

TOPIC-1 : Vedic Age: Corpus of Vedic Literature, Society, Economy and Polity in Early and Later Vedic Period

　A) *Corpus Of Vedic Literature*
　　i) Introduction
　　ii) Meaning of Veda
　　iii) Vedic texts
　　iv) Chronology, Transmission and Interpretation
　　v) Vedic Learning
　　vi) Vedic Schools or Recensions
　　vii) Four Vedas
　B) *Post -Vedic Literature*
　　i) Vedanga
　　ii) Parisista
　　iii) Upaveda
　　iv) Fifth and other Vedas
　　v) Puranas
　C) *Early Vedic Society*
　　i) Family Life
　　ii) Position of Women
　　iii) Idea of Morality and Female Education
　　iv) Dress |

		v) House, Food, Drink.
		vi) Amusements and Scripts
		vii) Caste System
		viii) Four Stages of Life
		
		D) *Post Vedic Society*
		  i) Brahmanas and Kshatriyas
		  ii) Conditions of Vaishyas and Shudras
		  iii) Semi Rigidity of Caste System
		  iv) Position of Women
		  v) Education
		  vi) food and Dress
		  vii) Village Life
		  viii) Trade and Commerce
		  ix) Occupation
		
		E) *Economic Life in the Rigvedic and the Later Vedic Age*
		  i) Rural Civilization
		  ii) Occupation and Ownership of Land
		  iii) Industry
		  iv) Trade and Commerce
		  v) Overseas trade
		F) *Polity in the Rigvedic and the Later Vedic Age*
		  Rigvedic age
		  i) Tribes of Rigveda
		  ii) Administrative divisions
		  iii) Extent of the State
		  iv) Form of Government
		  v) Position, Power, Functions of the king
		  vi) Duties of the king
		  vii) Functionaries
		  viii) The army
		  Later Vedic Age
		  i) Rise of big states
		  ii) Growth of Imperialism
		  iii) Origin of Kingship
		  iv) Growth of King's Power
		  v) Increase of Officials
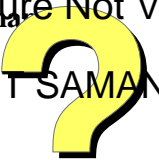
| | | Term III (Lecture-3)
SEC-1 Art Appreciation: An Introduction to Indian Art

Unit-V
Modern and Contemporary Indian Art and Architecture

TOPIC-1: Major artists and their artworks
  i) Raja Ravi Verma (1848-1907)
  ii) Gaganendranath Tagore (1867-1938)
  iii) Abanindranath Tagore (1871-1951)
  iv) Rabindranath Tagore (1861-1941)
  v) Nandalal Bose (1882-1966)
  vi) Deviprasad Roychowdhury (1899-1975)
  vii) Jamini Roy (1887-1973)
  viii) Benode Behari Mukherjee (1904-1980)
   ix) Ramkinkar Baij (1906-1980)
   x) Hemendra Majumder (1894-1948)

TOPIC-2: Popular art forms (Folk art Traditions)
  i) Madhubani Art
  ii) Kalamkari Art
  iii) Kalighat Painting
  iv) Phulkari Painting
  v) Phad Art
  vii) Warli Art
  viii) Others

Minor -1 (M1)
[Ancient India]
Unit-III
 TOPIC-1: State Formation in Early India: Mahajanapadas
  i) Meaning and Origin of Mahajanapadas
  ii) Types of Mahajanapadas
    a) Monarchical Mahajanapadas
    b) Republican Mahajanapadas |

c) Sixteen Mahajanapadas – Capital Cities- Modern location
d) The Political Structure of Mahajanapadas.
e) Others.

SEMESTER –III (Total Lectures-16)
 Term –I (Lecture-4)

 CC -5: Delhi Sultanate

 UNIT- IV: *Society and Economy of India during Sultanate Period*

TOPIC-1: *Iqta System in Sultanate Period*
    1.1 Introduction
    1.2 Meaning of Iqta System
    1.3 Origin and growth of Iqta System
    1.4 Features of Iqta System
    1.5 Types of Iqta
    1.6 Conclusion

TOPIC -2: *Agricultural Production in Sultanate Period*
    2.1 Introduction
    2.2 Agriculture
    2.3 Land
    2.4 Peasant and Village
    2.5 Irrigation
    2.6 Crops
    2.7 Wasteland and Cattle
    2.8 Sericulture
    2.9 Fruit Production
    3.0 Conclusion

TOPIC -2: *Technology in Sultanate Period*
    2.1 Introduction
    2.2 Textile Technology

SEMESTER –III

CC -5: Delhi Sultanate

 UNIT- IV: Society and Economy – Iqta System, Agricultural
      Production, Technology, Monetization, Market,
      Growth of Urban Centres, Trade and Commerce;
      Indian Ocean Trade.

CC-7: Akbar and the Making of Mughal India

 UNIT-V: Rural Society and Economy – Land Rights and Land
      Revenue, Zamindars and Peasants- Agriculture Production
    ; crop patterns- Trade Routes, Overseas trade; Rise of Surat.

SEC- 1: Archaeology and Museum Making in Colonial India

 UNIT-III: Archaeology and Culture- Local historians and
      Archaeological knowledge- the Culture of collection and

valorisation of artifacts- collecting and Museum making- the
Profiles of a few prominent collectors and museum makers.

 UNIT- IV: Archaeology and the Museum Movements in India-
      The Indian Museum – the Provincial museums and the
      Local museums – Background to the formation of the
      National Museum.

2.3 Dyeing and Calico - Painting
2.4 Military Technology
2.5 Agricultural Technology
2.6 Others
2.7 Conclusion

CC-7: Akbar and the Making of Mughal India

UNIT-V: **Rural Society and Economy in Mughal India**

TOPIC-1: *Land Rights and Land Revenue in Mughal India*
1.1 Introduction
1.2 Types of Land and Land holders
1.3 Types of Land Revenue and Revenue Officers
1.4 Conclusion

TOPIC -2: *Zamindars and Peasants in Mughal India*
2.1 Introduction
2.2 Relationship of Zamindars and Peasants in Mughal India.
2.3 Role of zamindars in Mughal Indian Society
2.4 Role of Peasants in Mughal Indian Society
2.5 Conclusion

SEC- 1: Archaeology and Museum Making in Colonial India

UNIT-III: **Archaeology and Culture in Colonial India**

TOPIC-1: *Local historians and Archaeological knowledge in Colonial India*
1.1 Introduction
1.2 Objectives
1.3 Development of Archaeological Knowledge in Colonial India
1.4 Role of Local historians in archaeology

| | | 1.5 Significance of Archaeological Knowledge
1.6 Conclusion

UNIT- IV: **Archaeology and the Museum Movements in India**

TOPIC -2: *The Indian Museum in Colonial India*
  2.1 Introduction
  2.2 Background
  2.3 Establishment of Museum
  2.4 Collection of ancient and medieval artifacts
  2.5 Conservation of artifacts
  2.6 Administration
  2.7 Conclusion

Term –II **(Lecture-6)**

CC -5: Delhi Sultanate
UNIT- IV: *Society and Economy of India during Sultanate Period*

TOPIC-1: *Monetization, and Market in Sultanate Period*
  1.1 Introduction
  1.2 Monetization during the period of different Sultans
  1.3 Importance of this System
  1.4 Development of market and its Economic aspects
  1.5 Conclusion

TOPIC-2: *Growth of Urban Centres in Sultanate Period*
  2.1 Introduction
  2.2 Different phases of Urbanization in Sultanate period
  2.3 Different factors for the rise of Urbanization
  2.4 Establishment of Delhi
  2.5 Development of other Cities
  2.6 Conclusion |

CC-7: Akbar and the Making of Mughal India

UNIT-V: Rural Society and Economy of Mughal India

TOPIC-1: *Trade Routes in Mughal India*
    1.1 Introduction
    1.2 Trade routes in Inland Trade
    1.3 Trade routes in Foreign Trade
    1.4 Conclusion

TOPIC-2: *Overseas trade in Mughal India*
    2.1 Introduction
    2.2 Background
    2.3 Trade between Western Europe and Mughal Empire
    2.4 Trading Centres
    2.5 Import and export Commodities
    2.6 Role of Merchants in this trade
    2.7 Conclusion

SEC- 1: Archaeology and Museum Making in Colonial India

UNIT-III: Archaeology and Culture in Colonial India

TOPIC-1: *The Culture of collection and Valorisation of artifacts*
    1.1 Introduction
    1.2 Different Ethical Policies for Collection and valorization
    1.3 Different Methods of Collection of artifacts
        1.3.1   Field Collection
        1.3.2   Excavation
        1.3.3   Exploration
    1.4 Significance
    1.5 Conclusion

CC-7: Akbar and the Making of Mughal India

UNIT-V: Rural Society and Economy in Mughal India

TOPIC-1: *Rise of Surat in Mughal India*
    1.1 Introduction
    1.2 Background
    1.3 Rise of Surat
    1.4 Decline of Surat
    1.5 Conclusion

SEC- 1: Archaeology and Museum Making in Colonial India

UNIT-III: Archaeology and Culture in Colonial India

TOPIC-1: - *The Profiles of a few prominent collectors*
                  and museum makers
    1.1 Introduction
    1.2 A.K. Coomaraswamy and his Contribution
    1.3 W.G. Archer and his Contribution
    1.4 Stella Kramrisch and his Contribution
    1.5 Role of Walter Granville in the foundation of
         Museum
    1.6 Others
    1.7 Conclusion

UNIT- IV: Archaeology and the Museum Movements in India

TOPIC-1: *Background to the formation of the National Museum*
    1.1 Introduction
    1.2 Background
    1.3 Role of British and Indian Collectors in the _____
        National Museum
    1.4 Role of James Princep
    1.5 Role Asiatic Society
    1.6 Others

		1.7 Conclusion

	SEMESTER –V **CC 11: Select Themes in the Colonial Impact on Indian Economy Society** **UNIT- VI:** Islamic Reform in India: The Reformers and the Orthodox **CC 12: Peasant and Tribal Uprisings in Colonial India in the 19th Century.** **UNIT- II:** Peasant Movements in Bengal and Malabar – religious Appeal for the liberation of a region or an ethnic group Under a new form of government. **UNIT- VI:** The Revolutionary potential of Indian peasantry – Barrington Moore Jr. and Eric Stokes – Classification Of Types of Revolt and Movements – Kathleen Gough, A R Desai, D N Dhanagare and Ranajit Guha.	**SEMESTER –V** (Total Lecturs-14) **Term –I** (Lecture-4) **CC 11: Select Themes in the Colonial Impact on Indian Economy Society** **UNIT- VI: Islamic Reform in Colonial India** **TOPIC-1: Wahabi Movement in Colonial India** 1.1 Introduction 1.2 Objectives of Wahabi Movement 1.3 Wahabi Revolts: Anti Sikh and anti-British Movement 1.4 Political View of Wahabi Movement 1.5 Suppression of Wahabi Movement 1.6 Nature of Wahabi Movement 1.7 Conclusion **CC 12: Peasant and Tribal Uprisings in Colonial India in the 19th Century** **UNIT- II: Peasant Movements in Bengal and Malabar in Colonial India** **TOPIC-1: Barasat Rebellion in 1831** 1.1 Introduction 1.2 Background 1.3 Ideologies of Titu Mir 1.4 Revolt against Zamindars 1.5 Suppression of the Revolt 1.6 Nature of the Revolt 1.7 Conclusion

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UNIT- VI: **The Revolutionary potential of Indian peasantry**

TOPIC-1: *Views of Barrington Moore Jr. and Eric Stokes on*
Indian Peasant Movements
    1.1 Introduction
    1.2 Explanation of the Views of Barrington Moore Jr. and
    Eric Stokes on Indian Peasant Movements
    1.3 Conclusion

Term –II (Lecture-5)

CC 11: Select Themes in the Colonial Impact on Indian Economy
Society
UNIT- VI: **Islamic Reform in Colonial India**
TOPIC-1: Faraizi Movement (1820- 1860)
    1.1 Introduction
    1.2 Background
    1.3 Ideologies of the Movement
    1.4 Role of Leaders in the Movement
    1.5 Extension of the Movement
    1.6 Nature of the Movement
    1.7 Failure of the Movement
    1.8 Conclusion

CC 12: Peasant and Tribal Uprisings in Colonial India in the 19th
Century

UNIT- II: **Peasant Movements in Bengal and Malabar in**
India
TOPIC-1: Indigo Revolt in Colonial Bengal
    1.1 Introduction
    1.2 Causes of the Revolt
    1.3 Results of the Revolts
    1.4 Role of the Intellectual Class in the Revolt

1.5 Nature of the revolt
1.6 Conclusion

UNIT- VI: The Revolutionary potential of Indian peasantry

TOPIC-1: *Classification or Types of Revolt and Movements*
    1.1 Introduction
    1.2 Classification of Peasant Revolts by Kathleen Gough
    1.3 Classification of Peasant Revolts by A.R. Desai
    1.4 Classification of Peasant Revolts by Ghanshyam Shah
    1.5 Conclusion

Term –III (Lecture-5)

CC 11: Select Themes in the Colonial Impact on Indian Economy
        Society
UNIT- VI: Islamic Reform in Colonial India

TOPIC-1: Aligarh Movement in Colonial India
    1.1 Introduction
    1.2 Background of the Movement
    1.3 Basis of the Movement
    1.4 Role of Sir Syed Ahmed Khan
    1.5 Impact of the Movement
    1.6 Conclusion

		CC 12: Peasant and Tribal Uprisings in Colonial India in the 19th Century.
		UNIT- II: **Peasant Movements in Malabar Region in Colonial India**
		TOPIC-1: *Peasant Movements in Malabar Region in Colonial India*
		1.1 Introduction
		1.2 Background
		1.3 Different Causes of the Movement
		1.4 Nature of the Movement
		1.5 Consequence of the Movement
		1.6 Conclusion
		UNIT- VI: **The Revolutionary potential of Indian peasantry**
		TOPIC-1: *Views of Kathleen Gough, A R Desai, D N Dhanagare And Ranajit Guha on Peasant Movements*
		1.1 Introduction
		1.2 Views of Kathleen Gough on Peasant Movements
		1.3 Views of A.R. Desai on Peasant Movements
		1.4 Views of D.N. Dhanagare on Peasant Movements
		1.5 Views of Ranajit Guha on Peasant Movements
		1.6 Conclusion

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22.06.2024

Post Graduate	*SEMESTER-I*	*SEMESTER-I* *(Total Lectures-48)*
	HIS 101: HISTORY AND HISTORIOGRAPHY	**Term –I (Lecture- 16)**
		HIS 101: HISTORY AND HISTORIOGRAPHY
	UNIT -I: What is History? Events and interpretation- Philosophy of History-Enlightenment Historiography- Empiricism -Positivism- Idealist view of History.	**UNIT -I:**
		TOPIC- I: *What is History?*
		1.1 Introduction
		1.2 Objectives
	HIS 105: HISTORY OF THE MODERN WORLD	1.3 Concepts of history
		1.3.1 Defining history
	UNIT-II: Italy and Germany between the Wars; Domestic and Foreign affairs- Politics and ideologies of Fascism and Nazism- France and Great Britain Between the Wars- Emergence of America and Soviet Russia as World Powers- Civil War in Spain- The Munich Crisis – Origin and Nature of World War II.	1.3.2 Nature of History
		1.3.3 The Modern Concept of History
		1.3.4 History -a science or an Art
		1.3.5 Arguments against History as a Science
		1.3.6 History is both a Science and an Art
		1.4 Scope of History
		1.5 Values of teaching History
		1.6 Conclusion
	UNIT-III: Impact of the Peace Pact of 1919 on West Asia; Mandate system in Middle East- Rise of Mustafa Kamal Pasha- and the Modernization of Turkey – Arab Nationalism after World War1- Role of Saudi Arab- Rise of Nationalism in Egypt: Anglo-Egyptian Relations.	**TOPIC -2:** *Events and Interpretation*
		2.1 Introduction
		2.2 Objectives
		2.3 Meaning and Definitions
		2.4 Nature of Historical Interpretation
		2.5 Elements which affect the Interpretation
		2.6 Data and Historical Interpretation
		2.7 Conclusion
		TOPIC-3: *Philosophy of History*
		3.1 Introduction
		3.2 Objectives
		3.3 Meaning and Definition
		3.4 Types of Philosophy of History
		3.4.1 Speculative Philosophy of History
		3.4.2 Analytical Philosophy of History

3.5 Importance of Speculative and analytical
     Philosophy in Historiography.
3.6 Conclusion.

HIS 105: HISTORY OF THE MODERN WORLD

UNIT-II: **Italy and Germany between the Wars**

TOPIC-1: *Domestic and Foreign affairs of Italy and Germany*
                  Between the Wars
    1.1 Introduction
    1.2 Political conditions of Italy and Germany
    1.3 Economic conditions of Italy and Germany
    1.4 Foreign policies Italy and Germany
    1.5 The Formation of the Rome -Berlin Axis
    1.6 Others
    1.7 Conclusion

TOPIC-2: *Politics and ideologies of fascism in Italy*
    2.1 Introduction
    2.2 Meaning and definition of Fascism
    2.3 Principles of Fascism
    2.4 Rise of Fascism in Italy
    2.5 The Internal reconstruction of Fascism
    2.6 Role of Fascism in Italy

    2.7 Collapse of Fascism in Italy
    2.8 Others
    2.9 Conclusion

TOPIC- 3: *Politics and ideologies of Nazism in Germany*
    3.1 Introduction
    3.2 Meaning and definition of Nazism

3.3 Ideology and Programme of Nazism
3.4 Rise of Nazism in Germany
3.5 Role of Nazism in Germany
3.6 Others
3.7 Conclusion

UNIT-III: Impact of the Peace Pact of 1919 on West Asia:

TOPIC-1: *Mandate system in Middle East*
1.1 Introduction
1.2 What was Mandate System?
1.3 Origin and growth of Mandate System
1.4 Classes of Mandate System
1.5 Impact of Mandate System
1.6 Others
1.7 Conclusion

TOPIC-2: *Rise of Mustafa Kamal Pasha*
and
the Modernization of Turkey
2.1 Background
2.2 Rise of Mustafa Kamal Pasha
2.3 Six Programmes of Kamal Pasha
2.3.1 Republicanism
2.3.2 Nationalism

2.3.3 Secularism
2.3.4 Populism
2.3.5 Statism
2.3.6 Reformism
2.4 Others
2.5 Conclusion

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TOPIC-3: *Arab Nationalism after World War1*

    3.1 Introduction
    3.2 Origin of Arab Nationalism
    3.3 The growth of Arab Nationalism
    3.4 Diversion of Pan Islamism
    3.5 Decline of Arab Nationalism
    3.6 Conclusion

Term –II (Lecture-16)

HIS 101: HISTORY AND HISTORIOGRAPHY
UNIT -I:
TOPIC- I: *Enlightenment Historiography*

    1.1 Introduction
    1.2 What is Enlightenment?
    1.3 Characteristics of Enlightenment
    1.4 Eighteenth Century as an Enlightenment Age
    1.5 Criticism
    1.6 Conclusion

TOPIC-2: *Empiricism*

    2.1 Introduction
    2.2 Meaning of Empiricism
    2.3 Background
    2.4 Early Empiricism

    2.5 Empiricist View of History
    2.6 Critiques
    2.7 Conclusion

HIS 105: HISTORY OF THE MODERN WORLD

UNIT-II: **Italy and Germany between the Wars**

TOPIC-1: *France and Great Britain Between the Wars*

    1.1 Introduction
    1.2 Wartime Losses
    1.3 Economical and Social Growth
    1.4 Social and Cultural Trends
    1.5 Foreign Policy
    1.6 Politics
    1.7 Appeasement and War :1938- 1939
    1.8 Others
    1.9 Conclusion

TOPIC-2: *Emergence of America and Soviet Russia as World Powers*

    2.1 Introduction
    2.2 Background
    2.3 Causes for the emergence of America as World Power
    2.4 Factors for the emergence of Soviet Russia as World power
    2.5 Impact of the emergence of both World Powers
    2.6 Conclusion

UNIT-III: Impact of the Peace Pact of 1919 on West Asia

TOPIC-1: *Rise of Nationalism in Egypt*

    1.1 Introduction
    1.2 Background
    1.3 Factors for the rise of Nationalism in Egypt
    1.4 Consequences
    1.5 Conclusion

| | | **Term –III** (Lecture-16)

HIS 101: HISTORY AND HISTORIOGRAPHY
UNIT -I:
TOPIC-1: *Positivism in history*
        1.1 Introduction
        1.2 Meaning of Positivism
        1.3 Main Features of Positivist Historiography
        1.4 Views of different Positivist historians
                1.4.1   View of Leopold Von Ranke
                1.4.2   View of Auguste Comte
                1.4.3   View of Henry Thomas Buckle
        1.5 Criticism of Positivist Historiography
        1.6 Conclusion

   TOPIC-2: *Idealist view of History*
        2.1 Introduction
        2.2 Meaning of Idealist view of history
        2.3 Theory of this Approach
        2.4 View of Benedetto Croce
        2.5 View of R.G. Collingwood
        2.6 Historical Relativism
        2.7 Criticism
        2.8 Conclusion

HIS 105: HISTORY OF THE MODERN WORLD

UNIT-II: **Italy and Germany between the Wars**

   TOPIC- 1: *Civil War in Spain*
        1.1 Introduction
        1.2 Causes of the Spanish Civil War
        1.3 Consequences of the Spanish Civil War |

1.4 Conclusion

TOPIC-2: *The Munich Crisis*
       2.1 Introduction
       2.2 Causes and Consequences of this Crisis
       2.3 Conclusion

TOPIC-3: Origin and Nature of World War II.
       3.1 Introduction
       3.2 Causes of the Second World War
       3.3 Asian background of 2nd World War
       3.4 Impact of the War
       3.5 Conclusion

UNIT-III: Impact of the Peace Pact of 1919 on West Asia

TOPIC- 1: *Anglo-Egyptian Relations*
       1.1 Introduction
       1.2 World War and Egypt
       1.3 Egypt as British Protectorate
       1.4 Constitutional reforms in Egypt
       1.5 Anglo -Egyptian relation under Lord Milner
       1.6 Anglo -Egyptian relation in 1936
       1.7 Conclusion

HIS 303: ADIVASI HISTORY IN COLONIAL BENGAL
UNIT III: Search for a Village as locus of Adivasi socio-cultural life
Pre-Colonial, Colonial, Post-Colonial governance, Adivasi
Village Republic and Polity Customary Law.

The Concept of Adivasi Governance Identity Assertion of
Adivasis and Movements for Jal, Jungle and Jameen (Water,
Forest and Land) in Colonial and Contemporary Times.

UNIT IV: Adivasi in India; Northern India, Southern India, Eastern
India, North Eastern India, The Demography of Adivasi in
India, Their social and economic status, Adivasis in Indian
Politics. 'Tribes' and the V and VI Schedule of the Indian
Constitution.

CBCS Course

**HIS-304: CONTEMPORARY INDIA: HISTORICAL
UNDERPINNINNGS**

UNIT- III: Gender and Public Sphere- Impact of First , Second,&
Third Wave Feminism- Women autobiographers-
Women in Politics- Women in Medicines- Women
In Film- Women in Theatre- Women's Movement-
Gender, Sexuality and Media.

UNIT- IV: History and Literature: Indian Writing in English; Women
Writing in India- Post Colonial Writing in English and
Other languages – Literature from North East India-
Dalit Literature- Literature and Films- Literature and
Society.

EMESTER-III *(Total Lectures-77)*
Term –I (Lecture - 25)

HIS 303: ADIVASI HISTORY IN COLONIAL BENGAL

UNIT III: **Search for a Village as locus of Adivasi socio-cultural life**

TOPIC-1*: Socio-Cultural Profile of Santhal Tribe
In
Lakhimpur District*
1.1 Introduction
1.2 Geographical location
1.3 Religious Practices of Santhal Tribe
1.4 Political Life of Santhal Tribe
1.5 Marriage of Santhal Tribe
1.6 Language, Food habits and Dressing Pattern
1.7 Sources of Livelihood
1.8 Conclusion

TOPIC-2: *Pre-Colonial, Colonial and Post-Colonial
Governance*
2.1 Introduction
2.2 Background
2.3 Adivasi governance in Pre-Colonial India
2.4 Adivasi governance in Colonial India
2.5 Adivasi governance in Post-Colonial India
2.6 Conclusion

TOPIC-3: *Adivasi Village Republic and Polity Customary Law*
3.1 Introduction
3.2 Background
3.3 Adivasi Village Republic and Polity Customary Law
In Colonial India.
3.4 Conclusion

UNIT IV: **Adivasi in India**

TOPIC-1: *Adivasi in Northern Colonial India*

    1.1 Introduction
    1.2 Geographical location
    1.3 Different tribal peoples in Northern Colonial India
    1.4 Tribal Revolts in Northern Colonial India
    1.5 Impact of Tribal Revolts
    1.6 Conclusion

TOPIC-2: *Adivasi in Southern Colonial India*

    2.1 Introduction
    2.2 Geographical location
    2.3 Different tribal peoples in Southern Colonial India
    2.4 Tribal Revolts (Rampa and Gond Rebellions) in
          Southern Colonial India
    2.5 Impact of Tribal Revolts
    2.6 Conclusion

TOPIC-3: *Adivasi in Eastern Colonial India*

    3.1 Introduction
    3.2 Geographical location
    3.3 Different tribal peoples in Eastern Colonial India
    3.4 Tribal Revolts (Santhal, Munda, Bhumij and other
          tribal Rebellions) in Eastern Colonial India
    3.5 Impact of Tribal Revolts
    1.7 Conclusion

CBCS Course

HIS-304: CONTEMPORARY INDIA: HISTORICA
                    UNDERPINNINNGS

UNIT- III: **Gender and Public Sphere**

TOPIC-1: *Impact of First, Second, & Third Wave Feminism*
    1.1 Introduction
    1.2 Definition of Feminism in Indian context
    1.3 Origin of Feminism
    1.4 Impact of First Wave (1850-1915) in India
    1.5 Impact of Second Wave (1915- 1947) in India
    1.6 Impact of Third Wave (After 1947) in India
    1.7 Conclusion

TOPIC-2: *Women autobiographers*
    2.1 Introduction
    2.2 The Theme of Exploring Self in Indian women
       Autobiographies
    2.3 Impact of their Autobiographies
    2.4 Conclusion

TOPIC-3: *Women in Politics in Colonial and Post-Colonial India*
    3.1 Introduction
    3.2 Background
    3.3 Awakening of Women in Colonial India
    3.4 Women's Political Participation in Colonial and Post
       Colonial India
    3.5 Impact of Women's Movement in Colonial and Post
       Colonial India
    3.6 Conclusion

UNIT- IV: History and Literature

TOPIC-1: *Women Writing in Colonial India*
    1.1 Introduction
    1.2 A Glimpse of Writings of Colonial India
    1.3 Women and Literary Movements in Colonial In
    1.4 Impact of women's literary movement in
    1.5 Conclusion

TOPIC-2: *Post-Colonial Women Writing in English and Other*
       Languages
    2.1 Introduction
    2.2 Background
    2.3 Women Writers in Post-Colonial English Literature
    2.4 Development of other Languages in post-Colonial India
    2.5 Conclusion

Term –II (Lecture--25)

HIS 303: ADIVASI HISTORY IN COLONIAL BENGAL

UNIT III: **Search for a Village as locus of Adivasi socio-cultural**
      life

TOPIC-1: *The Concept of Adivasi Governance*
     1.1 Introduction
     1.2 Background
     1.3 What is Adivasi governance?
     1.4 State and Social policies
     1.5 Impact of British rule on Adivasi governance
     1.6 Conclusion

UNIT IV: **Adivasi in India**

TOPIC-1: *Adivasi in North Eastern Colonial India*
     1.1 Introduction
     1.2 Geographical location and environment
     1.3 Different tribal peoples in North eastern Colonial India
     1.4 Tribal Revolts (Naga, Kuki, Khasi tribes) in North
        Eastern Colonial India
     1.5 Impact of Tribal Revolts
     1.6 Conclusion

TOPIC-2: *The Demography of Adivasi in Colonial India*
    2.1 Introduction

2.2 Meaning

2.3 Impact of British rule in the demography of Adivasi

2.4 Conclusion

CBCS Course

HIS-304: CONTEMPORARY INDIA: HISTORICAL UNDERPINNINNGS

UNIT- III: Gender and Public Sphere

TOPIC-1: *Women in Medicines in Colonial and Post-Colonial India*

    1.1 Introduction

    1.2 Background

    1.3 Spreading of education among women

    1.4 Female Medical Practice in Colonial and Post-Colonial India

    1.5 The Rise of women doctors in Colonial and Post-Colonial India

    1.6 Conclusion

TOPIC-2: *Women in Film and Theatre in Colonial India*

    2.1 Introduction

    2.2 Background

    2.3 Emergence of Film and Theatre

    2.4 Images of women in Indian Cinema and Theatre

    2.5 Globalization Representation of Women in Indian Cinema and Theatre.

    2.6 Conclusion

UNIT- IV: History and Literature

TOPIC-1: *Literature from North East India*

    1.1 Introduction

Term –III (Lecture-27)

HIS 303: ADIVASI HISTORY IN COLONIAL BENGAL

UNIT III: **Search for a Village as locus of Adivasi socio-cultural life**

TOPIC-1: *Adivasis Movements for Jal, Jungle and Jameen (Water, Forest and Land) in Colonial and Contemporary Times*

UNIT IV: **Adivasi in India**

TOPIC-1: *The Social and Economic Status of Adivasi in Colonial*
And Post-Colonial India

    1.1 Introduction

    1.2 Social condition of Adivasi in Pre-Colonial
        India

1.3 Economic condition of Adivasi in Pre-Colonial India

    1.4 Socio-economic Changes in Colonial and Post-Colonial
        India

    1.5 Conclusion

TOPIC-2: *Adivasis in Indian Politics in Colonial and Post-Colonial*
India

    2.1 Introduction
    2.2 Background
    2.3 Participation of Adivasi in Indian Politics
    2.4 Impact of their movements
    2.5 Conclusion

TOPIC-3: *'Tribes' and the V and VI Schedule of the Indian*
Constitution.

    3.1 Introduction
    3.2 Tribal areas under the V and VI Schedule of the Indian
        Constitution
    3.2 Features of these Schedules
    3.3 Administration of tribal areas
    3.4 Legislative functions
    3.5 Executive functions
    3.6 Judicial powers
    3.7 Financial powers

3.8 Significance of the Special Provisions
3.9 Conclusion

CBCS Course

HIS-304: CONTEMPORARY INDIA: HISTORICAL UNDERPINNINNGS

UNIT- III: **Gender and Public Sphere**

TOPIC-1: *Women's Movement in Colonial and Post-Colonial India*
1.1 Introduction
1.2 Background
1.3 Women's Participation during Freedom struggle
1.4 Women in Post -Independence movement
1.5 Conclusion

TOPIC-2: *Gender, Sexuality and Media*
2.1 Introduction
2.2 Meaning of Gender, sexuality and Media
2.3 Role of Media in gender equality
2.4 Role of Media in sexuality
2.5 Conclusion

UNIT- IV: *History and Literature*

TOPIC-1: *Literature and Films*
1.1 Introduction
1.2 Aspects of Literature and Films
1.3 Relationship between Literature and Film
1.4 Role of Literature and Films in society
1.5 Conclusion

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TOPIC-2: - *Literature and Society*

    2.1 Introduction

    2.2 Relationship between Literature and Society

    2.3 Importance of Literature and society

    2.4 Conclusion

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Submitted by-

Dr. Sanjoy Kumar Kar
State Aided College Teacher -1,
Department of History,
Kharagpur college,
Date- 26.10.24

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BIDYUT SAMANTA

22.06.2024

Term II: **1st Internal to 2nd Internal Examination**

Term III : **2nd Internal to ESE preparation break**

Paper- DSC-1C

Topic Name – Select themes in the Colonial impact on Indian Economy and Society

TEACHING PLAN OF ODD SEMESTTER (3rd,5th)

Department of History
B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 3rd Semester
Session- 2023-2024

Term I : **Commencement of classes to 1st Internal Examination**

Name of the Teacher :**Sri Milan De**

Term I: (Total 13 Lectures)

Lecture 1: Concept of Colonial State institutions and ideologies.
Lecture 2: Gives a detailed knowledge on Colonial Economic interests.
Lecture 3: Discuss on Company's Commerce.
Lecture 4: Process of Company's Mercantilism to Free trade.
Lecture 5: Discussion of Deindustrialization in Colonial India.
Lecture 6: Discuss of Drain of Wealth in Colonial India.
Lecture 7: To provide an idea of land settlement and agricultural change.
Lecture 8: Detailed discussion of permanent settlement.
Lecture 9: Detailed discussion of Ryotwari settlement.
Lecture 10: Detailed discussion of Mahalwari settlement.
Lecture 11: Basic concept of commercialization of agriculture.
Lecture 12: Various effects of commercialization of agriculture.
Lecture 13: Question-Answer Process on the discussion section.

Term II : (Total 10 Lectures)

Lecture 1: Concept of modern industrialization.
Lecture 2: An attempt to understand the causes of the first industrial revolution in England.
Lecture 3: Detailed discussion What effect did the industrial revolution in England have on Indian industry?
Lecture 4: A discussion of long-term constraints on Indian industry.
Lecture 5: A detailed discussion of how India became an enabler of the Industrial Revolution in England.
Lecture 6: Census and Caste.
Lecture 7: Colonial ethnology.

Lecture8: Concept of Sanskritisation, Westernisation and Social
Reform.
        Lecture 9: Emergence program and details of Young Bengal movement.
        Lecture 10: Question-Answer Process on the discussion section.

Term III : (Total 10 Lectures)

        Lecture 1: Discuss the structure and program of rural society.
        Lecture 2: Discussion on formation and program of Prarthana Samaj.
        Lecture 3: Reformism and Revivalism.
        Lecture 4: Discussion about Arya Dharma movement.
        Lecture 5: Discuss the contribution of Ramakrishna Dev in the
reform movement.
        Lecture 6: Discuss Vivekananda's contribution to reform movement.
        Lecture 7: Detailed discussion of Islamic reforms in India.
        Lecture 8: The Reformers and the Orthodox.
        Lecture 9: Discuss the contribution of Syed Ahmad Khan in reform
movement.
        Lecture 10: Question-Answer Process on the discussion section.

Department of History

B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 5th Semester
Session- 2023-2024

        Term I:Commencement of classes to 1st Internal Examination
        Term II: 1st Internal to 2nd Internal Examination
        TermIII: 2nd Internal to ESE preparation break

Semester V

Paper- DSE-1A

Topic Name – Renaissance and Reformation

Name of the Teacher :**Sri Milan De**

Term I : (Total 10 Lectures)

        Lecture 1: Discuss on Political and social background of early
Modern Europe.
        Lecture 2: Collapse of feudalism.
        Lecture 3: Changing economic life in the 15th and 16th century.
        Lecture 4: Commerce and navigation.
        Lecture5 : Monarchies and city states.
        Lecture6 : Features of the early modern state.
        Lecture7 : The printing revolution.
        Lecture8 : Question-Answer Process on the discussion section.

Lecture9 : Question-Answer Process on the discussion section.

Lecture10: Arrangement of Mock Tests on the topics discussed.

Term II : (Total 11 Lectures)

Lecture 1: The impact of the printing revolution on the social and religious life of Europe.
Lecture2: Martin Luther's detailed discussion of the Printing Revolution.
Lecture 3: The merchants,and the social context of the renaissance.
Lecture 4: The church and the social context of the renaissance.
Lecture 5: Provide ideas about Humanism.
Lecture 6: Origins of Humanism in Europe.
Lecture 7: Detailed discussion of various Humanists.
Lecture 8: The impact of humanism on art.
Lecture 9: The impact of humanism on education.
Lecture 10: The impact of humanism on political thought.
Lecture 11: Question-Answer Process on the discussion section.

Term III : (Total 12 Lectures)

Lecture1: Rediscovery of the classes.
Lecture2: Machiavelli and the idea of a modern state.
Lecture3: The background to the reformation.
Lecture4: Intellectual and popular anti-clericalism.
Lecture5: Martin Luther and the reformation.
Lecture6: Reformation in the national context France, Switzerland and England.
Lecture7: The distinctiveness of the English reformation.
Lecture8: Radical reformation.
Lecture9: Counter reformation.
Lecture10: Renaissance science.
Lecture11: The emergence of a secular culture.
Lecture12: Question-Answer Process on the discussion section.

Department of History

B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 5th Semester
Session- 2023-2024

Term I: Commencement of classes to 1st Internal Examination
Term II:1st Internal to 2nd Internal Examination
TermIII:2nd Internal to ESE preparation break

Name of the Teacher **:Sri Milan De**

Term I : (Total 10 Lectures)

Lecture1: History and Development of Science under the Colonial Empire

Lecture2: Recent Historical Debates/ Discourse/ Trajectories on Colonial Science.

Lecture3: Concepts and Contours of Colonial Science.

Lecture4: Different Colonial Experiments in India.

Lecture5: Fundamental Research in Science in India.

Lecture6: Indian and Western Interaction-Role of Institutions in Promoting Scientific Knowledge.

Lecture7: Contribution of botanical gardens to colonial science practice.

Lecture8: Narrating the history of establishment of Calcutta Medical College.

Lecture9: Calcutta Medical College and Colonial Science Practice.

Lecture10: Question-Answer Process on the discussion section.

Term II : (Total 08 Lectures)

Lecture1: Calcutta School of Tropical Medicine.

Lecture2: Bose Institute in Colonial India.

Lecture3: Discuss the contribution of scientist Acharya Jagdish Chandra Bose ib began during colonial period.

Lecture4: Indian Institute of Science.

Lecture5: Discuss Mahatma Gandhi's scientific approach.

Lecture6: Discuss the scientific views of Jawaharlal Nehru.

Lecture7: Question-Answer Process on the discussion section.

Lecture8: Arrangement of Mock Tests on the topics discussed.

Term III : (Total 06 Lectures)

Lecture1: Discuss the difference in scientific views of Gandhi and Nehru.

Lecture2: Scientific Activities under the Empire.

Lecture3: Social Implication.

Lecture4: Political Implication.

Lecture5: Cultural Implication.
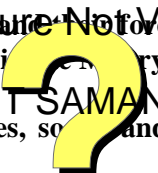
Lecture6: Various Historical Debates in India on Colonial Science.

Lecture6: Question-Answer Process on the discussion section.

Department of History
Syllabus Distribution and Teaching Plan, Even Semester, Session: 2022-2023
Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term III: 2nd internal to ESE preparatory break
Prof. Udita Bhattacharya

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**SEMESTER –II** **CC 3: Maurya and Gupta Empire** I. Empire Building in India- Mahajanapadas to Kingdom II. Formation of Mauryan Empire – Polity, Economy, Socio-Cultural Aspects, Downfall III. Post Mauryan Empire – Sungas & Kanvas, the Indo Greeks, Kushanas &Satavahanas **CC 4: Political History of Early Medieval India (600 AD to 1200 AD)** **Module II** **Shift of political power from Pataliputra to Kanauj** 2.1 Gauda under Sasanka: the most formidable power in eastern India 2.2 The Gauda-Kanyakubja struggle and the emergence of Harshavardhana 2.3 Military and political supremacy of Kanauj **Module III** **An overview of politics in the Deccan and south India** 3.1 The Chalukyas of Badami 3.2 Chalukya-Pallava struggle 3.3 Rashtrakuta- Pratihara rivalry 3.4 Rise of the Cholas as the premier power of the south	**SEMESTER –II (Total Lecture = 32)** **Term –I (Lectures -10)** **1st class:** Introductory lecture, course outcomes. **2nd class:** How the number of 16 Mahajanapadas is gradually reducing, Geographical location of the Mahajanapadas corresponding to modern time. **3rd class:** Race of imperialism and the rise of Magadha. **4th class- CC 4:** Introductory lecture and course outcomes. **5th class:** Rise of Gauda as a regional power **6th class:** Rise of Sasanka **7th class- CC 3:** Maurya administrative system **8th class:** Maurya administrative system **9th class- CC 4:** Career and achievements of Sasanka **10 th class:** Career and achievements of Sasanka **Term –II (Lectures -12)** **1st class-CC 3:** Career and achievements of Chandragupta Maurya **2nd class:** Do, **3rd class:** Asoka: Rise of Asoka to power, administrative reforms of the Asoka, downfall of the Maurya Empire **4th class- CC 4:** Struggle for supremacy between Kanyakubja and Bengal **5th class:** Rise of Harshabardhan and his Career and achievements **6th class:** Do, **7th class- CC 3:** Downfall of the Maurya and foreign policy **8th class:** Society, economy and culture in India in the Maurya period. **9th class:** Do, **10 th class – CC4:** History of Bengal – Sources, social and economic condition of Bengal in early seventh century

		11th class: Rise of Kanauj as a great power 12th lecture: Do. **Term –II (Lectures -10)** **1st class-CC 3: The period between the downfall of the Maurya and rise of the Gupta Empire.** **2nd class: Short history of the Sungas – Pusyamitra Sunga and the fall of Sungas, short history of the Kanvas.** **3rd class: Early history of the Satavahanas** **4th class- CC 4: Rise of the Cholas to the power** **5th class: Nature of the Chola administrative system** **6th class: Land revenue system in the Cholas Empire.** **7th class- CC 3: Career and achievements of Gautamiputra Satakarni** **8th class: Arrival of the Kushana and the beginning of the Kushana period in Indian History.** **9th class: Career and achievements of Kaniska the great** **10 th class : Socio-economic and cultural condition in India in the cntury**
	SEMESTER –IV **CC-9: The French Revolution & Napoleon Bonaparte** VI. Rise of Napoleon – Empire building & consolidation VII. Impact of the French Revolution and Napoleon Bonaparte outside France VIII. Fall of Napoleon & Restoration of old order – Vienna Congress (1815)& Metternich **CC-10: 19th Century Revolutions in Europe** I. The Greek War of Independence, the Revolutions of 1830, the Revolutions of 1848 – A possible turning point?	**SEMESTER –IV (Total Lecture = 60)** **Term –I (Lectures-20)** **CC9- 10 lectures: Introductory lecture on course outcomes, Rise of Napoleon Empire, building and consolidation a) Foreign policy of the Directory b) Military career of Napoleon under directory c) Internal administration of the Directory d) Constitution e) Fall of the Directory and rise of Napoleon dictatorship, Transformation of the cosulate to the Empire, reforms of Napoleon, Merits and demerits of reforms of Napoleon.** **CC 10 – (10 lectures), 19th century revolution in Europe, the Greek war of independence, results and its consequences. Foreign policies of Napoleon upto the Treaty of Tilsit 1807, Continental system.** **Term –II (Lectures-20)** **C9T (10 lectures): Impact of the French Revolution, nature and result of the French revolution.** C10 T (10 lectures) 19th century Revolution in Europe, July revolution of 1830 in France : causes, results and significances.

C9T (13 lectures): Restoration of old order Vienna Congress -1815 Metternich, The congress of Vienna -1815, rise and fall of Metternich.

C10 T (07 lectures) The revolution of 1848- A possible turning point?

a) Events leading to the fall of Louis Philippe
b) The causes of February revolution in France
c) Different phases and results of the February revolution
d) Causes of the spread of the revolution of 1848 in Europe
e) Causes of the collapse of the revolution of 1848.
f)

SEMESTER –VI **DSE 3: War and Diplomacy 1914-1945** **Module II** **Revolution and transformation in Russia** 2.1 War- time politics in Russia 2.2 The provisional government under Kerensky 2.3 The Bolshevik Revolution: Lenin and Trotsky 2.4 The new Soviet Order 2.5 From Lenin to Stalin 2.6 Soviet foreign policy 1917-1939	**SEMESTER –VI (Total Lecture = 60)** **Term –I (Lectures-20)** The rise of Soviet Russia: Revolution and Transformation in Russia: Introductory lectures and course outcomes, war time politics in Russia, The establishments of the communist regime in Russia in the post – Versailles era. Rural economy of Russia in the pre-revolution period, Material conditions of Russia for a fast change, What was Russia's political system after WW-I, What happened politically to Russia during and after world war –I, First phase of the Russian revolution, The provisional Government under Kerensky, April thesis of Lenin, The second revolution, The signifance of second Revolution. **Term –II (Lectures-20)** The Russian revolution and Lenin, The foreign and interventional war, War time communism and the new economic policy, The first five year plan, 2nd and 3rd five year plan, Death of Lenin and changes, What was Trotsky's theory of permanent revolution, The new Soviet order – A short essay. **Term –III (Lectures-20)** Lenin to Stalin : Essay on Lenin, Rise and achievement of Stalin, Consideration behind Soviet foreign policy – conflict and isolation, Fight for recognition, Attempt at collective security, League of Nations, Non-aggression pact with Nazi- Germany, Soviet relation with west, Soviet relation with far east, Group discussions.

Submitted by:
Prof. Udita Bhattacharya
Associate Professor in History
Kharagpur College
Date:22.03.2023

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

Department of History
Syllabus Distribution and Teaching Plan, Even Semester, Session: 2022-2023
Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term III: 2nd internal to ESE preparatory break
Prof. Rekha Dutta, Associate Professor

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**SEMESTER –II** **CC 3: 2 classes per week** Unit IV. Imperial Guptas – Classical Age, Polity, Economy, Socio-Cultural Aspects, Downfall. **CC 4: Political History of Early Medieval India (600 AD to 1200 AD)** **Module II** **Shift of political power from Pataliputra to Kanauj** 2.1 Gauda under Sasanka: the most formidable power in eastern India 2.2 The Gauda-Kanyakubja struggle and the emergence of Harshavardhana 2.3 Military and political supremacy of Kanauj **Module III** **An overview of politics in the Deccan and south India** 3.1 The Chalukyas of Badami 3.2 Chalukya-Pallava struggle 3.3 Rashtrakuta- Pratihara rivalry 3.4 Rise of the Cholas as the premier power of the south	**SEMESTER –II (Total Lecture = 30)** **Term –I (Lectures -10)** The classical and polity of the Gupta: The necessity ot know the Gupta Empire and the Gupta Age – Sources – The condition of India before rise of the Gupta in 4th century AD. Three types of state in India before the Gupta period – Advantages for the rise of Gupta. Whether early Gupta's were feudal or not! The importance of the Lichchabi alliances – debate about the Pundrabardhana, Magha, Kosala and Kousambi were annex or not with the Gupta empire. Samudragupta _ Sources to know the Samudragupta, Samudragipta's conquest- His sovereignty and his vision to gain the "Rajachakraborty" by the Digvijoy policy & the Dharmavijoy policy. His campaign against the Nagas and alliance with Bakataka. In south India three principles were followed by him, Navy power against south coastal Kingdoms. Imperial policy from the economi angle. Cultural sides of Samudragupta – New Brahmanical doctrine, Hinduism, "Parama Bhagabata". **Term –II (Lectures -10)** Chandragupta II – Sources – Internal situation between the death of Samudragupta and the accessor of Chandragupta II. Chandragupta's conquest and debate: Problem of the settlement with Sakas- involvement in war with Sakas, Matual alliances with Bakatakas and Nagas and Kadambas. Kumargupta – Sources, sound administration, peaceful & serious reign for the period of 40years. Performance of Asvamedha – Brahmanical culture – The Gupta in Decan

		and Kanarene country. Kumargupta – "Vayaghrabala Parakrama"
		Term –III (Lectures -10) Later Guptas – weakness, circumstances contributing to the Downfall Internal dissention within Royal family, succession war struggle for throne after the death of Kurugupta, virtual partition pf the Gupta empire. Downfall of Gupta empire: Lost the control central authority over provinces and feudatories, decentralised administration, Hun's invasion – Tomara invasion, Chrshing defeat on Mihirkula, Attack on the Buddhist temple, racial movements, tribes enter into india, martial races, **Culture and vigor in India – transformation of india society, absolute destruction of the civilization of the Gupta. The Gupta art , architecture, social life economy, Roman trades, agriculture, guild system, textile industry, irrigation etc.**
	SEMESTER –IV (4 classes per week) **C8T: Renaissance and Reformation** 1. Political and social background – political system in early modern Europe – collapse of feudalism – and the changing economic life in the 15th and 16th century – commerce and navigation – monarchies and city states – features of the early modern state – the printing revolution. 2. Italian city states, the merchants, the church and the social context of the renaissance – origins of humanism – rediscovery of the classes – the impact of humanism on art, education and political thought – Machiavelli and the idea of a modern state. 3. The background to the reformation – intellectual and popular anti-clericalism – Martin	**SEMESTER –IV (Total Lectures = 60)** **Term –I (Lectures-20)** **The necessity of know the History of the renaissance and reformation in the 15t century of Europe.** **Background of the renaissance: Three pillars, the city states, the churches and merchants. The background of the reformation in the 15th century in Europe, So many reasons for the separation from the past administration – the main structure of the administration – the changing ideas of the theory of states, establishment of the modern state, new administration as an inspiration to change the existing system and to welcome the new era.** **New state theory – the crucial in Medieval age in Europe, rise of the racial states, atmosphere to change the existing system and social structure.** **The rise of New states – Downfall of the Byzantine empire, no intellectual problem for the rise of racial states.** **Term –II (Lectures-20)**

	Luther and the reformation – reformation in the national context: France, Switzerland and England – the distinctiveness of the English reformation – Radical reformation – the Anabaptists, etc. - counter reformation. 4. Renaissance science and the emergence of a secular culture	The idea of the universalism, Humanism – anticlericalism, Luther's rethinking about religion – the rise of Burghers, free business, appeal of humanist individualism, rigidity of the Papal institution. Background of the reformation movement: Try to come back to the ancient classical age, new discussion of the Christian humanism atmosphere, indulgence was criticized by the Marten Luther – anticlericalism, farmers' revolt, anticlargy consciousness , rise of the consciousness of socialism during the peasant revolt. Aggravation of Luther's anti-charge movement, political causes – revolt against the rise of Popes i.e. extra tax collection, unethical lifestyle of Clergy society, Yclif's appeal to the king of England, Humanism are motivated by anticlergy consciousness, revolt against indulges. Lutherism in Germany, Protestant movement, Priesthood of all believers and justification by faith, Human being depends on the reason but not realize, the existence of the God in life. Ninetyfive thesis – need to relate with God directly, appeal to the Christian novelty. Centre of the theology of protestant 'Sad-dharma' –The Mukti. The Radical reformation – Transformation of mass movement, reformation movement of Carlstadt, rise of protest consciousness, Peasant's demand, Altra reformist, protest against Utopian. Zuingly's reformation movement, Spiritual fundamentalism, Erasmus theory, Social basis of new theory, reformation movement in Geneva, Alternative religious association of Calvin. Faith on the God only the salvation, Ninety-five thesis, Radical reformation, Carlstadt, Baptism, Anabaptism, Munster's activities. **Term –III** (Lectures-20) Renaissance and reformation-- indulgence, background of reformation, Marten Luther and reformation, Ultra reformation, Popular anti-clericalism, Luther's protest- crisis of religious values, the value structure - dislocation the eyesight of commo people., Causes of anti-clergy movement, misuse of power, Stabl power of Roman empire, debate on the power of Pope in eternal life and in politics. Criticism of Church. Humanism – enrichment, The German reformation – indulgence – causes of the protest movement in Germany.

Ninety-five thesis- need to relate directly with the God, to destroy of the power of the Catholic churches.

Ultra- reformation movement – Utopian, nonresistance theory, Zwingli's theory, Spiritual fundamentalism, Sixty seven articles, reformation movement in the Geneva and in England, Anglicanism, background of English reformation, Lalard's - criticism of Lalard on the Catholic virtues.

	SEMESTER –VI (4 classes per week) **DSE 3T: War and Diplomacy, 1914-1945** **Unit I** **Module I** **Through war to peace 1914 - 1920** 1.1 The condition of Europe in 1914 1.2 The First World War: issues and stakes - appraisals and reappraisals 1.3 The dynamics of the war: Wilson's Fourteen Points **Module III** **The inter-war period** 3.1 The new balance of power 3.2 League of Nations 3.3 Draft Treaty of Mutual Assistance, 1923 3.4 Geneva Protocol, 1924 3.5 Locarno Treaties, 1925 3.6 Pact of Paris, 1928	**SEMESTER –VI (Total Lecture = 60)** **Term –I (Lectures-20)** **Through war to peace 1914 - 1920** 1.1 The condition of Europe in 1914 1.2 The First World War: issues and stakes - appraisals and reappraisals 1.3 The dynamics of the war: Wilson's Fourteen Points 1.4 The Versailles Settlement of 1919: context, provisions and evaluation **Term –II (Lectures-20)** 1.4 The Versailles Settlement of 1919: context, provisions and evaluation 1.5 Other treaties 1.6 Aftermath of the war **Term –III (Lectures-20)** **The inter-war period** 3.1 The new balance of power 3.2 League of Nations 3.3 Draft Treaty of Mutual Assistance, 1923 3.4 Geneva Protocol, 1924 3.5 Locarno Treaties, 1925 3.6 Pact of Paris, 1928

Submitted by:
 Prof. Rekha Dutta
        Associate Professor in History
        Kharagpur College

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

Departmentof History
Syllabus Distribution and Teaching Plan, Even Semester, Session: 2022-2023

Term I: Commencement of classes to 1st internal;
Term II: 1st internal to 2nd internal;
Term III: 2nd internal to ESE preparatory break

Dr. Rakhal Chandra Bhunia

Name	SyllabusAllotted	Teaching Plan
Under Graduate	**SEMESTER –II :** (No. of Classes(Hour) per week:**1**) **C4T: Political History of Early Medieval India (600 AD to 1200 AD)** **CC 4 : Unit I Module V** **The struggle for empire** 5.1 The Ghaznavid raids 5.2 The Ghurids 5.3 Qutb-ud-din Aibak's conquests --- **SEMESTER –IV :** (No. of Classes(Hour) per week:**2**) **CC-10: 19th Century Revolutions in Europe** IV. Society and Economy in Nineteenth Century Europe: industrial transformation in Britain; difference in industrialisation process between England and the Continental powers – France, Germany and Russia – the emergence of the working class and its movements – The impact of ideology: Louis Blanc, V. Nationalism in Eastern and South Western Europe: Czech, Hungarian and Serbian.	**SEMESTER –II** (Total Lecture = 16+ Tutorial -2)=18 **C4T: Political History of Early Medieval India (600 AD to 1200 AD)** **Term –I (Lecture-06 + Tutorial -1)=7** **CC 4 : Unit I Module V** **The struggle for empire** 5.1 The Ghaznavid raids **Term II (Lecture-06 + Tutorial -1)=7** 5.2 The Ghurids **Term III (Lecture-04)** 5.3 Qutb-ud-din Aibak's conquests --- **SEMESTER –IV** (Total Lecture -34+ Tutorial -2)=36 **CC-10: 19th Century Revolutions in Europe** **Term –I (Lecture-13+ Tutorial -1) =14** IV. Society and Economy in Nineteenth Century Europe: industrial transformation in Britain; difference in industrialisation process between England and the Continental powers – France, Germany and Russia. **Term –II (Lecture-13+ Tutorial -1) =14** IV. The emergence of the working class and its movements – The impact of ideology: Louis Blanc. V. Nationalism in Eastern and South Western Europe: Czech, **Term –III (Lecture-08)** V. Nationalism in Eastern and South Western Europe: Hungarian and Serbian.

22.06.2024

Under Graduate	**SEMESTER –VI :** (No. of Classes(Hour) per week:**2**) **C13T : International Relations after the Second World War** **Unit II : Conflict between Superpowers** USA and Soviet Union; Soviet Communism and the Russian leader Joseph Stalin; Soviet Union and Europe in Cold War 1945 – 1953; Military and Defense Alliances and Peace Pacts –Berlin after 1945- Fall of the Berlin Wall & German Re-Unification---- European Coal and Steel Community (ECSC); European Economic Community & European Atomic Energy Committee (Euratom). **Unit III : Decolonization and the emergence of the Third world** National Movements in Asia & Africa---Third World Organizations-OPEC, ASEAN, SAARC; West Asian Crisis---Palestine Problem; Suez Crisis, Iran- Iraq conflicts, Gulf War ; Arab- Israel wars- activities of the PLO, Afghan Problem	**SEMESTER –VI** (Total Lecture -34+ Tutorial -2)=36 **C13T : International Relations after the Second World War** **Term –I (Lecture-13+ Tutorial -1) =14** **Unit II : Conflict between Superpowers** USA and Soviet Union; Soviet Communism and the Russian leader Joseph Stalin; Soviet Union and Europe in Cold War 1945 – 1953; Military and Defense Alliances and Peace Pacts –Berlin after 1945. **Term –II (Lecture-13+ Tutorial -1) =14** **Unit II :** Fall of the Berlin Wall & German Re-Unification---- European Coal and Steel Community (ECSC); European Economic Community & European Atomic Energy Committee (Euratom) **Unit III : Decolonization and the emergence of the Third world** National Movements in Asia & Africa---Third World Organizations-OPEC, ASEAN, SAARC; **Term –III (Lecture-08)** **Unit III :** West Asian Crisis--- Palestine Problem; Suez Crisis, Iran- Iraq conflicts, Gulf War ; Arab- Israel wars- activities of the PLO, Afghan Problem
Post Graduate	**SEMESTER II :** (No. of Classes(Hour) per week:**5**) **Compulsory Course (viii) HIS 203** **SOCIAL HISTORY OF COLONIAL INDIA** UNIT I: A changing discipline: what is social history: 'From Social History to History of Society' and beyond; the post-modern challenge; from social history to cultural history –	**SEMESTER II** (Total Lecture-78+ Tutorial -2) =80 **Compulsory Course (viii) HIS 203** **SOCIAL HISTORY OF COLONIAL INDIA** **Term –I (Lecture-29+ Tutorial -1) =30** UNIT I: A changing discipline: what is social history: 'From Social History to History of Society' and beyond; the post-modern challenge; from social history to cultural history –

Post Graduate	Orientalist, Utilitarian, and Nationalist perceptions of Indian society – a brief overview of aspects of post-colonial Indian society.

UNIT II: Communities in society: Tribe: validity of the concept and traditional features; changes during colonial rule, and confrontation and assertion; tribes and national movement – Caste: traditional features; colonial sociology and new mobility movements; lower caste aspirations and national movement – Labour: consciousness, conditions of work, and the making of a working class; capital and labour; organisation and protest; labour and the national movement.

SEMESTER II
Compulsory Course (x) HIS 205
THE GLOBAL INDIAN MIGRATION AND DIASPORA
Unit I: a) Definition and Types of Migration b) Patterns of Migration c) Domestic and Global Migration d)) Definition and Types of Diaspora ; Patterns of Diaspora e) Geo-politics of Diaspora; State, Nation, Border, Environment, Frontier, Citizenship, Rights and Refugees—asylum, ghetto Harlem.

SEMESTER IV : (No. of Classes(Hour) per week:4)

Compulsory Course (xviii) HIS 404
HISTORY OF CONSTITUTIONAL DEVELOPMENT IN MODERN INDIA | Orientalist, Utilitarian, and Nationalist perceptions of Indian society – a brief overview of aspects of post-colonial Indian society.
Compulsory Course (viii) HIS 203
UNIT II: Communities in society: Tribe: validity of the concept and traditional features; changes during colonial rule, and confrontation and assertion.
Term –II (Lecture-29+ Tutorial -1) =30
Compulsory Course (viii) HIS 203
UNIT II: Tribes and national movement – Caste: traditional features; colonial sociology and new mobility movements; lower caste aspirations and national movement.
Compulsory Course (x) HIS 205
THE GLOBAL INDIAN MIGRATION AND DIASPORA
Unit I: a) Definition and Types of Migration b) Patterns of Migration c) Domestic and Global Migration d)) Definition and Types of Diaspora ; Patterns of Diaspora.
Term –III (Lecture-20)
Compulsory Course (viii) HIS 203
UNIT II: Labour: consciousness, conditions of work, and the making of a working class; capital and labour; organisation and protest; labour and the national movement.
Compulsory Course (x) HIS 205
THE GLOBAL INDIAN MIGRATION AND DIASPORA
Unit I : e) Geo-politics of Diaspora; State, Nation, Border, Environment, Frontier, Citizenship, Rights and Refugees—asylum, ghetto Harlem.
SEMESTER IV (Total Lecture-70+ Tutorial -2) =72

Term –I (Lecture-27+ Tutorial -1) =28

Compulsory Course (xviii) HIS 404
HISTORY OF CONSTITUTIONAL DEVELOPMENT IN MODERN INDIA |

	UNIT I: Brief outline of the East India Company – East India Company and the Dual System in Bengal – Constitutional development during company's rule: era of centralization of power – The Regulation Act of 1773, Pitts Acts of 1784 and the Charter Acts of 1793, 1813, and 1833. UNIT III: Making responsive governance: Montague Declaration (1917) and Montford Reforms (1919): main provisions, working of diarchy in provinces – Simon Commission – Nehru Report: its salient features – Jinnah's fourteen Points – The round table conference – Communal Award, Poona Pact – The Government of India Act of 1935: its main provisions – Elections in 1937.	UNIT I: Brief outline of the East India Company – East India Company and the Dual System in Bengal – Constitutional development during company's rule: era of centralization of power – The Regulation Act of 1773, Pitts Acts of 1784 and the Charter Acts of 1793, 1813, and 1833. UNIT III: Making responsive governance: Montague Declaration (1917) and Montford Reforms (1919): main provisions, working of diarchy in provinces - Simon Commission – Nehru Report: its salient features – Jinnah's fourteen Points . **Term –II (Lecture-27+ Tutorial -1) =28** UNIT III: The round table conference – Communal Award, Poona Pact – The Government of India Act of 1935: its main provisions – Elections in 1937. UNIT IV: Towards freedom: August Offer of 1940, Cripps Mission of 1942, C. R. Formula, Wavell's Plan of 1945, Cabinet Mission Plan of 1946 – Formation of the Constituent Assembly: its debates and deliberations – Attlee's declaration of 1947 – Mountbatten's Plan, mechanisms or ... tion and debates on federation States – The Indian Independence Act of 1947 – Promulgation of the Constitution – Public
Post Graduate	UNIT IV: Towards freedom: August Offer of 1940, Cripps Mission of 1942, C. R. Formula, Wavell's Plan of 1945, Cabinet Mission Plan of 1946 – Formation of the Constituent Assembly: its debates and deliberations – Attlee's declaration	

	of 1947 – Mountbatten's Plan, mechanisms on the Partition and debates on federation States – The Indian Independence Act of 1947 – Promulgation of the Constitution – Public services in India (1858-1947) – Growth of central legislature in India – Growth of provincial legislature in India – Framing of the new Constitution of the Republic of India – Nature of the Indian Constitution – Salient features of Indian Constitution. **Compulsory Course (xv) HIS 401** **INDUSTRIAL REVOLUTION (I)** **The Nature of the Industrial Revolution & the English Experience** UNIT II: Demographic Revolution – Agricultural Revolution; Enclosures in Britain – Commercial Revolution - Transport Revolution.	services in India (1858-1947) . **Term –III (Lecture-16)** UNIT IV: Growth of central legislature in India – Growth of provincial legislature in India – Framing of the new Constitution of the Republic of India – Nature of the Indian Constitution – Salient features of Indian Constitution. **Compulsory Course (xv) HIS 401** **INDUSTRIAL REVOLUTION (I)** The Nature of the Industrial Revolution & the English Experience UNIT II: a) Demographic Revolution b) Agricultural Revolution; Enclosures in Britain c) Commercial Revolution d) Transport Revolution.

Submitted by—

Dr. Rakhal Chandra Bhunia
Associate Professor in History
Kharagpur College
 Date:31.03.2023

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

Department of History
Syllabus Distribution and Teaching Plan, Even Semester, Session: 2022-2023
Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term III: 2nd internal to ESE preparatory break

Dr. Abinash Sengupta

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**SEMESTER –II** **Unit I Module I** **CC 4 Understanding the 'early medieval' phase in the Indian history** 1.1 Different perceptions on the early medieval situations 1.2 Literary and archaeological sources 1.3 Development of regional cultures: an overview **Unit II Module I** **Political processes and structure of polity** 1.1 Absence of vast territorial empires -- a 'dark period'? 1.2 Emergence of feudal polity -- nature and structure of Indian feudalism 1.3 Zenith of political feudalism: 1000 - 1200 CE 1.4 The concept of segmentary state and the Indian experience **Module II** **The urban scenario** 2.1 Debates on the decay of urban centres 2.2 A third phase of urbanization? **SEMESTER –IV** **CC-8: Renaissance and Reformation Credits 06** **C8T: Renaissance and Reformation** 1. Political and social background – political system in early modern Europe – collapse of feudalism – and the changing economic life in the 15th and 16th century – commerce and navigation – monarchies and city states – features of the early modern state – the printing revolution. 4. Renaissance science and the emergence of a secular culture **SEMESTER –VI** **C14T: Modern Nationalism in India**	**SEMESTER –II (Total Lecture = 15)** **Term –I (Lecture-05)** Unit I Module I **CC 4 Understanding the 'early medieval' phase in the Indian history** 1.1 Different perceptions on the early medieval situations 1.2 Literary and archaeological sources 1.3 Development of regional cultures: an overview **Term II (Lecture-05)** **Unit II Module I** **Political processes and structure of polity** 1.1 Absence of vast territorial empires -- a 'dark period'? 1.2 Emergence of feudal polity -- nature and structure of Indian feudalism 1.3 Zenith of political feudalism: 1000 - 1200 CE 1.4 The concept of segmentary state and the Indian experience **Term III (Lecture-05)** **The urban scenario** 2.1 Debates on the decay of urban centres 2.2 A third phase of urbanization? **SEMESTER –IV (Total Lecture = 15)** **Term –I (Lecture-05)** **C8T: Renaissance and Reformation** 1. Political and social background – political system in early modern Europe – collapse of feudalism – and the changing economic life in the 15th and 16th century **Term –II (Lecture-05)** **C8T: Renaissance and Reformation** commerce and navigation – monarchies and city states

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BIDYUT SAMANTA
22.06.2024

1/13

1. Emergence of Nationalism in India and its historiography. 2. Anti-partition movement in 1905. 6.Partition and its Aftermath. **DSE4T: Pre-colonial South East Asia** 1. The state system – mainland SE Asia in the ancient period – early kingdoms and cultural diversity – Indian influence and the Hindu-Khmer of Cambodia, Mons of Burma and Buddhism, Indianised kingdom of Champa in Vietnam, the Chinese in Malaya and Vietnam, Srivijaya kingdom of Sumatra, the Majapahits of Java, Chola- Srivijaya struggle; the intervention of the Cholas (11th century) 2. Economy – wet rice cultivation, upland shifting and cultivation ib the plains and seafaring – sawah agriculture and household based production; trade and markets; structural changes in SE Asian economy between 1st century CE to 1500 CE- Funan (Cambodia), Srivijaya maritime empire, Java. SE Asian maritime economy, international trade and commercial expansion in the mainland, Arabs and Chinese (1100-1300	-features of the early modern state – the printing revolution **Term –III (Lecture-05)** **C8T: Renaissance and Reformation** 4. Renaissance science and the emergence of a secular culture **SEMESTER –VI (Total Lecture = 60)** **Term –I (Lecture-20)** **C14T: Modern Nationalism in India** 1. Emergence of Nationalism in India and its historiography. **DSE4T: Pre-colonial South East Asia** 1. The state system – mainland SE Asia in the ancient period – early kingdoms and cultural diversity – Indian influence and the Hindu-Khmer of Cambodia, Mons of Burma and Buddhism, Indianised kingdom of Champa in Vietnam **Term –II (Lecture-20)** **C14T: Modern Nationalism in India** 2. Anti-partition movement in 1905. **DSE4T: Pre-colonial South East Asia** the Chinese in Malaya and Vietnam, Srivijaya kingdom of Sumatra, the Majapahits of Java, Chola- Srivijaya struggle; the intervention of the Cholas (11th century) **Term –II (Lecture-20)** **C14T: Modern Nationalism in India** 6.Partition and its Aftermath. **DSE4T: Pre-colonial South East Asia** 2. Economy – wet rice cultivation, upland shifting and cultivation ib the plains and seafaring – sawah agriculture and household based production; trade and markets; structural changes in SE Asian economy between 1st century CE to 1500 CE- Funan (Cambodia), Srivijaya maritime empire, Java. SE Asian maritime economy, international trade and commercial expansion in the mainland, Arabs and Chinese (1100-1300

Post Graduate	SEMESTER-IV	SEMESTER-IV (Total Lecture = 75)
	CompulsoryCourse (xvii)	**Term –I (Lecture-25)**
	HIS 403	**HIS 403**
	ENVIRONMENTAL HISTORY OF MODERN INDIA	**ENVIRONMENTAL HISTORY OF MODERN INDIA**
	Lectures:	**Lectures:**
	UNIT-I: What is environmental History? Sources and Methods,Historiography:Ecolonialism as a watershed–Nationalism and	UNIT-I: What is environmental History? Sources and Methods,Historiography: Ecolonialism as a watershed–Nationalism and
	The environmenta ldiscourse.	The environmenta ldiscourse.
	UNIT-II:Communities on the margin–indigenous societies–changing patterns of livelyhood, land use,forest management–Colonial and post-colonial experiences.	UNIT-II:Communities on the margin–indigenous societies–changing patterns of livelyhood, land use,forest management–Colonial and post-colonial experiences.
	UNIT-III:Water and social structure:the sociology of resourceuse and abuse–technology and ecologica lchange in colonial times–the history of climate change–drought,famines,flood,earthquake–dislocationandmigration–consequences.	**HIS401**
		INDUSTRIALREVOLUTION(I)
		The Nature of the Industrial Revolution & the English Experience
		Lectures:
	UNIT-IV:Independent India–technology choice–public policy–developmental discourse–distress and protest discourse–The growth of environmental concern in India.	UNITI-V:Legislations and human dimensions–changes in the occupational structure–conditions of work–social attitude–Women and child labour–Factory Acts–labour organizations–standards of living
	CompulsoryCourse(xv)	**Term –II (Lecture-25)**
	HIS401	**HIS 403**
	INDUSTRIALREVOLUTION(I)	**ENVIRONMENTAL HISTORY OF MODERN INDIA**
	The Nature of the Industrial Revolution & the English Experience	UNIT-III:Water and social structure: the sociology of resourceuse and abuse–technology and ecologica lchange in colonial times–the history of climate change–drought,famines,flood,earthquake–dislocationandmigration–consequences.
	Lectures:60	
	UNITI-V:Legislations and human dimensions–changes in the occupational structure–conditions of work–social attitude–Women and child labour–Factory Acts–labour organizations–standards of living	
	HIS405(E)	**HIS405(E)**
	WOMEN AND SOCIETY IN INDIAN HISTORY	**WOMEN AND SOCIETY IN INDIAN HISTORY**
	Lectures:	**Lectures:**
	UNIT-I :Understanding Women's History, Feminism andGenderHistory:Concepts,Theories	UNIT-I :Understanding Women's History, Feminism andGenderHistory:Concepts,Theories And Issues; Gender: Social construction of

And Issues; Gender: Social construction of Sexuality,Understanding Gender through Class, Caste, Race, and Community; Masculinity, Femininity, Patriarchy: Ideologies and Practices. **SEMESTER-II** **CompulsoryCourse(vii)** **HIS-202** **ReligionandEcologyinEarly India** **Lectures:** Unit-I Ecology, Religion: Sources and methodology Unit-II Ecology and Hindu Religious tradition Hindu world view on Nature Aspects of Nature in Hindu Tradition Mother Earth in Hindu Culture Forests in Classical Texts Unit-III Ecology and Budhist Traditions The Concept of Budhist Ecology Budhist Environmentalism Unit-IV Ecology and Jainism Ecology and Jain World view Jain Environmental Ethics Teachings of Tirthankara Mahaviron Ecology and Environment Unit-V Ecology and Tribal/Adivasi Religious Practices Adivasi World view about nature AdiDharam: a way of life based on entangled life of nature,ancestor and human,and asymbiosis between human,plants and Animal kingdom. Environmental Ethics of the Adivasis	Sexuality,Understanding Gender through Class, Caste, Race, and Community; Masculinity, Femininity, Patriarchy: Ideologies and Practices. **Term –III** (Lecture-25) **HIS 403** **ENVIRONMENTAL HISTORY OF MODERN INDIA** UNIT-IV:Independent India–technology choice–public policy–developmental discourse–distress and protest discourse–The growth of environmental concern in India. **SEMESTER-II (Total Lecture = 75)** **Term –I** (Lecture-25) **HIS 202** **Religion and Ecology in Early India** **Lectures** Unit-I Ecology,Religion Sources and methodology Unit-II Ecology and Hindu Religioustradition Hindu world view on Nature Aspects of Nature in Hindu Tradition Mother Earth in Hindu Culture Forests in Classical Texts **Term –II** (Lecture-25) Unit-III Ecology and Budhist Traditions The Concept of Budhist Ecology Budhist Environmentalism Unit-IV Ecology and Jainism Ecology and Jain World view Jain Environmental Ethics Teachings of Tirthankara Mahaviron Ecology and Environment **Term –III** (Lecture-25) Unit-V

		Ecology and Tribal/Adivasi Religious Practices Adivasi World view about nature Adi Dharam: a way of life based on entangled life of nature, ancestor and human,and asymbiosis between human,plants and Animal kingdom. Environmental Ethics of the Adivasis

Submitted by—

Dr. Abinash Sengupta
Assistant Professor in History
Kharagpur College
 Date:22.03.2023

Department of History
Syllabus Distribution and Teaching Plan, Even Semester, Session: 2022-2023
Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term III: 2nd internal to ESE preparatory break

Prof. Uttam Das

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**SEMESTER –II** **C4T: Political History of Early Medieval India (600 AD to 1200 AD)** **Module IV Eastern India** 4.1 The Palas and the tripartite struggle 4.2 Expansion of Pala power towards paramountcy 4.3 The Senas of Bengal **SEMESTER –IV** **C9T : The French Revolution & Napoleon Bonaparte** I. Historiography of the French Revolution II. Crisis of the Ancien Regime III. Intellectual impetus IV. Socio-economic background V. Phases of the French Revolution – 1788-99 **SEMESTER –VI** **C14T: Modern Nationalism in India** 3. Gandhian Mass Movements— Non cooperation, Civil Disobedience , Quit India, Movement. 4. Roots of Communalism and Communal Award 5. Demand for Pakistan : Pakistan Movement from Cripps Mission to Cabinet Mission Plan. **DSE 3T: War and Diplomacy, 1914-1945** **Unit II Module I** **Road to another global war**	**SEMESTER –II (Total Lecture =30)** **Term –I (Lecture-10)** **C4T: Political History of Early Medieval India (600 AD to 1200 AD)** **Module IV Eastern India** 4.1 The Palas and the tripartite struggle **Term II (Lecture-10)** **C4T: Political History of Early Medieval India (600 AD to 1200 AD)** **Module IV Eastern India** 4.2 Expansion of Pala power towards paramountcy **Term III (Lecture-10)** **C4T: Political History of Early Medieval India (600 AD to 1200 AD)** **Module IV Eastern India** 4.3 The Senas of Bengal **SEMESTER –IV (Total Lecture = 60)** **Term –I (Lecture-20)** **C9T : The French Revolution & Napoleon Bonaparte** I. Historiography of the French Revolution II. Crisis of the Ancien Regime

1.1 Economic depression, 1929-32: prelude to the Second World War 1.2 Rise of dictatorship in Germany and Italy - a study in tyranny 1.3 Spain on fire: the Civil War, 1936-39 1.4 Diplomatic moves: the Nazi-Soviet Nonaggression Pact and the Rome-Berlin-Tokyo Axis **Module II** **The gathering storm** 2.1 A historiography of the Second World War 2.2 Hitler's foreign policy and origins of the war 2.3 With the Old Breed: from the Pacific Theatre to the Eastern and Western fronts 2.3 Reappraisal of the concept of appeasement **Module III** **Wartime politics in Europe** 3.1 Coming of the Grand Alliance and conferences at Tehran, Yalta and Potsdam 3.2 The Lend-Lease policy of the United States 3.3 The allied victory and the collapse of wartime alliance **DSE4T: Pre-colonial South East Asia** 4. Europeans – Portuguese in the 16th century; Dutch and English in the 17th century.	**Term –II** (Lecture-20) **C9T : The French Revolution & Napoleon Bonaparte** III. Intellectual impetus IV. Socio-economic background **Term –III** (Lecture-20) **C9T : The French Revolution & Napoleon Bonaparte** V. Phases of the French Revolution – 1788-99 **SEMESTER –VI (Total Lecture = 30)** **Term –I** (Lecture-10) **C14T: Modern Nationalism in India** 3. Gandhian Mass Movements— Non cooperation, Civil Disobedience , Quit India, Movement. **DSE 3T: War and Diplomacy, 1914-1945** **Unit II Module I** **Road to another global war** 1.1 Economic depression, 1929-32: prelude to the Second World War 1.2 Rise of dictatorship in Germany and Italy - a study in tyranny 1.3 Spain on fire: the Civil War, 1936-39 1.4 Diplomatic moves: the Nazi-Soviet Nonaggression Pact and the Rome-Berlin-Tokyo Axis **Term –II** (Lecture-10) **C14T: Modern Nationalism in India** 4. Roots of Communalism and Communal Award **Module II** **The gathering storm**

		2.1 A historiography of the Second World War
		2.2 Hitler's foreign policy and origins of the war
		2.3 With the Old Breed: from the Pacific Theatre to the Eastern and Western fronts
		2.3 Reappraisal of the concept of appeasement
		DSE4T: Pre-colonial South East Asia
		4. Europeans – Portuguese in the 16th century; Dutch and English in the 17th century.
		Term –III (Lecture-10)
		C14T: Modern Nationalism in India
		5. Demand for Pakistan : Pakistan Movement from Cripps Mission to Cabinet Mission Plan.
		Module III
		Wartime politics in Europe
		3.1 Coming of the Grand Alliance and conferences at Tehran, Yalta and Potsdam
		3.2 The Lend-Lease policy of the United States
		3.3 The allied victory and the collapse of wartime alliance
Post Graduate	**SEMESTER-IV** **HIS401** **INDUSTRIAL REVOLUTION (I)** **The Nature of the Industrial Revolution & the English Experience** UNITI:DefiningtheIndustrialRevolution–validityoftheconceptof'IndustrialRevolution'–whydidtheIndustrialRevolution	**SEMESTER-IV (Total Lecture = 75)** **Term –I (Lecture-25)** **HIS401** **INDUSTRIAL REVOLUTION (I)** **The Nature of the Industrial Revolution & the English Experience**

firstoccurinEngland?–ChronologyoftheBritishIndustrialRevolution.

UNITIII:England:The18thcenturybackground–theadoptionofFreeTrade–roleplayedbylabour,capital,banks,government–roleoftechnologyandscienceintheIndustrialRevolution–theconceptofaleadingsector–CottonIndustry&IronIndustry.

SEMESTER-II
HIS 201: STATE FORMATION IN ANCIENT INDIA
UNIT II: Local autonomy and imperial unity – janapadas and mahajanapadas – conditions for the rise of large territorial states – treasury and coercion in the state – regular collection of land-revenue – advent of taxation and emergence of the state.

UNITI:DefiningtheIndustrialRevolution–validityoftheconceptof'IndustrialRevolution'–whydidtheIndustrialRevolution firstoccurinEngland?–ChronologyoftheBritishIndustrialRevolution.

