KHARAGPUR COLLEGE
KHARAGPUR
ESTD. : 1949

P.O.– Inda, Kharagpur, Municipality– Kharagpur, Sub-Division– Kharagpur, P.S.– Kharagpur (T), Dist.– Paschim Medinipur, West Bengal, PIN– 721305.

Response to DVV query under 1.3.2 B- ENVS Projects-

In response to your observation regarding ENVS projects (Environmental Studies (ES) generally has been offered either as i. Core Course, or ii. elective course. If a student pursuing ES as elective subject only then a Dissertation/Project REQUIRED to acquire special/advanced knowledge, such as supplementary studies, with an advisory support by a teacher/faculty member. In current case HEI has claim 1220 students who have compiled project of Environment Studies, which do not appear to be projects for ELECTIVE subject, hence, not maintainable) **we would like to provide the following clarification:**

1. **The regulations of the affiliating University i.e Vidyasagar University does not include ENVS as a compulsory subject but rather as an elective one. HEI has included a copy of the regulations of the Vidyasagar University duly signed by the UG Secretary and highlighting the section of regulations which mentions ENVS as an elective subject.**

2. **The SOP for affiliated colleges as provided by the UGC and NAAC does not mention exclusion of compulsory courses which have projects as a part of evaluation or assessment/course completion. The documents uploaded in SSR have been prepared in due accordance with the regulations of metric 1.3.2 and hence ENVS projects are subject to be considered under the documentation process of metric 1.3.2. The State-level mentors for NAAC accreditation process also advised the HEI to include ENVS projects as part of metric 1.3.2 and the HEI have adhered to the instructions. HEI includes a copy of the SOP highlighting metric 1.3.2 to substantiate its claim**

3. **ENVS projects by students of recently concluded academic year have been considered valid in the recently concluded accreditation processes of neighborhood colleges under the affiliating university as informed by the head of the institutions and State-level mentors.**

In view of the above conditions the HEI prays for the re-consideration of 1220 projects under ENVS. The necessary documents are provided along with sample ENVS projects.

ATTESTED

Principal
Kharagpur College

The Regulations

for

B.A/B.Sc/B.Com (Honours & General)

3 – Year Degree Course

Under Choice Based Credit System (CBCS)

(18/04/2019)*

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Preamble

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education system of country. The academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. However, due to a lot of diversity in the system of higher education, there are multiple approaches followed by the universities towards examination, evaluation and grading system. The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions of India and abroad. So, it is desirable to introduce uniform grading system. This will facilitate students' mobility across Institutions within and across countries and also potential employers to access the performance of students. To bring the desired uniformity in grading system and method of Computing the cumulative Grade Point Average (CGPA) based on the performance of the students in the examinations, the UGC has formulated guidelines.

University Grants Commission has come up with the Choice Based Credit System (CBCS) programme where students can not only learn core subjects but also explore additional avenues of learning beyond the core subjects for holistic development of an individual. The proposed curriculum endeavours to empower the students and help them in their pursuit to achieve overall excellence. The implementation of CBCS will also facilitate benchmarking of courses in India with leading international academic practice. The CBCS curriculum has been envisaged to give flexibility to learners to learn subjects of their choice at their own pace.

In addition to dedicated focus on a discipline through core papers, whether an Honours or General programme, the elective papers which will give students the freedom to choose the allied/applied/broad areas of their discipline and also the areas of other discipline of their interest have been added. The course will be evaluated by marking system along with the grading system.

The Choice Based Credit System (CBCS), an internationally acknowledged system, have following aims: (i) to make the course curriculum learner centric, (ii) to encourage inter-disciplinary without disturbing the domain centric knowledge, (iii) to promote mobility of the students and help in optimizing learning , (iv) to allow autonomy to the teachers to built in accountability , (v) continuous evaluation of students to help in optimizing learning, (vi) to introduce transparency in the evaluation systems, (vii) to improve employability of students.

In exercise of the powers conferred by Section 52 of Vidyasagar University Act 1981, the Vidyasagar University hereby makes the following Regulations for semesterised BA/B Sc/B Com three years degree course under Choice Based Credit System, 2017.

1. **Title and Commencement**
   1.1 These regulations shall be called THE REGULATIONS FOR B.A./B.SC./B.COM. THREE YEAR DEGREE COURSE UNDER SEMESTER SYSTEM (CHOICE BASED CREDIT SYSTEM) 2017, VIDYASAGAR UNIVERSITY.
   1.2 These Regulations shall come into force with effect from the academic session 2017-2018 for B.Sc. Honours
   1.3 These regulations shall come into force for other courses of B.A and B.Com Honours and General and B.Sc. General. (To be decided by the EC)

2. **Duration of the Course :**
   2.1 The duration of the Programme is **Six (06) consecutive semesters of six months each *i. e.,* (03) three years** and will start ordinarily in the month of July of each year.
   2.2 A candidate shall have to clear all the Semesters within consecutive **five years** from the academic year of his/her first admission to any college affiliated to Vidyasagar University failing which enrolment of the candidate shall stand cancelled.

3. **Applicability**
   These regulation shall be applicable to :
   3.1. The student taking admission to the B.Sc. (Hons.) course in the academic session 2017 – 2018.
   3.2. The students admitted in earlier sessions upto 2016- 2017 and appeared in B.A./ B.Sc./ B.Com. Part I examinations in 2017 or earlier shall be guided by the existing regulations of annual system.
   3.3. The programme shall be effective for the regular students *w.e.f.,* 2017 – 2018.

4. **Courses of Studies**
   4.1 There shall be three courses of studies leading to B.A./B.Sc./B.Com. Degree and each course shall be of **six semester** duration. First shall be termed as B.A./B.Sc./B.Com. Honours Degree Course; Second is B.A/B.Sc./B.Com. General Degree Course.
   4.2 Six semesters will be in three years.
   4.3 Odd semester (i.e. 1st, 3rd and 5th semester) is from July to December and even semester (i. e. 2nd, 4th and 6th semester) is from January to June.

5. Admission

5.1 The admission to Under Graduate Degree programmes will be governed by the guidelines of the Vidyasagar University and that of the Department of Higher Education, Govt. of West Bengal as framed from time to time.

5.2 A candidate shall be allowed to pursue any one of the degree undergraduate programme of   the university at a time, not more than one.

5.3   In no case admission to the 1st semester shall be considered after the commencement of the classes for the semester.

5.4 Provisional admission be maintained colleges concerned for next higher Semester and admission be automatically   confirmed after publication of result except failed/ dropout candidates.

6. Registration

6.1 Registration is mandatory for prosecuting studies. The registration for UG Degree programme will be governed by the University Regulations relating to Registration.

6.2 A student shall have to submit Registration Form only once at the time of entry to   the UG Courses. He/She shall not be required to renew his / her registration at any subsequent stage.

6.3 A candidate admitted for Honours/General degree course but not registered will not be allowed to sit for 1st Semester Examination.

7. Attendance

7.1   A student attending at least 75% of the total number of classes held shall be allowed to sit for the concerned Semester Examination subject to the fulfillment of other conditions as laid down in the regulations. Such attendance will be calculated from the date of first appearance of the classes of a student.

8.   Outline of the course structures under Choice Based Credit System (CBCS)

8.1 Definitions of key words in CBCS

i. **Academic Year**: Two consecutive (one odd + one even) semesters constitute one academic year.

ii. **Choice Based Credit System (CBCS)** : The CBCS provides choice for students to select from the prescribed courses (Core, Elective or soft skill courses).

iii. **Course:** Usually referred to as 'papers' is a component of programme. All courses need not carry the same weight. The course should define learning objectives and learning outcomes. A course may be designed to include lectures/tutorials/laboratory work/field work/outreach activities/project work/ vocational training/ viva/ seminars/ term papers/assignments/presentations/self study, etc. or a combination of some of these.

iv. **Credit Based Semester System (CBSS):** Under the CBSS, the requirement for awarding Degree or diploma or certificates is prescribed in terms of number of credits to be completed by the students.

v. **Credit Point:** It is the product of grade points and number of credits to be completed by the students.

vi. **Credit:** A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/ field work per week.

vii. **Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a students' over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal points.

viii. **Grade Point:** It is a numerical grade allotted to each letter grade on a 10-point scale.

ix. **Letter Grade:** It is an index of the performance of the students in a said course. Grade are denoted by letters 0,A+,A,B+,B,C,P and F.

x. **Programme:** An educational programme leads to award of a Degree or Diploma or Certificate.

xi. **Semester:** Each semester will consists of 15-18 weeks of academic year equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.

xii. **Semester Grade Point Average (SGPA):** It is a measure of performance of a student in a semester. It is the ratio of total credit points secured by a student in various courses of a semester and the course credits taken during that semester. It shall be expressed up to two decimal points.

xiii. **Transcript or Grade Card or Certificate:** Based on the grade earned, a grade certificate shall be issued after every semester. The grade certificate will display the course details (code, title, marks, letter grade, number of credits, grade secured) along with SGPA and CGPA where applicable.

8.2. **Courses under Choice Based Credit System (CBCS)** : Under the design of "Choice Based Credit System(CBCS)" the curriculum has been moulded into three tier structure with following types of courses to be offered :

i. **Core Course(CC):** A course, which should compulsorily be studied by a candidate as core requirement, is termed as a Core Course. For Honours courses there will be 14 core courses and for General courses, there will be **12** core courses.

ii. **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline / subject of study or which provides an extended scope or which enables an exposure to some other discipline / subject/ domain or nurtures the candidates proficiency/ skill is called elective Course.

iii. **Discipline Specific Elective (DSE) course:** Elective courses which may be offered by the main discipline / subjects of study is referred to as Discipline

Specific Elective (DSE). For Honours and General Course 4 DSE courses are to be taken out of a pool given for the different semester courses. Further it may include an elective course designed to acquire special/advanced knowledge, such as supplement study / support study to a project work and a candidate can study such a course called dissertation / Project on his or her own choice with an advisory support by a teacher / faculty member.

iv. Generic Elective (GE) Course : An elective course chosen generally from a non-related discipline / subjects, with an intention to seek exposure is called a Generic Elective . A core course offered in a discipline / subject may be treated as an elective by other discipline/ subject and vice-versa and as such electives may also be referred to as Generic Elective. For Honours course 4(four) Generic Elective Courses are to be taken from the list of Generic Elective papers and for General courses (only for BA/B Com), 2(two) Generic Elective are to be taken from the list of Generic Elective Papers.

v. Ability Enhancement Course (AEC): The Ability Enhancement Course (AEC) may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Course (SEC).

a. Ability Enhancement Compulsory Course (AECC): AECC elective courses are the courses which are based upon the contents lead to knowledge enhancement. I) English /MIL, ii) Environmental Studies. These are mandatory for both Honours and General Courses. These courses will generally be of **2** credits except environmental studies which is of **4** credits. AECC Core: AECC Core courses are meant for only General (BA/B Com) courses. These courses will generally be of **6** credit courses.

b. Skill Enhancement Course (SEC): These courses may be chosen from a pool of courses designed to provide value based and/or skill - based knowledge and should contain both theory and lab/hands on training/ field work. The main purpose of these courses is to provide students life skills in hands on mode so as to increase their employability. Minimum **2** for Honours and **4** for General courses are to be taken.

9. **Scheme for Choice Based Credit System in B.A. /B. Sc./ B.Com. (Honours & General)** [Vide annexure- 1a,1b,1c, 1d]

10. Implementation of the CBCS

Course structure: Course structure for each Honours/General shall be designed by the respective UG Board of Studies, keeping in view the curriculum proposed by the UGC.

Provided that the Board of Studies shall have, subject to prior authorization and approval of the Vice-Chancellor, power to effect from time to time. Such minor changes in course(s) offered are deemed desirable in the academic interests.

Except in the case for which a different structure is provided under the regulations, the course matter of each course shall be divided into different units/credits, which shall also include the practical/tutorial component(s) to be evaluated in accordance with the relevant Regulations

The course(s) shall be so arranged as to achieve a minimum target as follows:

i. Each Honours Course shall be of **142** credits, to be studied in six **(06)** semesters.

ii. Each General Course shall be of **122** credits, to be studied in Six **(6)** semesters

Curriculum structure in different programmes shall have contained different types of courses as under: Core Course, Elective Course (Discipline Specific Elective, Generic Elective), Ability Enhancement Courses (AECs) [Ability Enhancement Compulsory Courses & Skill Enhancement Course].

11.   Distribution of courses in B.A./B.Sc./B.Com. (Hons /General)

11.1 The distribution of courses in B.A./B.Sc./B.Com. (Honours & General) are as follows:

Distribution of courses in BA/BSc/BCom (Honours /General)

Course Components	B.A.		B.Sc.		B.Com.	
	Honours	General	Honours	General	Honours	General
Core Course	14	8	14	12	14	8
Ability Enhancement Compulsory Course(AECC)[Core]		4				4
Discipline specific Elective (DSE) Course	4	4	4	6	4	4
Ability Enhancement Compulsory Course (AECC)	2	2	2	2	2	2
Generic Elective (GE) Course	4	2	4		4	2
Skill Enhancement Course (SEC)	2	4	2	4	2	4

Core Course (CC), Discipline Specific Elective (DSE), Generic Elective(GE) courses are of **6 (six)** credit each and Ability Enhancement Compulsory Courses (AECC) & Skill Enhancement Course (SEC) are of **2 (two)** credits each excluding Environmental Studies (ENVS) which is of **4 (four)** credits.

11.2. An undergraduate Degree with Honours in Arts /Science/ Commerce shall be awarded if a student completes 14 core courses/papers in that discipline, 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC), 4 courses/papers from a list of Discipline Specific Elective (DSE) and 4 courses/papers from a list of Generic Elective(GE) papers, respectively.

11.3 An undergraduate General Degree in Science shall be awarded if a student completes 12 core courses/papers (4 core papers each in three discipline of choice) , 2 Ability Enhancement Compulsory Courses(AECC), 4 skill Enhancement Courses(SEC) and 2 papers each from a list of Discipline Specific Elective (DSE) papers based on three discipline of choice selected above, respectively.

11.4 An undergraduate General Degree in Arts/Commerce shall be awarded if a student completes12Core Courses (4core papers each in two discipline of choice, 2 core papers each in English and MIL respectively), 2 Ability Enhancement compulsory Course (AECC), 4 Skill Enhancement Course (SEC), 2 papers each from a list of Discipline Specific Elective (DSE) papers based on the two discipline of choice selected above respectively, and 2 papers from the Generic Elective (GE).

12 For the purpose of computation of credits/work-load following mechanism shall be adopted

i.   Lecture 1 credit = 1 Hour Lecture [1 theory period of one hour duration per week]

ii.   Tutorial 1 credit = 1 Hour Tutorial [1 tutorial period of one hour duration per week]

iii. Practical 1 credit = 2 Hours Practical [1 practical period of two hours duration per week]

13 The credit(s) for each theory paper/ practical/tutorial/project/dissertation will be as per details given in annexure 1A, 1B, 1C, 1D for B.A./B.Sc./B Com Honours & B.A/B.Sc./B.Com General.

14 Examination

14.1 Examination Fee

The examination fees and other fees prescribed by the University from time to time shall have to be paid by each student within the stipulated times of respective End Semester Examination after notification of Controller of Examinations.

14.2 Dates of examination:

The examination for all the semesters will be held as per the prescribed academic calendar of every year. However, exact dates and the centers of examination shall be notified by the Controller of Examinations. Ordinarily, the university shall not deviate from the prescribed academic calendar. However, in the event of any unforeseen exigency the Controller of Examinations shall be competent for any minor adjustment in the schedule.

14.3. Admit Card:

Admit card for appearing at the End Semester Examination, will be issued by the Controller of Examinations after fulfilling eligibility criteria like attendance, registration etc.

14.4. Eligibility criteria of examination and types of assessment :

i. Each academic year shall have two Semesters. In each semester, there shall be two types of examinations: Internal Assessment **(IA)** and End Semester Examination **(ESE).**

ii. In the semester system, the examinations will be held in six parts. The academic session including the examinations for first, third and fifth semester are July to December and that for second, fourth and sixth semester are January to June. Before the End Semester Examination, a student will enjoy study leave of 10-12 days.

iii. A student must get himself/ herself admitted in each semester as per the admission rule.

iv. A candidate shall be eligible for appearing at any of the semester of examination fulfilling

the following essential condition:

A student must have at least **75% class attendance** (theory and practical separately). Student must complete internal assessment.

14.5. Continuous Internal Assessment:

i. Process and marks distribution are as follows: All the internal continuous assessment will be conducted by the internal teacher of the respective Department. It shall be on the basis of tutorials, class tests, seminar presentations, or any combination thereof, evenly distributed over the entire study period. The modalities of such assessment be recorded and documents will be preserved by the respective college and those must be placed before any committee or team constituted by the university for verification.

ii. Marks obtained in the internal assessment will be clubbed with marks obtained in the End Semester Examination before awarding the grade. If a candidate fails to secure pass grade in a particular course, he/she will have to appear in that course only. The internal assessment marks will be retained for next examinations with valid chances.

iii. Submission of marks of internal assessment: The marks for **class attendance** and **internal assessment** will be clubbed and shall be submitted by the Principals/Teachers-in-Charge/Officer-in-Charge of the colleges to the Controller of Examinations before the commencement of End Semester Examination.

14.6. Hour of End Semester Examination:

a. Honours/General **theoretical** papers of full marks up to **50,** duration **2** hours.
b. Honours/General **theoretical** papers of full marks more than **50,** duration **3** hours.
c. Honours/General **practical** papers of full marks up to **50,** duration **3** hours.
d. Honours/General **practical** papers of full marks above **50,** duration **5** hour

14.7. a. A candidate pursuing Honours/ General course of study has to secure minimum of 20% marks (including the marks in Internal Assessment) of each paper at the End Semester Examination in order to qualify for the next semester.

14.7. b. Automatic progression in the higher semester may apply, i.e., after appearing at semester I examination, he/ she is allowed to continue semester II study irrespective of the result of semester I and so on.

14.8. Internal Assessment has to be done in the semester in which a candidate becomes eligible to appear in the concerned end semester examination. The candidates remaining absent in the written examination for Internal Assessment will be awarded zero (0) marks. Marks obtained in Internal Assessment (i.e. marks for attendance and marks of written examination taken together) shall be retained for the entire duration of his/her enrolment.