Term –II (Lecture-25)
HIS401
INDUSTRIAL REVOLUTION (I)
The Nature of the Industrial Revolution & the English Experience
UNIT-III:England:The18thcenturybackground–theadoptionofFreeTrade–
Term –III (Lecture-25)

HIS401
INDUSTRIAL REVOLUTION (I)
The Nature of the Industrial Revolution & the English Experience

UNIT-III:
Role of technology and science in the Industrial Revolution–the concept of a leading sector–Cotton Industry & IronIndustry.

SEMESTER-II (Total Lecture = 45)
Term –I (Lecture-15)
HIS 201: STATE FORMATION IN ANCIENT INDIA
UNIT II: Local autonomy and imperial unity – janapadas and mahajanapadas –

Term –II (Lecture-15)
HIS 201: STATE FORMATION IN ANCIENT INDIA
UNIT II: Conditions for the rise of large territorial states – treasury

		and coercion in the states.
		Term –III (Lecture-15)
		HIS 201: STATE FORMATION IN ANCIENT INDIA
		UNIT II:
		Regular collection of land-revenue –
		Advent of taxation and emergence of the state.

Submitted by—

Prof. Uttam Das
Assistant Professor in History
Kharagpur College

BISWAJIT KOYORHI

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**SEMESTER –II** **CC-4: Political History of Early Medieval India (600 AD to 1200 AD)** **Credits 06** **C4T: Political History of Early Medieval India (600 AD to 1200 AD)** **Unit 2 Module 3** **Administrative Structure** **3.1 The Chola experiment -- a centralised state?** **3.2 Land revenue system** **3.3 Military organisation and administration of justice.** **GE-2 SCIENCE GE 2T. SCIENCE AND EMPIRE** 1. **History and Development of Science under the Colonial Empire-Perspectives and Recent Historical Debates/ Discourse/ Trajectories.** 2. **Science and Colonial Empire: Concepts and Contours-Different Colonial Experiments in India-Fundamental Research in India .**	**SEMESTER –II (Total Lecture = 15)** **Term –I (Lecture-05)** **CC-4: Political History of Early Medieval India (600 AD to 1200 AD)** **UNIT -2 MODULE -3** Administrative structures 3.1 The Chola experiment -- a centralised state? GE 2. SCIENCE AND EMPIRE 1. History and Development of Science under the Colonial Empire-Perspectives and Recent Historical Debates/ Discourse/ Trajectories. **Term -II (Total Lecture = 05)** **CC-4Political History of Early Medieval India (600 AD to 1200 AD)** **UNIT -2 MODULE -3** **3.2 Land revenue system** GE 2. SCIENCE AND EMPIRE

3. Colonial Science: Indian and Western Interaction-Role of Institutions in Promoting Scientific Knowledge (Botanical Garden, Medical Colleges, Calcutta School of Tropical Medicine, Bose Institute, Indian Institute of Science etc.)	2. Science and Colonial Empire: Concepts and Contours-Different Colonial Experiments in India-Fundamental Research in Science in India. Term -III (Total Lecture = 05) CC-4 Political History of Early Medieval India (600 AD to 1200 AD) UNIT -2 MODULE -3 3. Military organisation and administration of justice. GE 2. SCIENCE AND EMPIRE 3.Colonial Science: Indian and Western Interaction-Role of Institutions in Promoting Scientific Knowledge (Botanical Garden, Medical Colleges, Calcutta School of Tropical Medicine, Bose Institute, Indian Institute of Science etc.)
SEMESTER –IV CC-10:19th Century RevolutionsinEurope Credits 06 C10T: 19th Century Revolutions in Europe UNIT II. The Age of Nationalism: The Second Empire in France and Louis Napoleon; Unification of Italy and Germany; The Third Republic and the Paris Commune;	**SEMESTER - IV (TOTAL LECTURES -15)** **CC-10:19th Century RevolutionsinEurope Credits 06** **C10T: 19th Century Revolutions in Europe** **TERM -1 (LECTURES -5)** **UNIT II.** **The Age of Nationalism: The Second Empire in France and Louis Napoleon;** **TERM -2 (LECTURES-5)** **Unification of Italy and Germany;** **TERM-3 (LECTURES -5)** **The Third Republic and the Paris Commune;**
SEMESTER –VI	**SEMESTER -VI (TOTAL LECTURES -15)**

	CC–13 : International Relations after the Second World War Credits 06 **C13T : International Relations after the Second World War** **Unit I:** **Nuremberg Trials, Germany 1945 – 46** **Ruins of Europe and Japan; Charter of the United Nations at San Francisco Conference, 1945;** **Peace Settlement after the Second World War; Beginning of the Cold War: 1947**	CC–13 : International Relations after the Second World War Credits 06 C13T : International Relations after the Second World War Unit I: **TERM -1(LECTURES -5)** 1.Nuremberg Trials, Germany 1945 – 46 **TERM -II (LECTURES-5)** 2.Ruins of Europe and Japan; Charter of the United Nations at San Francisco Conference, 1945; **TERM -III (LECTURES -5)** 3.Peace Settlement after the Second World War; Beginning of the Cold War: 1947
Post Graduate	**SEMESTER-IV** **HIS 402** **SOCIAL HISTORY OF SCIENCE, TECHNOLOGYAND MEDICINE IN INDIA: COLONIAL PERIOD** **Lectures: 60** **UNIT I: Colonial Science – considerations of the colonial power underpinning scientific and technological initiatives of British India –British surveys in India as colonial forms of knowledge – technology and the colonial project of India's development – Departments of Irrigation, Agriculture, Public Works, Railways – role of Asiatic Society of Bengal.** **UNIT II: Western medicine in an Indian environment – colonial government, public health and state medicine – emergence of the study of tropical diseases – underpinnings of colonial power in epidemiology in colonial India – role of scientific education and technical institutions -government and private colleges – engineering and medical colleges – involvement of women in science education.** **UNIT III: Nationalist science as a counter-discourse of colonial science; claim of an ancient _national' scientific tradition for**	**SEMESTER-IV (Total Lecture = 60)** **Term –I (Lecture -20)** **HIS 402** **SOCIAL HISTORY OF SCIENCE, TECHNOLOGYAND MEDICINE IN INDIA: COLONIAL PERIODS** **UNIT I: Colonial Science – considerations of the colonial power underpinning scientific and technological initiatives of British India –British surveys in India as colonial forms of knowledge – technology and the colonial project of India's development – Departments of Irrigation, Agriculture, Public Works, Railways – role of Asiatic Society of Bengal.** **Term –II (Lectures -20)** **UNIT II: Western medicine in an Indian colonial government, public health and state emergence of the study of tropical diseas colonial power in epidemiology in colonial India – of scientific education and technical institutions -government**

India; the search
for _scientific' texts from _antiquity' – Nationalist medicine: Ayurveda, Unani, nationalist adoption of Homeopathy.

UNIT IV: Nationalism and the founding of institutions and associations for scientific research – Swadeshi technology: in theory and practice - response to western science: failures and successes – modern scientific outlook and the _women question.

HIS 404
HISTORY OF CONSTITUTIONAL DEVELOPMENT IN MODERN INDIA

UNIT II: Evolution of representative governance: Queen's Proclamation – Government of India Act of 1858 – Indian Council Act of 1861 –Local Self Government: proposal of Mayo and Ripon and introduction of Local Self-Government (1864-1882) – Indian Council Act of 1892 -Administrative policy under Lord Curzon – The Indian Council Act of 1909.

SEMESTER -II

HIS 201
STATE FORMATION IN ANCIENT INDIA

UNIT I: Introduction to political organization till the Vedic period – Kingship in the ancient period – Gopati to Bhupati – meaning of the term Rajan-Vispati as chief – post-Vedic terms for the King.

UNIT IV: State and imperial ideology in South India – the Cholas and their successors – Vijayanagara.

and private colleges – engineering and medical colleges – involvement of women in science education.

UNIT III: Nationalist science as a counter-discourse of colonial science; claim of an ancient _national' scientific tradition for India; the search

TERM -III (LECTURES-20)

UNIT IV: Nationalism and the founding of institutions and associations for scientific research – Swadeshi technology: in theory and practice - response to western science: failures and successes – modern scientific outlook and the _women question.

HIS 404
HISTORY OF CONSTITUTIONAL DEVELOPMENT IN MODERN INDIA

UNIT II: Evolution of representative governance: Queen's Proclamation – Government of India Act of 1858 – Indian Council Act of 1861 –Local Self Government: proposal of Mayo and Ripon and introduction of Local Self-Government (1864-1882) – Indian Council Act of 1892 ,- Administrative policy under Lord Curzon – The Indian Council Act of 1909.

SEMESTER -II (TOTAL LECTURES 60)

Term –I (Lectures-20)
HIS 201
STATE FORMATION IN ANCIENT INDIA

	HIS 203 **SOCIAL HISTORY OF COLONIAL INDIA** **UNIT IV: The city and its inhabitants: traditional cities; urbanisation and urbanism in colonial India; the metropolises and the mofussils –emergence of a new middle class; other classes in the city; their attributes and sensibilities, and relations – different aspects of elite and popular culture in the city.** **HIS 204** **CONTEMPORARY WORLD** **UNIT II: Third World: Historical context of the emergence of the Third World – Developmental issues of the Third World – Changing face of the Third World; politics, society, economy, culture.** **UNIT IV: Major conflicts since the dissolution of USSR: Chechen crisis, Yugoslav crisis, Georgian crisis, Ukraine crisis – South, East and South-East Asia: Kargil War 1999 – Rise and fall of Taliban in Afghanistan, Post 9/11 Global war on terror in Afghanistan – Srilankan Tamil**	**UNIT I: Introduction to political organization till the Vedic period – Kingship in the ancient period – Gopati to Bhupati – meaning of the term Rajan-Vispati as chief – post-Vedic terms for the King.** **UNIT IV: State and imperial ideology in South India – the Cholas and their successors – Vijayanagara.** **Term –II (Lectures -20)** **HIS 203** **SOCIAL HISTORY OF COLONIAL INDIA** **UNIT IV: The city and its inhabitants: traditional cities; urbanisation and urbanism in colonial India; the metropolises and the mofussils –emergence of a new middle class; other classes in the city; their attributes and sensibilities, and relations – different aspects of elite and popular culture in the city.** **Term –III (Lectures -20)** **HIS 204** **CONTEMPORARY WORLD** **UNIT II: Third World: Historical context of the emergence of the Third World – Developmental issues of the Third World – Changing face of the Third World; politics, society, economy, culture.** **UNIT IV: Major conflicts since the dissolution of USSR: Chechen crisis, Yugoslav crisis, Georgia... Ukraine crisis – South, East and South-East Asia: Kargil War... ise and fall of Taliban in Afghanistan, Pos... terror in Afghanistan – Srilankan Tamil**

Submitted by—

Biswajit Koyorhi
SACT-1 Department of History
Kharagpur College
Date:24.03.2023

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

Department of History

Syllabus Distribution and Teaching Plan

Even Semesters, Session: 2022-2023

Term I: Commencement of classes to 1st internal.
Term II: 1st internal to 2nd internal.
Term III: 2nd internal to ESE preparatory break.

Name of the Teacher**: Dr. Sanjoy Kumar Kar**

Name	Syllabus Allotted	Teaching Plan
Under Graduate	**SEMESTER -II** **CC-4: Political History of Early Medieval India (600 AD to 1200 AD)** **Unit-1** **Module-III** **An overview of politics in the Deccan and south India** 3.1 The Chalukyas of Badami 3.2 Chalukya-Pallava struggle 3.3 Rashtrakuta- Pratihara rivalry 3.4 Rise of the Cholas as the premier power of the south **Generic Electives (GE)** **[Interdisciplinary for other Department]** **GE- 2: Science and Empire** 4.Science and Empire-Indian Responses and Resistance-Ideas of Mahatma Gandhi and Jawaharlal Nehru. 5.Scientific Activities under the Empire-Social, Political and Cultural Implication and Historical Debates	**SEMESTER -II (Total Lectures-10)** **Term –I (Lecture- 3)** **Unit-1** **Module-III** **An overview of politics in the Deccan and south India** 3.1 The Chalukyas of Badami **GE- 2: Science and Empire** 4.Science and Empire-Indian Responses and Resistance-Ideas of Mahatma Gandhi. **Term II (Lecture-4)** **Unit-1** **Module-III** **An overview of politics in the Deccan and south India** 3.2 Chalukya-Pallava struggle 3.3 Rashtrakuta- Pratihara rivalry **GE- 2: Science and Empire**

SEMESTER –IV **Skill Enhancement Course (SEC)** **SEC- 2: The Making of Indian Foreign Policy** 1. Historical Factors in India's foreign policy priorities – pan Asianism 2. The State India and the Third World – Non-alignment – Regional Cooperation 3. India and South Asia: Relationship with the Neighbours 4. India and the Great Powers – (a) United States (b) Soviet Union (c) China 5.India and Globalisation – Economic Diplomacy – The Look East Policy and the European Union 6. India's Nuclear Policy **SEMESTER –VI** **DSE-4 : Pre-colonial South East Asia** 3. **Religion**: Theravada and Mahayana Buddhism in mainland SE Asia – Mon kingdoms and dissemination of Theravada Buddhism; links with Sri Lanka (12th century onwards); Islam in the 9th century in Malayan and Indonesian archipelago – Sufi mystical influence – Indonesian tarekat - toleration of non-Muslim practices and beliefs.	4.Science and Empire-Indian Responses and Resistance-Ideas of Jawaharlal Nehru. **Term III (Lecture-3)** **Unit-1** **Module-III** **An overview of politics in the Deccan and south India** 3.4 Rise of the Cholas as the premier power of the south **GE- 2: Science and Empire** 5. Scientific Activities under the Empire-Social, Political and Cultural Implication and Historical Debates. **SEMESTER –IV (Total Lectures-16)** **Term –I (Lecture-4)** **SEC- 2: The Making of Indian Foreign Policy** 1. Historical Factors in India's foreign policy priorities – pan Asianism 2. The State India and the Third World – Non-alignment – Regional Cooperation. **Term –II (Lecture-6)** **SEC- 2: The Making of Indian Foreign Policy** 3. India and South Asia: Relationship with the Neighbours 4. India and the Great Powers – (a) United States (b) Soviet Union (c) China **Term –III (Lecture-6)** 5. India and Globalisation – Economic Diplomacy – The Look East Policy and the European Union 6. India's Nuclear Policy

		SEMESTER –VI (Total Lecturs-14) **Term –I (Lecture-4)** **DSE4T: Pre-colonial South East Asia** 3. **Religion**: Theravada and Mahayana Buddhism in mainland SE Asia. **Term –II (Lecture-5)** **DSE4T: Pre-colonial South East Asia** 3. **Religion**: a) Mon kingdoms and dissemination of Theravada Buddhism; links with Sri Lanka (12th century onwards). b) Islam in the 9th century in Malayan and Indonesian archipelago. **Term –III (Lecture-5)** **DSE4T: Pre-colonial South East Asia** 3. **Religion**: Sufi mystical influence – Indonesian tarekat - toleration of non-Muslim practices and beliefs.
Post Graduate	*SEMESTER-IV* *Optional Course(vi)* **HIS 405(E): WOMEN AND SOCIETY IN INDIAN HISTORY** **UNIT II**: Women in pre-colonial India: Archaeology and pre-historic society; Women in the Indus Valley Civilisation; Women's Position in Vedic Society; Buddhism and Jainism; Status of Women in Medieval India: Purdah and Seclusion; Concubinage and Slavery; Gender Division of Labour in Mughal India; Engels and the Origin of Women Oppression. **UNIT III**: Women in Colonial India: Social Reform Movements and Women's Issues; Women's Education; Women in Indian National Movement; Gandhian Nationalism and Women; Women's Organisations. **UNIT IV:** Women in post-colonial India: Tribal and Dalit Issues; Contemporary Issues and Problems: Divorce, Dowry, Violence, Rape; Women's Movement in India; Women and Rural Development; Policy	*SEMESTER-IV (Total Lectures-48)* **Term –I (Lecture- 16)** **HIS 405(E): WOMEN AND SOCIETY IN INDIAN HISTORY** **UNIT II**: Women in pre-colonial India: Archaeology and pre-historic society; Women in the Indus Valley Civilisation; Women's Position in Vedic Society; Buddhism and Jainism; Status of Women in Medieval India: Purdah and Seclusion; Concubinage and Slavery; Gender Division of Labour in Mughal India; Engels and the Origin of Women Oppression. **Term –II (Lecture-16)** **HIS 405(E): WOMEN AND SOCIETY IN INDIAN HISTORY** **UNIT III**: Women in Colonial India: Social Reform Movements and Women's Issues; Women's Education; Women in Indian National Movement; Gandhian Nationalism and Women; Women's Organisations

on Gender Equality and Women's Empowerment; Issues on Women 's Health.	**Term –III**(Lecture-16) **HIS 405(E): WOMEN AND SOCIETY IN INDIAN HISTORY** **UNIT IV:** Women in post-colonial India: Tribal and Dalit Issues; Contemporary Issues and Problems: Divorce, Dowry, Violence, Rape; Women's Movement in India; Women and Rural Development; Policy on Gender Equality and Women's Empowerment; Issues on Women 's Health.

SEMESTER-II

Compulsory Course (vi)

HIS 201: STATE FORMATION IN ANCIENT INDIA
UNIT III: Structure of polity in early medieval India – chieftaincies and feudatories – political and economic changes and the bases of the early medieval state system.

Compulsory Course (viii)
HIS 203: SOCIAL HISTORY OF COLONIAL INDIA

UNIT II: Communities in society: Tribe: validity of the concept and traditional features; changes during colonial rule, and confrontation and assertion; tribes and national movement – Caste: traditional features; colonial sociology and new mobility movements; lower caste aspirations and national movement – Labour: consciousness, conditions of work, and the making of a working class; capital and labour; organisation and protest; labour and the national movement.

UNIT III: Family and childhood: brief discussion on patriarchy and gender; traditional society, kinship, and family structure and household functions; changes in structure and norms during colonial rule – traditional ideas of childhood and attitude towards children; a 'new' idea of childhood and experience of childhood in the colonial period; traditional and modern children's literature

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SEMESTER-II *(Total Lectures-77)*
Term –I (Lecture - 25)
HIS 201: STATE FORMATION IN ANCIENT INDIA
UNIT III: Structure of polity in early medieval India.

HIS 203: SOCIAL HISTORY OF COLONIAL INDIA
UNIT II: Communities in society: Tribe: validity of the concept and traditional features; changes during colonial rule, and confrontation and assertion; tribes and national movement – Caste: traditional features; colonial sociology and new mobility movements.

HIS 204: CONTEMPORARY WORLD
UNIT I: Black American History: Abolition of slavery – the Harlem Resistance.

HIS 205: THE GLOBAL INDIAN MIGRATION AND DIASPORA
Unit II: The Origins of the modern Indian Diaspora: Migrations in pre-colonial time, Migration during the indenture Period - Indentured Labour; Trade Diaspora; Displacement, Migration in contemporary period – Trans-nationalism ---Indian Diaspora across continents: USA, UK, Africa, Canada, West Asia, Pacific countries and others.

Term –II (Lecture--25)
HIS 201: STATE FORMATION IN ANCIENT INDIA
UNIT III: – Chieftaincies and feudatories in early medieval India.

Compulsory Course (ix)
HIS 204: CONTEMPORARY WORLD

UNIT I: Black American History: Abolition of slavery – the Harlem Resistance – the Lexicon and History of Prohibition – the Civil Rights Movement; Martin Luther King to Malcolm X.

UNIT III: India Engaging with the World – Look East Policy – India and South Asian – India and Super Powers.

Compulsory Course (x)
HIS 205: THE GLOBAL INDIAN MIGRATION AND DIASPORA

Unit II : The Origins of the modern Indian Diaspora: Migrations in pre colonial time, Migration during the indenture Period - Indentured Labour; Trade Diaspora; Displacement, Migration in contemporary period – Trans-nationalism ---Indian Diaspora across continents: USA, UK, Africa, Canada, West Asia, Pacific countries and others.

Unit III: Culture and Community in Diaspora: a) Cultural Identity, Race, Gender, Religion, Spread of Indian Philosophy, Language and Literature-- Ramayana & Mahabharata; Diaspora Writers b) Struggle against Racism, Sexism and Lesbophobia; Ethno-nationalism, Cultural Pluralism and Ethnic Politics c) Indian Cinema-- Transnational media networking-- Music, Folk Arts and Cultural Migration.

Unit IV: Diaspora --the Politics of the Nation-State, and Long-Distance Nationalism; Civil Society, Social Movements and Development Process--foreign policy ; Indian state and the South Asians across continents—modern global Indian history.

HIS 203: SOCIAL HISTORY OF COLONIAL INDIA
UNIT II: Lower caste aspirations and national movement – Labour: consciousness, conditions of work, and the making of a working class; capital and labour; organisation and protest; labour and the national movement.

HIS 204: CONTEMPORARY WORLD
UNIT I: Black American History: Abolition of slavery – the Harlem

Resistance – the Lexicon and History of Prohibition – the Civil Rights Movement; Martin Luther King to Malcolm X.

HIS 205: THE GLOBAL INDIAN MIGRATION AND DIASPORA
Unit III: Culture and Community in Diaspora: a) Cultural Identity, Race, Gender, Religion, Spread of Indian Philosophy, Language and Literature-- Ramayana & Mahabharata; Diaspora Writers b) Struggle against Racism, Sexism and Lesbophobia; Ethno-nationalism, Cultural Pluralism and Ethnic Politics c) Indian Cinema-- Transnational media networking-- Music, Folk Arts and Cultural Migration.

Term –III (Lecture-27)
HIS 201: STATE FORMATION IN ANCIENT INDIA
UNIT III: Political and economic changes and the bases of the early medieval state system.

HIS 203: SOCIAL HISTORY OF COLONIAL INDIA
UNIT III: Family and childhood: brief discussion on patriarchy and gender; traditional society, kinship, and family structure and household functions; changes in structure and norms during colonial rule – traditional ideas of childhood and attitude towards children of childhood and experience of childhood in the colonial period; traditional and modern children's literature

		HIS 204: CONTEMPORARY WORLD **UNIT III**: India Engaging with the World – Look East Policy – India and South Asian – India and Super Powers **HIS 205: THE GLOBAL INDIAN MIGRATION AND DIASPORA** **Unit IV**: Diaspora --the Politics of the Nation-State, and Long-Distance Nationalism; Civil Society, Social Movements and Development Process--foreign policy; Indian state and the South Asians across continents—modern global Indian history.

Submitted by-

Dr. Sanjoy Kumar Kar
State Aided College Teacher -1,
Department of History,
Kharagpur college,
Date- 24.03.23

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

6/13

DEPARTMENT OF MATHEMATICS

Syllabus Distribution and Teaching Plan

Term I: Commencement of classes to 1st internal,

Term II: 1st internal to 2nd internal.

Term III: 2nd internal to ESE preparatory break.

Semester I

Name of the Teacher	Syllabus Allotted	Teaching Plan
Dr. Bimal Krishna Das	**Course type:** Mathematics (Honours) **Paper- Major-1(4 year Hons.)** *No of Classes (Hour) per week*: **1** **Major-1-: Calculus, Geometry & Differential Equation** **Unit-II: (Calculus -II): Marks: 14** Reduction formulae, derivations and illustrations of reduction formulae of the type ∫sin nx dx, ∫cos nx dx, ∫tan nx dx, ∫sec nx dx, ∫(log x)n dx, ∫sinnx sinmx dx, parametric equations, parameterizing a curve, arc length of a curve, arc length of parametric curves, area under a curve, area and volume of surface of revolution, techniques of sketching conics.	**Term I** (4 Lectures) Lecture 1: Illustrations of reduction formulae of the type ∫sin ⁿx dx, ∫cos ⁿx dx, ∫tan ⁿx dx, ∫sec ⁿx dx. If $\phi(n) = \int_0^{\frac{\pi}{4}} tan^n x dx$, show that $\phi(n) + \phi(n-2) = \frac{1}{n-1}$ and deduce the value of $\phi(5)$. Lecture 2: Find the reduction formulae of ∫(log x)ⁿ dx, $\int sin^m x cos^n x dx$, $\int_0^{\frac{\pi}{2}} sin^m x cos^n x dx$. Deduce the value of $\int_0^{\frac{\pi}{2}} sin^8 x cos^6 x dx$ Lecture 3: Reduction formula for $\int cos^m x cos n x dx$ and $\int cos^m x sin n x dx$, m, n being positive integer. If $I_{m,n} = \int_0^{\frac{\pi}{2}} cos^m x cos n x dx$, prove that $I_{m,n} = \frac{m(m-1)}{m^2-n^2} I_{m-2,n}$ Lecture 4: Tutorial **Term II** (4 Lectures) Lecture 5: Parametric equations, Parameterizing a curve and its related problems, arc length of a curve and Arc length of parametric curves Lecture 6: Find the length of arc of the following curves between the indicated points (i) $x = e^\theta sin\theta, y = e^\theta cos\theta; \theta = 0 \; and \; \frac{\pi}{2}$ (ii) $y = \frac{1}{2} a \left(e^{\frac{x}{a}} + e^{-\frac{x}{a}} \right); x = 0 \; and \; x = x$ Lecture 7: Find the perimeter of the hypocloid $\left(\frac{x}{a}\right)^{\frac{2}{3}} + \left(\frac{y}{b}\right)^{\frac{2}{3}} = 1$, Find the length of the perimeter of the astroid $(x)^{\frac{2}{3}} + (y)^{\frac{2}{3}} = (a)^{\frac{2}{3}}$ Lecture 8: Area under a curve and its related problems. Lecture 8: Find the area of the region bounded by the parabola $y^2 = 4x$ and its latus rectum, Find the area of the circle $r = 2a sin\theta$. **Term III** (4 Lectures) Lecture 9: Area and volume of surface of revolution. Techniques of sketching conics. Lecture 10: Find the volume generated by revolving about x-axis of the area bounded by the loop of the curve $= x^2(2-x)$, Find the volume and the surface area of the solid generated by revolving the cycloid $x = a(\theta + sin\theta), y = a(1 + cos\theta)$ about its base. Lecture 11: Tutorial Lecture 12: Tutorial

Dr. Pradip Kumar Gain	**(HONOURS)** *No of Classes (Hour) per week*: **1** **MJ-1T: (Unit-I)** **Calculus :- Marks-16** Hyperbolic functions, higher order derivatives, Leibnitz rule and its applications to problems of type $e^{ax+b}\sin x$, $e^{ax+b}\cos x$, $(ax+b)^n\sin x$, $(ax+b)^n\cos x$, concavity and inflection points, envelopes, asymptotes, curve tracing in cartesian coordinates, tracing in polar coordinates of standard curves, L'Hospital's rule, applications in business, economics and life sciences.	**Term I:** (07 Lectures+ 01 Tutorial) **Lecture-1.** Discussion on previous knowledge of calculus. **Lecture-2.** Hyperbolic functions. **Lecture-3.** Discussion on meaning of higher order of differential co-efficient. Method of finding higher order of differential co-efficients of some standard functions. **Lecture-4.** Discussion on Leibnitz rule and its applications. **Lecture-5.** Applications of Leibnitz rule to the problems of type $e^{ax+b}\sin x$, $e^{ax+b}\cos x$, $(ax+b)^n\sin x$, $(ax+b)^n\cos x$, **Lecture-6.** Discussion on Convexity and concavity. **Lecture-7.** Discussion on the problems related to Convexity and concavity and Point of inflection. **Tutorial-1.** **Term II:** (06 Lectures + 02 Tutorial) **Lecture-1.** Discussion on concept of envelops. **Lecture-2.** Methods of finding envelops of the family of curves of single parameter **Lecture-3.** Methods of finding envelops of the family of curves of two parameters. **Lecture-4.** Discussion on the concept of asymptotes of a curve having infinite branches **Lecture-5.** Methods of finding asymptotes of an algebraic curve. **Lecture-6.** Asymototes in polar co-ordinate system **Tutorial-1** **Tutorial-2** **Term III:** (02 Lectures + 01 Tutorial) **Lecture-1.** Discussion on L' Hospitals Rule **Lecture-2.** L' Hospitals Rule and its Applications **Tutorial-1**
Dr. Sangita Chakraborty	**Course:** B. Sc. (Hons.) Major in Mathematics **Course Type:** Major-1 **Course Code:** MATHMJ101 **Course Title:** T: Calculus, Geometry & Ordinary Differential Equation *No of Classes (Hour) per week*: **1** **UNIT-4:** General, particular, explicit, implicit and singular solutions of a differential equation. First order but not first degree. Exact differential equations and integrating factors, and equations reducible to this form, linear equation, Bernoulli equation and special integrating factors and transformations.	**Term I:** (05 Lectures+ 02 Tutorials) Lecture-1: Introduction to the ordinary differential equation(ODE) and its applications in different fields. Lecture-2: Types of solutions of an ODE: General, particular, explicit, implicit and singular solutions with examples. Lecture-3: Conditions for existence and uniqueness of the solution of an ODE with examples. Lecture-4: Definition and examples of first order exact differential equations and condition of exactness. Lecture-5: Method of solution of first order exact differential equations with problems solving. Tutorial-1 Tutorial-2 **Term II:** (04 Lectures+ 02 Tutorials) Lecture-6: Concepts of integrating fa___ to find an integrating factor. Lecture-7: Linear differential equations ___st order and its solution procedure. Lecture-8: Bernoulli's Equations and its solution techniques. Lecture-9: Continuation of Lecture 8. Tutorial 1: Tutorial 2:

		Term III: (05 Lectures+ 02 Tutorials)
		Lecture-10: First order higher degree equations solvable for x and solvable for y.
		Lecture-11: First order higher degree equations solvable for p.
		Lecture-12: Theory of singular solutions.
		Lecture-13: Discussion on special integrating factors.
		Lecture-14: Transformations applied to an ODE.
		Tutorial 1:
		Tutorial 2:
		Doubt-clearing session 1.
		Doubt-clearing session 2.
Prof. Sankar Das	**Course type:** Mathematics (Honours) **Paper- MJ A1/B1T:** *No of Classes (Hour) per week*: **1** **Unit-3: Geometry (2D):** **UNIT-3:** Reflection properties of conics, rotation of axes and second-degree equations, classification of conics using the discriminant, polar equations of conics.	**Term I**: (06 Lectures) **Lecture 1:** Introduction of General equation of Second degree. **Lecture 2:** Reflection properties of conics, rotation of axes. **Lecture 3:** Transformation from one pair of rectangular axes to another with the same origin. **Lecture 4:** Metric classification of conics. Nature of the conic. **Lecture 5:** Centre of a conic. Conic with centre at the origin. **Lecture 6:** Tutorial **Term II**: (06 Lectures) **Lecture 7:** Reduction of the equation of a conic. **Lecture 8:** Canonical form of a conic. Nature of the conic. **Lecture 9:** Polar coordinates. Change from cartesian to polar system of coordinates and vice-versa. **Lecture 10:** Polar equation of a straight line, Circle. **Lecture 11:** Polar equation of a conic referred to a focus as pole. **Lecture 12:** Tutorial **Term III**: (05 Lectures) **Lecture 13:** Equation of the chord of a conic. **Lecture 14:** Tangent and normal of a conic. **Lecture 15:** Polar equation of chord of contact of tangents. **Lecture 16:** Equation of the polar of a point with respect to a conic. **Lecture 17:** Tutorial
	Course type: Mathematics (General) **Paper-** 3 years MI-1 **(Geometry & Differential Equations)** *No of Classes (Hour) per week*: **2** **UNIT-3:** Reflection properties of conics, rotation of axes and second-degree equations, classification of conics using the discriminant, polar equations of conics. Spheres. Cylindrical surfaces. Central conicoids, paraboloids, plane sections of conicoids, generating	**Term I:** (12 Lectures) **Lecture 1:** Introduction of General equation of Second degree. **Lecture 2:** Reflection properties of conics, rotation of axes. **Lecture 3:** Transformation from one pair of rectangular axes to another with the same origin. **Lecture 4:** Metric classification of conics. Nature of the conic. Centre of a conic. Conic with centre at the origin. **Lecture 5:** Reduction of the equation of a conic. **Lecture 6:** Canonical form of a conic. Nature of the conic. **Lecture 7:** Polar coordinates. Change from cartesian to polar system of coordinates and vice-versa. **Lecture 8:** Polar equation of a straight line, Circle. **Lecture 9:** Polar equation of a conic referred to a focus as pole. Equation of the chord of a conic. Tangent and normal of a conic. **Lecture 10:** Polar equation of chord of contact of tangents. Equation of the polar of a point with respect to a conic.

	lines, classification of quadrics, illustrations of graphing standard quadric surfaces like cone, ellipsoid. **UNIT-4:** General, particular, explicit, implicit and singular solutions of a differential equation. First order but not first degree. Exact differential equations and integrating factors, and equations reducible to this form, linear equation, Bernoulli equation and special integrating factors and transformations.	**Lecture 11:** Tutorial **Lecture 12:** Tutorial **Term II**: (10 Lectures) **Lecture 13:** Equation of Spheres. Equation of a circle. **Lecture 14:** Sphere through a given circle. Equation of tangent plane. **Lecture 15:** Equation of Cylindrical surfaces. **Lecture 16:** Equation of right circular cylinder. **Lecture 17**: Equation of Central conicoids, paraboloids, ellipsoid. **Lecture 18:** Plane sections of conicoids. **Lecture 19**: Generating lines, classification of quadrics, **Lecture 20:** Illustrations of graphing standard quadric surfaces like cone. **Lecture 21:** Tutorial **Lecture 22:** Tutorial **Term III**: (13 Lectures) **Lecture 23:** Introduction of Ordinary differential equation of first order. **Lecture 24:** Formation of differential equations. **Lecture 25:** General, particular, explicit, implicit and singular solutions of a differential equation. **Lecture 26:** Differential equations of first order but not first degree. **Lecture 27:** Exact differential equations and integrating factors, and equations reducible to this form. **Lecture 28:** Equations solvable by separation of variables. **Lecture 29:** Homogeneous differential equations. **Lecture 30:** Linear differential equations. **Lecture 31:** Differential equations with Clairaut's form. **Lecture 32:** Bernoulli differential equations. **Lecture 33:** Special integrating factors and transformations. **Lecture 34:** Tutorial **Lecture 35:** Tutorial
Dr. Anjana Mondal	**Course:** B. Sc. (Hons.) Major in Mathematics **Course Type:** Major-1 **Course Code:** MATHMJ101 **Unit-III: 3D Geometry** (Marks-18) *No. of Classes (Hour) per week*: 1 Spheres, Cylindrical surfaces, Central conicoids, Paraboloids, Plane sections of conicoids, Generating lines, Classification of quadrics, Illustration of graphing standard quadric surfaces like cone, Ellipsoid	**Term I**: **(5 Lectures+ 01 Tutorial)** Lecture-1: Equation of sphere in standard and central form. Radius and coordinate of centre of sphere from general equation of sphere. Equation of a sphere when coordinates of extreme points of diameter is given. Lecture-2: Section of a sphere by a plane. Lecture-3: Equation of sphere through the intersection of two given spheres. Intersection of two spheres. Lecture-4: Tangent plane of sphere at a given point. Equation of normal at a point. Lecture-5: Cylinder, Equation of Right Circular Cylinder. Tutorial-1 **Term II**: **(03 Lecture + 01 Tutorial)** Lecture-6: Cone, right circular cone Lecture-7: General equation of central conicoid. Ellipsoid Lecture-8: Classification of quadrics Tutorial-2

	Term III: (03 Lectures+ 01 Tutorial)
	Lecture-9. Ellipsoid
	Lecture-10: Paraboloid
	Lecture-11: Hyperboloid of one sheet and two sheets
	Tutorial-3

Course: B. Sc. (Hons.) Major in Mathematics **Course Type:** SEC **Course Code:** MATSEC01 **Course Title: P: MATLAB-1:** (Marks-50) *No. of Classes (Hour) per week*: 2 MATLAB interface, data types, variables, flow control statements, arrays: creating, indexing, operations, Matrix creating, indexing, operations, input and output function, mathematical library functions, user-defined function: anonymous function. Plotting of two dimensional functions: graph plotting, graph formatting (title, axis, line styles, colours, etc.), Multiple plots, matrix plots, polar plots, 3D plotting (line, surface, mesh, and contours) of three dimensional functions. i. Find the sum, product, max, min of a list of number in an array, in a sub-array without library function. ii. Find a sub-matrix of a given matrix. iii. Find the column sum, product, max, min of a given matrix without library function. iv. Find the row sum, product, max, min of a given matrix without library function. v. Define any transcendental function and then find and show the table of its functional values. vi. Plotting of graph of functions $e^{ax+b}, \log(ax+b), \log\left(\frac{1}{ax+b}\right), \sin(ax+b), \cos(ax+b), |ax+b|$ and to illustrate the effect of a and b on the graph. vii. Plotting the graphs of polynomial of degree 4 and 5, the derivative graph, the second derivative graph and comparing them.	**Term I**: (10 Practicals) Practical-1: MATLAB interface, data types, variables, flow control statements Practical-2: arrays: creating, indexing, operations, Matrix creating Practical-3: Matrix creating, indexing operations, input and output functions Practical-4: user-defined function: anonymous function Practical-5: Plotting of two dimensional functions: graph plotting, graph formatting, title, axis, line, colours, etrc Practical-6: Multiple plots, matrix plots Practical-7: Polar plots Practical-8: 3D plotting (line, surface, mesh and contours) Practical-9: different types of loops in MATLAB Practical-10: Finding the sum, product of a list of number in an array and sub-array without using library function **Term II**: (06 Practicals) Practical-11: Finding max, min of a list of number in an array, in a sub-array without using library function Practical-12: Finding a sub-matrix of a given matrix Practical-13: Finding the column sum, product, max, min of a given matrix without using library function. Practical-14: Finding the column sum, product, max, min of a given matrix without using library function. Practical-15: Defining any transcendental function and then finding and showing the table of its functional values. Practical-16: Plotting of graph of functions $e^{ax+b}, \log(ax+b), \log\left(\frac{1}{ax+b}\right), \sin(ax+b), \cos(ax+b), |ax+b|$ and to illustrate the effect of a and b on the graph. **Term III**: (06 Practicals) Practical-17. Plotting the graphs of polynomial of degree 4 and 5, the derivative graph, the second derivative graph and comparing them. Practical-18: Sketching parametric curves (e.g., trochoid, cycloid, epicycloids, hypocycloid). Practical-19: Tracing of conics in Cartesian coordinates/ polar coordinates. Practical-20: Sketching ellipsoid, hyperboloid of one of two sheets, elliptic cone, elliptic, paraboloid, and hyperbolic paraboloid using Cartesian coordinates. Practical-21: Revision Practical-22: Revision

	viii. Sketching parametric curves (e.g., trochoid, cycloid, epicycloids, hypocycloid). ix. Tracing of conics in Cartesian coordinates/ polar coordinates. x. Sketching ellipsoid, hyperboloid of one and two sheets, elliptic cone, elliptic, paraboloid, and hyperbolic paraboloid using Cartesian coordinates.	
Dr. Kousik Bhattacharya	**Course type:** Mathematics (Honours) and 3 year MDC **Paper- Minor-1(4 year Hons.), Minor-1(3 year MDC: Physical Science)** *No of Classes (Hour) per week*: **2** **Minor-1-: Calculus, Geometry & Differential Equation** **Unit-I: (Calculus -I): Marks: 16** Hyperbolic functions, higher order derivatives, Leibnitz rule and its applications to problems of type eax+bsinx, eax+bcosx, (ax+b)nsinx, (ax+b)ncosx, concavity and inflection points, envelopes, asymptotes, curve tracing in cartesian coordinates, tracing in polar coordinates of standard curves, L'Hospital's rule, applications in business, economics and life sciences. **Unit-II: (Calculus -II): Marks: 14** Reduction formulae, derivations and illustrations of reduction formulae of the type ∫sin nx dx, ∫cos nx dx, ∫tan nx dx, ∫sec nx dx, ∫(log x)n dx, ∫sinnx sinmx dx, parametric equations, parameterizing a curve, arc length of a curve, arc length of parametric curves, area under a curve, area and volume of surface of revolution, techniques of sketching conics.	**Term I** (8 Lectures) Lecture 1: Hyperbolic functions, higher order derivatives Lecture 2: Leibnitz rule and its applications to problems of type eax+bsinx, eax+bcosx, (ax+b)nsinx, (ax+b)ncosx, Lecture 3: concavity and inflection points Lecture 4: Concept and geometrical foundation of envelopes Lecture 5: Related problems of envelopes Lecture 6: Concept and geometrical foundation of asymptotes Lecture 7: Related problems of Asymptotes Lecture 8: Tutorial **Term II** (8 Lectures) Lecture 9: curve tracing in cartesian coordinates Lecture 10: tracing in polar coordinates of standard curves Lecture 11: L'Hospital's rule, applications in business, economics and life sciences Lecture 12: Different kind of typical problems Lecture 13: Reduction formulae with general derivation Lecture 14: Illustrations of reduction formulae of the type ∫sin nx dx, ∫cos nx dx, ∫tan nx dx, ∫sec nx dx Lecture 15: Illustrations of reduction formulae of the type ∫(log x)n dx, ∫sinnx sinmx dx, parametric equations Lecture 16: Tutorial **Term III** (8 Lectures) Lecture 19: Parameterizing a curve, arc length of a curve, Lecture 20: Arc length of parametric curves, area under a curve Lecture 21: Area and volume of surface of revolution Lecture 22: Techniques of sketching conics. Lecture 23: Tutorial Lecture 24: Tutorial
Buddhadeb Mondal	**Course type:** Mathematics (Minor): **Paper- MTMI01:** **No of Classes (Hour) per week: 2** **Unit III: Geometry** : (Marks-09) Reflection properties of conics, rotation of axes and second-degree equations, classification of conics	**Term I** (9 Lectures) Lecture 1: Introduction to Reflection properties of conics, rotation of axes Lecture 2: Second-degree equations, Lecture 3: Classification of conics using discriminates with examples Lecture 4: The polar equations of conics and some examples Lecture 5: Spheres, Cylindrical surfaces.

using the discriminant, polar equations of conics. Spheres. Cylindrical surfaces. Central conicoids, paraboloids, plane sections of conicoids, generating lines, classification of quadrics, illustrations of graph in standard quadric surfaces like cone, ellipsoid	**Lecture 6:** Central conicoids, paraboloids with examples **Lecture 7:** Examples solve **Lecture 8:** Tutorial **Lecture 9:** Tutorial

Term II (9 Lectures)

Lecture 10: Introduction to plane sections of conicoids

Lecture 11: Generating lines with an example

Lecture 12: classification of quadrics with examples

Lecture 13: Illustrations of graph in standard quadric surfaces like cone, ellipsoid

Lecture 14: Introduction to differential equations and mathematical models

Lecture 15: General, particular, explicit, implicit and singular solutions of a differential equation

Lecture 16: Examples solve

Lecture 17: Tutorial

Lecture 18: Tutorial

Unit IV: Differential Equation
: (Marks- 14)

Differential equations and mathematical models. General, particular, explicit, implicit and singular solutions of a differential equation. Exact differential equations and integrating factors, separable equations and equations reducible to this form, linear equation and Bernoulli equations, special integrating factors and transformations.

Term III (8 Lectures)

Lecture 19: Exact differential equations with examples

Lecture 20: What is integrating factors with examples

Lecture 21: Separable equations and equations reducible to this form

Lecture 22: linear equation with examples

Lecture 23: Bernoulli equations with examples

Lecture 24: Special integrating factors and transformations.

Lecture 25: Tutorial

Lecture 26: Tutorial

Name of the Teacher	Syllabus Allotted	Teaching Plan
Dr. Bimal Krishna Das	**Course type:** Mathematics (Honours) Core Course **Paper-** C7T & C7P *No of Classes (Hour) per week***: 1 (Theory)** *No of Classes (Hour) per week***: 4 (Practical)** **Unit 1: (Introduction) Marks: 02** Algorithms. Convergence. Errors: relative, absolute. Round off. Truncation. **Unit 2: (Transcendental and Polynomials Equations) Marks: 07** Transcendental and polynomial equations: Bisection method, Newton's method, secant method, Regula-falsi method, fixed point iteration, Newton-Raphson method. Rate of convergence of these methods. **C-7P : Numerical Methods Lab:** (Marks 20) 1. Solution of transcendental and algebraic equations by i) Bisection method ii) Newton Raphson method. iii) Secant method. iv) Regula Falsi method. 2. Solution of system of linear equations i) LU decomposition method ii) Gaussian elimination method iii) Gauss-Jacobi method iv) Gauss-Seidel method 3. Interpolation i) Lagrange Interpolation ii) Newton Interpolation 4. Numerical Integration i) Trapezoidal Rule ii) Simpson's one third rule iii) Weddle's Rule iv) Gauss Quadrature 5. Method of finding Eigenvalue by Power method 6. Fitting a Polynomial Function 7. Solution of ordinary differential	**Theory** **Term I** (4 Lectures) Lecture 1: Algorithms. Convergence. Errors: absolute. relative, percentage Lecture 2: Errors: Inheritance, Truncation, Round off. And related problems Lecture 3: Concept of Transcendental and polynomial equations. Bisection method Lecture 4: Related problems of Bisection method **Term II** (4 Lectures) Lecture 5: Newton's method and its related problems Lecture 6: Regula-falsi method and its Related problems Lecture 7: secant method and its related problems Lecture 8: Tutorial **Term III** (4 Lectures) Lecture 9: fixed point iteration and its related problems Lecture 10: Newton-Raphson method and its related problems Lecture 11: Rate of convergence of these methods Lecture 12: Tutorial **Numerical Methods (Practical Lab)** **Term I** (16 Lectures) Lecture 1: Solution of transcendental and algebraic equations by Bisection method. Lecture 2: Solution of transcendental and algebraic equations by Newton Raphson method. Lecture 3: Practice Session: Demonstrate your program Bisection method for the equation $x^3 + x^2 - 1 = 0$ and $x^3 - 4x - 9 = 0$ Lecture 4: Practice session: Demonstrate your program NR method for the equation $3x - cosx - 1 = 0$ and $x^3 - 3x + 1 = 0$ Lecture 5: Solution of transcendental and algebraic equations by Secant method Lecture 6: Solution of transcendental and algebraic equations by Regula Falsi method Lecture 7: Practice Session: Demonstrate your program Secant method for the equation $x^3 + x^2 - 1 = 0$ Lecture 8: Practice session Demonstrate your program Regula Falsi for the equation $x^3 - x - 1 = 0$ Lecture 9: Solution of system linear equations by LU decomposition method Lecture 10: Solution of system of linear equations by Gaussian elimination method

equations
i) Euler method
ii) Modified Euler method
iii) Runge Kutta method

Lecture 11: Practice Session: Write a program to solve the equations:

$$10x_1 + 8x_2 - 3x_3 + x_4 = 16$$
$$2x_1 + 10x_2 + x_3 - 4x_4 = 9$$
$$3x_1 - 4x_2 + 10x_3 + x_4 = 10$$
$$2x_1 + 2x_2 - 3x_3 + 10x_4 = 11$$

By using LU decomposition method

Lecture 12: Practice session: Write a program to solve the equations:

$$10x_1 + 8x_2 - 3x_3 + x_4 = 16$$
$$2x_1 + 10x_2 + x_3 - 4x_4 = 9$$
$$3x_1 - 4x_2 + 10x_3 + x_4 = 10$$
$$2x_1 + 2x_2 - 3x_3 + 10x_4 = 11$$

By using Gauss Elimination method

Lecture 13: Solution of system of linear equations by Gauss-Seidel method

Lecture 14: Solution of system of linear equations by Gauss-Jacobi method

Lecture 15: Practice Session: Write a program to solve the equations:

$$20x + y - 2z = 17$$
$$3x + 20y - z = -18$$
$$2x - 3y + 20z = 25$$

By using Gauss Jacobi method

Lecture 16: Practice session: Write a program to solve the equations:

$$20x + y - 2z = 17$$
$$3x + 20y - z = -18$$
$$2x - 3y + 20z = 25$$

By using Gauss Seidal method

Term II (16 Lectures)

Lecture 17: Newton forward Interpolation

Lecture 18: Newton backward Interpolation

Lecture 19: Practice Session: Write a program to find the value of $f(142)$ by Newton Forward interpolation formula of the following information :

x	140	150	160	170	180
$f(x)$	3.685	5.854	6.302	8.072	10.225

Lecture 20: Practice session: Write a program to find the value of $f(172)$ by Newton Backward interpolation formula of the following information :

x	140	150	160	170	180
$f(x)$	3.685	5.854	6.302	8.072	10.225

Lecture 21: Lagrange Interpolation

Lecture 22: Numerical Integration by Trapezoidal Rule

Lecture 23: Practice Session: Write a program to evaluate $f(9)$ using Lagrange's interpolation formula, given the following set of tabulated values:

x	5	7	11	13	17
$f(x)$	150	392	1452	2366	5202

Lecture 24: Practice session: Write a program to evaluate the integral $\int_0^1 x^3 dx$, $n = 10$ and 20 numerically by Trapezoidal rule.

Lecture 25: Numerical Integration by Simpson's one third rule

Lecture 26: Numerical Integration by Weddle's Rule

Lecture 27: Practice Session: Write a program to evaluate the integral $\int_{1.2}^{1.6}(x + \frac{1}{x})dx$ numerically by Simpson's $\frac{1}{3}$ rule, correct up to 2 significant figures taking 4 intervals.

Lecture 28: Practice session: Write a program to evaluate the integral $\int_0^5 \frac{dx}{1+x}$ taking $h = 1$ numerically by Weddle's rule.

Lecture 29: Numerical Integration by Gauss Quadrature

Lecture 30: Method of finding Eigenvalue by Power method

Lecture 31: Practice session: Write a program to find the largest eigen value in magnitude of the matrix

$\begin{bmatrix} 10 & 7 & 8 & 7 \\ 7 & 5 & 6 & 5 \\ 8 & 6 & 10 & 9 \\ 7 & 5 & 9 & 10 \end{bmatrix}$ by Power method.

Lecture 32: Practice Session: Write a program to evaluate the integral $\int_0^1 \sqrt{1 - x^3}\, dx$ numerically by Gaussian Quadrature rule taking 6 equal intervals and correct up to 2 decimal places.

Term III (08 Lectures)

Lecture 33: Fitting a curve in the given data

Lecture 34: Solution of ordinary differential equations by Euler method

Lecture 35: Practice Session: Solve by Euler's method the ODE $\frac{dy}{dx} = x - y, y(0) = 1$ and $h = 0.2$. Find $y(0.4)$.

		Lecture 36: Practice session: Write a program to find the value of y when $y(0.1)$ and $y(0.2)$ from the differential equation $\frac{dy}{dx} = x^2 + y^2$, $y(0) = 1$ by Euler's method. Lecture 37: Solution of ordinary differential equations by Modified Euler method Lecture 38: Solution of ordinary differential equations by R-K method 2nd order and 4th order Lecture 39: Practice Session: Given that $\frac{dy}{dx} = 2 + \sqrt{xy}$ $with$ $y(0) = 1$. Write a program to find the approximate value of y at $x = 2$ in steps of 0.2, using modified Euler's method. Lecture 40: Practice session: Write a program to find the value of y when $x = 0.1$ and 0.2 from the differential equation $\frac{dy}{dx} = x^2 - y$, $y(0) = 1$ by modified Euler's method. Lecture 41: Practice Session: Write a program to solve the ODE $\frac{dy}{dx} = 1 + ysinx - x^2, y(0) = 0$ at $x = 0.2$ by using R-K method of second order. Lecture 42: Practice Session: Write a program to solve the ODE $\frac{dy}{dx} = x^2 - y^2, y(0) = 2$ at $x = 1.5, h = 0.5$ by using R-K method of fourth order.
Dr. Pradip Kumar Gain	**(HONOURS)** *No of Classes (Hour) per week*: 3 **CC-5T: (Unit-II)** **Real Function-II Marks-14** Differentiability of a function at a point and in an interval, Caratheodory's theorem, algebra of differentiable functions. Relative extrema, interior extremum theorem. Rolle's theorem. Mean value theorem, intermediate value property of derivatives, Darboux's theorem. Applications of mean value theorem to inequalities and approximation of polynomials .	**Term I: (04 Lectures+ 01 Tutorial)** **Lecture-1.** Discussion on previous knowledge of differential co-efficient of a function. **Lecture-2.** Differentiability of a function at a point and in an interval **Lecture-3.** Algebra of differentiable functions. Relative extrema, interior extremum theorem**.** **Lecture-4.** Problems on differentiability. **Tutorial-1** **Term II: (04 Lectures + 01 Tutorial)** **Lecture-1.** Discussion on expansion of functions. **Lecture-2.** Discussion on Rolle's theorem and application of Rolle's theorem **Lecture-3.** Discussion on Mean value theorem, intermediate value property of derivatives. **Lecture-4.** Problems **Tutorial-1** **Term III: (04 Lectures + 01 Tutorial)** **Lecture-1.** Discussion on Darboux's theorem. **Lecture-2.** Applications of mean value theorem to inequalities. **Lecture-3.** Applications of mean value theorem for approximation of polynomials **Lecture-4.** Various Problems of mean value theorem **Lecture-5.** Some examples and problems on Riemann integration. **Tutorial-1**

	(HONOURS)	
	<mark>**CC-5T: (Unit-III)**</mark> <mark>**Real Function-III Marks-14**</mark> Cauchy's mean value theorem. Taylor's theorem with Lagrange's form of remainder, Taylor's theorem with Cauchy's form of remainder, application of Taylor's theorem to convex functions, relative extrema. Taylor's series and Maclaurin's series expansions of exponential and trigonometric functions, ln $(1 + x)$, $1/(ax + b)$ and $(x+1)n$. Application of Taylor's theorem to inequalities.	<mark>**Term I: (04 Lectures+ 01 Tutorial)**</mark> **Lecture-1.** Discussion on Cauchy's mean value theorem. **Lecture-2.** Taylor's theorem with Lagrange's form of remainder **Lecture-3.** Taylor's theorem with Cauchy's form of remainder **Lecture-4.** Various Problems on Taylor's Series. <mark>**Tutorial-1**</mark> <mark>**Term II: (03 Lectures + 01 Tutorial)**</mark> **Lecture-1.** Application of Taylor's theorem to convex functions. **Lecture-2.** Application of Taylor's theorem to relative extrema. **Lecture-3.** Discussion on Various problems <mark>**Tutorial-1**</mark> <mark>**Term III: (05 Lectures + 01 Tutorial)**</mark> **Lecture-1.** Maclaurin's series expansions. **Lecture-2.** Expansions of exponential and trigonometric functions in the neighbourhood of 0. **Lecture-3.** Expansions of ln $(1 + x)$, $1/(ax + b)$ and $(x+1)$ **Lecture-4.** Application of Taylor's theorem to inequalities. **Lecture-5.** Problems <mark>**Tutorial-1**</mark>
Dr. Sangita Chakraborty	**Course type:** Mathematics (Honours) Core Course (Under CBCS) **Paper-** C6T: (Group Theory-I) *No of Classes (Hour) per week*: 3 **Unit-1:** (Marks-09) Symmetries of a square, dihedral groups, definition and examples of groups including permutation groups and quaternion groups(through matrices), elementary properties of groups. **Unit-2:** (Marks: 14) Subgroups and examples of subgroups, centralizer, normalizer, center of a group, product of two subgroups. **Unit-3:** (Marks: 14) Properties of cyclic groups, classification of subgroups of cyclic groups. Cycle notation for permutations, properties of permutations, even and odd permutations, alternating group, properties of cosets, Lagrange's	**Term I**: **(10 Lectures+ 02 Tutorials)** **Lecture 1:** Introduction to Group Theory. Definition and examples of groups. **Lecture 2:** Elementary properties of groups with examples. **Lecture 3:** Symmetries of a group: symmetries of a square, dihedral groups. **Lecture 4:** Permutation groups and its properties. **Lecture 5:** Quaternion groups through matrices. **Lecture 6:** Concepts of order of an element with its properties and examples. **Lecture 7:** Definition and examples of subgroups. Properties of subgroups. **Lecture 8:** Some important subgroups: cyclic subgroups of various groups. **Lecture 9:** Continuation of Lecture 8: Center of a group with various examples, centralizer of an element. **Lecture 10:** Product of two groups with properties and examples. **Tutorial-1** **Tutorial-2** **Term II: (08 Lectures + 02 Tutorials)** **Lecture 11:** Introduction to permutations and its properties.

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	theorem and consequences including Fermat's Little theorem. **Unit-4:** (Marks-09) External direct product of a finite number of groups, normal subgroups, factor groups, Cauchy's theorem for finite abelian groups. **Unit-5:** (Marks: 14) Group homomorphisms, properties of homomorphisms, Cayley's theorem, properties of isomorphisms, First, Second and Third isomorphism theorems.	**Lecture 12:** Cycle notation for permutations, even and odd permutations, alternating group. **Lecture 13:** Definition and properties of cyclic groups. **Lecture 14:** Classification of subgroups of cyclic groups. **Lecture 15:** Concept of cosets and its properties. **Lecture 16:** Normal subgroup and normalizer of a group and finding these for various groups. **Lecture 17:** Discussion on Lagrange's Theorem and its consequences. **Lecture 18:** Fermat's Little theorem in the context of Lagrange's theorem. **Tutorial-3** **Tutorial-4** **Term III**: **(09 Lectures+ 02 Tutorials)** **Lecture 19:** External direct product of a finite number of groups with properties and examples. **Lecture 20:** Factor groups and its poperties. **Lecture 21:** Cauchy's theorem for finite abelian groups. **Lecture 22:** Introduction to group homomorphisms, properties of homomorphisms, **Lecture 23:** Properties of isomorphisms. **Lecture 24:** Cayley's theorem. **Lecture 25:** First isomorphism theorem. **Lecture 26:** Second isomorphism theorem. **Lecture 27:** Third isomorphism theorem. **Tutorial-5** **Tutorial-6** *Doubt-clearing session:*
Prof. Sankar Das	**Course type:** Mathematics (Honours) Core Course **Paper- C5T (Introduction to Metric Space)** *No of Classes (Hour) per week*: **1** **Unit 4:** Metric spaces: Definition and examples. open and closed balls, neighbourhood, open set, interior of a set. Limit point of a set, closed set, diameter of a set, subspaces, dense sets, separable spaces.	**Term I**: (06 Lectures) **Lecture 1:** Introduction of Metric Spaces. **Lecture 2:** Definition and examples of Metric Spaces. **Lecture 3:** Open balls and Closed balls, **Lecture 4:** Neighbourhood of a point in Metric Space. **Lecture 5:** Tutorial **Lecture 6:** Tutorial **Term II**: (05 Lectures) **Lecture 7:** Open sets, Interior of a set. **Lecture 8:** Limit point of a set. **Lecture 9:** Closed sets. **Lecture 10:** Tutorial **Lecture 11:** Tutorial **Term III**: (04 Lectures) **Lecture 12:** Diameter of a set, subspaces. **Lecture 13:** Dense sets, separable spaces. **Lecture 14:** Tutorial **Lecture 15:** Tutorial

Dr. Anjana Mondal	**Course type:** Mathematics (Honours) Core Course **Paper-** C5-T **Unit- I:** (Real Function-I) **Marks: 21** *No. of Classes (Hour) per week*: 2 Limits of functions (ε - δ approach), sequential criterion for limits, divergence criteria. Limit theorems, one sided limits. Infinite limits and limits at infinity. Continuous functions, sequential criterion for continuity and discontinuity. Algebra of continuous functions. Continuous functions on an interval, intermediate value theorem, location of roots theorem, preservation of intervals theorem. Uniform continuity, non-uniform continuity criteria, uniform continuity theorem.	**Term I**: (10 Lectures+ 02 Tutorials) Lecture-1: Limits of functions Lecture-2: Limits of functions (ε - δ approach) Lecture-3: Sequential criteria for limit of functions Lecture-4: Limit theorems Lecture-5: Limit theorems Lecture-6: Sandwich theorem and its application Lecture-7: One sided limits Lecture-8: Infinite limits Lecture-9: Limit at infinity Lecture-10: Some important limits Tutorial-1 Tutorial-2 **Term II**: (06 Lectures+ 02 Tutorials) Lecture-11: Continuous functions Lecture-12: , sequential criterion for continuity and discontinuity Lecture-13: Algebra of continuous functions Lecture-14: Algebra of continuous functions Lecture-15: Different types of discontinuity Lecture-16: Continuous functions on an interval Tutorial-3 Tutorial-4 **Term III**: (06 Lectures+ 02 Tutorials) Lecture-17. Neighborhood property of continuous functions Lecture-18: Intermediate value theorem Lecture-19: location of roots theorem Lecture-20: preservation of intervals theorem Lecture-21: Uniform continuity, non-uniform continuity criteria, Lecture-22: uniform continuity theorem. Tutorial-5 Tutorial-6
	Course type: Mathematics (General) **Paper-** DSC-1C/2C/3C-T *No. of Classes (Hour) per week*: 2 Finite and infinite sets, examples of countable and uncountable sets. Real line, bounded sets, suprema and infima, completeness property of R, Archimedean property of R, intervals. Concept of cluster points and statement of Bolzano-Weierstrass theorem. Real Sequence, Bounded sequence, Cauchy convergence criterion for sequences. Cauchy's theorem	**Term I**: (10 Lectures+ 02 Tutorials) Lecture-1: Finite and infinite sets, examples of countable and uncountable sets Lecture-2: Properties of real number system Lecture-3: Properties of real number system Lecture-4: bounded sets, suprema and infima Lecture-5: completeness property of R Lecture-6: Archimedean property of R Lecture-7: Neighbourhood, Interior point, open set Lecture-8: Limit point, isolated point Lecture-9: Closed set, derived set

	on limits, order preservation and squeeze theorem, monotone sequences and their convergence (monotone convergence theorem without proof).	Lecture-10: Bolzano-Weierstrass theorem Tutorial-1 Tutorial-2 **Term II**: **(06 Lectures+ 02 Tutorials)** Lecture-11: Sequences, Convergent sequences Lecture-12: Limit of sequences, geometrical interpretation, examples, technique of proving convergent sequence using $\epsilon - \delta$ definition. Lecture-13: Divergent sequences, bounded sequences, relation between convergent and bounded sequences Lecture-14: Some theorems on convergent sequences Lecture-15: Limit point of sequences, difference between limit and limit point of sequences Lecture-16: Algebraic properties of limit of sequences and applications Tutorial-3 Tutorial-4 **Term III**: **(06 Lectures+ 02 Tutorials)** Lecture-17. **:** Sandwich theorem and applications Lecture-18: Monotone sequences, Monotone convergence theorem Lecture-19: Subsequence, divergence criteria, applications Lecture-20: Monotone subsequence theorem, applications Lecture-21: The Bolzano Weierstrass theorem, applications Lecture-22: Limit superior and Limit inferior, applications Tutorial-5 Tutorial-6
Dr. Kousik Bhattacharya	**Course type:** Mathematics (Honours) Core Course **Paper-** C7T & C7P *No of Classes (Hour) per week*: **4** **C-7T : Unit III: System of Linear Equations:** (Marks 07) System of linear algebraic equations: Gaussian elimination and Gauss Jordan methods. Gauss Jacobi method, Gauss Seidel method and their convergence analysis. LU decomposition **C-7T : Unit IV: Interpolation:** (Marks 10) Interpolation: Lagrange and Newton's methods. Error bounds. Finite difference	**Term I** (Lectures 16) Lecture 1: System of linear algebraic equations: Gaussian elimination Lecture 2: Related problems of Gauss elimination method Lecture 3: System of linear algebraic equations: Gauss Jordan methods. Lecture 4: Related problems of Gauss Jordan method Lecture 5: Gauss Jacobi method Lecture 6: Related problems of Gauss Jacobi method Lecture 7: Gauss Seidel method Lecture 8: Related problems of Gauss Seidel method Lecture 9: Convergence of Gauss Jacobi Method Lecture 10: Convergence of Gauss Seidel Method Lecture 11: LU decomposition Lecture 12: Related problems of LU decomposition Lecture 13: Diagonally dominant and its related problems

operators. Gregory forward and backward difference interpolation.

Numerical differentiation: Methods based on interpolations, methods based on finite differences.

C-7P : Numerical Methods Lab: (Marks 20)

1. Solution of transcendental and algebraic equations by
i) Bisection method
ii) Newton Raphson method.
iii) Secant method.
iv) Regula Falsi method.
2. Solution of system of linear equations
i) LU decomposition method
ii) Gaussian elimination method
iii) Gauss-Jacobi method
iv) Gauss-Seidel method
3. Interpolation
i) Lagrange Interpolation
ii) Newton Interpolation
4. Numerical Integration
i) Trapezoidal Rule
ii) Simpson's one third rule
iii) Weddle's Rule
iv) Gauss Quadrature

5. Method of finding Eigenvalue by Power method
6. Fitting a Polynomial Function
7. Solution of ordinary differential equations
i) Euler method
ii) Modified Euler method
iii) Runge Kutta method

Lecture 14: Several kinds of typical problems
Lecture 15: Tutorial
Lecture 16: Tutorial

Term II (16 Lectures)

Lecture 17: Interpolation: concept and its geometrical interpretation
Lecture 18: Lagrange interpolation
Lecture 19: Related problems of Lagrange interpolation
Lecture 20: Newton forward interpolation
Lecture 21: Related problems of Newton forward interpolation
Lecture 22: Newton backward interpolation
Lecture 23: Related problems of Newton backward interpolation
Lecture 24: Gregory forward difference interpolation
Lecture 25: Related problems of Gregory forward method
Lecture 26: Gregory backward difference interpolation
Lecture 27: Related problems of Gregory backward method
Lecture 28: Numerical differentiation methods based on interpolations
Lecture 29: Numerical differentiation methods based on finite differences.
Lecture 30: Related problems of numerical differentiation
Lecture 31: Tutorial
Lecture 32: Tutorial

Term III (16 Lectures)
Numerical Methods Lab

Lecture 33: Solution of transcendental and algebraic equations by Bisection method & Newton Raphson method.

Lecture 34: Solution of transcendental and algebraic equations by Secant method & Regula Falsi method

Lecture 35: Solution of system of linear equations by LU decomposition method

Lecture 36: Solution of system of linear equations by Gaussian elimination method

Lecture 37: Solution of system of linear equations by Gauss-Jacobi method and Gauss-Seidel method

Lecture 38: Lagrange Interpolation

Lecture 39: Newton forward Interpolation

Lecture 40: Newton backward interpolation

Lecture 41: Numerical Integration by Trapezoidal Rule and Simpson's one third rule

Lecture 42: Numerical Integration by Weddle's Rule and Gauss Quadrature

Lecture 43: Method of finding Eigenvalue by Power method

Lecture 44: Fitting a Polynomial Function

	Lecture 45: Solution of ordinary differential equations by Euler method and Modified Euler method
	Lecture 46: Solution of ordinary differential equations by R-K method 2nd order and 4th order
	Lecture 47: Practice session
	Lecture 48: Practice session

Course type: Mathematics (Honours) Skill Enhancement Course **Paper-** SEC-1T (Logic & Sets) *No of Classes (Hour) per week*: 1 **Unit 1: Marks: 17** Introduction, propositions, truth table, negation, conjunction and disjunction. Implications, biconditional propositions, converse, contra positive and inverse propositions and precedence of logical operators. Propositional equivalence: Logical equivalences. Predicates and quantifiers: Introduction, quantifiers, binding variables and negations. **Unit 2: Marks: 07** Sets, subsets, set operations and the laws of set theory and Venn diagrams. Examples of finite and infinite sets. Finite sets and counting principle. Empty set, properties of empty set. Standard set operations. classes of sets. Power set of a set. **Unit 3: Marks: 16** Difference and Symmetric difference of two sets. Set identities, generalized union and intersections. Relation: Product set. Composition of relations, types of relations, partitions, equivalence Relations with example of congruence modulo relation. Partial ordering relations, n- ary relations.	**Term I** (4 Lectures) Lecture 1: Introduction, propositions, truth table, negation, conjunction and disjunction. Implications, biconditional propositions Lecture 2: converse, contra positive and inverse propositions and precedence of logical operators. Lecture 3: Propositional equivalence: Logical equivalences. Lecture 4: Predicates and quantifiers: Introduction, quantifiers, binding variables and negations. **Term II** (4 Lectures) Lecture 5: Sets, subsets, set operations and the laws of set theory and Venn diagrams. Lecture 6: Examples of finite and infinite sets. Finite sets and counting principle. Lecture 7: Empty set, properties of empty set. Standard set operations. classes of sets. Power set of a set. Lecture 8: Difference and Symmetric difference of two sets. Set identities, generalized union and intersections. **Term III** (4 Lectures) Lecture 9: Relation: Product set. Composition of relations, types of relations, partitions. Lecture 10: equivalence Relations with example of congruence modulo relation. Lecture 11: Partial ordering relations, n- ary relations. Lecture 12: Tutorial Lecture 13: Tutorial
Course type: Mathematics (General) Skill Enhancement Course **Paper-** SEC-1T (**Logic & Sets**) *No of Classes (Hour) per week*: 1 **Marks -40** Introduction, propositions, truth table, negation, conjunction and disjunction. Implications, biconditional propositions, converse, single words and inverse propositions and precedence of logical operators. Propositional equivalence: Logical equivalences. Predicates and quantifiers: Introduction, Quantifiers, Binding variables and Negations. Sets, subsets, Set operations, the laws of set theory and Venn diagrams. Examples of finite and infinite sets. Finite sets and counting	**Term I** (4 Lectures) Lecture 1: Introduction, propositions, truth table, negation, conjunction and disjunction. Implications, biconditional propositions Lecture 2: converse, contra positive and inverse propositions and precedence of logical operators. Lecture 3: Propositional equivalence: Logical equivalences. Lecture 4: Predicates and quantifiers: Introduction, quantifiers, binding variables and negations. **Term II** (4 Lectures) Lecture 5: Sets, subsets, set operations and the laws of set theory and Venn diagrams. Lecture 6: Examples of finite and infinite sets. Finite sets and counting principle.

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	principle. Empty set, properties of empty set. Cartesian product. Partition of sets. Power set of a set. Difference and Symmetric difference of two sets. Set identities, Generalized union and intersections. Relation: Product set, Composition of relations, Types of relations, Partitions, Equivalence Relations with example of congruence modulo relation.	Lecture 7: Empty set, properties of empty set. Standard set operations. classes of sets. Power set of a set. Lecture 8: Difference and Symmetric difference of two sets. Set identities, generalized union and intersections. **Term III** (4 Lectures) Lecture 9: Relation: Product set. Composition of relations, types of relations, partitions. Lecture 10: equivalence Relations with example of congruence modulo relation. Lecture 11: Partial ordering relations, n- ary relations. Lecture 12: Tutorial Lecture 13: Tutorial
Buddhadeb Mondal	**Course type:** Mathematics (Honours) Core Course **Paper-** C-7T *No of Classes (Hour) per week*: **2** **Unit-V: Integration:** (Marks-09) Numerical Integration: Newton Cotes formula, Trapezoidal rule, Simpson's $1/3^{rd}$ rule, Simpsons 3/8th rule, Weddle's rule, Boole's Rule. midpoint rule, Composite trapezoidal rule, composite Simpson's $1/3^{rd}$ rule, Gauss quadrature formula. The algebraic eigen value problem: Power method. Approximation: Least square polynomial approximation. **Unit-VI: Ordinary differential equations:** (Marks-05) Ordinary differential equations: The method of successive approximations, Euler's method, the modified Euler method, Runge-Kutta methods of orders two and four. .	**Term I** (10 Lectures) **Lecture 1:** Introduction to Numerical Integration **Lecture 2:** Derivation of Newton Cotes formula **Lecture 3:** Trapezoidal rule with examples **Lecture 4:** Simpson's $1/3^{rd}$ rule with examples **Lecture 5:** Simpsons 3/8th rule with examples **Lecture 6:** Weddle's rule with examples **Lecture 7:** Midpoint rule with examples **Lecture 8:** Composite trapezoidal rule with explanation. **Lecture 9:** Tutorial **Lecture 10:** Tutorial **Term II** (9 Lectures) **Lecture 11:** Composite Simpson's $1/3^{rd}$ rule with examples **Lecture 12:** Derivation of Gauss quadrature formula **Lecture 13:** Introduction to algebraic eigen value problem **Lecture 14:** Power method with examples **Lecture 15:** Introduction to Approximation **Lecture 16:** Least square polynomial approximation with examples. **Lecture 17:** Some problems solve **Lecture 18:** Tutorial **Lecture 19:** Tutorial **Term III** (7 Lectures) **Lecture 20:** Introduction to Ordinary differential equations with examples **Lecture 21:** The method of successive approximations with examples **Lecture 22:** Euler method with examples **Lecture 23:** Modified Euler method with examples **Lecture 24:** Runge-Kutta methods of orders two and four with examples. **Lecture 25:** Tutorial **Lecture 26:** Tutorial

	Course type: Mathematics (General) Core Course **Paper-** DSC-1CT **(Real Analysis)** *No of Classes (Hour) per week*: **2** Infinite series: Cauchy convergence criterion for series, positive term series, geometric series, comparison test, convergence of p-series, Root test, Ratio test, alternating series, Leibnitz's test (Tests of Convergence without proof). Definition and examples of absolute and conditional Convergence Series. Sequences and series of functions, Pointwise and uniform convergence. μ-test, M-test, Statements of the results about uniform convergence and integrability and differentiability of functions, Power series and radius of convergence.	**Term I** (9 Lectures) **Lecture 1:** Introduction to Infinite series with examples **Lecture 2:** Cauchy convergence criterion for series, positive term series with examples **Lecture 3:** Geometric series with examples **Lecture 4:** comparison test with examples **Lecture 5:** Convergence of p-series with examples **Lecture 6:** Root test with examples **Lecture 7:** Ratio test with examples **Lecture 8:** Tutorial **Lecture 9:** Tutorial **Term II** (10 Lectures) **Lecture 10:** Alternating series with examples **Lecture 11:** Leibnitz's test with examples **Lecture 12:** Definition and examples of absolute Convergence Series **Lecture 13:** Conditional Convergence Series with examples **Lecture 14:** Sequences of functions with examples **Lecture 15:** Series of functions with examples **Lecture 16:** Pointwise and uniform convergence with an examples **Lecture 17:** μ-test with some examples **Lecture 18:** Tutorial **Lecture 19:** Tutorial **Term III** (08 Lectures) **Lecture 20:** M-test with examples **Lecture 21:** Algebra of field **Lecture 22:** uniform convergence with examples **Lecture 23:** Integrability and differentiability of functions **Lecture 24:** Power series with examples **Lecture 25:** Radius of convergence with some examples **Lecture 26:** Tutorial **Lecture 27:** Tutorial

Name of the Teacher	Syllabus Allotted	Teaching Plan
Dr. Bimal Krishna Das	**Course type:** Mathematics (Honours) Discipline Specific Course **Paper-DSE1T (Linear Programming Problem)** *No of Classes (Hour) per week:* **2** **Unit-I: (Simplex Algorithm) Marks: 25** Introduction to linear programming problem. Theory of simplex method, graphical solution, convex sets, optimality and unboundedness, the simplex algorithm, simplex method in tableau format, introduction to artificial variables, two-phase method. Big-M method and their comparison. **Unit 2: (Duality) Marks: 11** Duality, formulation of the dual problem, primal-dual relationships, economic interpretation of the dual.	**Term I** (8 Lectures) Lecture 1: Introduction to linear programming problem Lecture 2: Formulation of LPP and related problems Lecture 3: convex sets, convex hull, convex polyhedron, Hyperplane Lecture 4: Related theorems and problems on convex sets, Hyperplanes Lecture 5: Linearly dependent and independent sets, Basic solutions and Degenerate and Non-degenerate basic solutions Lecture 6: Basic feasible solutions and Degenerate and Non-degenerate basic feasible solutions Lecture 7: $x_1 = 2, x_2 = 3, x_3 = 1$ is a feasible solution of the LPP. $\text{Maximize } z = x_1 + 2x_2 + 4x_3$ $\text{subject to}, 2x_1 + x_2 + 4x_3 = 11$ $3x_1 + x_2 + 5x_3 = 14$ $x_1, x_2, x_3 \geq 0$ Find a basic feasible solution. Lecture 8: Tutorial **Term II** (8 Lectures) Lecture 9: Graphical solution of LPP Lecture 10: Optimal solution, No feasible solution, Unbounded solution, infinitely many solutions of graphical solution of LPP, Standard form of LPP, Introduction of slack and surplus variables Lecture 11: Prove that if for a basic feasible solution $\mathbf{X_B}$ of a LPP $\text{Maximize } z = \mathbf{CX}$ $\text{subject to}, \mathbf{AX = b, X \geq 0}$ we have $z_j - c_j \geq 0$ for every column $\boldsymbol{a_j}$ of $\mathbf{A}$ then $\mathbf{X_B}$ is an optimal solution**.** Lecture 12: Prove that if at any iteration of the simplex algorithm we get $z_j - c_j < 0$ for at least one j and for this j, $y_{ij} \leq 0 \text{ for all } i = 1,2,..,m$ then the LPP admits of an unbounded solution in a maximization problem. Lecture 13: Theory of simplex method, the simplex algorithm, simplex method in tableau format. Define Simplex, give an example of simplex at E^1, E^2, E^3 Lecture 14: Solve the LPP by simplex method : $\text{Maximize } z = 3x_1 + 2x_2 + 5x_3$ $\text{subject to}, x_1 + 2x_2 + x_3 \leq 430$ $3x_1 + 2x_3 \leq 460$ $x_1 + 4x_2 \leq 420$ x_1, x_2, x_3 Lecture 15: Use simplex method to solve the LPP $\text{Maximize } z = 2x_1 + 3x_2 + x_3$ $\text{subject to}, x_1 + x_2 - 2x_3 \leq 7$ $-3x_1 + x_2 + 2x_3 \leq 3$ $x_1, x_2, x_3 \geq 0$ Lecture 16: Introduction to artificial variables

Lecture 17: Big-M method and corresponding problems

Lecture 18: Use penalty method to solve the LPP

$Maximize\ z = 4x_1 + x_2$

$subject\ to, 3x_1 + x_2 = 3$

$\qquad 4x_1 + 3x_2 \geq 6$

$\qquad x_1 + 2x_2 \leq 4$

$\qquad x_1, x_2 \geq 0$

Lecture 19: Solve the LPP using Charnes Big M method

$Maximize\ z = -3x_1 + x_2 + 3x_3 - x_4$

$\ subject\ to, x_1 + 2x_2 - x_3 + x_4 = 0$

$\qquad 2x_1 - 2x_2 + 3x_3 + 3x_4 = 9$

$\qquad x_1 - x_2 + 2x_3 - x_4 = 6$

$\qquad x_1, x_2, x_3, x_4 \geq 0$

Lecture 20: Concept of Two-phase method and corresponding theorems

Lecture 21: Solve the following LPP using Two Phase method

$\qquad Maximize\ z = 2x_1 - 3x_2$

$\qquad subject\ to, -x_1 + x_2 \geq -2$

$\qquad\qquad 5x_1 + 4x_2 \leq 46$

$\qquad\qquad 7x_1 + 2x_2 \geq 32$

$\qquad\qquad x_1, x_2 \geq 0$

Lecture 22: Solve the following LPP using Two Phase simplex method

$\qquad Maximize\ z = x_1 + x_2$

$\qquad subject\ to, 2x_1 + x_2 \geq 4$

$\qquad\qquad x_1 + 7x_2 \geq 7$

$\qquad\qquad x_1, x_2 \geq 0$

Lecture 23: Concept of Duality and formulation of dual problem.

Lecture 24: Fundamental theorem of Duality, Theorems on Duality.

Lecture 25: primal-dual relationships, Dual of the dual is primal.