14.9. If a candidate secure pass marks in Practical Paper(s)/Project Work but fails to secure pass marks in theoretical papers, the marks of Practical Paper(s)/Project Work along with Internal Assessment of theoretical papers shall be retained.

14.10 A candidate who fails to secure pass marks in one or more papers maximum two papers one each Honours Core Course and one from other courses of a semester may appear in those paper(s) when the concerned End Semester Examination will be held next.

14.11

i. A candidate (Honours/ General) shall have to complete each semester examination **within 3 (Three) consecutive chances** including his / her first appearance in the concerned End Semester Examination.

If a candidate does not avail of any chance/chances mentioned above within the stipulated period, the chance shall be deemed to have lapsed. A student failing to get pass in one or more course(s) in respective semester examination, he/she may re-appear at the following year as 2nd chance. ii. A student will be permitted to clear his/her failed course(s) in maximum three consecutive chances irrespective of availing/ not availing any particular chances.

Student who skips semester examination will be eligible to clear those course(s) in the respective semester examination of subsequent years (i.e. 1st semester with the 1st semester of the subsequent year, 2nd semester with the 2nd semester of the subsequent year) and so on. iii. If any candidate fails to qualify any semester after three (03) chances his/her candidature of the course will be lapsed/ cancelled. A special permission may be given by the Secretary, Council of UG Studies for re-registration/ admission following the admission rules stated in clause (5).

14.12 Pass mark in any paper in any semester is **20%** of the full marks of the subjects for Honours and General courses.

If a candidate secure qualifying grade (D grade) in all courses he/she will be declared to have qualified the said semester and the result will be shown as SQ/HQ/GQ and thereafter no. of next higher semester will be added. Marks obtained in the internal assessment will be clubbed with marks obtained in end semester examination before awarding the grade. If a candidate fails to secure pass grade (D grade) in a particular course, he/she will have to appear in that course only. The internal assessment marks will be retained for next examination(s) with valid chances.

14.13

(a) An arrear paper is one in which student fails to secure 20% marks. Arrear paper will be due to absence to sit in examination or failure to obtain the required qualifying marks. This will be indicated in the mark sheet of end semester examination.

Arrear paper will be allowed in Core Course/GE/AECC/SEC/DSE in a particular semester. Maximum number of arrear paper allowed in a semester is two (02).

All arrear papers from 1st semester to 5th semester must be cleared before being promoted to 6th semester.

14.14. Special Supplementary Examination:

A Special supplementary examination will be held for 3rd year students who have arrear paper only for 6th semester, except the R.A. student(s). There will be no Special supplementary examination for any practical paper.

14.15 Cancellation of results : A candidate may apply to the Controller of Examinations for cancellation of his/her result of any semester for improvement of results within 15 days from the publication of results or issue of mark sheet. There will be no provision for

cancelling results *of* any single subject/ paper in any case. In all cases, cancellation of results will be counted as one chance lost. Such candidate shall have to surrender their original mark sheet along with the application for cancellation of results by payment of requisite fee as fixed by the University authority.

15. Post publication Scrutiny of Answer Script (Self Inspection):

A candidate of Hons./ Gen. Course may apply for Self Inspection or RTI of his / her one or more answer scripts irrespective of marks by paying requisite fees. Post publication scrutiny (Self Inspection) does not imply re-examination or re-assessment of scripts but involve verification of scripts and records.

16. Grading system:

Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)

Based on the performance of the students, each student will be awarded Grade in subjects at the end of the semester examination following grading system on the base of TEN (10). The letter grades and the corresponding grade points are as shown below:

10 Point scale

Qualification	Letter Grade	% of Marks	Grade Point
Outstanding	O	90-100	10
Excellent	A+	80-89	9
Very Good	A	70-79	8
Good	B+	60-69	7
Above Average	B	50-59	6
Average	C	40-49	5
Satisfactory	D+	30-39	4
Poor	D	20-29	3
Fail	F	Below 20	0
Absent	Ab	Absent	0

Further there shall be another grade 'I' (with point 0) for students for whom disciplinary action remain pending.

The **Semester Grade point Average (SGPA)** will be computed in each semester as per the following formula:

$$SGPA = \frac{\sum\limits_{i=1}^{n} C_i G_i}{\sum\limits_{i=1}^{n} C_i}$$

C_i = The number of credits allotted for particular course.

G_i = This is the Grade points corresponding to the grade awarded for the course

$i = 1, 2.., n$ represent the number of course in which a student is registered in the concerned semester. The SGPA is rounded off to two decimal places.

The **Cumulative Grade Point Average (CGPA)** will be computed at the end of semester as per the following formula

$$CGPA = \frac{\sum\limits_{i=1}^{n} {}^{*}C_i S_i}{\sum\limits_{i=1}^{n} {}^{*}C_i}$$

$^{*}C_i$ is the total credits of the corresponding semesters. S_i is the SGPA of the corresponding semesters.

$i = 1, 2,...., n$ represent the number of the course in which a student is registered in the concerned semester. The CGPA is rounded off to two decimal places.

17. Grace Marks

A candidate who fails to obtain 40%, 50%, 55% or 60% marks in aggregate at the 6th and final semester a maximum of 5 marks shall be awarded as grace mark and that shall be added in the paper in which the candidate obtains the highest mark in which he/she appears last.

18. In case of any dispute arises in respect of interpretation, intention or application of any of the provision of these regulations or any matter not covered by these regulations, decision of the Hon'ble Vice Chancellor/ Executive Council in this regards shall be final and binding.

ANNEXURE

1A SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B.Sc. (Honours)

Semester	Core Course(CC) (14)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (2)	Discipline Specific Elective (DSE) (4)	Generic Elective (GE) (4)
I	C1 C2	[English/MIL (Bengali/ Hindi) Communication]			GE-1
II	C3 C4	Environmental Science			GE-2
III	C 5 C 6 C 7		SEC-1		GE-3
IV	C 8 C 9 C 10		SEC-2		GE-4
V	C 11 C 12			DSE-1 DSE-2	
VI	C 13 C 14			DSE-3 DSE-4	

1B   SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B.A/B.Com (Honours)

Semester	Core Course(CC)**(14)**	Ability Enhancement Compulsory Course **(AECC) (2)**	Skill Enhancement Course **(SEC) (2)**	Discipline Specific Elective (DSE) (4)	Generic Elective **(GE)(4)**
I	C1	[English/MIL (Bengali/ Hindi) Communication]			**GE-1**
	C2				
II	C3	Environmental Science			**GE-2**
	C4				
III	C 5		**SEC-1**		**GE-3**
	C 6				
	C 7				
IV	C 8		**SEC-2**		**GE-4**
	C 9				
	C 10				
V	C 11			**DSE-1**	
	C 12			**DSE-2**	
VI	C 13			**DSE-3**	
	C 14			**DSE-4**	

1C   SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B. Sc(General)

Semester	Core Course(CC) (12)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (4)	Discipline Specific Elective (DSE) (6)
I	DSC-1A	[English/MIL (Bengali/ Hindi) Communication]		
	DSC-2A			
	DSC-3A			
II	DSC-1B	Environmental Science		
	DSC-2B			
	DSC-3B			
III	DSC-1C		SEC-1	
	DSC-2C			
	DSC-3C			
IV	DSC-1D		SEC-2	
	DSC-2D			
	DSC-3D			
V			SEC-3	DSE-1A
				DSE-2A
				DSE-3A
VI			SEC-4	DSE-1B
				DSE-2B
				DSE-3B

1D SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B.A/B. Com (General)

Semester	Core Course(CC)(12)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (4)	Discipline Specific Elective (DSE) (4)	Generic Elective (GE) (2)
I	**English-1**	[English/MIL (Bengali/ Hindi) Communication]			
	DSC-1A				
	DSC-2A				
II	**MIL (Bengali/ Hindi)-1**	Environmental Science			
	DSC-1B				
	DSC-2B				
III	**English-2**		**SEC-1**		
	DSC-1C				
	DSC-2C				
IV	**MIL (Bengali/ Hindi) -2**		**SEC-2**		
	DSC-1D				
	DSC-2D				
V			**SEC-3**	DSE-1A	**GE-1**
				DSE-2A	
VI			**SEC-4**	DSE-1B	**GE-2**
				DSE-2B	

2a.Marks Distribution of B Sc/BA/B Com (Hons & General)[Theory & Practical]

Sr. no	Course	Credit	No. of hours/ week	Marks Distribution				ESE	
			L-T-P	CA	IA	ESE	FM	Theory	Practical
1	CC (Th+Pr)	6(4+2)	4-0-4	05	10	60	75	40	20
2	GE(Th+Pr)	6(4+2	4-0-4	05	10	60	75	40	20
3	DSE(Th+Pr)	6(4+2	4-0-4	05	10	60	75	40	20
4	AECC	2	1-1-0	05	05	40	50	40	
5	SEC(Th+Pr)	2(1+1)	1-0-2	05	05	40	50	25	15
6	AECC(ENV S)	4		05	15	80	100	50	30(Project)

CC= Core Course, **GE**= Generic Electives, **DSE**= Discipline Specific Electives, **AECC**= Ability Enhancement Compulsory Course, **SEC**= Skill Enhancement Course, **AECC (ENVS)** = Ability Enhancement Compulsory Course (Environmental Studies).**CA** = Class Attendance, **IA** = Internal Assessment, **ESE**= End Semester Examination, **FM** = Full Marks.