Lecture 26: economic interpretation of the dual.

Lecture 27: Given the LPP

$\qquad Maximize\ z = 2x_1 + 3x_2 + 4x_3$

$\qquad subject\ to, x_1 - 5x_2 + 3x_3 = 7$

$\qquad\qquad 2x_1 - 5x_2 \leq 3$

$\qquad\qquad 3x_2 - x_3 \geq 5,$

$x_1, x_2 \geq 0\ and\ x_3\ is\ unrestricted\ in\ sign$

Formulate the dual of the LPP.

Lecture 28: Give the dual of the following LPP and hence solve it:

$Maximize\ z = 3x_1 - 2x_2$

$subject\ to, x_1 \leq 4, x_2 \leq 6,$

$\qquad x_1 + x_2 \leq 5$

$\qquad -x_2 \leq -1$ Signature Not Verified

$\qquad x_1, x_2 \geq 0$

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Lecture 29: Tutorial

Lecture 30: Tutorial

22.06.2024

| Dr. Pradip Kumar Gain | *No of Classes (Hour) per week*: **4**

DSE-2T: (Unit-I)
Probability & Distribution
Marks-16

Sample space, probability axioms, real random variables (discrete and continuous), cumulative distribution function, probability mass/density functions, mathematical expectation, moments, moment generating function, characteristic function, discrete distributions: uniform, binomial, Poisson, geometric, negative binomial, continuous distributions: uniform, normal, exponential | **Term I: (05 Lectures + 01 Tutorial)**

Lecture-1. Concepts of sample space, random variables. Axioms of probability.

Lecture-2. Classical definition of probability. Problems

Lecture-3. Probabilty as the long run relative sequences. Statistical definition of probability, axiomatic definition of probability.

Lecture-4. Probabilty distribution. Probabilty mass/density functions.

Lecture-5. Problems

Tutorial- 1

Term II: (06 Lectures + 01 Tutorial)
Lecture-1. Concept of ~~~~tical expectation, moments,
Lecture-2. Concept of moment~~~~ erating function, characteristic function,
Lecture-3. Discrete probability distributions.
Lecture-4. Binomial~~~~ stribution.
Lecture-5. Poisson probability distribution,
Lecture-6. Problems on discrete probability distributions.
Tutorial- 1 |

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Lecture-1. Continuous probability distributions:
Lecture-2. Uniform probability distributions**.**
Lecture-3. Normal probability distributions
Lecture-4. Problems.
Tutorial-1
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DSE-2T: (Unit-II)
Joint Distribution
Marks-14

Joint cumulative distribution function and its properties, joint probability density functions, marginal and conditional distributions, expectation of function of two random variables, conditional expectations, independent random variables, bivariate normal distribution, correlation coefficient, joint moment generating function (jmgf) and calculation of covariance (from jmgf), linear regression for two variables.
</td><td>

Term I: (04 Lectures+ 01 Tutorial)

Lecture-1. Discussion on the concept of joint probability. distribution and its properties.
Lecture-2. Joint probability density functions.
Lecture-3. Marginal and conditional probability distributions.
Lecture-4. Various Problems.
Tutorial-1

Term II: (04 Lectures+ 01 Tutorial)
Lecture-1. Discussion on the concept of expectation of function of two random variables,
Lecture-2. Conditional expectations, independent random variables,.
Lecture-3. Discussion on bivariate normal distribution.
Lecture-4. Problems..
Tutorial-1

Term III: (04 Lectures + 01 Tutorial)
Lecture-1. Discussion on correlation coefficient,:
Lecture-2. Discussion on joint moment generating function (jmgf)
Lecture-3. Calculation of covariance (from jmgf),
linear regression for two variables.
Lecture-4. Problems.
Tutorial-1
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DSE-2T: (Unit-III)
Convergence in Probability Marks-09

Chebyshev's inequality, statement and interpretation of (weak) law of large numbers and strong law of large numbers. Central limit theorem for independent and identically distributed random variables with finite variance, Markov chains, Chapman-Kolmogorov equations, classification of states.
</td><td>

Term I: (03 Lectures + 01 Tutorial)
Lecture-1. Discussion on Chebyshev's inequality,:
Lecture-2. Statement and interpretation of (weak) law of large numbers and strong law of large numbers.
Lecture-3. Problems.
Tutorial-1

Term II: (02 Lectures+ 01 Tutorial)
Lecture-1. Discussion on Central limit theorem for independent and identically distributed random variables with finite variance.
Lecture-2. Problems.
Tutorial-1   Signature Not Verified

Term III: (02 Lectures+ Tutorial)
Lecture-1. Discussion on Markov chains, Chapman Kolmogorov equations, classification of states.
Lecture-2. Problems.
Tutorial-1   22.06.2024
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Dr. Sangita Chakraborty	**Course type:** Mathematics (Honours) Core Course (Under CBCS)	**Term I:** **(10 Lectures+ 02 Tutorials)**
	Paper- C12T: (Group Theory-II)	**Lecture 1:** Recapitulation: Properties of homomorphism and isomorphism. Introduction to automorphism
	No of Classes (Hour) per week: 3	**Lecture 2:** Automorphism groups, and its relation with permutation groups.
		Lecture 3: Inner automorphism and its properties.
	Unit-1: (Automorphism Groups): (Marks-16)	**Lecture 4:** Finding automorphism groups of finite and infinite cyclic groups.
	Automorphism, inner automorphism, automorphism groups, automorphism groups of finite and infinite cyclic groups, applications of factor groups to automorphism groups, Characteristic subgroups, Commutator subgroup and its properties.	**Lecture 5:** Solving problems on automorphisms, inner automorphisms.
		Lecture 6: applications of factor groups to automorphism groups.
		Lecture 7: Characteristic subgroups: Definition and properties
		Lecture 8: Commutator subgroup: Definition and properties.
	Unit 2: (Direct Products): (Marks-11)	**Lecture 9:** Properties of external direct products with examples.
	Properties of external direct products, the group of units modulo n as an external direct product, internal direct products, Fundamental theorem of finite abelian groups.	**Lecture 10:** To establish the group of units modulo n as an external direct product.
		Tutorial 1:
		Tutorial 2:
		Doubt-clearing session :
	Unit 3: (Group Actions): (Marks-14)	**Term II:** **(09 Lectures+ 02 Tutorials)**
	Group actions, stabilizers and kernels, permutation representation associated with a given group action. Applications of group actions. Generalized Cayley's theorem. Index theorem.	**Lecture 11:** Internal direct products: Definition and properties with example.
		Lecture 12: Criteria for a group to be an internal direct product.
		Lecture 13: Isomorphism between internal and external direct products.
	Unit 4: (Class Equations and Sylow's Theorems): (Marks-19)	**Lecture 14:** Fundamental theorem of finite abelian groups and its applications for classification of groups of certain order upto isomorphism.
	Groups acting on themselves by conjugation, Class equation and consequences, conjugacy in S_n, p-groups, Sylow's theorems and consequences, Cauchy's theorem. Simplicity of A_n for n>=5, non-simplicity tests.	**Lecture 15:** Introduction to **g**roup actions, stabilizers and kernels: Definition and properties with example.
		Lecture 16: Representation of permutation associated with a given group action.
		Lecture 17: Applications of group actions.
		Lecture 18: Generalized Cayley's theorem.
		Lecture 19: Index theorem.
		Tutorial 3:
		Tutorial 4:
		Doubt-clearing session:
		Term III: (09 Lectures+ 02 Tutorials)
		Lecture 20: Groups acting on themselves by conjugation.
		Lecture 21: Class equation and consequences.
		Lecture 22: Determination of conjugacy in S_n. Solving problems on conjugacy classes and class equations.

		Lecture 23: Definition of p-groups with examples. Cauchy's theorem**.**
		Lecture 24: Sylow's theorems: First, Second, Third with proof.
		Lecture 25: Continuation to Lecture 25.
		Lecture 26: Consequences of Sylow's theorems.
		Lecture 27: Solving problems on Sylow's theorems.
		Lecture 28: Simplicity of A_n for n>=5. Non-simplicity tests.
		Tutorial 5:
		Tutorial 6:
		Doubt-clearing session:
Prof. Sankar Das	**Course type:** Mathematics (Honours) **Paper-C11T** (**Partial Differential Equations**) *No of Classes (Hour) per week*: **3** **C11T: Partial Differential Equations:** **Unit-1:** Partial differential equations – Basic concepts and definitions. problems. First- order equations: classification, construction and geometrical interpretation. Method of characteristics for obtaining general solution of quasi linear equations. Canonical forms of first-order linear equations. Method of separation of variables for solving first order partial differential equations. **Unit-2:** Derivation of heat equation, wave equation and Laplace equation. Classification of second order linear equations as hyperbolic, parabolic or elliptic. Reduction of second order linear equations to canonical forms. **Unit-3:** The Cauchy problem, Cauchy-Kovalevsky theorem, Cauchy problem of an infinite string. Initial boundary value problems. Semi-infinite string with a fixed end, semi-infinite string with a free end. Equations with non-homogeneous boundary conditions. Non- homogeneous wave equation. Method of separation of variables, solving the vibrating string problem. Solving the heat conduction problem.	**Term I (8 Lectures)** **Lecture 1:** Partial differential equations – Basic concepts and definitions. **Lecture 2:** Formation of Partial differential equations. **Lecture 3:** First- order equations: classification, construction and geometrical Interpretation. **Lecture 4:** Method of characteristics for obtaining general solution of quasi linear equations. **Lecture 5:** Canonical forms of first-order linear PDEs. **Lecture 6:** Method of separation of variables for solving first order PDEs. **Lecture 7:** Tutorial **Lecture 8:** Tutorial **Term II (10 Lectures)** **Lecture 9:** Derivation of heat equation. **Lecture 10:** Derivation of wave equation. **Lecture 11:** Derivation of Laplace equation. **Lecture 12:** Classification of second order linear equations as hyperbolic. **Lecture 13:** Classification of second order linear equations as parabolic or elliptic. **Lecture 14:** Reduction of second order linear equations to canonical forms. **Lecture 15:** Reduction of second order linear equations to canonical forms. **Lecture 16:** Tutorial **Lecture 17:** Tutorial **Lecture 18:** Tutorial **Term III (1 ... s)** **Lecture 19:** The Cauchy problem, Cauchy-Kovalevsky theorem, Cauchy problem of an in... e string. **Lecture 20:** The Cauchy problem, Cauchy-Kovalevsky theorem, Cauchy pr... te string. **Lecture 21:** Initial boundary value problems. **Lecture 22:** Semi-infinite string with a fixed end, semi-infinite string with a free end.

		Lecture 23: Equations with non-homogeneous boundary conditions.
		Lecture 24: Non- homogeneous wave equation.
		Lecture 25: Method of separation of variables, solving the vibrating string problem.
		Lecture 26: Solving the heat conduction problem.
		Lecture 27: Tutorial
		Lecture 28: Tutorial
Dr. Anjana Mondal	**Course type:** Mathematics (Honours) Discipline Specific Elective **Paper-** DSE-2T **Unit 4:** **(Statistics)** **Marks: 21** *No. of Classes (Hour) per week*: 2 Random Samples, Sampling Distributions, Estimation of parameters, Testing of hypothesis.	**Term I**: **(10 Lectures+ 02 Tutorials)** Lecture-1: Random variables, Discrete and continuous random variables, Distribution function, Probability density and probability mass function. Expectation of random variables Lecture-2: Some special discrete distributions and their properties. Lecture-3: Some special continuous distributions and their properties. Lecture-4: Definitions of population, sample, random sample, statistic, sampling distribution. Central limit theorem. Lecture-5: Chi-square distribution Lecture-6: Student's t distribution Lecture-7: F distribution. Lecture-8: Point estimation, Criteria of good estimators: unbiasedness Lecture-9: consistency and efficiency Lecture-10: Method of moment estimation Tutorial-1 Tutorial-2 **Term II**: **(06 Lectures+ 02 Tutorials)** Lecture-11: Method of moment estimation Lecture-12: Method of maximum likelihood estimation Lecture-13: Method of maximum likelihood estimation Lecture-14: Interval estimation Lecture-15: Interval estimation Lecture-16: Interval estimation Tutorial-3 Tutorial-4 **Term III**: **(06 Lectures+ 02 Tutorials)** Lecture-17. Hypothesis testing Lecture-18: Hypothesis testing Lecture-19: Hypothesis testing Lecture-20: Hypothesis testing Lecture-21: Hypothesis testing Lecture-22. Hypothesis testing Tutorial-5 Tutorial-6
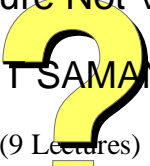
	Course type: Mathematics (General) **Paper-** DSE-1AT *No. of Classes (Hour) per week*: **2** R, R2, R3 as vector spaces over R. Standard basis for each of them. Concept of Linear Independence and examples of different bases. Subspaces of R2, R3. Translation, Dilation, Rotation, Reflection in a point, line and plane. Matrix form of basic geometric transformations. Interpretation of eigen values and eigenvectors for such transformations and eigen spaces as invariant subspaces.	**Term I**: **(10 Lectures+ 02 Tutorials)** Lecture-1: Vector space over a field. Lecture-2: R, R2, R3 as vector spaces over R Lecture-3: Subspaces Lecture-4: Linear sum of two subspaces Lecture-5: Linear span Lecture-6: Linear dependence and independence Lecture-7: Basis of a vector space, Lecture-8: Standard basis for R, R2, R3 Lecture-9: Translation, Dilation, Rotation, Reflection in a point, line and plane Lecture-10: Translation, Dilation, Rotation, Reflection in a point, line and plane Tutorial-1 Tutorial-2 **Term II**: **(06 Lectures+ 02 Tutorials)** Lecture-11: Matrix form of basic geometric transformations Lecture-12: Characteristic equation and Cayley-Hamilton theorem Lecture-13: eigen values Lecture-14: eigen vectors Lecture-15: Revision Lecture-16: Revision Tutorial-3 Tutorial-4 **Term III**: **(06 Lectures+ 02 Tutorials)** Lecture-17. Revision Lecture-18: Revision Lecture-19: Revision Lecture-20: Revision Lecture-21: Revision Lecture-22 Revision Tutorial-5 Tutorial-6
Dr. Kousik Bhattacharya	**Course type:** Mathematics (Honours) Core Course **Paper-C11T (Partial Differential Equations & Applications)** *No of Classes (Hour) per week*: **2** **Unit 4: (Particle Dynamics) Marks: 20** Central force. Constrained motion, varying mass, tangent and normal components of	**Term I** (8 Lectures) Lecture 1: Central force and related problems Lecture 2: Central orbits and related problems Lecture 3: Apses and related p Lecture 4: Different Kind of typical problems-I Lecture 5: Different Kind of typical problems-II Lecture 6: Different Kind of typical problems-III Lecture 7: Tutorial Lecture 8: Tutorial **Term II** (8 Lectures)

		Lecture 9: Constrained motion: concept
		Lecture 10: Constrained motion in circular path
		Lecture 11: Constrained motion in parabolic path
		Lecture 12: varying mass: its concept
		Lecture 13: Related problems on varying mass
		Lecture 14: Related typical problems of constrained motion
		Lecture 15: Tutorial
		Lecture 16: Tutorial
		Term III (8 Lectures)
		Lecture 17: Tangent and normal components of acceleration
		Lecture 18: Related problems on Tangent and normal components of acceleration
		Lecture 19: Modelling ballistics and planetary motion
		Lecture 20: Related problems on planetary motion
		Lecture 21: Kepler's second law
		Lecture 22: Related problems on Kepler's law
		Lecture 23: Tutorial
		Lecture 24: Tutorial

Row continues from previous page: acceleration, modelling ballistics and planetary motion, Kepler's second law.

	Course type: Mathematics (General) Skill Enhancement Course **SEC3T: (Number Theory)** **Marks - 40** *No of Classes (Hour) per week*: **1** Division algorithm, Lame's theorem, linear Diophantine equation, fundamental theorem of arithmetic, prime counting function, statement of prime number theorem. Goldbach conjecture, binary and decimal representation of integers, linear congruences, complete set of residues. Number theoretic functions, sum and number of divisors, totally multiplicative functions, definition and properties of the Dirichlet product, the Möbius inversion formula, the greatest integer function, Euler's phi-function.	**Term I** (8 Lectures) Lecture 1: Division algorithm, Lame's theorem, linear Diophantine equation, fundamental theorem of arithmetic, Lecture 2: prime counting function, statement of prime number theorem. Lecture 3: Goldbach conjecture, binary and decimal representation of integers Lecture 4: Tutorial **Term II** (10 Lectures) Lecture 5: linear congruences, complete set of residues. Lecture 6: Number theoretic functions, sum and number of divisors, Lecture 7: totally multiplicative functions Lecture 8: Tutorial **Term III** (8 Lectures) Lecture 9: definition and properties of the Dirichlet product Lecture 10: the Möbius inversion formula, the greatest integer function, Euler's phi-function. Lecture 11: Tutorial Lecture 12: Tutorial
Buddhadeb Mondal	**Course type:** Mathematics (Honours) Core Course **Paper- DSE-1T (Linear Programming)** *No of Classes (Hour) per week*: **2** **Unit-II: Number Theoretic Function**:	**Term I** (9 ...) **Lecture 1:** Introduction to Transportation problem with examples **Lecture 2:** Mathematical formula **Lecture 3:** Northwest-corner method with examples **Lecture 4:** least cost method with examples **Lecture 5:** Vogel approximation method with explanation

	(Marks- 16) Transportation problem and its mathematical formulation, northwest-corner method, least cost method and Vogel approximation method for determination of starting basic solution, algorithm for solving transportation problem, assignment problem and its mathematical formulation, Hungarian method for solving assignment problem **Unit-III: Game Theory** (Marks- 14)**:** Game theory: formulation of two person zero sum games, solving two person zero sum games, games with mixed strategies, graphical solution procedure of a linear programming of games.	**Lecture 6:** Algorithm for solving transportation problem **Lecture 7:** Some Transportation problems solve **Lecture 8:** Tutorial **Lecture 9:** Tutorial **Term II** (8 Lectures) **Lecture 10:** Introduction to Assignment problem **Lecture 11:** Its mathematical formulation **Lecture 12:** Hungarian method for solving assignment problem **Lecture 13:** Examples over Assignment problems **Lecture 14:** Test of optimality of Assignment problems **Lecture 15:** Tutorial **Lecture 16:** Tutorial **Lecture 17:** Tutorial **Term III** (7 Lectures) **Lecture 18:** Introduction to Game theory **Lecture 19:** Formulation of two person zero sum games **Lecture 20:** Solving two person zero sum games **Lecture 21:** Games with mixed strategies, **Lecture 22:** Graphical solution procedure of a linear programming of games. **Lecture 23:** Tutorial **Lecture 24:** Tutorial
	Course type: Mathematics (General) Discipline Specific Elective **DSE-1A-T:** **(Matrices)** *No of Classes (Hour) per week***: 2** Matrices in diagonal form. Reduction to diagonal form upto matrices of order 3. Computation of matrix inverses using elementary row operations. Rank of matrix. Solutions of a system of linear equations using matrices.Illustrative examples of above concepts from Geometry, Physics, Chemistry, Combinatorics and Statistics. .	**Term I** (8 Lectures) **Lecture 1:** Introduction to matrices **Lecture 2:** Matrices in diagonal form **Lecture 3:** Reduction to diagonal form upto matrices of order 3 **Lecture 4:** Inverse of a matrix with examples **Lecture 5:** Computation of matrix inverses using elementary row operations **Lecture 6:** Tutorial **Lecture 7:** Tutorial **Lecture 8:** Tutorial **Term II** (7 Lectures) **Lecture 9:** Introduction to rank of matrices **Lecture 10:** Determine rank of a matrix **Lecture 11:** Solutions of a system of linear equations using matrices **Lecture 12:** Examples **Lecture 13:** Tutorial **Lecture 14** Tutorial **Lecture 15:** Tutorial **Term III** (9 Lectures) **Lecture 16:** Illustrative examples of above concepts from Geometry

		Lecture 17: Illustrative examples of above concepts from Geometry, Physics, Chemistry, Combinatorics
		Lecture 18: Introduction to statistics
		Lecture 19: Examples
		Lecture 20: Applications
		Lecture 21: Tutorial
		Lecture 22: Tutorial
		Lecture 23: Tutorial

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BIDYUT SAMANTA

22.06.2024

DEPARTMENT OF MATHEMATICS

Syllabus Distribution and Teaching Plan

EVEN SEMESTER,　　Session: 2022-2023

Term I:　Commencement of classes to 1st internal,
Term II:　1st internal to 2nd internal.
Term III:　2nd internal to ESE preparatory break.

Semester II

Name of the Teacher	Syllabus Allotted	Teaching Plan
Dr. Bimal Krishna Das	**Course type:** Mathematics (Honours) Core Course **Paper-** C3T *No. of Classes (Hour) per week*: **2** **Unit-III: Infinite Series:** 　　　　　　　(Marks-18) Infinite series, convergence and divergence of infinite series, Cauchy criterion, tests for convergence: comparison test, limit comparison test, ratio test, Cauchy's nth root test, integral test. Alternating series, Leibniz test. Absolute and conditional convergence.	**Term I: (08 Lectures)** **Lecture 1:** Introduction to Infinite series **Lecture 2:** Convergence and divergence of infinite series-I **Lecture 3:** Convergence and divergence of infinite series-II **Lecture 4:** Related problem solution **Lecture 5:** Cauchy criterion and its proof **Lecture 6:** Solution of problems based on Cauchy criterion **Lecture 7:** Tests for convergence: comparison test and its proof. **Lecture 8:** Related problem solution **Term II: (11 Lectures)** **Lecture 9:** Tests for convergence: limit comparison test and its proof **Lecture 10:** Related problem solution **Lecture 11:** D' Alembert Ratio test and its proof **Lecture 12:** Related problem solution **Lecture 13:** Tests for convergence: Cauchy's nth root test and its proof **Lecture 14:** Related problem solution **Lecture 15:** Tests for convergence: Integral test and its proof **Lecture 16:** Related problem solution **Lecture 17:** Alternating series and related problems **Lecture 18:** Leibniz test and its proof **Lecture 19:** Related problem solution **Term III: (05 Lectures + 02 Tutorials)** **Lecture 20:** Absolute convergence and related theorems **Lecture 21:** Solution of problems related to absolute convergence **Lecture 22:** Conditional convergence and related theorems **Lecture 23:** Solution of problems related to conditional convergence **Lecture 24:** Raabe's test (Statement with proof), Gauss test (Statement without proof), Miscellaneous problems solving techniques **Tutorial -1** **Tutorial -2**

| Dr. Pradip Kumar Gain | **Course type:** Mathematics (Honours) Core Course

Paper- C3T
No of Classes (Hour) per week: **2**

Unit-I: Real Analysis:
(Marks-24)
Review of algebraic and order properties of R, ε-neighborhood of a point in R. Idea of countable sets, uncountable sets and uncountability of R, Bounded above sets, bounded below sets, bounded sets, unbounded sets. Suprema and infima. Completeness property of R and its equivalent properties. The Archimedean property, density of rational (and Irrational) numbers in R, intervals. Limit points of a set, isolated points, open set, closed set, derived set, illustrations of Bolzano-Weierstrass theorem for sets, compact sets in R, Heine-Borel Theorem. | **Term I: (10 Lectures + 01 Tutorials)**

Lecture-1: Number System, concept of natural number, well ordering principle, Integers,
Lecture-2: Rational Numbers Irrational numbers
Lecture-3: Algebraic structure and order structure of Q.
Lecture-4: Review of algebraic and order properties of . R .
Lecture-5: ε-neighborhood of a point in R. Interior point, exterior point, boundary point, open set, examples of open sets, properties of open sets.
Lecture-6: Countability, equivalent set, enumerable sets, countable sets, examples of countable sets. atmost countable sets, uncountable sets
Lecture-7: Theorems on countable sets. Problems on countable sets
Lecture-8: Q is countable set. The set $(0,1)$ is not enumerable,
Lecture-9: The Closed interval $[a,b]$ is uncountable.
Lecture-10: Uncountability of R.
Tutorial-1

Term II: (06 Lectures + 02 Tutorials)

Lecture-11: Intervals, bounded sets, examples
Lecture-12: Concept of Supremum and infimum, Greatest and smallest member of a set.
Lecture-13: Completeness property of R . L.u b axiom
Lecture-14: G.l.b axiom
Lecture-15: Archimedean property R
Lecture-16: Density property R
Tutorial-2
Tutorial-3
Term III: (06 Lectures + 02 Tutorials)

Lecture-17: Limit points, isolated points, derived sets, Closed sets, closure of a set.
Lecture-18: Theorems on closed sets,
Lecture-19:. Properties of closed sets.
Lecture-20: Bolzano-Weierstrass theorem for sets,
Lecture-21: Covering, sub covering, open covering, examples
Lecture-22: Compact sets in R, Heine-Borel Theorem.
Tutorial-4
Tutorial-5 |
| | **Course type:** Mathematics (General) Core Course

Paper- DSC1B/2B/3B-T
No of Classes (Hour) per week: **2**

Differential Equations:
(Marks-30)

First order exact differential equations. Integrating factors, rules to find an integrating factor. First order higher degree equations solvable for x, y, p. | **Term I: (07 Lectures + 02 Tutorials)**

Lecture-1: First order exact differential equations.
Lecture-2: Integrating factors, rules to find an integrating factor.
Lecture-3: Equations solvable by separation of variables.
Lecture-4: Homogeneous equation of first degree.
Lecture-5: Linear equations of first deal & Bernoulli's Equations.
Lecture-6: First order higher degree equations solvable for x and solvable for y.
Lecture-7: First order higher degree equations solvable for p.
Tutorial-1
Tutorial-2 |

	Methods for solving higher-order differential equations. Basic theory of linear differential equations, Wronskian, and its properties. Solving a differential equation by reducing its order. Linear homogenous equations with constant coefficients, Linear non-homogenous equations, The method of variation of parameters, The Cauchy-Euler equation, Simultaneous differential equations, Total differential equations.	**Term II**: **(05 Lectures + 02 Tutorials)** **Lecture-8:** Basic theory of linear differential equations. **Lecture-9:** Wronskian, and its properties. **Lecture-10:** Solving differential equation by reducing its order. **Lecture-11:** Linear homogenous equations with constant coefficients **Lecture-12:** Same as Lecture-10. **Tutorial-3** **Tutorial-4** **Term III**: **(05 Lectures + 03 Tutorials)** **Lecture-13:** Linear non-homogenous equations, **Lecture-14:** The method of variation of parameters, **Lecture-15:** The Cauchy-Euler equation, **Lecture-16:** Simultaneous differential equations, **Lecture-17:** Total differential equations. **Tutorial-5** **Tutorial-6** **Tutorial-7**
Dr. Sangita Chakraborty	**Course type:** Mathematics (Honours) Core Course **Paper-** C4T *No of Classes (Hour) per week*: **3** **Unit-III: Differential Equations:** (Marks- 9) Equilibrium points, Interpretation of the phase plane, Power series solution of a differential equation about an ordinary point, solution about a regular singular point. **Unit-IV: Vector Calculus:** (Marks-16) Triple product, introduction to vector functions, operations with vector-valued functions, limits and continuity of vector functions, differentiation and integration of vector functions.	**Term I**: **(08 Lectures + 02 Tutorials)** **Lecture 1:** Introduction to product of three vectors: Scalar Triple product and Vector Triple product, **Lecture 2:** Geometrical significance of scalar triple product, properties of Triple products. **Lecture 3:** Applications of Triple products in geometrical problems. Lecture 4: Continuation of the topic in Lecture 3. Lecture 5: Applications of Triple products in mechanics. Lecture 6: Reciprocal system of vectors. Lecture 7: Introduction to vector functions, operations with vector-valued functions. Lecture 8: Limits and continuity of vector functions. **Tutorial-1** **Tutorial-2** *Doubt-clearing session:* **Term II**: **(08 Lectures + 02 Tutorials)** **Lecture 9:** Differentiation of vector functions. **Lecture 10:** Integration of vector functions. **Lecture 11:** Problems solving for differentiation and integration of vector functions. **Lecture 12:** Introduction to Equilibrium points for system of differential equations, concepts of trajectories. **Lecture 13:** Concepts of Phase portrait and the phase plane with examples. **Lecture 14:** Types and stability classification of equilibrium solutions. **Lecture 15:** Continuation of the topic in Lecture 14. **Lecture 16:** Behaviour of trajectory sets. **Lecture 17:** Interpretation of the phase plane. **Tutorial-3** **Tutorial-4** *Doubt-clearing session:*

		Term III: **(09 Lectures + 03 Tutorials)** **Lecture 18:** Introduction to Power series, definitions: ordinary points, singular points. **Lecture 19:** Types of singular points in linear homogeneous differential equation. **Lecture 20:** To locate and classify the singular points in the differential equations. **Lecture 21:** Series solution of a differential equation about an ordinary point. **Lecture 22:** Continuation of the topic in Lecture 21. **Lecture 23:** Continuation of the topic in Lecture 21. **Lecture 24:** Series solution of a differential equation about a regular singular point. **Lecture 25:** Continuation of the topic in Lecture 24. **Lecture 26:** Continuation of the topic in Lecture 24. **Tutorial-5** **Tutorial-6:** **Tutorial-7:** *Doubt-clearing session:* *Doubt-clearing session:*
Sankar Das	**Course type:** Mathematics (Honours) Core Course **Paper-** C4T *No of Classes (Hour) per week*: **2** **Unit-1: Differential Equations:**(Marks-22) Lipschitz condition and Picard's Theorem (Statement only). General solution of homogeneous equation of second order, principle of super position for homogeneous equation, Wronskian: its properties and applications, Linear homogeneous and non-homogeneous equations of higher order with constant coefficients, Euler's equation, method of undetermined coefficients, method of variation of parameters. **Unit-2: Differential Equations:** (Marks-13) Systems of linear differential equations, types of linear systems, differential operators, an operator method for linear systems with constant coefficients, Basic Theory of linear systems in normal form, homogeneous linear systems with constant coefficients: Two	**Term I**: **(08 Lectures + 02 Tutorials)** **Lecture 1:** Introduction of Second order linear differential equations. **Lecture 2:** Linear differential equations of orders higher than the second. **Lecture 3:** Lipschitz condition and Picard's Theorem. **Lecture 4:** General solution of homogeneous equation of second order, principle of super position for homogeneous equation. **Lecture 5:** Wronskian: its properties and applications. **Lecture 6:** Linear operator with constant coefficients: Complementary function. **Lecture 7:** Particular Integral of a differential equation. **Lecture 8:** Short method of Particular Integral of a differential equation. **Tutorial-1** **Tutorial-2** **Term II**: **(06 Lectures + 02 Tutorials)** **Lecture 9:** Linear homogeneous and non-homogeneous equations of higher order with constant coefficients. **Lecture 10:** The Cauchy-Euler equations. **Lecture 11:** Solving a linear differential equation by the method of undetermined coefficients. **Lecture 12:** The method of variation of parameters. **Lecture 13:** Miscellaneous types of linear differential equations. **Lecture 14:** Solution of differential equations by changing dependent variable. **Tutorial-3** **Tutorial-4**

	Equations in two unknown functions.	**Term III**: **(05 Lectures + 03 Tutorials)** **Lecture 15:** Systems of linear differential equations, **Lecture 16:** Types of linear systems, differential operators, **Lecture 17:** An operator method for linear systems with constant coefficients. **Lecture 18:** Basic Theory of linear systems in normal form. **Lecture 19:** homogeneous linear systems with constant coefficients: Two Equations in two unknown functions. **Tutorial-5** **Tutorial-6** **Tutorial-7**
	Course type: Mathematics (General) Core Course **Paper-** DSC1B/2B/3B-T *No of Classes (Hour) per week*: **2** **Differential Equations:** (Marks-30) Order and degree of partial differential equations, Concept of linear and non-linear partial differential equations, Formation of first order partial differential equations, Linear partial differential equation of first order, Lagrange's method, Charpit's method. Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustrations only.	**Term I**: **(07 Lectures + 03 Tutorials)** **Lecture 1:** Introduction of Partial differential equations (PDE). **Lecture 2:** Order and degree of partial differential equations. **Lecture 3:** Concept of linear and non-linear PDEs. **Lecture 4:** Concept of Quasi-linear and semi-linear PDEs. **Lecture 5:** Formation of first order PDEs by eliminating arbitrary constants. **Lecture 6:** Formation of first order PDEs by eliminating arbitrary functions. **Lecture 7:** Linear partial differential equation of first order. **Tutorial-1** **Tutorial-2** **Tutorial-3** **Term II**: **(05 Lectures + 03 Tutorials)** **Lecture 8:** Linear partial differential equation of second order. **Lecture 9:** Lagrange's Auxiliary Equations a linear PDE. **Lecture 10:** Lagrange's method to solve a linear PDE. **Lecture 11:** Find the integral surface of a linear PDE through a given curve. **Lecture 12:** Solving the PDE of first order by Charpit's method. **Tutorial-4** **Tutorial-5** **Tutorial-6** **Term III**: **(04 Lectures + 03 Tutorials)** **Lecture 13:** Some special method for solving non-linear PDEs. **Lecture 14:** Classification of second order PDEs into elliptic type. **Lecture 15:** Classification of second order PDEs into parabolic type. **Lecture 16:** Classification of second order PDEs into hyperbolic type through illustration. **Tutorial-7** **Tutorial-8** **Tutorial-9**

Anjana Mondal	**Course type:** Mathematics (Honours) Core Course **Paper-** C3T *No of Classes (Hour) per week***: 2** **Unit-II: Real Sequence:** (Marks-18) Sequences, bounded sequence, convergent sequence, limit of a sequence, lim inf, lim sup. Limit theorems. Monotone sequences, monotone convergence theorem. Subsequences, divergence criteria. Monotone subsequence theorem (statement only), Bolzano Weierstrass theorem for sequences. Cauchy sequence, Cauchy's convergence criterion.	**Term I: (07 Lectures + 02 Tutorials)** **Lecture 1:** Some preliminaries on the properties of real number system and real function **Lecture 2:** Definition of sequences, definition of real sequences, range of sequences, some examples, difference between sequences and sets **Lecture 3:** Convergent sequences, limit of a sequence, geometrical interpretation of convergent sequences, examples of convergent sequences, technique of proving convergent sequence using $\epsilon - \delta$ definition. **Lecture 4:** Divergent sequences, bounded sequences, relation between convergent and bounded sequences **Tutorial-1** **Lecture 5:** Some theorems on convergent sequences **Lecture 6:** Limit point of sequences, difference between limit and limit point of sequences **Lecture 7:** Algebraic properties of limit of sequences and applications. **Tutorial-2**
		Term II: (06 Lectures + 02 Tutorials) **Lecture 8:** Sandwich theorem and applications **Lecture 9:** Monotone sequences, Monotone convergence theorem **Lecture 10:** Some applications of Monotone convergence theorem **Tutorial-3** **Lecture 11:** Subsequence, divergence criteria, applications **Lecture 12:** Monotone subsequence theorem, applications **Tutorial-4** **Lecture 13:** The Bolzano Weierstrass theorem, applications.
		Term III: (06 Lectures + 03 Tutorials) **Lecture 14:** Limit superior and Limit inferior, applications **Tutorial-5** **Lecture 15:** Cauchy sequence and related theorems **Lecture 16:** Cauchy convergence criterion, applications **Tutorial-6** **Tutorial-7** **Lecture 17:** Revision **Lecture 18:** Revision **Lecture 19:** Revision

| Kousik Bhattacharya | **Course type:** Mathematics Generic Elective
Paper- GE2T
No of Classes (Hour) per week: **2**

Unit I: Classical Algebra:
(Marks-22)

Polar representation of complex numbers, nth roots of unity, De Moivre's theorem for rational indices and its applications. Theory of equations, Relation between roots and coefficients, transformation of equation, Descartes rule of signs, cubic and biquadratic equation. Inequality, The inequality involving AM≥ GM≥ HM, Cauchy-Schwartz inequality.

Unit II: Sets and Integers:
(Marks-15)

Equivalence relations. Functions, composition of functions, Invertible functions, one to one correspondence and cardinality of a set. Well-ordering property of positive integers, division algorithm, divisibility and Euclidean algorithm. Congruence relation between integers. Principles of Mathematical induction, statement of Fundamental Theorem of Arithmetic. | **Term I**: **(06 Lectures + 02 Tutorials)**

Lecture 1: Introduction of complex numbers, Polar representation of complex numbers, nth roots of unity
Lecture 2: De Moivre's theorem for rational indices, Application of De Moivre's theorem
Lecture 3: Relation between roots and coefficients, Transformation of equations
Lecture 4: Theory and Applications of Descartes rule of signs
Lecture 5: Solution of cubic equation
Lecture 6: Solution of Biquadratic equation
Tutorial-1
Tutorial-2

Term II: **(08 Lectures + 02 Tutorials)**

Lecture 7: Concept of the inequality AM≥ GM≥ HM, Statement and proof of Cauchy-Schwartz inequality
Lecture 8: Introduction to Set and Relations, Properties of Equivalence relations
Lecture 9: Different properties of functions
Lecture 10: Composition of functions, Properties of Invertible functions
Lecture 11: Application of one-to-one correspondence, Cardinality of sets
Lecture 12: Well-ordering property of positive integers division algorithm
Lecture 13: Divisibility and Euclidean algorithm
Lecture 14: Congruence relation between integers
Tutorial-3
Tutorial-4

Term III: **(04 Lectures + 02 Tutorials)**

Lecture 15: Principles of Mathematical induction
Lecture 16: Different kinds of problems of Mathematical induction
Lecture 17: Statement and application of Fundamental Theorem of Arithmetic
Lecture 18: Problems related to Fundamental theorem of Arithmetic
Tutorial-5
Tutorial-6
Doubt clearing session:
Doubt clearing session: |

| Buddhadeb Mondal | **Course type:** Mathematics Generic Elective
Paper- GE2T
No of Classes (Hour) per week: **2**

Unit III: Systems of linear equations: (Marks-09)

Systems of linear equations, row reduction and echelon forms, vector equations, the matrix equation Ax=b, solution sets of linear systems, applications of system of linear equations, linear independence.

Unit IV:
Linear Transformation and Eigen Values: (Marks- 14)

Introduction to linear transformations, matrix of a linear transformation, inverse of a matrix, characterizations of invertible matrices. Subspaces of R^n, dimension of subspaces of R^n Rank of a matrix, Eigen values, eigen vectors and characteristic equation of a matrix. Cayley-Hamilton theorem and its use in finding the inverse of a matrix | **Term I:** **(07 Lectures + 02 Tutorials)**

Lecture 1: Introduction to systems of linear equations
Lecture 2: Row reduction and echelon forms, vector equations
Lecture 3: The matrix equation Ax=b with examples
Lecture 4: solution of system of linear equations
Lecture 5: Applications of system of linear equations
Lecture 6: Linear independence and dependence
Lecture 7: Applications
Tutorial-1
Tutorial-2

Term II: **(07 Lectures + 02 Tutorials)**

Lecture 8: Introduction to linear transformations with an example
Lecture 9: Matrix of a linear transformation with an example
Lecture 10: Inverse of a matrix with an example
Lecture 11: Characterizations of invertible matrices
Lecture 12: Subspaces of R^n
Lecture 13: Dimension of subspaces of R^n
Lecture 14: Examples solve
Tutorial-3
Tutorial-4

Term III: **(04 Lectures + 02 Tutorials)**

Lecture 15: Rank of a matrix with an example
Lecture 16: Eigen values, eigen vectors and characteristic equation of a matrix
Lecture 17: Cayley-Hamilton theorem with an example
Lecture 18: Finding the inverse of a matrix using Cayley-Hamilton theorem
Tutorial-5
Tutorial-6 |

Semester IV

Name of the Teacher	Syllabus Allotted	Teaching Plan
Dr. Bimal Krishna Das	**Course type:** Mathematics (Honours) Core Course **Paper-** C8T *No of Classes (Hour) per week***: 3** **Unit-II: Improper integrals:** (Marks- 11) Improper integrals, Convergence of Beta and Gamma functions **Unit-IV: Fourier Series:** (Marks- 07) Fourier series: Definition of Fourier coefficients and series, Reimann Lebesgue lemma, Bessel's inequality, Parseval's identity, Dirichlet's condition. Examples of Fourier expansions and summation results for series. **Unit-V: Power Series:** (Marks- 07) Power series, radius of convergence, Cauchy Hadamard theorem. Differentiation and integration of power series; Abel's theorem; Weierstrass approximation theorem.	**Term I: (11 Lectures + 02 Tutorials)** **Unit-II: Improper integrals** Lecture 1: Introduction to Improper integrals Lecture 2: Improper integrals on a closed and bounded interval, the integrand having infinite discontinuities Lecture 3: Different typical examples Lecture 4: Tests for convergence, positive integrand and related theorems Lecture 5: Comparison test and its proof Lecture 6: Different theorems and their proofs regarding improper integrals Lecture 7: Improper integrals on an unbounded interval Lecture 8: Beta functions and their properties Lecture 9: Gamma function and their properties Lecture 10: Solutions of related problems Lecture 11: Convergence of Beta and Gamma functions **Tutorial-1** **Tutorial-2** **Term II: (11 Lectures + 02 Tutorials)** **Unit-IV: Fourier Series** Lecture 12: Introduction to Fourier series Lecture 13: Definition of Fourier coefficients and series Lecture 14: Properties of Fourier coefficients and series Lecture 15: Related problem solution on Fourier series Lecture 16: Reimann Lebesgue lemma Lecture 17: Related problems on Reimann Lebesgue lemma Lecture 18: Bessel's inequality and related problems Lecture 19: Parseval's identity and related problems Lecture 20: Dirichlet's condition and its proof Lecture 21: Examples of Fourier expansions Lecture 22: Summation results for series **Tutorial-3** **Tutorial-4** **Term III: (11 Lectures + 02 Tutorials)** **Unit-V: Power Series** Lecture 23: Introduction of power series Lecture 24: Examples and different properties of power series Lecture 25: Radius of convergence of power series Lecture 26: Interval of convergence of power series Lecture 27: Related problems on radius of convergence of power series Lecture 28: Cauchy Hadamard theorem and its proof Lecture 29: Related problems on Cauchy Hadamard theorem Lecture 30: Differentiation of power series and related problems Lecture 31: Integration of power series and related problems Lecture 32: Abel's theorem and its application Lecture 33: Weierstrass approximation theorem and its application **Tutorial-1** **Tutorial-2**

Dr. Pradip Kumar Gain	**Course type:** Mathematics (Honours) Core Course **Paper-** C8T *No of Classes (Hour) per week*: **1** **Unit-I: Riemann integration** (Marks-19) Inequalities of upper and lower sums, Darboux integration, Darboux theorem, Riemann conditions of integrability, Riemann sum and definition of Riemann integral through Riemann sums, equivalence of two definitions. Riemann integrability of monotone and continuous functions, properties of the Riemann integral; definition and integrability of piecewise continuous and monotone functions. Intermediate Value theorem for Integrals; Fundamental theorem of Integral Calculus.	**Term I**: **(05 Lectures + 01 Tutorials)** **Lecture-1.** Inequalities of upper and lower sums, Darboux integration, Riemann integration. **Lecture-2.** Darboux theorem, Riemann conditions of integrability, **Lecture-3.** Riemann sum and definition of Riemann integral through Riemann sums. **Lecture-4.** Equivalence of two definitions. **Lecture-5.** Problems **Tutorial-1** **Term II**: **(04 Lectures + 01 Tutorials)** **Lecture-6.** Riemann integrability of monotone and continuous functions, **Lecture-7.** Properties of the Riemann integral. **Lecture-8.** Definition and integrability of piecewise continuous and monotone functions. **Lecture-9.** Problems **Tutorial-2** **Term III**: **(05 Lectures + 01 Tutorials)** **Lecture-10.** Intermediate Value theorem for Integrals, first mean value theorem. **Lecture-11.** Second mean value theorem (Bonnet form) **Lecture-12.** Second mean value theorem (Weierstrass form) **Lecture-13.** Fundamental theorem of Integral Calculus. **Lecture-14.** Some examples and problems on Riemann integration. **Tutorial-3**
	Course type: Mathematics (Honours) Skill Enhancement Course **Paper-** SEC-2T *No of Classes (Hour) per week*: **1** **Unit-I: Graph Theory :** (Marks-09) Definition, examples and basic properties of graphs, pseudo graphs, complete graphs, bipartite graphs isomorphism of graphs. **Unit-II: Graph Theory :** (Marks-14) Eulerian circuits, Eulerian graph, semi-Eulerian graph, theorems, Hamiltonian cycles, theorems Representation of a graph by matrix, the adjacency matrix, incidence matrix, weighted graph**.**	**Term I**: **(05 Lectures + 01 Tutorials)** **Lecture-1.** Definition, examples and basic properties of graphs **Lecture-2.** Simple graphs, Multi graphs, Trivial graphs, Handshaking lemma **Lecture-3.** Some Important Theorems on graphs **Lecture-4.** Complete graphs, bipartite graph, pseudo graphs, regular Graph, planar graphs **Lecture-5.** Isomorphism of graphs. Problems **Tutorial-1** **Term II**: **(04 Lectures + 01 Tutorials)** **Lecture-6.** Walk, Trial, Path, Circuit, cycle **Lecture-7.** Eulerian trial, Eulerian circuit, Eulerian graph **Lecture-8.** Some important theorems **Lecture-9.** Hamiltonian cycles, theorems **Tutorial-2** **Term III**: **(03 Lectures + ... rials)** **Lecture-10.** Representation of a graph by matrix, the adjacency matrix of a graph **Lecture-11.** Incidence matrix of a graph. Examples **Lecture-12.** Weighted graph. Exercise **Tutorial-3**

| Dr. Sangita Chakraborty | **Course type:** Mathematics (Honours) Core Course

Paper- C9T:
No of Classes (Hour) per week: **1**

Unit-III: Vector Field and Line Integration: (Marks-16)

Definition of vector field, divergence and curl.
Line integrals, applications of line integrals: mass and work. Fundamental theorem for line integrals, conservative vector fields, independence of path.

Unit-IV: Green's, Stoke's and Divergence Theorem: (Marks: 09)

Green's theorem, surface integrals, integrals over parametrically defined surfaces. Stoke's theorem, The Divergence theorem. | **Term I**: **(06 Lectures + 01 Tutorials)**

Lecture 1: Introduction to three field operators: the gradient of a scalar field, the divergence and the curl of a vector field.
Lecture 2: significance of divergence and curl of a vector field.
Lecture 3: Formula relating the three field operators with some useful examples.
Lecture 4: introduction to directional derivative and solving some problems.
Lecture 5: Irrotational vector, solenoidal vector with solving some problems.
Lecture 6: Finding the equations of the tangent plane and normal line to the surface.
Tutorial-1
Doubt-clearing session:

Term II: **(03 Lectures + 01 Tutorials)**

Lecture 7: Recapitulation: Vector integration. Introduction to Line integrals: definition and examples.
Lecture 8: Applications of line integrals: mass and work.
Lecture 9: Fundamental theorem for line integrals, conservative vector field and its relation with the irrorational vector field. Independence of path and its relation with the line integrals.
Tutorial-2
Doubt-clearing session:

Term III: **(05 Lectures + 02 Tutorials)**

Lecture 10: Introduction to Surface integrals and Volume integrals, its definition and examples.
Lecture 11: Green's theorem, integrals over parametrically defined surfaces.
Lecture 12: Stoke's theorem.
Lecture 13: The Divergence theorem of Gauss
Lecture 14: Verification of the above theorems.
Tutorial-3
Tutorial-4
Doubt-clearing session: |
| | **Course type:** Mathematics (Honours) Core Course
Paper- C10T
No of Classes (Hour) per week: **2**

Unit-I: Ring Theory (Marks: 16)
Definition and examples of rings, properties of rings, subrings, integral domains and fields, characteristic of a ring. Ideal, ideal generated by a subset of a ring, factor rings, operations on ideals, prime and maximal ideals.

Unit-II:Ring homomorphisms (Marks: 09)
Ring homomorphisms, | **Term I**: **(07 Lectures + 02 Tutorials)**
Lecture 1: Definition and examples of rings, properties of rings, concepts of zero ring and trivial ring.
Lecture 2: Units in the ring of integral quaternions, divisors of zero with examples.
Lecture 3: Definition and examples of Integral domain.
Lecture 4: Characteristic of a ring and an integral domain, idempotent and nilpotent elements with examples.
Lecture 5: Definition and examples of Fields, properties of fields.
Lecture 6: Definition and examples of subring, necessary and sufficient conditions for a nonempty subset of a ring to be a subring.
Lecture 7: Theorems and problems on subrings.
Tutorial-1:
Tutorial-2:
Doubt-clearing session: |

	properties of ring homomorphisms. Isomorphism theorems I, II and III, field of quotients.	**Term II**: **(07 Lectures + 02 Tutorials)** **Lecture 8:** Definition of Ideals of a ring, necessary and sufficient conditions to be an ideal. **Lecture 9:** Examples of ideals, problems solving on ideals, **Lecture 10:** Operations on ideals. **Lecture 11:** Theorems relating ideals. **Lecture 12:** Ideal generated by a subset of a ring. Definition and examples of principal ideal. **Lecture 13:** Definitions and examples: prime ideal in a ring. **Lecture 14:** Definitions and examples: maximal ideal in a ring. **Tutorial-3:** **Tutorial 4:** *Doubt-clearing session:* **Term III**: **(07 Lectures + 02 Tutorials)** **Lecture 15:** Introduction to factor rings with examples and properties, connection with prime and maximal ideals. **Lecture 16:** Introduction to Homomorphism and Isomorphism of rings, **Lecture 17:** Examples and properties of ring homomorphisms. **Lecture 18:** Field of quotients. **Lecture 19:** Isomorphism theorem I with proof. **Lecture 20:** Isomorphism theorem II with proof. **Lecture 21:** Isomorphism theorem III with proof. **Tutorial-5:** **Tutorial-6:** *Doubt-clearing session:* *Doubt-clearing session:*
Sankar Das	**Course type:** Mathematics (Honours) Core Course **Paper-** C9T *No of Classes (Hour) per week*: **3** **Unit-I: Functions of several variables:** (Marks-21) Functions of several variables, limit and continuity of functions of two or more variables Partial differentiation, total differentiability and differentiability, sufficient condition for differentiability. Chain rule for one and two independent parameters, directional derivatives, the gradient, maximal and normal property of the gradient, tangent planes, Extrema of functions of two variables, method of Lagrange multipliers, constrained optimization problems.	**Term I**: **(12 Lectures + 02 Tutorials)** **Lecture 1:** Introduction of functions of several variables. **Lecture 2:** Explicit and Implicit functions. **Lecture 3:** Limit point and limit of a function of two variables. **Lecture 4:** Repeated limit and Simultaneous limit of a function of two variables. **Lecture 5:** Continuity of a function of two variables. **Lecture 6:** Discontinuity of a function of two variables. **Lecture 7:** Sufficient condition for continuity of a function of two variables. **Lecture 8:** Partial differentiation of a function. **Lecture 9:** Total differentiability and differentiability. **Lecture 10:** Sufficient condition for differentiability. **Lecture 11:** Partial derivatives of higher order. **Lecture 12:** Young's theorem and Schwarz's theorem. **Tutorial-1:** **Tutorial-2:** **Term II**: **(09 Lectures + 02 Tutorials)** **Lecture 13:** Differentials of higher order. **Lecture 14:** The derivation of functions: Chain rule for one and two independent parameters. **Lecture 15:** Taylor's theorem for the function of two variables. **Lecture 16:** directional derivatives.

	Unit-II: Multivariable Integration: (Marks-14) Double integration over rectangular region, double integration over non-rectangular region, Double integrals in polar co-ordinates, Triple integrals, triple integral over a parallelepiped and solid regions. Volume by triple integrals, cylindrical and spherical co-ordinates. Change of variables in double integrals and triple integrals.	**Lecture 17:** The gradient, maximal and normal property of the gradient, tangent planes. **Lecture 18:** Stationary points, Extreme points and saddle points. **Lecture 19:** Extrema of functions of two variables, **Lecture 20:** Method of Lagrange multipliers. **Lecture 21:** Constrained optimization problems. **Tutorial-3** **Tutorial-4** **Tutorial-5** **Term III**: **(09 Lectures + 03 Tutorials)** **Lecture 22:** Introduction of Double and Triple integrations. **Lecture 23:** Double integration over rectangular region. **Lecture 24:** Double integration over non-rectangular region. **Lecture 25:** Double integrals in polar co-ordinates. **Lecture 26:** Triple integrals over a parallelepiped and solid regions. **Lecture 27:** Volume by triple integrals. **Lecture 28:** Triple integrals over a cylindrical and spherical co-ordinate. **Lecture 29:** Change of variables in double integrals. **Lecture 30:** Change of variables in triple integrals. **Tutorial-3** **Tutorial-4** **Tutorial-5**
Anjana Mondal	**Course type:** Mathematics (Honours) Core Course **Paper-** C8T **Unit-III: Sequence of functions:** (Marks-16) *No of Classes (Hour) per week*: **3** Pointwise and uniform convergence of sequence of functions. Theorems on continuity, derivability and integrability of the limit function of a sequence of functions. Series of functions; Theorems on the continuity and derivability of the sum function of a series of functions; Cauchy criterion for uniform convergence and Weierstrass M-Test.	**Term I**: **(06 Lectures + 03 Tutorials)** **Lecture 1:** Sequence of real numbers, sequence of functions, Pointwise convergence **Lecture 2:** Uniform convergence of sequence of functions **Lecture 3:** Exercises on pointwise and uniform convergences **Tutorial-1** **Lecture 4:** Cauchy's criterion for uniform convergence **Lecture 5:** Examples of uniform convergence on using Cauchy's criterion **Lecture 6:** Theorems on boundedness and continuity of the limit function of a sequence of functions **Tutorial-2** **Tutorial-3** **Term II**: **(09 Lectures + 02 Tutorials)** **Lecture 7:** Theorems on derivability of the limit of a sequence of functions **Lecture 8:** Applications of the theorems taught in Lecture 7 **Lecture 9:** Theorems on integrability of limit function of a sequence of functions **Lecture 10:** Applications of the theorems taught in Lecture 9. **Lecture 11:** Series of functions, pointwise and uniform convergence of series of functions **Lecture 12:** Weierstrass M-Test **Tutorial-4** **Tutorial-5**

		Term III: **(09 Lectures + 02 Tutorials)** **Lecture 13:** Cauchy criterion for uniform convergence **Lecture 14:** Applications of Lecture 13 **Lecture 15:** Theorems on the continuity of the sum function of a series of functions **Lecture 16:** Theorems on the derivability of the sum function of a series of functions **Lecture 17:** Applications of the theorems taught in Lecture 16 **Tutorial-6** **Tutorial-7** **Lecture 18:** Revision **Lecture 19:** Revision **Lecture 20:** Revision **Lecture 21:** Revision
	Course type: Mathematics (General) Core Course **Paper-** DSC1D/2D/3D-T *No of Classes (Hour) per week*: **2** **Algebra:** Definition and examples of groups, examples of abelian and non-abelian groups, the group Zn of integers under addition modulo n and the group U(n) of units under multiplication modulo n. Cyclic groups from number systems, complex roots of unity, circle group, the general linear group GLn (R), groups of symmetries of (i) an isosceles triangle, (ii) an equilateral triangle, (iii) a rectangle, and (iv) a square, the permutation group Sym (n), Group of quaternions. Subgroups, cyclic subgroups, the concept of a subgroup generated by a subset and the commutator subgroup of group, examples of subgroups including the center of a group. Cosets, Index of subgroup, Lagrange's theorem, order of an element, Normal subgroups: their definition, examples, and characterizations, Quotient groups.	**Term I**: **(07 Lectures + 03 Tutorials)** **Lecture 1:** Binary composition, groupoid, semigroup, monoid, quasigroup and examples **Lecture 2:** Definition and examples of groups and some theorems related to this **Tutorial-1** **Lecture 3:** Abelian, non-ableian groups, examples, theorems and applications **Lecture 4:** The group Z_n of integers under addition modulo n **Lecture 5:** The group $U(n)$ of units under multiplication modulo n **Tutorial-2** **Lecture 6:** Cyclic groups and examples **Lecture 7:** Results on cyclic groups and application **Tutorial-3** **Term II**: **(07 Lectures + 02 Tutorials)** **Lecture 8:** The general linear group $GL_n(R)$ **Lecture 9:** Groups of symmetries of an (i) an isosceles triangle, (ii) an equilateral triangle, (iii) a rectangle, and (iv) a square **Lecture 10:** Permutation group and symmetric group S_n, Group of quaternions **Lecture 11:** Subgroups, examples **Lecture 12:** Cyclic subgroups **Lecture 13:** the concept of a subgroup generated by a subset and the commutator subgroup of group **Lecture 14:** Center of a group **Tutorial-4** **Tutorial-5** **Term III**: **(07 Lectures + 02 Tutorials)** **Lecture 15:** Cosets **Lecture 16:** Index of subgroup **Lecture 17:** Lagrange's theorem **Lecture 18:** Order of an element, order of a group **Lecture 19:** Normal subgroups, their definitions, examples, characterization **Lecture 20:** Theorems on normal subgroups **Lecture 21:** Quotient groups

		Tutorial-6 Tutorial-7
Kousik Bhattacharya	**Course type:** Mathematics (Honours) Skill Enhancement Course **Paper-** SEC-2T *No of Classes (Hour) per week*: **1** **Unit-III: Graph Theory:** (Marks- 11) Travelling salesman's problem, shortest path, Tree and their properties, spanning tree, Dijkstra's algorithm, Warshall algorithm.	**Term I**: **(02 Lectures + 02 Tutorials)** **Lecture 1:** Solution of Travelling salesman's problem **Lecture 2:** Shortest path problems and their solutions **Tutorial-1** **Tutorial-2** **Term II**: **(02 Lectures + 02 Tutorials)** **Lecture 3:** Graphs with circuit and without circuit **Lecture 4:** Tree and related examples, Properties of trees **Tutorial-3** **Tutorial-4** **Term III**: **(02 Lectures + 02 Tutorials)** **Lecture 5:** Spanning tree and their properties **Lecture 6:** Dijkstra's algorithm, Warshall algorithm **Tutorial-5** **Tutorial-6** *Doubt clearing session:*
Buddhadeb Mondal	**Course type:** Mathematics (Honours) Core Course **Paper-** C10T *No of Classes (Hour) per week*: **2** **Unit-III: Vector Spaces:** (Marks-16) Vector spaces, subspaces, algebra of subspaces, quotient spaces, linear combination of vectors, linear span, linear independence, basis and dimension, dimension of subspaces. **Unit-IV: Linear Transformations:** (Marks-19) Linear transformations, null space, range, rank and nullity of a linear transformation, matrix representation of a linear transformation, algebra of linear transformations. Isomorphisms. Isomorphism theorems, invertibility and isomorphisms, change of coordinate matrix.	**Term I**: **(08 Lectures + 02 Tutorials)** **Lecture 1:** Introduction to Vector spaces with an examples **Lecture 2:** Subspaces with an examples **Lecture 3:** Algebra of subspaces with an examples **Lecture 4:** Quotient spaces with examples **Lecture 5:** Linear combination of vectors with examples **Lecture 6:** linear span with examples **Lecture 7:** linear independence and dependence **Lecture 8:** Basis and dimension dimension of subspaces. **Tutorial-1** **Tutorial-2** **Term II**: **(07 Lectures + 02 Tutorials)** **Lecture 9:** Linear transformations with an examples **Lecture 10:** Null space, range of a linear transformation **Lecture 11:** Rank and nullity of a linear transformation **Lecture 12:** Algebraic theorem over rank and nullity **Lecture 13:** Matrix representation of a linear transformation **Lecture 14:** Determine the rank of a matrix of linear transformation **Lecture 15:** Algebra of linear transformations **Tutorial-3** **Tutorial-4** **Term III**: **(04 Lectures + 02 Tutorials)** **Lecture 16:** Introduction to Isomorphism with an examples **Lecture 17:** Isomorphism theorems **Lecture 18:** Invariability and isomorphisms **Lecture 19:** Change of coordinate matrix **Tutorial-5** **Tutorial-6**

Course type: Mathematics (General) Core Course	Term I: (04 Lectures + 02 Tutorials)
Paper- DSC1D/2D/3D-T	**Lecture 1:** Introduction of rings with examples
No of Classes (Hour) per week: **2**	**Lecture 2:** Examples of commutative and non-commutative rings
	Lecture 3: Rings from number systems
Algebra:	**Lecture 4:** Zn the ring of integers modulo n, ring of real quaternion
Definition and examples of rings, examples of commutative and non-commutative rings: rings from number systems, Z_n the ring of integers modulo n, ring of real quaternions, Rings of matrices, polynomial rings, and rings of continuous functions. Subrings and ideals, Integral domains and fields, examples of fields: Zp, Q, R, and C. Field of rational functions.	**Tutorial-1**
	Tutorial-2
	Term II: (07 Lectures + 02 Tutorials)
	Lecture 5: Rings of matrices, polynomial rings
	Lecture 6: Examples over ring of matrices and polynomial rings
	Lecture 7: Rings of continuous functions with an examples
	Lecture 8: Subrings with an examples
	Lecture 9: Algebra of subrings
	Lecture 10: Ideals with an examples
	Lecture 11: Algebraic theorem over Ideal
	Tutorial-3
	Tutorial-4
	Term III: (07 Lectures + 02 Tutorials)
	Lecture 12: Integral domains with an examples
	Lecture 13: Algebra of integral domain
	Lecture 14: Fields with examples
	Lecture 15: Algebra of field
	Lecture 16: Relation between integral domain and field with examples
	Lecture 17: Examine the field test of this sets Z_p, Q, R, and C.
	Lecture 18: Field of rational functions
	Tutorial-5
	Tutorial-6

Semester VI

Name of the Teacher	Syllabus Allotted	Teaching Plan
Dr. Bimal Krishna Das	**Course type:** Mathematics (Honours) Discipline Specific Elective **Paper-** DSE4T *No of Classes (Hour) per week*: **3** **Unit-I: Special Functions and Laplace Transform:** (Marks- 32) Power series solution of Bessel's equation and Legendre's equation, Laplace transform and inverse transform, application to initial value problem up to second order.	**Term I**: **(11 Lectures + 02 Tutorials)** **Lecture 1:** Introduction to series solution **Lecture 2:** Ordinary point, Singular point, Regular singular point **Lecture 3:** Related problems of ordinary point, regular singular point **Lecture 4:** Series Solution at an ordinary point **Lecture 5:** Different kind of Problems and their solution **Lecture 6:** Series Solution near a regular singular point **Lecture 7:** Different kind of Problems and their solution **Lecture 8:** Legendre equation and its properties **Lecture 9:** Solution of Legendre equation **Lecture 10:** Bessel equation and Bessel function **Lecture 11:** Solution of Bessel equation **Tutorial-1** **Tutorial-2** **Term II**: **(11 Lectures + 02 Tutorials)** **Lecture 12:** Introduction to Laplace transform **Lecture 13:** Laplace transform of some elementary functions **Lecture 14:** The inverse Laplace transform of some simple functions **Lecture 15:** Piecewise functions and Functions of exponential order **Lecture 16:** Sufficient conditions for the existence of Laplace transform **Lecture 17:** Properties of Laplace transform and its inverse **Lecture 18:** Laplace transform of the integrals **Lecture 19:** Convolution theorem **Lecture 20:** Related problems on convolution theorems **Lecture 21:** Proof of $\int_0^t t^{a-1}(1-t)^{b-1}dt = \frac{\Gamma(a)\Gamma(b)}{\Gamma(a+b)}, a,b > 0$ **Lecture 22:** Proof of $\int_0^t \sin u \cos(t-u)\, du = \frac{1}{2}t \sin t$, Proof of $F(p) = \frac{1}{1-e^{-pT}} \int_0^T e^{-pT}f(t)dt$, where $f(t)$ is a periodic function with period T>0. **Tutorial-3** **Tutorial-4** **Term III**: **(11 Lectures + 02 Tutorials)** Lecture 23: Laplace transform of a function multiplied by the integral power of t Lecture 24: Laplace transform of a function divided by t Lecture 25: Laplace transform of derivatives Lecture 26: Solution of problems related to Laplace transform Lecture 27: Laplace transform of derivatives Lecture 28: Statement and proof of Initial Value Theorem and Final Value Theorem using Laplace transform Lecture 29: Solution of ordinary differential equations by Laplace transform Lecture 30: Related problems and solutions

		Lecture 31: Solution of partial differential equations by Laplace transform Lecture 32: Related problems and solutions Lecture 33: Application of Laplace transform to partial differential equations **Tutorial-5** **Tutorial-6**
Dr. Pradip Kumar Gain	**Course type:** Mathematics (Honours) Core Course **Paper-** C13T *No of Classes (Hour) per week***: 3** **Unit-I: Metric Spaces:** (Marks-07) Metric spaces: sequences in metric spaces, Cauchy sequences. Complete metric spaces, Cantor's theorem. **Unit-II: Metric Spaces:** (Marks-14) Continuous mappings, sequential criterion and other characterizations of continuity. Uniform continuity. Connectedness: Connectedness, connected subsets of R. Compactness: Sequential compactness, Heine-Borel property, totally bounded spaces, finite intersection property, and continuous functions on compact sets. Homeomorphism. Contraction mappings. Banach fixed point theorem and its application to ordinary differential equation.	<u>**Term I**</u>: **(06 Lectures + 02 Tutorials)** **Lecture-1.** Metric spaces: sequences in metric spaces, Cauchy sequences. **Lecture-2.** Complete metric spaces, incomplete metric spaces, examples. **Lecture-3.** Nested sequences of sets, Cantor's intersection theorem. **Lecture-4.** Problems on metric spaces. **Lecture-5.** Sequential criterion and other characterizations of continuity. **Lecture-6.** Uniform continuity. **Tutorial-1** **Tutorial-2** <u>**Term II**</u>: **(07 Lectures + 02 Tutorials)** **Lecture-7.** Connectedness, connected subsets of R. Hausdorff-Lennes condition. **Lecture-8.** Dsconnected spaces and disconnected sets. Theorems on connectedness. **Lecture-9.** Connected sets in the real line. **Lecture-10.** Compactness, Lindel$\ddot{o}$f Covering Theorem, Heine-Borel property, Heine-Borel theorem. Finite intersection property. **Lecture-11.** Continuity and compactness. **Lecture-12.** Sequentially compact spaces, Properties of sequentially compact sets. **Lecture-13.** Compactness and total boundedness. Totally bounded spaces. **Tutorial-3** **Tutorial-4** <u>**Term III**</u>: **(04 Lectures + 02 Tutorials)** **Lecture-14.** Homeomorphism. Contraction mappings. **Lecture-15.** Banach fixed point theorem. **Lecture-16.** Applications of Banach fixed point theorem to ordinary differential equation. **Lecture-17.** Problems. **Tutorial-5** **Tutorial-6**
Dr. Sangita Chakraborty	**Course type:** Mathematics (Honours) Core Course **Paper-** C14T**:** **Ring Theory II:** *No of Classes (Hour) per week***: 3** **Unit-I: Polynomial Rings** (Marks: 21)	<u>**Term I**</u>: **(10 Lectures + 02 Tutorials)** **Lecture 1:** Recapitulation: Rings and its various examples of rings. Introduction to the set of all polynomials over a ring and to show it forms a ring. **Lecture 2:** Properties of polynomials over commutative rings, integral domain and field. **Lecture 3:** Degrees of polynomials and its related theorems with examples, Division algorithm for polynomials with its proof.

	Polynomial rings over commutative rings, division algorithm and consequences, principal ideal domains, factorization of polynomials, reducibility tests, irreducibility tests, Eisenstein criterion, and unique factorization in Z[x]. Divisibility in integral domains, irreducible, primes, unique factorization domains, Euclidean domains.	**Lecture 4:** Consequences of Division algorithm: Remainder theorem, Factor theorem, maximum number of zeros of polynomial depending on its degree with examples. **Lecture 5:** Factorization in Integral Domain: Definitions: Associates, irreducible elements, prime elements, multiplicative norm function, GCD, LCM. **Lecture 6:** Theorems relating prime element and irreducible element with examples. **Lecture 7:** Problems solving for finding irreducible element and prime element using multiplicative norm function. **Lecture 8:** Factorization of polynomials: Definition of irreducible and reducible polynomials with examples, Reducibility test for polynomials of degrees 2 and 3 with examples. **Lecture 9:** Methods of testing irreducibility for polynomials: Brute Force method, Roots test. **Lecture 10:** Continuation of irreducibility testing methods: Rational root test, Eisenstein criterion, Mod p irreducibility test. **Tutorial-1** **Tutorial-2** *Doubt-clearing session :* **Term II: (09 Lectures + 02 Tutorials)** **Lecture 11:** Irreducibility of pth cyclotomic polynomial, Solution of some exercises on testing irreducibility for polynomials. **Lecture 12:** Theorems relating principal ideal and maximal ideal with irreducibility of polynomial **Lecture 13:** Application Lecture 12 on some problems. **Lecture 14:** Definition of Primitive polynomial, Gauss Lemma. **Lecture 15:** Theorem relating reducibility over $\mathbb{Q}$ implies reducibility over $\mathbb{Z}$. **Lecture 16:** Introduction to Unique Factorization Domain (UFD), criterion for D[x] to be a UFD. **Lecture 17:** Irreducible and prime elements in a UFD, problems solving to check I.D. as a UFD. **Lecture 18:** Introduction to Principal Ideal Domain (PID), behaviour of irreducible and prime elements in a PID. **Lecture 19:** Theorem to prove every PID is a UFD. **Tutorial-3** **Tutorial-4** *Doubt-clearing session:* **Term III: (08 Lectures + 02 Tutorials)** **Lecture 19:** Introduction to Euclidean Domain (E.D.) with examples. **Lecture 20:** Relation between E.D., PID and UFD with related theorems and proofs. **Lecture 21:** Euclidean algorithm. **Lecture 22:** Application of Lecture for finding a GCD. **Lecture 23:** Solving problems on Euclidean valuation. **Lecture 24:** Solving problems on E.D. **Lecture 25:** Solving problems on PID. **Lecture 26:** Solving problems on UFD. **Tutorial-5**

		Tutorial-6 *Doubt-clearing session:* *Doubt-clearing session:*
Sankar Das	**Course type:** Mathematics (Honours) Core Course **Paper-** C14T: **Linear Algebra II** *No of Classes (Hour) per week*: **3** **Unit-II: Diagonalization and Canonical Forms:** (Marks-18) Dual spaces, dual basis, double dual, transpose of a linear transformation and its matrix in the dual basis, annihilators. Eigen spaces of a linear operator, diagonalizability, invariant subspaces and Cayley-Hamilton theorem, the minimal polynomial for a linear operator, canonical forms. **Unit-III: Inner Product Spaces:** (Marks-21) Inner product spaces and norms, Gram-Schmidt orthogonalization process, orthogonal complements, Bessel's inequality, the adjoint of a linear operator. Least squares approximation, minimal solutions to systems of linear equations. Normal and self-adjoint operators. Orthogonal projections and Spectral theorem.	**Term I**: **(09 Lectures + 03 Tutorials)** **Lecture 1:** Introduction of Euclidean space and Inner product spaces. **Lecture 2:** Norm of a vector and its related properties. **Lecture 3:** Schwarz's inequality, Triangle inequality. **Lecture 4:** Unit vector, Orthogonal and Orthonormal set of vectors. **Lecture 5:** Bessel's inequality and Parseval's theorem. **Lecture 6:** Gram-Schmidt orthogonalization process. **Lecture 7:** orthogonal complements. **Lecture 8:** Cayley-Hamilton theorem. **Lecture 9:** Dual spaces, dual basis, double dual. **Tutorial-1** **Tutorial-2** **Tutorial-3** **Term II**: **(10 Lectures + 02 Tutorials)** **Lecture 10:** Introduction of Linear mapping. **Lecture 11:** Matrix representation of a Linear mapping. **Lecture 12:** Matrix of the composite mapping and inverse mapping. **Lecture 13:** Transpose of a linear transformation and its matrix in the dual basis, annihilators. **Lecture 14:** Algebraic operations on the set of all Linear mappings. **Lecture 15:** Isomorphism between Linear mappings and matrices. **Lecture 16:** Linear operator and its adjoint. **Lecture 17:** Normal and self-adjoint operators. **Lecture 18:** Least squares approximation, minimal solutions to systems of linear equations. **Lecture 19:** Orthogonal projections and Spectral theorem. **Tutorial-4** **Tutorial-5** **Term III**: **(10 Lectures + 02 Tutorials)** **Lecture 20:** Matrix representation of a linear operator. **Lecture 21:** Orthogonal mapping of the Euclidean spaces. **Lecture 22:** Matrix of an orthogonal transformation. **Lecture 23:** Eigen spaces of a linear operator. **Lecture 24:** Diagonalization of a matrix, Orthogonal diagonalisation. **Lecture 25:** Diagonalization of linear operator. **Lecture 26:** invariant subspaces. **Lecture 27:** The minimal polynomial for a linear operator. **Lecture 28:** Introduction of Quadratic forms with its classes. **Lecture 29:** Reduction to canonical forms. **Tutorial-6** **Tutorial-7**

| Anjana Mondal | **Course type:** Mathematics (Honours) Core Course

Paper- C13T:
Complex Analysis:
No of Classes (Hour) per week: **3**

Unit-III: Complex Analysis
(Marks-11)
Limits, limits involving the point at infinity, continuity. Properties of complex numbers, regions in the complex plane, functions of complex variable, mappings. Derivatives, differentiation formulas, Cauchy-Riemann equations, sufficient conditions for differentiability

Unit IV: Complex Analysis
(Marks-14)
Analytic functions, examples of analytic functions, exponential function, logarithmic function, trigonometric function, derivatives of functions, and definite integrals of functions. Contours, Contour integrals and its examples, upper bounds for moduli of contour integrals. Cauchy- Goursat theorem, Cauchy integral formula.

Unit V: Complex Analysis
(Marks-07)
Liouville's theorem and the fundamental theorem of algebra. Convergence of sequences and series, Taylor series and its examples.

Unit VI: Complex Analysis
(Marks-07)
Laurent series and its examples, absolute and uniform convergence of power series. | **Term I**: **(08 Lectures + 02 Tutorials)**

Lecture 1: Some preliminaries on complex numbers, properties, regions in the complex plane
Lecture 2: Complex function, Graphing complex functions, limit of complex functions, examples, theorems, exercises
Lecture 3: Limits of complex functions involving the point at infinity, theorems, examples, exercises
Lecture 4: Continuity of complex functions, theorems, examples and exercises
Tutorial-1
Lecture 5: Derivatives, differentiation formulas
Lecture 6: Cauchy-Riemann equations in Cartesian coordinate system, applications
Lecture 7: Cauchy-Riemann equations in polar coordinate system, applications
Lecture 8: Sufficient conditions of differentiability
Tutorial-2

Term II: **(07 Lectures + 04 Tutorials)**
Lecture 9: Analytic functions, examples
Lecture 10: Some results on analytic functions
Tutorial-3
Lecture 11: Exponential function, their properties and derivatives of the functions
Lecture 12: logarithmic function, trigonometric function, properties and derivatives of the functions
Tutorial-4
Lecture 13: The definite integrals of complex valued functions
Lecture 14: Contours, Contour integrals and its examples, upper bounds for moduli of contour integrals.
Tutorial-5
Tutorial-6

Term III: **(10 Lectures + 03 Tutorials)**
Lecture 15: Cauchy- Goursat theorem and applications
Lecture 16: Cauchy integral formula and applications
Tutorial-7
Lecture 17: Liouville's theorem and applications, the fundamental theorem of algebra.
Lecture 18: Convergence of complex sequences and series
Lecture 19: Taylor series and its examples
Lecture 20: Tutorial
Lecture 21: Laurent series and its examples
Tutorial-8
Lecture 22: absolute and uniform convergence of power series.
Tutorial-9
Lecture 23: Revision
Lecture 24: Revision |

	Course type: Mathematics (Honours) Discipline Specific Elective **Paper-** DSE3T **Number Theory:** *No of Classes (Hour) per week*: **1** **Unit I: Diophantine Equation and Conguences:** (Marks- 21) Linear diophantine equation, prime counting function, statement of prime number theorem, Goldbach conjecture, linear congruences, complete set of residues. Chinese remainder theorem, Fermat's little theorem, Wilson's theorem.	**Term I: (04 Lectures + 01 Tutorials)** **Lecture 1:** Linear diophantine equation and examples **Lecture 2:** prime counting function **Lecture 3:** statement of prime number theorem and applications **Lecture 4:** Goldbach conjecture **Tutorial-1** **Term II: (04 Lectures + 01 Tutorials)** **Lecture 5:** linear congruences and related theorems, examples **Lecture 6:** complete set of residues **Lecture 7:** Chinese remainder theorem **Lecture 8:** Applications of Chinese remainder theorem **Tutorial-2** **Term II: (03 Lectures + 01 Tutorials)** **Lecture 9:** Fermat's little theorem **Lecture 10:** Fermat's little theorem and applications **Lecture 11:** Wilson's theorem **Tutorial-3**
Kousik Bhattacharya	**Course type:** Mathematics (Honours) Discipline Specific Elective **Paper-** DSE4T **Mathematical Modelling:** *No of Classes (Hour) per week*: **2** **Unit-II: Monte Carlo simulation modelling:** (Marks- 28) Monte Carlo simulation modelling: simulating deterministic behavior (area under a curve, volume under a surface), generating random numbers: middle square method, linear congruence, queuing models: harbor system, morning rush hour, Overview of optimization modelling. Linear programming model: geometric solution algebraic solution, simplex method, sensitivity analysis.	**Term I: (06 Lectures + 02 Tutorials)** **Lecture 1:** Introduction to simulation and its applications **Lecture 2:** Procedure for modelling **Lecture 3:** simulating deterministic behaviour: area under a curve **Lecture 4:** Related algorithms and problems **Lecture 5:** simulating deterministic behaviour: volume under a surface **Lecture 6:** Related algorithms and problems **Tutorial-1** **Tutorial-2** **Term II: (08 Lectures + 02 Tutorials)** **Lecture 7:** Introduction to random numbers and pseudo random numbers **Lecture 8:** Generating random numbers: middle square method and related problems **Lecture 9:** Generating random numbers: linear congruence method and related problems **Lecture 10:** Introduction to queuing models **Lecture 11:** Queuing models: Harbor system, Morning rush hour **Lecture 12:** Overview of optimization modelling **Lecture 13:** Different kinds of optimization methods (Geometric programming, Stochastic programming) **Lecture 14:** Different kinds of optimization methods (Dynamic programming, Goal programming, Integer programming problem) **Tutorial-3** **Tutorial-4**
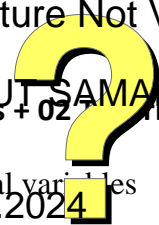
		Term III: **(05 Lectures + 02 Tutorials)** **Lecture 15:** Linear programming model and its application, Advantages and disadvantages of LPP **Lecture 16:** Procedure for solving LPP, Geometric solution of LPP, Algebraic solution of LPP **Lecture 17:** Procedure of simplex method **Lecture 18:** Problem solution using simplex method **Lecture 19:** sensitivity analysis of Linear programming problem **Tutorial-5** **Tutorial-6** *Doubt clearing session:*
	Course type: Mathematics (General) Discipline Specific Elective **Paper-** DSE-1B/2B/3B-T**:** *No of Classes (Hour) per week***: 2** **Linear Programming:** Linear Programming: Definition and formation Problems, Graphical Approach for solving some Linear Programming problems. Convex Sets, Supporting and Separating Hyperplanes.	**Term I**: **(06 Lectures + 02 Tutorials)** **Lecture 1:** Introduction to Linear Programming **Lecture 2:** Definition and notations of Linear Programming **Lecture 3:** Formulation of LPP **Lecture 4:** Different problem formulation of LPP **Lecture 5:** Discussion about different kind of solution procedure of LPP **Lecture 6:** Solution algorithm **Tutorial-1** **Tutorial-2** **Term II**: **(08 Lectures + 02 Tutorials)** **Lecture 7:** Graphical Method of solving LPP **Lecture 8:** Problem Solution by graphical method **Lecture 9:** Algebraic method of solving LPP **Lecture 10**: Problem solution by algebraic method **Lecture 11:** Application of LPP in real world problem **Lecture 12:** Introduction to Convex sets **Lecture 13:** Different examples of convex sets with diagram **Lecture 14:** Theorems related to convex sets **Tutorial-3** **Tutorial-4** **Term III**: **(04 Lectures + 02 Tutorials)** **Lecture 15:** Concept of Hyperplanes **Lecture 16:** Different examples of Hyperplanes **Lecture 17:** Theorems related to Hyperplanes **Lecture 18:** Theorems related to supporting Hyperplanes, separating Hyperplanes **Tutorial-5** **Tutorial-6** *Doubt clearing session:* *Doubt clearing session:*

Buddhadeb Mondal	**Course type:** Mathematics (Honours) Discipline Specific Elective **Paper-** DSE3T **Number Theory:** *No of Classes (Hour) per week*: **2** **Unit-II: Number Theoretic Function**: (Marks- 20) Number theoretic functions, sum and number of divisors, totally multiplicative functions, definition and properties of the Dirichlet product, the Mobius Inversion formula, the greatest integer function, Euler's phi-function, Euler's theorem, reduced set of residues, some properties of Euler's phi-function. **Unit-III: Quadratic Reciprocity :** (Marks- 19) Order of an integer modulo n, primitive roots for primes, composite numbers having primitive roots, Euler's criterion, the Legendre symbol and its properties, Quadratic reciprocity, quadratic congruence with composite modulo, Public key encryption, RSA encryption and decryption, the equation $x^2 + y^2 = z^2$, Fermat's Last theorem	**Term I**: **(07 Lectures + 02 Tutorials)** **Lecture 1:** Introduction of number theoretic functions with examples **Lecture 2:** Sum and number of divisors **Lecture 3:** Totally multiplicative functions **Lecture 4:** Definition and properties of the Dirichlet product **Lecture 5:** The Mobius Inversion formula, the greatest integer function **Lecture 6:** Algebra of μ-function and greatest integer function **Lecture 7:** Euler's phi-function **Tutorial-1** **Tutorial-2** **Term II**: **(06 Lectures + 02 Tutorials)** **Lecture 8:** Euler's theorem, reduced set of residues **Lecture 9:** Some properties of Euler's phi-function **Lecture 10:** Order of an integer modulo n, primitive roots for primes **Lecture 11:** Examples over primitive roots and indices **Lecture 12:** Composite numbers having primitive roots, Euler's criterion **Lecture 13:** The Legendre symbol and its properties **Tutorial-3** **Tutorial-4** **Term III**: **(05 Lectures + 02 Tutorials)** **Lecture 14:** Quadratic reciprocity with examples **Lecture 15:** Quadratic congruence with composite modulo **Lecture 16:** Public key encryption, RSA encryption and decryption **Lecture 17:** Solution of the equation $x^2 + y^2 = z^2$ **Lecture 18:** Fermat's Last theorem **Tutorial-5** **Tutorial-6**
	Course type: Mathematics (General) Discipline Specific Elective **Paper-** DSE-1B/2B/3B-T: *No of Classes (Hour) per week*: **2** **Linear Programming**: Theory of simplex method, optimality and unboundedness, the simplex algorithm, simplex method in tableau format, Introduction to artificial variables, two-phase method, Big-M method and their comparison. Duality, formulation of the dual problem, primal- dual	**Term I**: **(05 Lectures + 03 Tutorials)** **Lecture 1:** Introduction of simplex method **Lecture 2:** Optimality and unboundedness **Lecture 3:** The simplex algorithm **Lecture 4:** Simplex method in tableau format **Lecture 5:** Nature of solution of a L.P.P from simplex method **Tutorial-1** **Tutorial-2** **Tutorial-3** **Term II**: **(05 Lectures + 02 Tutorials)** **Lecture 6:** Introduction of artificial variables **Lecture 7:** Two-phase method **Lecture 8:** Big-M method **Lecture 9:** Algebra of two-phase method and Big-M method

relationships, economic interpretation of the dual.	**Lecture 10:** Their comparison **Tutorial-4** **Tutorial-5** **Term III: (07 Lectures + 02 Tutorials)** **Lecture 11:** Introduction of Duality **Lecture 12:** Formulation of the dual problem **Lecture 13:** Primal- dual relationships **Lecture 14:** Solution of primal using dual problem **Lecture 15:** Solution of dual using primal problem **Lecture 16:** Economic interpretation of the dual **Lecture 17:** Applications **Tutorial-6** **Tutorial-7**

Department of Philosophy

Syllabus Distribution and Teaching Plan (Odd Semester) Semester, Session: 2023-2024

Semester I

Name	Syllabus Allotted	Teaching Plan
Prof. Debjani Majumder	**MJ1: Indian Philosophy – I** a) Nyāya – Pramā and Pramāṇa, Pratyakṣa (Definition), Sannikarṣa, Classification of Pratyakṣa: Nirvikalpaka, Savikalpaka, Laukika, Alaukika; b) Anumiti, Anumāna (Definition), vyāpti, parāmarśa, Classification of Anumāna: pūrvavat, śesavat, smānyatodṛsta, kevalānvayī, kevalavyātirekī, anvayavyātirekī, svārthānumāna, parārthānumāna, Upamāna (definition), Śabda (definition), c) Vaiśeṣika—Seven Padārthas, dravya, guṇa, karma, sāmānya, viśeṣa, samavāya, abhāva, d) Different types of causes: samavayi, asamavayi and nimitta. Asatkāryavāda.	(10+10+10+14) **44** **Lectures**

Semester III

Name	Syllabus Allotted	Duration
Prof. Debjani Majumder	**C6T: Social and Political Philosophy** A) Nature and Scope of i) Social Philosophy ii) Political Philosophy iii) Relationbetween social and Political Philosophy. B) Primary concepts: Society, community, association, institution, family: nature,different forms of family, role of family in the society. C) Social Class and Caste: Principles of class and caste, Marxist conception of class,Varṇaśrama dharma.	(10+10+10+14) **44** **Lectures**

Semester V

Name	Syllabus Allotted	
Prof. Debjani Majumder	**CC-11: Nyaya Logic and Epistemology –I** a) Definition of buddhi or jñāna (cognition), its two kinds; Definition of smṛti; Two kinds of smṛti (memory);Definition of anubhava, its division into veridical (yathārtha) and non-veridical (ayathārtha);Three kinds of nonveridical anubhava; Definitions clarified in Tarkasaṁgraha Dīpikā. b) Four-fold division of pramā and pramāṇa. Definition of "Kāraṇa" (special causal condition) and "kāraṇa" (general	(09+09+09+09) **36** **Lectures** Signature Not Verified BIDYUT SAMANTA 22.06.2024

	causal condition). The concept of anyathāsiddhi (irrelevance) and its varieties.The definition of kārya (effect). Kinds of cause: smavāyi, a-samavāyi and nimitta kāraṇa (definitions and analysis). c) Definition of pratyakṣa and its two-fold division: nirvikalpaka and savikalpaka jñāna. Evidence for the actuality of nirvikalpaka. d) Sannikarsa and its six varieties. Problem of transmission of sound; the claim of "anupalabdhi" as a distinctive pramāṇa examined.	
Prof. Debjani Majumder	**DSE-1: Philosophy of Language (Indian)** a) Definition and classification of pada b) Introduction of concepts of āsatti, yogyatā, tātparya, ākāṁṣā c) Different types of lakṣaṇā d) śābdabodha anvitābhidhānvāda and abhihitānvayavāda	(09+09+09+09) **36** **Lectures**

Department of Philosophy

Syllabus Distribution and Teaching Plan of

Odd Semester, Session: 2023-2024

Faculty: Dr Poulomi Talukdar

Semester I

Name	Syllabus Allotted	Number of Lecture
Dr. Poulomi Talukdar	**MJ1: Indian Philosophy – I** a) Introduction: Division of Indian Philosophical Schools: Āstika and Nāstika b) Cārvāka School- Epistemology, Metaphysics, Ethics. c) Jainism- Concept of Dravya, Sat, Guṇa, Paryαya Anekāntavāda, Syādvāda and Saptabhaṅginaya. d) Buddhism- Four Noble Truths, Theory of Dependent Origination (Pratītyasamutpādavāda), Definition of Reality (Arthakriyākāritva), Doctrine of Momentariness, (Kṣanabhangavāda), Theory of non-soul (Nairātmyavāda), FourSchools of Buddhism (Basic tenets).	(4+4+4+4) **16** **Lectures**

Semester III

Name	Syllabus Allotted	Number of Lecture
Dr. Poulomi Talukdar	**C5T: Philosophy of Mind** a) Psychology: Definition, Nature, and Scope b) Methods of Psychology: Introspection, Extrospection, Experimental Methods – variables - dependent &independent, controls in the experiment, limitations of the experimental method. Sensation and Perception: Nature of sensation, nature of perception, relation between sensation and perception, Gestalt theory of perception. Illusion and Hallucination **C5T: Philosophy of Mind** a) Learning: Theories of Learning - Trial and error theory, Thorndike's laws of learning, Gestalt Theory, Pavlov's theory of conditioned response, B.F. Skinner's theory of Operant Conditioning (reinforcement, extinction, punishment). b) Philosophical Theories of Mind: Interactionism, Double-aspect theory, Philosophical Behaviorism, Materialism mind-brain identity theory, The Person theory (Strawson). c) Consciousness: Levels of mind—Conscious, Sub-conscious, Unconscious, proofs for the existence of Unconscious, Freud's theory of Dream. d) Personality: Types, Factors, and Traits of Personality.	(30+30+30+30) **120** **Lectures**
Dr Poulomi Talukdar	**GE-3: Theory of Inference in Nyāya** a. Definition & classification of Anumiti. b. Importance of Pañcabayabinyāya.	(+5) 10 **Lectures**

Semester V

Name	Syllabus Allotted	Number of Lecture
Dr. Poulomi Talukdar	**DSE-2: Philosophy of Language (Western)** a) Syntax, Semantics, Pragmatics. b) Word-meaning and definitions. c) Vagueness. d) Sentence-meaning. Testability and Meaning	(20x6) 120 **Lectures**

Department of Philosophy

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 3rd Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper: DSC-1C (CC-3)

Topic: Logic

Name of the Teacher : Dr. Sibsankar Tunga

1st Term

Syllabus Allotted	Teaching Plan
Lesson 1: Basic Concept of Logic: (a) Nature and Scope of Logic, (b) Sentence, Proposition and Statement , (c) Inference and Argument, **Lesson 2:** Types of Argument and Inference: (a) Deductive Argument and Inductive Argument, (b) Immediate inference and Mediate inference, (c) Categorical Syllogism, (d) Truth Functional Argument and Quantificational Argument	5+6+2=13 Lectures

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Lesson 3: Opposition of Propositions: Rules and Fallacies	

Syllabus Allotted	**Teaching Plan**
4. Immediate Inference: Rules and Fallacies **5. Categorical Syllogisms: Rules and Fallacies, Venn diagram** **6. Truth functional Argument: Rules and Fallacies** **7. Inductive Argument: Rules and Fallacies** **8. Analogical Reasoning** **9. Science and Hypothesis**	4+6+6+6+5+5= 32 Lectures

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22.

TEACHING PLAN OF ODD SEMESTER (1st, 3rd & 5th)

Department of Philosophy

B.A General (Morning Shift)

Syllabus Distribution and Teaching Plan of 3rd Semester

Session – 2023-2024

1st Term: commencement of classes to 1st Internal Examination

2nd Term: After 1st internal Examination to ESE Preparatory break.

Paper: SEC 1

Topic Name: Ethics in Practice

Name of the Teacher: Dr. Sibsankar Tunga

Term 1

Syllabus Allotted	Teaching Plan
1. Morality and Ethics 2. Motive and Intention 3. Moral action and Moral Judgment 4. Normative Theories: (a) Ethical Egoism & Utilitarianism, (b) Kant's Moral Theory	1+3+2+4+2+4+2=18 Lectures

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22.

Syllabus Allotted	Teaching Plan
5. puruṣārtha (Buddha and āstika views) 6. Vedic Concepts of ṛta, yajña, ṛṇa, vidhi and niṣedha 7. Concept of ahiṁsā in Yoga	

Term 2

Syllabus Allotted	Teaching Plan
8. Concept of niṣkāmakarma preached in Śrīmadbhagavadgītā 9. Concept of pañcaśīla in Buddhism 10. Jaina Concepts of pañcamahāvrata, triratna, anuvrata and mahāvrata 11. Awareness, Views, and Praxis on Basic Moral Concerns of the Environment: (a) Environmental awareness and Buddhism (b) Rabindranath Tagore's Environmental Praxis (c) Land Ethics (d) Shallow and Deep Ecology	2+2+4+4=12 Lectures

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22.

TEACHING PLAN OF ODD SEMESTER (1st, 3rd & 5th)

Department of Philosophy

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 5th Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : DSE1T

Topic Name: Philosophy of Religion

Name of the Teacher : Dr. Sibsankar Tunga

Term 1

Syllabus Allotted	Teaching Plan
Lesson1: Nature and Scope of Philosophy of Religion: (a) Religion, Dharma, Dhamma, (b) Philosophy of Religion, Comparative Religion and Theology	2+4+2+5=13

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22.

Syllabus Allotted	Teaching Plan
Lesson 2. Origin and Development of Religion Lesson 3. Fundamental Features of Major Religions: Hinduism, Christianity, Islam, Buddhism: Basic Tenets, Prophets (if any), Incarnation, Bondage and Liberation	

Term 2

Syllabus Allotted	Teaching Plan
Lesson 4: Arguments for the Existence of God (Indian and Western): Sāṁkhya-Yoga Arguments, Nyāya Arguments, Cosmological Arguments, Teleological Arguments, Ontological Arguments Lesson 5: Arguments against the Existence of God: Sociological Arguments, Freudian Arguments, Buddhist Arguments Lesson 6: Religious Pluralism & Mysticism Lesson 7: Monotheism, Polytheism, Henotheism Lesson 8: Immanence and Transcendence of God	6+3+2+2+2=15 Lectures

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22.

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : GE-1

Topic Name: Indian Philosophy

Name of the Teacher : Dr. Sibsankar Tunga

Term 1

Syllabus Allotted	Teaching Plan
Lesson1: Introduction: General Features of Indian Philosophy Lesson 2: Cārvāka: (a) pratyakṣa (perception) as the only Source of Knowledge (b) Refutation of anumāna (inference) and śabda (testimony) as Sources of Knowledge (c) jaḍavāda and dehātmavāda Lesson 3: Jainism: (a) anekāntavāda (b) syādvāda and nayavāda Lesson 4: Buddhism: (a) Four Noble Truths (b) pratītyasamutpāda (c) kṣaṇabhaṅgavāda (d) nairātmyavāda	2+4+2+4=12 Lectures

Syllabus Allotted	Teaching Plan
Lesson 5: Nyāya–Vaiśeṣika: (a) pramāṇa: pratyakṣa (perception), anumāna (inference), upamāna (comparison) and śabda (testimony) (b) Saptapadārtha (Seven Categories) **Lesson 6:** Sāṁkhya: (a) Satkāryavāda (Theory of Causality) (b) Pariṇāmavāda (Theory of Evolution) **Lesson 7:** Yoga : (a) cittavṛttinirodha (b) aṣṭāṅgayoga **Lesson 8:** Mīmāṁsā (a) arthāpatti (b) anupalabdhi **Lesson 9:** Adva ita Vedānta: Brahman, jīva and jagat	5+5+3+2+2+3=20 Lectures

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22.

B.A HONOURS

Syllabus distribution and Teaching Plan of 1st Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : SKILL ENHANCEMENT COURSE (SEC)

Topic Name: Yoga for Stress Management

Name of the Teacher : Dr. Sibsankar Tunga

Term 1

Syllabus Allotted	Teaching Plan
Lesson1: a) Introduction to Yoga for stress management Lesson 2: b) Stress according to Western Perspectives Lesson 3: c) Stress Hazards and Yoga Lesson 4: d) Meeting of the Challenges of Stress	2+2+2+4=10 Lectures

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Syllabus Allotted	Teaching Plan
Lesson 5: e) Role of Yoga in prevention and management of stress related disorders- a summary of research evidence Lesson 6: f) Meditation: 'OM' meditation and pranayama Lesson 7: g) Integrate Yoga Module 1	2+2+2+4=10 Lectures

Department of Philosophy

B.A HONOURS

Syllabus distribution and Teaching Plan of 5th Semester

Session – 2023-2024

1st Term : commencement of classes to 1st Internal Examination

2nd Term : After 1st internal Examination to ESE Preparatory break.

Paper : CC-12

Topic Name: Ethics (Indian)

Name of the Teacher : Dr. Sibsankar Tunga

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22.

Term 1

Syllabus Allotted	Teaching Plan
Lesson1: a) Introduction: Concerns and Presuppositions, Concept of Sthitaprañjna, Karmayoga: (Gīta) Puruṣārthas and their inter-relations. Lesson 2: b) Meaning of Dharma, Concept of ṛṇa and ṛta. Classification of Dharma: sādhāraṇadharma and Asadharana Dharma,Varnasrama Dharma Lesson 3: c) Vidhi and Niṣedha	5+2+6+4=17

Term 2

Syllabus Allotted	Teaching Plan
Lesson 4: d) Buddhist Ethics: Pancaśīla, Brahmavihārabhāvanā (Bauddha) Anubrata, Mahābrata, Ahimsā. Lesson 5: e) Jaina Ethics: anubrata, mahαbrata Lesson 6: f) Mimαṁsa Ethics: nitya naimittika karma and kāmya karma, the imperative in kāmya karmas and in kāmya karmas involving hiṁsā	6+2+4=12 Lectures

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Even Semester, Session: 2022-23

Semester II

Name	Syllabus Allotted	
Prof. Debjani Majumder	**CC-3:IndianPhilosophy–II**	**SEMESTER –II (Total Lecture = 44)** **Term –I (Lecture-10)** a) Sāmkhya - Satkāryavāda, Nature of Prakṛti, its constituents and proofs for itsexistence.NatureofPuruṣaandproofsforitsexistence,Plurality ofPuruṣas,theoryofevolution. **Term II (Lecture-20)** a) Yoga-Citta,Cittavṛtti,Cittabhūmi.EightfoldpathofYoga,God. b) Mīmāmsā(PrābhakaraandBhātta):Anvitābhidhānvādaandavihit ānvayavāda, **Term III (Lecture-14)** **Arthāpatti and Anupalabdhias sources of knowledge**

Semester-IV

Name	Syllabus Allotted	
Dr.Poulomi Talukdar	**CC-8:WesternLogic–I**	**SEMESTER –IV (Total Lecture = 60)** **Term –I (Lecture-25)** a) Logic and Arguments, Deductive and Inductive Arguments, Argument forms andarguments,statementforms,andstatements.Truthfulandval idity.Categoricalpropositions and types: quality, quantity and distribution terms, Translatingcategoricalpropositions intostandard form. b) Immediateinferences:Conversion, oversionandCon

		trapositon,Traditionalsquare of opposition and Immediate Inferences based there on; Existential Import,symbolismand Diagramsforcategorical propositions.
		Term II (Lecture-10)
		  a) Immediateinferences:Conversion,ObversionandCon trapositon,Traditionalsquare of opposition and Immediate Inferences based there on; Existential Import,symbolismand Diagramsforcategorical propositions.
		  b) Categorical Syllogism: Standard Form categorical Syllogism; The Formal nature ofSyllogisticArgument,RulesandFallacies,GeneralR ules;TotestSyllogisticArgumentsforvalidity(byapply inggeneralrulesforsyllogism);Tosolveproblemsand provetheorems concerningsyllogism.
		Term III (Lecture-25)
		  a) Boolean Interpretation of categorical propositions; Review of the Traditional Lawsof Logic concerning immediate inference and syllogism; Venn Diagram Techniquefor Testing Syllogisms, Hypothetical and Disjunctive Syllogisms, Enthymeme, The Dilemma

Dr. Poulomi Talukdar	**CC-9:Western Logic–II**	**SEMESTER –IV (Total Lecture = 60)**
		Term –I (Lecture-25)
		  c) Symbolic Logic**:** The value of special symbols; Truth-Functions; SymbolsforNegation,Conjunction,Disjunction,Cond itionalStatementsandLogicalEquivalence;Defined and strokefunction; inter-definabilityoftruthfunctors.
		  d) Tautologous,ContradictoryandContingentStatement -

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| | | Forms;TheParadoxesofMaterialImplication;Thethre eLawsofThought. |
| | | e) TestingArgumentFormandArgumentforvalidityby TheMethodofTruth-table |

Term II (Lecture-10)

    i. The Method of Resolution (Fellswoop& Full Sweep)[dot notationexcluded]

  b) Determiningthelogicalcharacterofstatementfo rmandstatementsby

    i. TheMethodofTruth-table.

   ii. TheMethodofResolution[dotnotatione xcluded]

  c) The Method of Deduction: Formal Proof of Validity: Difference betweenImplicational Rules and the Rules of Replacement; Construction of FormalProof of Validity by using nineteen rules; Proof of invalidity by assignmentoftruth-values.

 f) .

Term III (Lecture-25)

  a) QuantificationTheory**:**NeedforQuantificatio nTheory,SingularPropositions;Quantificatio n;TranslatingTraditionalsubject-predicatepropositionintothelogicalnotationof propositionalfunctionandquantifiers;

  a) Quantification Rules and Proving Validity: Proving Invali forargument solvingquan tifiers.

Prof. DebjaniMajumder	**CC-10:Epistemology and Metaphysics(Western)**	**SEMESTER –II (Total Lecture = 44)**
		Term –I (Lecture-10)
		   a) Concepts,Truth.
		SourcesofKnowledge
		Term II (Lecture-20)
		   a) SomePrincipalusesoftheverb"Toknow",Conditionso fPropositionalKnowledge,Strongandweak senses of"know".
		Analytictruthandlogicalpossibility
		Term III (Lecture-14)
		   a) Theapriori.
		   b) TheProblemofInduction.

Dr. Poulomi Talukdar	**GE-4:TerminationofLife&Ethics**
	
	  a. Euthanasia.
	  b. Abortion.
		SEMESTER –II (Total Lecture = 10)

Semester-VI

Name	SyllabusAllotted	

Prof. DebjaniMajumder	CC-13:NyayaLogicandEpistemology–II	**SEMESTER –II (Total Lecture = 36)**
		Term –I (Lecture-10)
		a) Definiton of anumāna, anumiti and parāmarśa. Analysis of pakṣatā. Definition ofvyāpti,Vyāptigraha.
		b) Definitionofpakṣadharmatā— svārthānumitiandparārthānumiti;Analysisofpañcāvayavī Nyāya.Necessityofparāmarśa.Threekindsoflingaorhetu:k evalānvayī, kevalavyātirekī and anvayavyātirekī. Definiton of pakṣa, Sapakṣa andvipakṣawith illustrations. Marks ofsadhetu.
		c) Hetvābhāsa-twotypesofdefinition.Fivekindsof hetvābhāsa:
		    (1) "Savyābhicāra''anditsthreekinds- definedandillustrated;
		    (2) "Viruddha"defined andillustrated:
		    (3) "Satpratipakṣa"defined andillustrated;
		    (4) Threekindsof"Asiddha"enumerated;
		        (a) āśrayāsiddha
		        (b) svarūpāsiddhaand
		        (c) vyāpyatvāsiddha.Vyāpyatvāsiddhade finedas"sopādhikahetu".Upādhiand its fourkinds(definition andillustration)
		    (5) "Bādhita"(definitionandillustration).
		        (a)
		Term II (Lecture-20)
		  a) "Upamānapramāna": Definition and analysis."Sabdapramāna" : Definition andanalysis."Śakti"(theorectsignifyingpower),thep adapadārtha-sambandhacondicedasīsvara- saṁketa,ControversybetweentheMīmāṃsakasandth eNaiyāyikasregardingthenatureofŚaktias universal orparticular.
		  b) "Śaktigraha" (ascertainment of the meaning-

		relation), lakṣaṇa, varieties of lakṣaṇa, Analysis of "Gauṇī-vṛtti" (the secondary signifying power of a term), "Vyāñjanā-vṛtti"(thesuggestivepowerofaterm)analysedas akindofśaktiorlakṣaṇā. c) The definition of lakṣaṇā, The concept of "yoga-rūḍhi". The conditions of "śābda-bodha", ākānkṣā, yogyatā and sannidhi. Two kinds of statements distinguished—VaidikaandLaukika. **Term III (Lecture-06)** a) "Arthāpatti" as a distinctive pramāṇa: Controversy between the Mīmāṃsakas andtheNaiyāyikas. b) Thetheoryofprāmāṇya:theissuebetweensvataḥ-prāmāṇyavādaandparataḥ-prāmāṇyavādaregardingutpattiandjñapti; ThePrābhākaratheoryofakhyāti.
Dr.Poulomi Talukdar	**CC-14:Ethics(Western)**	**SEMESTER –II (Total Lecture = 44)** **Term –I (Lecture-10)** c) NatureandScopeofEthics,ClassificationofEthics:**a:**Prescriptive,**b:**Meta-Ethics **c:**Applied Ethics. **Term II (Lecture-20)** d) MoralandNon-moralactions,ObjectofMoralJudgement-MotiveandIntention **Term III (Lecture-14)** e) MoralTheories:PlatoandAristotle .
DrPoulomi Talukdar	**DSE-3A:AnEnquiryConcerningHumanUnderstanding-D.Hume**	**SEMESTER –IV (Total Lecture)** **Term –I (Lecture-15)** a) Chapter1 -3 **Term II (Lecture-30)** a) Chapter4 -6 b) Chapter7-9

		c) **Term III** (Lecture-15) a) Chapter10-12

Dr.Poulomi Talukdar	**DSE-4A:SwamiVivekananda**	**SEMESTER –IV (Total Lecture = 60)**
		Term –I (Lecture-15)
		   a) Realnatureofman.
		   b) NatureofReligion.
		
		Term II (Lecture-30)
		   a) IdealofUniversalReligion.
		ConceptofPracticalVedanta
		Term III (Lecture-15)
		ConceptofPracticalVedanta

TEACHING PALN OF EVEN SEMESTER (2nd, 4 th & 6th)
Department of Philosophy
B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 2nd Semester

Term I : commencement of classes to 1st Internal Examination
Term II : 1st Internal to 2nd Internal Examination
Term III: 2nd Internal to ESE preparatory break

Semester II

Paper – DSCIBT
Topic Name – Western Philosophy

Name	SyllabusAllotted	
Dr.Sibsankar Tunga	1. Metaphysics: Nature of Metaphysics, Elimination of Metaphysics 2. Realism: Naïve Realism, Scientific Realism, Representative Realism 3. Idealism: Subjective Idealism, Objective Idealism 4. Critical Theory of Kant 5. Theories of Causation: Regularity Theory and Entailment Theory 6. Substance: Views of Descartes, Spinoza, Locke and Berkeley 7. Relation between Mind and Body: Interactionism and Parallelism 8. Theories of Evolution: Mechanistic and Emergent	**SEMESTER –II (Total Lecture = 38)** **Term –I (Lecture-14)** 1. Metaphysics: Nature of Metaphysics, Elimination of Metaphysics 2. Realism: Naïve Realism, Scientific Realism, Representative Realism 3. Idealism: Subjective Idealism, Objective Idealism **Term II (Lecture-14)** 4. Critical Theory of Kant 5. Theories of Causation: Regularity Theory and Entailment Theory 6. Substance: Views of Descartes, Spinoza, Locke and Berkeley **Term III (Lecture-10)** 7. Relation between Mind and Body: Interactionism and Parallelism 8. Theories of Evolution: Mechanistic and Emergent

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Semester IV

Paper – DSC1DT

Topic Name : Contemporary Indian Philosophy

Name	Syllabus Allotted	
Dr.Sibsankar Tunga	1. Rabindranath Tagore (a)Nature of man : The Finite Aspect of Man, the Infinite Aspect of Man ,the FiniteInfinite Aspect of Man, (b) Nature of Religion, (c) Problem of Evil (f) Surplus in man 2. Swami Vivekananda (a)Practical Vedānta, (b) Universal Religion, (c) Yoga	**SEMESTER –IV (Total Lecture = 34)** **Term –I (Lecture-12)** 1. Rabindranath Tagore (a)Nature of man : The Finite Aspect of Man, the Infinite Aspect of Man ,the FiniteInfinite Aspect of Man, (b) Nature of Religion, (c) Problem of Evil (f) Surplus in man 2. Swami Vivekananda (a)Practical Vedānta, (b) Universal Religion, (c) Y Signature Not Verified BIDYUT SAMANTA 22.06.2024

	3. Sri Aurobindo (a)Nature of Reality, (b) Human Evolution– its different stages, (c) Integral Yoga 4. S. Radhakrishnan (a)Nature of Man, (b) Nature of Religious Experience, (c) Nature of Intuitive Apprehension 5. Md. Iqbal (a)Nature of the Self, (b) Nature of the World, (c) Nature of God 6.Mahatma Gandhi (a) God and Truth, (b) Ahimsa, (c) Trusteeship	**Term II** (Lecture-12) 3. Sri Aurobindo (a)Nature of Reality, (b) Human Evolution– its different stages, (c) Integral Yoga 4. S. Radhakrishnan (a)Nature of Man, (b) Nature of Religious Experience, (c) Nature of Intuitive Apprehension **Term III** (Lecture-10) 5. Md. Iqbal (a)Nature of the Self, (b) Nature of the World, (c) Nature of God 6.Mahatma Gandhi (a) God and Truth, (b) Ahimsa, (c) Trusteeship

SemesterVI

Name	SyllabusAllotted	
Dr.Sibsankar Tunga	DSE2T: Tarkasaṁgraha with Dīpikā **Saptapadārtha** 1. **Dravya 2. Guna 3. Karma 4. Samanya 5. Visesa 6. Samavaya and Abhava**	**SEMESTER –VI (Total Lecture = 36)** **Term –I (Lecture-10)** 1. **Dravya 2. Guna 3. Karma** **Term II (Lecture-20)** **4. Samanya 5. Visesa 6.** **Term III (Lecture-06)** **6. Samavaya and Abhava**
Dr.Sibsankar Tunga	**GE2T: Philosophy of Mind** (a) Sensation: What is sensation? Attributes of sensation. (b) Perception: What is perception? Relation between sensation and perception, Gestalt theory of perception, illusion and hallucination. (c) Consciousness: Conscious, Subconscious, Unconscious,Evidence for the existence of the Unconscious, Freud's theory of dream.	**SEMESTER –IV (Total Lecture = 30)** **Term –I (Lecture-12)** (a) Sensation: What is sensation? Attributes of sensation. (b) Perception: What is perception? Relation between sensation and perception, Gestalt theory of perception, illusion and hallucination. **Term II (Lecture-12)** (c) Consciousness: Conscious, Subconscious, Unconscious,Evidence for the existence of the Unconscious, Freud's theory of dream.

	(d) Memory: Factors of memory, Laws of association, Forgetfulness. Learnung: The trialand Error theory, Pavlov's Conditioned Response theory, Gestalt theory. (e) Intelligence: Measurement of Intelligence, I.Q., Test of Intelligence, Binnet-Simon test.	(d) Memory: Factors of memory, Laws of association, Forgetfulness. Learnung: The trialand Error theory, Pavlov's Conditioned Response theory, Gestalt theory. **Term III** (Lecture-06) (e) Intelligence: Measurement of Intelligence, I.Q., Test of Intelligence, Binnet-Simon test.

Even Semester, Session:2022-23

Honourse course

Semester II

Name	SyllabusAllotted	
Dr.Sibsankar Tunga	**CC-4:Historyof WesternPhilosophy–II** a) Locke **:**Refutation of innate ideas, the origin and formation of ideas, simple andcomplexideas,substance,modesandrelations,natureofknowledgeanditsdegrees,limitsofknowledge,primaryandsecondaryqualities,representativerealism. a) Berkeley: Refutation of abstract ideas. Criticism of Locke's distinction betweenprimaryandsecondaryqualities,Immaterialism, esse-est-percipi,roleofGod. Hume:Impression and ideas, association of ideas, distinction between judgementsconcerning relations of ideas and judgements concerning matters of fact, theory ofcausality,theoryofselfand personal identity, scepticism. Kant:ConceptionofcriticalPhilosophy	**SEMESTER –II (Total Lecture = 44)** **Term –I (Lecture-14)** . **WesternPhilosophy–II** b) Locke **:**Refutation of innate ideas, the origin and formation of ideas, simple andcomplexideas,substance,modesandrelations,natureofknowledgeanditsdegrees,limitsofknowledge,primaryandsecondaryqualities,representativerealism. Berkeley: Refutation of abstract ideas. Criticism of Locke's distinction betweenprimaryandsecondaryqualities,Immaterialism, esse-est-percipi,roleofGod. **Term II (Lecture-10)** a) Hume:Impression and ideas, association of ideas, distinction between judgementsconcerning relations of ideas and judgements concerning matters of fact, theory ofcausality,theoryofselfand personal identity, scepticism. Signature Not Verified **Term III (Lecture-10)** BIDYUT SAMANTA Kant:ConceptionofcriticalPhilosophy,distinctionbetweenaprioriandaposteriorijudgements,distinctionbetweenanalyticandsyntheticjudgements.Syntheticapriorijudgements,GeneralproblemoftheCritique,CopernicanR 22.06.2024

	,distinctionbetweenaprioriandaposteriorijudgements,distinctionbetweenanalyticandsyntheticjudgements.Syntheticapriorijudgements,Generalproblemofthe Critique,CopernicanRevolution in Philosophy, Transcendental Aesthetic :Space & time - Metaphysical&Transcendental expositions oftheideas ofspace&time.	evolution in Philosophy, Transcendental Aesthetic :Space & time - Metaphysical&Transcendental expositions oftheideas ofspace&time.

Submitted by—

Dr. Sibsankar Tunga
Assistant Professor in Philosophy
Kharagpur College
 Date:28.03.2023

TEACHING PLAN OF ODD SEMESTER
(1ST,3RD& 5TH)
DEPARTMENT OF PHYSICAL EDUCATION
B.A General (Morning Shift)
Syllabus Distribution & Teaching Plan of 5th Semester
Session 2023-2024

Term I: Commencement of classes of 1st Internal Examination
Term II:1st Internal to 2nd Internal Examination
Term III:2nd Internal to ESE preparatory break

Paper-DSE1
Topic Name-Tests, Measurements & evaluation in Physical Education
Name of Teacher-Smt. Banashree Rout & Sri Writam Pradhan

Term-I-(Total-10 Lectures)
        Lecture 1- Concept of Test and Measurement.
        Lecture 2- Concept of Evaluation.
        Lecture 3- Criteria of good Test.
        Lecture 4- Principles of Evaluation.
        Lecture 5- Importance of Test, Measurement in Physical Education and Sports
        Lecture 6- Importance of Evaluation in Physical Education and Sports.
        Lecture 7- Concept of Body Mass Index.
        Lecture 8 –Assessment of BMI.
        Lecture 9- Body Fat Concept and Method of Measurement.
        Lecture 10- Lean Body Mass(LBM)concept and method of measurement.

Term-II-(Total-6 Lectures)
        Lecture 1- Concept of somato type and method of measurement.
        Lecture 2 – Kraus –Weber Muscular Strength Test.
        Lecture 3- AAHPER Youth Fitness Test(Pull Ups, Sit Ups, Shuttle Run)
        Lecture 4- Standing Broad Jump, 50yard Run, 600yardRun and walk.
        Lecture 5- Queens College Step Test.
        Lecture 6- Harvard Step Test.

Term-III-(Total-4 Lectures)
        Lecture 1- Lockhart and Mephereson Badminton Skill Test.
        Lecture 2- Johnson Basketball Test Battery.
        Lecture 3- McDonald Soecer Test.
        Lecture 4 –Brady Volleyball Test.

TEACHING PLAN OF ODD SEMESTER
(1ST,3R & 5TH)
DEPARTMENT OF PHYSICAL EDUCATION
B.A General (Morning Shift)
Syllabus Distribution & Teaching Plan of 1st Semester
Session 2023-2024

Term I: Commencement of classes of 1st Internal Examination
Term II:1st Internal to 2nd Internal Examination
Term III:2nd Internal to ESE preparatory break

Name of Teacher-Smt. Banashree Rout & Sri Writam Pradhan
Paper-MAJOR(MJ)
Topic Name- Foundation and History & Physical Education and Sports

Term I-(Total Lectures-14)
Lecture 1- Meaning and Definitions of Physical Education.
Lecture 2- Scope of Physical Education and Sports.
Lecture 3- Aims of Physical Education.
Lecture 4- Objectives of Physical Education and Sports.
Lecture 5- Misconception and Modern Concept of Physical Education.
Lecture 6 –Need and importance of Physical Education in Modern Society.
Lecture 7 – Meaning and definition of growth and development.
Lecture 8- Factors affecting Growth and development.
Lecture 9 – Principles of growth and development and Difference between
        growth and development.
Lecture 10 –Classification of Shetion's Body Type .
Lecture 11 – Relationship of Body Type and Sports Performance.
Lecture 12- Concept of Learning Curve.
Lecture 13- Laws and Theories of Learning, Types and Learning.
Lecture 14- Factors affecting Learning.

Term II-(Total Lectures-12)
Lecture 1- Role of sports physiology in the field of Physical Education and Sports.
Lecture 2- Emotion and Motivation in relation with Physical Education and Sports.
Lecture 3- Anxiety and Personality in relation with Physical Education and Sports.
Lecture 4- Concept of Socialization. Socialization in Physical Education and Sports.
Lecture 5- Role of Games and Sports in national and international Sports.
Lecture 6- Sports Ethics.
Lecture 7- Pre-Independence period of Physical Education and Sports in India.
Lecture 8- Post-Independence period of Physical Education and Sports in India.

Lecture 9- National and State Sports Awards.

Lecture 10- Famous Personalities in the field of Physical Education Plato,
Aristotle, Ames, Buchanan, and P.M Joseph.

Lecture 11- Professional Preparation in Physical Education and Sports.

Lecture 12- Y.M.C.A, <NIPE, IaIPESS, SAI.

Term III-(Total Lectures-6)

Lecture 1- Ancient Olympic Games.

Lecture 2- Modern Olympic Games.

Lecture 3- Historical Background of Commonwealth Games.

Lecture 4- Historical Background of Asian Games.

Lecture 5- Analysis of Indian Sports Performance.

Lecture 6- Olympic, Commonwealth and Asian Games.

Teaching Plan of Even Semester (2ⁿᵈ, 4ᵗʰ & 6ᵗʰ)
Department of Physical Education
B.A. General (Morning Shift)
Session-2022-2023
(Term -1: Commencement of classes to 1ˢᵗ Internal Examination.
Term -2: 1ˢᵗ Internal to 2ⁿᵈ Internal Examination.
Term-3 : 2ⁿᵈ Internal to ESE Preparatory break.)

Name of the Teacher –Smt. Banashree Rout & Writtam Pradhan

Syllabus distribution and Teaching Plan of 2ⁿᵈ Semester

Paper –DSC 2BT
Topic Name-Sports Management in Physical Education

Term-1: (Total -12 Lectures)

> Lecture-1: Concept of Sports Management.
> Lecture-2: Importance of Sports Management
> Lecture-3: Definition of Sports Management and required Competencies of
> > Sports Management.
> Lecture- 4: Principle of Sports Management.
> Lecture-5: Sports Manager and his duties.
> Lecture- 6: Personal Qualities of Sports Manager.
> Lecture-7: Qualifications of Sports Manager with other staff
> Lecture-8: Meaning and Definition of Tournament.
> Lecture-9: Importance and Types of Tournament.
> Lecture-10: Procedure of Drawing Fixture.
> Lecture-11: Fixture in single knock –out and Double Knock-out Tournament.
> Lecture-12: League of Round Robin and Combination and challenge Tournament.

Term –II (Total-12 Lectures)

> Lecture-1: Annual Athletic meet and Play Day.
> Lecture-2: Organizing of Intramural Competition
> Lecture-3: Extramural Competition.
> Lecture-4: : Importance and of Intramural Extramural Competition.
> Leacture-5: Standard Athletic Track Marking.
> Lecture -6: Maintenance of play Ground and Gymnasium.
> Lecture-7: Care and Maintenance of Sports Equipment.
> Lecture -8: Importance of Sports Equipment.
> Lecture-9: Time Table Management.
> Lecture-10: Need and Importance of Time Table.
> Lecture-11: Factors of Time Table.
> Lecture-12: Facilities and Equipment Management.

Term –III (Total-7 Lectures)

> Lecture-1: Leadership and Management
> Lecture-2: Importance of Leadership.
> Lecture-3: Leadership Style and Method
> Lecture-4: Qualities of a good Leader.
> Lecture-5: Forms and Types Leadership
> Lecture-6: Principles of Leadership Activities.
> Lecture-7: Qualities of Teacher of Physical Education as Leader

Syllabus distribution and Teaching Plan of 4th Semester
Session-2022-2023
Paper –DSC 4DT
Topic Name-Health Education & Physical Fitness and wellness
Name of the Teacher–Smt. Banashree Rout & Writtam Pradhan

Term-1: (Total -12 Lectures)
      Lecture-1: Concept and Definitions of Health.
      Lecture-2: Dimension and Definition of Health Education.
      Lecture-3: Objective and Principle of Health Education.
      Lecture-4: Activities of Health Agencies-(WHO, UNESCO & UNICEF)
      Lecture-5: School Health Programmed.
      Lecture-6: Components and Scope of School –Health Service.
      Lecture-7: Factors of School Health Programmed.
      Lecture-8: Nature of Health Instruction.
      Lecture-9: Healthful School Living or Health Supervision.
      Lecture-10: Personal Hygiene and Health Record.
      Lecture-11: Prevention and control of Communicable Disease.
      Lecture-12: Classification of Disease.
      Lecture-13: Communicable Diseases (Malaria, Dengue, Chicken-pox, Diarrhea)
      Lecture-14: Hypo kinetic Disorder (Obesity, Diabetes, Asthra)

Term-II (Lecture-13)
      Lecture-1 : Nutrition requirements for daily living.
      Lecture-2: Basic Constituents of food.
      Lecture-3: Preparation and Planning of Balance diet
      Lecture-4: Health deficiency of Protein, Vitamins and Minerals.
      Lecture-5: Causes and Corrective exercise of Postural Debormities.
      Lecture-6: Physical Fitness.
      Lecture-7: Importance of Physical Fitness.
      Lecture-8: Component of Physical Fitness.
      Lecture-9: Health Related and Performance related Physical Fitness.
      Lecture-10: Components of wellness.
      Lecture-11: Relationship between Physical Activities and Wellness.
      Lecture-12 : Ageing Phenomenon.
      Lecture-13: Exercise in Ageing Period.

Term-II (Lecture-6)
      Lecture-1: General Idea about First aid Qualities and Responsibility.
      Lecture-2: Qualities and Responsibility First aider
      Lecture-3: Some Processes of First Aid and their application (sprain, strain,
              Facture, Dislocation and Wound.
      Lecture-4: Management of Sports injury through the application Hydro-therapy
              and thermo therapy.
      Lecture-5: Healing of Sports injuries through exercise.
      Lecture-6: Massage Therapy.

Syllabus distribution and Teaching Plan of 6th Semester
Session-2022-2023
Paper –DSE2
Topic Name-Sports Training.
Name of the Teacher –Smt. Banashree Rout & Writtam Pradhan

Term-1: (Total -12 Lectures)
        Lecture-1: What is Sports Training.
        Lecture-2: Characteristics of Sports Training.
        Lecture -3: Principle of Sports Training and conditioning.
        Lecture-4: Briefly explanation and Importance of Sports Training.
        Lecture-5: Sports Training and its aims.
        Lecture-6: Classification of warming up.
        Lecture-7: Warming up and Conditioning the relationship of Sports.
        Lecture-8: General Guidelines that govern the warming up Programmed.
        Lecture-9: Physiological Basis of warming up.
        Lecture-10: Cooling Down.
        Lecture-11: Free Hand Stretching Exercise for warming up and Cooling Down.
        Lecture-12: Conditioning and warming up and also celebrate their role in games
                    and sports.

Term-II: (Total -13Lectures)
        Lecture-1:- Various Sports Training Methods.
        Lecture-2: The purpose of internal Training
        Lecture-3: The Advantages of internal Training.
        Lecture-4: Planning of circuit Training Method.
        Lecture-5: Weight Training Method.
        Lecture-6: Golden rules of weight Training.
        Lecture-7: Process of Per iodization.
        Lecture-8: Cycles of Per iodization.
        Lecture-9: Types and factors of Training Load.
        Lecture-10: Components of Training Load.
        Lecture-11: Caused and Symptoms of over Load.
        Lecture-12: Tackline of over Load.
        Lecture-13: Conditions of Adaptation.

Term-III(Total Lecture-)
        Lecture-1: Strength Development
        Lecture-12: Development of Maximum Explosive and Endurance.
        Lecture -3: Factors influencing is highly specific.
        Lecture-4: Development of speed is highly specific.
        Lecture-5: Principles of speed Improvement.
        Lecture-6; Flexibility Training and Flexibility Exercises.
        Lecture-7 ; Types of Endurance development.
        Lecture-8: Methods of Endurance development.

Department of Physics

Syllabus distribution & Teaching Plan, Odd Semesters, Session: 2023-24

(Term I: Commencement of classes to 1st internal; Term II: 1st internal to

2nd internal; Term III: 2nd internal to ESE preparatory break)

Name of the Teacher: Dr. Jyotirmoy Pramanik

Semester III

Name	Syllabus Allotted	Teaching Plan
Dr. Jyotirmoy Pramanik	SEC1T (2 Lectures per week): **Electrical Circuits and Network Skills**	**Term I (8 Lectures) :** **Basic Electricity Principles** Voltage, Current, Resistance, and Power. Ohm's law. Series, parallel, and series-parallel combinations. AC Electricity and DC Electricity. Familiarization with multimeter, voltmeter and ammeter. **Understanding Electrical Circuits** Main electric circuit elements and their combination. Rules to analyze DC sourced electrical circuits. Current and voltage drop across the DC circuit elements. Single-phase and three-phase alternating current sources. Rules to analyze AC sourced electrical circuits. Real, imaginary and complex power components of AC source. Power factor. Saving energy and money. **Electrical Drawing and Symbols** Drawing symbols. Blueprints. Reading Schematics. Ladder diagrams. Electrical Schematics. Power circuits. Control circuits. Reading of circuit schematics. Tracking the connections of elements and identify current flow and voltage drop. **Term II (8 Lectures):** **Generators and Transformers** DC Power sources. AC/DC generators. Inductance, capacitance, and impedance. Operation of transformers.
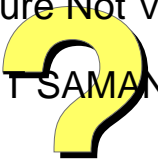
		Electric Motors
		Single-phase, three-phase & DC motors. Basic design. Interfacing DC or AC sources to control heaters & motors. Speed & power of ac motor.
		Term III (8 Lectures):
		Solid-State Devices
		Resistors, inductors and capacitors. Diode and rectifiers. Components in Series or in shunt. Response of inductors and capacitors with DC or AC sources
		Electrical Protection
		Relays. Fuses and disconnect switches. Circuit breakers. Overload devices. Ground-fault protection. Grounding and isolating. Phase reversal. Surge protection. Interfacing DC or AC sources to control elements (relay protection device)
		Electrical Wiring
		Different types of conductors and cables. Basics of wiring-Star and delta connection. Voltage drop and losses across cables and conductors. Instruments to measure current, voltage, power in DC and AC circuits. Insulation. Solid and stranded cable. Conduit. Cable trays. Splices: wirenuts, crimps, terminal blocks, split bolts, and solder. Preparation of extension board.

Name	Syllabus Allotted	
Dr. Jyotirmoy Pramanik	**DSE-2, Nuclear and Particle Physics** (6 lectures per week):	**Term I (24 Lectures):** **General Properties of Nuclei :** Constituents of nucleus and their Intrinsic properties, quantitative facts about mass, radii, charge density (matter density), binding energy, average binding energy and its variation with mass number, main features of binding energy versus mass number curve, N/A plot, angular momentum, parity, magnetic moment, electric moments, nuclear excites states. **Nuclear Models :** Liquid drop model approach, semi empirical mass formula and significance of its various terms, condition of nuclear stability, two nucleon separation energies, Fermi gas model (degenerate fermion gas, nuclear symmetry potential in Fermi gas), evidence for nuclear shell structure, nuclear magic numbers, basic assumption of shell model, concept of mean field, residual interaction, concept of nuclear force. **Radioactivity decay :** (a) Alpha decay: basics of α-decay processes, theory of α- emission, Gamow factor, Geiger Nuttall law, α-decay spectroscopy. (b) β-decay: energy kinematics for β-decay, positron emission, electron capture, neutrino hypothesis. (c) Gamma decay: Gamma rays emission & kinematics, internal conversion.

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BIDYUT SAMANTA

22.06.2024

		Term II (24 Lectures): **Nuclear Reactions:** Types of Reactions, Conservation Laws, kinematics of reactions, Q-value, reaction rate, reaction cross section, Concept of compound and direct Reaction, resonance reaction, Coulomb scattering (Rutherford scattering). **Interaction of Nuclear Radiation with matter:** Energy loss due to ionization (Bethe- Block formula), energy loss of electrons, Cerenkov radiation. Gamma ray interaction through matter, photoelectric effect, Compton scattering, pair production, neutron interaction with matter. **Detector for Nuclear Radiations:** Gas detectors: estimation of electric field, mobility of particle, for ionization chamber and GM Counter. Basic principle of Scintillation Detectors and construction of photo-multiplier tube (PMT). Semiconductor Detectors (Si and Ge) for charge particle and photon detection (concept of charge carrier and mobility), neutron detector. **Term III (24 Lectures):** **Particle Accelerators:** Accelerator facility available in India: Van-de Graaff generator (Tandem accelerator), Linear accelerator, Cyclotron, Synchrotrons. **Particle physics :** Particle interactions; basic features, types of particles and its families. Symmetries and Conservation Laws: energy and momentum, angular momentum, parity, baryon number, Lepton number, Isospin, strangeness and charm, concept of quark model, color quantum number and gluons.

	C12-P, Solid State Physics Lab (2 classes per week):	**List of Practicals**
Dr. Jyotirmoy Pramanik		1. Measurement of susceptibility of paramagnetic solution (Quinck`s Tube Method)
		2. To measure the Magnetic susceptibility of Solids.
		3. To determine the Coupling Coefficient of a Piezoelectric crystal.
		4. To measure the Dielectric Constant of a dielectric Materials with frequency
		5. To draw the BH curve of Fe using Solenoid & determine energy loss from Hysteresis.
		6. To measure the resistivity of a semiconductor (Ge) with temperature by four-probe method (room temperature to $150\,^{\circ}$C) and to determine its band gap.
		7. To determine the Hall coefficient of a semiconductor sample.

Department of Physics

Syllabus Distribution & Teaching Plan

Term I : Commencement of Class to First Internal Assessment

Term II : First Internal Assessment to Second Internal Assessment

Term III : Second Internal Assessment to Preparatory Break of End Semester Examination

Name of the Teacher : Dr. Tanika Kar

Semester I

Level : B. Sc in Physical Science with Physics (Major)

Number of Classes / Hours Allotted per Week : 2 [Practical Classes]

Semester III

Syllabus Allotted : C6T – Kinetic Theory of Gases & C6P – Thermal Physics Lab

Number of Classes / Hours Allotted per Week : C6T – 3 & C6P – 4

Teaching Plan

Term I [15 Lectures]

Distribution of velocities, Maxwell – Boltzmann Law of distribution of velocities in an ideal gas and its experimental verification, Doppler broadening of spectral lines, Stern's Experiment, Mean, RMS & Most Probable Speeds, Degrees of Freedom, Law of Equipartition of Energy, Specific Heats of Gases, Molecular Collisions, Mean Free Path, Collision Probability, Estimates of Mean free Path; Discussion of End - Semester questions & related mathematical problems.

Term II [15 Lectures]

Transport Phenomena in Ideal Gases – Viscosity, Thermal Conductivity & Diffusion, Brownian Motion & Its Significance, Real Gases – Behaviour of Real Gases, Deviations from the Ideal Gas Equation, Virial Coeffs., Andrew's Experiment on CO_2 Gas, Critical Constants, Continuity of Liquid & Gaseous State, Vapour & Gas, Boyle Temperature, van der Waal's Equation of State for Real Gases, Comparison with Experimental Curves (P – V Diagrams) Values of Critical Constants, Laws of Corresponding States; Discussion of End - Semester questions & related mathematical problems.

Term III [10 Lectures]

Joule's Experiments, Free Adiabatic Expansion of a perfect Gas, Joule – Thomson Porous Plug Experiment, Joule – Thomson Effect for Ideal & van der Waal Gases, Temperature of

Inversion, Joule – Thomson Cooling; Discussion of End - Semester questions & related mathematical problems.

Semester V

Syllabus Allotted : C12T – Crystal Structure, C12P – Solid State Physics Lab & DSE1T – Special Theory of Relativity

Number of Classes / Hours Allotted per Week : C12T + DSE1T – 2 , C12P – 4

Teaching Plan

Term I [10 Lectures]

Amorphous & Crystalline Materials, Lattice Translation Vector, Types of Lattices, Lattice with a Basis – Central & Non – Central Elements, Unit Cell, Miller Indices, Reciprocal Lattice, Brillouin Zones, Diffraction of X-Ray by Crystal, Bragg's Law, Atomic & Geometrical Factors; Discussion of End - Semester questions & related mathematical problems.

Term II [10 Lectures]

Postulates of Special Theory of Relativity, Lorentz Transformation, Time Dilation, Length Contraction & Twin Paradox, Four – Vectors, Space – Time Diagram, Minkowski Space, The Invariant Interval, Light – Cone & World Lines, Space – like, Time - like & Light – like Intervals, Four – Velocity & Acceleration, Four – Momentum & Energy – Momentum Relation; Discussion of End - Semester questions & related mathematical problems.

Term III [5 Lectures]

Metric & Alternating Tensors, Doppler Effect from Four – Vector Perspective, Concept of Four – Force, Conservation of Four – Momentum, Relativistic Kinematics, Application to Two – Body Decay of an Unstable Particle; Discussion of End - Semester questions & related mathematical problems.

Department of Physics

Teaching Plan

Name of the Teacher: Dr. Ritwik Saha

Semester I	
Syllabus allotted	MJ-1 T: Foundation of Physics -1 (UNIT – I: Preliminary Mathematical Methods) SEC P: Introduction to Python programming and Graph Plotting
No of Classes (Hour) per week	MJ-1 T: 2 SECP: 2
Teaching Plan	**Lecture 1:** Vector Analysis: Definition of vector by rotational transformation of Cartesian axes. Definition of scalar. **Lecture 2:** Vector Analysis: Definition of pseudoscalar, polar and axial vector, Fundamentals of vector algebra. **Lecture 3:** Vector Analysis: Vector identities. **Lecture 4:** Gradient of a scalar field, divergence and curl of a vector field and their physical significance, solenoidal and irrotational vector. **Lecture 5:** Conservative vector field and scalar potential, concept of vector potential, identities involving gradient, divergence & curl. **Lecture 6:** Tutorial (Discussion on questions of Assignment-1: Vector Analysis) **Lecture 7:** Tutorial (Discussion on questions of Assignment-1: Vector Analysis) **Lecture 8:** Tutorial (Discussion on questions of Assignment-2: Vector Analysis) **Lecture 9:** Tutorial (Discussion on questions of Assignment-2: Vector Analysis) **Lecture 10:** Vector Integration: Line integral, path independence, exact differential **Lecture 11:** Vector Integration: Surface integral. **Lecture 12:** Vector Integration: Surface integral, flux. **Lecture 13:** Vector Integration: volume integral. **Lecture 14:** Tutorial (Discussion on questions of Assignment-3: Vector Analysis) **Lecture 15:** Vector Integration: Gauss divergence theorem, continuity equation. **Lecture 16:** Vector Integration: Stoke's theorem, Green's theorem for simply connected region. **Lecture 17:** Vector Integration: Verification of integral theorems in simple cases. **Lecture 18:** Vector Integration: Change of variables and the Jacobian& its use in the evaluation of surface and volume integrals. **Lecture 19:** Tutorial (Discussion on questions of Assignment-4: Vector Analysis)

	Lecture 20: Tutorial (Discussion on questions of Assignment-4: Vector Analysis) **Lecture 21:** Orthogonal Curvilinear Coordinates: Covariant and contravariant components, unit vectors and unitary base vectors. **Lecture 22:** Orthogonal Curvilinear Coordinates: Length, area and volume element. **Lecture 23:** Orthogonal Curvilinear Coordinates: Square of the element of arc length and volume element in general coordinates. **Lecture 24:** Orthogonal Curvilinear Coordinates: General expression of gradient, divergence, Laplacian and curl. **Lecture 25:** Orthogonal Curvilinear Coordinates: Expressions of Gradient, Divergence, Laplacian and Curl in spherical and cylindrical polar, coordinates. **Lecture 26:** Tutorial (Discussion on questions of Assignment-5: Vector Analysis) **Lecture 27:** Tutorial (Discussion on questions of Assignment-5: Vector Analysis)
Semester III
Syllabus allotted	C5T: Mathematical Physics II C5P: Mathematical Physics II Lab C6P: Thermal Physics Lab GE3P: Solid State Physics Lab
No of Classes (Hour) per week	C5T: 2 C5P: 2 C6P: 3 GE3P: 2
Teaching Plan	**Lecture 1:** Fourier Series: Periodic functions. Orthogonality of sine and cosine functions, Dirichlet Conditions (Statement only). Expansion of periodic functions in a series of sine and cosine functions and determination of Fourier coefficients. **Lecture 2:** Fourier Series: Complex representation of Fourier series. **Lecture 3:** Fourier Series: Expansion of functions with arbitrary period. **Lecture 4:** Fourier Series: Expansion of non-periodic functions over an interval. **Lecture 5:** Fourier Series: Even and odd functions and their Fourier expansions. **Lecture 6:** Fourier Series: Application. **Lecture 7:** Fourier Series: Application. **Lecture 8:** Fourier Series: Parseval Identity. **Lecture 9:** Fourier Series: Summing of Infinite Series. Term-by-Term differentiation and integration of Fourier Series. **Lecture 10:** Tutorial (Discussion on questions of Assignment: Fourier Series) **Lecture 11:** Tutorial (Discussion on questions of Assignment: Fourier Series) **Lecture 12:** Frobenius Method and Special Functions: Singular Points of Second Order Linear Differential Equations and their importance. **Lecture 13:** Frobenius Method and Special Functions: Frobenius method and its applications to differential equations. **Lecture 14:** Frobenius Method and Special Functions: Frobenius method and its applications to differential equations.

	Lecture 15: Frobenius Method and Special Functions: Legendre, Bessel, Hermite and Laguerre Differential Equations. **Lecture 16:** Frobenius Method and Special Functions: Legendre, Bessel, Hermite and Laguerre Differential Equations. **Lecture 17:** Frobenius Method and Special Functions: Legendre, Bessel, Hermite and Laguerre Differential Equations. **Lecture 18:** Frobenius Method and Special Functions: Legendre, Bessel, Hermite and Laguerre Differential Equations. **Lecture 19:** Frobenius Method and Special Functions: Properties of Legendre Polynomials: Rodrigues Formula. **Lecture 20:** Frobenius Method and Special Functions: Properties of Legendre Polynomials: Generating Function. **Lecture 21:** Frobenius Method and Special Functions: Properties of Legendre Polynomials: Orthogonality. **Lecture 22:** Frobenius Method and Special Functions: Properties of Legendre Polynomials: Simple recurrence relations. **Lecture 23:** Frobenius Method and Special Functions: Properties of Legendre Polynomials: Expansion of function in a series of Legendre Polynomials. **Lecture 24:** Frobenius Method and Special Functions: Bessel Functions of the First Kind: Generating Function. **Lecture 25:** Frobenius Method and Special Functions: Bessel Functions of the First Kind: simple recurrence relations. **Lecture 26:** Frobenius Method and Special Functions: Bessel Functions of the First Kind: Zeros of Bessel Functions ($J_0(x)$ and $J_1(x)$) and Orthogonality. **Lecture 27:** Frobenius Method and Special Functions: Bessel Functions of the First Kind: Orthogonality. **Lecture 28:** Some Special Integrals: Beta and Gamma Functions and Relation between them. **Lecture 29:** Some Special Integrals: Beta and Gamma Functions and Relation between them. **Lecture 30:** Some Special Integrals: Expression of Integrals in terms of Gamma Functions. **Lecture 31:** Some Special Integrals: Error Function (Probability Integral). **Lecture 32:** Tutorial (Discussion on questions of Assignment-1:) **Lecture 33:** Tutorial (Discussion on questions of Assignment-2:) **Lecture 34:** Tutorial (Discussion on questions of Assignment-3:) **Lecture 35:** Tutorial (Discussion on questions of Assignment-4:) **Lecture 36:** Tutorial (Discussion on questions of Assignment-5:) **Lecture 37:** Tutorial (Discussion on VU previous year questions of C5T) **Lecture 38:** Tutorial (Discussion on VU previous year questions of C5T) **Lecture 39:** Tutorial (Discussion on VU previous year questions of C5T) **Lecture 40:** Tutorial (Discussion on VU previous year questions of C5T)
Semester V	
Syllabus allotted	C12T: Solid State Physics. C11P: Statistical mechanics Lab
No of Classes (Hour) per week	C12T: 1 C11P: 2

Teaching Plan	**Lecture 1:** Magnetic Properties of Matter: Dia-, Para-, Ferri- and Ferromagnetic Materials. **Lecture 2:** Magnetic Properties of Matter: Classical Langevin Theory of diamagnetism. **Lecture 3:** Magnetic Properties of Matter: Classical Langevin Theory of Paramagnetism. Curie's law. **Lecture 4:** Magnetic Properties of Matter: Quantum Mechanical Treatment of Paramagnetism. Curie's law. **Lecture 5:** Magnetic Properties of Matter: Weiss's Theory of Ferromagnetism and Ferromagnetic Domains. **Lecture 6:** Magnetic Properties of Matter: Domains, Discussion of B-H Curve. Hysteresis and Energy Loss. **Lecture 7:** Tutorial (Discussion on questions of Assignment-1:) **Lecture 8:** Tutorial (Discussion on VU previous year questions) **Lecture 9:** Tutorial (Discussion on VU previous year questions) **Lecture 10:** Superconductivity: Experimental Results. Critical Temperature. Critical magnetic field. Meissner effect. Type I and type II Superconductors. **Lecture 11:** Superconductivity: London's Equation and Penetration Depth. Isotope effect. Idea of BCS theory (No derivation) **Lecture 12:** Tutorial (Discussion on questions of Assignment-2:) **Lecture 13:** Tutorial (Discussion on VU previous year questions) **Lecture 14:** Tutorial (Discussion on VU previous year questions)

Department of Physics

Teaching Plan

Name of the Teacher: Dr. Samir Kumar Giri

Semester I	
Syllabus allotted	**PHSHMJ101**: Foundation of Physics -1 **PHSMI01**: T: Mathematical Physics and Mechanics; P: Practical
No of Classes (Hour) per week	**PHSHMJ101**: 02 **PHSMI01**: 05
Teaching Plan — **PHSHMJ101**	**Lecture 1:** Introduction to course prospectus and course outcome **Lecture 2:** Work done during isothermal and adiabatic processes **Lecture 3:** Compressibility and expansion co-efficient, free expansion **Lecture 4:** Reversible and irreversible process with examples **Lecture 5:** Conversion of work into heat and heat into work, heat reservoirs **Lecture 6:** Heat engines, Carnot's cycle, Carnot engine & its efficiency, refrigerator and heat pump **Lecture 7:** Coefficient of performance **Lecture 8:** Statement of second law of thermodynamics, Kelvin-Planck and Clausius Statements and their equivalence **Lecture 9:** Carnot's theorem, applications of Second law of thermodynamics - thermodynamic scale of temperature and its equivalence to perfect gas scale **Lecture 10:** Concept of entropy, Clausius theorem **Lecture 11:** Clausius inequality, second law of thermodynamics in terms of entropy, entropy of a perfect gas, entropy of gas mixture **Lecture 12:** Increase of entropy due to diffusion, principle of increase of entropy, entropy changes in reversible and irreversible processes with examples **Lecture 13:** Entropy of the universe, temperature - entropy diagrams for Carnot cycle **Lecture 14:** Third law, unattainability of absolute zero temperature **Lecture 15:** Tutorial.

		Lecture 1: Introduction to course prospectus and course outcome
	PHSMI01	Lecture 2: Reference frames, inertial frames
		Lecture 3: Galilean transformations
		Lecture 4: Galilean, invariance, review of Newton's laws of motion, dynamics of a system of particles
		Lecture 5: Centre of mass, concept of centre of mass frame
		Lecture 6: Non-inertial frames and fictitious forces
		Lecture 7: Gravitational potential Energy
		Lecture 8: Potential and field due to a spherical shell
		Lecture 9: Potential and field due to a solid sphere
		Lecture 10: Motion of a particle in a central force field (motion is in a plane)
		Lecture 11: Motion of a particle in a central force field (angular momentum is conserved)
		Lecture 12: Motion of a particle in a central force field (areal velocity is constant)
		Lecture 13: Perpendicular axes theorems
		Lecture 14: Parallel axes theorems, radius of gyration
		Lecture 15: Tutorial.
		Lecture 16: Calculation of moment of inertia for rectangular bodies
		Lecture 17: Calculation of moment of inertia for cylindrical, and spherical bodies
		Lecture 18: Pure rolling of a body on an inclined plane
		Lecture 19: Two-body problem, reduction to one-body problem
		Lecture 20: Reduced mass
		Lecture 21: Definition and nature (conservative nature, spherically symmetric potential) of central force
		Lecture 22: Features of motion under central force field, differential equation of orbit; energy expression
		Lecture 23: Simple derivations of nature of force from equation of orbit and vice versa
		Lecture 24: Relation between Elastic constants
		Lecture 25: Torsion of a cylinder or wire
		Lecture 26: Surface tension and surface energy
		Lecture 27: Angle of contact
		Lecture 28: Capillarity and Jurin's law
		Lecture 29: Excess pressure and application to soap bubble, molecular theory of surface tension
		Lecture 30: Ripple method, Viscosity, Reynold's number
		Lecture 31:, Poiseuille's Equation for flow of a liquid through a Capillary Tube, Stoke's law in a high viscous liquid
		Lecture 32: Tutorial.

Semester III		
Syllabus allotted		C6T: Thermal Physics C6P: Thermal Physics Lab GE3T: Solid State Physics
No of Classes (Hour) per week		C6T:02 C6P:03

		GE3T: 02
Teaching Plan	**C6T**	**Lecture 1:** Introduction to course prospectus and course outcome. **Lecture 2:** Zeroth and First Law of Thermodynamics **Lecture 3:** Extensive and intensive Thermodynamic Variables, **Lecture 4:** Thermodynamic Equilibrium, Zeroth Law of Thermodynamics & Concept of Temperature **Lecture 5:** Concept of Work & Heat, State Functions, First Law of Thermodynamics and its differential form **Lecture 6:** Internal Energy, First Law & various processes **Lecture 7:** Applications of First Law: General Relation between CP and CV **Lecture 8:** Work Done during Isothermal and Adiabatic Processes, Compressibility and Expansion Co-efficient **Lecture 9:** Second Law of Thermodynamics: Reversible and Irreversible process with examples. **Lecture 10:** Conversion of Work into Heat and Heat into Work **Lecture 11:** Heat Engines. Carnot's Cycle, Carnot engine & efficiency, Refrigerator & coefficient of performance **Lecture 12:** 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence **Lecture 13:** Carnot's Theorem **Lecture 14:** Applications of Second Law of Thermodynamics **Lecture 15:** Tutorial **Lecture 16:** Current Flow Mechanism in Reverse Biased Diode. **Lecture 17:** Concept of Entropy **Lecture 18:** Clausius Theorem. Clausius Inequality **Lecture 19:** Second Law of Thermodynamics in terms of Entropy. Entropy of a perfect gas **Lecture 20:** Principle of Increase of Entropy. Entropy Changes in Reversible and Irreversible processes with examples **Lecture 21:** Entropy of the Universe. Entropy Changes in Reversible and Irreversible Processes **Lecture 22:** Principle of Increase of Entropy. Temperature–Entropy diagrams for Cycle **Lecture 23:** Third Law of Thermodynamics. Unattainability of Absolute Zero **Lecture 24:** Thermodynamic Potentials: Internal Energy, Enthalpy, Helmholtz Free Energy, Gibb's Free Energy **Lecture 25:** Their Definitions, Properties and Applications. Surface Films and Variation of Surface Tension with Temperature **Lecture 26:** Magnetic Work, Cooling due to adiabatic demagnetization **Lecture 27:** First and second order Phase Transitions with examples, Clausius Clapeyron Equation and Ehrenfest equations **Lecture 28:** Derivations and applications of Maxwell's Relations **Lecture 29:** Clausius Clapeyron equation, Values of Cp-Cv **Lecture 30:** TdS Equations, Joule-Kelvin coefficient for Ideal

		and Van der Waal Gases **Lecture 31:** Energy equations, Change of Temperature during Adiabatic Process. **Lecture 32:** Tutorial
	GE3T	**Lecture 1:** Introduction to course prospectus and course outcome. **Lecture 2:** : Amorphous and Crystalline Materials **Lecture 3:** Lattice Translation Vectors **Lecture 4:** Lattice with a Basis – Central and Non-Central Elements **Lecture 5:** Unit Cell. Miller Indices **Lecture 6:** Reciprocal Lattice. Types of Lattices. Brillouin Zones **Lecture 7:** Diffraction of X-rays by Crystals. Bragg's Law **Lecture 8:** Atomic and Geometrical Factor **Lecture 9:** Lattice Vibrations and Phonons: Linear Monoatomic and Diatomic Chains **Lecture 10:** Acoustical and Optical Phonons. Qualitative Description of the Phonon Spectrum in Solids **Lecture 11:** Dulong and Petit's Law **Lecture 12:** Einstein and Debye theories of specific heat of solids. T3 law **Lecture 13:** Dia-, Para-, Ferri- and Ferromagnetic Materials **Lecture 14:** Classical Langevin Theory of dia – and Paramagnetic Domains **Lecture 15:** Tutorial **Lecture 16:** Quantum Mechanical Treatment of Paramagnetism **Lecture 17:** Curie's law, Weiss's Theory of Ferromagnetism and Ferromagnetic Domains. **Lecture 18:** Discussion of B-H Curve **Lecture 19:** Hysteresis and Energy Loss **Lecture 20:** Polarization. Local Electric Field at an Atom **Lecture 21:** Depolarization Field. Electric Susceptibility **Lecture 22:** Polarizability. Clausius Mosotti Equation **Lecture 23:** Classical Theory of Electric Polarizability **Lecture 24:** Normal and Anomalous Dispersion **Lecture 25:** Cauchy and Sellmeir relations **Lecture 26:** Langevin-Debye equation **Lecture 27:** Complex Dielectric Constant **Lecture 28:** Optical Phenomena **Lecture 29:** Application: Plasma Oscillations, Plasma Frequency, Plasmons **Lecture 30:** Tutorial
Semester V		
Syllabus allotted		C12P: Solid State Physics Lab DSE1T: Classical Dynamics
No of Classes (Hour) per week		C12P: 02 DSE1T: 02

Teaching Plan	**DSE1T**	**Lecture 1:** Introduction to course prospectus and course outcome. **Lecture 2:** Review of Newtonian Mechanics **Lecture 3:** Application to the motion of a charge particle in external electric and magnetic fields- **Lecture 4:** Motion in uniform electric field and magnetic field- and **Lecture 5:** Gyroradius. **Lecture 6:** Gyrofrequency. **Lecture 7:** Generalized coordinates **Lecture 8:** Motion in crossed electric and magnetic fields **Lecture 9:** Generalized velocities **Lecture 10:** Recap of Lagrangian mechanics **Lecture 11:** Recap of Hamiltonian mechanics **Lecture 12:** Hamiltonian for a harmonic oscillator **Lecture 13:** Solution of Hamilton's equation for Simple Harmonic Oscillations **Lecture 14:** Particle in a central force field **Lecture 15:** Tutorial **Lecture 16:** Conservation of angular momentum **Lecture 17:** Conservation of energy **Lecture 18:** Effective potential **Lecture 19:** The Laplace- Runge-Lenz vector **Lecture 20:** Tutorial **Lecture 21:** Minima of potential energy **Lecture 22:** Points of stable equilibrium **Lecture 23:** Tutorial **Lecture 24:** Expansion of the potential energy around a minimum **Lecture 25:** Small amplitude oscillations about the minimum **Lecture 26:** Normal modes of oscillations. **Lecture 27:** Example of N identical masses connected in a linear fashion to (N -1) - identical springs. **Lecture 28:** Tutorial **Lecture 28:** Tutorial **Lecture 29:** Tutorial **Lecture 30:** Tutorial

Department of Physics

Syllabus distribution & Teaching Plan, Odd Semesters, Session: 2023-24

(Term I: Commencement of classes to 1st internal; Term II: 1st internal to 2nd internal; Term III: 2nd internal to ESE preparatory break)

Name of the Teacher: Mihir Das

Semester I	
Syllabus allotted	**MJ1: Foundation Of Physics 1** **MI1T: Mathematical Physics And Mechanics** **MI1P**: **Mathematical Physics And Mechanics Lab**
No of Classes (Hour) per week	**MJ1:- 2** **MI1T:- 1** **MI1P:- 3**
Teaching Plan	**MJ1T: Foundation Of Physics 1** **Term I (8 Lectures) :** **Basics of Kinetic Theory:** Macroscopic and microscopic description of matter, Postulates of molecular kinetic theory of an ideal gas, Relation between microscopic and macroscopic state variables, Ideal gas equation and Van-der-Waal's equation. **Thermodynamic Description of system:** Thermodynamic systems, intensive and extensive thermodynamic variables, thermodynamic equilibrium, Zeroth law of thermodynamics and concept of temperature, concept of work, heat and internal energy, state functions & path functions. **Term II (8 Lectures):** **First law of thermodynamics**: Statement and explanation, its differential form & significance, quasi-static process, various thermodynamic processes, applications of first law - general relation between CP and CV, work done during isothermal and adiabatic processes, compressibility and expansion co-efficient, free expansion.

	Term III (8 Lectures): **Theory of Radiation:** Blackbody radiation, Spectral distribution, Concept of energy density, derivation of Planck's law, deduction of Wien's distribution law, Rayleigh Jeans law, Stefan-Boltzmann law and Wien's displacement law from Planck's law.
Teaching Plan	**MI1T: Mathematical Physics And Mechanics** **Term I (8 Lectures) :** **Differential equations**: Exact and inexact differential, First order Linear differential equations with integrating factor, Second order Linear differential equations with constant coefficients, Particular Integral. **Term II (8 Lectures):** **Vector Calculus:** Properties of vectors under rotations. scalar product and its invariance under rotations, Scalar triple product and their interpretation in terms of area and volume, respectively, Scalar and Vector fields, Vector differentiation: Gradient of a scalar field and its geometrical interpretation. Divergence and Curl of a vector field. Only statements of Gauss' divergence theorem, Green's theorem and Stokes theorem. **MI1P**: **Mathematical Physics And Mechanics Lab** 1. Measurements of length (or diameter) using vernier callipers, screw gauge and travelling microscope. 2. To study the Motion of a Spring and calculate (a) Spring Constant (b) Value of g 3. To determine g by Bar Pendulum 4. To determine the Moment of Inertia of a Flywheel.

	5. To determine the Modulus of Rigidity of a Wire by Maxwell's needle / To determine the Elastic Constants of a Wire by Searle's method.
Semester III	
Syllabus allotted	**C7T: Digital Systems And Applications** **C7P: Digital Systems And Applications Lab**
No of Classes (Hour) per week	**C7T: 2** **C7P: 4**
Teaching Plan	**C7T: Digital Systems And Applications** **Term I (8 Lectures) :** **Circuits** Sequential Circuits: SR, D, and JK Flip-Flops. Clocked (Level and Edge Triggered) Flip-Flops. Preset and Clear operations. Race-around conditions in JK Flip-Flop. M/S JK Flip-Flop. **Timers** IC 555: block diagram and applications: Astable multivibrator and Monostable multivibrator. **Term II (8 Lectures):** **Shiftregisters** Serial-in-Serial-out, Serial-in-Parallel-out, Parallel-in-Serial-out and Parallel-in-Parallel-out Shift Registers (only up to 4 bits). **Counters (4 bits)** Ring Counter. Asynchronous counters, Decade Counter.

Term III (8 Lectures):

Counters (4 bits)
 Synchronous Counter

Computer Organization
Input/Output Devices. Data storage (idea of RAM and ROM).
Computer memory. Memory organization & addressing. Memory
Interfacing. Memory Map.

C7P: Digital Systems And Applications Lab

1. To measure (a) Voltage, and (b) Time period of a periodic
   waveform using CRO.
2. To test a Diode and Transistor using a Multimeter.
3. To design a switch (NOT gate) using a transistor.
4. To verify and design AND, OR, NOT and XOR gates using
   NAND gates.
5. To design a combinational logic system for a specified Truth
   Table.
6. To convert a Boolean expression into logic circuit and design it
   using logic gate ICs.
7. Half Adder, Full Adder and 4-bit binary Adder.
8. Half Subtractor, Full Subtractor, Adder-Subtractor using Full
   Adder I.C.
9. To build Flip-Flop (RS, Clocked RS, D-type and JK) circuits
   using NAND gates.
10. To build JK Master-slave flip-flop using Flip-Flop ICs.
11. To build a 4-bit Counter using D-type/JK Flip-Flop ICs and
    study timing diagram.
12. To make a 4-bit Shift Register (serial and parallel) using D-
    type/JK Flip-Flop ICs.
13. To design an astable multivibrator of given specifications using
    555 Timer.
14. To design a monostable multivibrator of given specifications
    using 555 Timer.

Semester V	
Syllabus allotted	**CC-12P: Solid State Physics Lab** **DSE1T: Classical Dynamics**
No of Classes (Hour) per week	**CC-12P: 2** **DSE1T: 2**
Teaching Plan	**CC-12P: Solid State Physics Lab** 1. Measurement of susceptibility of paramagnetic solution (Quinck`s Tube Method) 2. To measure the Dielectric Constant of a dielectric Materials with frequency. 3. To draw the BH curve of Fe using Solenoid & determine energy loss from Hysteresis. 4. To measure the resistivity of a semiconductor (Ge) with temperature by four-probe method (room temperature to $150\,^{o}$ C) and to determine its band gap. 5. To determine the Hall coefficient of a semiconductor sample. **DSE1T: Classical Dynamics** **Term I (8 Lectures) :** **Fluid Dynamics** Density ρ and pressure P in a fluid, an element of fluid and its velocity, continuity equation and mass conservation, stream-lined motion, laminar flow, Poiseuille's equation for flow of a liquid through a pipe, Navier-Stokes equation, qualitative description of turbulence, Reynolds number.