L = Lecture, **T** = Tutorial, **P** =Practical. **Th**= Theory, **Pr**=Practical

2b.Marks Distribution of B Sc/BA/B Com (Hons & General)[Theory only]

Sr. no	Course	Credit	No. of hours/ week	Marks Distribution				ESE	
			L-T-P	CA	IA	ESE	FM	Theory	Practical
1	CC	6	5-1-0	05	10	60	75	60	-
2	GE	6	5-1-0	05	10	60	75	60	-
3	DSE	6	5-1-0	05	10	60	75	60	-
4	AECC	2	1-1-0	05	05	40	50	40	-
5	SEC	2	1-1-0	05	05	40	50	40	-
6	AECC(ENV S)	4		05	15	80	100	50	30(Project)

CC= Core Course, **GE**= Generic Electives, **DSE**= Discipline Specific Electives, **AECC**= Ability Enhancement Compulsory Course, **SEC**= Skill Enhancement Course, **AECC (ENVS)** = Ability Enhancement Compulsory Course (Environmental Studies).**CA** = Class Attendance, **IA** = Internal Assessment, **ESE**= End Semester Examination, **FM** = Full Marks.**L** = Lecture, **T** = Tutorial, **P** =Practical. **Th**= Theory, **Pr**=Practical.

Addendum-1

Post publication review and Post publication scrutiny of answer scripts:

1. Post publication review:

General Rule for Review:

a) A student may apply for post-publication review of his/her answer scripts in the prescribed form and manner and a submission of requisite fees per paper within the date as per notification to be issued by the Controller of Examinations at the time of publication of the result. All such applications must be forwarded by the Principal of the college concerned.

Post Publication Review is applicable only for theory papers of different End Semester Examinations. Review shall not be permissible for internal Assessment, Practical Examination and Project work/Field work etc.

b) Post publication Review and post publication scrutiny of the same paper(s) in a subject shall not be allowed.

c) A student shall be allowed to apply for re-examination/review of not more than 2 (Two) theoretical papers in each semester, provided that he/she has scored qualifying marks i.e. 20% in that semester and also secured 35% marks in other individual papers, are considered as eligible for Review.

d) In case of variation of marks for more than 5% equal weightage is to be given to marks awarded by the examiner appointed for Re-examination and original examiner and an average of two awards is to be taken into account for computing result of re-examination. Marks originally obtained and the marks obtained through re-examination be taken together to work out and average which will be considered as the award in that paper of the candidate concerned even if the average is more or less than the initial award of marks.

e) In case of variation of 5% marks or less between the original and re-examination process the change shall be ignored.

f) Incomplete and faulty application is liable to be rejected without assigning reason or without any intimation to the candidate and college concerned.

g) Under no circumstances fees for post publication Review [as notified from time to time by Controller of Examination (COE)] once paid shall be refunded.

h) Prayer for Post Publication Review in prescribed manner in respect of any examination cannot be related to the appearance of the next year's examination, as the case may be. Candidates applying for the Post Publication Review shall have to make necessary preparations for the next examination on the basis of his /her original results accordingly, even though they have applied for the same.

2. Post publication scrutiny of answer scripts:

A candidate of Hons. / Gen. course of any part of his/her examination does not come under the purview of post publication Review, he/she may apply for post publication scrutiny of his/her one or more answer scripts irrespective of marks. Post publication scrutiny does not imply re-examination or re-assessment of scripts but involve verification of scripts and records.

(* Corrected on 18.08.2021)

Standard Operating Procedure (SOP) for Data Validation and
Verification of Affiliated Colleges Manual

A: General Guidelines for HEIs:

Note: Relevant original documents signed by the concerned authorities, and/or members of the committee should be scanned and uploaded. Insertion of signature(s) and insertion of the header of the Institutional letterhead in the documents for proof of evidence shall not be acceptable.

- The NAAC HEI Portal supports only 5MB data for each metric. If the attachments exceed 5MB, the HEI should host the supporting documents on the HEI''s website and provide the link of the same in the template and/or in the HEI-DVV clarification response.

- Data/supporting documents should not be provided on Google Drive, Microsoft one drive, Amazon Cloud or any third-party websites. Any such uploads will not be considered for the data validation and verification process.

- While providing the links of the HEI''s website where the supporting documents are hosted, the institution should provide the link in the HEI''s clarification box. While providing the links in the running text, to enable the hyperlink, press "Enter Key", then paste the link, and again press, "Enter Key". Provide the relevant supporting documents as per the SOP during the SSR submission to facilitate speedy DVV clarification process.

- It is mandatory to fill the templates in the specific formats provided by NAAC. The HEI is not supposed to alter the template format in which the data is sought. The documents uploaded should be clearly readable for the claims made.

- It is mandatory to respond to all clarifications raised by the DVV for the items in the extended profile and metrics, within the stipulated time.

- Whenever the data is voluminous, the DVV Partner will seek for details from selected sample documents for validation. Before submitting the clarification responses to the DVV, the institution should report to NAAC.

- Once the data is uploaded and the links are submitted to the NAAC, changes/ additions are not permissible and such changes in the documents (if any) will be tracked and viewed seriously, which may lead to actions against the HEI. While providing links,

the institution should ensure that links are operational.

- The institution should give the links as appropriate to the metric and not general links whose landing page is the HEI‟s home page. In case the links do not work during the DVV validation/clarification stage, the decision of NAAC will be final.

- Content of the supporting documents in regional languages should be translated to English and should be duly signed by the Head of the Institution. The translated copy should be uploaded along with the original regional language document.

- All supporting documents submitted along with the SSR and additional documents submitted during the DVV clarification process should be duly endorsed by the competent authority.

To reduce the enormous use of paper and printing the entire data, sign and a seal by the Competent Authority for all the papers, the Digital Signature will be accepted by NAAC in filling of SSR. Higher Education Institutions (HEIs) can use the Class-3 Digital signatures *(Means Digital Signature Class-3 is the highest level of DSC where a Registration Authority verifies the identity of a person)* of the head of the institution to authenticate and upload a large number of documents in the SSR.

B: Guidelines for specific operations:

Geo-tagging: Kindly follow the following steps to obtain a Geo-tagged photo:

(1) While setting your digital camera, set the location on.

(2) If you are taking photos using a smart phone, then set the location on.

(3) Take pictures only after setting the „location on‟ mode.

(4) Download the pictures on to a computer system and examine the properties. In properties, click on the details tab, scroll down to see GPS: you will see a picture as shown below, the value entries for latitude and longitude will determine the location where the photo is taken.
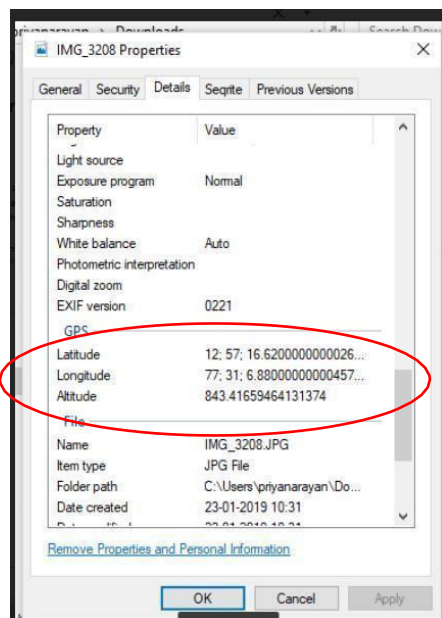
- **It is possible that both, the Extended Profile and some Quantitative Metrics (QnM) seek responses that require similar data/documents. In such cases, it is adequate to present data/documents in the Extended Profile. That is, if the data/documents sought are given in response to the Extended Profile they need not be repeated under those specific Quantitative Metrics (QnM) of the SSR.**

- Whenever both Extended Profile and some Quantitative Metrics (QnM) seek similar responses, make sure that data/documents are provided for those Quantitative Metrics (QnM) which match with the corresponding data/documents given in the Extended Profile.

- Any other clarifications may be sought from the NAAC, by the HEIs

- Programme: A range of learning experiences offered to students in a formal manner over a period not less than one year leading to UG Degree / PG Degree / PG Diploma. All possible formal Degree Programmes are defined/identified by the UGC. Examples: BA (Economics, History, Sociology), B.Sc., (Physics, Chemistry, Mathematics), B.Sc., (Hons Chemistry), BE/B.Tech (Computer Science and Engineering), B.Arch, M.Sc. (Mathematics), M.Com, M.A(English), ME/M.Tech (Textile Technology), PG Diploma (Library Science) and so on etc.,

- Course: A course is a paper/subject with specified number of credits/hours in a formal program. Examples: Organic Chemistry, Real Analysis, Solid State Physics, Indian History, Macro Economics, English, Hindi, Marathi, Telugu etc are courses under BSc/BA/B.Com Programs. A laboratory course having separate credits and examined separately is to be considered as a course.

- Gender Equity: Gender equity means fairness of treatment for women and men, according to their respective needs. This may include equal treatment or treatment that is different, but which is considered equivalent in terms of rights, benefits, obligations, and opportunities.