Department of Physics

Teaching Plan

Name of the Teacher: Parbati Basu

Semester V	
Syllabus alloted	DSE-1A: Elements of Modern Physics
No of Classes (Hour) per week	DSE 1A: 03
Teaching Plan	**Lecture 1:** Planck's quantum theory, Planck's constant and light as collection of photons, photoelectric effect, Numericals **Lecture 2:** Compton scattering, Matter waves, Numericals **Lecture 3:** De Broglie wavelength, Davisson Germer experiment, Numericals **Lecture 4:** Problems with Rutherford model-instability of atoms and observation of discrete spectra. Bohr's quantization rule and atomic stability **Lecture 5:** Calculation of energy levels of hydrogen like atoms and their spectra. **Lecture 6:** Calculation of energy levels of hydrogen like atoms and spectra continued. **Lecture 7:** Tutorial **Lecture 8:** Tutorial **Lecture 9:** Position measurement-gamma ray microscope thought experiment, Wave particle duality **Lecture 10:** Heisenberg uncertainty principle, Applications of Heisenberg's uncertainty principle, Energy-time uncertainty principle **Lecture 11:** Tutorial **Lecture 12:** Impossibility of a particle following trajectory,Estimating minimum energy of a confined particle using uncertainty principle, Numericals **Lecture 13:** Two slit interference experiment with photons, aroms and particles, Linear superposition principle as a consequence **Lecture 14:** Matter waves and wave amplitude. Time independent Schrodinger's equation for non relativistic particles. **Lecture 15:** Concept of operators in quantum mechanics, Momentum and energy operators **Lecture 16**: Tutorial

Teaching plan	**Lecture 1**7: Tutorial **Lecture 18**: Time dependent Schrodinger's equation, Concept of stationary states. **Lecture 19**: Concept of wave function, properties and physical interpretation of wave function. **Lecture 20**: Probabilities and normalization **Lecture 21**: Tutorial **Lecture 22:** Tutorial **Lecture 23**: Probability and probability current densities in one dimension **Lecture 24**: Tutorial **Lecture 25**: Tutorial **Lecture 26**: Tutorial **Lecture 27**: One dimensional infinitely rigid box-energy eigen values and eigen functions and normalisation **Lecture 28**: One dimensional infinitely rigid box-energy eigen values and eigen functions and normalisation continued. **Lecture 29:** Quantum dot **Lecture 30:** Quantum mechanical scattering and tunneling across a step potential. **Lecture 31:** Quantum mechanical scattering and tunneling across a step potential continued. **Lecture 32:** Quantum mechanical scattering and tunneling across a step potential continued. **Lecture 33:** Quantum mechanical scattering and tunneling across a rectangular potential barrier. **Lecture 34:** Quantum mechanical scattering and tunneling across a rectangular potential barrier continued. **Lecture 35:** Quantum mechanical scattering and tunneling across a rectangular potential barrier continued **Lecture 36:** Tutorial **Lecture 37:** Tutorial **Lecture 38**: Tutorial **Lecture 39:** Tutorial Lecture 40: Tutorial

Semester III	
Syllabus allotted	DSC 1CT: Kinetic theory of gases, Theory of radiation and Statistical mechanics GE 3T: Elementary band theory and Superconductivity
No of Classes (Hour) per week	DSC 1CT: 02 GE 3T: 01

Teaching Plan	**GE 3T: Elementary band theory and Superconductivity:** **Lecture 1:** Introduction to metals, semiconductors and insulators, concept of band gap, failure of free electron theory, motion of electron in periodic lattice **Lecture 2:** Blosch theorem(Statement), Kronig-Penney model **Lecture 3**: Kronig Penney model continued **Lecture 4**: Kronig Penney model continued **Lecture 5:** Velocity of electron, effective mass of electron, Distinction between metals, semiconductors and insulators **Lecture 6:** Tutorial **Lecture 7:** Tutorial **Lecture 8**: Pure and intrinsic semiconductors, n and p type semiconductors, drift velocity, mobility and conductivity **Lecture 9**: Hall effect and Hall coefficient **Lecture 10:** Tutorial **Lecture 11**: Tutorial **Lecture 12**: Introduction and historical developments in superconductivity,electric resistivity, Experimental results, Critical temperature **Lecture 13:** Meissner effect, Type I and Type II superconductors, Distinction between Type I and Type II superconductors. **Lecture 14:** Thermodynamics of superconductors, Supercurrents **Lecture 15:** London's equation and penetration depth **Lecture 16**: Isotope effect, Applications of superconductors **Lecture 17**: Tutorial

<div align="center">**SEMESTER I**</div>

Syllabus alloted	**MJ A1T: Vector Calculus and Fundamentals of Dynamics.**
No. of classes (hours) Per week	**MJ A1T: 01**
Teaching plan	**Lecture 1:** What is vector, properties of vectors under rotation, Scalar product and its invariance under rotations. Lecture 2: Scalar triple product, Interpretation with respect to area and volume, Scalar and vector fields, Vector differentiation, Examples Lecture 3: Gradient of a scalar field and its geometrical interpretation, Examples. Lecture 4: Divergence of vector field and physical interpretation, Examples. Lecture 5: Curl of vector field and physical interpretation, Examples. Lecture6: Statements of Gauss's divergence theorem, Stoke's theorem and Green's theorem, Examples. Lecture 7: Tutorial Lecture 8: Tutorial Lecture 9: Concept of reference frame, Inertial frames, Galilean transformation, Galilean invariance Lecture 10:Review of Newton's laws of motion, dynamics of system of particles. Lecture 11: Centre of mass, concept of centre of mass frame, Non-inertial frames and fictitious forces. Lecture 12: Tutorial

Department of Physics

Teaching Plan

Name of the Teacher: Mr. Pankaj Patra

Semester I	
Syllabus allotted	MJ A1/B1T: Mathematical Methods and Mechanics (including STR)
No of Classes (Hour) per week	**2**
Teaching Plan	**Lecture 1: General properties of matter:** Relation between Elastic constants **Lecture 2:** Torsion of a cylinder or wire **Lecture 3:** molecular theory of surface tension. Surface tension and surface energy **Lecture 4:** Angle of contact, capillarity and Jurin's law. **Lecture 5:** Excess pressure and application to soap bubble **Lecture 6:** Ripple method, Viscosity, Reynold's number. **Lecture 7:** Poiseuille's Equation for flow of a liquid through a Capillary Tube, Stoke's law in a high viscous liquid. **Lecture 8:** Tutorial **Lecture 9:** Tutorial **Lecture 10:** Tutorial **Lecture 11: Rotational Dynamics:** Perpendicular and parallel axes theorems **Lecture 12:** Radius of gyration, calculation of moment of inertia for rectangular, cylindrical, and spherical bodies **Lecture 13:** Pure rolling of a body on an inclined plane. **Lecture 14:** Numericals **Lecture 15:** Tutorial **Lecture 16: Motion under central forces:** Two-body problem, reduction to one-body problem **Lecture 17:** Reduced mass; definition and nature (conservative nature, spherically symmetric potential) of central force, features of motion under central force field. **Lecture 18:** Differential equation of orbit **Lecture 19:** Energy expression **Lecture 20:** Simple derivations of nature of force from equation of orbit and vice versa. **Lecture 21:** Tutorial (Discussion on VU previous year questions) **Lecture 22:** Tutorial **Lecture 23: Special Theory of Relativity:** Constancy of speed of light, postulates of special theory of relativity **Lecture 24:** Lorentz transformations **Lecture 22:** Length contraction, time dilation **Lecture 23:** Relativistic addition of velocities – illustrations with simple problems. **Lecture 24:** Tutorial

	Lecture 25: Tutorial
	Lecture 26: Tutorial
	Lecture 27: Tutorial
	Lecture 28: Tutorial
	Lecture 29: Tutorial
	Lecture 30: Tutorial
Semester III
Syllabus allotted	DSC1CT: Laws of Thermodynamics DSC1CP: Thermal Physics and Statistical Mechanics (lab)
No of Classes (Hour) per week	DSC1CT: 3 DSC1CP: 1
Teaching Plan	**Lecture 1: Thermodynamic Description of system:** Zeroth Law of thermodynamics and temperature. First law and internal energy, conversion of heat into work. **Lecture 2:** Various Thermodynamical Processes **Lecture 3:** Applications of First Law: General Relation between CP & CV **Lecture 4:** Work Done during Isothermal and Adiabatic Processes, **Lecture 5:** Compressibility & Expansion Coefficient, Reversible & irreversible processes **Lecture 6:** Second law & Entropy, **Lecture 7:** Carnot's cycle & theorem **Lecture 8:** Entropy changes in reversible & irreversible processes **Lecture 9:** Entropy-temperature diagrams, Third law of thermodynamics, Unattainability of absolute zero **Lecture 10:** Thermodynamic Potentials: Enthalpy, Gibbs, Helmholtz and Internal Energy functions **Lecture 11:** Maxwell's relations & applications **Lecture 12:** Joule-Thompson Effect, **Lecture 13:** Clausius- Clapeyron Equation,. **Lecture 14:** Expression for (CP – CV), CP/CV. **Lecture 15:** TdS equations **Lecture 16:** Numericals **Lecture 17:** Numericals **Lecture 18:** Tutorial **Lecture 19** Tutorial **Lecture 20:** Tutorial
Semester V
Syllabus allotted	DSE1T: Elements of Modern Physics DSE1P: Elements of Modern Physics (lab)
No of Classes (Hour) per week	DSE1T: 3 DSE1P: 1
Teaching Plan (DSE2T)	**Lecture 1:** Size and structure of atomic nucleus and its relation with atomic weight **Lecture 2:** Impossibility of an electron being in the nucleus as a consequence of

the uncertainty principle

Lecture 3: Nature of nuclear force, NZ graph.

Lecture 4: Semi-empirical mass formula and binding energy.

Lecture 5: Radioactivity: stability of nucleus; Law of radioactive decay.

Lecture 6: Mean life & half-life;.

Lecture 7: Numericals.

Lecture 8: α decay; β decay - energy released, spectrum and Pauli's prediction of neutrino

Lecture 9: γ - ray emission..

Lecture10: Fission and fusion - mass deficit

Lecture 11: Relativity and generation of energy

Lecture 12: Fission - nature of fragments and emission of neutrons.

Lecture 13: Nuclear reactor.

Lecture 14: Slow neutrons interacting with Uranium 235; Fusion and thermonuclear reactions.

Lecture 15: Tutorial

Lecture 16: Tutorial

Lecture 17: Tutorial.

Lecture 18: Tutorial.

Lecture 19: Tutorial.

Lecture 20: Tutorial

Department of Physics

Syllabus distribution & Teaching Plan, Even Semesters, Session: 2022-23

(Term I: Commencement of classes to 1st internal; Term II: 1st internal to

2nd internal; Term III: 2 nd internal to ESE preparatory break)

Name of the Teacher: Dr. Jyotirmoy Pramanik

Semester II

Name	Syllabus Allotted	Teaching Plan
Dr. Jyotirmoy Pramanik	C3T: Electric field and Electric Potential; Dielectric properties of Matter (Two lectures per week)	**Term I (10 Lectures) :** **Electric Field and Electric Potential** Course, Program, Program Specific outcomes, Electric field: Electric field lines. Electric flux. Gauss' Law with applications to charge distributions with spherical, cylindrical and planar symmetry. Conservative nature of Electrostatic Field. Electrostatic Potential. Laplace's and Poisson equations. The Uniqueness Theorem. Potential and Electric Field of a dipole. Force and Torque on a dipole. **Term II (10 Lectures):** Electrostatic energy of system of charges. Electrostatic energy of a charged sphere. Conductors in an electrostatic Field. Surface charge and force on a conductor. Capacitance of a system of charged conductors. Parallel-plate capacitor. Capacitance of an isolated conductor. Uniqueness theorem (statement). Method of Images and its application to: (1) Plane Infinite Sheet and (2) Sphere. **Term III (10 Lectures):** **Dielectric Properties of Matter** Electric Field in matter. Polarization, Polarization Charges. Electrical Susceptibility and Dielectric Constant. Capacitor (parallel plate, spherical, cylindrical filled with

22.06.2024

dielectric. Displacement vector D. Relations between E, P and D. Gauss' Law in dielectrics.

Semester IV

Name	Syllabus Allotted	Teaching Plan
Dr. Jyotirmoy Pramanik	SEC2T (2 Lectures per week): Renewable energy and Energy Harvesting SEC2P (2 hours per week): Renewable energy and Energy Harvesting Lab - **Demonstrations and Experiments** 1. Demonstration of Training modules on Solar energy, wind energy, etc. 2. Conversion of vibration to voltage using piezoelectric materials 3. Conversion of thermal energy into voltage using thermoelectric modules.	**Term I(10 Lectures) :** **Fossil fuels and Alternate Sources of energy** Fossil fuels and nuclear energy, their limitation, need of renewable energy, non-conventional energy sources. An over view of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity. **Solar energy** Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems, PV models and equivalent circuits, and sun tracking systems. **Wind Energy harvesting** Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies. **Term II (10 Lectures):** **Ocean Energy** Ocean Energy Potential against Wind and Solar, Wave Characteristics and Statistics, Wave Energy Devices. Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio-mass. **Geothermal Energy** Geothermal Resources, Geothermal Technologies

		Hydro Energy
		Hydropower resources, hydropower technologies, environmental impact of hydro power sources.
		Term III (10 Lectures): **Piezoelectric Energy harvesting** Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications, Human power

Name	Syllabus Allotted	
Dr. Jyotirmoy Pramanik	Experimental Techniques, DSE4T (4 lectures per week): Experimental Techniques Lab, DSE4P (4 hours per week): **List of Practical:** 1. Determine output characteristics of a LVDT & measure displacement using LVDT 2. Measurement of Strain using Strain Gauge. 3. Measurement of level using capacitive transducer. 4. To study the characteristics of a Thermostat and determine its parameters. 5. Study of distance measurement using ultrasonic transducer. 6. Calibrate Semiconductor type temperature sensor (AD590, LM35, or LM75) 7. To measure the change in temperature of ambient using Resistance Temperature Device (RTD). 8. Create vacuum in a small chamber using a mechanical (rotary) pump and measure the chamber pressure using a pressure gauge.	**Term I (20 Lectures):** **Measurements** Accuracy and precision. Significant figures. Error and uncertainty analysis. Types of errors: Gross error, systematic error, random error. Statistical analysis of data (Arithmetic mean, deviation from mean, average deviation, standard deviation, chi-square) and curve fitting. Guassian distribution. **Signals and Systems** Periodic and aperiodic signals. Impulse response, transfer function and frequency response of first and second order systems. Fluctuations and Noise in measurement system. S/N ratio and Noise figure. Noise in frequency domain. Sources of Noise: Inherent fluctuations, Thermal noise, Shot noise, 1/f noise. **Vacuum Systems** Characteristics of vacuum: Gas law, Mean free path. Application of vacuum. Vacuum system- Chamber, Mechanical pumps, Diffusion pump & Turbo Modular pump, Pumping speed, Pressure gauges (Pirani, Penning, ionization). **Shielding and Grounding** Methods of safety grounding. Energy coupling. Grounding. Shielding: Electrostatic shielding. Electromagnetic Interference. **Term II (20 Lectures):** **Transducers &industrial instrumentation (working principle, efficiency and citations)** Static and dynamic characteristics of measurement Systems. Generalized performance of systems, Zero order first order, second order and higher order systems. Electrical, Thermal and Mechanical systems. Calibration.

| | 9. To measure Q of a coil and influence of frequency, using a Q-meter. | Transducers and sensors. Characteristics of Transducers. Transducers as electrical element and their signal conditioning. Temperature transducers: RTD, Thermistor, Thermocouples, Semiconductor type temperature sensors (AD590, LM35, LM75) and signal conditioning. Linear Position transducer: Strain gauge, Piezoelectric. Inductance change transducer: Linear variable differential transformer (LVDT), Capacitance change transducers. Radiation Sensors: Principle of Gas filled detector, ionization chamber, scintillation detector.

Term III (20 Lectures):
Digital Multimeter

Comparison of analog and digital instruments. Block diagram of digital multimeter, principle of measurement of I, V, C. Accuracy and resolution of measurement.

Impedance Bridges and Q-meter

Block diagram and working principles of RLC Bridge. Q - meter and its working operation. Digital LCR bridge. |

Department of Physics

Teaching Plan

Name of the Teacher: Dr. Tanika Kar

Semester II	
Syllabus allotted	**C4T:** Wave Optics, Interference, Interferometer, Diffraction **C4P:** Wave and Optics Lab
No of Classes (Hour) per week	**C4T:** 2 **C4P:** 2
Teaching Plan	**Lecture 1:** A brief introduction to the portion to be taught. **Lecture 2:** Huygens' Principle **Lecture 3:** Interference – Spatial & Temporal Coherence, Young's double slit experiment. **Lecture 4:** Different classes of interference; Biprism; Lloyd's mirror; Determination of wavelength of monochromatic light, fringe width and thickness of thin film. **Lecture 5:** Phase change on reflection – Stoke's treatment; Difference between biprism and Lloyd's mirror fringe pattern; Thin film due to reflected light; Effect of monochromatic & white light, wedge angle on fringe pattern. **Lecture 6:** Thin film due to transmitted light; Effect of monochromatic & white light, wedge angle on fringe pattern; Fringe width – wedge angle relationship. **Lecture 7:** Fringes of equal width & Fringes of equal inclination. **Lecture 8:** Newton's rings with reflected and transmitted light. Determination of wavelength of monochromatic light, refractive index of liquid using Newton's rings. Difference between biprism and Newton's rings fringe pattern; **Lecture 9:** End - Semester questions & related mathematical problem discussion. **Lecture 10:** Short-test. **Lecture 11:** Michelson Interferometer. **Lecture 12:** Fabry-Perot Interferometer. **Lecture 13:** Diffraction – Introduction; Fresnel's half – period zones of a plane wavefront and their applications. **Lecture 14:** Zone Plate – Construction, area of half – period zones, multiple foci of a zone plate. **Lecture 15:** Comparison of zone plate with convex lens. End – Semester questions & related mathematical problem discussion. **Lecture 16:** Different classes of diffraction. Fraunhofer diffraction in a single slit – conditions for maxima and minima. **Lecture 17:** Fraunhofer diffraction in a double slit – conditions for maxima and minima. Missing order. Comparison of diffraction patterns of single slit & double slit. **Lecture 18:** End - Semester questions & related mathematical problem discussion.

Lecture 19: Short-test.

Lecture 20: Fraunhofer diffraction in a plane diffraction grating – construction, conditions for maxima and minima. Absent spectra, Ghost lines, overlapping of spectral lines.

Lecture 21: Angular dispersive power of a grating. Determination of wavelength of monochromatic light using grating. Difference between prism and grating spectra. End - Semester questions & related mathematical problem discussion.

Lecture 22: Fraunhofer diffraction at a circular aperture.

Lecture 23: Resolving power, Rayleigh criterion of resolution. Resolving power of a telescope.

Lecture 24: Resolving power of a grating. End - Semester questions & related mathematical problem discussion.

Lecture 25: Fresnel's half – period elements of cylindrical wavefront. Fresnel's diffraction at a straight edge.

Lecture 26: Kirchhoff's integral theorem, Fresnel's integral, Fresnel – Kirchhoff's integral formula.

Lecture 27: Fresnel's diffraction by a narrow slit and a narrow wire.

Lecture 28: End - Semester questions & related mathematical problem discussion.

Lecture 29: Revision.

Lecture 30: Class test.

Semester IV	
Syllabus allotted	**C9T:** Elements of Modern Physics **C9P:** Elements of Modern Physics Lab **C10P:** Analog systems and Applications Lab
No of Classes (Hour) per week	**C9T:** 2 **C9P & C10P:** 4
Teaching Plan	**Lecture 1:** A brief introduction to the portion to be taught. **Lecture 2:** Binding energy of an atom, semi- empirical mass formula. **Lecture 3:** Radioactivity – Laws of radioactive decay; Mean life, half life; Activity. Radioactive radiations – properties of alpha, beta and gamma rays. **Lecture 4:** Alpha decay, Range of alpha particles, Geiger law, Straggling of range, Geiger – Nuttall law, alpha disintegration energy, alpha ray spectra. **Lecture 5:** Beta decay – beta ray spectra, Its comparison with alpha ray spectra, Different types of beta decay. Difficulties in explaining beta ray spectra. Pauli's neutrino hypothesis, Properties of neutrino. **Lecture 6:** Gamma rays – its spectra, Internal conversion, passage of gamma rays through matter. **Lecture 7:** Short-test. **Lecture 8:** Nuclear Fission – types of fission, distribution of fission products. **Lecture 9:** Nuclear Fission – fissile and fertile material, spontaneous fission, explanation using liquid drop model. **Lecture 10:** Nuclear chain reaction. Nuclear reactor – basic components and

	types.
	Lecture 11: Nuclear Fusion – Thermonuclear reactions, Steller energy.
	Lecture 12: Short-test.
	Lecture 13: Size and structure of nucleus, nuclear force.
	Lecture 14: Nuclear models – Liquid drop model, Nuclear shell model.
	Lecture 15: Short-test.
	Lecture 16: LASER – Introduction – Absorption, Spontaneous & Stimulated emission of radiation.
	Lecture 17: Einstein's A, B coefficients.
	Lecture 18: Population inversion, Pumping, Three – level & Four – level lasers.
	Lecture 19: Basic components of laser.
	Lecture 20: Ruby laser, He – Ne laser.
	Lecture 21: Short-test.
	Lecture 22: End - Semester questions & related mathematical problem discussion.
	Lecture 23: Revision.
	Lecture 24: Revision.
	Lecture 25: Class-test.
Semester VI	
Syllabus allotted	**C13T**: Polarization of Electromagnetic Waves, Wave Guides, Optical Fibres. **C13P**: Electromagnetic Theory Lab.
No of Classes (Hour) per week	**C13T:** 2 **C13P:** 3
Teaching Plan	**Lecture 1:** A brief introduction to the portion to be taught. **Lecture 2:** Polarization – Introduction, Description of linear, circular and elliptical polarization. **Lecture 3:** Propagation of electromagnetic waves in anisotropic medium, symmetric nature of dielectric tensor, Fresnel's formula. **Lecture 4:** Polarization by reflection, Brewster's law, Production and detection of polarized light by transmission through piles of plates. Geometry of Calcite crystal, Meaning of optic axis and principal section. **Lecture 5:** Double refraction, Positive and negative crystals, Devices for production and detection of plane polarized light – Nicol prism. **Lecture 6:** Action of nicol as polariser and analyser, parallel and crossed nicol. **Lecture 7:** Quarter wave plate and its use to produce and detect elliptically and circularly polarized light. **Lecture 8:** Analysis of elliptically and circularly polarized light by using quarter wave plate. **Lecture 9:** Short-test. **Lecture 10:** Babinet's Compensator – construction and application. **Lecture 11:** Optical activity, Biot's laws – meaning of specific rotation, molecular rotation. **Lecture 12:** Polarimeters – Laurent half-shade polarimeter, Action of half-shade plate. **Lecture 13:** Rotatory dispersion, Bi – quartz polarimeter, Action of Bi –

	quartz
	Lecture 14: End - Semester questions & related mathematical problem discussion.
	Lecture 15: Planar optical wave guide, Planar dielectric wave guide.
	Lecture 16: Condition of continuity at interface, Phase shift on total reflection, Eigen value equation.
	Lecture 17: Phase and group velocity of guided waves, Field energy and power transmission.
	Lecture 18: Short-test.
	Lecture 19: Optical fibres – Introduction, construction and working of an optical fibre.
	Lecture 20: Optical fibre communication system, total internal reflection, step – and graded – index fibre.
	Lecture 21: Numerical aperture, Single and multimode fibres. End – Semester questions & related mathematical problem discussion.
	Lecture 22: Revision.
	Lecture 23: Revision.
	Lecture 24: Class Test.

Department of Physics

Teaching Plan

Name of the Teacher: Dr. Ritwik Saha

Semester II	
Syllabus allotted	C4T: Superposition of Two Harmonic Waves, Holography C3P: Electricity and Magnetism Lab
No of Classes (Hour) per week	C4T: 1 C3P: 2
Teaching Plan	**Lecture 1:** Holography: Principle of Holography. Recording and Reconstruction Method. **Lecture 2:** Theory of Holography as Interference between two Plane Waves. Point source holograms. **Lecture 3:** Standing (Stationary) Waves in a String: Fixed and Free Ends. Analytical Treatment. **Lecture 4:** Energy of Vibrating String. Transfer of Energy. Normal Modes **Lecture 5:** Phase and Group Velocities. Changes with respect to Position and Time. **Lecture 6:** Longitudinal Standing Waves and Normal Modes. Open and Closed Pipes **Lecture 7:** Transverse waves along Stretched Strings, Normal Modes **Lecture 8:** Introduction to Fourier Series **Lecture 9:** Fourier series, Examples. **Lecture 10:** Plucked String **Lecture 11:** Tutorial **Lecture 12:** Struck String **Lecture 13:** Tutorial. **Lecture 14:** Melde's Experiment **Lecture 15:** Superposition of N Harmonic Waves.
Semester IV	
Syllabus allotted	C8T: Complex Analysis, Integral Transforms C8P: Mathematical Physics III Lab C9P: Elements of Modern Physics Lab GE4P: Electricity and Magnetism Lab
No of Classes (Hour) per week	C8T: 2 C8P: 2 C9P: 3 GE4P: 2
Teaching Plan	**Lecture 1:** Brief Revision of Complex Numbers. **Lecture 2:** Euler's formula, De Moivre's theorem, Roots of Complex Numbers. **Lecture 3:** Graphical Representation of Complex Numbers, Regions, Neighbourhood, Stereographic projection. **Lecture 4:** Functions of Complex Variables, Mapping, Limit, Continuity. **Lecture 5:** Multivalued Complex functions, Limit, Continuity.

Lecture 6: Analyticity and Cauchy-Riemann Conditions, Polar form of CR
Lecture 7: Analytic function, Harmonic function, Singularity
Lecture 8: Singular functions: poles and branch points, order of singularity, branch cuts.
Lecture 9: Integration of a function of a complex variable: Process to calculate integration, Line integration.
Lecture 10: Cauchy-Gaursat theorem, Cauchy's Inequality.
Lecture 11: Cauchy's integral formula.
Lecture 12: Simply and multiply connected region.
Lecture 13: Taylor's expansion.
Lecture 14: Laurent expansion.
Lecture 15: Different types of Singularities from Laurent expansion.
Lecture 13: Expansion of a given function in Laurent series
Lecture 14: Residues
Lecture 15: Residues
Lecture 16: Cauchy's Residue theorem
Lecture 17: Examples related to Cauchy's Residue theorem
Lecture 18: Application in solving Definite Integrals, Type-I
Lecture 19: Application in solving Definite Integrals, Type-II
Lecture 20: Application in solving Definite Integrals, Type-III
Lecture 21: Introduction to Integrals Transforms, Fourier Transform
Lecture 22: Fourier Transform, Examples
Lecture 23: Dirac delta function, in terms of rectangular function and Gaussian function, Integral representation of Dirac delta function.
Lecture 24: Fourier Transform of Gaussian function, trigonometric functions.
Lecture 25: Fourier Transform of finite wave train and some other functions, Fourier Transform in 3D. Examples.
Lecture 26: Properties of Fourier Transform, Linear, Change of scale, Shifting, Conjugate, Modulation.
Lecture 27: Convolution theorem, Fourier Transform of derivatives.
Lecture 28: Fourier Sine and Cosine Transform of derivatives.
Lecture 29: Parseval's identity, Parseval's theorem, Solution of definite integral using Parseval's identity.
Lecture 30: Solution of PDE using Fourier Transform.
Lecture 31: Solution of PDE using Fourier Transform, Examples
Lecture 32: Tutorial (Discussion on questions of Assignment-1: Complex Analysis)
Lecture 33: Tutorial (Discussion on questions of Assignment-2: Complex Analysis)
Lecture 34: Tutorial (Discussion on questions of Assignment-3: Complex Analysis)
Lecture 35: Tutorial (Discussion on questions of Assignment-4: Fourier Transform)
Lecture 36: Tutorial (Discussion on questions of Assignment-4: Fourier Transform)
Lecture 37: Tutorial (Discussion on VU previous year questions of C8T)
Lecture 38: Tutorial (Discussion on VU previous year questions of C8T)
Lecture 39: Tutorial (Discussion on VU previous year questions of C8T)
Lecture 40: Tutorial (Discussion on VU previous year questions of C8T)

Semester VI

Syllabus allotted	DSE3T: Nano Materials and Applications: Characterization, Optical Properties, Electron Transport, Applications. C14P: Statistical mechanics Lab
No of Classes (Hour) per week	DSE3T: 2 C14P: 3
Teaching Plan	**Lecture 1:** X-Ray Diffraction. **Lecture 2:** Optical Microscopy. **Lecture 3:** Scanning Electron Microscopy. **Lecture 4:** Transmission Electron Microscopy. **Lecture 5:** Atomic Force Microscopy. **Lecture 6:** Scanning Tunneling Microscopy **Lecture 7:** Coulomb interaction in nanostructures. Concept of dielectric constant for nanostructures and charging of nanostructure. **Lecture 8:** Quasi-particles and excitons. Excitons in direct and indirect band gap semiconductor nanocrystals **Lecture 9:** Quantitative treatment of quasi-particles and excitons, charging effects. **Lecture 10:** Radiative processes: General formalization-absorption, emission and luminescence. **Lecture 11:** Optical properties of heterostructures and nanostructures. **Lecture 12:** Carrier transport in nano-structures. Coulomb blockade effect, Single Electron Transistor. **Lecture 13:** Thermionic emission. **Lecture 14:** Thermionic emission. **Lecture 15:** Tunnelling and hoping conductivity. **Lecture 16:** Defects and impurities **Lecture 17:** Deep level and surface defects. **Lecture 18:** Applications of nanoparticles, quantum dots, nanowires and thin films for photonic devices (LED, solar cells) **Lecture 19:** CNT based transistors. **Lecture 20:** Nanomaterial Devices: Quantum dots heterostructure lasers, optical switching and optical data storage. **Lecture 21:** Magnetic quantum well; magnetic dots -magnetic data storage. **Lecture 22:** Micro Electromechanical Systems (MEMS) **Lecture 23:** Nano Electromechanical Systems (NEMS). **Lecture 24:** Tutorial **Lecture 25:** Tutorial **Lecture 26:** Tutorial **Lecture 27:** Tutorial

Department of Physics

Teaching Plan

Name of the Teacher: Rudra Narayan Mondal

Semester II	
Syllabus allotted	C4T: Superposition of Collinear Harmonic oscillations; Superposition of two perpendicular Harmonic Oscillations; Wave Motion; Velocity of Waves C3P: Electricity and Magnetism Lab
No of Classes (Hour) per week	C4T: 1 C3P: 4
Teaching Plan	**Lecture 1:** Introduction to harmonic oscillations, Linearity and Superposition Principle. **Lecture 2:** Superposition of two collinear oscillations having equal frequencies and different frequencies (Beats). **Lecture 3:** Superposition of N collinear Harmonic Oscillations with (1) equal phase differences and (2) equal frequency differences. **Lecture 4:** Lissajous Figure: Superposition of two perpendicular Harmonic Oscillations with equal frequency **Lecture 5:** Lissajous Figure: Superposition of two perpendicular Harmonic Oscillations with different frequency ratio. **Lecture 6:** Graphical method to draw Lissajous figure. Uses of Lissajous figure **Lecture 7:** Plane and Spherical Waves. Longitudinal and Transverse Waves. Plane Progressive (Travelling) Waves. **Lecture 8:** Wave Equation. Particle and Wave Velocities. Differential Equation of wave **Lecture 9:** Velocity of Longitudinal Waves in a Fluid in a Pipe. **Lecture 10:** Field parameter: dilatation, condensation, acoustic pressure **Lecture 11:** Water Waves: Ripple and Gravity Waves **Lecture 12:** Pressure of a Longitudinal Wave. Energy Transport. Intensity of Wave: Bel, decibel, phon **Lecture 13:** Velocity of Transverse Vibrations of Stretched Strings. **Lecture 14:** Newton's Formula for Velocity of Sound. Laplace's Correction **Lecture 15:** Tutorial
Semester IV	
Syllabus allotted	C8T: Matrices; Eigen values and eigen vectors C10T: Bipolar junction transistor; Field effect transistor C8P: Mathematical Physics III Lab C10P: Analog systems and Applications Lab
No of Classes (Hour) per week	C8T: 1 C10T: 1 C8P: 2 C10P: 3
Teaching Plan	**C8T: Matrices; Eigen values and eigen vectors** **Lecture 1:** Introduction to matrix

Lecture 2: Addition and Multiplication of Matrices. Null Matrices.
Lecture 3: Diagonal, Scalar and Unit Matrices.
Lecture 4: Upper-Triangular and Lower-Triangular Matrices.
Lecture 5: Transpose of a Matrix. Symmetric and Skew-Symmetric Matrices.
Lecture 6: Conjugate of a Matrix. Hermitian and Skew- Hermitian Matrices.
Lecture 7: Singular and Non-Singular matrices. Orthogonal and Unitary Matrices.
Lecture 8: Trace of a Matrix.
Lecture 9: Inner Product
Lecture 10: Eigen values and eigen vectors of a 2×2 matrix
Lecture 11: Eigen values and eigen vectors of a 3×3 matrix
Lecture 12: Cayley- Hamiliton Theorem and its application
Lecture 13: Diagonalization of Matrices.
Lecture 14: Solutions of Coupled Linear Ordinary Differential Equations.
Lecture 15: Functions of a Matrix: exp(A), trigonometric function of a square matrix

C10T: Bipolar junction transistor; Field effect transistor

Lecture 1: Introduction to transistor: importance in modern civiliztion
Lecture 2: Concept of emitter, base and collector of n-p-n and p-n-p Transistors: Band diagram
Lecture 3: Principle of operation of a transistor: Current components through a transistor
Lecture 4: Input and output Characteristics of CB, CE and CC Configurations.
Lecture 5: Current gains α and β Relations between α and β.
Lecture 6: Load Line analysis of Transistors. DC Load line and Q-point. AC load line
Lecture 7: Active, Cutoff and Saturation Regions: operational condition
Lecture 8: Solving problems related to transistor
Lecture 9: Introduction to Field effect transistor: Advantages of FET over transistor
Lecture 10: JFET: working principle, source, drain, Gate
Lecture 11: Input and output characteristics of JFET
Lecture 12: Introduction to MOSFET; Working principle
Lecture 13: Tutorial
Lecture 14: Tutorial
Lecture 15: Tutorial

Semester VI	
Syllabus allotted	DSE3T: Nano Materials and Applications: Nanoscale Systems; Synthesis of Nanostructure Materials C14P: Statistical mechanics Lab
No of Classes (Hour) per week	DSE3T: 2 C14P: 3
Teaching Plan	**Lecture 1:** Feynman lecture: 'There is plenty of room at bottom', Introduction to nanoscience and nanotechnology. Examples of natural nanomaterials and manmade nanomaterials.

| | **Lecture 2:** Length scales in physics, Comparison of different objects
Lecture 3:1D, 2D and 3D nanostructures (nanodots, thin films, nanowires, nanorods): Examples and applications
Lecture 4: Band structure and density of states of 1D, 2D and 3D nanomaterials.
Lecture 5: Size Effects in nano systems, Quantum confinement
Lecture 6: Applications of Schrodinger equation- Infinite potential well
Lecture 7: Schrodinger equations for a particle is in a step potential and potential box
Lecture 8: quantum confinement of carriers in 3D, 2D, 1D nanostructures and its consequences.
Lecture 9: Different properties (Color, electrical, optical, magnetic etc) of materials at nanoscale.
Lecture 10: Synthesis of nanomaterials: Physical, Chemical, Biological and hybrid method. Top down and Bottom up approach.
Lecture 11: Photolithography. Ball milling technique
Lecture 12: Gas phase condensation. Vacuum deposition.
Lecture 13: Physical vapor deposition (PVD)
Lecture 14: Thermal evaporation
Lecture 15: E-beam evaporation
Lecture 16: Pulsed Laser deposition
Lecture 17: Chemical vapor deposition (CVD)
Lecture 18: Sol-Gel method
Lecture 19: Hydrothermal and solvothermal synthesis.
Lecture 20: Preparation through colloidal methods.
Lecture 21: Electro deposition.
Lecture 22: Spray pyrolysis. Spin coating
Lecture 23: MBE growth of quantum dots.
Lecture 24: Tutorial
Lecture 25: Tutorial
Lecture 26: Tutorial
Lecture 27: Tutorial |

Department of Physics

Teaching Plan

Name of the Teacher: Dr. Samir Kumar Giri

Semester II	
Syllabus allotted	C3T: Electricity and Magnetism C4P: Wave and Optics Lab GE2T:Thermal Physics and Statistical Mechanics GE2P:Thermal Physics and Statistical Lab
No of Classes (Hour) per week	C3T: 1 C4P: 4 GE2T:1 GE2P:2
Teaching Plan	**Lecture 1:** Introduction to course prospectus and course outcome **Lecture 2:** AC Circuits: Kirchhoff's laws for AC circuits. **Lecture 3:** Complex Reactance and Impedance **Lecture 4:** Series LCR Circuit **Lecture 5:** Parallel LCR Circuit. **Lecture 6:** Ideal Constant-voltage and Constant-current Sources **Lecture 7:** Thevenin theorem **Lecture 8:** Norton theorem **Lecture 9:** Tutorial **Lecture 10:** Reciprocity theorem **Lecture 11:** Superposition theorem **Lecture 12:** Maximum Power Transfer theorem. **Lecture 13:** Tutorial. **Lecture 14:** Applications to dc circuits **Lecture 15:** Tutorial.
	Lecture 1: Introduction to course prospectus and course outcome **Lecture 2:** Thermodynamic Description of system: Zeroth Law of thermodynamics and temperature. **Lecture 3:** First law and internal energy, conversion of heat into work. **Lecture 4:** Various Thermodynamical Processes, Applications of First Law: General Relation between CP and CV **Lecture 5:** Work Done during Isothermal and Adiabatic Processes, Compressibility and Expansion Coefficient. **Lecture 6:** Reversible and irreversible processes **Lecture 7:** Second law and Entropy, Carnot's cycle & theorem, Entropy changes in reversible & irreversible processes **Lecture 8:** Entropy-temperature diagrams, Third law of thermodynamics, Unattainability of absolute zero. **Lecture 9:** Enthalpy, Gibbs, Helmholtz and Internal Energy functions. **Lecture 10:** Maxwell's relations and applications - Joule-Thompson Effect **Lecture 11:** Clausius- Clapeyron Equation, Expression for (CP – CV), CP/CV, TdS equations **Lecture 12:** Derivation of Maxwell's law of distribution of velocities and its experimental verification, Mean free path (Zeroth Order)

	Lecture 13: Transport Phenomena: Viscosity, Conduction and Diffusion (for vertical case)
	Lecture 14: Law of equipartition of energy
	Lecture 15: its applications to specific heat of gases; mono-atomic and diatomic gases
Semester IV
Syllabus allotted	C10T: Analog Systems and Applications C10P: Analog Systems and Applications Lab GE4T: Electricity and Magnetism
No of Classes (Hour) per week	C10T:01 C10P:03 GE4T: 2
Teaching Plan	**Lecture 1:** Introduction to course prospectus and course outcome. **Lecture 2:** P and N type semiconductors **Lecture 3:** Energy Level Diagram **Lecture 4:** Conductivity and Mobility, Concept of Drift velocity **Lecture 5:** PN Junction Fabrication. **Lecture 6:** Barrier Formation in PN Junction Diode **Lecture 7:** Static and Dynamic Resistance **Lecture 8:** Current Flow Mechanism in Forward and Reverse Biased Diode. **Lecture 9:** Drift Velocity. **Lecture 10:** Tutorial. **Lecture 11:** Derivation for Barrier Potential. **Lecture 12:** Barrier Width and Current for Step Junction. **Lecture 13:** Current Flow Mechanism in ForwardBiased Diode. **Lecture 14:** Tutorial. **Lecture 15:** Current Flow Mechanism in Reverse Biased diode.
	Lecture 1: Introduction to course prospectus and course outcome. **Lecture 2:** Biot-Savart's law **Lecture 3:** Biot-Savart's law applications- straight conductor **Lecture 4:** Biot-Savart's law applications-, circular coil, solenoid carrying current. **Lecture 5:** Divergence and curl of magnetic field. **Lecture 6:** Magnetic vector potential **Lecture 7:** Ampere's circuital law **Lecture 8:** Magnetic properties of materials. **Lecture 9:** Magnetic intensity, magnetic induction, permeability. **Lecture 10:** Magnetic susceptibility. **Lecture 11:** Brief introduction of dia-, paramagnetic materials. **Lecture 12:** Brief introduction of ferro- magnetic materials. **Lecture 13:** Faraday's laws of electromagnetic induction **Lecture 14:** Tutorial. **Lecture 15:** Lenz's law. **Lecture 16:** Self and mutual inductance **Lecture 17:** L of single coil. **Lecture 18:** M of two coils **Lecture 19:** Energy stored in magnetic field. **Lecture 20:** Equation of continuity of current. **Lecture 21:** Displacement current

	Lecture 22: Maxwell's equations
	Lecture 23: Poynting vector
	Lecture 24: Energy density in electromagnetic field
	Lecture 25: Electromagnetic wave propagation through vacuum and isotropic dielectric medium
	Lecture 26: Tutorial
	Lecture 27: Tutorial
	Lecture 28: Transverse nature of EM waves
	Lecture 29: Polarization
	Lecture 30: Tutorial.
	Lecture 31: Problem and Solution of Maxwell's equations
	Lecture 32: Tutorial (Discussion on questions of Assignment-1: Biot-Savart's law)
	Lecture 33: Tutorial (Discussion on questions of Assignment-2: Ampere's circuital law)
	Lecture 34: Tutorial (Discussion on questions of Assignment-3: Magnetic vector potential)
	Lecture 35: Tutorial (Discussion on questions of Assignment-4: Lenz's law)
	Lecture 36: Tutorial (Discussion on questions of Assignment-5: Self and mutual inductance)
	Lecture 37: Tutorial (Discussion on VU previous year questions of GE4T)
	Lecture 38: Tutorial (Discussion on VU previous year questions of GE4T)
	Lecture 39: Tutorial (Discussion on VU previous year questions of GE4T)
	Lecture 40: Tutorial (Discussion on VU previous year questions of GE4T)

Semester VI	
Syllabus allotted	C14T: Statistical Mechanics DSE3P: Nano Materials and Applications Lab.
No of Classes (Hour) per week	C14T: 2 DSE3P: 3
Teaching Plan	**Lecture 1:** Introduction to course prospectus and course outcome. **Lecture 2:** Macrostate& Microstate. **Lecture 3:** Elementary Concept of Ensemble. **Lecture 4:** Microcanonical ensemble. **Lecture 5:** Phase Space. **Lecture 6:** Entropy and Thermodynamic Probability **Lecture 7:** Canonical ensemble. **Lecture 8:** Partition Function **Lecture 9:** Thermodynamic Functions of an Ideal Gas. **Lecture 10:** Classical Entropy Expression. **Lecture 11:** Gibbs Paradox. **Lecture 12:** SackurTetrode equation. **Lecture 13:** Law of Equipartition of Energy. **Lecture 14:** Law of Equipartition of Energy– Applications to Specific Heat and its Limitations. **Lecture 15:** Tutorial. **Lecture 16:** Thermodynamic Functions of a Two-Energy Levels System **Lecture 17:** Negative Temperature. **Lecture 18:** Grand canonical ensemble and chemical potential

	Lecture 19: Properties of Thermal Radiation.
	Lecture 20: Blackbody Radiation.
	Lecture 21: Pure temperature dependence.
	Lecture 22: Kirchhoff's law
	Lecture 23: Stefan-Boltzmann law: Thermodynamic proof.
	Lecture 24: Radiation Pressure
	Lecture 25: Wien's Displacement law
	Lecture 26: Wien's Distribution Law
	Lecture 27: Tutorial
	Lecture 28: Saha's Ionization Formula
	Lecture 29: Rayleigh-Jean's Law.
	Lecture 30: Ultraviolet Catastrophe

Department of Physics

Teaching Plan

Name of the Teacher: Mihir Das

Semester II	
Syllabus allotted	**C2P: Mechanics Lab** **GE1T: Elements of Modern Physics** **GE1P**: **Elements of Modern Physics Lab**
No of Classes (Hour) per week	**C2P:- 2** **GE1T:- 1** **GE1P:- 2**
Teaching Plan	**GE1T:** Size and structure of atomic nucleus and its relation with atomic weight, Radioactivity , Fission and fusion **Lecture 1:** Constitutes of Nucei,Isotopes,Isobars,Isotones and Mirror Nucei. **Lecture 2:** Nuclear Mass and Binding Energy , Unit of Atomic Mass **Lecture 3:** Mass Defect and Packing Fraction,Stability of Nucleus. **Lecture 4:** Complementarity of Binding and Packing Fraction Curves. **Lecture 5:** Nature of Nuclear Force, NZ Graph **Lecture 6:** Semiempirical Mass Formula and Binding Energy **Lecture 7:** Law of Radioactive Decay,Mean Life and Half Life **Lecture 8:** Radioactive Radiations,General Properties of α,β,γ Rays **Lecture 9:** Decay: Decay-Energy Released **Lecture 10:** Energy Spectrum and Pauli's Prediction of Neutrino **Lecture 11:** Mass Deficit,Nuclear Fission **Lecture 12:** Energy Released in Fission of U-235 **Lecture 13:**Fusion and Thermonuclear Reactions. **Lecture 14:** Tutorial **Lecture 15:** Tutorial
Semester IV	
Syllabus allotted	**C9P: Elements of Modern Physics Lab** **C10T: Analog Systems and Applications** **C10P: Analog Systems and Applications Lab**
No of Classes (Hour) per week	**C9P: 2** **C10T: 2** **C10P: 2**
Teaching Plan	**C10T: Amplifiers,** **Lecture 1:** Introduction to D.C Biasing of a Transistor **Lecture 2:** Stability of Biasing ,Fixed Bias Arrangement **Lecture 3:** Voltage Divider Bias of Self Bias ,Emitter Feedback Bias Circuit **Lecture 4:** Collector-Base Feedback Bias, Bias Compensation,Graphical Analysis of Transistor Amplifier, AC Load Line **Lecture 5:**Transistor as 2-port Network. h-parameter Equivalent Circuit

	Lecture 6: Graphical Determination of CE h-parameters **Lecture 7:** Analysis of a CE Amplifier Using Hybride Model **Lecture 8:** The Emitter Follower (CC Amplifier), Simplified Hybrid Model **Lecture 9:** CE Amplifier With Emitter Resistance, Darlington Pair **Lecture 10:** Introduction to BJT Amplifier, Classification of Amplifiers **Lecture 11:** Distortion and Noise in Amplifiers, Principles of Multistage Amplifiers **Lecture 12:** Two stage RC-coupled amplifier **Lecture 13:** Two stage RC-coupled amplifier **Lecture 14:** Introduction to Power Amplifiers, Series-fed Class A Power Amplifier With Resistive Load, Transistor Coupled Class A Power Amplifier **Lecture 15:** Class B Push Push Pull Amplifier, Advantages and Disadvantages **Lecture16:** Complementary Symmetry Push Pull Ampliofier. Tuned Class C Amplifier **Lecture 17:** Feedback in Amplifiers: Effects of Positive and Negative Feedback on Input Impedance, Output Impedance **Lecture 18:** Effects of Positive and Negative Feedback on Gain, Stability, Distortion and Noise. **Lecture 19:** Sinusoidal Oscillators: Barkhausen's Criterion for self-sustained oscillations. RC Phase shift oscillator, determination of Frequency **Lecture 20:** Hartley & Colpitts oscillators **Lecture 21:** Operational Amplifiers (Black Box approach): Characteristics of an Ideal and Practical Op-Amp. (IC 741) **Lecture 22:** Open-loop and Closed-loop Gain. Frequency Response. CMRR. Slew Rate and concept of Virtual ground **Lecture 23:** Applications of Op-Amps: Linear - Inverting and non-inverting amplifiers, Adder and Subtractor **Lecture 24:** Differentiator, Integrator, Log amplifier, and Zero crossing detector **Lecture 25:** Wein bridge oscillator, Non-linear – inverting and non-inverting comparators **Lecture 26:** Schmidt triggers or Regenerative comparator **Lecture 27:** Frequency Response of OP-AMP, Input-Output Characteristics of OP-AMP **Lecture 28:** Conversion: Resistive network (Weighted and R-2R Ladder). Accuracy and Resolution **Lecture 29:** A/D Conversion(Successive Approximation) **Lecture 30:** Tutorial
Semester VI	
Syllabus allotted	**CC-14T: Statistical Mechanics** **DSE3P: Nano Materials and Applications Lab**
No of Classes (Hour) per week	**CC-14T: 2** **DSE3P: 3**

Teaching Plan	**CC-14T: Quantum Theory of Radiation, Bose-Einstein Statistics, Fermi-Dirac Statistics** **Lecture 1:** Introduction to Quantum Statistics, Failures of Classical Statistics **Lecture 2:** Spectral Distribution of Black Body Radiation. Planck's Quantum Postulates **Lecture 3:** Planck's Law of Blackbody Radiation: Experimental Verification **Lecture 4:** Deduction of (1) Wien's Distribution Law, (2) Rayleigh-Jeans Law, (3) Stefan-Boltzmann Law, (4) Wien's Displacement law from Planck's law **Lecture 5:** Previous Years Question Solving **Lecture 6:** Bose-Einstein Distribution Law,Energy and Pressure For a Perfect Bose-Einstein Gas **Lecture 7:** Gas Degeneracy **Lecture 8:** Bose Einstein Condensation **Lecture 9:** Thermal Properties of Bose-Einstein Gas **Lecture 10:** Properties of Liquid He **Lecture 11:** Radiation as a Phototn Gas and Thermodynamics Functions of Photon Gas, Bose Distribution of Planck's Law **Lecture 12:** Previous Years Question Solving **Lecture 13:** Fermi-Dirac Distribution Law **Lecture 14:** Energy and Pressure of the Gas **Lecture 15:** Case of Slightly Degeneracy **Lecture 16**: Case of Strongly Degeneracy **Lecture 17:** Expression of Energy and Pressure in terms of Fermi Energy **Lecture 18:** Thermodynamic Functions of Degenerate Fermi Gas **Lecture 19:** Electron Gas in a Metal, Specific Heat of Metals **Lecture 20:** Relativistic Fermi Gas, White Dwarf Stars **Lecture 21:** White Dwarf Stars, Chandrasekhar Mass Limit **Lecture 22:** Previous Years Question Solving **Lecture 23:** Tutorial **Lecture 24:** Tutorial **Lecture 25:**. Tutorial **Lecture 26:** Tutorial **Lecture 27:** Tutorial

Department of Physics

Teaching Plan

Name of the Teacher: Mr. Pankaj Patra

Semester II	
Syllabus allotted	DSC-1B(CC2): Electricity and Magnetism
No of Classes (Hour) per week	DSC-1B(CC2): 2
Teaching Plan	**Lecture 1: Magnetostatics**: Biot-Savart's law & its applications- straight conductor **Lecture 2:** Circular coil, solenoid carrying current **Lecture 3:** Divergence and curl of magnetic field. **Lecture 4:** Magnetic vector potential. Ampere's circuital law. **Lecture 5: Magnetic properties of materials**: Magnetic intensity, magnetic induction, permeability, magnetic susceptibility. **Lecture 6:** Brief introduction of dia, para and ferro-magnetic materials. **Lecture 7:** Tutorial (Discussion on VU previous year questions) **Lecture 8: Electromagnetic Induction**: Faraday's laws of electromagnetic induction, Lenz's law **Lecture 9:** Self and mutual inductance **Lecture 10:** L of single coil **Lecture 11:** M of two coils **Lecture 12:** Energy stored in magnetic field. **Lecture 13:** Tutorial (Discussion on VU previous year questions) **Lecture 14: Maxwell`s equations and Electromagnetic wave propagation**: Equation of continuity of current, Displacement current, Maxwell's equations **Lecture 15:** Poynting vector, energy density in electromagnetic field **Lecture 16:** Electromagnetic wave propagation through vacuum and isotropic electric medium **Lecture 17:** Transverse nature of EM waves, polarization. **Lecture 18:** Numericals on Magnetostatics **Lecture 19:** Numericals on Magnetic properties of materials **Lecture 20:** Numericals on Electromagnetic Induction **Lecture 21:** Tutorial (Discussion on VU previous year questions) **Lecture 22:** Discussions on short type questions and answers **Lecture 23:** Group discussion **Lecture 24:** Class test **Lecture 22:** Tutorial **Lecture 23:** Tutorial **Lecture 24:** Tutorial **Lecture 25:** Tutorial **Lecture 26:** Tutorial **Lecture 27:** Tutorial **Lecture 28:** Tutorial **Lecture 29:** Tutorial

	Lecture 30: Tutorial
Semester IV	
Syllabus allotted	DSC1DT: Waves and Optics DSC1DP: Waves and Optics (lab)
No of Classes (Hour) per week	DSC1DT: 2 DSC1DP: 2
Teaching Plan	**Lecture 1: Superposition of Two Collinear Harmonic oscillations**: Linearity and Superposition Principle. **Lecture 2:** Oscillations having equal frequencies **Lecture 3:** Oscillations having different frequencies (Beats). **Lecture 4: Superposition of Two Perpendicular Harmonic Oscillations**: Graphical and Analytical Methods **Lecture 5:** . Lissajous Figures with equal frequency **Lecture 6:** . Lissajous Figures with unequal frequency **Lecture 7:** Uses of Lissajous Figures and numericals **Lecture 8: Waves Motion**- **General**: Transverse waves on a string **Lecture 9:** Travelling and standing waves on a string. Normal Modes of a string. **Lecture 10:** Group velocity, Phase velocity **Lecture 11:** Plane waves, Spherical waves, Wave intensity. **Lecture 12: Fluids: Surface Tension**: Synclastic and anticlastic surface - Excess of pressure. **Lecture 13:** Application to spherical and cylindrical drops and bubbles. **Lecture 14:** variation of surface tension with temperature - Jaegar's method.. **Lecture 15:** Viscosity – Rate of flow of liquid in a capillary tube - Poiseuille's formula - Determination of coefficient of viscosity of a liquid. **Lecture 16:** Variations of viscosity of a liquid with temperature lubrication and numericals **Lecture 17:** Physics of low pressure - production and measurement of low pressure **Lecture 18:** Rotary pump , Diffusion pump, Molecular pump **Lecture 19:** Knudsen absolute gauge , penning and pirani gauge ,Detection of leakage. **Lecture 20:** Numericals **Lecture 21:** Sound: Simple harmonic motion **Lecture 22:** - Forced vibrations and resonance **Lecture 23:** - Fourier's Theorem **Lecture 24:** Application to saw tooth wave and square wave **Lecture 25:** Intensity and loudness of sound - Decibels - Intensity levels **Lecture 26:** musical notes - musical scale **Lecture 27:** Acoustics of buildings: Reverberation and time of reverberation. **Lecture 28:** Absorption coefficient - Sabine's formula - measurement of reverberation time - Acoustic aspects of halls and auditoriam. **Lecture 29:** Tutorial (Discussion on VU previous year questions) **Lecture 30:** Tutorial
Semester VI	
Syllabus allotted	DSE2T: Solid State Physics SEC4T: Weather Forecasting SEC-4P: Practical

No of Classes (Hour) per week	DSE2T: 2
	SEC4T: 1
	SEC-4P: 2
Teaching Plan (DSE2T)	**Lecture 1:** Crystal Structure: Solids: Introduction,Amorphous and Crystalline Materials.
	Lecture 2: Lattice Translation Vectors. Lattice with a Basis – Central and Non-Central Elements.
	Lecture 3: Unit Cell. Miller Indices.
	Lecture 4: Reciprocal Lattice.
	Lecture 5: Types of Lattices.
	Lecture 6: Brillouin Zones.
	Lecture 7: Diffraction of X-rays by Crystals Bragg's Law.
	Lecture 8: Atomic and Geometrical Factor
	Lecture 9: Elementary Lattice Dynamics: Lattice Vibrations and Phonons.
	Lecture10: Linear Monoatomic Chain
	Lecture 11: Linear Diatomic Chain
	Lecture 12: Acoustical and Optical Phonons
	Lecture 13: Qualitative Description of the Phonon Spectrum in Solids.
	Lecture 14: Dulong and Petit's Law.
	Lecture 15: Einstein and Debye theories of specific heat of solids. T3 law
	Lecture 16: Magnetic Properties of Matter: Dia-, Para-, Ferri- and Ferromagnetic Materials.
	Lecture 17: Classical Langevin Theory of diamagnetic materials.
	Lecture 18: Classical Langevin Theory of Paramagnetic Domains.
	Lecture 19: Quantum Mechanical Treatment of Paramagnetism.
	Lecture 20: Curie's law, Weiss's Theory of Ferromagnetism and Ferromagnetic Domains.
	Lecture 21: Discussion of B-H Curve. Hysteresis and Energy Loss.
	Lecture 22: Numericals.
	Lecture 23: Previous years VU question papers solve.
	Lecture 24: Class test
	Lecture 25: Group discussion
	Lecture 26: Questions answers
	Lecture 27: Tutorial
	Lecture 28: Tutorial
	Lecture 29: Tutorial
Teaching plan(SEC4T)	**Lecture 1:** Introduction to atmosphere: Elementary idea of atmosphere: physical structure and composition; compositional layering of the atmosphere
	Lecture 2: Variation of pressure and temperature with height; air temperature; requirements to measure air temperature; temperature sensors
	Lecture3: Atmospheric pressure: its measurement; cyclones and anticyclones: its characteristics
	Lecture 4: Measuring the weather: Wind; forces acting to produce wind; wind speed direction: units, its direction; measuring wind speed and direction; humidity, clouds and rainfall
	Lecture 5: radiation: absorption, emission and scattering in atmosphere; radiation laws
	Lecture 6: Weather systems: Global wind systems; air masses and fronts: classifications; jet streams; local thunderstorms; tropical cyclones: classification;

	tornadoes; hurricanes
	Lecture 7: Climate and Climate Change: Climate: its classification; causes of climate change; global warming and its outcomes; air pollution; aerosols, ozone depletion, acid rain, environmental issues related to climate.
	Lecture 8: Basics of weather forecasting: Weather forecasting: analysis and its historical background; need of measuring weather; types of weather forecasting; weather forecasting methods
	Lecture 9: Criteria of choosing weather station; basics of choosing site and exposure; satellites observations in weather forecasting
	Lecture 10: Weather maps; uncertainty and predictability; probability forecasts.
	Lecture 11: Tutorial

KHARAGPUR COLLEGE

DEPARTMENT PHYSIOLOGY

SYLLABUS DISTRIBUTION AND TEACHING PLAN

ODD SEMESTER (1st , 3rd, & 5th) SESSION (2023 -2024)

Semester I					
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Dr. Ashutosh Chaudhuri	**MI-1T: Unit-II: Cardiovascular System & Unit III: Physiology of Respiratory system.**	**Paper**	**Term -1 (10 Lectures)**	**Term -2 (10 Lectures)**	**Term -3 (10 Lectures)**
		MI-1T:	Cardiovascular System	Physiology of Respiratory system	Revision
	MI-1P: Practical **Human Experiment**	**MI-1P:**	a) Measurement of arterial blood pressure by Sphygmomanometer test, Calculate the mean arterial blood pressure (MABP). b) Measurement of heart rate and pulse rate (30 beats methods) during rest condition.	c) Study of blood pressure with the changes of postures (Standing, Supine, Sitting). d) Study of pulse rate as an effect of breath-holding.	e) Study of pulse rate with the variation of static work load. f) Determination of Physical Fitness Index (PFI) of an Individual by Modified Harvard Step test.
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Anupama Pattanayak	**MI-1T: Unit-I: Blood, body fluid and immune System**	**Paper**	**Term -1 (10 Lectures)**	**Term -2 (10 Lectures)**	**Term -3 (10 Lectures)**
		MI-1T:	Blood, body fluid	Fundamental concept of Immune System	Revision
	MI-1P: Practical **Hematology**	**MI-1P:**	a) Preparation of blood film of your own blood. Staining of the blood film with Leishman's stain. b) Identification of different types of blood corpuscles. c) Determination of TC of RBC and WBC by haemocytometer. d) Differential count of WBC.	e) Determination of ESR of human blood. f) Estimation of haemoglobin by haemoglobinometer. g) Preparation of haemin crystals.	h) Determination of Blood groups. i) Determination of clotting time, bleeding time, prothrombin time.

		Semester III			

Name of the teacher	Syllabus alloted	Teaching plan			
Dr. Ashutosh Chaudhuri	DSC-1CT: Nervous system	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
		DSC-1CT:	A brief outline of organization and basic functions of the nervous system.	The Autonomic Nervous System	Revision
	DSC-1CP: (Practical)	DSC-1CP:	1. Experiments on superficial (plantar) and deep (knee jerk) reflex. 2. Reaction time by stick drop test.	3. Short term memory test (shape, picture word). 4. Two point discrimination test.	Study of Kymograph (Demonstration)
	GE3T: Community and Public Health	GE-3T:	Basic idea about community health and public health issues	Composition and nutritional value of common Indian foodstuffs	Revision
	GE3P: Community and Public Health (Practical)	GE-3P:	Survey on the status of dietary intake in the surrounding area through visits, etc.	Revision	Revision

Name of the teacher	Syllabus alloted	Teaching plan			
Anupama Pattanayak	DSC-1CT: Nerve – Muscle Physiology & Skin and Body Temperature Regulation	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
		DSC-1CT:	Nerve –Muscle Physiology	Skin and Body Temperature Regulation	Revision
	DSC-1CP: (Practical)	DSC-1CP:	1. Isolation and Staining of nerve fibers with node(s) of Ranvier (AgNO3). 2. Staining of skeletal and cardiac muscles by Methylene Blue stain.	3. Measurement of grip strength. 4. Recording of body temperature	5. To study the response of the skin to blunt injury (triple response) (Demonstration)
	GE3T: Community and Public Health	GE-3T:	Principles of formulation of balanced diets	Sound pollution as a community health issue	Revision
	GE3P: Community and Public Health (Practical)	GE-3P:	Qualitative assessment of noise.	Revision	Revision

Semester V					
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Dr. Ashutosh Chaudhuri	**DSE-1AT: Community Nutrition and Public Health**	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
		DSE-1AT:	Food guide	Balanced diet	Socio ecology of nutrition
	DSE-1AP: Community Nutrition and Public Health (Practical)	DSE-1AP:	5. Qualitative analysis of pulse, rice, milk to test the presence of carbohydrates, protein, fat.	6. Qualitative identification of lipids and cholesterol. 7. Qualitative assessment of noise by sound level meter.	Field Survey Report
	SEC-3T: Maternal and Child Nutrition	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
		SEC-3T	Unit - III • Infant and young child feeding and care	Unit - IV Overview of maternal and child nutrition policies and programmes	Revision
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Anupama Pattanayak	**DSE-1AT: Community Nutrition and Public Health**	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
		DSE-1AT:	Community and community health: concepts	Epidemiology	Population problem
	DSE-1AP: Community Nutrition and Public Health (Practical)	DSE-1AP:	1. Quantitative estimation of glucose, sucrose by Benedict's method. 2. Estimation of lactose from milk by Benedict's methods.	3. Estimation of Chloride by Mohr's methods.	4. Estimation of amino nitrogen through formol titration methods.
	SEC-3T: Maternal and Child Nutrition	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
		SEC-3T	Unit - I • Nutritional needs during pregnancy	Unit - II • Nutritional needs of nursing mothers and infants	Revision

KHARAGPUR COLLEGE

DEPARTMENT PHYSIOLOGY

SYLLABUS DISTRIBUTION AND TEACHING PLAN

EVEN SEMESTER (2nd, 4th , & 6th) SESSION (2022 -2023)

Semester II					
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Dr. Ashutosh Chaudhuri	DSC1BT: Cardiovascular System and Respiratory System	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
		DSC1BT:	Cardiovascular system	Cardiac cycle, Peculiarities of regional circulations	Respiratory System
	DSC1BP: Practical Human Experiment	DSC1BP:	1. Measurement of arterial blood pressure by Sphygmomanometer at rest and after exercise, Calculate the mean arterial blood pressure (MABP) 2. Measurement of heart rate and pulse rate (30 beats methods) during rest and exercise and graphical plotting.	3. Modified Harvard step test and determination of physical fitness. 4. Pneumographic recording of respiratory movements along with the effect of drinking of water, talking, laughing, coughing, exercise, hyperventilation and breathe holding.	5. Demonstration: Measurement of oxygen saturation by pulse oxymeter before and after exercise. Measurement of Peak Expiratory Flow Rate. Measurement of forced expiratory volume (FEV) in first second.
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Anupama Pattanayak	DSC1BT: Blood, body fluid and immune System	Paper	Term -1 (10 Lectures)	Term -2 (10 Lectures)	Term -3 (10 Lectures)
	DSC1BP: Practical Haematology	DSC1BT:	Blood	Body fluids	Immune System
		DSC1BP:	1. Study of the compound microscope. 2. Preparation of blood film of your own blood. Staining of the blood film with Leishman's stain. Identification of different types of blood corpuscles. 3. Determination of TC of RBC and WBC by haemocytometer. 4. Differential count of WBC.	5. Determination of ESR of human blood. 6. Estimation of haemoglobin by haemoglobinometer. 7. Preparation of haemin crystals. 8. Determination of Blood groups.	9. Determination of clotting time, bleeding time, prothrombin time. 10. Determination of osmotic fragility of Red Blood Corpuscle. 11. Preparation and staining of bone marrow. Measurement of diameter of ryocyte. 2. locyte stain

Semester IV					
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Dr. Ashutosh Chaudhuri	**DSC1DT: Endocrine and Reproductive System**	**Paper**	**Term -1 (10 Lectures)**	**Term -2 (10 Lectures)**	**Term -3 (10 Lectures)**
		DSC1BT:	Endocrinology: Hypothalamo-Hypophysial axis, Pituitary gland, Thyroid gland, Parathyroid gland, Adrenal Cortex.	Endocrinology: Parathyroid gland, Adrenal Cortex Adrenal Medulla, Pancreas	Reproductive Physiology
	DSC1DP: Practical	**DSC1BP:**	3. Study of estrous cycle. 8. Determination of visual acuity by Snellen's chart / Landolt's chart.	9. Determination of colour blindness by Ishihara chart. 10. Exploration of conductive and perceptive deafness by tuning fork method.	11. Sperm count and sperm motility in rat.
	GE4T: Excretory System	**GE4T:**	Renal Function & Micturition: (First portion)	Renal Function & Micturition: (Middle portion)	Renal Function & Micturition: (Last portion)
	GE4P: Practical	**GE4P:**	1. Identification of normal constituents of urine. 2. Identification of abnormal constituents of urine.	3. Tests for Urinary deposits.	4. Estimation of albumin in urine.
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Anupama Pattanayak	**DSC1DT: Sensory Physiology and Renal Physiology**	**Paper**	**Term -1 (10 Lectures)**	**Term -2 (10 Lectures)**	**Term -3 (10 Lectures)**
		DSC1BT:	Sensory Physiology: Olfaction and Gustation Audition & Equilibrium	Sensory Physiology: Vision	Renal Physiology
	DSC1DP: Practical	**DSC1BP:**	1. Staining and identification of kidney and ureters. 2. Silver nitrate preparation of corneal cell space.	4. Identification of normal and abnormal constituents of urine. 5. Tests for Urinary deposits.	6. Estimation of albumin in urine. 7. Detection of specific gravity of urine.
	GE4T: Body Temperature Regulation	**GE4T:**	Skin and Body temperature regulation: (First portion)	Skin and Body temperature regulation: (Middle portion)	Skin and Body temperature regulation: (Last portion)
	GE4P: Practical	**GE4P:**	5. Detection of specific gravity of urine.	6. Quantitative estimation of Urea in Urine. 7. Recording of Body Temperature.	8. To study the response of the skin to blunt injury (triple response)(Demonstration).

Semester VI					
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Dr. Ashutosh Chaudhuri	**DSE1B T:** Developmental aspects of embryo **DSE1BP:** Developmental aspects of embryo (Practical)	**Paper**	**Term -1 (10 Lectures)**	**Term -2 (10 Lectures)**	**Term -3 (10 Lectures)**
		DSE1B T:	General concepts of reproductive system. Stem cell	Gametogenesis	Cleavage
		DSE1BP:	1. Hematoxylin and Eosin staining of testicular, ovarian tissue sections.	2. Identification of spermatocytes, spermatids, Graafian follicle, Corpus Luteum.	
Name of the teacher	**Syllabus alloted**	**Teaching plan**			
Anupama Pattanayak	**DSE1B T:** Developmental aspects of embryo **DSE1BP:** Developmental aspects of embryo (Practical)	**Paper**	**Term -1 (10 Lectures)**	**Term -2 (10 Lectures)**	**Term -3 (10 Lectures)**
		DSE1BT:	Blastula formation	Gastrulation	Organogenesis
		DSE1BP:	3. Demonstration of preserved mammalian embryo.		

Teaching Plan

Department of Political Science, Kharagpur College

Name of the Teacher-Subrata Paria, Dept of Political Science

1st Semester   Paper-CC1

Name of the Paper-Political Theory and Practice

Allotted Topic	Lecture Topic	Number of Class	Remarks
The Grammar of Democracy	1.Defination of Democracy 2.History of Democracy 3.Classification of Democracy	02	
	4.Principles of Democracy 5.Conditions of Democracy	02	
Procedural Democracy and its critique	1.Concept of Procedural Democracy 2.Distinction between Procedural Democracy and Substantive Democracy	02	
	3.Tenets of Procedural Democracy 4.Exponents of Procedural Democracy 5.Critique and importance of Procedural Democracy	03	
Deliberative Democracy	1.Concept of Deliberative Democracy 2.Composition of Deliberative Democracy 3.Exponents of Deliberative Democracy	02	

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Allotted Topics	Lecture Topic	Number of Class	Remarks
	4.Fetures of Deliberative Democracy 5.Distinction between Procedural and Deliberative Democracy 6.Evaluation of Deliberative Democracy	02	For Advanced and Slow learner-2 Class
Participation and Representation	1.Concept of Political Participation 2.Forms of Political Participation 3Intrigridents of Political Participation	03	
	4.Means of Representation 5.Theories of Representation	02	
	6.Types of Representation 7.Methods of Representation	02	
Total		20	Allotted Class-22

Paper-CC2

Name of the Teacher-Subrata Paria

Allotted Topics	Lecture Topic	Number of Class	Remarks
Federation and Decentralization	1.Concepts of Decentralization and Federation 2.Forms of Indian Federation 3.Nature of Indian Federation	04	

	4.Distribution of Legislative Powers between Centre and States 5.Role of Sarkaria Commission	02	
	6.Distribution of Administrative Powers between Centre and States 7.Role of Inter - State Council	02	
	7.Distribution of Financial powers among Centre and States 8.Role of Finance commission	02	
	9.Centralization	01	
Panchayat and Municipalities	1.Concept of Panchayat and Municipality 2.Structure of Panchayat 3.Role of Panchayat 4.Significance of 73rdAmendment	03	For Slow learner and Advance learner-04 Class
	5.Structure of Municipality 6.Role of Municipality 7.Impact of 74th Amendment	02	
Total		16	Allotted Class-20

2nd Sem

Paper-CC3   Name of The Teacher-Subrata Paria

Name of the Paper-Political Theory-Concepts and Debates

Allotted Topics	Lecture Topic	Number of Class	Remarks
Indispensability of Justice-Procedural Justice	1.Coception of Justice 2.Source of Justice 3.Classical and Modern theory of Justice	04	
	4.Ideas of Procedural Justice 5. Rules of Procedural Justice	04	
	6.Exponents of Procedural Justice 7.Models of Procedural Justice	02	
Indispensability of Justice-Distributive Justice	1,Concepts ofDistributive Justice 2.Principles of Distributive Justice	02	
	3.Exponents of Distributive Justice 4.Rawals views on distributive Justice 5.Roles of Distributive Justice	02	
Indispensability of Global Justice	1.Concepts of Global Justice	02	

	2.Capital Punishment	02	For Advanced and slow Learner -02Class
Total		18	Allotted Class-20

Paper-CC4   Name of the Teacher-Subrata Paria

Allotted Topics	Lecture Topic	Number of Class	Remarks
Changing Pattern of Indian State-Development	1.Concept of Development 2.Development Strategy of Indian State 3.Goal of Indian State	02	
Changing Pattern of Indian State-welfare	1.Concept of welfare 2.Welfare programmes of Indian State 3.Changing nature from development to welfare of Indian State	02	For Advanced and Slow Learners-2 Class
Changing Pattern of Indian State-Coercive	1.Steps of coercive of Indian State 2.Changing nature from welfare to coercive nature of Indian State	02	
Total		08	Allotted Class-10

2nd Semester Name of the Teacher-Subrata Paria

Paper-GE2   Name of the paper: Governance: Issues and Challenges

Allotted Topics	Lecture Topic	Number of Class	Remarks
1.Government and Governance: Concepts	1.Differences between Government and Governance 2.Concept of State, Market and Civil Society	04	
	3.Meanings of Globalization	05	

	4.Role of State in Globalization Era 4.Relation between State, Market and Civil Society		
2. Governance and Development	1.Meaning of Good Governance 2.Characteristics of Good Governance 3.Develpment and Good Governance 4.Dimensions of Good Governance	05	For Advanced and Slow Learner-02Class
Total		14	Allotted Class-16

3rd Semester

Name of the Teacher-Subrata Paria

Paper-V(Introduction to Comparative Government and Politics)

Allotted Topics	Lecture Topic	Number of Class	Remarks
Understanding Comparative Politics-Nature and Scope of Comparative Politics	1.Define Comparative Politics 2.Differences between Comparative Politics and Comparative Government	01	
	3.Subject matter and scope of Comparative Politics 4.Nature of Comparative Politics	02	
Understanding Comparative Politics-Going Beyond Euro-centrism	1.What is Euro-centrism? 2.Beyond Euro-centrism 3 Peter Grans on beyond Euro-centrism	02	

Historical Context of Modern Government-Capitalism :meaning ,development: globalization	1.Defined Capitalism 2.Features of Capitalism	02	
	3.Stages of Development of Capitalism	04	
	4..Meaning of Globalization 5.Process involved in Globalization 6.Globalization is the latest stage of Capitalism	02	
Historical Context of Modern Government-Socialism: meaning ,growth and development	1.Origin and Meaning of Socialism 2.Features of Socialism	02	
	3.Development of Socialism 4.Comunism and Socialism in the1990century 5Differencs between Socialism Capitalism	02	For advanced and Slow Learner-2 Class
Historical Context of Modern Government-colonialism and decolonialism	1.Concept of colonialism and De-colonialism and anti-colonialism 2.Compare between colonialism and de-colonialism	02	
	3 .Decolonization in Asia, Africa and Latin America 4.Anti-Colonial Struggles	02	
Themes for Comparative analysis-a comparative study of constitutional developments of Britain ,Brazil ,Nigeria and China	1.Constitutional development of Britain, Brazil, Nigeria, and China 2.Comparative study between Britain, Brazil, Nigeria and China	12	

		10	
Themes for Comparative analysis-a comparative study of Political Economy of Britain ,Brazil, Nigeria and China	1.Political Economy of Britain 2.Political Economy of Brazil 3 Political Economy of Nigeria 4.Political Economy of China	10	
Total		43	Allotted Class-45

4th Sem

Paper-   CC8   Name of the Teacher-Subrata Paria

Name of the Paper-Political Processes and Institutions in Comparative   Perspective

Allotted Topics	Lecture Topic	Number of Class	Remarks
Approaches to studying Comparative Politics-Political Culture	1.Definations of Political Culture 2.Political Subculture 3.Types of Political Culture	04	
	4.Determinants of Political Culture 5.Functions of Political Culture	03	
Approaches to studying Comparative Politics-New Institutionalism	1.Concept of Political Institutionalism 2 Institutionalism in Comparative Politics	04	
	3.Institutionalism and New Institutionalism 4.New Institutionalism And Comparative Politics	04	
Electoral System	1.Concept of Electoral System 2.Electoral system of different countries	04	
	3 .Types of Electoral System	03	
Party System	1.Concept of Political Party System 2.Historical context of emergence of the UK, USA, China Party System	04	
	3.Classifiation of Party System 4.Comparative Study of Political Parties of UK,USA and China	04	

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Nation-State	1.What is Nation? 2.What is Nation-State? 3 What are differences between Nation and State? 4.Nation and State -Debates	06	Slow learner and advanced -02 Class
Total		36	Allotted Class-38

Semester-4   Name of the Teacher-Subrata Paria

Paper-SEC2   Name of the Paper-Legislative Practices and Procedure

Allotted Topics	Lecture Topic	Number of Class	Remarks
Supporting the Legislative Process	1.India is a Parliamentary System 2.Concept of Parliament 3.Bill and Law	02	
	4.Law Making Process 5. Role of Standing Committee	03	
	6.Rules Committee 7.The Framing of Rules	02	
Total		07	Allotted Class-07

6th Semester   Name of the Teacher- Subrata Paria

Paper-14   Name of the Paper-Indian Political Thought-II

Allotted Topic	Lecture Topic	Number of Class	Remarks
Introduction to Modern Indian Modern Indian Political Thought	1,Concept of Modern Indian Political Thought 2.Streams of Modern Political Thought 3.Exponents of Modern Indian Political Thought 4.Differencs between Ancient	04	

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	Political Thought and Modern Indian Political Thought		
Rammohan Roy	1.Introduction 2.Rammohan Roy and Modernization	03	
	3.Social Reformation and Individual Rights 4.Women Rights 5.Rammohan and Freedom of Thought 6.Liberal thought of Rammohan Roy	06	
Pandita Rambai:Gender	1.Introduction 2.Aspects of Feminist thought of Ramabai 3.Institutional Pursuits for women emancipation	05	
Vivekananda:Ideal society	1.Introduction 2.Nationalism of Vivekananda	04	
	3.concept of Ideal Society 3.Pillars of ideal Society 4.Socalist Concept of Vivekananda	06	
Gandhi:Swaraj	1.Introduction 2.Main Tenets of Gandhian Thought 3.Gandhi Concept of Satyagraha	04	

	4.Gandhi Concept of Swaraj 5.Hind Swaraj 6.Nature of Swaraj	05	
Ambedkar: Social Justice	1.Introduction 2.Concept of Untouchability	03	
	3.Road to social Justice 4.Gandhi and Ambedkar on Emancipation of Untouchables-Comparative study	05	
Tagore Critique of Nationalism	1.Introduction 2.Concept of Nationalism 3.Critique of western Nationalism	05	Slow Learner and Advanced Learner-05
	4.Nationalism and Internationalism 5.Idea of Cosmopolitan	04	
Total		55	Allotted Class-60

Kharagpur College
Department of political Science
Teaching plan(Odd semester)
Session-2023-2024

Name of the Teacher: Dr. Kaushik Chakraborty

Allotted syllabus	Teaching plan
1st Sem (CBCS) CC2: The Constituent Assembly and the Constitution: Philosophy of the Constitution, the Preamble, and Features of the Constitution, Fundamental Rights and Directive Principles	**1st Semester: Term 1 (10 Classes)** 1.Background and history of the Constituent Assembly(5 Classes) 2.Making of the Constitution (3 Classes) 3. Features of the Indian Constitution (2 Classes) **Term 2 (10 Classes)** 1. Philosophy of the Constitution (3 Classes) 2.Significance of the Preamble (4 Classes) 3. Nature of State as described in the Preamble (3 Classes) **Term 3 (10 Classes)** 1. Fundamental Rights (3 Classes) 2. Fundamental Duties(2 Classes) 3. Directive Principles and State Policy(5 Classes)
1st Sem (CCFUP) SEC:1 Panchayati Raj Management System(Project work)	**1st Semester: Term 1 (07 Classes)** 1.Basic idea of local self Government(2Classes) 2.importance of 73rd Ammedment act (1 class) 3.structure of three tire Panchayat system(4classes) **1st Semester: Term 2 (07 Classes)** 1. How to write a project? (2Classes) 2. How to do literature review?(1class) 3. How to frame research g... (1class) 4. How to write a bibliogra...?(1class) 5. How to prepare questionnaire... chaperisation?(2classes)

	1st Semester: Term 3 (07 Classes) 1. Selection of topic of the project work for the students(3 Classes) 2.Correction of Project work submitted by the students(4 Classes)
CC7: Studying International Relations & Theoretical Perspectives(Classical Realism & Neo-Realism Liberalism & Neoliberalism**)** SEC1: Measuring Public Opinion with Surveys: Representation and sampling	**3rdSem: Term-1 (20 Classes)** 1.How do you understand International Relations: Levels of Analysis (5 Classes) 2.Idea of I.R (3 Classes) 3.Evolution of I.R (4 Classes) 4.Idealism (2 Classes) 5.Six Principles of Realism (2 Classes) 6.Neo Realism (2 Classes) 7.Idea of Globalisation (2 Classes) **Term- 2 (20 Classes)** 1.History and IR (5 Classes) 2.Medieval age and the idea of State (4 Classes) 3. Emergence of the International State System (6 Classes) 4.Pre-Westphalian System (3 Classes) 5.Treaty of Westphalia (2 Classes) **Term-3 (20 Classes)** 1.Post-Westphalia(3 Classes) 2.Classical Realism (4 Classes) 3. Neo-Realism (3 Classes) 4.Liberalism (4 Classes) 5.Neoliberalism (3 Classes) 6.Measuring Public Opinion Surveys: Representation and sampling (3 Classes)

| CC11: Locke
DSE1: India's Foreign Policy:From a Postcolonial State to an Aspiring Global Power
India's Negotiating Style and Strategies: Trade, Environment and Security Regimes
India in the Contemporary Multipolar World | **5TH SEM Term-1 (20 Classes)**
1. Locke:Background (2 Classes)
2. Locke:Laws of Nature (3 Classes)
3.Comparison with Hobbes and Rousseau (4 Classes)
4.Natural Rights (3 Classes)
5.Property (2 Classes)
6. Comparison between Natural rights, Moral Rights and Legal Rights (2 Classes)
7.Right to dissent; justification of property (4 Classes)

TERM-2 (20 Classes)
1.Basic features of India's Foreign Policy (4 Classes)
2.Principles of India's Foreign Policy. (4 Classes)
3.Objectives of India's Foreign Policy (3 Classes)
4. Idea of Globalizing world. (4 Classes)
5. Unipolarity and Multipolarity and changing dimensions of India's Foreign Policy (5 Classes)

TERM-3 (20 Classes)
1.India's Foreign Policy: From a Postcolonial State to an Aspiring Global Power (5 Classes)
2.India's Relations with the USA (2 Classes)
3. And with USSR/Russia (3 classes)
4.India's Engagements with China (2 Classes)
5.India in South Asia: Debating Regional Strategies (3 Classes)
6.India's Negotiating Style and Strategies: Trade, Environment and Security (3 Classes)
7.India in the Contemporary Multipolar World |

	(2 Classes)
GE3: Gandhi on Modern Civilization and Ethics of Development	**GE 3 Term -1(5 classes)** 1.Idea of modernity(3 classes) 2.idea of renaissance(2 classes) **Term-2(5 classes)** 1.Modernity and Gandhian thought(2classes) 2.Modernity and alternative modernity (3 classes) **Term-3(5 classes)** 1.Idea of Development(1 class) 2.Development and Growth(1 class) 3.Development and alternative modernity(1 class) 4. Idea of ethics and its relations with development(2 classes)

Kharagpur College
Department of Political Science
Teaching plan (ODD SEMESTER)
Name of the Teacher: Prof. Sk Anisur Rahman

ALLOOTTED SYLLABUS	TEACHING PLAN
SEM: 1ST (OLD SYLLABUS) **CC-1:** Introducing Political Theory	**CC 1 (1st Sem)** **Term 1(8 lectures)** **CC-1** .Basic idea of Political theory . Idea of political approaches . Differences between Political theory and political approaches . Understanding of contemporary Political Theory . traditional vs Modern view of politics **Term- 2(10 lecture)** **CC-1** . Normative Approach of politics . Historical Approach of politics . Empirical Approach of politics . Role of Behaviouralism on different political approaches . Differences between Normative and Historical Approach . Differences between Normative and Empirical Approach of politics **Term -3 (12 lectures)** **CC-1** . Aspect of Critical Political Theory . Understanding of Feminism . Feminism as a movement . 1st wave of feminist movement .2nd wave of feminist movement . 3rd wave of feminist movement . Feminism as Theory .Liberal perspective of Feminism . Radical perspective of Feminism .Socialist perspective of Feminism . Dalith Feminism . Eco Feminism . Black Feminism . Idea of Post Modernism

1ST SEM (NEW) **MJ- 1 : Understanding Political Theory**	**M1(1ST SEM)** **Term - 1(8 Lectures)** . **Concept of state** . **Basic characteristic of State** . **Evolution of state** .**Idea of sovereignty** . **Emergence of Modern State** . **Different Theory of State** . **Social contract Theory of State** . **Idealistic perspective of State** .**Liberal Perspective of State** **Term-2(10)** . **Idea of society** . **Concept of Civil Society** .**Role of Civil Society in State** . **Relations Between state and civil society** .**Idea of censorship** . **Concept of Surveillance** . **Right to Privacy** . **State's surveillance on Family and individual** **Term -3(6)** . **Idea of Development** . **Concept Economic Growth** . **Relation between Development and Growth**
SEM: 3RD **CC-7:** * Theoretical Perspectives * An Overview of Twentieth Century IR History **SEC-1:** Quantitative Data Analysis	**CC 7 & SEC (3rd Sem)** **Term 1 (20 Lectures)** **CC7**: .Importance of IR history . causes of World War I .Consequence World War I .Treaty of Versailles . Bolshevik Revolution . Socialism in USSR . AGGRESSIVE NATIONALISM

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	. Rise of Fascism
	.Rise of Nazism
	SEC-1:
	. core idea of research
	. type of social science research
	. DATA
	. Type of DATA
	
	Term 2 (20 Lectures)
	CC7:
	.Causes OF World War II
	. Consequences OF World War II
	.Cold War: Different Phases
	    ➤ 1ST PHASE
	    ➤ 2ND PHASE
	    ➤ 3RD PHASE
	. Emergence of the Third World
	. Collapse of the USSR and the End of the Cold War
	SEC-1
	.Introduction to quantitative data analysis
	.Qualitative data
	Term 3 (20 Lectures)
	CC7:
	. Post Cold War Developments and Emergence of Other Power Centers ofPower
	. Marxist Approaches
	.Feminist Perspectives
	.Eurocentricism
	.Perspectives OF the Global South
	SEC:1
	. Basic concepts: correlation research,
	. causation
	. prediction, descriptiveand inferential Statistics

SEM: 5TH **DSE-1:**	**DSE-1 (5th Sem** Term-1(20 Lectures) **DSE-1:** .Objectives of India's Foreign Policy

*India's Relations with the USA and USSR/Russia
*India's Engagements with China
*India in South Asia: Debating Regional Strategies
  DSE-2:
*Major Global Conflicts since the Second World War
  *Assessment of the United Nations as an International Organization: Imperativesof Reforms and the Process of Reforms
	. India's Foreign Policy in Cold War Era
	.NAM
	. India's Relations with the USA In Cold war era
	.India's Relations with the USA after cold war Period
	.India –USA Relations in Contemporary Period
	
	.India- china relations in cold war era
	. India's Engagements with China in contemporary Period
	DSE -2
	. Importance of international war
	. Basic idea of war Strategy
	.Korean war
	 Term -2 (20 Lectures) **DSE-1:**
	. India's strategic importance in South Asia
	.INDIA- PAKISTAN
	.INDIA-BANGLADESH
	. INDIA -BHUTAN
	. INDIA- MALDIVES
	DSE -2
	. Vietnam War
	. Afghanistan War
	.Balkan War
	 Term -3 (14 Lectures) **DSE-1:**
	. India- USSR relations in cold war era
	. India's Engagements with Russia in contemporary Period
	. India –Russia Relations in Contemporary world politics
	DSE -2
	.INDIA- SRI LANKA Relations
	.INDIA-AFGHANISTAN Relations
	.INDIA- NEPAL Relations

GE-1: History of Feminism	**Term -1(lec -15** .History of Feminism .Origins of Feminism in the West: Fran .Britain and United States of America

	.Feminism in the Socialist Countries: China, Cuba and erstwhile USSR .Feminist issues and women's participation in anti-colonial and national liberation movements with special focus on India

ALLOTTED SYLLABUS	TEACHING PLAN

Kharagpur College
Department of Political Science
Teaching plan (Odd Semester)

Name of the Teacher: Sk Najibul Hossen

1st Semester(Old)	CC 1 (1st Sem)

CC1: What is Politics: Theorizing the 'Political'
 	
 Traditions of Political Theory
	Term 1(10 lectures)
	 Course Outcome[L1]
	 Understanding Political Theory [L2,L3]
	 Introducing political theory[L4,L5,L6]
	 Etymological meaning of politics[L7]
	 Defination and meaning of politics[L8]
	 Aspects of politics[L9,L10]
	     Term2(10 lectures)
	 Theorizing the political[L1,L2,L3,L4]
	 Traditions of political theory[L5,L6,L7]
	 Liberal theory of Politics[L8,L9,L10]
	     Term 3(10 Lectures)
	 Marxist theory of politics and Marxism [L1,L2,L3,L4]
	 Anarchist theory[L5,L6]
	 Conservative theory of politics[L7,L8]
	 Conclusion[L9]
	 Revision[L10]

1st Semester(New) MJ 1: Citizenship: Rights and Duties Issues of Justice: Gender, Fairness and Protective Discrimination/Affirmative Action	**MJ 1(1st Sem)** Term 1(10 lectures) Course Outcome[L1] Cocept of Indian Constitution(L2,L3,L4) Idea of Citizenship (L5,L6) Difference between Right and Duty(L7) Concept of Fundamental Right(L8,L9) Right to Eqality(L10) Term2(10 lectures) Right to Freedom (L1,L2) Right to freedom of Religion and Right against Exploitation(L3) Cultural and Educational Rights and Constitutional Remidies(L4 Fundamental Duties(L6,L7) Idea of Justice(L8) Issue of Justice: Gender, fairness(L9,L10) Term 3(10 Lectures) What is discrimination? (L1, Protective Discrimination(L3 ,L5 Affirmative action of Justice(L6, Theoretical concept of Justice an uality(L8,L9)

MDC 1: IndianConstitution	Summary(L10) **MDC 1** <u>Term 1(05 lectures)</u> Historical background of Indian Constitution(L1) Constitutional assembly (L2,L3) Concept of state government (L4,L5) <u>Term 2(05 lectures)</u> Structure and functions of State Government(L1,L2,L3) Governor's Power and Functions (L4,L5) <u>Term 3(05 lectures)</u> Chief Minister and portfolio: Power and functions(L1,L2,L3) Judicial system in States(L4,L5)
MI – 1: Nationalism and Anti-colonial Movements in India	**MINOR 1** <u>Term 1(05 lectures)</u> Course Outcome[L1] Study of Nationalism in India(L2,L3) Imperialist and Nationalist theory (L4,L5) <u>Term 2(05 lectures)</u> Marxist and Postcolonial interpretations of Indian Nationalism(L Major social and religious reform movements in colonial India(L <u>Term 3(05 lectures)</u> Nationalist politics in India(L1,L2,L3) Liberal, Extremist, Swadeshi and revolutionary Movement(L4,L

3rd Semester
CC6: Neo-classical theories
    Contemporary theories
    Public policy
    Major approaches in public administration
SEC1: Interpreting polls
	CC6 & SEC(3rd Sem)
	<u>Term 1 (20 Lectures)</u>
	CC6:
	Course Outcome[L1]
	Meaning and scope of Public Administration[L2,L3,L4]
	Human relations theory[L5,L6
	Rational decision-making[L8 ,L1
	Evaluation of public administration L11,L12,L13,L14,L15]
	SEC:

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	Course Outcome[L1] Interpreting polls [C, L5] Term 2 (20 Lectures) CC6: Minobrook Conference[L1,L2] New Public Administration[L3,L4,L5,L6,L7] New Public Management[L8,L9,L10,L11,L12] New Public Service Approach[L13,L14,L15] SEC: Prediction in polling research: possibilities and pitfalls[L1 L2,L3 Term 3 (20 Lectures) Public Policy; Concept, relevance and approaches[L1,L2,L3] Formulation, implementation and evaluation[,L4,L5,L6] Good Governance[L8,L9,L10] Feminist Perspectives[L11,L12,L13] Conclusion [L14] Revision [L15] SEC: Politics of interpreting polling [L1,L2,L3] Conclusion [L4] Revision[L5]

5th semester
CC11: Classical Political Philosophy
    > Plato
    > Aristotle
    > Machiavelli
    > Locke
	CC11(5th Sem)
	Term1(20 Lectures)
	Course Outcome[L1]
	Plato's Philosophy and Politics[L2,L3,L4]
	Theory of Forms and Justice[L5,L6,L7]
	Philosopher King/Queen[L8]
	CommunismPresentation theme: Critique of Democracy [L9,L10
	Women and Guardianship, Censorship[L12,L13]
	Political Philosopy of Aristotle[L14]
	Forms and Virtue[L15,L16]
	Citizenship and Justice[L17,L18]
	State and Household[L19,L20]
	
	Term 2 (20 Lectures)
	Presentation themes of Aristotle[L2,
	Classification of governments[L4,L5,L6,L7,L8]
	Man as zoon politikon[L9,L10]

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	Concept of Machiavelli[L11,L12] Virtu and Religion[L13,L14,L15] Republicanism[L16,L17] Presentation themes: morality[L18,L19,L20] <u>Term 3 (20 Lectures)</u> Presentation themes: statecraft; vice and virtue [L1,L2,L3,L4] Concept of Locke[L5,L6] Laws of Nature[L7,L8] Natural Rights and Property[L9,L10,L11,L12] Presentation themes: Natural rights[L13,L14,L15] Presentation themes : right to dissent[L16,L17] justification of property[L18,L19] Revision[L20] [NB: L=Lecture]

Kharagpur College
Department of Political Science
Teaching Plan
Programme : UG/BA

Name of the Teacher: Dr. Sudhangsu Barman

Allotted Syllabus	Teaching Plan
1st Semester: **CC-2: *** Organs of Government 　　***Federalism and** Decentralization	**1st Semester:** **Term 1 (10 Classes)** Syllabus outcome(1 class) Idea of government and organs of government (3 classes) Executive section of Government(3 Classes) Legislative section of Government(3 Classes) **Term 2 (10 Classes)** Judiciary section of government(3 classes) Center- state relations (2 Classes) Concept of federalism(2 classes) Indian federal structure(3 classes) **Term 3 (10 Classes)** Division of Powers (1 class) Emergency Provisions(2 classes) Fifth and Sixth Schedules(2 classes) Panchayati Raj and Municipalities(4 classes) Revision (1 class)
2nd Sem: **CC-3**: Significance of Equality **CC-4:** * Caste and Politics 　　***** Affirmative Action Policies	**2nd Sem:** **Term 1 (10 Classes)** Syllabus outcome(1 class) Concept of Equality(1 class) Formal Equality: Equality of opportunity(3 classes) Political equality(2 classes) Caste in Politics and the Politicization of Caste(3 classes) **Term 2 (10 Classes)** Political equality(3 classes) Background of Egalitarianism(2 classes) Egalitarianism: inequalities and differential treatment(5 classes) **Term 3 (10 Classes)** *Important Issue*: Affirmative action (5 classes) Women and politics(2 classes) Caste and Class(2 classes) Revision(1 class)

3rd Sem: **CC-5**: Themes for comparative analysis **CC-6**:* Public administration as a discipline 　　　*Classical theories **SEC-1**: Introduction to the course	**3rd Sem:** **Term-1 (10 Classes)** Syllabus outcome(1 class) Concept of development(1 class) A comparative study of constitutional developments and political economy in thefollowing countries: Britain and Brazil(4 classes) Meaning of the Public Administration as a Discipline (2 classes) Public and Private Administration(2 classes) **Term 2 (10 Classes)** Evolution of Public Administration(5 classes) comparative study of constitutional developments and political economy in thefollowing countries Nigeria and China(4 classes) Dimensions of the Public Administration as a Discipline(1 class) **Term 3 (10 Classes)** Significance of Public Administration as a Discipline (3 classes) Definition and characteristics of public opinion(3 classes) conceptions and characteristics of public opinion(2 classes) debates about its role in a democratic political system(2 classes)
4th Sem: **CC-8:** Federalism **CC-9: *** Decentralization 　***Social Welfare Administration** **SEC-2:** Support in media monitoring and communication	**4th Sem:** **Term-1 (10 Classes)** Syllabus outcome(1 class) Historical context Federation and Confederation(2 classes) Debates around territorial division ofpower(3 classes) Meaning, significance of Decentralization(2 classes) approaches and types of Decentralization(3 classes) **Term 2 (10 Classes)** Local Self Governance: Rural and Urban(4 classes) Concept and Approaches of Social Welfare(2 classes) Social Welfare Policies: Education: Right To Education(2 classes) Health: National Health Mission(2 classes) **Term 3 (10 Classes)** Social Welfare Policies: Food: Right To Food Security(2 classes) Employment: MNREGA(3 classes) Types of media and their significance for legislators(3 classes) Basics of communication in print andelectronic media(2 classes)

5TH SEM	5TH SEM
CC-12: *Barani: Ideal Polity	**Term-1 (10 Classes)**
	Syllabus outcome(1 class)
*Abul Fazal:	Barani: Ideal Polity(3 classes)
Monarchy	Abul Fazal: Monarchy(3 classes)
*Kabir: Syncretism	An Historical Overview of the United Nations
DSE-2: The United Nations	Principles and Objectives(3 classes)
	Term 2 (10 Classes)
	Kabir: Syncretism(3 classes)
	Structures and Functions: General Assembly; Security Council, and Economic and Social Council; the International Court of Justice(5 classes)
	United Nations Educational, Scientific and Cultural Organisation [UNESCO](2 classes)
	Term 3 (10 Classes)
	The specialised agencies (International Labour Organization [ILO](2 classes)
	World Health Organisation [WHO](2 classes)
	UN programmes and funds: United Nations Children's Fund [UNICEF](1 class)
	United Nations Development Programme [UNDP](2 classes)
	United Nations Environment Programme [UNEP](1 class)
	United Nations High Commissioner (1 class)
	Peace Keeping, Peace Making and Enforcement, Peace Building and Responsibility to Protect
	Millennium Development Goals(1 class)
6th SEM :	**6th SEM :**
	Term-1 (10 Classes)
CC-14: *Tagore: Critique of Nationalism	Syllabus outcome(1 class)
	Tagore: Critique of Nationalism(3 classes)
*Iqbal: Community	Tagore: Critique of inter nationalism(2 classes)
*Savarkar: Hindutva	Iqbal: Community (2 classes)
*Nehru: Secularism	Project(2 Classes)
*Lohia: Socialism	**Term 2 (10 Classes)**
DSE-3: Groundings	Savarkar: Hindutva(2 classes)
Patriarchy	Nehru: Secularism(2 classes)
a. Sex-Gender Debates	Sex-Gender Debates(2 classes)
	Public and Private(2 classes)
b. Public and	Project(2 Classes)

Private c. Power **DSE-4**: PROJECT	**Term 3 (10 Classes)** Lohia: Socialism(3 classes) Concept of Power(3 classes) Project(3 Classes) Revision(1 class)
GE-1: Approaches to understanding Patriarchy	**GE-1** **Term-1 (5 Classes)** Feminist theorising of the sex/gender distinction(3Classes) Biologism versus social constructivism(2Classes) **Term 2 (5 Classes)** Understanding Patriarchy and Feminism(5 classes) **Term 3 (5 Classes)** Liberal, Socialist, Marxist, Radical feminism(3classes) New Feminist Schools/Traditions(2 classes)
GE-2: Local governance	**GE-2** **Term-1 (5 Classes)** Concept of government (3 classes) Decentralization (2 classes) **Term 2 (5 Classes)** Concept of governance(2 classes) Difference between Government and Governance(1 Class) Democratic decentralization(2 classes) **Term 3 (5 Classes)** Meaning of participation(1 class) People's participation in Governance(3 classes) Women participation(1 class)
GE-3: Thought: Gandhian Theory and Action	**GE-3** **Term-1 (5 Classes)** Theory of Satyagraha(2 classes) Satyagraha in Action(3 classes) **Term 2 (5 Classes)** Peasant Satyagraha: Kheda (3 classes) The Idea of Trusteeship(2 classes) Signature Not Verified **Term 3 (5 Classes)** Temple Entry and Critique of Caste(2 classes) BIDYUT SAMANTA Social Harmony: 1947and Communal Unity(3 classes) 22.06.2024

GE-4: The United Nations	GE-4
	Term-1 (5 Classes)
	An Historical Overview of the United Nations(3 classes)
	Principles and Objectives(2 classes)
	Term 2 (5 Classes)
	Structures and Functions: General Assembly; Security Council, and Economicand Social Council; the International Court of Justice (3classes)
	specialised agencies like ILO,UNESCO,UNDP,UNEP,UNHCR(2classes)
	Term 3 (5 Classes
	Peace Keeping, Peace Making and Enforcement(2 classes)
	Peace Building and Responsibility to Protect(2 classes)
	Millennium Development Goals(1 class)

Department of Political Science
Teaching plan

Name of the Teacher: Kaushik Chakraborty

Allotted syllabus	Teaching plan
CC2: The Constituent Assembly and the Constitution: Philosophy of the Constitution, the Preamble, and Features of the Constitution, Fundamental Rights and Directive Principles	**1st Semester: Term 1 (10 Classes)** 1.Background and history of the Constituent Assembly(5 Classes) 2.Making of the Constitution (3 Classes) 3. Features of the Indian Constitution (2 Classes) **Term 2 (10 Classes)** 1. Philosophy of the Constitution (3 Classes) 2.Significance of the Preamble (4 Classes) 3. Nature of State as described in the Preamble (3 Classes) **Term 3 (10 Classes)** 1. Fundamental Rights (3 Classes) 2. Fundamental Duties(2 Classes) 3. Directive Principles and State Policy(5 Classes)
CC3: The Universality of Rights CC4: Regional Aspirations & Religion and Politics	**2nd Sem: Term 1 (10 Classes)** 1. Natural Rights (4 Classes) 2. Moral Rights (3 Classes) 3. Legal Rights (3 Classes) **Term 2 (10 Classes)** 1.Three Generations of Rights (5 Classes) 2.Rights and Obligations (5 Classes) **Term 3 (10 Classes)** 1. Rights of the girl child (3 Classes) 2.Regional Aspirations (4 Classes) 3.Religion and Politics (3 classes)

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CC7: Studying International Relations & Theoretical Perspectives(Classical Realism & Neo-Realism Liberalism & Neoliberalism**)** SEC1: Measuring Public Opinion with Surveys: Representation and sampling	**3rdSem: Term-1 (20 Classes)** 1.How do you understand International Relations: Levels of Analysis (5 Classes) 2.Idea of I.R (3 Classes) 3.Evolution of I.R (4 Classes) 4.Idealism (2 Classes) 5.Six Principles of Realism (2 Classes) 6.Neo Realism (2 Classes) 7.Idea of Globalisation (2 Classes) **Term- 2 (20 Classes)** 1.History and IR (5 Classes) 2.Medieval age and the idea of State (4 Classes) 3. Emergence of the International State System (6 Classes) 4.Pre-Westphalian System (3 Classes) 5.Treaty of Westphalia (2 Classes) **Term-3 (20 Classes)** 1.Post-Westphalia(3 Classes) 2.Classical Realism (4 Classes) 3. Neo-Realism (3 Classes) 4.Liberalism (4 Classes) 5.Neoliberalism (3 Classes) 6.Measuring Public Opinion with Surveys: Representation and sampling (3 Classes)
CC8: Democratization CC10: Contemporary Global Issues & Global Shifts: Power and Governance SEC2: Powers and functions of people's representative at different tiers of governance	**4th Sem: Term 1 (20 Classes)** 1.Idea of Colonialism, Post Colonialism, Democracy and their relations (7 Classes) 2.Process of democratization in postcolonial Countries (4 classes), post-authoritarian countries (3 classes) 3.post-communist countries (3 Classes) 4.Ecological Issues: Historical Overview (3 Classes)

	Term-2 (20 classes) 1.Ecological issues and International Relations (4 Classes) 2.Ecological issues and Environmental Agreements (5 Classes) 3.Issues of Climate Change and IR (5 Classes), 4.Global Commons Debate (3 Classes) 5.Proliferation of Nuclear Weapons (3 Classes) **Term- 3 (20 Classes)** 1.International Terrorism: Non-State Actors and State Terrorism; Post 9/11 developments (4 Classes) 2.Migration (3 Classes) 3.Human Security (3 Classes) 4. Global Shifts: Power and Governance (2 Classes) 5. Legislative Practices and Procedures: Powers and functions of people's representative at different tiers of governance (4 Classes) 6. Members of Parliament, State legislative assemblies (2 Classes) 7. functionaries of rural and urban localself - government from Zila Parishad, Municipal Corporation to Panchayat/ward. (2 Classes)
CC11: Locke DSE1: India's Foreign Policy:From a Postcolonial State to an Aspiring Global Power India's Negotiating Style and Strategies: Trade, Environment and Security Regimes India in the Contemporary Multipolar World	**5TH SEM Term-1 (20 Classes)** 1. Locke:Background (2 Classes) 2. Locke:Laws of Nature (3 Classes) 3.Comparison with Hobbes and Rousseau (4 Classes) 4.Natural Rights (3 Classes)

	5.Property (2 Classes) 6. Comparison between Natural rights, Moral Rights and Legal Rights (2 Classes) 7.Right to dissent; justification of property (4 Classes) **TERM-2 (20 Classes)** 1.Basic features of India's Foreign Policy (4 Classes) 2.Principles of India's Foreign Policy. (4 Classes) 3.Objectives of India's Foreign Policy (3 Classes) 4. Idea of Globalizing world. (4 Classes) 5. Unipolarity and Multipolarity and changing dimensions of India's Foreign Policy (5 Classes) **TERM-3 (20 Classes)** 1.India's Foreign Policy: From a Postcolonial State to an Aspiring Global Power (5 Classes) 2.India's Relations with the USA (2 Classes) 3. And with USSR/Russia (3 classes) 4.India's Engagements with China (2 Classes) 5.India in South Asia: Debating Regional Strategies (3 Classes) 6.India's Negotiating Style and Strategies: Trade, Environment and Security Regimes (3 Classes) 7.India in the Contemporary Multipolar World (2 Classes)
CC13: Modernity and its discourses & Alexandra Kollontai DSE4: Project	
	6th SEM :Term-1 (20 C 1.Introduction to the idea ...moq...ity (04 Classes) 2. Brief history of ancient Gree... Roman and

	Medieval era to understand the core idea of modernity (7 Classes)
	3. Medieval age and the role of Religion (3 Classes)
	4. Project writing: Title identification, discussion on theoretical population, objective of research, methodology, (6 Classes)
	
	Term: 2 (20 Classes)
	   1. Features of Renaissance (3 Classes)
	   2. Features of Modernity (3 Classes)
	   3. Secularism (3 Classes)
	   4. Idea of Nation State (2 Classes)
	   5. Idea of Humanity, Rationalism, Revaluation of Religion, Revaluation of age old scripts, Idea of Individualism (3 Classes)
	   6. Project Work : Formation of Research Questions, Discussion on Study Population, Methods of data collection, tabulation and analysis (6 Classes)
	
	TERM-3(20 Classes)
	1. Sociological and Political aspect of modernity (3 Classes)
	2. Alexandra Kollontai: Winged and wingless Eros (3 Classes)
	3. Alexandra Kollontai: Idea of Proletarian woman (4 Classes)
	4. Alexandra Kollontai: Idea of Socialization of housework (2 Classes)
	5. Alexandra Kollontai: disagreement with Lenin (3 Classes)
	6. Project Work: Discussion on Book Review Reference style, Bibliography (5 Classes)

GE2: Environmental governance & Good governance initiatives in india: best practices	Signature Not Verified **GE 2 Term -1(5 classes)** BIDYUT SAMANTA 1.Idea of Environment (1 class) 22.06.2024

	2.Environment and poitics(1 class) 3 Environment and political theory(1 class) 4.Global Environmental movements(2classes) **Term-2(5 classes)** 1.Idea of environmental citizenship(2classes) 2.Idea of Green Political theory(3 classes) **Term-3(5 classes)** 1.International Environmental agreements(2 classes) 2.Role of States(1class) 3.International agreements and International Relations(2 classes)
GE3**:** Gandhi on Modern Civilization and Ethics of Development	**GE 3 Term -1(5 classes)** 1.Idea of modernity(3 classes) 2.idea of renaissance(2 classes) **Term-2(5 classes)** 1.Modernity and Gandhian thought(2classes) 2.Modernity and alternative modernity (3 classes) **Term-3(5 classes)** 1.Idea of Development(1 class) 2.Development and Growth(1 class) 3.Development and alternative modernity(1 class) 4. Idea of ethics and its relations with development(2 classes)

Teaching Plan

Department of Political Science, Kharagpur College

Name of the Teacher-Subrata Paria, Dept of Political Science

1st Semester   Paper-CC1

Name of the Paper-Political Theory and Practice

Allotted Topic	Lecture Topic	Number of Class	Remarks
The Grammar of Democracy	1.Defination of Democracy 2.History of Democracy 3.Classification of Democracy	02	
	4.Principles of Democracy 5.Conditions of Democracy	02	
Procedural Democracy and its critique	1.Concept of Procedural Democracy 2.Distinction between Procedural Democracy and Substantive Democracy	02	
	3.Tenets of Procedural Democracy 4.Exponents of Procedural Democracy 5.Critique and importance of Procedural Democracy	03	
Deliberative Democracy	1.Concept of Deliberative Democracy 2.Composition of Deliberative Democracy 3.Exponents of Deliberative Democracy	02	

Allotted Topics	Lecture Topic	Number of Class	Remarks
	4.Fetures of Deliberative Democracy 5.Distinction between Procedural and Deliberative Democracy 6.Evaluation of Deliberative Democracy	02	For Advanced and Slow learner-2 Class
Participation and Representation	1.Concept of Political Participation 2.Forms of Political Participation 3Intrigridents of Political Participation	03	
	4.Means of Representation 5.Theories of Representation	02	
	6.Types of Representation 7.Methods of Representation	02	
Total		20	Allotted Class-22

Paper-CC2

Name of the Teacher-Subrata Paria

Allotted Topics	Lecture Topic	Number of Class	Remarks
Federation and Decentralization	1.Concepts of Decentralization and Federation 2.Forms of Indian Federation 3.Nature of Indian Federation	04	

	4.Distribution of Legislative Powers between Centre and States 5.Role of Sarkaria Commission	02	
	6.Distribution of Administrative Powers between Centre and States 7.Role of Inter - State Council	02	
	7.Distribution of Financial powers among Centre and States 8.Role of Finance commission	02	
	9.Centralization	01	
Panchayat and Municipalities	1.Concept of Panchayat and Municipality 2.Structure of Panchayat 3.Role of Panchayat 4.Significance of 73rdAmendment	03	For Slow learner and Advance learner-04 Class
	5.Structure of Municipality 6.Role of Municipality 7.Impact of 74th Amendment	02	
Total		16	Allotted Class-20

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2nd Sem

Paper-CC3   Name of The Teacher-Subrata Paria

Name of the Paper-Political Theory-Concepts and Debates

Allotted Topics	Lecture Topic	Number of Class	Remarks
Indispensability of Justice-Procedural Justice	1.Coception of Justice 2.Source of Justice 3.Classical and Modern theory of Justice	04	
	4.Ideas of Procedural Justice 5. Rules of Procedural Justice	04	
	6.Exponents of Procedural Justice 7.Models of Procedural Justice	02	
Indispensability of Justice-Distributive Justice	1,Concepts ofDistributive Justice 2.Principles of Distributive Justice	02	
	3.Exponents of Distributive Justice 4.Rawals views on distributive Justice 5.Roles of Distributive Justice	02	
Indispensability of Global Justice	1.Concepts of Global Justice	02	

	2.Capital Punishment	02	For Advanced and slow Learner -02Class
Total		18	Allotted Class-20

Paper-CC4   Name of the Teacher-Subrata Paria

Allotted Topics	Lecture Topic	Number of Class	Remarks
Changing Pattern of Indian State-Development	1.Concept of Development 2.Development Strategy of Indian State 3.Goal of Indian State	02	
Changing Pattern of Indian State-welfare	1.Concept of welfare 2.Welfare programmes of Indian State 3.Changing nature from development to welfare of Indian State	02	For Advanced and Slow Learners-2 Class
Changing Pattern of Indian State-Coercive	1.Steps of coercive of Indian State 2.Changing nature from welfare to coercive nature of Indian State	02	
Total		08	Allotted Class-10

2nd Semester Name of the Teacher-Subrata Paria

Paper-GE2   Name of the paper: Governance: Issues and Challenges

Allotted Topics	Lecture Topic	Number of Class	Remarks
1.Government and Governance: Concepts	1.Differences between Government and Governance 2.Concept of State, Market and Civil Society	04	
	3.Meanings of Globalization	05	

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	4.Role of State in Globalization Era 4.Relation between State, Market and Civil Society		
2. Governance and Development	1.Meaning of Good Governance 2.Characteristics of Good Governance 3.Develpment and Good Governance 4.Dimensions of Good Governance	05	For Advanced and Slow Learner-02Class
Total		14	Allotted Class-16

3rd Semester

Name of the Teacher-Subrata Paria

Paper-V(Introduction to Comparative Government and Politics)

Allotted Topics	Lecture Topic	Number of Class	Remarks
Understanding Comparative Politics- Nature and Scope of Comparative Politics	1.Define Comparative Politics 2.Differences between Comparative Politics and Comparative Government	01	
	3.Subject matter and scope of Comparative Politics 4.Nature of Comparative Politics	02	
Understanding Comparative Politics- Going Beyond Euro-centrism	1.What is Euro-centrism? 2.Beyond Euro-centrism 3 Peter Grans on beyond Euro-centrism	02	

Historical Context of Modern Government-Capitalism :meaning ,development: globalization	1.Defined Capitalism 2.Features of Capitalism	02	
	3.Stages of Development of Capitalism	04	
	4..Meaning of Globalization 5.Process involved in Globalization 6.Globalization is the latest stage of Capitalism	02	
Historical Context of Modern Government-Socialism: meaning ,growth and development	1.Origin and Meaning of Socialism 2.Features of Socialism	02	
	3.Development of Socialism 4.Comunism and Socialism in the1990century 5Differencs between Socialism Capitalism	02	For advanced and Slow Learner-2 Class
Historical Context of Modern Government-colonialism and decolonialism	1.Concept of colonialism and De-colonialism and anti-colonialism 2.Compare between colonialism and de-colonialism	02	
	3 .Decolonization in Asia, Africa and Latin America 4.Anti-Colonial Struggles	02	
Themes for Comparative analysis-a comparative study of constitutional developments of Britain ,Brazil ,Nigeria and China	1.Constitutional development of Britain, Brazil, Nigeria, and China 2.Comparative study between Britain, Brazil, Nigeria and China	12	

Themes for Comparative analysis-a comparative study of Political Economy of Britain ,Brazil, Nigeria and China	1.Political Economy of Britain 2.Political Economy of Brazil 3 Political Economy of Nigeria 4.Political Economy of China	10	
Total		43	Allotted Class-45

4th Sem

Paper-   CC8   Name of the Teacher-Subrata Paria

Name of the Paper-Political Processes and Institutions in Comparative   Perspective

Allotted Topics	Lecture Topic	Number of Class	Remarks
Approaches to studying Comparative Politics-Political Culture	1.Definations of Political Culture 2.Political Subculture 3.Types of Political Culture	04	
	4.Determinants of Political Culture 5.Functions of Political Culture	03	
Approaches to studying Comparative Politics-New Institutionalism	1.Concept of Political Institutionalism 2 Institutionalism in Comparative Politics	04	
	3.Institutionalism and New Institutionalism 4.New Institutionalism And Comparative Politics	04	
Electoral System	1.Concept of Electoral System 2.Electoral system of different countries	04	
	3 .Types of Electoral System	03	
Party System	1.Concept of Political Party System 2.Historical context of emergence of the UK, USA, China Party System	04	
	3.Classifiation of Party System 4.Comparative Study of Political Parties of UK,USA and China	04	

Nation-State	1.What is Nation? 2.What is Nation-State? 3 What are differences between Nation and State? 4.Nation and State -Debates	06	Slow learner and advanced -02 Class
Total		36	Allotted Class-38

Semester-4 Name of the Teacher-Subrata Paria

Paper-SEC2 Name of the Paper-Legislative Practices and Procedure

Allotted Topics	Lecture Topic	Number of Class	Remarks
Supporting the Legislative Process	1.India is a Parliamentary System 2.Concept of Parliament 3.Bill and Law	02	
	4.Law Making Process 5. Role of Standing Committee	03	
	6.Rules Committee 7.The Framing of Rules	02	
Total		07	Allotted Class-07

6th Semester Name of the Teacher- Subrata Paria

Paper-14 Name of the Paper-Indian Political Thought-II

Allotted Topic	Lecture Topic	Number of Class	Remarks
Introduction to Modern Indian Modern Indian Political Thought	1,Concept of Modern Indian Political Thought 2.Streams of Modern Political Thought 3.Exponents of Modern Indian Political Thought 4.Differencs between Ancient	04	

	Political Thought and Modern Indian Political Thought		
Rammohan Roy	1.Introduction 2.Rammohan Roy and Modernization	03	
	3.Social Reformation and Individual Rights 4.Women Rights 5.Rammohan and Freedom of Thought 6.Liberal thought of Rammohan Roy	06	
Pandita Rambai:Gender	1.Introduction 2.Aspects of Feminist thought of Ramabai 3.Institutional Pursuits for women emancipation	05	
Vivekananda:Ideal society	1.Introduction 2.Nationalism of Vivekananda	04	
	3.concept of Ideal Society 3.Pillars of ideal Society 4.Socalist Concept of Vivekananda	06	
Gandhi:Swaraj	1.Introduction 2.Main Tenets of Gandhian Thought 3.Gandhi Concept of Satyagraha	04	

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	4.Gandhi Concept of Swaraj 5.Hind Swaraj 6.Nature of Swaraj	05	
Ambedkar: Social Justice	1.Introduction 2.Concept of Untouchability	03	
	3.Road to social Justice 4.Gandhi and Ambedkar on Emancipation of Untouchables-Comparative study	05	
Tagore Critique of Nationalism	1.Introduction 2.Concept of Nationalism 3.Critique of western Nationalism	05	Slow Learner and Advanced Learner-05
	4.Nationalism and Internationalism 5.Idea of Cosmopolitan	04	
Total		55	Allotted Class-60

Kharagpur College
Department of Political Science
Teaching plan
Name of the Teacher: Sk Anisur Rahman

ALLOTTED SYLLABUS	TEACHING PLAN
SEM: 1ST **CC-1:** Introducing Political Theory	**CC 1 (1st Sem)** **Term 1(8 lectures)** **CC-1** .Basic idea of Political theory . Idea of political approaches . Differences between Political theory and political approaches . Understanding of contemporary Political Theory . traditional vs Modern view of politics **Term- 2(10 lecture)** **CC-1** . Normative Approach of politics . Historical Approach of politics . Empirical Approach of politics . Role of Behaviouralism on different political approaches . Differences between Normative and Historical Approach . Differences between Normative and Empirical Approach of politics **Term -3 (12 lectures)** **CC-1** . Aspect of Critical Political Theory . Understanding of Feminism . Feminism as a movement . 1st wave of feminist movement .2nd wave of feminist movement . 3rd wave of feminist movement . Feminism as Theory .Liberal perspective of Feminism . Radical perspective of Feminism .Socialist perspective of Feminism . Dalith Feminism

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	. Eco Feminism . Black Feminism . Idea of Post Modernism
SEM: 2ND **CC- 3:** Importance of Freedom **CC-4:** *Determinants of Voting Behavior *Regional Aspirations	**CC3 & CC4 (2ND Sem)** <u>Term 1 (08 Lectures)</u> **CC3**: . concept of Freedom .Types of Freedom . Negative Freedom: Liberty **CC4**: .Voting Behavior . influence of social identity on voting Behavior . Role of caste **Term 2(12 Lectures)** **CC3**: . Positive liberty . Freedom as Emancipation . Freedom as Development **CC4**: .Role of Class, .Role of Gender . Role of Religion **Term 3(10 Lectures)** **CC3:** . Freedom of belief . Freedom expression and . Freedom of Dissent **CC4:** .Idea of Regional Aspirations . Politics of Secession and Accommodation.
SEM: 3RD **CC-7:** * Theoretical Perspectives * An Overview of Twentieth Century IR History **SEC-1:** Quantitative Data Analysis	**CC 7 & SEC (3rd Sem)** **Term 1 (20 Lectures)** **CC7**: .Importance of IR history . causes of World War I .Consequence World War I .Treaty of Versailles . Bolshevik Revolution . Socialism in USSR

	. AGGRESSIVE NATIONALISM
	. Rise of Fascism
	.Rise of Nazism
	SEC-1:
	. core idea of research
	. type of social science research
	. DATA
	. Type of DATA
	
	Term 2 (20 Lectures)
	CC7:
	.Causes OF World War II
	. Consequences OF World War II
	.Cold War: Different Phases
	    ➢ 1ST PHASE
	    ➢ 2ND PHASE
	    ➢ 3RD PHASE
	. Emergence of the Third World
	. Collapse of the USSR and the End of the Cold War
	SEC-1
	.Introduction to quantitative data analysis
	.Qualitative data
	 Term 3 (20 Lectures) **CC7:**
	. Post Cold War Developments and Emergence of Other Power Centers ofPower
	. Marxist Approaches
	.Feminist Perspectives
	.Eurocentricism
	.Perspectives OF the Global South
	SEC:1
	. Basic concepts: correlation research,
	. causation
	. prediction, descriptiveand inferential Statistics

SEM: 4TH **CC-8:** Democratization **CC-10:** Globalization: Conceptions and Perspectives **SEC-2:** Reading the Budget Document	**CC-8, CC-10 & SEC** **4th Sem** **Term1(20 Lectures)** **CC8:** .concept of Democracy . Democracy and society . Democracy and colonialism . concept of post colonialism . Process of democratization in postcolonial **CC10:** .Understanding Globalization . Different perspective of Globalization .anti Globalization theory . Debates on Sovereignty and Territoriality .Global Economy: Its Significance and Anchors of Global Political Economy **Term- 2 (25 Lectures)** **CC-8:** . Concept of authoritarian Government .post- authoritarian . Democratic authoritarian . post-communistcountries **CC10:** . IMF .World Bank . WTO . TNCs & MNC **SEC -2** .Types of committees . role of committees in reviewing government finances . role of committees in reviewing policy **Term- 3 (15 Lectures)** **CC-8** **.** Cultural and Technological Dimension .Global Resistances .Global Social Movements . NGOs & INGO . Global Civil Society. **SEC -2** .Role of committees in reviewing programmes, and legislation.

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SEM: 5TH **DSE-1:** *India's Relations with the USA and USSR/Russia *India's Engagements with China *India in South Asia: Debating Regional Strategies **DSE-2:** *Major Global Conflicts since the Second World War *Assessment of the United Nations as an International Organization: Imperativesof Reforms and the Process of Reforms	**DSE-1 (5th Sem)** Term-1(20 Lectures) **DSE-1:** .Objectives of India's Foreign Policy . India's Foreign Policy in Cold War Era .NAM . India's Relations with the USA In Cold war era .India's Relations with the USA after cold war Period .India –USA Relations in Contemporary Period .India- china relations in cold war era . India's Engagements with China in contemporary Period **DSE -2** . Importance of international war . Basic idea of war Strategy .Korean war **Term -2 (20 Lectures)** **DSE-1:** **.** India's strategic importance in South Asia .INDIA- PAKISTAN .INDIA-BANGLADESH . INDIA -BHUTAN . INDIA- MALDIVES **DSE -2** . Vietnam War . Afghanistan War .Balkan War **Term -3 (14 Lectures)** **DSE-1:** **.** India- USSR relations in cold war era . India's Engagements with Russia in contemporary Period . India –Russia Relations in Contemporary world **DSE -2** .INDIA- SRI LANKA Relations .INDIA-AFGHANISTAN Relations **.**INDIA- NEPAL Relations

SEM: 6TH **CC-13**: Radicals **DSE-3:** Groundings **DSE-4:** PROJECT	**6th SEM** **CC13, DSE3, DSE4** **<u>Term- 1(20 Lectures)</u>** **CC13**: . Karl Marx . View on Alienation . Dialectical Materialism . Historical Materialism . Theory of Revolution .Theory of surplus value **DSE -3** .Feminism in India .History of the Women's Movement in India .Violence against women .Work and Labour **DSE-4** Project Work (Lec-4) **Term 2(20 Lectures)** **CC13** . Marxists' view on class struggle . socialist state .view on communism **DSE-3** .Visible and Invisible work .Reproductive and care work .SEX WORK **DSE -4** . Project (lec-6) **Term 3(20 Lectures)** **DSE-3** .Child Marriage . Discrimination on Work Place .Type of Indian Feminism . post Modern Feminism .Dalith Feminism **DSE -4** . Project (L – 10)

GE-1: History of Feminism	**GE-1** **Term -1(lec -15)** .History of Feminism .Origins of Feminism in the West: France .Britain and United States of America .Feminism in the Socialist Countries: China, Cuba and erstwhile USSR .Feminist issues and women's participation in anti-colonial and national liberation movements with special focus on India
GE- 4: *Major Global Conflicts since the Second World War *Assessment of the United Nations as an International Organization: Imperativesof Reforms and the Process of Reforms	**GE-4** **Term-1 (lec-16)** . Korean War **.** Vietnam War . Afghanistan War . Balkan War

Teaching plan

Department of Political Science

Name of the Teacher: Sk Najibul Hossen

ALLOTTED SYLLABUS	TEACHING PLAN

1st Semester
CC1: What is Politics: Theorizing the 'Political'
     Traditions of Political Theory
	CC 1 (1st Sem)
	     Term 1(10 lectures)
	Course Outcome[L1]
	Understanding Political Theory [L2,L3]
	Introducing political theory[L4,L5,L6]
	Etymological meaning of politics[L7]
	Defination and meaning of politics[L8]
	Aspects of politics[L9,L10]
	          Term2(10 lectures)
	Theorizing the political[L1,L2,L3,L4]
	Traditions of political theory[L5,L6,L7]
	Liberal theory of Politics[L8,L9,L10]
	          Term 3(10 Lectures)
	Marxist theory of politics and Marxism [L1,L2,L3,L4]
	Anarchist theory[L5,L6]
	Conservative theory of politics[L7,L8]
	Conclusion[L9]
	Revision[L10]

2nd Semester
CC3: Major Debates
CC4: Political Parties and the Party System
	CC3 & CC4 (2ND Sem)
	          Term 1 (10 Lectures)
	CC3:
	Course Outcome[L1]
	Define state[L2]
	Why should we obey the state?[L3]
	political obligation and civildisobedience[L4]
	concept of rights[L5]
	CC4:
	Course Outcome[L1]
	Concept of poltical party and party system[L2,L3]
	Definition of poltical party[L4]
	Types of political parties[L5,]
	          Term 2(10 Lectures)
	CC3:
	Rights and Obligation[L1]
	Theory of relativism[L2]
	Issue of cultural relativism[L3,L4]
	Are Human Rights Universal[L5]
	CC4:
	Indian Party System[L1,L2,L3]
	Types of Party system[L4]
	Hegemony of Congress Party in India[L5]

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	<u>Term 3(10 Lectures)</u> CC3: How do we accommodate diversity in plural society?[L Multiculturalism theory[L2] Multiculturalism and toleration[L3] Conclusion[L4] Revision [L5] CC4: Trends in the Party System[L1] From congress system to multi party system[L2] Coalition government[L3] Conclusion[L4] Revision [L5]

3rd Semester
CC6: Neo-classical theories
    Contemporary theories
    Public policy
    Major approaches in public administration
SEC1: Interpreting polls
	CC6 & SEC(3rd Sem)
	  <u>Term 1 (20 Lectures)</u>
	CC6:
	Course Outcome[L1]
	Meaning and scope of Public Administration[L2,L3,L4]
	Human relations theory[L5,L6,L7]
	Rational decision-making[L8,L9,L10]
	Evaluation of public administration[L11,L12,L13,L14,L1
	SEC:
	Course Outcome[L1]
	Interpreting polls [C, L5]
	
	   <u>Term 2 (20 Lectures)</u>
	CC6:
	Minobrook Conference[L1,L2]
	New Public Administration[L3,L4,L5,L6,L7]
	New Public Management[L8,L9,L10,L11,L12]
	New Public Service Approach[L13,L14,L15]
	SEC:
	Prediction in polling research: possibilities and pitfalls[L1
	
	 <u>Term 3 (20 Lectures)</u>
	Public Policy; Concept, relevance and approaches[L1,L2,
	Formulation, implementation and evaluation[,L4,L5,L6]
	Good Governance[L8,L9,L10]
	Feminist Perspectives[L L15]
	Conclusion [L14]
	Revision [L15]
	SEC:

	Politics of interpreting polling [L1,L2,L3] Conclusion [L4] Revision[L5]

4th Semester
CC8: Federalism
CC9: Public Policy
     Budget
     Citizen and Administration Interface
SEC2: Reading the Budget Document
	CC8,CC9 & SEC(4th Sem)
	Term1(20 Lectures)
	CC8:
	Course Outcome[L1]
	Historical context Federation and Confederation[L2,L3,
	CC9:
	Course Outcome[L1]
	Public Policy; Concept, relevance and approaches[L2,L3,
	Definition, characteristics and models[L6,L7,L8]
	Public Policy Process in India[L9,L10]
	SEC:
	 Course Outcome[L1]
	Overview of Budget Process[L2,L3,L4,L5]
	
	Term 2 (20 Lectures)
	CC8:
	 Federalism theory[L1,L2,L3,L4,L5]
	CC9:
	Concept and Significance of Budget[L1,L2,L3,L4,L5]
	Budget Cycle in India[L6,L7,L8, L9,L10]
	SEC:
	Role of Parliament in reviewing the Union Budget[L1,L2,
	RailwayBudget[L4,L5]
	
	Term 3 (20 Lectures)
	CC8:
	  debates around territorial division of power[L1,L2,L3
	CC9:
	Various Approaches and Types Of Budgeting[L1,L2,L3]
	Public Service Delivery[L4,L5,L6]
	Redressal of Public Grievances[L7,L8]
	RTI, Lokpal, Citizens' Charter and E-Governance[L9,L10
	SEC:
	Examination of Demands for Grants of Ministries, Workin

5th semester
CC11: Classical Political Philosophy
     > Plato
     > Aristotle
	CC11(5th Sem)
	Term1(20 Lectures)

> Machiavelli > Locke	Course Outcome[L1] Plato's Philosophy and Politics[L2,L3,L4] Theory of Forms and Justice[L5,L6,L7] Philosopher King/Queen[L8] CommunismPresentation theme: Critique of Democracy [Women and Guardianship, Censorship[L12,L13] Political Philosopy of Aristotle[L14] Forms and Virtue[L15,L16] Citizenship and Justice[L17,L18] State and Household[L19,L20] Term 2 (20 Lectures) Presentation themes of Aristotle[L2,L3] Classification of governments[L4,L5,L6,L7,L8] Man as zoon politikon[L9,L10] Concept of Machiavelli[L11,L12] Virtu and Religion[L13,L14,L15] Republicanism[L16,L17] Presentation themes: morality[L18,L19,L20] Term 3 (20 Lectures) Presentation themes: statecraft; vice and virtue [L1,L2,L3,L4] Concept of Locke[L5,L6] Laws of Nature[L7,L8] Natural Rights and Property[L9,L10,L11,L12] Presentation themes: Natural rights[L13,L14,L15] Presentation themes : right to dissent[L16,L17] justification of property[L18,L19] Revision[L20]

6th semester
CC13: Jean Jacques Rousseau
      Mary Wollstonecraft
       John Stuart Mill
DSE3: Family, Community, State
DSE4: Project
	CC13,DSE3,DSE4(6TH SEM)
	Term 1(20 Lectures)
	CC13:
	Course Outcome[L1]
	Theory of Rousseau[L2,L3]
	Presentation themes: General Will[L4,L5,L6]
	local or direct democracy[L7,L8]
	 self-government and origin of inequality[L9,L10]
	DES3:
	Concept of family in the light of feminism[L1 to L5]
	DSE4:
	Project work[L1 to L5]
	Term 2 (20 Lectures)

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	CC13: Concept of Mary Wollstonecraft[L2,L3] Presentation themes: Women and paternalism[L4,L5,L6] critique of Rousseau's idea ofeducation[L7,L8,L9] legal rights[L10] DSE3: Community [L1 to L5] DSE4: Project work[L1 to L5] Term 3 (20 Lectures) CC13: Liberalistic thought of J.S.Mill[L1,L2] Presentation themes: Liberty[L3,L4] suffrage and subjection of women[L5,L6] Rights of minorities and utility principle[L7,L8,L9] Revision [L10] DSE3: Concept of State[L1 to L5] DSE4: Project work[L1 to L5]
4th sem Generic GE4: The United Nations **>** Structures and Functions > Peace Building and Responsibility to Protect > Millennium Development Goals	**GE4 (4th Sem)** Term1(5 Lectures) Structures and Functions: General Assembly; Security Economicand Social Council; the International Court of Ju Term 2(5 Lectures) The specialized agencies[L1,L2,L3] Peace Keeping, Peace Making and Enforcement[L4,L5] Term 3(5Lectures) Peace Building and Responsibility to Protect[L1,L2,L3] Millennium Development Goals[L4,L5] [NB: L=Lecture] Signature Not Verified BIDYUT SAMANTA 22.06.2024

Kharagpur College
Department of Political Science
Teaching Plan
Programme : UG/BA

Name of the Teacher: Prof. Sudhangsu Barman

Allotted Syllabus	Teaching Plan
1st Semester: **CC-2: *** Organs of Government *Federalism and Decentralization	**1st Semester:** **Term 1 (10 Classes)** Syllabus outcome(1 class) Idea of government and organs of government (3 classes) Executive section of Government(3 Classes) Legislative section of Government(3 Classes) **Term 2 (10 Classes)** Judiciary section of government(3 classes) Center- state relations (2 Classes) Concept of federalism(2 classes) Indian federal structure(3 classes) **Term 3 (10 Classes)** Division of Powers (1 class) Emergency Provisions(2 classes) Fifth and Sixth Schedules(2 classes) Panchayati Raj and Municipalities(4 classes) Revision (1 class)
2nd Sem: **CC-3**: Significance of Equality **CC-4:** * Caste and Politics * Affirmative Action Policies	**2nd Sem:** **Term 1 (10 Classes)** Syllabus outcome(1 class) Concept of Equality(1 class) Formal Equality: Equality of opportunity(3 classes) Political equality(2 classes) Caste in Politics and the Politicization of Caste(3 classes) **Term 2 (10 Classes)** Political equality(3 classes) Background of Egalitarianism(2 classes) Egalitarianism: inequalities and differential treatment(5 classes) **Term 3 (10 Classes)** *Important Issue*: Affirmative action (5 classes) Women and politics(2 classes) Caste and Class(2 classes) Revision(1 class)

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3rd Sem: **CC-5**: Themes for comparative analysis **CC-6**:* Public administration as a discipline *Classical theories **SEC-1**: Introduction to the course	**3rd Sem:** **Term-1 (10 Classes)** Syllabus outcome(1 class) Concept of development(1 class) A comparative study of constitutional developments and political economy in thefollowing countries: Britain and Brazil(4 classes) Meaning of the Public Administration as a Discipline (2 classes) Public and Private Administration(2 classes) **Term 2 (10 Classes)** Evolution of Public Administration(5 classes) comparative study of constitutional developments and political economy in thefollowing countries Nigeria and China(4 classes) Dimensions of the Public Administration as a Discipline(1 class) **Term 3 (10 Classes)** Significance of Public Administration as a Discipline (3 classes) Definition and characteristics of public opinion(3 classes) conceptions and characteristics of public opinion(2 classes) debates about its role in a democratic political system(2 classes)
4th Sem: **CC-8:** Federalism **CC-9: *** Decentralization *Social Welfare Administration **SEC-2:** Support in media monitoring and communication	**4th Sem:** **Term-1 (10 Classes)** Syllabus outcome(1 class) Historical context Federation and Confederation(2 classes) Debates around territorial division ofpower(3 classes) Meaning, significance of Decentralization(2 classes) approaches and types of Decentralization(3 classes) **Term 2 (10 Classes)** Local Self Governance: Rural and Urban(4 classes) Concept and Approaches of Social Welfare(2 classes) Social Welfare Policies: Education: Right To Education(2 classes) Health: National Health Mission(2 classes) **Term 3 (10 Classes)** Social Welfare Policies: Food: Right To Food Security(2 classes) Employment: MNREGA(3 classes) Types of media and their significance for legislators(3 classes) Basics of communication in print andelectronic media(2 classes)

5TH SEM	5TH SEM

CC-12: *Barani: Ideal Polity
 	
    *Abul Fazal:
  Monarchy
      *Kabir: Syncretism
DSE-2: The United Nations
	Term-1 (10 Classes)
	Syllabus outcome(1 class)
	Barani: Ideal Polity(3 classes)
	Abul Fazal: Monarchy(3 classes)
	An Historical Overview of the United Nations
	Principles and Objectives(3 classes)
	Term 2 (10 Classes)
	Kabir: Syncretism(3 classes)
	Structures and Functions: General Assembly; Security Council, and Economic and Social Council; the International Court of Justice(5 classes)
	United Nations Educational, Scientific and Cultural Organisation [UNESCO](2 classes)
	Term 3 (10 Classes)
	 The specialised agencies (International Labour Organization [ILO](2 classes)
	World Health Organisation [WHO](2 classes)
	UN programmes and funds: United Nations Children's Fund [UNICEF](1 class)
	 United Nations Development Programme [UNDP](2 classes)
	 United Nations Environment Programme [UNEP](1 class)
	United Nations High Commissioner (1 class)
	
	Peace Keeping, Peace Making and Enforcement, Peace Building and Responsibility to Protect
	Millennium Development Goals(1 class)

6th SEM :
 	
CC-14: *Tagore: Critique of Nationalism
*Iqbal: Community
*Savarkar: Hindutva
*Nehru: Secularism
*Lohia: Socialism
DSE-3: Groundings
Patriarchy
          a. Sex-Gender
            Debates
          b. Public   and
	6th SEM :
	Term-1 (10 Classes)
	Syllabus outcome(1 class)
	Tagore: Critique of Nationalism(3 classes)
	Tagore: Critique of inter nationalism(2 classes)
	Iqbal: Community (2 classes)
	Project(2 Classes)
	Term 2 (10 Classes)
	Savarkar: Hindutva(2 classes)
	Nehru: Secularism(2 classes)
	Sex-Gender Debates(2 classes)
	Public and Private(2 classes)
	Project(2 Classes)

Private c. Power **DSE-4**: PROJECT	**Term 3 (10 Classes)** Lohia: Socialism(3 classes) Concept of Power(3 classes) Project(3 Classes) Revision(1 class)
GE-1: Approaches to understanding Patriarchy	**GE-1** **Term-1 (5 Classes)** Feminist theorising of the sex/gender distinction(3Classes) Biologism versus social constructivism(2Classes) **Term 2 (5 Classes)** Understanding Patriarchy and Feminism(5 classes) **Term 3 (5 Classes)** Liberal, Socialist, Marxist, Radical feminism(3classes) New Feminist Schools/Traditions(2 classes)
GE-2: Local governance	**GE-2** **Term-1 (5 Classes)** Concept of government (3 classes) Decentralization (2 classes) **Term 2 (5 Classes)** Concept of governance(2 classes) Difference between Government and Governance(1 Class) Democratic decentralization(2 classes) **Term 3 (5 Classes)** Meaning of participation(1 class) People's participation in Governance(3 classes) Women participation(1 class)
GE-3: Thought: Gandhian Theory and Action	**GE-3** **Term-1 (5 Classes)** Theory of Satyagraha(2 classes) Satyagraha in Action(3 classes) **Term 2 (5 Classes)** Peasant Satyagraha: Kheda (3 classes) The Idea of Trusteeship(2 classes) **Term 3 (5 Classes)** Temple Entry and Critique of Caste(2 classes) Social Harmony: 1947and Communal Unity(3 classes)

GE-4: The United Nations	GE-4
	Term-1 (5 Classes)
	An Historical Overview of the United Nations(3 classes)
	Principles and Objectives(2 classes)
	Term 2 (5 Classes)
	Structures and Functions: General Assembly; Security Council, and Economicand Social Council; the International Court of Justice (3classes)
	specialised agencies like
	ILO,UNESCO,UNDP,UNEP,UNHCR(2classes)
	Term 3 (5 Classes
	Peace Keeping, Peace Making and Enforcement(2 classes)
	Peace Building and Responsibility to Protect(2 classes)
	Millennium Development Goals(1 class)

Department of Sanskrit
Syllabus Distribution and Teaching Plan
Session: 2023-2024 (ODD SEMESTER)

Name of the Teacher: Dr. Jagamohan Acharya, Associate Professor in Sanskrit

		Semester 1		
Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Jagamohan .Acharya	MJ 1T: Critical Survey of Sanskrit Literature	Section 'A' – Vedic Literature Section 'B'- Rāmāyaṇa, Mahābhārata &Purāṇa: Section 'C'- General Introduction to Vyākaraṇa, Darśana and Sāhityaśāstra	Lesson -1	Brief Introduction of Vedic Literature
			Lesson -2	General outline of Brāhmaṇa Literature
			Lesson -3	General outline of Āraṇyaka Literature
			Lesson -4	General Introduction to Upaniṣad Literture
			Lesson -5	Subject matter of principal Upaniṣads
			Lesson -6	Discussion on Vedāṅga
			Lesson -7	General outline of Six Vedāṅga-2
			Lesson -8	Purāṇa: Subject matter, Characteristics in the Puranas
			Lesson -9	Purāṇa: Social, Cultural in Puranic Literature
			Lesson -10	Purāṇa: Historical Importance in Puran literature
			Lesson -11	General Introduction to Vyākaraṇa- a brief history of Vyākaraṇaśāstra
			Lesson -12	General Introduction to Poetics- Six major schools of
			Lesson -13	Indian Poetics-Rasa, Alaṁkāra, Rīti,
			Lesson -14	General Introduction to Poetics- Six major schools of Indian Poetics-, Dhvani, Vakrokti and Aucitya.

Dr. Jagamohan .Acharya	SEC 1: Reading & Writing Skills in Devanāgarī & Brāhmī scripts	Section- A: Kind of Early Indian Scripts Section – B: Devanāgarī alphabets	Lesson -1	North Indian Script: Siddhamātṛkā, Śāradā
			Lesson -2	South Indian Scripts: Grantha
			Lesson -3	East Indian Scripts: Gauḍī
			Lesson -4	West/Central Indian Scripts: Nandināgarī, Devanāgarī
			Lesson -5	
			Lesson -6	West/Central Indian Scripts: Nandināgarī, Devanāgarī Vākāṭaka varity:
			Lesson -7	Devanāgarī alphabets with compound letter/Diphthongs
			Lesson -8	Uses of Devanāgarī in Roman scripts with Diacritics mark
			Lesson -9	Uses of Devanāgarī in Roman scripts with Diacritics mark
			Lesson -10	
			Lesson -11	Transcription:- from Devanāgarī to Brāhmī Scripts. Transcription:- from Devanāgarī to Brāhmī Scripts.

Semester III

Name	Paper	Syllabus Allotted	Lesson Plan	
Dr. Jagamohan .Acharya	C5T: Classical Sanskrit Literature (Drama)	Mudrārākasam - Viśākhadatta, Act-I, II & III Critical survey of Sanskrit Drama	Lesson -1	General Introduction of Nataka and Mudraraksasam
			Lesson -2	Act-1: text reading and discussion
			Lesson -3	Act-I: Text reading and discussion
			Lesson -4	Act-II: Text reading and discussion
			Lesson -5	Act-II: Text reading and discussion
			Lesson-6	Act-III: Text reading and discussion
			Lesson-7	Act-III: Text reading and discussion
			Lesson-8	Summaries of the Drama.
			Lesson-9	Critical survey of Sanskrit drama
			Lesson-10	Critical survey of Sanskrit drama
Dr. Jagamohan .Acharya	C6T: Poetics and literary criticism	1. Section C/Śabda-śakti and rasa-sūtra	Lesson -1	Introduction to Poetics
			Lesson -2	A discussion on literary criticism
			Lesson -3	Power/Function of word and meaning according to kāvyaprakāśa)

			Lesson -4	Discussion on abhidhā (expression/ denotative meaning), (according to kāvyaprakāśa).
			Lesson -5	Discussion on laksanā (indication/ indicative meaning) (according to kāvyaprakāśa).
			Lesson -6	Discussion on vyañjanā (suggestion/ suggestive meaning). (according to kāvyaprakāśa).
			Lesson -7	Rasa: rasa-sūtra of Bharata (as discussed in Kāvyaprakāśa).
			Lesson -8	Discussion on : utpattivāda, anumitivāda, (as discussed in Kāvyaprakāśa).
			Lesson -9	Discussion on : bhuktivāda and abhivyaktivāda, alaukikatā (as discussed in Kāvyaprakāśa).
			Lesson -10	Rasa: rasa-sūtra of Bharata and its prominent expositions: utpattivāda, anumitivāda, (transcendental nature) of rasa (as discussed in Kāvyaprakāśa).

Dr. Jagamohan .Acharya	C7T: Indian Social Institutions and Polity	1. **Section A/Indian Social Institutions: Nature and Concepts** 2. **Section B/Structure of Society and Values of Life** 3. **Section C/Indian Polity: Origin and Development** 4. **Section D/Cardinal Theories and Thinkers of Indian Polity**	Lesson -1	Indian Social Institutions: Definition and Scope:
			Lesson -2	Sociological Definition of Social Institutions. Trends of Social Changes, Sources of Indian Social Institutions (Vedic Literature, Sūtra Literature, Purānas, Rāmāyana , Mahābhārata ,Dharmaśāstras, Buddhist and Jain Literature, Literary Works, Inscriptions, Memoirs of Foreign Writers)
			Lesson -3	Varna-System and Caste System: Four-fold division of Varna System, (Rgveda, 10.90.12), Mahābhārata, Śāntiparva, 72. 3-8);
			Lesson -4	Division of Varna according to Guna and Karma (Bhagvadgīta , 4.13, 18.41-44).
			Lesson -5	Origin of Caste-System from Inter-caste Marriages (Mahābhārata, Anuśāsanaparva, 48.3-11);
			Lesson -6	Emergence of non-Aryan tribes in Varna-System (Mahābhārata, Śāntiparva, 65.13-22).
			Lesson -7	Social rules for up-gradation and down-gradation of Caste System (Āpastambadharmasūtra, 2.5.11.10-11, Baudhāyanadharmasūtra, 1.8.16.13-14, Manusmrti, 10, 64, Yājñavalkyasmrti, 1.96)
			Lesson -8	Initial stage of Indian Polity (from Vedic period to Buddhist period). Election of King by the people: 'Viśas' in Vedic priod (Rgveda,10.173;10.174; Atharvaveda,6;6.87.1-2).
			Lesson -9	Parliamentary Institutions 'Sabhā, Samiti, Vidatha' in Vedic period (Atharvaveda,7.12.1 to 6 ; Rgveda ,10.85.26);

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				Lesson -10	King-maker 'Rājakartārah' Council in Atharvaveda (3.5.6-7),Council of 'Ratnis' in śatapathabrāhmana (5.2.5.1);
				Lesson -11	Coronation Ceremony of Samrāṭ in śatapathabrāhmana (51.1.8-13; 9.4.1.1-5).
				Lesson -12	Republic States in the Buddhist Period (Digghnikāya, Mahāparinibbana Sutta, Aṅguttaranikāya, 1.213; 4.252,256)
				Lesson -13	Later Stages of Indian Polity (From Kautilya to Mahatma Gandhi).
				Lesson -14	Concept of Welfare State in Arthaśāstra of Kautilya (Arthaśāstra, 1.13 : 'matsyanyāyābhibhuth' to 'yo' asmāngopāyatīti');
				Lesson -15	Essential Qualities of King (Arthaśāstra, 6.1.16-18: 'sampādayatyasampannaḥ' to 'jayatyeva na hīyate');
				Lesson -16	State Politics 'Rajadharma'(Mahābhārata , Śāntiparva,120.1-15; Manusmrti, 7.1-15; Śukranīti,1.1-15);
				Lesson -17	Constituent Elements of Jain Polity in Nitivākyāmrta of Somadeva Suri, (Dandanīti- samuddeśa, 9.1.18 and Janapada- samuddeśa, 19.1.10).
				Lesson -18	Relevance of Gandhian thought in modern period with special reference to 'Satyāgraha' philosophy ('Satyāgrahagītā' of Pandit Kshema Ananda Gāndhi Gītā', 5.1-25 of Prof. Indra)

			Lesson -19	Cardinal Theories of Indian Polity: 'Saptānga' Theory of State: 1.Svāmi, 2. Amātya, 3. Janapada 4. Pura, 5. Kośa, 6. Danda and 7. Mitra (Arthaśāstra, 6.1. Mahābhārata, Śāntiparva, 56.5, Śukranīti, 1.61-62).
			Lesson -20	'Mandala 'Theory of Inter-State Relations: 1.Ari, 2. Mitra, 3. Ari-mitra,4.Mitra- mitra, 5.Ari-mitra- mitra;
			Lesson -21	'Śādgunya' Policy of War and Peace : 1. Sandhi, 2. Vigraha, 3. Yāna, 4. Āsana, 5. Samśraya 6. Dvaidhibhāva.
			Lesson -22	'CaturvidhaUpāya'for Balancing the power of State : 1.Sāma 2.Dāma,3.Danda.4.Bheda;
			Lesson -23	Three Types of State Power 'Śakti': 1.Prabhu- śakti, 2. Mantra- śakti, 3. Utsāha-śakti.
			Lesson -24	Important Thinkers on Indian Polity: Manu, Kautilya, Kāmandaka, Śukrācārya, SomadevaSuri, Mahatma Gandhi.

Dr. Jagamohan .Acharya	**SEC-1: Acting and Script Writing**	**Section A/Acting (Abhinaya)**	Lesson -1	General outline about Abhinaya
		Section B/Script Writing	Lesson -2	Persons competent for presentation (acting) : kuśala (skilful), vidagdha (learned), pragalbha (bold in speech), jitaśramī (inured to hard-work) .
			Lesson -3	Lokadharmī and Nātyadharmī Abhinaya Nātya-prayoktā-gana (members of theatrical group)
			Lesson -4	sūtradhāra (director), nātyakāra (playwrighter), nata (actor) kuśīlava(musician), bharata, nartaka (dancer), vidūsaka (jester) etc.
			Lesson -5	Assignment of role: a. General principles of distribution b. Role of minor characters c. Role of women characters d. Special cases of assigning of role
			Lesson -6	Kinds of roles: anurūpa (natural), virūpa (unnatural), rūpānusarinī (imitative)
			Lesson -7	Types of dramatic production: sukumāra (delicate), āviddha (energetic).
			Lesson -8	Nature of plot (vastu): Ādhikārika (principal), Prāsamgika (subsidiary), Drsya (presentable), Sūchya (restricted scenes).
			Lesson -9	Division of Plot a. Source of plot: (legendary), Utpādya (invented), (mixed); b. Objectives of plot- (dharma, artha, kāma);

			Lesson -10	c. Elements of plot- Five kinds of Arthaprakṛ tis (caustations), Kāryāvasthā (stages of the action of actor); Sandhis (junctures) and their sub-divisions (segments)
			Lesson -11	d. Five kinds of Arthopakṣ epaka (interludes);
			Lesson -12	Dialogue writing: kinds of samvāda (dialogue) a. Sarvaśrāvya or Prakāśa (aloud) b. Aśrāvya or Svagata (aside) c. Niyataśrāvya : Janāntika (personal address), Apavārita (confidential) d. Ākāśabhāṣ ita (conversation with imaginary person).
			Lesson -1	Duration of play a. Three Unities: Time, Actions and place. b. Starting of a play: Pūrvaranga –Rangadvāra, Nāndī, Prastāvanā, Prarocanā.
			Lesson -1	Analysis of acting, plot and dialogue in the context of Abhijñānaśākuntalam.
Dr. Jagamohan .Acharya	**GE-3: Fundamentals of Indian Philosophy**	**Orthodox Schools of Philosophy**	Lesson -1	Sāmkhya – General Introduction with emphasis on prakrti, gunatraya & purusa Entities (Based on Sāmkhyakārikā)
			Lesson -2	Sāmkhya – General Introduction with emphasis on prakrti, gunatraya & purusa Entities (Based on Sāmkhyakārikā)
			Lesson -3	Yoga - Eight fold path of Yoga (Based on Yogasūtra: Sādhanapāda and their on Yogabhāṣya eon)
			Lesson -4	Yoga - Eight fold path of Yoga (Based on Yogasūtra Sādhanapāda and their on Yogabhāsya eon)

			Lesson -5	Nyāya –General introduction with emphasis on Vaiśesika : Seven Padārthas (Based on Tarksamgrah)
			Lesson -6	Nyāya –General introduction with emphasis on Vaiśesika : Seven Padārthas (Based on Tarksamgrah)
			Lesson -7	AdvaitaVedānta – General introduction with emphasis a Brahman, Māyā, Jīva and Jagat (Based on Vedāntasāra)
			Lesson -8	AdvaitaVedānta – General introduction with emphasis a Brahman, Māyā, Jīva and Jagat (Based on Vedāntasāra)

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<mark>Semester V</mark>

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Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Jagamohan .Acharya	**CC-11 Vedic Literature**	**Section 'A' /Saṁhitā and Brāhmaṇa Section 'B' /Vedic Grammar Section 'C'/Muṇḍakopaniṣad**	Lesson -1	General Introduction to Veda
			Lesson -2	Sibasankalpa Sukta Mantra-1 to 3
			Lesson -3	Sivasankalpa Sukta Mantra-4-6
			Lesson -4	Vaidik Grammar: Declensions (śabdarūpa), Subjunctive Mood (leṭ)
			Lesson -5	Vaidik Grammar: Gerunds (ktvārthaka, Tumarthaka)
			Lesson-6	Vaidic Accent
			Lesson-7	Padapatha
			Lesson-8	Mundakaupanishad
			Lesson-9	Mundakaupanishad
			Lesson-10	Mundakaupanishad
			Lesson-11	Mundakaupanishad

Dr. Jagamohan .Acharya	**CC-12 Grammar (Laghusiddhantaka umudi)**	Samjna Prakarana and Hal Sandhi Prakarana	Lesson -1	An outline about the grammar and Laghusiddhanta Kaumudi
			Lesson -2	Samjna Sutra according to Laghusiddhantakaumudi
			Lesson -3	Samjna Sutra according to Laghusiddhantakaumudi
			Lesson -4	Samjna Sutra according to Laghusiddhantakaumudi
			Lesson -5	Samjna Sutra according to Laghusiddhantakaumudi
			Lesson -5	Samjna Sutra according to Laghusiddhantakaumudi
			Lesson -5	Hal Sandhi Sutra according to Laghusiddhantakaumudi
			Lesson -5	Hal Sandhi Sutra according to Laghusiddhantakaumudi
			Lesson -5	Hal Sandhi Sutra according to Laghusiddhantakaumudi
			Lesson -5	Hal Sandhi Sutra according to Laghusiddhantakaumudi
Dr. Jagamohan .Acharya	**DSE-1B Art of Balanced Living**	**Section 'C' Refinement of Behavior**	Lesson -1	Methods of Improving Behavior : jñāna-yoga, dhyāna-yoga
			Lesson -2	Methods of Improving Behavior : karma-yoga and

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			Lesson -3	bhakti-yoga (especially karma-yoga)
				Karma : A natural impulse, essentials for life journey
			Lesson -4	co-ordination of the world, an ideal duty and (Gītā, 3.5, 8, 10-16, 20 & 21)
			Lesson -5	metaphysical dictate
Dr. Jagamohan .Acharya	**DSE-2 Theatre and Dramaturgy in Sanskrit**	**Section 'A' Theatre: Types and Construction** **Section 'C' Tradition and History of Indian Theatre**	Lesson -1	Types of theatre
			Lesson -2	vikranta (oblong), caturasra (square), tryasra (triangular), jyestha (big), madhyama (medium), avara (small)
			Lesson -3	bhūmiśodhana (Examining the land) and māpa (measurement of the site),
			Lesson -4	mattavāranī (raising of pillars), rangapītha and rangaśīrsa (stage), dārukarma (wood–work), nepathya -grha (greenhouse), prekskopaveśa (audience-hall), Doors for entrance & exit.
			Lesson -5	Origin and development of stage in different ages: pre-historic,
			Lesson -6	Origin and development of stage in different ages: pre-historic, Vedic age, epic-puranic age
			Lesson -7	open theatre, modern theatre: folk theatre,
			Lesson -8	commercial theatre
			Lesson -9	,national and state level theatre

Department of Sanskrit
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Name of the Teacher: Dr. Ganesh Tosh, SACT in Sanskrit

Semester I				
Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Ganesh Tosh	MJ 1T: Critical Survey of Sanskrit Literature	Section 'A' – Vedic Literature	Lesson -1	Samhita (Rik,)
			Lesson -2	Samhita (, Yajur)
			Lesson -3	Samhita (Sama, Atharva)
			Lesson -4	Time of the Veda
			Lesson -5	subject- matter of the Veda
			Lesson -6	religion & Philosophy of the Veda
			Lesson -7	social life of the Veda
Dr. Ganesh Tosh	SEC 1: Reading & Writing Skills in Devanāgarī & Brāhmī scripts	Section – C: Brahmi alphabets	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -5	Discussion on Scripts Early Brahmi Alphabets Asokan Brahmi Alphabets Period of Brahmi Subject matter of Brahmi
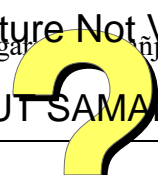
Name	Paper	Syllabus Allotted	Lesson Plan	
Dr. Ganesh Tosh	C5T: Classical Sanskrit Literature (Drama)	Abhijñānaśākuntalam– Kālidāsa , Act- I	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -6 Lesson -7	Introduction about Abhijnana Sakuntalam Discussion about the first Act Text reding and discussion Text reding and discussion Text reding and discussion Text reding and discussion
Dr. Ganesh Tosh	C6T: Poetics and literary criticism	1. **Section A/Introduction to Sanskrit Poetics** 2. **Section D/ Figures of speech**	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -5 Lesson -6 Lesson -7 Lesson -8 Lesson -9 Lesson -10	Introduction to poetics Origin and development of Sanskrit poetics various names of the Poetics- kriyākalpa, alaôkāraśāstra, sāhityaśāstra, saundryaśāstra. Figures of speech- anuprāsa, yamaka, ślesa, Figures of speech- upamā, rūpaka, sandehaFigures of speech- bhrāntimān, apahnuti, utpreksā, atiśayokti Figures of speech- tulyayogitā, dīpaka, drstānta, nidarśanā, Figures of speech- vyatireka, samāsokti, svabhāvokti, Figures of speech- apahnuti, vyatireka, samuccaya, parisaôkhyāsa Figures of speech-ananvaya, tulya, AM Linga vibhāvanā.