(Extended Profile)

STANDARD OPERATING PROCEDURE (SOP)

Metric No.	Metric Details	Documents Required for Verification	Specific Instructions to HEIs	Not to be Included /Considered
1.1	Number of students year wise during the last five years	• Provide appropriate link to the admission approval documents received from the university for assessment period • Year wise list of students approved by the affiliating University	• **Include the total number of students on rolls across all the programs (consider 1st, 2nd, 3rd years etc., of each program) for all the assessment period years.** • Consider only the students on the rolls during the odd semesters if the program is of semester scheme.	• If a program is of semester scheme, do not add students of both odd and even semesters. • **Exclude the PhD students.**
2.1	**Number of full time teachers during the last five years (Without repeat count):**	• **Provide the list of total full time teachers in block five years (Without repeat count) indicating the departmental affiliation during the assessment period authenticated by the Principal/competent authority.**	• **Librarian, physical education director etc have to considered only if the faculty teach B.Lib.Sc., M.Lib.Sc., B.P.Ed., M.P.Ed., etc .,programs.**	**Exclude Librarian, physical education director if, B.Lib.Sc., M.Lib.Sc., B.P.Ed., M.P.Ed., etc., are not offered.**

| 2.2 | Number of full time teachers during the last five years | • Provide the list of all full time teachers indicating the departmental affiliation during the assessment period authenticated by the Principal/ **Competent authority.** | • A teacher employed for teaching for at least 90 per cent of the normal or statutory number of hours of work for a full-time teacher over a complete academic year is classified as a full-time teacher. | • A teacher employed only for a part of a year not to be considered
• Inclusion of part-time
/ visiting faculty not taking at least 90% of the normal or statutory number of hours of work not to be considered as full- time teacher.
• **Librarian, physical education director etc have to considered only if these faculty teach B.Lib.Sc., M.Lib.Sc., B.P.Ed., M.P.Ed., etc., Programs.** |

| 3.1 | Expenditure excluding salary component year wise during the last five years (INR in lakhs) | • Audited Statement of income and expenditure duly certified by the Principal and Charted Accountant in case of privately funded **institutions highlighting the salary component, depreciation and excess of income over expenditure**. Also provide a statement showing the total expenditure excluding the salary component for each of the years certified by the Principal and Charted Accountant. | • **Audited Statement of income and expenditure should be in the name of applicant HEI only and not in the name of the Society / Charitable Trust / Group of Institutions** | • Claims made without audited Income Expenditure statements not to be considered.
• To be calculated excluding **salary component, depreciation and excess of income over expenditure from the total expenditure given in audited statements** |

Metric wise Standard Operating Procedure (SOP)

Sl. No.	Metric	Documents Needed	Specific Instructions to HEIs	Not to be Included /Considered
1.	**1.2.1** *Number of Add on /Certificate/Value added programs offered during the last five years*	Details of each program such as: Name of the program duration, list of students enrolled (with signature of students), model certificates, curriculum, assessment procedures year-wise.	• Add on/Certificate*/Value added programs (non-credit course)* of minimum 30 hours duration to be considered. • DVV may ask for certificate of randomly selected students in selected courses and the attendances for specific date mentioned for the programme. • **Numbers of Add on/Certificate/*Value added programs* offered are to be provided for Assessment (five) years** • **Repetition of Add on/Certificate/*Value added programs* in every year during assessment period to be counted one only.**	• **Avoid programs conducted under regular university curriculum.** • Avoid considering certificate / add on / value added programmes of less than 30 hours.

2	**1.2.2** *Percentage of students enrolled in Certificate/ Add-on/Value added programs as against the total number of students during the last five years*	• Year-wise List of the students enrolled in the Program as defined in 1.2.1 • Attendance sheet of Students participating with signature and Model Certificates.	• The DVV may seek for certificates of randomly selected students in selected courses and the attendance document for specific date mentioned in the course.	
3	**1.3.2** *Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year)*	• List of students along with the details of title, place of work, duration etc., • Internship completion certificate / project work completion certificate from the organization where internship / project was completed. • Link to report of the field work/ sample photographs of the field work / permission letter only for field work from the competent authority will be considered	• Only latest completed academic year data to be considered. • Students from all semesters taking internship / project may be considered. • One student involved in multiple field works and/or project work and/or internship in the same academic session should be counted as one. • **Internship completion certificate / project work completion certificate given to the students by the host organization may be asked during DVV process with specific student list.** • **In case of field work, mentioning objectives and outcomes of field work along with field work report**.	• Mere list of students cannot be considered without relevant supporting documents. • Training Internship during the job-enroll will not be considered.

4.	*1.4.1 Institution obtains feedback on the academic performance and ambience of the institution from various stakeholders, such as Students, Teachers, Employers, Alumni etc. and action taken report on the feedback is made available on institutional website (Yes or No)*	• **Sample Filled in feedback forms from at least two stakeholders.** • Stakeholders' feedback analysis report. • Action taken Report on feedback. • Document showing the communication with the affiliating University for the Feedback provided.	• **Only filled –in feedback forms (at least from two stakeholders) along with action taken report and the same to be uploaded on institutional website, then only the claim would be considered.** • The DVV partner may ask for filled in forms of few randomly selected stakeholders. • Action taken by the affiliating university on the feedback if any.	• Feedback reports reflected in **other than the HEI** website will not be considered.
5	**2.1.1Enrolment percentage**	• Document related to sanction of intake from affiliating University/ Government/statutory body **for first year students only.** • Approved admission list year-wise (first year admission) program-wise from the Affiliating university is mandatory.	• Sanctioned admission strength in each program vs. student's enrolment (**first year admission** / for **first semester** admission) for each program year-wise. • **Only First year admission and sanctioned intake programme-wise data is to be provided.** • **Approved admission list year-wise (first year admission) program- wise from the Affiliating university is mandatory, DVV partner has to seek clarification/documents if not provided.**	• **Lateral entry admissions not to be considered**

| 6 | 2.1.2 *Percentage of seats filled against seats reserved for various categories (SC, ST, OBC, Divyangjan, etc. as per applicable reservation policy during the last five years* (*exclusive of supernumerary seats)* | • Copy of letter issued by state govt. or Central Government indicating the reserved categories to be considered as per the state rule (in English as applicable)
 • Number of seats year wise earmarked for the reserved categories
 • Admission extract submitted to the state OBC, SC and ST cell every year of the students (first year admission) with seal and signature of the principal.

 • **Approval of additional intake of students has to be submitted for the claim.** | • Include only those reserved categories as specified by State/central Government orders for admission (in English).
 • Considering the state specific and region specific reservations, the earmarked seats and admitted seats may be considered accordingly including the Special Backward Caste (SBC), Economically Weaker Section (EWS), and Economically Backward Caste (EBC) as per the applicable policy.
 • Only those seats filled against the reserved quota should be counted here.

 • Final admission list of students (first year admission) indicating their category published by the HEI and signed by the principal to be provided. | • Candidates belonging to the reserved categories who are admitted against General Merit category should be excluded.
 • Exclude admission to supernumerary seats also.
 • **Filled seats not to exceed the earmarked one. Any excess of admission made in reserved categories to be considered as General Merit.** |

| 7 | **2.4.1** *Percentage of full time teachers against sanctioned posts during the last five years* | • Sanction letters (in English) indicating number of posts (including Management sanctioned posts) by competent authority. | • Appointment letter of selected teachers may be asked during DVV clarification stage
• A teacher employed for teaching for at least 90 per cent of the normal or statutory number of hours of work for a full-time teacher over a complete academic year is classified as a full-time teacher.
• List of full time teachers as provided in 2.1 | • Mere appointment letters provided in regional language cannot be considered.
• Avoid inclusion of Part time/Visiting faculty.
• **Librarian, physical education director etc have to consider only if these faculty teach B.Lib. Sc., M.Lib. Sc., B.P.Ed., M.P.Ed., etc., programs.** |

8.	**2.4.2** *Percentage of full time teachers with NET/SET/SLET/ Ph. D. / D.M. / M.Ch. / D.N.B Superspeciality / D.Sc. / D.Litt. during the last five years (consider only highest degree for count)*	• List of faculty with highest degree should be provided as per academic session wise along with particulars of degree awarding university, subject and the year of award. • Doctorate Degree / Provisional Degree Certificate awarded by UGC recognized universities only to be considered.	• Mention number of full-time teachers with highest degree year-wise irrespective of the year of award. • Ph. D. / D.M. / M.Ch./D.N.B Superspeciality / D.Sc. / D.Litt. *and any other post doctoral degree* of selected faculty will be asked during DVV clarification stage.	• Honorary Doctorate Degrees not to be included /considered.
9.	**2.6.2** *Pass percentage of Students during last five years*	• Result sheet published by the affiliating university • Certified report from Head of the institution / Controller of Examination of the affiliating university indicating pass percentage of students of the final year (final semester) eligible for the degree program-wise / year-wise.	• Only final year student data will be considered for all the years of the assessment period. • **Only the students of Final semester data of appeared as well as passed are to be provided**.	• Results pertaining to students other than the final year are not to be submitted.