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Dr. Ganesh Tosh	**C7T: Indian Social Institutions and Polity**	**Section A/Indian Social Institutions: Nature and Concepts**	Lesson -1	Social Institutions and Dharmaśāstra Literature
			Lesson -2	Dharmaśāstra as a special branch of studies of Social Institutions
			Lesson -3	sources of Dharma (Manusmruti, 2, 12; Yājñavalkyasmrti,1.7).
			Lesson -4	Different kinds of Dharma in the sense of Social Ethics Manusmrti, 10, 63; Visnupurāna 2.16-17)
			Lesson -5	Six kinds of Dharma in the sense of Duties (Mitāksarātīkā on Yājñavalkyasmrti,1.1).
			Lesson -6	Tenfold Dharma as Ethical Qualities (Manusmrti,6. 92)
			Lesson -7	Fourteen – Dharmasthānas (Yājñavalkyasmṛti,1.3)
Dr. Ganesh Tosh	**SEC-1: Acting and Script Writing**	**Section A/Acting (Abhinaya) Unit: III**	Lesson -1	Definition of abhinaya and its types: Āngika (gestures): anga, upānga and pratyanga
			Lesson -2	Vācika(oral): svara, sthāna, varna, kāku, bhānā .
			Lesson -2	Sāttvika (representation of the Involuntary gestures)
			Lesson -2	Āhārya: pusta, alamkara, angar... ...ñjīva (dresses and make-up)

	GE-3: **Fundamentals of Indian Philosophy**	**Section C** **Problems in Indian Philosophy**	Lesson -1	**Discussion on Epistemology**: six pramānas
			Lesson -2	**Metaphysics:** realism, idealism, Causation - Satkāryavāda.
			Lesson -3	**Metaphysics:** Asatkāryavāda, Parināmavāda, Vivartavāda,
			Lesson -4	**Metaphysics:** svabhāvavāda, consciousness and matter, theories of self
			Lesson -5	**Ethics:** Karma &Punarjanma theory
			Lesson -6	**Ethics:** Liberation

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==Semester V==

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Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Ganesh Tosh	**CC-11 Vedic Literature**	**Section 'A' Samhitā**	Lesson -1	Discussion on Veda
			Lesson -2	Agni Sukta
			Lesson -3	Usa Sukta
			Lesson -4	Hiranyagarbha Sukta
			Lesson -5	Aksa Sukta

Dr. Ganesh Tosh	CC-12 Grammar (Laghusiddhantaka umudi)	Vibhakti Prakarana	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -5 Lesson -6 Lesson -7 Lesson -8	Discussion on Laghusidhantakaumudi Sutra discussion, Prathama Sutra discussion , Dvitiya Sutra discussion, Tritiya Sutra discussion, Chaturthi Sutra discussion,Panchami Sutra discussion,Sasthi Sutra discussion,Saptami
Dr. Ganesh Tosh	DSE-1B Art of Balanced Living	Section 'A' Self-presentation	Lesson -1 Lesson -2 Lesson -3 Lesson -4	Method of Self-presentation Hearing (śravana) Reflection (manana) meditation (nididhyāsana)
	DSE-2 Theatre and Dramaturgy in Sanskrit	Section 'B' Drama - vastu (subject-matter), netā (hero) and rasa	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -5 Lesson -6	Definition of drama Vastu: (subject-matter) :ādhikārika (principal), Vastu: (subject-matter) :ādhikārika (principal), Vastu: (subject-matter) :ādhikārika (principal), prāsangika (subsidiary), prāsangika (subsidiary),

Department of Sanskrit
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Name of the Teacher: Dr. Santanu Mandal, SACT in Sanskrit

		Semester I		
Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Santanu Mandal	MJ 1T: Critical Survey of Sanskrit Literature	Section 'B'- Rāmāyaṇa	Lesson -1	Introduction of Sanskrit Literature
			Lesson -2	Introduction of Loukika Sanskrit Sahitya
			Lesson -3	Introduction of Ramayan as a Mahakavya
			Lesson -4	Source of Ramayana
			Lesson -5	Prksipta ansa of Ramayana
			Lesson -6	Time of Ramayana
			Lesson -7	Subject matter of Ramayan
			Lesson -8	Ramayan as an Adikavya
			Lesson -9	Ramayana as a Source of Text
			Lesson -10	Cultural Impact of Ramayana
			Lesson -10	Discussion about Question & Answer
			Lesson -10	Discussion about Question & Answer
		Semester III		
Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Santanu Mandal	C5T: Classical Sanskrit Literature (Drama)	Abhijñānaśākuntalam– Kālidāsa, Act- IV	Lesson -1	History of Nataka
			Lesson -2	Introduction of Abijnana Sakuntalam
			Lesson -3	Discussion of Nandisloka
			Lesson -4	Text reding and discussion
			Lesson -5	Text reding and discussion
			Lesson -6	Text reding and discussion
			Lesson -7	Text reding and discussion
			Lesson -8	Text reding and discussion
			Lesson -9	Text reding and discussion

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Dr. Santanu Mandal	C6T: Poetics and literary criticism	1. Section A/Introduction to Sanskrit Poetics 2. Section B/Forms of Kāvya-Literature	Lesson -1 Lesson -3 Lesson -2 Lesson -3 Lesson -4 Lesson-5 Lesson-6 Lesson-7 Lesson-8	Introduction to Sanskrit Poetics Sadsampradaya Defination of Kavya Objectives(Prayojana) of Kavya Cause(Hetu) of Poetry Discussion about the forms of Kavya literature Forms of poetry: drśya, Forms of poetry: śravya, miśra, (campū) Forms of poetry: miśra, (campū)
Dr. Santanu Mandal	C7T: Indian Social Institutions and Polity	Section B/Structure of Society and Values of Life .	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -5 Lesson -6 Lesson -7 Lesson -8	Discussion on Social Values of Life Social Relevance of Indian life style Discussion on Sixteen Samskāras Discussion on Sixteen Samskāras Four aims of life 'Purusārtha Catustaya'- 1. Dharma, 2. Artha, Four aims of life 'Purusārtha Catustaya'- 3. Kāma, 4. Moksa. Four Āśramas - 1. Brahmacarya, 2. Grhastha Four Āśramas - 3. Vānaprastha, 4. Samnyās
Dr. Santanu Mandal	GE-3: Fundamentals of Indian Philosophy	Section B Schools of Indian Philosophy	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -5 Lesson -6 Lesson -7 Lesson -8 Lesson -9	Introduction to Philosophy Discussion of Astika and Nastika darshan Cārvāka – General introduction with emphasis on Chanllenge to Veda Rejection of Transcendental Entities Ethics (Based on Sarvadarshansamgrah) Jainism – General introduction with emphasis on Anekāntavāda, Syādvāda Jainism – General introduction with emphasis on Saptabhanginaya, trsitna Buddhism- General Introducti... ...phasis on Four Noble Truths

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			Semester V	
Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Santanu Mandal	**CC-11 Vedic Literature**	**Mundakaupanishad**	Lesson -1	General outline about the Upanishad
			Lesson -2	Introduction to Mundakaupanishad
			Lesson -3	Text reading and discussion
			Lesson -4	Text reading and discussion
			Lesson -5	Text reading and discussion
			Lesson -6	Text reading and discussion
Dr. Santanu Mandal	**DSE-1B Art of Balanced Living**	**Section 'B' Concentration**	Lesson -1	Concept of Yoga
			Lesson -2	Area of Yogadarshan
			Lesson -3	Restriction of fluctuations by practice (abhyāsa)
			Lesson -4	Restriction of fluctuations by practice (abhyāsa)
			Lesson -5	passionlessness (vairāgya)
			Lesson -6	passionlessness (vairāgya)
Dr. Santanu Mandal	**DSE-2 Theatre and Dramaturgy in Sanskrit**	**Section 'B' rasa**	Lesson -1	Discussion on Drama
			Lesson -2	Subject matter of Drama
			Lesson -3	Definition of Rasa
			Lesson -4	Ingredients of rasa-nispatti: - bhāva (emotions), vibhāva (determinant)
			Lesson -5	Ingredients of rasa-nispatti: anubhāva (consequent), sāttvikabhāva (involuntary state)
			Lesson -6	Ingredients of rasa- vyabhicāribhāva (complementary psychological states), svāda (pleasure)
			Lesson -7	Ingredients of rasa- Four kinds of mental levels: vikāsa (cheerfulness), vistāra (exaltation)
			Lesson -8	Ingredients of rasa- Four kinds of mental levels: krobha (agitation), ksheba (paralysis)

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SYLLABUS DISTRIBUTION AND TEACHING PLAN
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Name of the Teacher: Prof. Soumik Piri SACT in Sanskrit

Semester :2				
Name	Paper	Syllabus Allotted	Lesson Plan	
Soumik Piri	**MJ 1T: Critical Survey of Sanskrit Literature**	**Section 'B'- Mahābhārata Section 'C'- General Introduction to Darśana**	Lesson-1 Lesson-2 Lesson-3 Lesson-4 Lesson-5 Lesson-6 Lesson-7 Lesson-8 Lesson-9 Lesson-10 Lesson-11 Lesson-12	Introduction of Mahabharata Mahābhārata and its time development subject matter of , Mahābhārata Encyclopedic nature as a Source Text Cultural Importance. General Introduction to Darśana Discussion about the Major schools of Indian Philosophy Cārvāka, Bauddha Jaina ,Sāṅkhya-yoga Nyāya-Vaiśeṣika Purva-mīmāṁsā Uttara- mīmāṁsā

Semester-4				
Name	Paper	Syllabus Allotted		Lesson Plan
Soumik Piri	CC4 Self Management in the Gita.	Section-'C' Gita : Self management through devotion.	Lesson-1 Lesson-2 Lesson-3 Lesson-4 Lesson-5 Lesson-6 Lesson-7	General introduction on Gita Surrender of ego - II.7 ; ,IX.27; VIII. 7; XI.55 ; Il.4 7 Surrender of ego - VIII. 7; XI.55 ; Il.4 7 Abandoning frivolous debates - VII.21, IV. I I;· IX.26 Abandoning frivolous debates IX.26 Acquisition of moral qualities - XII. I I; XII.13-19 Acquisition of moral qualities - XII.13-19

Soumik Piri	**C5T: Classical Sanskrit Literature (Drama)**	Svapnavāsavadattam– Bhāsa, Act I & VI	Lesson-1	Introduction on Nataka
			Lesson-2	Introduction on Swapnavasavadattam
			Lesson-3	Writer of the swapnavasavaddatam
			Lesson-4	Reading Test and discussion Act-I
			Lesson-5	Reading Test and discussion Act-I
			Lesson-6	Reading Test and discussion Act-I
			Lesson-7	Reading Test and discussion Act-VI
			Lesson-8	Reading Test and discussion Act-VI
			Lesson-9	Reading Test and discussion Act-VI
Soumik Piri	**C6T: Poetics and literary criticism**	**Section B/ Forms of Kāvya-Literature** **Section D /Figures of speech**	Lesson-1 Lesson-2 Lesson-3	General outline about the Kavya Forms of Kavya Mahākāvya, (according to Sāhityadarpana)
			Lesson-4	Khandakāvya(according to Sāhityadarpana)
			Lesson-5	gadya-kāvya(according to Sāhityadarpana)
			Lesson-6	kathā(according to Sāhityadarpana)
			Lesson-7	ākhyāyikā (according to Sāhityadarpana)
			Lesson-8 Lesson-9 Lesson-10 Lesson-11 Lesson-12 Lesson-13 Lesson-14	Introduction on Figures of Speech Metres- anustup, āryā Metres-, indravajrā, upendravajrā, Metres- drutavilambita, upajāti, Metres- vasantatilakā, mālinī Metres- mandākrāntā, śikharinī, Metres- śārdūlavikrīdita, sragdharā
Soumik Piri	**C7T: Indian Social Institutions and Polity**	**Section B/Structure of Society and Values of Life**	Lesson-1	Position of Women in the Society
			Lessoin-2	Position of Women in the Society
			Lessoin-3	Brief survey of position of women in different stages of Society.
			Lessoin-4	Brief survey of position of women in different stages of Society.
			Lessoin-5	Position of women in Mahābhārata (Anuśāsanaparva, 46.5-11, Sabhāparva, 69.4-13.
			Lessoin-6	Position of women in Mahābhārata (Anuśāsanaparva, 46.5-11, Sabhāparva, 69.4-13.
			Lessoin-7	Praise of women in The Brhatsamhitā of Varāhamihira (Strīprasassā, chapter-74.1-10)
			Lessoin-8	Praise of women in The Brhatsamhitā of Varāhamihira (Strīprasassā, chapter-74.1-10)
Soumik Piri	**GE-3: Fundamentals of Indian Philosophy**	**Section A Fundamentals of Philosophy Section B Schools of Indian**	Lesson-1 Lesson-2 Lesson-3 Lesson-4	Introduction to the Philosophy Darśana - concept and aims Classification of Indian Philosophical schools, Salient features of Indian Philosophy

		Philosophy	Lesson-5	Mimāmsā – Svata Prāmānyavāda
			Lesson-6	Bhakti Schools of Vedānta
			Lesson-7	General introduction with emphasis on God, Īśvara
			Lesson-8	nature of bhakti

Semester-6

Name	Paper	Syllabus Alloted	Lession Plan	
Soumik Piri	**CC-11 Vedic Literature**	**Section 'A' Saṁhitā Unit: III** Atharvaveda-Sāmmanasyam- 3.30, Bhūmi12.1-12	Lesson-1 Lesson-2 Lesson-3 Lesson-4 Lesson-5 Lesson-6 Lesson-7	Introduction on Veda Bhumi Sukta: Reading and discussion Bhumi Sukta: Reading and discussion Bhumi Sukta: Reading and discussion Samannsa Sukta: Reading and discussion Samannsa Sukta: Reading and discussion Samannsa Sukta: Reading and discussion
Soumik Piri	**CC-12 Grammar (Laghusiddhan takaumudi)**	Ac Sandhi Prakarana	Lesson-1 Lesson-2 Lesson-3 Lesson-4 Lesson-5	Introduction to Laghusiddhanta Kaumudi AC Sandhi Sutra and discussion AC Sandhi Sutra and discussion AC Sandhi Sutra and discussion AC Sandhi Sutra and discussion
Soumik Piri	**DSE-1B Art of Balanced Living**	**Section 'B' Concentration**	Lesson-1 Lesson-2 Lesson-3 Lesson-4 Lesson-5 Lesson-6 Lesson-7 Lesson-8 Lesson-9	Introduction on Jogadarshan Eight aids to Yoga (aṣṭāṅgayoga) Yogasūtra,(2.29, 30,32, 46, 49, 50; 3.1-4). Eight aids to Yoga (aṣṭāṅgayoga) Yogasūtra, 2.29, 30,32, 46, 49, 50; 3.1-4). Yoga of action (kriyāyoga) Yogasūtra, 2.1 Four distinct means of mental purity (cittaprasādana) leading to oneness : (Yogasūtra, 1.33)
	DSE-2 Theatre and Dramaturgy in Sanskrit	**Section 'B' Drama - vastu (subject-matter), netā (hero) and rasa Unit: II**	Lesson-1 Lesson-2 Lesson-3 Lesson-4 Lesson-5 Lesson-6 Lesson-7	Four kinds of heroes Three kinds of heroines sūtradhāra (stage manager) pāripārśvika (assistant of sūtradhāra), vidūṣaka (jester) kañcukī (chamberlain) pratināyaka (villain).

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Name of the Teacher: Dr. Jagamohan Acharya, Associate Professor in Sanskrit

Semester II				
Name	**Paper**	**Syllabus Allotted**		**Lesson Plan**
Dr. Jagamohan .Acharya	CC3 Critical Survey of Sanskrit Literature	Purana General Introduction to Vyakarana, Darsana and Sahitvasastra	Lesson -1	Purarnas : Subject matter, Characteristics
			Lesson -2	Puranas : Social, Cultural and Historical Importance
			Lesson -3	General Introduction to Vyakarana- Brief History of Vyakara1Jasastra
			Lesson -4	General Introduction to Darsana-Major schools of indian Philosophy Carvaka, Bauddha, Jaina, Sankhya-yoga, Nyaya-Vaisesika, Purvamimarhsa and Uttara mimamsa
			Lesson -5	General Introduction to Poetics- Six major Schools of Indian Poetics-Rasa, Alari1kara, Riti. Dhvani,Vakrokti and Aucitya.
Dr. Jagamohan .Acharya	CC4 Self Management of the Gita	Gita: Section 'B' Controlling the mind Confusion and conflict	Lesson -1	Unit-I Nature of conflict I. I; IV .16; 1.45; II.6 Causal factors - Ignorance - I.Indriya - II.60, Mind - 11.67; Rajoguna - III.0-39; VI.21; Weakness of mind - II.3; IV.5 Means of contro1ing the mind

			Lesson -2	Meditation difficulties VI,34-35 Procedure VI, 11-14
			Lesson -3	Balanced life- lll.8; VI. 16-17
			Lesson -4	Diet control- XVII. 8-10
			Lesson -5	Physical and mental discipline - XVII. 14-19, Vl. 36.

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Semester IV

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Name	Paper	Syllabus Allotted	Lesson Plan	
Dr. Jagamohan .Acharya	CC8 Indian Epigraphy, Paleography and Cronology	Section 'C' Study of selected inscriptions	Lesson -1	Asoka's Giranara Rock Edict-I
			Lesson -2	Asoka's Saranatha Pillar Edict
			Lesson -3	Girnara Inscription of Rudradaman
			Lesson -4	Eran Pillar Inscription of Samudragupta
			Lesson -5	Mehrauli Iron Pillar Inscription of Candra
			Lesson-6	Delhi Topra Edict of Bisaladevao
Dr. Jagamohan .Acharya	CC9 Modern Sanskrit Literature	Section A: Mahakavya Section C: Gitikavya and Other genres Section D : General Survey	Lesson -1	Svatantrya Sam bhavam (RevaprasadaDwi vedi) Canto 2, verses 1-20
			Lesson -2	Svatantrya Sam bhavam (RevaprasadaDwivedi) Canto 2, verses 21-45
			Lesson -3	Harshdev Madhava Haiku- Snana ahne, vedana, mrityuh I, mrtyuh 2; khanih; sh__vadhani R.

				Ganesh (kavi-visadah, var~avibhutih
			Lesson -4	Pandita Kshama Rao, P.K. Narayana Pillai, S. B. Varnekar, ParmanandShastri, Reva Prasad Dwivedi
			Lesson -5	Janaki VallabhShastri, Ram Karan Sharma, Jagannath Pathak, S. Sunderrajan, Shankar Dev Avatare
Dr. Jagamohan .Acharya	CC10 Sanskrit and World Literature	Section 'A' Survey of Sanskrit Literature in the World Section'B' Upanisads and Gita in World Literature Section 'F' Sanskrit Studies across the World	Lesson -1	Section 'A' Survey of Sanskrit Literature in the World Vedic cultural elements in ancient Eastern and Western societies. Presence of Sanskrit words in the World languages. General survey of the Classical Sanskrit Literature in the Eastern and Western literature.
			Lesson -2	Section 'B' Upanisads and Gita in the West Dara Shikoh's Persian Translation of Upanisads and their Influence on Sufism, Latin translation and its influence on Western thought Translation of the Gita in European languages and religio-philosopliical thought of the west.
			Lesson -3	Section 'F' Sanskrit Studies across the World i. Sanskrit Study Centers in Asia ii. Sanskrit Study Centers in Europe iii. Sanskrit Study Centers in America
Dr. Jagamohan .Acharya	SEC2 Sanskrit Meter and Music	Section 'A'	Lesson -1	Brief Introduction to Chhandasas

<p align="center">Semester VI</p>

Name	Paper	Syllabus Allotted	Lesson Plan	
Dr. Jagamohan .Acharya	CC13 Ontology and Epistemology	Section 'C' Epistemology	Lesson -1 Lesson -2 Lesson -3 Lesson -4 Lesson -5 Lesson-6	Unit: I Buddhi(jñāna) – nature of jñāna in Nyāya vaiśesika; smriti-anubhava; yathārtha and ayathārtha , Unit: II Karana and kārana, definitions and types of pramā, kartā-kārana-vyāpāra-phala, model Unit: III Pratyaksa Unit: IV Anumāna including hetvābhāsa Unit: V Upamāna and śabda pramāna Unit: VI Types of ayathārta anubhava
Dr. Jagamohan .Acharya	CC14 Sanskrit Composition and Communication	Section 'A' Voice & Kṛt Section 'B' Translation and Communication	Lesson -1 Lesson -2	Unit: II Voice (katr karma and bhava Selections from Krt prakarana from Laghusiddhantakaumudi Major Sūtras for the formation ofKrdanta words (Tavyat, tavya, aniyar, yat, nyat, nvul, tric, ac, kta, ktavatu, satri, sanac, ṇvul ṇvulc, tva, lyap, lyut, ghan, ktin) Unit: I (i). Translation from Hindi/English to

			Lesson -3	Sanskrit on the basis of cases, Compounds and krt suffixes.
			Lesson -4	(ii). Translation from Sanskrit and Hindi Unit: II Communicative Sanskrit: Spoken
			Lesson -5	Sanskrit.
Dr. Jagamohan .Acharya	DSE-4 Fundamentals of Ayurveda	Section 'C' Taittiriyopanishad	Lesson -1	Taittiriyopanishad Bhrguvalli, anuvak 1
			Lesson -2	Taittiriyopanishad Bhrguvalli, anuvak 2
			Lesson -3	Taittiriyopanishad Bhrguvalli, anuvak 3

Name of the Teacher: Dr. Ganesh Tosh, SACT in Sanskrit

Semester II				
Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Ganesh Tosh	CC3 Critical Survey of Sanskrit Literature	Vedic Literature	Lesson -1	Unit-I Samhita (Rik, Yajur,, Sama, Atharva)
			Lesson -2	time, subject- matter, religion & Philosophy, social life
			Lesson -3	Unit-II Brahmana, Areyyak, Upan

Name	Paper	Syllabus Allotted	Lesson Plan	
			Lesson -4	Vedanga (Brief Introduction)
Dr. Ganesh Tosh	CC4 Self Management of the Gita	Gita: Cognitive and emotive apparatus	Lesson -1	Unit-I Hierarchy of indriya. manas. buddhi and atman 111.42; xv.7
			Lesson -2	Role of the atman -XV. 7: XV.9 Mind as a product of prakrti VI 1.4
			Lesson -3	Properties of three gu1)as and their impact on the mind- XIII. 5-6; XIV.5-8, 11-13; XIV.17

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Semester IV

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Name	Paper	Syllabus Allotted	Lesson Plan	
Dr. Ganesh Tosh	CC8 Indian Epigraphy, Paleography and Cronology	Section 'A' Epigraphy	Lesson -1	Epigraphy Introduction to Epigraphy and Types of Inscriptions
			Lesson -2	Importance of Indian Inscriptions in the reconstruction of Ancient Indian History and Culture
			Lesson -3	History of Epigraphical Studies in India History of Decipherment of Ancient Indian Scripts
			Lesson -4	(Contribution of Scholars in the field of epigraphy) Fleet, Cunninghum, Princep, ... a, D.C.Sircar.
Dr. Ganesh Tosh	CC9 Modern Sanskrit	Gadya	Lesson -1	Sataparvika (Abhiraja Rajendra M... Bhatta Mathuma Nath Shastri (Ku...liyan,

	Literature	Gitikavya and Other genres		
			Lesson -2	BacchuLal Avasthi Jnaana (Kaete, Kva Yataste), SrinivasaRath (Katama Kavita) etc
Dr. Ganesh Tosh	CC10 Sanskrit and World Literature	Section 'E' Kalidasa's Literature in World Literature	Lesson -1	Section 'E' Kalidasa in the West English and
			Lesson -2	German translation of Kalidasa 's writings and their influence on western literature and theatre.
Dr. Ganesh Tosh	SEC2 Sanskrit Meter and Music	Section 'C'	Lesson -1	Analysis of Selected Vedic Meters and their musical rendering
			Lesson -2	Definition and example of Vaidik Meter

<div align="center">Semester VI</div>

Name	Paper	Syllabus Allotted	Lesson Plan	
Dr. Ganesh Tosh	CC14 Sanskrit Composition and Communication	Section 'A' Vibhaktyartha,	Lesson -1	Unit: I (i). Vibhaktyartha Prakarana of Laghusiddhantakaumudi 1-2
			Lesson -2	Unit: I (i). Vibhaktyartha Prakarana of Laghusiddhantakaumudi , 3-4
			Lesson -3	Unit: I (i). Vibhaktyartha Prakarana of Laghusiddhantakaumudi ,5-7
Dr. Ganesh Tosh	DSE-3 Linguistics	Section 'A' भाषाशास्त्र	Lesson -1	Unit: I भाषा का स्वरूप, पररभाषा,

			Lesson -2	भाषा की णवशेषताएँ, भाषा णवज्ञान का स्वरूप, भाषाणवज्ञान के मुख्य अङ्ग एव उपादेयता
			Lesson -3	
			Lesson -4	Unit: II सस्कृत की दृणष्ट से ध्वणनणवज्ञान, पदणवज्ञान, वाक्यणवज्ञान एव अथाणवज्ञान का सामान्य अवबोध
			Lesson -5	
Dr. Ganesh Tosh	DSE-4 Fundamentals of Ayurveda	Section 'B' Carakasamhitā –(Sūtra-sthānam)	Lesson -1	Unit: I Carakasamhitā –(Sūtra-sthānam) Division of Time
			Lesson -2	and condition of nature and body in six seasons.
			Lesson -3	Regimen of Fall Winter (Hemanta), Winter (Śiśira) & Spring (Vasanta) seasons.,
			Lesson -4	Rainy (Varsa) and Autumn (Śarada) seasons.

Name of the Teacher: Dr. Santanu Mandal, SACT in Sanskrit

Semester II				
Name	**Paper**	**Syllabus Allotted**		**Lesson Plan**
Dr. Santanu Mandal	CC3 Critical Survey of Sanskrit Literature	Ramayana	Lesson -1	Unit-I Ramayana-time, subject-matter, Ramayana as an Adikavya.
			Lesson -2	Unit-II Ramayana as a Source of Cultural Importance.

Dr. Santanu Mandal	CC4 Self Management of the Gita	Section 'B' Gita: Controlling the mind Unit-III, Means of con tlict resolution	Lesson -1	Unit-III Importance of knowledge - II. 52; IV.38-39; IV.42 Clarity of huddhi - XVIII.30-32
			Lesson -2	Process of decision making - XV!Il.63 Control over senses -11.59, 64
			Lesson -3	Surrender of kartrbhava -XVlll .13-16; V.8-9
			Lesson -4	Desirelessness- II.48; II.55 Put1 ing others before self- IT 1.25

Semester IV				
Name	**Paper**	**Syllabus Allotted**	**Lesson Plan**	
Dr. Santanu Mandal	CC8 Indian Epigraphy, Paleography and Cronology	Section 'D' Chronology	Lesson -1	General Introduction to Ancient Indian Chronology
			Lesson -2	System of Dating the Inscriptions (Chronograms)
			Lesson -3	Main Eras used in Inscriptions - Vikrama Era, Saka Era and Gupta Era
Dr. Santanu Mandal	CC9 Modern Sanskrit Literature	Charitakavya Gitikavya and Other genres	Lesson -1	Bhimayanam (Prabha Shankar Joshi) Canto X. verses 20-29;
			Lesson -2	Canto - XI. Verses 13-20 & 40
			Lesson -3	Hariram Acharya (Sankalpa Gitih)

			Lesson -4	Dikshit (Bruhi kosminYuge ..) Pushpa
			Lesson-5	Radha Vallabh Tripathi (Naukamihasaramsaram ...); DhivaraGitih
Dr. Santanu Mandal	CC10 Sanskrit and World Literature	Section 'D' Ramayarya and Mahabharata in South East Asian Countries	Lesson -1	Section 'D' Ramayana and Mahabharata in South Eastern Asia Rama Katha in south eastern countries
			Lesson -2	Mahabharata stories as depicted in folk cultures of SE Asia
Dr. Santanu Mandal	SEC2 Sanskrit Meter and Music	Section 'B'	Lesson -1	Classification of Sanskrit Meter
			Lesson -2	Elements of Sanskrit Meter

<div align="center">Semester VI</div>

Name	Paper	Syllabus Allotted	Lesson Plan	
Dr. Santanu Mandal	CC13 Ontology and Epistemology	Section 'B' Ontology (Based on Tarkasamgraha)	Lesson -1	Unit: I Concept of padārtha, three dharmas of padārthas, definition of Dravya
			Lesson -2	Unit: II Sāmānya, Viśeṣa, Samavāya, Abhāva.
			Lesson -3	Unit: III Definition of Dravyas and their examination; Ātma and its nature
			Lesson -4	Unit: IV Qualities (other than the qualities of the

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				āṭman) Five types of Karma.
Dr. Santanu Mandal	DSE-4 Fundamentals of Ayurveda	Section 'A' Introduction of Āyurveda	Lesson -1	Unit: I Introduction of Āyurveda, History of Indian Medicine in the pre-caraka period,
			Lesson -2	The two schools of Āyurveda: Dhanvantari and Punarvasu.
			Lesson -3	Unit: II Main Ācāryas of Āyurveda – Caraka, Suśruta, Vagbhatta,Mādhava,
			Lesson -4	Sārṅgadhara and Bhāvamiśra

DEPARTMENT OF SANSKRIT
SYLLABUS DISTRIBUTION AND TEACHING PLAN
SESSION: 2022- 2023(EVEN SEMESTER)

Name of the Teacher : Soumik Piri SACT in Sanskrit

Semester :2				
Name	Paper	Syllabus Allotted	Lesson Plan	
Soumik Piri	CC3 Critical survey of sanskrit Literature.	Mahabharata.	Lesson-1	Unit-1 Mahabharata and its Time,Devlopment, and subject matter.
			Lesson-2	Unit-2 Mahabharata : Encyclopaedic nature, as a Source,Text,Cultural Importance.
Soumik Piri	CC4 Self Management in the Gita.	Section-'C' Gita : Self management through devotion.	Lesson-1	Surrender of ego - II.7 ; ,IX.27; VIII. 7; XI.55 ; Il.4 7
			Lesson-2	Abandoning frivolous debates - VII.21, IV. I I;· IX.26
			Lesson-3	Acquisition of moral qualities - XII. I I; XII.13-19

Semester-4				
Name	Paper	Syllabus Alloted	Lesson Plan	
Soumik Piri	CC8 Indian Epigraphy, Paleography and Cronology	Section-'B' Paleography	Lesson-1	Unit-1 Antiquity of the Art of Writing.
			Lesson-2	Unit-2 Writing Materials, Inscribers and Library.
			Lesson-3	Unit-3 Introduction to Ancient Indian Scripts.
Soumik Piri	CC9 Modern Sanskrit Literature	Section- 'B' Rupaka	Lesson-1	Unit-2 Sardulasatakam (Virendra Kumar Bhattacharya)
		Section –'D' General Survey	Lesson-2	Unit-3 Haridas Siddhanta Vagish,Mula Sankar,M.Yajnika,Mahalinga Shastri, Leela Rao Dayal,Yatindra Vimal Chowdhury, Virendra Kumar Bhattacharya
Soumik Piri	CC10 Sanskrit and World Litereture	Section 'C' Sanskrit Fables in World Literature	Lesson-1	Unit-1 Translation of Pancatantra in Estern and Western Languages. Trancelation of Vetalpanchavimsatika and Sukasaptati in Estern.
			Lessoin-2	Unit-2 Languages and art.
Soumik Piri	SEC 2 Sanskrit Meter and Music	Section 'D' Analysis of Selected Classical Meters and their musical rendering.	Lesson-1	Unit-1 Analysis of Selected classical Meter and their Lyrical Methods.

Semester-6				
Name	Paper	Syllabus Alloted	Lession Plan	
Soumik Piri	CC13 Ontology and Epistemology	Section 'A' Essentials of Indian Philosophy	Lesson-1	Unit-1 Meaning and purpose of darsana, general classification of philosophical schools in classical Indian philosophy.
			Lesson-2	Unit-2 Realism (yatharthavada or vastuvada)and Idealism (pratyayavada),Monism (ekattvavada), Dualism (dvaitavavada)& Pluralism (bahuttavavada);dharma (property)-dharmi (substratum).
			Lesson-3	Unit-3 Causation (karyakaranavada): naturalism (Svabhavavada), doctrine of pre-existance of effect (satkaryavada),doctrine of real transformation(parinamavada), doctrine of illusory transformation (vivartavada), doctrine of non-prexistence of effect in cause (asatkaryavada and arambhavada).
Soumik Piri	CC14 Sanskrit Composition and Communication	Section 'C'Essay	Lesson-1	Unit-1 Essay(traditional subjects) e.g veda, upnisad, Sanskrit Language,Sanskriti, Ramayana, Mahabharata, Purana, Gita, Principal of sanaskrit poets.
			Lesson-2	Unit-2 Essay based on issues and topic related tp modern subjects like entertenment,sports,national and international affairs and social problems.
Soumik Piri	DSE-3 Sanskrit Linguistic	Section 'A' भाषाशास्त्र	Lesson-1 Lesson-2	Unit-3 संस्कृत एवं भारतीय भाषापरिवार Unit- 4 संस्कृत एवं तुलनात्मक भाषाविज्ञान के इतिहास का सामान्य परिचय

DEPARTMENT OF SOCIOLOGY
SESSION-2022-2023
EVEN SEMESTERS (2nd AND 4th semester)
TEACHING PLAN KHARAGPUR COLLEGE

SYLLABUS DISTRIBUTION

2nd SEMESTER		
TEACHER	Syllabus allocated	TEACHING PLAN
ARUNDHATI DAS	**GE 2**: GENDER AND VIOLENCE What is Gender violence? Structural and situated violence-caste, Gender and Violence, Domestic and Familiar Violence, Gender and Conflict Situation.	**TERM-1 (20 LECTURES)** 1. What is Gender Violence? (1 LECTURE) 2. Causes of Gender Violence. (1 LECTURE) 3. Define Caste. (1 LECTURE) 4. Characteristics of Caste. (1 LECTURE) 5. Define class. (1 LECTURE) 6. Define Varna. (1 LECTURE) 7. Differentiates between Caste and Class. (1 LECTURE) 8. Changes of Caste System. (1 LECTURE) 9. Define Gender. (1 LECTURE) 10. Define Sex. (1 LECTURE) 11. Differentiate between Gender & Sex. (1 LECTURE) 12. Define Violence. (1 LECTURE) 13.Types of Violence. (1 LECTURE) 14. Write a short note on Violence against Women. (1 LECTURE) 15. Define Domestic Violence. (1 LECTURE) 16. Write a short note on Domestic Violence. (1 LECTURE) 17. Forms of Domestic Violence (Physical, sexual, emotional & economic). (2 LECTURE)

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		18. Effects of Domestic Violence. (2 LECTURES)
	GE 2: Violence, Harassment and the work place, Sexual Violence. .	**TERM 2: - (20 Lectures)** 1.Define Violence. (1 LECTURE) 2. Define Harassment, Examples of Harassment. (1 lecture) . 3. Types of Harassment. (1 LECTURE) 4. Define Workplace Harassment. (1 LECTURE) 5. What are the dual role of the Women problem? What are the problems of working Women? (1 LECTURE) 6.Types of workplace Harassment. (6 LECTURES) - Verbal Harassment. - Psychological Harassment. - Digital Harassment(Cyberbullying) - Physical Harassment. - Sexual Harassments. - Visual Harassment. 7. Why reporting workplace Harassment is important (1 LECTURE) 8. How to report workplace Harassment? (2 LECTURES)

SYLLABUS DISTRIBUTION

	. .	9. What to Avoid when facing workplace Harassment? (1 LECTURE) 10. Workplace Harassment laws. (2 LECTURES) 11. Define Sexual Violence, Define Sexual Assault. (1 LECTURE) 12. Types of sexual Violence. (1 LECURE) . 13. Define child sexual abuse. (1 LECTURE)
	GE 2: Addressing Gendered Violence: - Politics & Public Policy.	**_TERM 3: - (20 Lectures)_** 1. How can we address Gender – Based Violence? (2 LECTURES) 2. Discuss Violence Against Women. (2 LECTURES) 3. Differentiate between Govt. and Private Sectors. (2 LECTURES) 4. Gender Politics and Public Policy Making: Prospects for Advancing Gender Equality. (2 LECTURES) 5. What is the full form of GBVAW (Gender Based Violence against Women) (1 LECTURE) 6. What are the Policy for Gender equality (LECTURES) 7. What are the state Gender Policy? (3 LECTURES)

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DEPARTMENT OF SOCIOLOGY
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EVEN SEMESTERS (2nd AND 4th semester)
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<td>8. What are the Examples of Gender Policy? (1 LECTURE)
9. Public Policies on Gender equality – discuss. (5 LECTURES)</td>
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<td>4th Semester

GE 4: Introducing Population Studies, Sociology and Demography, Concepts and Approaches</td>
<td>TERM 1 (25 LECTUCTURES)

1.Introducting Population Studies. (3 LECTURES)</td>
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EVEN SEMESTERS (2nd AND 4th semester)
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		2. Define Population. (2 LECTURES)
		3.Define Demography. (2 LECTURES)
		4.Apporoaches of Demography. (3 LECTURES)
		5.Father of Population. (1 LECTURE)
		6.Father of Demography. (1 LECTURE)
		7.Types of Demography. (1 LECTURE)
		8.Objectives of Demography. (2 LECTURES)
		9. Components of Demography. (1 LECTURE)
		10.Importance of Demography. (1 LECTURE)
		11.Nature of Demography. (1 LECTURE)
		12.Differentiate between Population and Demography. (3 LECTURES)
		13.Characteristics of Population. (2 LECTURES)
		14.Characteristics of Demography. (2 LECTURES)

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	GE 4::Population, Social structure and Processes---Age and Sex Structure. Population Size and Growth, Fertility, Reproduction and Mortality.	**TERM 2:** (25 LECTURES) 1.Define Age and Sex pyramid, Characteristics of Age and Sex Pyramid, Examples of Age and Sex Pyramid. (1 LECTURE) 2.. Importance of Age-Sex Pyramid, Types of Age and Sex Pyramid (expansive, constrictive and stationary), Advantages of Age and Sex Pyramid. (1 LECTURE) 3.Significance of Age and Sex Pyramid, Define Population, Define Population Density. (1 LECTURE) 4.Causes and Effects of Population decline. (1 LECTURE) 5.Define Population Growth, Main causes of Population Growth, Types of Population Growth. (1 LECTURE) 6.Factors of Population Growth. (2 LECTURES) 7.How do you calculate annual growth rates? (Growth Rate Formula)? What is Population Formula? (1 LECTURES) 8.Define Fertility, Fertility. (1 LECTURE) 9.Terminology of Fertility. (1 LECTURE)

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		10.Measurement of Fertility. (2 LECTURES)
		11.Define Reproduction, Types of Reproduction, Importance of Reproduction. (2 LECTURES)
		12.. Significance of Reproduction. (1 LECTURE),
		13. Stages of reproduction, Conjugation of Reproduction Thesaurus of Reproduction. (1 LECTURE)
		14.Define Mortality, Types of Mortality. (1 LECTURE)
		15.Terminology of Mortality, Measurements of Mortality. (1 LECTURE)
		16.Formula of Fertility and Mortality, Child Mortality. (1 LECTURE)
		17.Define Infertility, Factors affecting Fertility-Discus. How to pronounce fertility? Synonyms of Fertility and Mortality. (6 LECTURES)

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	GE 4: Population, Gender and Migration, Population and Gender, Politics of Migration. Population Dynamics and Development, Population as Constraints and Resources for Development, Population Programs and Policies.	**TERM 3:** (25 LECTURES) 1.Define Migration, Types of Migration, Causes of Migration, Factors of Migration, Examples of Migration. (2 LECTURES) 2.Define Internal and International Migration. (1 LECTURE) 3.Consequences of Migration. (2 LECTURES) 4.Define positive and negative effects of migration. (1 LECTURE) 5.Define Population Dynamics, Types of Population Dynamics. (1 LECTURE) 6.Challaenges in Population Dynamics. (2 LECTURES) 7.Interdiscipinary Centre on Population Dynamics. (1 LECTURE) 8.Discus Population Dynamics in India. (2 LECTURE) 9.How does Population affect development? (2 LECTURES) 10. What are the Constraints of Development for ... LECTURE)

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DEPARTMENT OF SOCIOLOGY
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EVEN SEMESTERS (2nd AND 4th semester)
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		11.What are the main challenges of Population Growth? (1 LECTURE)
		12.What is the role of Population in economic development? Examples of development constraints. (1 LECTURE)
		13.Relationship between Population and Economic development. (1 LECTURE)
		14.Why Population growth matters for sustainable development? (2 LECTURE)
		15.What is Population Policy and Programs in India? (1 LECTURE)
		16.What do you understand by Population Programs? (2 LECTURES)
		17.Types of Population Policy. (2 LECTURES)

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Syllabus distribution for 1st Sem Major (B.Sc (HONOURS) MAJOR IN ZOOLOGY)

Name of Teachers:	MJ 1 T: Systematics and Diversity of Life-Protists to Chordates(Theory)	Course contents	Topic
Rajkumar Mandi (RM)		Unit 4. Diversity in acoelomate Metazoa	General characteristics and classification up to classes: Porifera, Cnidaria, Ctenophora, & Platyhelminthes (Rupert & Barnes, 1994) Special features & structural diversity in sponges with special reference to cell types; Special features of cnidarians with reference to polymorphism and division of labour; Coral reefs with diversity, formation, function & conservation. Affinity of Ctenophora Basic organizations with reference to parasitic adaptation & adaptive radiation in flatworm.
RM	MJ 1 P: Systematics and Diversity of Life-Protists to Chordates(Practical)		1. Basic requirements for laboratory work: Knowledge about the parts of microscope with their function & setting of microscopes; Knowledge of calibration, magnification & drawing with the help of camera lucida, ocular & stage micrometer with determination of magnification 2. Basic idea of fixatives, preservatives & stains with preparation method for study of museum specimen, significance of study of museum specimen 5. Observation & records of different animals from college campus or nearby any terrestrial field (forest, grassland, hill or mountain area etc.) or water body (pond, river, lake, sea etc.) or zoological park or museum Method of collection of any five species at least from three different phyla/classes (preferably from arthropoda, mollusca, fish, reptile, bird and mammals 9. Preparation of key for identification of venomous and non-venomous snakes; Preparation of key on any group (preferably insects, fishes & birds of different feeding habit (planktonivorus, detritivorus, frugivorus, carnivorous, omnivorus, insectivorous, piscivorus, graminivorous etc.) 10. Project work/Group Discussion/Seminar presentation etc

			mentioned above.

Name of Teachers:	SKILL ENHANCEMENT COURSES (SEC 1)	Course contents	Topic
RM		Apiculture	1. Identification of different species of honeybees. Identification of different working groups of honey bees. Study the morphology and sexual dimorphism of honey bees. 2. Studies on pollen basket, mouth parts, sting apparatus, wax gland of worker honey bees. 3. Studies on the special structure of bee hives and beekeeping equipments. 4. Studies on various diseases of adult Honeybees. 5. Studies on the physical and chemical nature of Honey. 6. Preparation of Honey based products. 7. Visit to an apiculture farm and preparation a project report on apiculture..

Syllabus distribution for 1st Sem Minor B.Sc. Life Sciences with ZOOLOGY (MULTIDISCIPLINARY STUDIES)

Name of Teachers:	MJA1/B1T: Diversity of Animal world(Theory)	Course contents	Topic
RM		Unit 3. Protists	General characteristics and classification of subkingdom Protozoa upto phyla (Levine et.al, 1981) Type study: Plasmodium
RM	MJA1/B1P: Practical		1. Basic requirements for laboratory work: Knowledge about the parts of microscope with their function & setting of microscope 2. Idea of fixatives & preservatives for preparation to study the museum specimen 3. Preparation of key for identification of venomous and non-venomous snakes; Preparation of key on any group (preferably insects, fishes & birds) of different feeding habit – all in form of animal album with photographs & necessary information

Kharagpur College

Department of Zoology

UG Lesson Plan of

Dr. Moumita Chakraborty

Odd Semester: Session- 2023-2024

Semester	Syllabus	Lesson plan
1st Semester(Major): Paper- MJ-1 ()	• Basic organization and diversity in Mollusca with reference to torsion in Mollusca with respect to disruption of bilateral symmetry and its significance. • General characteristics and affinity and evolutionary significance of Onychophora. • Characteristic features of phylum Hemichordata and Chordata; concept of Protochordates and vertebrates; Evolutionary status and affinities of Hemichordates and Cyclostomata. • Emergence of Land Vertebrates; ambhibian diversity and adaptability to dual mode of life; classification of Amphibia up to	• Introduction to mollusca general characters, different types of organs found and its diversity. What is torsion? Different ideas about torsion. Significance of torsion. Torsion and symmetry. • Introduction to general characteristics and affinity of Onychophora, its evolutionary significance. • Introduction to Hemichordates and Protochordates. Hemichordates and cyclostomata ,evolutionary significance, affinities. • What is land vertebrates? How does it emerge? Different types of amphibia and itsaSdaptaturce Nhtw erified does amplrca plses duel-mode of AMANTA Classification udy by

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	order(Duellman and Trueb,1986)	showing museum specimens.
	• Special features of Monotremes and Marsupials with evolutionary significance; features of living Primates- Prosimi and Anthropoidea.	• Who are monotremes? Classification of mammals as outline idea. Special features study of monotreme and marsupial by the help of photograph. Their evolutionary significance. Special feature study of living primates with different examples.
3rd semester(H): Paper- CC5 (Chordates)	Unit-1; Introduction to chordates	General characters and classification with examples.
	Unit2; Protochordata	Introduction, definitions of respiratory volume and capacities, vital capacity, measurement of VC, Carries of Oxygen and Carbon-di-oxide, Hamberg's Phenomenone, Halden effect
	Unit-3 Origin of Chordata	Diplural concept and echinoderm theory of origin of Chordates. Advance features of Vertebrates over Protochordates.
	Unit-4 Agnatha	General characteristics and classification of cyclostome up to order.
	Unit-6 Amphibia	General characteristics and classification up to order. Metamorphosis and Parental care in Amphibia.
	Unit- 9 Mammals	General characteristics and classification up to order. Affinities of Prototheria.
Paper- CC6 (Animal Physiology:)	Unit-6: Endocrine System	Classification of hormones. Mechanism of hormone action. Signal transduction

		pathway for steroidal and non-steroidal hormones. Hypothalamus- principal nuclei in neuroendocrine control in anterior pituitary and endocrine system. Placental hormones.
5th Semester (H) CC-11	Unit-3 Mutation.	Types of gene mutation, types of chromosomal aberration, non-disjunction, variation in chromosome number, molecular basis of mutation in relation to Uv light.
	Unit-4 Sex determination	Mechanism of sex determination in *Drosophila* and mammals. Doses compensation in *Drosophila* and Human.
DSE-! Animal Behaviour and Chronobiology	Unit-4 Introduction to Chronobiology	Historical development in chronobiology,, Biology of Oscillation, the concept of average amplitude, phase and period. Adaptive significance of biological clocks.
	Unit-5 Biological Rhythm	Types, characteristics, short term. long term. Circadian rhythm. Tidal rhythm. Lunar rhythm. Concept of Synchronization, Photo period, regulation of periodic reproduction in vertebrates. Role of Metatonin.
3rd Semester DSC-3	Unit 1-4	Introduction to genetics, Mendelian genetics, linkage, crossing over, mutation.
	PRACTICAL	
MJ-1	Microscpre Identification of animals in different phylum.	Microscope handl~~ pes, different parts, ~~gnif~~tion etc.

		Identification of Animals with characters (Mollusca, protochordates, amphibia, mammals)
CC-5	Protochordates Agnatha	*Balanoglossus, Hardmania, Branchiostoma* *Petromyzon, Myxine*
	Amphibia	*Icthyophis, Tylototriton, Necturus, Cryptobranchus, Hyla, Rhacophorus etc*
	Mammals	*Mega and micro chiroptera etc*
CC-11	Mutation	Translocation mutation through photograph
DSE-1	1, Study of nesting behaviour. 2. Behavioural response of wood lice--------- condition. 3. Geotaxis behaviour of earthworm. 4. Phototaxis behaviour of insect larva.	1. Different types of nests formed by bird and social insect through downloaded image and forest visit. 2. Through oral mode demonstration and downloaded photograph. 3. Soil earthworm study. 4. Through demonstration.

Teaching plan: 2023-2024 (Odd Semester)

SIBANI CHOWDHURI

Department of Zoology

Semester-I		
Syllabus Allotted	Concept of evolution of body cavity, Taxonomy, Annelida, Adaptive radiation	
MJ1 T	**Lecture No.**	**Topics to be covered**
	Term-I	
	01	Course outcome and concept of evolution of body cavity – acoelomate, blastocoelomate & eucoelomate.
	02	Definition, relationship & utility of Systematics, Taxonomy.
	03	Concept of Evolution, Classification & Nomenclature.
	04	Phyletic lineages: Kinds & components of classification; Linnaean hierarchy.
	05	Concept of species & clade.
	06	Six kingdom classification; Concept of major & minor phyla.
	07	Zoological Nomenclature – principles & codes
	Term-II	
	08	General characteristics and classification of Annelida.
	09	Adaptive radiations in reptiles
	10	Adaptive radiations in birds.
	11	Adaptive radiations in mammals.
	12	Concept of coelome and evolutionary significance.
	Term-III	
	13	Assignment
	14	Problem discussion
	15	Assignment
	16	Problem discussion
MJ1P	**Lab. No.**	**Topics to be covered**
	Term-I	
	01	Identification of Nereis, Aphrodite.
	02	Identification of Tubifex, Earthworm.

		Term-II
	03	Identification of Chaetopterus, Arenicola, Leech.
	04	Practical revision
		Term-III
	05	Practical revision
	06	Practical revision
	07	Practical revision
	08	Practical revision
		Semester-III
Syllabus Allotted		C5T:Reptilia, Aves. C6T: Unit-1 Tissue C7T: Unit-1 (structure and role)
	Lecture No.	**Topics to be covered**
		Term-I
	01	General characteristics and classification up to Sub-Classes.
	02	Exoskeleton in Birds
	03	Migration in birds
	04	Principles and aerodynamics of flight
	05	General characters and classification up to living orders
	06	Affinities of Prototheria
	07	Exoskeleton derivatives of mammals
C5T, C6T, C7T	08	Adaptive radiation in mammals with reference to locomotory appendages
		Term-II
	09	Echolocation in Micro chiropterans
	10	Echolocation in Cetaceans
	11	Structure, location, classification and functions of epithelial tissue
	12	Structure, location, classification and functions of connective tissue
	13	Structure, location, classification and functions of muscular tissue
		Term-III
	14	Structure, location, classification and functions of nervous tissue
	15	Principle and types of fixation.
	16	Principle and types of stain. Stain Vs. dye.
	17	Structure and Biological importance: Monosaccharides, disaccharides.
	18	Structure and Biological importance: Polysaccharide. Derivatives of

		Monosachharides.
	19	Assignment
	20	Problem discussion

	Lab No.	**Topics to be covered**
	Term-I	
	01	Qualitative tests of functional groups in carbohydrates Known.
	02	Qualitative tests of functional groups in carbohydrates Known
	03	Qualitative tests of functional groups in carbohydrates unknown
	Term-II	
	04	Qualitative tests of functional groups in carbohydrates unknown
C 7P	05	Qualitative tests of functional groups in carbohydrates unknown
	Term-III	
	06	Qualitative tests of functional groups in proteins Known.
	07	Qualitative tests of functional groups in proteins Unknown.
	08	Qualitative tests of functional groups in proteins unknown.
	09	Practical revision
	10	Practical revision

Semester-V		
Syllabus Allotted	Unit 1: Mendelian Genetics and its Extension	

	Lecture No.	**Topics to be covered**
	Term-I	
	01	Course outcome. Principles of inheritance
	02	Incomplete dominance and co-dominance
	03	Epistasis
	04	Lethal alleles, Pleiotropy
C12T	**Term-II**	
	05	Sex-linked, sex- influenced and sex-limited inheritance
	06	Polygenic Inheritance.
	07	Multiple alleles
	Term-III	
	08	Problems on multiple alleles
	09	Assignment
	10	Problem discussion
C12P	**Lab**	**Topics to be covered**

	No.	
	Term-I	
	01	Chi-square analyses-1
	02	Chi-square analyses-2
	Term-II	
	03	Chi-square analyses-3
	Term-III	
	04	Practical revision
	05	Practical revision
DSE1 T	**Lecture No.**	**Topics to be covered** Unit 2: Patterns of Behaviour Unit 4: Introduction to Chronobiology
	Term-I	
	01	Stereotyped Behaviours (Orientation, Reflexes)
	02	Individual Behavioural patterns; Instinct vs. Learnt Behaviour
	03	Associative learning, classical and operant conditioning
	Term-II	
	04	FAP, Habituation.
	05	Imprinting.
	06	Historical developments in chronobiology
	07	Biological oscillation: the concept of Average, amplitude, phase and period.
	Term-III	
	06	Adaptive significance of biological clock.
	07	Assignment
	08	Problem discussion
DSE1 P	**Lab No.**	**Topics to be covered**
	Term-I	
	01	Study and actogram construction of locomotor activity of suitable animal models.
	02	To study the phototaxis behaviour in insect larvae.
	Term-II	
	03	To study the behavioural responses of wood lice to dry and humid conditions.
	04	Practical revision
	Term-III	
	05	Practical revision

Teaching plan: 2023-2024 (Odd Semester)

ABHIMANYU MUDI

Department of Zoology

Semester-I		
Syllabus Allotted	MJ 1 T: Systematics and Diversity of Life-Protists to Chordates ‣ Unit 1. Products of evolutionary process. ‣ Unit 4. Diversity in acoelomate Metazoa: General characteristics and classification up to classes: Porifera, Cnidaria(Rupert & Barnes, 1994). Special features & structural diversity in sponges with special reference to cell types; Special features of cnidarians with reference to polymorphism and division of labour; Coral reefs with diversity, formation, function & conservation. ‣ Unit 8. Diversity in vertebrates: Features of venomous & non venomous snake, distribution & type of snake venom with antidote in India MJ 1 P: Systematics and Diversity of Life-Protists to Chordates (Lab)		
MJ 1T	**Lecture No.**	**Topics to be covered**	
	Term-I		
	01	Course outcome and develop critical understanding how animals changed from a primitive cell to a collection of simple cells to form a complex body plan. Discuss how morphological change due to change in environment helps drive evolution over a long period of time.
	02	Cellularity from unicellular grade to multicellularity; Origin of metazoans; Body symmetry; Concept of mesozoa, parazoa & eumetazoa. Concept of evolution of germinal layer - diploblastic and triploblastic organizationn; Concept of coelenteron & transition of third germ layer
	03	Types of coelom; Concept of protostome and deuterostome; Concept of evolution of body cavity - acoelomate, blastocoelomate & eucoelomate;

	04	Concept of anamniote & amniote with structural features of amniote egg. Sequence & strategies of life cycle: Concept of classification of life cycles, adaptations & relationship between ontogeny & phylogeny.
	05	Origin of life on Earth: Arrival of simple form from primordial chemicals.
	06	Phylum porifera: general characteristics and classification up to classes(Rupert & Barnes, 1994)
	07	Special features & structural diversity in sponges with special reference to cell types.
	Term-II	
	08	Phylum cnidaria: general characteristics and classification up to classes(Rupert & Barnes, 1994)
	09	Special features of cnidarians with reference to polymorphism and division of labour.
	10	Coral reefs diversity, formation, function & conservation strategy.
	11	Features of venomous & non venomous snake, distribution
	12	Type of snake venom and antidote in India.
	Term-III	
	13	Assignments.
	14	Problem discussion.
	15	Assignments.
	16	Problem discussion.
MJ 1P	**Lab. No.**	**Topics to be covered**
	Term-I	
	01	Study of animals through identification museum specimens in the laboratory with details on their classification upto classes, adaptive features, economic/medical/ecological importance and diagnostic features: Sycon, Neptune's cup
	02	Study of animals through identification museum specimens in the laboratory with details on their classification upto classes, adaptive features, economic/medical/ecological importance and diagnostic features: Obelia, Hydra, Aurelia.
	Term-II	
	03	Study of animals through identification museum specimens

		in the laboratory with details on their classification upto classes, adaptive features, economic/medical/ecological importance and diagnostic features: Physalia, Gorgonia, Madripora (horn coral).
	04	Study of animals through identification museum specimens in the laboratory with details on their classification upto classes, adaptive features, economic/medical/ecological importance and diagnostic features: Sea anemone, Sea pen, Beroe.
	Term-III	
	05	Assessment of relationship by constructing a cladogram using any five animals belonging to a clade.
	06	Preparation of key on insects, fishes & birds.
	07	Practical revision.
	08	Practical revision.
Semester-III		
Syllabus Allotted	C6T: ➢ Unit 3: Nervous System. ➢ Unit 4: Muscular system. C7T: ➢ Unit 4: Nucleic Acids. ➢ Unit 5: Enzymes ➢ Unit 5: Oxidative Phosphorylation	
	Lecture No.	**Topics to be covered**
	Term-I	
C6T, C7T	01	Course outcome and develop critical understanding about biomolecules.
	02	Explain structure of Purines and pyrimidines, Nucleosides, Nucleotides, Nucleic acids.
	03	Watson –crick model of DNA , Types of DNA and RNA.
	04	Complementarity of DNA, Hpyo- Hyperchromaticity of DNA
	05	Basic concept of nucleotide metabolism.
	06	Explain Structure of neuron, resting membrane potential, Origin of action potential.
	07	Types of synapse, Synaptic transmission and Neuromuscular

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		junction.
	08	Reflex action and its types.
		Term-II
	09	Histology of different types of muscle; Ultra structure of skeletal muscle; Characteristics of muscle fibre
	10	Molecular and chemical basis of muscle contraction.
	11	Nomenclature and classification; Cofactors; Specificity of enzyme action; Isozymes
	12	Mechanism of enzyme action; Enzyme kinetics; Derivation of Michaelis-Menten equation, Lineweaver-Burk plot
	13	Factors affecting rate of enzyme-catalyzed reactions; Enzyme inhibition; Allosteric enzymes and their kinetics; Strategy of enzyme action- Catalytic and Regulatory
		Term-III
	14	Redox systems; Review of mitochondrial respiratory chain, Inhibitors and un-couplers of Electron Transport System
	15	Assignments.
	16	Problem discussion.
C7P	**Lab No.**	**Topics to be covered**
		Term-I
	01	Quantitative estimation of Lowry Methods.
	02	Paper chromatography of amino acids.
	03	Demonstration of proteins separation by SDS-PAGE.
		Term-II
	04	Practical revision.
	05	Practical revision.
		Term-III
	06	Practical revision.
	07	Practical revision.
	08	Practical revision.
	09	Practical revision.

Semester-V
Syllabus Allotted	C11T ➢ Unit 2: DNA Replication. ➢ Unit 3: Transcription.

	Lecture No.	Topics to be covered
		➢ Unit 4: Translation.
		➢ Unit 6: Gene Regulation
C11T		**Term-I**
	01	Course outcome and brief idea about central dogma, types of DNA replication.
	02	Semiconservative mode of DNA replication.
	03	Replication process of prokaryotes : bidirectional and discontinuous replication.
	04	RNA priming and function and mode of action of different replisomes.
	05	Process of replication of telomeres and its evolutionary significance.
		Term-II
	06	Mechanism of Transcription in prokaryotes and eukaryotes
	07	Transcription factors, Difference between prokaryotic and eukaryotic transcription.
	08	Transcription termination in prokaryotes: rho dependent and rho-independent.
	09	Mechanism of protein synthesis in prokaryotes, Ribosome structure and assembly in prokaryotes, fidelity of protein synthesis, aminoacyl tRNA synthetases and charging of tRNA.
	10	Proteins involved in initiation, elongation and termination of polypeptide chain; Genetic code, Degeneracy of the genetic code and Wobble Hypothesis
	11	Inhibitors of protein synthesis; Difference between prokaryotic and eukaryotic translation
		Term-III
	12	Operon concept: inducible and repressible system.
	13	Positive and negative control of lac operon.
	14	Mutations in lac operon gene. Problems of lac operon.
	15	Trp operon control mechanism.
	16	Regulation of Transcription in eukaryotes: activators, enhancers, silencer, repressors,
	17	miRNA mediated gene silencing, Genetic imprinting.

	18	Assignments.
	19	Problem discussion.
C11P	**Lab No.**	**Topics to be covered**
		Term-I
	01	Demonstration of polytene and lampbrush chromosome from photograph.
	02	Practical revision.
		Term-II
	03	Agarose gel electrophoresis for DNA.
		Term-III
	04	Practical revision.
	05	Practical revision.
C12 T	**Lecture No.**	**Topics to be covered** C12T: ➢ Unit 2: Linkage, Crossing Over and Chromosomal Mapping. ➢ Unit 3: Mutations. ➢ Unit 6: Recombination in Bacteria and Viruses.
		Term-I
	01	Linkage and Crossing Over, molecular basis of crossing over.
	02	Measuring Recombination frequency and linkage intensity using three factor crosses, Interference and coincidence.
	03	Problems of three point crosses.
	04	Types of gene mutations (Classification)- point mutation.
		Term-II
	05	Types of chromosomal aberrations with examples; Non-disjunction and variation in chromosome number.
	06	Molecular basis of mutations in relation to UV light and chemical mutagens.
	07	Process of conjugation : concept about F, F', Hfr factors.
	08	Problems on interrupted mating.
		Term-III
	09	Mechanism of transformation and transduction
	10	Complementation test in bacteriophage + Benzer's experiment.

	11	Assignments.
	12	Problem discussion.
	Lab No.	**Topics to be covered**
		Term-I
	01	Pedigree analysis of some human inherited traits: autosomal dominant and recessive trait.
C12 P	02	Pedigree analysis of some human inherited traits: sex linked (X linked) dominant and recessive trait; Ylinked trait.
		Term-II
	03	Linkage maps based on conjugation.
	04	Linkage maps based on conjugation.
		Term-III
	05	Practical revision.
	06	Practical revision.
	Lecture No.	**Topics to be covered** ➢ Unit 2: Molecular Techniques in Gene manipulation. ➢ Unit 3: Genetically Modified Organisms.
		Term-I
	01	Course outcome and biotechnology and genomics.
	02	Cloning vectors: Plasmids, Cosmids, Phagemids, Lambda Bacteriophage, M13, BAC, YAC, MAC and Expression vectors (characteristics).
DSE2T	03	Restriction enzymes: Nomenclature, detailed study of Type II.
	04	Transformation techniques: Calcium chloride method and electroporation. Construction of genomic and cDNA libraries and screening by colony and plaque hybridization
	05	Southern, Northern and Western blotting
	06	DNA sequencing: Sanger method. Application.
		Term-II
	07	Polymerase Chain Reaction, DNA Finger Printing and DNA micro array.
	08	Production of cloned and transgenic animal: Nuclear Transplantation, Retroviral Method.

	Lab No.	Topics to be covered
	09	DNA microinjection. Applications of transgenic animals.
	Term-III	
	10	Production of pharmaceuticals, production of donor organs, knock out mice.
	11	Assignments.
	12	Problem discussion.
DSE2 P	**Lab No.**	**Topics to be covered**
	Term-I	
	01	To study following techniques through photographs: Southern Blotting, Northern Blotting, Western Blotting.
	02	To study following techniques through photographs:, DNA Sequencing (Sanger's Method), PCR, DNA fingerprinting.
	03	Genomic DNA isolation from *E. coli.*
	04	Construction of circular and linear restriction map from the data provided.
	Term-II	
	05	Practical revision.
	06	Practical revision.
	Term-III	
	07	Practical revision.
	08	Practical revision.

Signature Not Verified

BIDYUT SAMANTA

22.06.2024

Kharagpur College
Teaching plan for Academic Session 2022-2023 (Even Semester)
Department of Zoology

Name of Teacher:	Class/Semester 2nd SEM Hons.	Name of the Paper : CC-3 :Non-Chordates II Theory	Topics/ Unit Plan	Syllabus Allotted
Prof. Rajkumar Mandi			Unit 1: Introduction	Evolution of coelom and metamerism
			Unit 6: Echinodermata	General characteristics and Classification up to classes Water-vascular system in Asteroidea Larval forms in Echinodermata Affinities with Chordates
Prof. Rajkumar Mandi		C3 P – Non-Chordates II Practical		1. Study of following specimens: a. Annelids - Aphrodite, Nereis, Heteronereis, Sabella, Serpula, Chaetopterus, Pheretima, Hirudinaria b. Arthropods - Limulus, Palamnaeus, Palaemon, Daphnia, Balanus, Sacculina, Cancer, Eupagurus, Scolopendra, Julus, Bombyx, Periplaneta, termites and honey bees Onychophora - Peripatus c. Molluscs - Chiton, Dentalium, Pila, Doris, Helix, Unio, Ostrea, Pinctada, Sepia, Octopus, Nautilus d. Echinodermates - Pentaceros/Asterias, Ophiura, Clypeaster, Echinus, Cucumaria and e. Antedon 2. Study of digestive system, septal nephridia and pharyngeal nephridia of earthworm 3. T.S. through pharynx, gizzard, and typhlosolar intestine of earthworm 4. Mount of mouth parts and dissection of digestive system and nervous system of Periplaneta* 5. To submit a Project Report on any related topic to larval forms (crustacean, mollusc and echinoderm)

Name of Teacher:	Class/Semester 2nd SEM Hons.	Name of the Paper :CC-4 : Cell Biology Theory	Topics/ Unit Plan	Syllabus Allotted

Prof. Rajkumar Mandi			Unit 1: Overview of Cells	Basic structure of Prokaryotic and Eukaryotic cells, Viruses, Viroid, Prion and Mycoplasma
Prof. Rajkumar Mandi		C4P–Cell Biology (Lab) Practical		1. Preparation of temporary stained squash of onion root tip to study various stages of mitosis 2. Study of various stages of meiosis. 3. Preparation of permanent slide to show the presence of Barr body in human female blood cells/cheek cells. 4. Preparation of permanent slide to demonstrate: a. DNA by Feulgen reaction b. Cell viability study by Trypan Blue staining c. Mitochondria identification through vital staining

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper : CC-8: Comparative Anatomy of Vertebrates Theory	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit 1: Integumentary System	Structure, function and derivatives of integument in amphibian, birds and mammals
			Unit 2: Skeletal System	Overview of axial and appendicular skeleton; Jaw suspension; Visceral arches.
			Unit 3: Digestive System	Comparative anatomy of stomach; dentition in mammals.
Prof. Rajkumar Mandi		C8P: Comparative Anatomy of Vertebrates Practical		1. Study of placoid, cycloid and ctenoid scales through permanent slides/photographs. 2. Study of disarticulated skeleton of Toad, Pigeon and Guineapig. 3. Demonstration of Carapace and plastron of turtle. 4. Identification of mammalian skulls: One herbivorous (Guineapig) and one carnivorous (Dog) animal. 5. Dissection of Tilapia: Circulatory system, Brain, pituitary, urinogenital system.

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper : CC-9: Animal Physiology: Life	Topics/ Unit Plane	Syllabus Allotted

		Sustaining Systems Theory		
Prof. Rajkumar Mandi			Unit 1: Physiology of Digestion	Structural organisation and functions of Gastrointestinal tract and Associated glands; Mechanical and chemical digestion of food, absorption of Carbohydrates, Lipids, Proteins and Nucleic Acids; Digestive enzymes
Prof. Rajkumar Mandi		C9P: Animal Physiology: Life Sustaining Systems Lab Practical		1. Determination of ABO Blood group 2. Enumeration of red blood cells and white blood cells using haemocytometer 3. Estimation of haemoglobin using Sahli's haemoglobinometer 4. Preparation of haemin and haemochromogen crystals 5. Recording of blood pressure using a sphygmomanometer.

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper : CC-10: Immunology Theory	Topics/ Unit Plan	Syllabus Allotted
Prof. Rajkumar Mandi			Unit 1: Overview of Immune System	Basic concepts of health and diseases, Historical perspective of Immunology, Cells and organs of the Immune system
Prof. Rajkumar Mandi		C9P: C10P: Immunology Lab Practical		1. Demonstration of lymphoid organs. 2. Histological study of spleen, thymus and lymph nodes through slides/ photographs 3. Preparation of stained blood film to study various types of blood cells. 4. ABO blood group determination. 5. Demonstration of ELISA.

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper : SEC-2: Sericulture Theory	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit 1: Introduction	Sericulture: Definition, history and present status; Silk route Types of silkworms, Distribution and Races Exotic and indigenous Mulberry and Nonmulberry Sericulture

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper : CC-13:	Topics/ Unit Plane	Syllabus Allotted

		Developmental Biology Theory		
Prof. Rajkumar Mandi			Unit 1: Introduction	Basic concepts: Phases of Development, Cell cell interaction, Differentiation and growth, Differential gene expression
Prof. Rajkumar Mandi		C13P: Developmental Biology Lab Practical		1. Study of whole mounts of developmental stages of chick through permanent slides: Primitive streak (13 and 18 hours), 21, 24, 28, 33, 36, 48, 72, and 96 hours of incubation (Hamilton and Hamburger stages). 2. Study of the developmental stages and life cycle of Drosophila from stock culture. 3. Study of different sections of placenta (photomicropgraph/ slides). 4. Project report on Drosophila culture/chick embryo development.

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper : CC-14: Evolutionary Biology Theory	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit-1	Life's Beginnings: Chemogeny, RNA world, Biogeny, Origin of photosynthesis, volution of eukaryotes.
			Unit 2	Historical review of Evolutionary concepts, Lamarkism, Darwinism and Neo Darwinism
			Unit 3	Geological time scale, Fossil records of Hominids (from Australopithacus to Homo sapiens), evolution of horse. Neutral theory of molecular evolution, Molecular clock.
Prof. Rajkumar Mandi		C14P: Evolutionary Biology Lab Practical		1. Study of fossils from models/ pictures 2. Study of homology and analogy from suitable specimens Hardy Weinberg Law by chi square anal 4. Graphical representation and interpretation of data of height/ weight of a sample of 100

				humans in relation to their age and sex.

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper : DSE-3:Endocrinology Theory	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit-1: Introduction to Endocrinology	General idea of Endocrine systems, Classification, Characteristic and Transport of Hormones, Neurosecretions and Neurohormones
Prof. Rajkumar Mandi		DSE3P: Endocrinology Lab Practical		1. Dissect and display of Endocrine glands in laboratory bred rat. 2. Study of the permanent slides of all the endocrine glands 3. Tissue fixation, embedding in paraffin, microtomy and slide preparation of any endocrine gland 4. Estimation of plasma level of any hormone using ELISA. 5. Designing of primers of any hormone.

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper : DSE-4: Biology of Insects Theory	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit-1: Introduction	General Features of Insects. Distribution and Success of Insects on the Earth.
Prof. Rajkumar Mandi		DSE4P: Biology of Insects Lab Practical		1. Study of life cycle of Mosquito 2. Study of different kinds of antennae, legs and mouth parts of insects 3. Mounting of insect wings, spiracles and genitalia of any insects 4. Methodology of collection, preservation and identification of insects. 5. Morphological studies of various castes of Apis, Camponotus Odontotermes 6. Study of major insect pests of paddy and their damages 7. Study of Mulberry silk moth as beneficial insect

Name of Teacher:	Class/Semester 2nd Sem Gen.	Name of the Paper : DSC-1B (CC-2): Comparative	Topics/ Unit Plane	Syllabus Allotted

		Anatomy and Developmental Biology of Vertebrates Theory		
Prof. Rajkumar Mandi			Unit 1: Integumentary System	Derivatives of integument w.r.t. glands and digital tips
			Unit 2: Skeletal System	Evolution of visceral arches
			Unit 3: Digestive System	Brief account of alimentary canal and digestive glands.
			Unit 4: Respiratory System	Brief account of gills, lungs, air sacs and swim bladder
Prof. Rajkumar Mandi		DSC1BP: Comparative Anatomy and Developmental Biology of Vertebrates (Practical)		1. Osteology: a) Disarticulated skeleton of fowl and rabbit b) Carapace and plastron of turtle /tortoise c) Mammalian skulls: One herbivorous and one carnivorous animal. 2. Frog - Study of developmental stages - whole mounts and sections through permanent slides – cleavage stages, blastula, gastrula neurula, tail bud stage, tadpole external and internal gill stages. 3. Study of the different types of placenta- histological sections through permanent slides or photomicrographs. 4. Study of placental development in humans by ultrasound scans. 5. Examination of gametes - frog/rat - sperm and ova through permanent slides or photomicrographs.

Name of Teacher:	Class/Semester 4th Sem Gen.	Name of the Paper : Paper : DSC-1D (CC-4): Genetics and Evolutionary Biology Theory	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit 1: Introduction to Genetics	Mendel's work on transmission of traits, Genetic Variation, Molecular basis of genetic information
			Unit 2: Mendelian	Principles of inheritance, Chromosome theory of inheritance, Incomplete

			Genetics and its Extension	dominance and codominance, Multiple alleles, Lethal alleles, Epistasis, Pleiotropy, sex linked inheritance, extra-chromosomal inheritance
			Unit 3: Linkage, Crossing Over and Chromosomal Mapping	Linkage and crossing over, Recombination frequency as a measure of linkage intensity, two factor and three factor crosses, Interference and coincidence, Somatic cell genetics – an alternative approach to gene mapping
			Unit 10: Species Concept	Biological species concept (Advantages and Limitations); Modes of speciation (Allopatric, Sympatric)
			Unit 11: Macro-evolution	Macro-evolutionary Principles (example: Darwin's Finches)
			Unit 12: Extinction	Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution
Prof. Rajkumar Mandi		DSC1DP: Genetics and Evolutionary Biology (Practical)		1. Study of Mendelian inheritance and gene interactions (Non- Mendelian inheritance) using suitable examples. Verify the results using Chi-square test. 2. Study of Linkage, recombination, gene mapping using the data. 3. Study of Human Karyotypes (normal and abnormal). 4. Study of fossil evidences from plaster cast models and pictures 5. Study of homology and analogy from suitable specimens/ pictures 6. Charts: a. Phylogeny of horse with diagrams/ cut outs of limbs and teeth of horse ancestors b. Darwin's Finches with diagrams/ cut outs of beaks of different species 7. Visit to Natural History Museum and submission of report.

Name of Teacher:	Class/Semester 6th sem Gen	Name of the Paper : DSE- 2: Insect, Vector and Diseases	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit I: Introduction to Insects	General Account of Insects, Morphological features, Head –

				Eyes, Types of antennae, Mouth parts w.r.t. feeding habits
			Unit II: Concept of Vectors	Brief introduction of Carrier and Vectors (mechanical and biological vector), Reservoirs, Host-vector relationship, Vectorial capacity, Adaptations as vectors, Host Specificity
			Unit III: Insects as Vectors	Classification of insects up to orders, detailed features of orders with insects as vectors – Diptera, Siphonaptera, Siphunculata, Hemiptera
Prof. Rajkumar Mandi		DSE2P: Insect Vector and Diseases (Practical)		1. Study of different kinds of mouth parts of insects 2. Study of following insect vectors through permanent slides/ photographs: Aedes, Culex, Anopheles, Pediculus humanus capitis, Pediculus humanus corporis, Phithirus pubis, Xenopsylla cheopis, Cimex lectularius, Phlebotomus argentipes, Musca domestica, through permanent slides/ photographs 3. Study of different diseases transmitted by above insect vectors 4. Submission of a project report on any one of the insect vectors and disease transmitted.

Name of Teacher:	Class/Semester 6th sem Gen	Name of the Paper :SEC4T: Sericulture Theory	Topics/ Unit Plane	Syllabus Allotted
Prof. Rajkumar Mandi			Unit 1: Introduction	Sericulture: Definition, history and present status; Silk route, Types of silkworms, Distribution and Races, Exotic and indigenous races, Mulberry and non-mulberry Sericulture

Kharagpur College

Department of Zoology

UG Lesson Plan of

Dr. Moumita Chakraborty

Even Semester: Session- 2022-2023

Semester	Syllabus	Lesson plan
2nd Semester(H): Paper- CC3 (Non-Chordates)	Arthropoda- General Characteristics and classification;	1.Introduction to arthropod general characters 2. classify phylum Arthropoda up to class with important features. 3.
	Unit: Mollusca- general characteristics and classification up to class. Torsion in gastropods; Nervous system in Mollusca;	1.Introduction to Mollusca general characters 2. classify phylum mollusca up to class with important features. 3. What is torsion? Why is it occur? Process of torsion. Significance of torsion. Diagram. 4. Types of nerve, ganglia. Connectives and commissures. Different types of nervous system found in different classes with diagram. Significance.
4th semester(H): Paper- CC9 (Animal Physiology)	Unit-1; Digestive System	Gut, histology of gut, different digestive glands- location, secretion of juice, functions. Liver- histology, functions, bile and gall bladder. Different digestive enzymes,
	Unit2; respiratory system	Introduction, definition of respiratory volume and capacities, Vital capacity, measurement of VC, ~~ries of~~

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		Oxygen and Carbon-di-oxide, Hamberg's Phenomenone, Halden effect
	Unit-5 Thermoregulation	Introduction, types of animals on the basis of thermoregulation, process of thermoregulation. Role of hypothalamus in thermoregulation.
Semester 6 CC-13	Gametogenesis (Spermatogenesis and Oogenesis), Fertilisation, Block to polyspermy.	Introduction, process of spermatogenesis with diagram, process of oogenesis with diagram, process of fertilization. Block to polyspermy.
CC-14	Fossil, dating mechanism etc.	Introduction, fossil, types, formation, dating mechanism.
DSE-3	Endocrinology	Structure and functions of hypothalamus, Pituitary gland, hypothalamo-hypophyseal portal system, Hypo and hyper secretion of pituitary gland, disorders of pituitary gland, control of pituitary hormones.
DSE-4	Insect Biology	Introduction, classification, wings, insect hormones.
Semester-4 DSC-4	Unit 1-4	Introduction to genetics, Mendelian genetics, linkage, crossing over, mutation.
	PRACTICAL	
CC-3	Arthropoda and Mollusca	Identification of Animals up to class with characters.
CC-9	Osteology	Appendicular bones, skull, girdles, vertebrae of Columba and Cavia. Skull of Chelone, Canis.
DSE-3	Permanent slide Preparation of slide of endocrine gland of rat.	Identification of permanent slides of different endocrine glands. Section cutting through microtechnique.

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Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Zoology *(Sibani Chaudhuri)*

Zoology Hons Sem6	**CC-13 Developmental Biology**	**.Unit2: early embryonic development**	1.Gametogenesis 2.Process ofSpermatogenesis &spermiogenesis 3.Oogenesis process& structure of a typical ovum 4.Types of eggs: classification of eggs on the basis of amount of egg yolk&distribution of egg yolk 5.Egg membranes:Classification of eggs on the basis of egg envelope &egg shell Cheese
	CCP13	**Study of whole mount of developmental stages of chick through permanent slide**	Demonstration of permanent slides of 21, 24, 28, 33,36,48, 72& 96 hours embryos of chick
Zoology Hons Sem6	**CC-14 Evolutionary biology**	**Unit-6 Specie concept**	1.Concept of species, 2.Typological species concept ,Nominalistic species concept &their drawbacks 3.genetic species concept ,evolutionary species concept &their drawbacks 4.Biological species concept, Advantages and disadvantages of various species concept.
		Isolating Mechanisms	5.Definition of isolation,Classification of isolating mechanism 6.Premating mechanisms 7.Postmating mechanisms 8.Classification of modes of speciation: 9.Allopatric speciation
		Modes of speciation	10.Parapatric speciation 11.Peripatric speciation 12.Sympatric speciation
		Adaptive Radiation	13Concept of evolution & macroevolution 14.Concept of adaptive Radiation,the Galapagos island ,role of gene flow,Darwin finches 15.Adaptive Radiation in Darwin Finches

Zoology Hons Sem6	**DSE3T Endocrinology**	**Unit-3 Peripheral Endocrine glands**	1.Structure ,Hormones,Function & Regulation &disorders of: a.Thyroid gland b.Parathyroid c.Thymus d.Adrenal e.Pancreas d.Testis e.Ovary 2. Role of Hormones in Homeostasis'
	DSE3P Endocrinology Lab	**2.Study of permanent slides of all endocrine glands**	Microscopic Study of T.S. of pituitary & thyroid, parathyroid. & thymus, adrenal pancreas, testis & ovary
Zoology Hons Sem6	**. DSE4T Biology of insect**	**Unit1 Introduction**	.1.General Features of Insect 2.Distribution &Success of insect on earth
		Unit7 Insect as vector	3.General Concept of vector , Biological & mechanical vector 4.Role of insect as Biological & Mechanical. Vector 5.Brief discussion on Mosquito & Housefly. as a vector
	DSE4P	**Practical**	1.Study of Lifecycle of Mosquito by chart and models 2.Study of different kinds of antennae,legs &mouthparts of insects 3.Study of major insect pest of paddy and their damages 4.Study of Mulberry silk moth as a beneficial insect

Zoo(Hons)	Paper	Syllabus allotment	Lesson Plan
Zoology Hons Sem4	CC9T Animal Physiology	Unit 4 Physiology of circulation	1.Components of Blood & their functions
			2Structure &Function of Haemoglobin
			3.Concept of Haemostasis
			4.Blood clotting system
			5 Fibrinolytic system
			6.Haematopoisis
			7.Study of ABO blood grouping system & Rh Factor
	CC9P	Practical	1.Determination of ABO blood group
			2.Preparetion of Haemin and Haemohromogen crystals
			3.Recording of Blood Pressure through Sphygmomanometer
Zoology Hons Sem4	CC10T	Unit1 Overview of immune system	1.Basic concept of Health &Diseases
			2.Historical perspective of Immunology
			3.Cells & Organs of Immune system
			4.Anatomical Barrier
			5.Process and stages of inflammation
		Unit2 Innate and Adaptive Immunity	6.Cells and molecules involved in innate immunity
			7.Adaptive immunity: (a).Cell mediated (b).Humoral immunity
		Unit 3 Antigens	8.Antigenecity and immunogenicity
			9.Concept of immunogenicity,Adjuvants & Haptens
			10.Factors influencing immunogenicity
			11.Concept of B &T cell epitopes
		Unit10 Vaccines	12.Various Types of Vaccines
			13.Active Immunization
			14.Passive immunization
	CC10P	Practical	1.Demonstration of Lymphoid organ
			2.Historical study of spleen,thymus &lymph node through slides and photographs
			3.Preparation of stained blood film to stain various types of blood cells
			4.ABO blood group determination

Zoology Hons 2nd semistar	<u>C3T-NonchordatesII</u>	**Unit1: Introduction**	1.Definition of coelom, Genera idea of coelom,Functions of coelom and it's importance
			2.Examples of coelomates, Protostome coelomates &Deuterostome coelomates, their comparison
			3. Origin of coelom , schizocoel & enterocoel hypothesis
			4. Evolution of coelom, various theories of evolution of coelom
			5. Concept of Metamerism, origin & evolution of metamerism,
			6Various Theories of metamerism ,significance of metamerism.
		Unit2: Annelida General characteristics & classification	7.Introduction of Phylum Annelida, important characteristics features of Phylum Annelida with various examples
			8.Scheme of Classification of Phylum Annelida, Systematic resume of phylum Annelida upto classes
		Excretion in Annelida	9.Detailed structure of a typical nephridia .
			10.Study of different types of nephridia found in Annelida : a.septal nephridia b.pharyngeal nephridia c.integumentary nephridia
			11.Comparison of various nephridia found in Annelida : a.Proto vs Metanephridia b. Micro & Meganephridia c.Exo & enteronephric

2nd semester	C3T	Metamerism in Annelida	12 Metamerism and tagmatization,Pattern of segmentation,general ,components of metameres Types of metamerism ,significance of metamerism in Annelida
		Unit7: Hemichordata	13.General characteristics of Phylum Hemichordata 14.Relationship with chordates and nonchordates
	C3P	Study of the following specimens	1.Aphrodite,Nereis,Heteronereis,Sabella,Serpula, Chaetopterus ,Pheretima,Hirudinaria. 2.Study of digestive system,septal nephridia &pharyngeal nephridia of earthworm by proper diagrams and explanation 3.Study of permanent slide through pharynx,gizzard,typhlosolar intestine of earthworms
	C4P	Study of various stages of meiosis	4.Demonstration of permanent slide of various sub phases of Prophase: Pachytene ,Leptotene,Zygotene , Diakinesis etc, Metaphase -I,&11, Anaphase1,11, Telophase 1&11

Teaching plan: 2022-2023 (Even Semester)

ABHIMANYU MUDI

Department of Zoology

Semester-II		
Syllabus Allotted	C4 T (Cell Biology): ➢ Unit 4: Cytoplasmic organelles II – Mitochondria. ➢ Unit 7: Cell Division. ➢ Unit 8: Cell Signaling C4P–Cell Biology (Lab) GE2 T-Animal Diversity (Unit 1 – 9) GE2 P - Animal Diversity Lab	
	Lecture No.	**Topics to be covered**
	Term-I	
C4 T	01	Course outcome and concept about cytoplasmic organelles.
	02	Ultrastructure and function of Mitochondria. Mt DNA Vs. genomic DNA.
	03	Mitochondrial Respiratory Chain-ETC and its inhibitors.
	04	Semi-autonomous nature of mitochondria, Endosymbiotic hypothesis, Chemi-osmotic hypothesis.
	05	Peroxisomes: Structure and Functions. Centrosome: Structure and Functions.
	06	Overview of cell division. What is cell cycle? Significance of different phases of cell cycle.
	07	Check points concept. Regulation mechanism of cell cycle: cyclin-CDK complex.
	Term-II	
	08	Mitosis and Meiosis: Basic process and their significance. MTOC, APC/cyclosome complex. Difference between mitosis and meiosis.
	09	Arrest of cell cycle. P53 is the guardian of g___.
	10	Cancer: normal cell vs. transformed cell, oncogenes and tumor suppressor genes: P53, ___s and APC.

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	11	Overview of cell signaling transduction pathways; Types of signaling molecules and receptors GPCR.
	12	Mode of action of G-protein, Role of second messenger (cAMP)
		Term-III
	13	Programmed cell death- Apoptosis pathway. Necrosis Vs. Apoptosis.
	14	Assignments.
	15	Problem discussion.
	16	Problem discussion.
C4P	**Lab. No.**	**Topics to be covered**
		Term-I
	01	Experiment-1: Preparation of temporary stained squash of onion root tip to study various stages of mitosis.
	02	Experiment-2: Study of various stages of meiosis by squash preparation from grasshopper testis.
		Term-II
	03	Experiment-3: Preparation of permanent slide to show the presence of Barr body in human female cheek cells.
	04	Experiment-4: Mitochondria identification through vital staining
		Term-III
	05	Practical revision.
	06	Practical revision.
	07	Practical revision.
	08	Practical revision.
GE2 T	**Lecture No.**	**Topics to be covered**
		Term-I
	01	Course outcome. Brief idea about nonchordates. General characters of Protozoa.
	02	Life cycle of *Plasmodium.*
	03	General characters and canal system in Porifera
	04	General characters of Cnidarians and polyn_____ophi___) Polyp Vs. medusa
	05	Concept about coelome development. Protostome vs.

		deuterostome.
	06	General characters of Helminthes.
	07	General characters of Nematoda and Parasitic adaptations.
	Term-II	
	08	Concept of metamerism. General characters of annelid.
	09	General characters. Social life in insects.
	10	General characters of mollusk.
	11	Pearl Formation
	12	General characters of Echinodermata.
	Term-III	
	13	Water Vascular system in Starfish.
	14	Salient features of protochordates.
	15	Assignments
	16	Problem discussion.
GE2 P	**Lab No.**	**Topics to be covered**
	Term-I	
	01	Identification of *Euglena, Noctiluca, Paramecium*
	02	Identification of *Sycon,Physalia, Tubipora, Metridium*.
	03	Identification of *Ascaris, Nereis, Aphrodite, Leech, Peripatus, Limilus*.
	04	Identification of *Hermitcrab, Daphnia, Millipede, Centipede, Beetle*.
	05	Identification of *Chiton, Dentalium, Octopus, Asterias, Antedon*.
	Term-II	
	06	Study of cross section of Sycon, T. S. of Earthworm passing through pharynx, gizzard, and typhlosolar intestine.
	07	Study of Sea anemone, *Ascaris* (male & female).
	08	Temporary mounts of Septal & pharyngeal nephridia of earthworm.
	Term-III	
	09	Dissections of digestive and nervous system of Cockroach.
	10	Practical revision.
	11	Practical revision.
	12	Practical revision.

Semester-IV		
Syllabus Allotted	C8 T (Comparative Anatomy of Vertebrates): ➤ Unit 7: Nervous System. ➤ Unit 8: Sense Organs. C9T: Animal Physiology: Life Sustaining Systems: ➤ Unit 4: Physiology of Heart. C9P: Animal Physiology: Life Sustaining Systems Lab C10T: Immunology: ➤ Unit 4: Immunoglobulins ➤ Unit 5: Major Histocompatibility Complex ➤ Unit 6: Cytokines C10P: Immunology Lab		

	Lecture No.	Topics to be covered
		Term-I
	01	Course outcome and structure of Ig molecule. Proteolytic diestion of IgG.
	02	Ig classes: isotype, allotype and idiotype. Ig superfamily.
	03	Function of different Ig molecules. Opsonization, ADCC.
	04	Concept about Ag-Ab interaction: Affinity, avidity. Agglutination and precipitation reactons. Zone phenomenon, Titer.
C8T, C9T, C10T	05	Agglutination inhibition, Complement fixation and their applications.
	06	Classification of receptors. Olfactory and auditory receptors in vertebrate
	07	Structure of mammalian heart: Valves. Coronary Circulation.
	08	Structure and working of conducting myocardial fibres.
		Term-II
	09	Origin and conduction of cardiac impulses Cardiac Cycle, ECG.
	10	Cardiac output , blood pressure and its regulation.
	11	Structure and functions of MHC molecule. T cell Receptor and its signaling.
	12	T cell development & selection. T cell – B cell comparation.
	13	Cytokines: Types, properties and functions.

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		Term-III	
	14	Comparative account of brain, Cranial nerves in mammals.	
	15	Problem discussion.	
	16	Problem discussion.	
C9P & C10P	**Lab No.**	**Topics to be covered**	
		Term-I	
	01	Determination of ABO Blood group.	
	02	Preparation of haemin and haemochromogen crystals.	
	03	Preparation of stained blood film to study various types of blood cells.	
		Term-II	
	04	Demonstration of ELISA.	
	05	Enumeration of red blood cells and white blood cells using haemocytometer.	
		Term-III	
	06	Practical revision.	
	07	Practical revision.	
	08	Practical revision.	
	09	Practical revision.	

	Semester-VI
Syllabus Allotted	C13T: Developmental Biology ➢ Unit-2 (from Planes and patterns of cleavage ….. till end) ➢ Unit 3: Late Embryonic Development C13P: Developmental Biology Lab C14T: Evolutionary Biology ➢ Unit-4: Sources of variations. ➢ Unit-5: Population genetics. C14P: Evolutionary Biology Lab DSE3T: Endocrinology: ➢ Unit-4: Regulation of Hormone Action DSE3P: Endocrinology Lab DSE4T: Biology of Insects ➢ Unit-4: physiology of insect.

	Lecture No.	**Topics to be covered**
C13T		Term-I

	01	Course outcome and Planes and patterns of cleavage; Types of Blastula.
	02	Fate maps: Definition, method, application.
	03	Early development of frog Cleavage and gastrulation.
	04	Early development of chick Cleavage and gastrulation.
	Term-II	
	05	Embryonic induction and chemistry of organizers.
	06	Transplantation experiment: Speaman – Mangold experiment
	07	Fate of Germ Layers; Extra-embryonic membranes in birds.
	Term-III	
	08	Implantation of embryo in humans, Placenta (Structure, types and functions of placenta)
	09	Problem solving
	10	Problem solving
C13P	**Lab No.**	**Topics to be covered**
	Term-I	
	01	Study of the developmental stages and life cycle of Drosophila from stock culture.
	02	Study of different sections of placenta from photomicropgraph.
	Term-II	
	03	Project report on Drosophila culture.
	Term-III	
	04	Practical revision.
	05	Practical revision.
C14 T	**Lecture No.**	**Topics to be covered**
	Term-I	
	01	Course outcome and idea about population genetics. Hardy-Weinberg Law: statement and derivation of equation, application Of law to bi-allelic Population.
	02	Evolutionary forces upsetting H-W equilibrium: Natural selection (concept of fitness, types of selection, selection coefficient, mode of selection heterozygous superiority).
	03	Role of Migration and Mutation in changing allele

		frequencies.
	04	Genetic Drift mechanism (founder's effect, bottleneck phenomenon).
	Term-II	
	05	Numerical problems solving in HWE.
	06	Sources of variations: Heritable variations and their role in evolution.
	Term-III	
	07	Problem solving
	08	Problem solving
	Lab No.	**Topics to be covered**
	Term-I	
	01	Study of homology and analogy from suitable specimens.
	02	Study and verification of Hardy-Weinberg Law by chi square analysis.
C14 P	**Term-II**	
	03	Graphical representation and interpretation of data of height/ weight of a sample of 100 humans in relation to their age and sex.
	Term-III	
	04	Practical revision.
	05	Practical revision.
	Lab No.	**Topics to be covered**
	Term-I	
	01	Course outcome and mechanism of action of steroidal, non-steroidal hormones with receptors.
DSE3T	02	Bioassays of hormones using RIA & ELISA.
	03	Estrous cycle in rat and menstrual cycle in human.
	Term-II	
	04	Multifaceted role of Vasopressin & Oxytocin.
	05	Hormonal regulation of parturition.
	Term-III	
	06	Problem solving
DSE3P	**Lab No.**	**Topics to be covered**

		Term-I	
	01	Estimation of plasma level of any hormone using ELISA.	
	02	Practical revision	
DSE4 T	**Lab No.**	**Topics to be covered**	
		Term-I	
	01	Course outcome and Structure and physiology of Insect integumentary system.	
	02	Structure and physiology of Insect digestive and respiratory system.	
	03	Structure and physiology of Insect excretory and circulatory system.	
	04	Structure and physiology of Insect endocrine and reproductive system.	
		Term-II	
	05	Structure and physiology of Insect nervous system.	
	06	Photoreceptors: Types, Structure and Function	
		Term-III	
	07	Metamorphosis: Types and Neuroendocrine control of metamorphosis.	
	08	Problem solving	

Teaching plan for Academic Session 2022-2023(Even Semester)
Department of Zoology
KHARAGPUR COLLEGE
(SUBHOJEET BANERJEE)

Name of Teacher:	Class/Semester 2nd SEM Hons.	Name of the Paper : CC-3	Topics/ Unit Plan	Syllabus Allotted
SUBHOJEET BANERJEE		Non-Chordates II:Theory	Unit 3:Arthropoda	1.General characteristics and Classification up to classes 2.Vision in Insecta only. 3.Respiration in Arthropoda (Gills in prawn and trachea in cockroach) 4.Metamorphosis in Lepidopteran Insects. 5.Social life in termite
			Unit 7: Hemichordata	1.General characteristics of phylum Hemichordata. 2.Relationship with non-chordates and chordates
SUBHOJEET BANERJEE		C3 P – Non-Chordates II Practical		1.T.S. through pharynx, gizzard, and typhlosolar intestine of earthworm 2.To submit a Project Report on any related topic to larval forms (crustacean, mollusc and echinoderm)

Name of Teacher:	Class/Semester 2nd SEM Hons.	Name of the Paper :CC-4 : Cell Biology Theory	Topics/ Unit Plan	Syllabus Allotted
SUBHOJEET BANERJEE			Unit 3: Cytoplasmic organelles I	1.Structure and Function Endoplasmic Reticulum, Golgi Apparatus, Lysosomes

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			Unit 2: Plasma Membrane	2. Protein sorting and mechanisms of vesicular transport
				1.Ultra structure and composition of Plasma membrane: Fluid mosaic model
				2.Transport across membrane: Active and Passive transport, Facilitated transport
				3.Cell junctions: Tight junctions, Gap junctions, Desmosomes
			Unit 5: Cytoskeleton	1. Type, structure and functions of cytoskeleton Accessory proteins of microfilament & microtubule A brief idea about molecular motors
SUBHOJEET BANERJEE		C4P–Cell Biology (Lab) Practical		Preparation of permanent slide to demonstrate: a. DNA by Feulgen reaction b. Cell viability study by Trypan Blue staining c. Mitochondria identification through vital staining

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper : CC-8:	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		Comparative Anatomy of Vertebrates Theory	Unit 4: Respiratory System	Respiratory organs in fish, amphibia, birds and mammal

			Unit 5: Circulatory System	General plan of circulation, Comparative account of heart and aortic arches
			Unit 6: Urinogenital System	Succession of kidney, Evolution of urinogenital ducts, Types of mammalian uteri
			Unit 8: Sense Organs	Classification of receptors, Brief account of olfactory and auditory receptors in vertebrate
SUBHOJEET BANERJEE		C8P: Comparative Anatomy of Vertebrates Practical		1.Demonstration of Carapace and plastron of turtle. 2. Dissection of *Tilapia*: Circulatory system, Brain, pituitary, urinogenital system. .

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper : CC-9: Animal	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		Physiology: Life Sustaining Systems Theory	Unit 4: Physiology of Heart	Structure of mammalian heart, Coronary Circulation, Structure and working of conducting myocardial fibres, Origin and conduction of cardiac impulses Cardiac Cycle and cardiac output Blood pressure and its regulation
			Unit 5: Thermoregulation & Osmoregulation	Physiological classification based on thermobiology.

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				2.Thermal biology of endotherms
				3.Osmoregulation in aquatic vertebrates
				4. Extrarenal osmoregulatory organs in vertebrates
SUBHOJEET BANERJEE		C9P: Animal Physiology: Life Sustaining Systems Lab Practical		1.Enumeration of red blood cells and white blood cells using haemocytometer
				2. Recording of blood pressure using a sphygmomanometer.

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper :	Topics/ Unit Plan	Syllabus Allotted
SUBHOJEET BANERJEE		CC-10: Immunology Theory	Unit 6: Cytokines	Types, properties and functions of cytokines.
			Unit 7: Complement System	Components and pathways of complement activation.
			Unit 8: Hypersensitivity	Gell and Coombs' classification and brief description of various types of hypersensitivities.
			Unit 9: Immunology of diseases	M c ilariasis, gue d Tuberculosis

| SUBHOJEET BANERJEE | | C9P: C10P: Immunology Lab Practical | | 1. Histological study of spleen, thymus and lymph nodes through slides/ photographs

2. Demonstration of ELISA |
| --- | --- | --- | --- | --- |

Name of Teacher:	Class/Semester 4th SEM. Hons.	Name of the Paper : SEC-2:	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		Sericulture Theory	Unit 3: Rearing of Silkworms	Selection of mulberry variety and establishment of mulberry garden

Rearing house and rearing appliances.

Disinfectants: Formalin, bleaching powder, RKO Silkworm rearing technology:

Early age and Late age rearing

Types of mountages Spinning, harvesting and storage of cocoons |

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper : CC-13:	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		Developmental Biology Theory	Unit 4: Post Embryonic Development	Development of brain and Eye in Vertebrate.

Regeneration: Modes of regeneration, epimorphosis, morphallaxis and compensatory regeneration (with one exc approach) |
| | | | Unit 5: Implications of | Teratogenesis: Teratogenic agents and |

			Developmental Biology	their effects on embryonic development; In vitro fertilization, Stem cell (ESC), Amniocentesis.
SUBHOJEET BANERJEE		C13P: Developmental Biology Lab Practical		1.Study of different sections of placenta (photomicropgraph/ slides). 2. Project report on *Drosophila* culture/chick embryo development.

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper : CC-14:	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		Evolutionary Biology Theory	Unit-7	Extinctions, Back ground and mass extinctions (causes and effects), detailed example of K-T extinction.
			Unit-8	Origin and Evolution of Man, Unique Hominin characteristics contrasted with primate characteristic Molecular analysis of human origin.
			Unit-9	Phylogenetic trees, Construction & interpretation of Phylogenetic tree using parsimony, Convergent & Divergent evolution.
SUBHOJEET BANERJEE		C14P: Evolutionary Biology Lab Practical		1.Study of fossils from models/ pictures. 2. Study homology and analogy in suitable specimens.

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper :	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		DSE-3:Endocrinology Theory	Unit-2: Epiphysis, Hypothalamo-hypophysial Axis	Structure of pineal gland, Secretions and their functions in biological rhythms and reproduction. Structure and functions of hypothalamus and Hypothalamic nuclei, Regulation of neuroendocrine glands, Feedback mechanisms Structure of pituitary gland, Hormones and their functions, Hypothalamo-hypophysial portal system, Disorders of pituitary gland
SUBHOJEET BANERJEE		DSE3P: Endocrinology Lab Practical		1. Estimation of plasma level of any hormone using ELISA 2. Designing of primers of any hormone.

Name of Teacher:	Class/Semester 6th Sem Hons.	Name of the Paper :	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		DSE-4: Biology of Insects Theory	Unit-6: Insect Plant Interaction	Theory of co-evolution, role of allelochemicals in host plant mediation Host-plant selection by phytophagous insects, Major insect pests in ...
SUBHOJEET BANERJEE		DSE4P: Biology of		1. ...chology of collection preservation

		Insects Lab Practical		and identification of insects. 2. Morphological studies of various castes of *Apis*, *Camponotus Odontotermes*

Name of Teacher:	Class/Semester 2nd Sem Gen.	Name of the Paper :	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		DSC-1B (CC-2): Comparative Anatomy and Developmental Biology of Vertebrates Theory	Unit 2: Skeletal System	Evolution of visceral arches
			Unit 4: Respiratory System	Brief account of gills, lungs, air sacs and swim bladder
SUBHOJEET BANERJEE		DSC1BP: Comparative Anatomy and Developmental Biology of Vertebrates (Practical)		1.Study of the different types of placenta-histological sections through permanent slides or photomicrographs. 2. Study of placental development in humans by ultrasound scans. 3. Examination of gametes - frog/rat - sperm and ova through permanent slides or photomicrographs.

Name of Teacher:	Class/Semester 4th Sem Gen.	Name of the Paper : Paper : DSC-1D (CC-4): Genetics and Evolutionary Biology Theory	Topics/ Unit Plane	Syllabus Allotted

SUBHOJEET BANERJEE			Unit 2: Mendelian Genetics and its Extension	Principles of Inheritance, Chromosome theory of inheritance, Incomplete dominance and codominance, Multiple alleles, Lethal alleles, Epistasis, Pleiotropy, sex linked inheritance, extra-chromosomal inheritance
			Unit 3: Linkage, Crossing Over and Chromosomal Mapping	Linkage and crossing over, Recombination frequency as a measure of linkage intensity, two factor and three factor crosses, Interference and coincidence, Somatic cell genetics – an alternative approach to gene mapping
			Unit 12: Extinction	Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution
SUBHOJEET BANERJEE		DSC1DP: Genetics and Evolutionary Biology (Practical)		1. Study of Linkage, recombination, gene mapping using the data.

2. Study of Human Karyotypes (normal and abnormal).

3. Study of fossil evidences from plaster cast models and pictures

4. Study of homology and analogy from suitable specimens/ pictures

5. Charts: a. Phylogeny of horse with diagrams/ cut outs of limbs and teeth of horse ancestors b. Darwin's finches with diagrams/ cut outs of beaks of different species |

				7. Visit to Natural History Museum and submission of report.

Name of Teacher:	Class/Semester 6th sem Gen	Name of the Paper :	Topics/ Unit Plane	Syllabus Allotted
SUBHOJEET BANERJEE		DSE- 2: Insect, Vector and Diseases	Unit II: Concept of Vectors	Brief introduction of Carrier and Vectors (mechanical and biological vector), Reservoirs, Host-vector relationship, Vectorial capacity, Adaptations as vectors, Host Specificity
SUBHOJEET BANERJEE		DSE2P: Insect Vector and Diseases (Practical)		1. Study of different diseases transmitted by above insect vectors

2. Submission of a project report on any one of the insect vectors and disease transmitted. |

<u>**TEACHING PALN OF EVEN SEMESTER (2ⁿᵈ, 4 th & 6ᵗʰ)**</u>

Department of Bengali

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 2nd Semester

Session – 2022-2023

Term I : commencement of classes to 1ˢᵗ Internal Examination

Term II : 1ˢᵗ Internal to 2ⁿᵈ Internal Examination

Term III: 2ⁿᵈ Internal to ESE preparatory break

Paper – DSC2AT

Topic Name – কাব্য-কবিতা

Name of The Teacher – **Sri Tirtharaj Biswas**

Term I : (Total 14 Lectures)

Lecture 1 : বৈষ্ণব-সাহিত্যের পূর্ণাঙ্গ পরিচয়

Lecture 2 : বৈষ্ণব পদাবলীর বিভিন্ন রস ও পর্যায় পরিচিতি।

Lecture 3 : পূর্বরাগের দুটি পদপাঠ

Lecture 4 : আক্ষেপানুরাগ ও গোষ্ঠলীলা বিষয়ক পদপাঠ

Lecture 5 : অভিসার বিষয়ক পদপাঠ

Lecture 6 : মাথুর ও ভাবসম্মিলন বিষয়ক পদপাঠ

Lecture 7 : বৈষ্ণবপদাবলী বিষয়ক প্রশ্নোত্তর পর্ব

Lecture 8 : শাক্তসাহিত্যের পূর্ণাঙ্গ ধারণা

Lecture 9 : আগমনী পর্যায়ের পদপাঠ

Lecture 10 : আগমনী পর্যায়ের পদপাঠ

Lecture 11 : বিজয়া পর্যায়ের পদপাঠ

Lecture 12 : বিজয়া পর্যায়ের পদপাঠ

Lecture 13 : শাক্তগানে রামপ্রসাদ ও কমলাকান্তের কবিপ্রতিভার তুলনামূলক আলোচনা

Lecture 14 : শাক্তপদ বিষয়ক প্রশ্নোত্তর পর্ব

Term II : (Total 14 Lectures)

Lecture 1 : কাব্যসাহিত্যের ধারায় মাইকেল মধুসূদন দত্ত ও বাংলা কাব্যের আধুনিকতা

Lecture 2 : বীরাঙ্গনা কাব্যপরিচিতি

Lecture 3 : দুষ্মন্তের প্রতি শকুন্তলা

Lecture 4 : দুষ্মন্তের প্রতি শকুন্তলা, ও শকুন্তলা চরিত্র পর্যালোচনা

Lecture 5 : সোমের প্রতি তারা

Lecture 6 : তারা চরিত্র পর্যালোচনা

Lecture 7 : দশরথের প্রতি কেকয়ী

Lecture 8 : লক্ষণের প্রতি সূর্পণখা

Lecture 9 : দ্বারকানাথের প্রতি রুক্মিনী

Lecture 10 : নীলোধ্বজের প্রতি জনা

Lecture 11 : নীলোধ্বজের প্রতি জনা ও জনা চরিত্র বিশ্লেষণ

Lecture 12 : বীরাঙ্গনা কাব্যের নামকরণ বিচার

Lecture 13: পৌরাণিক নারীচরিত্রের নবরূপায়ণ ও আধুনিকতা

Lecture 14 : সংক্ষিপ্ত প্রশ্নোত্তর পর্ব ও আলোচনা

Term III : (Total 10 Lectures) :

Lecture 1 : আধুনিক কবিতার স্বরূপ ও বাংলা কবিতার হাজার বছরের ধারাবাহিক পর্যালোচনা

Lecture 2 : আত্মবিলাপ কবিতা পাঠপর্যালোচনা

Lecture 3 : সোনার তরী কবিতা পর্যালোচনা

Lecture 4 : সত্যেন্দ্রনাথের চম্পা ও দীনেশ দাসের কাস্তে কবিতা পাঠ

Lecture 5 : যতীন্দ্রনাথ সেনগুপ্তর দুঃখবাদী কবিতা পাঠপর্যালোচনা

Lecture 6 : দুঃখবাদী কবিতার পাঠপর্যালোচনা

Lecture 7 : শাশ্বতী কবিতাপাঠ পর্যালোচনা

Lecture 8 : যত দূরেই যাই ও অবনীবাড়ি আছো কবিতা পাঠপর্যালোচনা

Lecture 9 : নীরার জন্য কবিতার ভূমিকা পাঠ

Lecture 10 : আধুনিক বাংলা কবিতার প্রশ্নোত্তর ও ক্লাস সেমিনার

Paper – AECC (MIL)

Topic Name – কবিতা ও ছোটগল্প

Name of The Teacher – **Sri Tirtharaj Biswas**

Term I : (Total 8 Lectures)

Lecture 1 আধুনিক কবিতার স্বরূপ ও বাংলা কবিতার হাজার বছরের ধারাবাহিক পর্যালোচনা

Lecture 2 : রবীন্দ্রনাথ ঠাকুরের গোধূলি পর্যায়ের কাব্য ও আমি কবিতাপাঠ পর্যালোচনা

Lecture 3 : মহুয়ার দেশ কবিতা পাঠপর্যালোচনা

Lecture 4 : কাজী নজরুল ইসলামের কবিতা , কবিপরিচিতি

Lecture 5 : সাম্যবাদী কবিতা পাঠপর্যালোচনা

Lecture 6 : বড়বাবুর কাছে নিবেদন পাঠপর্যালোচনা

Lecture 7 : উটপাখি কবিতাপাঠ পর্যালোচনা

Lecture 8 : কবিতার প্রশ্নোত্তর পর্ব

Term II : (Total 8 Lectures)

Lecture 1: মহেশ গল্পপাঠ

Lecture 2 : মহেশ গল্পপাঠ ও প্রশ্নোত্তর আলোচনা

Lecture 3 : লম্বকর্ণ গল্পপাঠ

Lecture 4 : লম্বকর্ণ গল্পের হাস্যরসবিচার

Lecture 5 : পুঁইমাচা গল্পপাঠ

Lecture 6 : পুঁইমাচা গল্পের চরিত্র বিশ্লেষণ

Lecture 7 ◌ঃ টিচার মূল গল্পপাঠ

Lecture 8 : প্রশ্নোত্তর আলোচনা পর্ব

Term III : (Total 8 Lectures)

Lecture 1 : বাংলা ছোটগল্প ও তারাশঙ্কর

Lecture 2 : তারিণী মাঝি মূলগল্পপাঠ ও চরিত্রবিশ্লেষণ

Lecture 3 : তারিণী মাঝি গল্পের ভাষাশৈলী বিচার

Lecture 4 : কথাকার জ্যোতিরিন্দ্র নন্দীর পরিচিতি

Lecture 5 : গিরগিটি গল্পের আখ্যান বিশ্লেষণ

Lecture 6 : গিরগিটি গল্পের চরিত্র পর্যালোচনা

Lecture 7 : গিরগিটি গল্পে নারী, প্রকৃতি ও যৌনতার বিচিত্র মিশ্রণ আলোচনা

Lecture 8 : প্রশ্নোত্তরপর্ব ও সেমিনার।

Department of Bengali

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 4th Semester

Session – 2022-2023

Term I : commencement of classes to 1st Internal Examination

Term II : 1st Internal to 2nd Internal Examination

Term III: 2nd Internal to ESE preparatory break

Semester IV

Paper – DSC4AT

Topic Name : সাহিত্যতত্ত্ব ও সাহিত্যনির্মাণ কলা

Name of the Teacher : **Sri Tirtharaj Biswas**

Term I : (Total 12 Lectures)

১ নং ক্লাস – কাব্যতত্ত্বের পরিচিতি ও কাব্যজিজ্ঞাসার পাঠ

২ নং ক্লাস – ধ্বনিবাদের পরিচয় ও শব্দশক্তির প্রকার

৩ নং ক্লাস – ধ্বনিবাদের আলোচনা ও ধ্বনির শ্রেণিবিচার

৪ নং ক্লাস – রসধ্বনির ব্যাখ্যা ও ধ্বনিবাদীগণের কাব্যবিভাগ

৫ নং ক্লাস – সাহিত্যের রস সম্পর্কে সম্যক পরিচয়দান ও ভাব ও রসের ব্যাখ্যা

৬ নং ক্লাস – কাব্যের জগৎ অলৌকিক মায়ার জগৎ - এর ব্যাখ্যা

৭ নং ক্লাস – রসনিষ্পত্তি উদাহরণসহ ব্যাখ্যা

৮ নং ক্লাস – অভিব্যাক্তিবাদ, উৎপত্তিবাদ, অনুমিতিবাদ ও ভুক্তিবাদের সংক্ষিপ্ত পরিচয়।

৯ নং ক্লাস – বাংলা ছন্দপরিচিতি। উদাহরণসহযোগে বাংলা কবিতার লয়বিচার।

১০ নং ক্লাস – ছন্দের উপকরণগুলি সম্পর্কে ধারণা

১১ নং ক্লাস – দলবৃত্ত ছন্দের পরিচয়

১২ নং ক্লাস – মাত্রাবৃত্ত ছন্দের পরিচয়

Term II : (Total 12 Lectures)

১ নং ক্লাস – মিশ্রকলাবৃত্ত ছন্দের পরিচয়

২ নং ক্লাস – ছন্দনির্ণয় শিক্ষা

৩ নং ক্লাস – ছন্দনির্ণয় শিক্ষা

৪ নং ক্লাস – ছন্দনির্ণয় শিক্ষা

৫ নং ক্লাস – ছন্দনির্ণয় অভ্যাস

৬ নং ক্লাস – ছন্দনির্ণয় অভ্যাস

৭ নং ক্লাস – ছন্দনির্ণয় অভ্যাস

৮ নং ক্লাস – বাংলা অলংকারের পরিচয়

৯ নং ক্লাস – অনুপ্রাস (অন্ত্যানুপ্রাস, বৃত্ত্যনুপ্রাস)

১০ নং ক্লাস – অনুপ্রাস (ছেকানুপ্রাস, শ্রুত্যনুপ্রাস, লাটানুপ্রাস)

১১ নং ক্লাস – শ্লেষ অলংকার

১২ নং ক্লাস – যমক অলংকার

Term III: (Total 10 Lectures)

১ নং ক্লাস – উপমা অলংকার

২ নং ক্লাস – উপমা অলংকার

৩ নং ক্লাস – উৎপ্রেক্ষা অলংকার

৪ নং ক্লাস – রূপক অলংকার

৫ নং ক্লাস – রূপক অলংকার

৬ নং ক্লাস –সমাসোক্তি অলংকার

৭ নং ক্লাস – অলংকার নির্ণয় অভ্যাস

৮ নং ক্লাস – অলংকার নির্ণয় অভ্যাস

৯নং ক্লাস – অলংকার নির্ণয় অভ্যাস

১০ নং ক্লাস –অলংকার নির্ণয় অভ্যাস।

Paper – SEC2b

Topic Name – বাংলা ধ্বনিতত্ত্ব ও রূপতত্ত্ব

Name o the Teacher : **Sri Tirtharaj Biswas**

Term I : (Total 9 Lectures)

১ নং ক্লাস – বিজ্ঞানসম্মত উপায়ে স্বরধ্বনির শ্রেণিবিভাগ

২ নং ক্লাস - বিজ্ঞানসম্মত উপায়ে স্বরধ্বনির শ্রেণিবিভাগ

৩ নং ক্লাস – বিজ্ঞানসম্মত উপায়ে উচ্চারণের স্থান অনুযায়ী ব্যঞ্জনধ্বনির শ্রেণিবিভাগ

৪ নং ক্লাস - বিজ্ঞানসম্মত উপায়ে উচ্চারণের প্রকৃতি অনুযায়ী ব্যঞ্জনধ্বনির শ্রেণিবিভাগ

৫ নং ক্লাস – ধ্বনিপরিবর্তনের কারণ

৬ নং ক্লাস – ধ্বনিপরিবর্তনের সূত্র (ধ্বনিলোপ)

৭ নং ক্লাস – (ধ্বনির আগম)

৮ নং ক্লাস – (ধ্বনির রূপান্তর)

৯ নং ক্লাস – (ধ্বনির স্থানান্তর)

Term II: (Total 7 Lectures)

১ নং ক্লাস – উপসর্গ পরিচয় , সামগ্রিক ধারণা

২ নং ক্লাস – সংস্কৃত উপসর্গ

৩ নং ক্লাস – বাংলা ও বিদেশী উপসর্গ

৪ নং ক্লাস – বাংলা প্রত্যয়ের পরিচয় , শ্রেণিবিভাগ

৫ নং ক্লাস – সংস্কৃত প্রত্যয়

৬ নং ক্লাস – তদ্ধিত প্রত্যয়

৭ নং ক্লাস – প্রত্যয় নির্ণয়

Term III : (Total 3 lectures)

১ নং ক্লাস – বাংলা কারকের পরিচিতি

২ নং ক্লাস – বিভক্তির পরিচয়

৩ নং ক্লাস – প্রত্যয় ও বিভক্তির পার্থক্য

(Paper – AECC-MIL2)

Topic Name – (উনিশ শতকের বাংলা প্রবন্ধ ও লোকসাহিত্য)

Name of The Teacher : Sri Tirtharaj Biswas

Term I : (Total   Lectures)

১ নং ক্লাস – গীতিকাব্য মূল প্রবন্ধপাঠ

২ নং ক্লাস – গীতিকাব্য সম্পর্কে বঙ্কিমচন্দ্রের ভাবনা

৩ নং ক্লাস – বিদ্যাসাগর মূল প্রবন্ধপাঠ

৪ নং ক্লাস – বিদ্যাসাগর মূল প্রবন্ধপাঠ

৫ নং ক্লাস – বিদ্যাসাগরের চারিত্রিক বৈশিষ্ট্য

৬ নং ক্লাস – স্বামী বিবেকানন্দের জীবন ও সাহিত্যপ্রতিভার পরিচয়

৭ নং ক্লাস – ভাববার কথা মূল প্রবন্ধপাঠ

৮ নং ক্লাস – হরপ্রসাদ শাস্ত্রীর জীবন ও সাহিত্য

৯ নং ক্লাস – মুসলমানী বাংলা মূল প্রবন্ধপাঠ

১০ নং ক্লাস – প্রবন্ধের সামগ্রিক আলোচনা

Term II : (Total 12 Lectures)

১ নং ক্লাস – লোকসাহিত্যের সংজ্ঞা, স্বরূপ

২ নং ক্লাস – লোকসাহিত্যের বিভিন্নধারার পরিচয় ও গীতিকার আলোচনা

৩ নং ক্লাস – মৈমনসিংহগীতিকার পরিচয় ও মহুয়া পালার সংক্ষিপ্ত পরিচিতি

৪ নং , ৫ নং , ৬ নং , ৭ নং , ৮নং , ৯ নং ক্লাস মহুয়া পালা মূল পাঠ

১০ নং ক্লাস – গীতিকা হিসাবে মহুয়া পালার সার্থকতা বিচার

১১ নং ক্লাস – মহুয়া চরিত্র বিচার

১২ নং ক্লাস – অপ্রধান চরিত্রের আলোচনা

Department of Bengali

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 6th Semester

Session – 2022-2023

Term I : commencement of classes to 1st Internal Examination

Term II : 1st Internal to 2nd Internal Examination

Term III: 2nd Internal to ESE preparatory break

Paper – DSE2A

Topic Name – উপন্যাস ও ছোটগল্প

Name of The Teacher – **Sri Tirtharaj Biswas**

Term I : (Total 11 Lectures)

Lecture 1 : ছোটগল্পকার পরশুরামের পরিচয় ও কচিসংসদ গল্পের প্রেক্ষাপট

Lecture 2 : কচিসংসদ মূল গল্পপাঠ , চরিত্রবিশ্লেষণ, হাস্যরসবিচার।

Lecture 3 : ছোটগল্পকার শরৎচন্দ্রের পরিচিতি , অভাগীর স্বর্গ মূল গল্পপাঠ

Lecture 4 : অভাগীর স্বর্গ ৩ , ৪ নং অংশ , চরিত্রবিশ্লেষণ , নামকরণ , সমাজচিত্র।

Lecture 5 : বাংলা কথাসাহিত্যের ধারায় প্রভাতকুমার মুখোপাধ্যায়ের দান, লেখকপরিচিতি

Lecture 6 : ভিখারী সাহেব মূল গল্পপাঠ , চরিত্রপর্যালোচনা ।

Lecture 7 : তারাশঙ্করের ছোটগল্প ও বেদিনী গল্পের প্রেক্ষাপট আলোচনা

Lecture 8 : বেদিনী মূলগল্পপাঠ

Lecture 9 : বেদিনী গল্পের বাকী অংশ , চরিত্রপর্যালোচনা, সমাজজীবন

Lecture 10 : কথাকার শরদিন্দু বন্দ্যোপাধ্যায়ের জীবন ও সাহিত্য পরিচিতি , মায়াকুরঙ্গী গল্পপাঠ

lecture 11 : মায়াকুরঙ্গী গল্পের বাকী অংশ , নামকরণ , প্রশ্নোত্তর আলোচনা ।

Term II : (Total 11 Lectures)

Lecture 1 : তারাশঙ্কর বন্দ্যোপাধ্যায়ের জীবন ও সাহিত্যপরিচিতি

Lecture 2 : রাধা উপন্যাসের সংক্ষিপ্ত কাহিনি, চরিত্র, পটভুমির পরিচয়দান।

Lecture 3 : মূল উপন্যাসপাঠ (প্রথম, দ্বিতীয় ও তৃতীয় পরিচ্ছেদ)

Lecture 4 : মূল উপন্যাসপাঠ (চতুর্থ, পঞ্চম, ষষ্ঠ পরিচ্ছেদ)

Lecture 5 : মূল উপন্যাসপাঠ (সপ্তম, অষ্টম ,নবম ও দশম পরিচ্ছেদ)

Lecture 6 : মূল উপন্যাসপাঠ (একাদশ, দ্বাদশ, ত্রয়োদশ পরিচ্ছেদ পাঠ)

Lecture 7 : মূল উপন্যাস (চতুর্দশ, পঞ্চদশ পরিচ্ছেদ)

Lecture 8 : রাধা উপন্যাসের নামকরণ পর্যালোচনা

Lecture 9 : রাধা উপন্যাসের ঐতিহাসিকতা

Lecture 10 : রাধা উপন্যাসের মনস্তত্ত্ব

Lecture 11 : রাধা উপন্যাসের ধর্মতত্ত্বের আলোচনা

Term III : (Total 5 Lectures)

Lecture 1 : মাধবানন্দ চরিত্র

Lecture 2 : মোহিনী চরিত্র

Lecture 3 : কৃষ্ণদাসী চরিত্র

Lecture 4 : রাধা উপন্যাসের অপ্রধান চরিত্র পর্যালোচনা

Lecture 5 : রাধা উপন্যাসের সামগ্রীক ছোটপ্রশ্ন আলোচনা

Paper –GE2A

Topic Name – একাঙ্ক নাটক ও গোয়েন্দা কাহিনি

Name of The Teacher – **Sri Tirtharaj Biswas**

Term I : (Total 11 Lectures)

Lecture 1 : গোয়েন্দা কাহিনির সংজ্ঞা, স্বরূপ, বৈশিষ্ট্য, উদ্ভব ও ক্রমবিকাশ

Lecture 2 : বাংলা সাহিত্য ও বিশ্বসাহিত্যের গোয়েন্দাকাহিনির তুলনামূলক আলোচনা

Lecture 3 : শজারুর কাঁটা উপন্যাসের কাহিনি বিশ্লেষণ (উপক্রম অংশ)

Lecture 4 : শজারুর কাঁটা উপন্যাস মূলপাঠ পর্যালোচনা

Lecture 5 : শজারুর কাঁটা উপন্যাস মূলপাঠ পর্যালোচনা

Lecture 6 : শজারুর কাঁটা উপন্যাস মূলপাঠ পর্যালোচনা

Lecture 7 : শজারুর কাঁটা উপন্যাস মূলপাঠ পর্যালোচনা

Lecture 8 : গোয়েন্দা কাহিনি হিসেবে শজারুর কাঁটা-র সার্থকতা

Lecture 9 : ব্যোমকেশ বক্সীর বুদ্ধিমত্তা ও রহস্যের কিনারা পর্যালোচনা

Lecture 10 : নামকরণের সার্থকতা বিচার , চরিত্রের সামগ্রিক আলোচনা

Lecture 11 : সামগ্রিক ছোটপ্রশ্নের আলোচনা

Term II : (Total 12 Lectures)

Lecture 1 : একাঙ্ক নাটকের স্বরূপ, সংজ্ঞা , বৈশিষ্ট্য।

Lecture 2 : রাজপুরী মূলনাটক পাঠপর্যালোচনা

Lecture 3 : রাজপুরী মূলনাটক পাঠপর্যালোচনা

Lecture 4 : একাঙ্ক নাটকরূপে রাজপুরীর সার্থকতা, রসবিচার

Lecture 5 : রাজপুরী নাটকে রাণী ও রাজা চরিত্র

Lecture 6 : শিককাবাব মূলনাটক পাঠপর্যালোচনা

Lecture 7 : শিককাবাব মূলনাটক পাঠপর্যালোচনা

Lecture 8 : একাঙ্ক নাটকরূপে শিককাবাব সার্থকতা, নামকরণ।

Lecture 9 : শিককাবাব নাটকের চরিত্র বিচার

Lecture 10 : দেবী নাটকের মূলপাঠ পর্যালোচনা

Lecture 11 : একাঙ্ক নাটকরূপে সার্থকতা , নামকরণ

Lecture 12 : চরিত্র বিচার ও ছোটপ্রশ্ন

Term III : (Total 5 Lectures)

Lecture 1 : নাট্যকার ধনঞ্জয় বৈরাগীর পরিচিতি , নাটকের প্রেক্ষাপট

Lecture 2 : একপশলা বৃষ্টি মূল নাটকপাঠ পর্যালোচনা

Lecture 3 : একপশলা বৃষ্টি মূল নাটকপাঠ পর্যালোচনা

Lecture 4 : একপশলা বৃষ্টি মূল নাটকপাঠ পর্যালোচনা

Lecture 5 : নামকরণের সার্থকতা, চরিত্রবিচার ।

TEACHING PLAN OF EVEN SEMESTER (2ND,4TH &6TH)

Department of English

B.A General (Morning Shift)

Orientation (Syllabus designed by the college to improve English Grammar and the General English for Competitive Exams of the students.)

Topic distribution and Teaching plan of 2nd Semester

Session – 2022-2023

Name of the Teacher - Sri Indranil Mahapatra

Topics (Total 30 Lectures) – 1. Sentences and Functions of Sentences.

2. Parts of Speech.

3. Tenses.

4. Narration.

5. Voice.

6. Sentence and its Clauses/Joining/Splitting.

7. Transformation of Sentences.

Topic Distribution and Teaching Plan of 4th Semester

Session – 2022-2023

Name of the Teacher – Sri Indranil Mahapatra

Topics (Total 30 Lectures)- 1. Reading Comprehension.

2. Appropriate Prepositions & Articles.

3. Sentence Correction.

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4. Idioms and Phrases.

5. Synonyms and Antonyms.

6. Letter Writing format.

7. Poetic Devices.

8. One Word Substitutions.

9. Group Verbs and Phrasal Verbs.

10. Punctuation.

Topic Distribution and Teaching Plan of 6th Semester

Session – 2022-2023

Name of the Teacher- Sri Indranil Mahapatra

Topics (Total 30 Lectures)- 1. Paragraph Writing.

2. Essay Writing.

3. Substance Writing.

4. Precis Writing.

5. Letter Writing.

6. Narrating Events/Reports.

Department of Political Science

B.A General (Morning Shift)

Syllabus distribution and Teaching Plan of 2nd Semester

Session – 2022-2023

Term I : commencement of classes to 1st Internal Examination

Term II : 1st Internal to 2nd Internal Examination

Term III: 2nd Internal to ESE preparatory break

Paper – DSC2AT

Topic Name – Topics Name - Indian Government and Politics

Name of The Teacher – **Sri Swapan Kamilya**

Term I : (Total 18 Lectures)

Lecture 1 : Nature of the Indian state

Lecture 2 : Liberal Approach of the Indian state

Lecture 3 : Marxism view of the Indian state

Lecture 4 : Gandhian view regarding the nature of the Indian state

Lecture 5 : Evolution of the constitution of India

Lecture 6 : Function and role of the Constituent Assembly

Lecture 7 : Silent feature of Indian Constitution

Lecture 8 : The preamble

Lecture 9 : Significance of the Preamble of the Constitution

Lecture 10 : Definition and nature of fundamental rights

Lecture 11: Characteristics of fundamental rights

Lecture 12 : Rights to Equality

Lecture 13 : Right to Freedom

Lecture 14 : Right to Constitutional Remedy

Lecture 15 : Fundamental duties of Indian Citizen

Lecture 16 : Nature of Directive Principle

Lecture 17 : Difference between fundamental rights and directive principle

Lecture 18 : Significance of directive principle

Significance of directive principle

1 st Internal to 2 nd Internet Examination

Lecture 1 : Composition of the central legislature in India

Lecture 2: Power and function of the Parliament

Lecture 3 : Relation between Lok Sabha and Rajya Sabha

Lecture4 : Power and function of Prime Minister

Lecture 5 : Characteristics of Indian Judicial System

Lecture 6 : Power and function of Supreme Court

Lecture 7 : Power and function and position of High Court

Lecture 8 : Judicial Activism

Term II : (Total 20 Lectures)

Lecture 1 : Definition and Characteristics of Caste

Lecture 2 : Role of Caste System in Indian Politics

Lecture 3 : Definition and Nature of Class

Lecture 4 : Inter relationship between Caste, Class and Politic

Lecture 5: Definition, nature and Characteristics of Religion

Lecture 6 : Relation between Religion and Politics

Lecture 7: Meaning of Secularism

Lecture 8 : Nature of Secularism

Lecture 9 :Meaning and Nature of Communalism

Lecture 10: Characteristics of Communalism

Lecture 11: Cause of the emergence of Communalism in India

Lecture 12: Distinction between Communalism and Secularism

Lecture 13: Characteristics of Indian Party System

Lecture 14: National Party and Regional Party

Lecture 15: Coalition Politics

Lecture 16: Recent trend of the Party System

Lecture 17: Working Classes Movement

Lecture: 18 Peasent Movement

Lecture 19: Chipko Movement

Lecture 20 : Save Narmoda Movement Feminist Movement

Term III : (4 Lectures)

Lecture 1 :   Strategy of development of Indian since independence ;

Lecture 2 :   Planet Economy

Lecture 3 :Neo Liberal Economy

Lecture 4 :Niti Aayog.

Syllabus distribution and Teaching Plan of 4th Semester

Session – 2022-2023

Term I : commencement of classes to 1st Internal Examination

Term II : 1st Internal to 2nd Internal Examination

Term III: 2nd Internal to ESE preparatory break

Semester IV

Paper – DSC4AT

Topic Name : **Introduction to International Relation**

Name of the Teacher : **Sri Swapan Kamilya**

Term I : (Total 16 Lectures)

Lecture 1 What is International Relation
Lecture 2.: Nature and scope International Relation

Lecture 3.: Realism Approach [Hans j. Morgenthau]

Lecture 4.: Neo-Realism Theory [Kenneth Waltz]
Lecture 5:. Decision Making Approach

Lecture 6.: Major Limitation of the Neo-Realism Theory
Lecture 7.: Difference between Classical Realism and neo- Realism

Lecture 8.: Neo-Liberal Theory [Robert o Keohane & Joseph Nye]
Lecture 9: . Theories of Under Development Structural Theory and Dependency Theory

Lecture 10.: Dependency Theory [Andra Gundar Frank]
Lecture 11:. Difference Between Dependency Theory and Traditional Marxist thinking

Lecture 12.: World system Theory in International Relation
Lecture 13.: Post Structural Theory

Lecture 14 : Post Modernism
Lecture 15 : What is Feminism

Lecture 16 : Feminist Theory in International Relation

Term II : (15 Lectures)

Lecture 1 : Diplomatic background of World War- 2
Lecture 2 : Cause of the Second World War

Lecture 3 : Origin of cold war
Lecture 4 : Main Phases of Cold War

Lecture 5 : Effects of the Cold War
Lecture 6 : Ending of the Cold War

Lecture 7 : The Collapse of the USSR
Lecture 8 : Bipolar system ; Rise and Decline

Lecture 9 : Dentente Concept

Lecture 10 : It impact in the Cold War period

Lecture 11 : Rise and Fall of Dentente
Lecture 12: Nature of World System in Post Cold War period

Lecture 13 : Nature of the Present Global System
Lecture 14 : Where Era and Emerging centre of power [European Union, China]
Lecture 15 : [Russia and Japan]

Term III (Total 6 Lectures)

Lecture 1: What is Non Alignment
Lecture 2 : Theory and Evaluation of Non Alignment

Lecture 3: Origins and Development of the Non Alignment Movement
Lecture 4 : What do you mean by Foreign Policy

Lecture 5 : Basic Determinant of Indian Foreign Policy
Lecture 6: Basic feature of Foreign Policy Foreign Policy with reference to eat basic Principle.

Syllabus distribution and Teaching Plan of 6th Semester

Session – 2022-2023

Term I : commencement of classes to 1st Internal Examination

Term II : 1st Internal to 2nd Internal Examination

Term III: 2nd Internal to ESE preparatory break

Paper – DSE2A

Topic Name – Administration and Public Policy; Concept and Theories

Name of The Teacher – **Sri Swapan Kamilya**

Term I : (Total 16 Lectures)

Lecture 1 : Meaning and Definition Public Administration

Lecture 2 : Nature and Scope and Significance of the Subject

Lecture 3 : Difference between Public and Private administration

Lecture 4 : Trace the evolution of the discipline of Public Administration

Lecture 5 : Comparative Approach to Public Administration

Lecture 6 : General principle of Classical Theory

Lecture 7 : Main features of Classical Theory

Lecture 8 : What is POSDCORB

Lecture 9 : General Principle of Scientific Management Theory

Lecture 10 : Aspects of the Scientific Management Theory

Lecture 11: Human Relationship Theory

Lecture 12 : Comparison between Classical and Human Relation Theory

Lecture 13: Decision Making and Herbert Simon

Lecture 14 : What is Centralisation

Lecture 15 : Unity of Commond

Lecture 16 : Features of the prismatic Society

Term II (Total 12 Lectures)

Lecture 1 : Define Public Policy

Lecture 2 : Why study Public Policy

Lecture 3 : Significance of Public Policy

Lecture 4 : Factors Determining Policy Formulation

Lecture 5 : Evaluate various approach to the study of Public Policy

Lecture 6 : Define Policy

Lecture 7. Features of the policy making

Lecture 8 : Relevance of policy making

Lecture 9. : System model for Policy Analysis

Lecture 10 : Formulation and Implamentation and Evaluation

Lecture 11 : Limits of the System Approach to Policy

Lecture 12 : Retional Policy Making Model

Term III (Total 8 Lectures)

Lecture 1 : Meaning Development Administration

Lecture 2 : Origin and Development of Development Administration

Lecture 3 : Characteristics of Present Administration

Lecture 4 : Concept of Development Administration

Lecture 5 : Critique of Development Administration

Lecture 6 : New Public Management

Lecture 7 : New Public Management Paradigm

Lecture 8 : Critically perspective in the Post Globalization Era.

Syllabus distribution and Teaching Plan of 6th Semester

Session – 2022-2023

Term I : commencement of classes to 1st Internal Examination

Term II : 1st Internal to 2nd Internal Examination

Term III: 2nd Internal to ESE preparatory break

Paper – GE2

Topic Name – United Nations and Global Conflict

Name of The Teacher – **Sri Swapan Kamilya**

Term I : (Total 13 Lectures)

Lecture 1 : Background or Origin of the United Nations

Lecture 2 : Organisation of UNO

Lecture 3 : Nature of UNO

Lecture 4. : Purpose or Objectives of UNO

Lecture 5 : Principle of UNO

Lecture 6 : Composition, Power and Function of General Assembly

Lecture 7 : Development and Evolution of the role of general assembly

Lecture 8 : Competition Power and Function of the Security Council

Lecture 9 : Composition, Power and Function Economic and Social Council

Lecture 10 : Purpose of Economic and Social Council

Lecture 11 :Composition, Power and Function of the International Court of Justice

Lecture 12 : Jurisdiction of the International Court of Justice

Lecture 13. : Success and Failure of UNO

Term II (Total 14 Lectures)

Lecture 1 : Concept of International Labour Organisation [ILO]

Lecture 2 : Composition of United Nation Educational Scientific and Cultural Organisation

Lecture 3 : Power and Function of [UNESCO]

Lecture 4 : WHO

Lecture 5 : Main Objectives of IMF

Lecture 6 : Organisational Structure of the IMF

Lecture 7 : UNICEF

Lecture 8 : UNDP

Lecture 9 : UNEP

Lecture 10 : UNHCR

Lecture 11 : Meaning of Peace Keeping

Lecture 12 : Role of Peace Keeping

Lecture 13 : Peace Building

Lecture 14 : Millennium Development Goals

Term III (Total 6 Lectures)

Lecture 1 : Korean War

Lecture 2 : Vietnam War

Lecture 3 : Afghanistan War

Lecture 4 : Serbia War

Lecture 5 : Bosnia War

Lecture 6 : Serbia War

Syllabus distribution and Teaching Plan of 6th Semester

Session – 2022-2023

Term I : commencement of classes to 1st Internal Examination

Term II : 1st Internal to 2nd Internal Examination

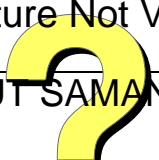Term III: 2nd Internal to ESE preparatory break

Paper –SEC4

Topic Name – Conflict and Peace Building

Name of The Teacher – **Sri Swapan Kamilya**

Term I : (Total 12 Lectures)

Lecture 1. Define Conflict

Lecture 2. Beneficial Aspects of the Conflict

Lecture 3. Characteristics of the Conflict Theory

Lecture 4. Conflict Management

Lecture 5.Conflict Resolution

Lecture 6. Conflict Transformation

Lecture 7. Role of the Dimensions of Peace Building

Lecture 8. Role of the Ideology in out break of Conflict

Lecture 9. Religious Conflict

Lecture 10. Ethnic conflict

Lecture 11.Gender based Conflict

Lecture 12.Economics sharing Conflict

Lecture Term II (Total 11 Lectures)

Lecture 1. Local Conflict

Lecture 2. Sub-National Conflict

Lecture 3. International Conflict

Lecture 4. Define Trust Building

Lecture 5. Dimensions of Trustworthy Behaviour

Lecture 6. Activities and Strategies of Skill Building

Lecture 7. Importance of Skill Building

Lecture 8. Track - 1

Lecture 9. Track - 2

Lecture 10. Multitrack Diplomacy

Lecture 11. Role of Gandhian Approach in Peace Building

TEACHING PALN OF EVEN SEMESTER (2nd, 4 th & 6th)
Department of Philosophy
B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 2nd Semester

Term I : commencement of classes to 1st Internal Examination
Term II : 1st Internal to 2nd Internal Examination
Term III: 2nd Internal to ESE preparatory break

Semester II

Paper – DSCIBT
Topic Name – Western Philosophy

Name	SyllabusAllotted	
Dr.Sibsankar Tunga	1. Metaphysics: Nature of Metaphysics, Elimination of Metaphysics 2. Realism: Naïve Realism, Scientific Realism, Representative Realism 3. Idealism: Subjective Idealism, Objective Idealism 4. Critical Theory of Kant 5. Theories of Causation: Regularity Theory and Entailment Theory 6. Substance: Views of Descartes, Spinoza, Locke and Berkeley 7. Relation between Mind and Body: Interactionism and Parallelism 8. Theories of Evolution: Mechanistic and Emergent	**SEMESTER –II (Total Lecture = 38)** **Term –I (Lecture-14)** 1. Metaphysics: Nature of Metaphysics, Elimination of Metaphysics 2. Realism: Naïve Realism, Scientific Realism, Representative Realism 3. Idealism: Subjective Idealism, Objective Idealism **Term II (Lecture-14)** 4. Critical Theory of Kant 5. Theories of Causation: Regularity Theory and Entailment Theory 6. Substance: Views of Descartes, Spinoza, Locke and Berkeley **Term III (Lecture-10)** 7. Relation between Mind and Body: Interactionism and Parallelism 8. Theories of Evolution: Mechanistic and Emergent

Semester IV

Paper – DSC1DT

Topic Name : Contemporary Indian Philosophy

Name	Syllabus Allotted	
Dr.Sibsankar Tunga	1. Rabindranath Tagore (a)Nature of man : The Finite Aspect of Man, the Infinite Aspect of Man ,the FiniteInfinite Aspect of Man, (b) Nature of Religion, (c) Problem of Evil (f) Surplus in man 2. Swami Vivekananda (a)Practical Vedānta, (b) Universal Religion, (c) Yoga	**SEMESTER –IV (Total Lecture = 34)** **Term –I (Lecture-12)** 1. Rabindranath Tagore (a)Nature of man : The Finite Aspect of Man, the Infinite Aspect of Man ,the FiniteInfinite Aspect of Man, (b) Nature of Religion, (c) Problem of Evil (f) Surplus in man 2. Swami Vivekananda (a)Practical Vedānta, (b) Universal Religion, (c) Yoga

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3. Sri Aurobindo (a)Nature of Reality, (b) Human Evolution– its different stages, (c) Integral Yoga 4. S. Radhakrishnan (a)Nature of Man, (b) Nature of Religious Experience, (c) Nature of Intuitive Apprehension 5. Md. Iqbal (a)Nature of the Self, (b) Nature of the World, (c) Nature of God 6.Mahatma Gandhi (a) God and Truth, (b) Ahimsa, (c) Trusteeship	**Term II (Lecture-12)** 3. Sri Aurobindo (a)Nature of Reality, (b) Human Evolution– its different stages, (c) Integral Yoga 4. S. Radhakrishnan (a)Nature of Man, (b) Nature of Religious Experience, (c) Nature of Intuitive Apprehension **Term III (Lecture-10)** 5. Md. Iqbal (a)Nature of the Self, (b) Nature of the World, (c) Nature of God 6.Mahatma Gandhi (a) God and Truth, (b) Ahimsa, (c) Trusteeship

SemesterVI

Name	SyllabusAllotted	
Dr.Sibsankar Tunga	DSE2T: Tarkasaṁgraha with Dīpikā **Saptapadārtha** 1. **Dravya 2. Guna 3. Karma 4. Samanya 5. Visesa 6. Samavaya and Abhava**	**SEMESTER –VI (Total Lecture = 36)** **Term –I (Lecture-10)** 1. **Dravya 2. Guna 3. Karma** **Term II (Lecture-20)** **4. Samanya 5. Visesa 6.** **Term III (Lecture-06)** **6. Samavaya and Abhava**
Dr.Sibsankar Tunga	**GE2T: Philosophy of Mind** (a) Sensation: What is sensation? Attributes of sensation. (b) Perception: What is perception? Relation between sensation and perception, Gestalt theory of perception, illusion and hallucination. (c) Consciousness: Conscious, Subconscious, Unconscious,Evidence for the existence of the Unconscious, Freud's theory of dream.	**SEMESTER –IV (Total Lecture = 30)** **Term –I (Lecture-12)** (a) Sensation: What is sensation? Attributes of sensation. (b) Perception: What is perception? Relation between sensation and perception, Gestalt theory of perception, illusion and hallucination. **Term II (Lecture-12)** (c) Consciousness: Conscious, Subconscious, Unconscious,Evidence for the existence of the Unconscious, Freud's theory of dream.

	(d) Memory: Factors of memory, Laws of association, Forgetfulness. Learnung: The trialand Error theory, Pavlov's Conditioned Response theory, Gestalt theory. (e) Intelligence: Measurement of Intelligence, I.Q., Test of Intelligence, Binnet-Simon test.	(d) Memory: Factors of memory, Laws of association, Forgetfulness. Learnung: The trialand Error theory, Pavlov's Conditioned Response theory, Gestalt theory. **Term III** (Lecture-06) (e) Intelligence: Measurement of Intelligence, I.Q., Test of Intelligence, Binnet-Simon test.

Name	SyllabusAllotted	
Dr.Sibsankar Tunga	**.** **CC-4:Historyof WesternPhilosophy–II** a) Locke **:**Refutation of innate ideas, the origin and formation of ideas, simple andcomplexideas,substance,modesandrelations,natureofknowledgeanditsdegrees,limitsofknowledge,primaryandsecondaryqualities,representativerealism. a) Berkeley: Refutation of abstract ideas. Criticism of Locke's distinction betweenprimaryandsecondaryqualities,Immaterialism, esse-est-percipi,roleofGod. Hume:Impression and ideas, association of ideas, distinction between judgementsconcerning relations of ideas and judgements concerning matters of fact, theory ofcausality,theoryofselfand personal identity, scepticism. Kant:ConceptionofcriticalPhilosophy	**SEMESTER –II (Total Lecture = 44)** **Term –I (Lecture-14)** . **WesternPhilosophy–II** b) Locke **:**Refutation of innate ideas, the origin and formation of ideas, simple andcomplexideas,substance,modesandrelations,natureofknowledgeanditsdegrees,limitsofknowledge,primaryandsecondaryqualities,representativerealism. Berkeley: Refutation of abstract ideas. Criticism of Locke's distinction betweenprimaryandsecondaryqualities,Immaterialism, esse-est-percipi,roleofGod. **Term II (Lecture-10)** a) Hume:Impression and ideas, association of ideas, distinction between judgementsconcerning relations of ideas and judgements concerning matters of fact, theory ofcausality,theoryofselfand personal identity, scepticism. **Term III (Lecture-10)** Kant:ConceptionofcriticalPhilosophy,distinctionbetweenaprioriandaposteriorijudgements,distinctionbetweenanalyticandsyntheticjudgements.Syntheticapriorijudgements,GeneralproblemoftheCritique,CopernicanR

	,distinctionbetweenaprioriandaposter iorijudgements,distinctionbetweenan alyticandsyntheticjudgements.Synthe ticapriorijudgements,Generalproble moftheCritique,CopernicanRevolutio n in Philosophy, Transcendental Aesthetic :Space & time - Metaphysical&Transcendental expositions oftheideas ofspace&time.	evolution in Philosophy, Transcendental Aesthetic :Space & time - Metaphysical&Transcendental expositions oftheideas ofspace&time.

Submitted by—

Dr. Sibsankar Tunga
Assistant Professor in Philosophy
Kharagpur College
Date:28.03.2023

TEACHING PLAN OF EVEN SEMESTTER (2ⁿᵈ, 4ᵗʰ & 6ᵗʰ)

Department of History

B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 2ⁿᵈ Semester
Session- 2022-2023

Term I   :   **Commencement of classes to 1st Internal Examination**
Term II   :   **1st Internal to 2nd Internal Examination**
Term III   :   **2nd Internal to ESE preparation break**

Paper - DSC1BT
Topic Name – Medieval India

Name of the Teacher : **Sri Milan De**

Term I: (Total 10 Lectures)

Lecture 1 : Arab conquest of Sindh.
Lecture 2 : Nature and Impact of Arab conquest of Sindh.
Lecture 3 : Causes and Consequences of Early Turkish invasion.
Lecture 4 : Briefly discuss Mahmud of Ghazni.
Lecture 5 : Briefly discuss Shihab-Ud-din of Ghur.
Lecture 6 : Political condition of India on the eve of the Muslim invasion.
Lecture 7 : Disunity of Indian royalty.
Lecture 8 : Aims and objectives of Mahmud and Mohammad Ghuri's Invasion in India.
Lecture 9 : Difference between Mahmud and Mohammad Ghuri's intention to attack India.
Lecture 10: Question -Answer process on the discussion section.

Term II : (Total 12 Lectures)

Lecture 1: Foundation, Expansion and Consolidation of the Delhi Sultanate.
Lecture 2: Discuss on Qutb-ud-din Aibok as founder of the Sultani dynasty.
Lecture 3: Iltutmish as the real founder of Delhi Sultanat
Lecture 4: Expansions and consolidation of the Delhi Sultanate under Iltutmish.
Lecture 5: Career and achievements of Sultana Razia.
Lecture 6: Policy and achievements of ghiyas-ud-din b
Lecture 7: Iqta system under the Delhi sultanate
Lecture 8: Briefly discuss of the reign of Ala-ud-din Khilji.

Lecture 9: Main events of the reign of Muhammad bin Tughlaq.

Lecture 10: Reforms of Firoz Tughlaque with special reference to economic measures.

Lecture 11: Administrative System and nature of the Delhi sultanate.

Lecture 12: Causes of the decline of the Delhi sultanate.

Term III : (Total 13 Lectures)

Lecture 1: Emergenc Of regional power in mediaeval India.

Lecture 2: Gives detailed knowledge of Vijayanagar Kingdom.

Lecture 3: Gives detailed knowledge on Bahmani Kingdom.

Lecture 4: A detailed discussion on Hussainshahi dynasty.

Lecture 5: A detailed discussion on illyasshahi dynasty.

Lecture 6: Establishment and consolidation of Mughal dynasty.

Lecture 7: Babur founder and Humayun real founder of Mughal dynasty.

Lecture 8: Achievement of Sharsahoo.

Lecture 9: Achievement of Akbar.

Lecture 10: Detailed discussion on Shah Jahan and Aurangzeb.

Lecture 11: Policy economy and culture of Mughal period.

Lecture 12: Bhakti Movement in mediaeval India.

Lecture 13: Sufi movement in mediaeval India.

Department of History
B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 4th Semester
Session- 2022-2023

Term I : Commencement of classes to 1st Internal Examination
Term II : 1st Internal to 2nd Internal Examination
Term III: 2nd Internal to ESE preparation break

Semester IV

Paper- DSC1DT

Topic Name – Modern Nationalism in India

Name of the Teacher : **Sri Milan De**

Term I : (Total 10 Lectures)

Lecture 1 : Emergence of nationalism in India and its historiography.

Lecture 2 : Economic nationalism.
Lecture 3 : Cultural nationalism.
Lecture 4 : Bankim Chandra's role to the rise of nationalism.
Lecture 5 : Rise of the Indian National Congress.
Lecture 6 : Achievements of the Indian National Congress.
Lecture 7 : Moderate phase of the Indian National Congress.
Lecture 8 : Rise of militant nationalism.
Lecture 9 : Revolutionary movements of the terrorists.
Lecture 10: Discuss overall question answers.

Term II : (Total 11 Lectures)

Lecture 1 : Anti - Partition Movement in 1905.
Lecture 2 : Concept of Swadeshi and Atmashakti.
Lecture 3 : Rise of Gandhi.
Lecture 4 : Concept Of Satyagraha.
Lecture 5 : Satyagraha movement of Champaran Kheda and Ahmedabad.
Lecture 6 : Gandhi and mass movement.
Lecture 7 : Gandhi and Non cooperation movement.
Lecture 8 : Gandhi and Khilafat movement.
Lecture 9 : Gandhi and civil disobedience movement.
Lecture 10: Gandhi and quit India Movement.
Lecture 11: Discuss Overall question answers.

Term III : (Total 11 Lectures)

Lecture 1 : Roots of communalism.
Lecture 2 : Communal Award.
Lecture 3 : Demand of Pakistan.
Lecture 4 : Causes Of demand for Pakistan.
Lecture 5 : Cripps Mission.
Lecture 6 : Cabinet Mission.
Lecture 7 : Simla Conference.
Lecture 8 : Communal tension in 1946-1947.
Lecture 9 : Different Schemes put forward for the partition of India.
Lecture 10: Partition and its Aftermath.
Lecture 11: Discuss Overall question answers.

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Department of History

B.A General (Morning Shift)
Syllabus distribution and Teaching Plan of 4th Semester
Session- 2022-2023

Term I : Commencement of classes to 1st Internal Examination
Term II : 1st Internal to 2nd Internal Examination
Term III: 2nd Internal to ESE preparation break

<u>**Semester IV**</u>
Paper- **SEC-2**
Topic Name – **Literature and History:Bengal**

Name of the Teacher **: Sri Milan De**

Term I : (Total 10 Lectures)

Lecture 1 : What is History and Literature?
Lecture 2 : Relation between history and literature.
Lecture 3 : Sense of Itihasain pre-colonial period as part of literature.
Lecture 4 : Concept of "Mythic time "and "Historical time".
Lecture 5 : Discuss beginning of history writing in Bengal.
Lecture 6 : Confabulation the elements of literature.
Lecture 7 : Knowledge about tracing history through literature.
Lecture 8 : Detailed knowledge on Ramesh Chandra Majumdar and Akshay Kumar Maitreya.
Lecture 9 : Give detailed knowledge on Ramen Pillai , Chandu Menon,Phakirmohon Senapati.
Lecture 10: Question - Answers phase on relation between history and literature.

Term II : (Total 11 Lectures)

Lecture 1 : Discussion of Bankim Chandra as a Nationalist Literary.
Lecture 2 : Teaching about Vande mataram and Anandamoth.
Lecture 3 : Rabindranath Tagore Nationalism and universalism.
Lecture 4 : To give knowledge about the nationalistic ideology of Rabindranath's "Gore Baire".
Lecture 5 : Discussion about the nationalistic ideology of Tagore's "Charadhyay".
Lecture 6 : Discussion of Sarat Chandra Chattopadhyay as a Nationalist Literacy.

Lecture 7 : Sarat chandras novel discussion about women in the 20th
century.
Lecture 8 : Criticism of Sarat Chandra's novel "charitraheen".
Lecture 9 : Criticism of Sarat chandra's Novel "potherdabi".
Lecture 10: Difference of perspective between Bankim Chandra
Chatterjee and Rabindranath Tagore.
Lecture 11: Short Question answer session discussion.

Term III : (Total 11 Lectures)

Lecture 1: Discussion the hardships of economic and caste
discrimination in Bengal Society.
Lecture 2: How economic and caste discrimination fueled the National
Movement.
Lecture 3: Discussion the social character of pree independence
Bengal in Tarashankar Banerjee's novel "Ganadevta ".
Lecture 4: Detailed discussion about Satinath Bhaduri and Gandhi
movement.
Lecture 5: Dhorai- Charit-Manos is a description of Gandhi's
movement.
Lecture 6: Discuss overall question answers.

Semester VI
Paper- DSE-1BT
Topic Name –Modern Europe

Name of the Teacher : **Sri Milan De**

Term I : (Total 10 Lectures)

Lecture 1 : Condition of Europe before French revolution.
Lecture 2 : Social political and economic condition of France.
Lecture 3 : The Revolution in the making.
Lecture 4 : Phases of the French revolution.
Lecture 5 : The Aristocratic revolution.
Lecture 6 : Contribution of philosophers to the French revolution.
Lecture 7 : Reign of Terror.
Lecture 8 : Work of the National Assembly during the French
Revolution.
Lecture 9 : Results of French Revolution.
Lecture 10: Discuss overall question Answers.

Term II : (Total 11 Lectures).

Lecture 1 : The rise of Napoleon Bonaparte.
Lecture 2 : Administrative reforms of Napoleon.

Lecture 3 : Napoleon and continental system.
Lecture 4 : Napoleon's various reforms.
Lecture 5 : Napoleonic empire and Europe.
Lecture 6 : Downfall of Napoleon.
Lecture 7 : Impact of Napoleon in Europe.
Lecture 8 : July revolution of 1830.
Lecture 9 : February revolution of 1848.
Lecture 10: Effects of July and February revolution.
Lecture 11: Discuss overall question Answers.

Term III : (Total 12 Lectures)

Lecture 1 : Vienna Congress.
Lecture 2 : Metternich Era.
Lecture 3 : Characteristics of the period from 1815-1848 in Europe.
Lecture 4 : Unification of Italy.
Lecture 5 : Foreign powers helps the cause of the Italian unification.
Lecture 6 : Unification of Germany.
Lecture 7 : Features of the foreign policy of Bismarck.
Lecture 8 : The Third republic and Paris commune.
Lecture 9 : The Eastern question.
Lecture 10: Causes of the first and second world wars.
Lecture 11: Results and impacts of the two world wars.
Lecture 12: Discuss overall Question Answers.

Semester VI
Paper- GE-2
Topic Name – Gender & Education in India

Name of the Teacher : **Sri Milan De**

Term I : (Total 9 Lectures)

Lectur1: A discussion on the nature of pre-colonial women's education.
Lectur2: The nature of women's education in the colonial period.
Lectur3: The nature of women's education in the post-colonial era.
Lectur4: A explanation of the nature of women's education in mediaeval India.
Lectur5: A detailed discussion of regional trends in women's education in pre-colonial India.
Lectur6: Discuss barriers to women education with example to remove them.
Lectur7: Difference between women's education in

Lectur8: The progress of women education by breaking religious

barriers.
Lectur9: Question and Answer session and discussion.

Term II : (Total 9 Lectures)

Lectur1: Overall Concept of development and progress of women education during colonial period.
Lectur2: Social reforms.
Lectur3: Religious reforms.
Lectur4: Contribution of Ram Mohan Roy ,Vidyasagar ,Begum Rokeya etc of social and religious revolution.
Lectur5: Role of Christian missionaries in spreading female education.
Lectur6: Recent debates on Christian missionaries contribution in spreading female education.
Lectur7: Indigenous initiatives at women's education.
Lectur8: Re-discuss previous issues.
Lectur9: Discuss Overall question answers.

Term III : (Total 9 Lectures)

Lectur1: To Provide insight into the contribution of schools and colleges to women's education in the colonial and post colonial period.
Lectur2: Various schools and colleges develop during the colonial and post-colonial eras.
Lectur3: Development of co-education in both eras.
Lectur4: Expansion of infrastructural facilities in education.
Lectur5: Technical and vocational education for women.
Lectur6: Interrogating literacy for women.
Lectur7: Government policies and schemes in women education.
Lectur8: Disparities in literacy.
Lectur9: Concept of empowerment.
Lectur10: Role of empowerment as a tool of education.
Lectur11: Women's empowerment in present scenario.
Lectur12: Discuss overall questions and answers.