10.	3.1.1 *Grants received from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs)*	• List of grants for research projects received during the assessment years along with the nature of the award, and the awarding agency with amount. (sanctioned letter highlighting the required parts) • Links to the e-copies of the sanctioned letters	• Sanction letter of grants by the funding agency is mandatory to support the claim. • The duration of the grant period to be aligned with the assessment period. • **Research project grants should be reflected in audited statements / utilization certificates.** • **Only research grants are to be considered.**	• Grants given by their own trust / sister institutions not to be included • Grants in the form of Equipments / software / skill development centers will not be considered.
11.	3.2.2 *Number of workshops/seminars/ conferences including on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship conducted during the last five years*	• Brochure/Geo tagged Photograph with date and captions; title of the workshops / seminars conducted. • Link to the detailed report for each program as in the template.	• **All activities including *Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship* to be considered here.**	• Programmes conducted under the metric 1.2.1 not to be considered in this metric.
12.	3.3.1 *Number of research papers published per teacher in the Journals notified on UGC CARE list during the last five years*	• Link landing to the research paper • Link to the journal website. • URL of the content page in case print journal.	• **Publication of the authors with Institution affiliation will be considered for assessment years only.** • **Publication in the current UGC CARE with ISSN will only be considered** • **Calendar year publications to be considered. (Jan-Dec)**	• Incomplete entries will not be considered. • If details given are not complete with the links/ screenshot, the respective publication will not be considered.

| 13. | **3.3.2** *Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years* | • Cover page, content page and first page of the selected publication.

• Web-link of books. | • **Publications with ISBN number only would be considered**.

• The details of selected publications would be sought during the DVV clarification process, if the data is large.

• Book's publication year should be mentioned

• **Calendar year publication to be considered. (Jan-Dec)** | • Publication claimed under 3.3.1 not to be repeated / included in this metric.

• **Books without ISBN number title, author, Department/ School/ Division/ Centre/ Unit Cell, name and year of publication not be considered** |

| 14. | **3.4.3** *Number of extension and outreach programs conducted by the institution through NSS/NCC/Red cross/YRC etc., (including the programmes such as Swachh Bharat, AIDS awareness, Gender issues etc. and/or those organised in collaboration with industry, community and NGOs) during the last five years* | • Links / uploads of Photographs (preferably with banner) and any other supporting document of relevance should have proper captions and dates. | • Can be supplemented with media reports of the events.

• Link to the detailed report for each extension and outreach program | • **Events conducted for the benefit of their own students not to be included under outreach programs.**
• **Only extension activities for the benefit of community will be considered.**
• **Exclude National festivals, Days celebrations like Yoga day, Women's day etc.,** |

| 15. | 3.5.1 *The number of MoUs, collaborations/linkages for Faculty exchange, Student exchange, Internship, Field trip, On-the- job training, research and other academic activities during the last five years* | • Copies of MoUs/ collaboration/ related documents indicating the nature of collaboration and activities year-wise.

• List of activities conducted under each MoU along with dates of starting and completion year-wise signed by both parties | • The MoUs / Collaboration should be valid for the assessment period.

• The collaboration activities of research/ faculty exchange/ student exchange/ internship/ on–the-job training/ project work should be facilitated through the mentioned collaboration only.

• **The MoU should be functional during the assessment period**

• If the MoU is for three years viz 2011-2013, it shall be counted only once.

• **At least one activity should have been conducted under an MoU during the assessment period to qualify** as a functional MoU with institutions. | • Collaborations with the sister institutions under the same Trust not to be included.

• Certificates issued by external agencies to students/Faculty for research/Faculty exchange/Student exchange/ internship cannot be the proof for having collaboration with the external agency.

• MoU's with the sister institutions under the same Trust not to be included. |

| 16. | **4.1.2 *Percentage of expenditure, excluding salary for infrastructure augmentation during last five years (INR in Lakhs*** | • Provide the consolidated fund allocation towards infrastructure augmentation facilities duly certified by Principal and CA.
• Highlight the relevant items in the audited income and expenditure statement. | • This metric is supposed to be looked at with the perspective of **<u>infrastructure augmentation only</u>**
• In case of privately funded HEI the document should be certified by Chartered Accountant.
• Focus of this metric is on to acquiring new infrastructure.
• Audited Statement of income and expenditure should be in the name of applicant HEI only, but not in the name of the Trust / Society. **(Total sum of metrics of 4.1.2 and 4.4.1 should not exceed EP 3.1)**
• **Expenditure on construction of building/purchase of Lab. equipments/ academic equipments/ furniture & fixtures/vehicle to be considered during assessment period.** | • Avoid recurring expenditure on laboratory, maintenance of infrastructure and acquisition of books and journals under this metric. |
| | | | | |

17.	4.3.2 *Student – Computer ratio (Data for the latest completed academic year)*	• **Bills for the purchase of computers to be provided.** • **The stock entry of computers allotted for student use to be highlighted.**	• The data pertaining to the latest completed academic year to be considered. • Number of Computers available for student use only to be provided.	• The computers for office and faculty use will not be considered. • Computers purchased after the **latest** completed academic year not to be considered.
18	**4.4.1** *Percentage of expenditure incurred on maintenance of infrastructure (physical and academic support facilities) excluding salary component during the last five years(INR in Lakhs)*	• Provide audited income and expenditure statement highlighting the items of expenditure incurred on **maintenance** of physical facilities and academic support facilities, duly certified by Principal and CA.	• **Focus of this metric is only on the repair and maintenance of physical facilities and AMC for academic facility.** • Audited Statement of income and expenditure should be in the name of applicant HEI only, but not in the name of the Trust / Society.	• Mere statement of last five years data on the metric without audited statement will not be considered. • **Total sum of metrics of 4.1.2 and 4.4.1 should not exceed EP 3.1** • **Routine administrative expenses like electricity charges, telephone charges cannot be considered.**

19	**5.1.1** *Percentage of students benefited by scholarships and freeships provided by the Government and Non-Government agencies during last five years*	• Upload sanction letter of scholarship and freeships (in English). • Year-wise list of students in each scheme to be attested by the competent authority. • Upload policy document of the HEI for award of Non government scholarship and freeships	• For large data, the DVV will ask documents for randomly selected students in specific schemes.	• **The values should not exceed the total strength of students reflected in EP 1.1.**
20	*5.1.2 Capacity building and skills enhancement initiatives taken by the institution include the following* 1. *Soft skills* 2. *Language and communication skills* 3. *Life skills(Yoga, physical fitness, health and hygiene)* 4. *ICT/computing skills* **Options:** A. All of the above B. 3oftheabove C. 2oftheabove D. 1oftheabove E. None of the above	• Soft copy of Circular /Brochure. • Web-link to particular program/scheme/ Report of the event • Photographs with date and caption for each scheme or event.	• Consider all the students who have enrolled for the schemes • DVV can seek the documents regarding the attendance and certificates for the selected list of programs/students enrolled in the specified programs. • Facilities like language lab, smart classroom and other ICT facilities used for capacity building and skills enhancement initiatives may be considered. • List of programs conducted and the number of students enrolled for each of the events to be provided in the template • **The programmes should be conducted periodically during the assessment period.**	• Mere circulars and student list cannot be accepted. • Avoid program conducted as part of the curriculum.

| 21 | *5.1.3 Percentage of students benefitted by guidance for competitive examinations and career counseling offered by the Institution during the last five years* | • Soft copy of Circular / brochure / report of program with photographs with captions of such programs along with details of the resource persons.

• Year-wise list of students attending these schemes, signed by competent authority | • "Students benefited" refers to students registered / attending the said programs

• DVV can seek the documents regarding the attendance and certificates for the selected list of students enrolled. | **The values should not exceed the total strength of students reflected in EP 1.1.** |

| 22 | **5.1.4 *The Institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases***

 1. ***Implementation of guidelines of statutory / regulator bodies***
 2. ***Organisation wide awareness and undertakings on policies with zero tolerance***
 3. ***Mechanisms for submission of online/offline students' grievances***
 4. ***Timely redressal of the grievances through appropriate committees***

 Options:
 A. All of the above
 B. 3 of the above
 C. 2 of the above
 D. 1 of the above
 E. None of the above | • Proof of constitution of Internal committees / Grievances Committee formation / other committees as per UGC norms.

 • Circular/web-link/ committee report justifying the objective of the metric

 • Minutes of the meetings of student grievance committee, as per metric. | • Minutes of the meetings / Report of grievances from the concerned committee is essential.

 • The mechanism of redressal should be available as document and should be hosted in the HEI"s Website. The link of the same shall be provided to validate the same.

 • **Statutory regulations/norms of UGC/SRA to be provided**. | |

| 23 | **5.2.1** *Percentage of placement of outgoing students and students progressing to higher education during the last five years* | • List of students placed along with placement details as per template year wise.

• Links/documents relating to placement cell such as brochures, tie-ups etc., can be uploaded.

• Upload supporting data for students who have joined for higher education in prescribed format for the assessment period. | • The placements through HEI placement drive and through pool campus interviews / recruitment drives at other colleges can also be considered.
• If the data is large, DVV partner will ask for the appointment orders of the selected students.
• Multiple offers to the same students to be counted once.
• Proofs like, admission letters or identity cards or higher degree certificates for selected students progressing to higher education will be asked by DVV partner.
• **In 5.2.1.2 only passed students are to be considered from the data given in 2.6.3.1.** | • If same student has multiple offers it has to be counted only once.
• Appearing/passing competitive exams for higher education cannot be considered as progression to higher education unless students get admitted. |

24	**5.2.2** *Percentage of students qualifying in state/national/ international level examinations during the last five years (eg: JAM/CLAT/GATE/ GMAT/CAT/GRE/ TOEFL/ Civil Services/State government examinations)*	• List of qualified students year- wise under each category • Qualifying Certificates of the students **will only be considered**	• **DVV may ask for certificate of randomly selected students in case of large data.**	• **In absence of certificate, the claim will not be considered.** • Exams conducted for job recruitments other than the examinations conducted by State / Central Government not to be included / considered.

25.	**5.3.1** *Number of awards/medals for outstanding performance in sports/ cultural activities at University / state/ national / international level (award for a team event should be counted as one) during the last five years*	• e-copies of award letters and certificates to be uploaded.	• Only **University / state/** national or international achievements will be considered. • Participation in Republic Day Parade at Rajpath, New Delhi by NCC candidates may be considered. • Award for a team event should be counted as one.	• **Participation / appreciation certificates and awards from regional / local / institutional levels should be avoided.** • **Awards from intra or inter institutions will not be considered.** • **Exclude Inter-collegiate awards.**
26.	**5.3.2** *Average number of sports and cultural programs in which students of the Institution participated during last five years (organised by the institution/other institutions)*	• Soft copy of circular/brochure indicating such kind of activities. • List of events along with the list of participants and year wise signed by the Principal.	• All activities conducted under an event will be counted as one event. • For large data DVV will seek participation Certificates of Specified students. • Link to the reports of the events/along with photographs appropriately date and caption year- wise to be provided in template.	• **Events cannot be split into activities**. • The competitions organised by the institution without the participation of their own students will not be considered here. • **Multiple activities on the relatively closer dates to be considered as one only.**

27.	**6.2.2** *Implementation of e-governance in areas of operation*
	1. Administration
	2. Finance and Accounts
	3. Student Admission and Support
	4. Examination
	
	Options:
	   A. All of the above
	   A. 3 of the above
	   B. 2 of the above
	   C. 1 of the above
	   D. None of the above
		• Institutional expenditure statements for the heads of e- governance implementation reflected in the audited statement.
		• **Link to the ERP Document and Screen shots of user interfaces of each module reflecting the name of the HEI.**
		• Annual e-governance report approved by Governing Council.
		• Policy document on e- governance.
			• Bills for the expenditure on implementation of e-governance in the areas of operation.	

28.	**6.3.2** *Percentage of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies during the last five years*	• Link to the policy document • e-copy of letter/s indicating financial assistance to teachers • List of teachers receiving financial support year wise under each head signed by the principal. • Audited statement of account highlighting the financial support.	• If the data is large documents related to specific teachers will be asked during DVV clarification. • Receipts / vouchers of Institution infavour of teacher with amount given should be considered. • Policy document of the HEI as per metric requirement. • **Multiple financial supports provided to teacher in a year to be considered once only.**	• **Without proof of payment on financial support for faculty development, mere name-list of the faculty will not considered.** • Mere cash vouchers for payment will not be considered • **Value should not exceed the total strength of faculty reflected in EP 2.2**

| 29. | **6.3.3** *Percentage of teaching and non-teaching staff participating in Faculty development Programmes (FDP), professional development /administrative training programs during the last five years* | • Event Brochures and reports year-wise.
• e-copy of the certificates of the program attended by teaching and non-teaching staff.
• List of participating teaching and non-teaching staff as per the prescribed format year wise during the last five years.
• Annual reports highlighting the programs undertaken by the teaching faculties and non-teaching staff. | • If data is large, DVV will seek documents pertaining to selected participants.
• **Multiple participation of the faculty in the same academic year to be considered as one.**
• **In 6.3.3.2- Total number of non- teaching staff/ technical staff working / worked in the institution year-wise during last five years to be considered** | • Attending Seminars / invited talks cannot be included in this metric.
• **Less than 5 days FDPs are not to be considered.** |

| 30. | 6.5.3 *Quality assurance initiatives of the institution include:*

1. Regular meeting of Internal Quality Assurance Cell (IQAC); Feedback collected, analysed and used for improvements
2. ***Collaborative*** quality Initiatives ***with other institution(s)***
3. Participation in NIRF
4. ***Any other quality audit/accreditation recognized by state, national or international agencies such as NAAC, NBA, ISO Certification etc***

Options:
A. All of the above
B. 3 of the above
C. 2 of the above
D. 1 of the above
E. None of the above | • Proceedings of meetings of IQAC and action taken report on feedback analysis
• Supporting document links to be provided as per the options selected. | • Supporting documents Links pertaining to NIRF (along with link to the HEI's ranking in the NIRF portal). NAAC / ISO certificate / NBA certificate or quality certificate from any recognized state/national / international agencies for the assessment period.

• Activities - links as per the template to be provided. | Collaborative quality initiatives with sister institutions under the same management will not be considered. |

31.	*7.1.2 The Institution hasfacilities and initiatives for* 1. *Alternate sources of energy and energy conservation measures* 2. *Management of the various types of degradable and non-degradable waste* 3. *Water conservation* 4. *Green campus initiatives* 5. *Disabled-friendly, barrier free environment* **Options:** A. 4 or All of the above B. 3 of the above C. 2 of the above D. 1of the above E. None of the above	• Link to the policy documents of the institution • Geo tagged photographs and videos of the facilities with caption. • Bills for the purchase of equipments for the facilities created under this metric. • Photographs of Ramps / rails/lift/wheel Chair/signage board /Toilet/ software etc.	• Bills for purchase of equipments for creating the facility may be asked. • Any other relevant proof for the selected options. • Ramps / Railings /lift/wheel Chair/signage board/ Tactile path / Washrooms/ Braille software/ help desk for assistance, etc., should include specific requirement of Divyangjan for their use.	• Having diesel generator set as backup cannot be considered in this metric.

| 32. | **7.1.3 Quality audits on environment and energy regularly undertaken by the Institution.** *The institutional environment and energy initiatives are confirmed through the following*
     1. **Green audit / Environment audit**
     2. **Energy audit**
     3. **Clean and green campus initiatives**
     4. **Beyond the campus environmental promotion activities**
 Options:
 A. All of the above
 B. Any 3 of the above
 C. Any 2 of the above
 D. Any 1 of the above
  E. None of the above | • Policy document on environment and energy usage

 • Action taken reports and achievement report as clear and Green campus initiatives.

 • Reports of the Audits.

 • Certificate from the external accredited auditing agency (preferably government, concern department of affiliating university).

 • Geo tagged photographs with caption and date.

 • Any other supporting document for beyond the campus environmental promotions. | • Auditing from Government / Govt. recognized organizations, University departments, recognized / certified non-profit NGOs shall be considered. | • Internal Audit done by the same HEI are not to be considered. |

VIDYASAGAR UNIVERSITY

Kharagpur College

Study of Parrot (*Psittacula krameri manillensis* **)**

Submitted

by

Poulami Santra

Roll- 1122121   No- 220206

Registration No- VU221211015 of 2022-23

Under the guidance of

RAJKUMAR MANDI

Assistant professor

Depertment of Zoology

CONTENT

- **Introduction**

  Parrots, also known as psittacines are birds of the roughly 372 species in 86 genera that make up the order Psittaciformes, found in most tropical and subtropical regions. Characteristic features of parrots include a strong, curved bill, an upright stance, strong legs, and clawed zygodactyl feet. Many parrots are vividly colored, and some are multi-colored. Most parrots exhibit little or no sexual dimorphism. They form the most variably sized bird order in terms of length.

five homes before reaching their permanent destinations or before dying prematurely from unintentional or intentional neglect and abuse. The parrots' ability to mimic human words and their bright colours and beauty

prompt impulse buying from unsuspecting consumers. The domesticated budgerigar, a small parrot, is the most popular of all pet bird species.

- Conclusion

Parrots, with their vibrant colors, complex behaviors, and intelligence, are a testament to the wonders of avian biodiversity. As we continue to study them, we unravel more about their intriguing lives, reminding us of the

intricate connections between all living beings and the importance of conservation.

Parrots are a testament to the wonders of the natural world. Their striking physical traits, intelligence, and cultural significance make them fascinating subjects of study. However, the challenges they face due to human activity highlight the need for continued conservation efforts. Understanding and appreciating these remarkable birds can motivate us to ensure their survival for future generations.

- Reference

They are zygodactyl feet: two toes facing forward and two back.

Psittacine". Merriam-Webster Online Dictionary. Merriam-Webster, Inc. Retrieved 9 September 2007.

"Psittacine". American Heritage Dictionary of the English Language, Fourth Edition. Houghton Mifflin Company. 2000. Archived from the original on 27 August 2007. Retrieved 9 September 2007.

VIDYASAGAR UNIVERSITY

KHARAGPUR COLLEGE

: TOPIC NAME :

A Study of Aquatic Ecosystem at Laal Sagar; Situated at Midnapore Town

: SUBMITTED BY :

SANCHITA TUDU

PROGRAMME : B.A. SANSKRIT HONOURS

SEMESTER : 2ND

REGESTRATION NO : VU221210335

VU ROLL NO : 1112121-220470

COLLEGE ROLL NO : 2217030

INDEX

1. INTRODUCTION

A pond is a body of stable water. It is either natural or artificial and usually is smaller than a lake. They contain shallow water with aquatic plants and animals. A few animals also make their home in ponds. A pond ecosystem refers o fresh water ecosystem where there are communities of organism depends on each ther with the prevailing water environment for their nutrients and survival. Usually onds are shallow water bodies with a depth of 12 to 15 feet in which the Sunrise an penetrate to the bottom permitting the growth of the plants there. The pond ecosystem can reveal the health of a local area. They have specific life that show its overall health. Toxins or pollution can affect the pond ecosystem adversely. The importance of understanding the pond ecosystem involves the life forms and plant cultures that are part of the healthy environment.

The pond ecosystem begins with what lives the water. From the smallest microbes, single cell creature to the guppies, leeches and midges, only clean water can sustain life. The plants that convert oxygen for these creatures are very impotant The healthy pond ecosystem will have a balance of both plant and animals living with in its parameters. With human activity impacting on the pond environment, toxins can effect the quality of pond ecosystem. If toxins can affect the water plants can die. Without plants to add oxygen to the water, the creatures might perish. Without the smallest life forms in the foodchain, the ripple effect can lead to other species dying out or leaving the pond environment.

11. Conclusion

The major objective of this communication is to disseminate information on importance of ponds for their conservation and management planning, especially in Indian perspectives. The available studies show that the ponds in India are under threat due to increase pollution rates and encroachment. There is a need to formulate policy development plan and an endeavour to deliver the plan on the ground. Instead of treating ponds as individual sites, they should rather be treated as part of the pond network or pondscape (more important in terms of climate change problem). The urgently required is a Pond Water Framework Policy and the Indian Pond Conservation Network for the sustainable development and management of ponds. In Indian scenario the exact number of ponds and the volumes of water they store are unknown. Information is lacking on existing storage and large scale benefits the ponds provide. The basic scientific insights needed for planning and management of ponds is inadequate. There is a need to promote frontier research and development in these areas.. It is essential to do systematic analysis of ponds as alternative storage options in relation to their roles in poverty reduction, and adaptation to climate change in India. It is noteworthy that ponds provide practical water conservation solutions. From the above collected data it is evident that each and every mechanism of the pond are somehow interrelated with each other and they together form one or more ecosystem. The temperature of the upper layer of the pond is comparatively warmer than the lower layer. The producers of the pond ecosystem are grown on littoral zone. Though the consumer lives on the limnetic zone but they travel in the limnetic zone for their food. It may be mentioned that we have not observed any pollution on the water pond supplied. The quality of an aquatic ecosystem depends on its physicochemical qualities as well as biological diversityPonds in India are not taken as a priority habitat which makes them a vulnerable ecosystem. Habitat types or elements which carry a unique or important significance to a diverse array of species can be regarded as priority habitats. These habitat types contain a unique composition of flora, succession stage and/or structural factor.It is very hard to say whether ponds are considered in environmental impact assessments (EIAs) of projects, particularly building projects, or not. Ponds are functional ecosystems and provide sustainable solutions to many of our problems. These water bodies are, however, undergoing degeneration due to various factors including encroachments leading to their extinctions. Extinction rate of ponds due to urbanisation is more prominent. The demand of land in urban areas, which is increasing at a rapid rate, is fulfilled not only by expanding the peri-urban areas but also by encroaching breathing spaces in urban localities such as green lands and water bodies. The worst victims of these expansions are natural resources such as tanks and ponds in and around urban areas resulting in their disappearance from the map excerpts taken from the foreword comments by Deshpande in the literature of Thippaiah). The ponds should be the essential aspect of any landscape development EIAs. Small water bodies, in

Examination of Urban Waste Management Strategies

The project report submitted to VIDYASAGAR UNIVERSITY, in partial fulfilment of the requirement for the degree of Bachelor of Science CBCS 2023 for Semester-II

In

Environment Studies (ENVS)

(Course Code: ENVSAE)

By

Sayan Dey

University Roll-1122121   No.-220181

Regn. No.-VU221211065   Of 2022-2023

Under The Supervision

Of

Prof. Pankaj Patra

SACT

Department of Physics

Kharagpur College

Index

Introduction

Waste management problem in urban settings is a global phenomenon. Urban solid waste management is considered one of the most immediate and serious environmental problem confronting municipal authorities in developing countries like India. Poor sanitary conditions are often result to diseases transmission, atmospheric and water pollution, bad odour, and a liability to the public purse. Inadequate sanitation costs India almost $54 billion per year. This is 6.8% of the 2006 GDP of India (World Bank Report 2010). Collection of waste generated daily is very low in many cities in developing countries, of which India is not an exception. In the major cities of India, waste collection efficiency ranges from 50% to 90% of solid waste generated. Urban waste management problems have further exacerbated the already existing problems of poorly planned urban cities. Solid waste can block drainage channels in poorly planned cities in developing countries. According to the United Nations Environment Programme, the increasing volume and complexity of waste associated with the modern economy is posing a serious risk to the ecosystem and human health. Each year, an estimated 11.2 billion tonnes of solid waste is being generated. Of all the waste streams, waste from electrical and electronic equipment containing hazardous substances presents the fastest-growing waste challenge in developing countries. The impacts of seasonal changes in waste composition and practice are still in their infancy in developing countries. Thus, waste management is not only a problem but seemingly a major setback to economic growth in both developed and developing countries.

A rapidly growing population, urbanization, and changing consumption patterns are associated with an increase in the volume of waste. The world population as at 2023 is estimated to be 8 billion (United Nations Population Fund, 2023). Many countries have adopted waste management strategies which include: recycling, manufacturing of compost, compaction, anaerobic digestion,

etc. These have proven to be less than 100% efficient in dealing with the ever-increasing waste generation in recent times due to the increase in the volume of waste produce per day. The management strategies in the developed economies are quite efficient as compared to those in the less developed countries. In spite of waste management strategies such as recycling, composting, and other methods of waste management, waste management is still a major challenge in the 21st century in major urban areas. However, the situation is worse in the developing countries, of which India is not an exception. The rural-urban drive and the quest for industrialization in many developing countries in recent times have speeded up the amount of daily waste generation. Metallic waste dumped to blend in with the earth's crust again as ore will not happen because we are dumping faster than nature can degrade and absorb it. Waste management should consider both the short and long-term impacts on biodiversity and the overall ecosystem. Poor collection systems and management of waste to a very large extent has proven to be inefficient in many towns and cities in third world countries since they depend largely on burning of waste with its attendant problems, and the natural biodegradation of waste. Liquid waste management has also been a major challenge, as the pipes of liquid waste leak at times, thus polluting natural water bodies such as rivers, lakes, etc.

India, a country with the world's second largest population after China, has been confronted with waste problems for decades. Managing waste in the major cities like Kolkata, Mumbai, Delhi, Bangalore, Chennai, etc. is quite challenging and this call for concern for modern waste management techniques to be adopted to effectively manage waste in this large population cities. The next decades may witness India becoming the world most populous country. As such the government of India has to intensified more reliable and technical waste management strategies to combat waste problems in the country. The health implications associated with improper waste disposal and management are

3

Conclusion

This study used existing literature on waste management to classify the various types of waste generated in an urban setting. The study also identified some of various strategies and techniques employed across the globe to manage urban waste. In terms the types of waste generated in urban settings, the study underscored that the waste can be classified in terms of physical state (solid, liquid, and gas), biodegradability (bio-degradable and non-biodegradable waste), and classification base on the effect on human health (hazardous and non-hazardous waste). In terms of the various methods/techniques employed to manage urban waste across the globe, it revealed that landfilling, 3Rs (reduce, reuse, and recycle), incineration or combustion, composting, and bioremediation are some of the most widely used methods for managing urban waste.

VIDYASAGAR UNIVERSITY

KHARAGPUR COLLEGE

PROJECT ON ENVIRONMENTAL STUDIES

TOPIC:
How To Control Global Warming

SUBMITTED BY

NAME: SOUMYAJIT PATRA
SEMESTER: 2ND
ROLL NO.: 1122121-220153
REGN. NO.: VU221211094 of 2022-23

CONTENTS

INTRODUCTION :—

Global Warming is the phenomenon of a gradual increase in the temperature near the earth's surface. This phenomenon has been observed over the past one or two centuries. This change has disturbed the climatic pattern of the earth. However, the concept of global warming is quite controversial but the scientists have provided relevant data in support of the fact that the temperature of the earth is rising constantly.

There are several causes of global warming, which have a negative effect on humans, plants and animals. These causes may be natural or might be the outcome of human activities. In order to curb the issues, it is very important to understand the negative impacts of global warming.

Conclusion: The most common method for reducing global warming is developed and developing countries must work together. With the help of science, the toxic fumes of environmental pollution should be removed we have to build (sunder kurumita manohusa) a beautiful world – blue sky, dew smoke field green call to realize this dream, people have to be enthusiastic.

VIDYASAGAR UNIVERSITY

Environmental studies

KHARAGPUR COLLEGE

TOPIC NAME :

WATER (PREVANTION AND CONTROL OF POLLUTION) ACT

SUBMITTED BY

NAME: CHANDANI SAHA

ROLL- 1111121   **NO-** 220196

REGISTRATION NO – VU221210080

Under the supervision of

MR. Koushik Bhattacharya
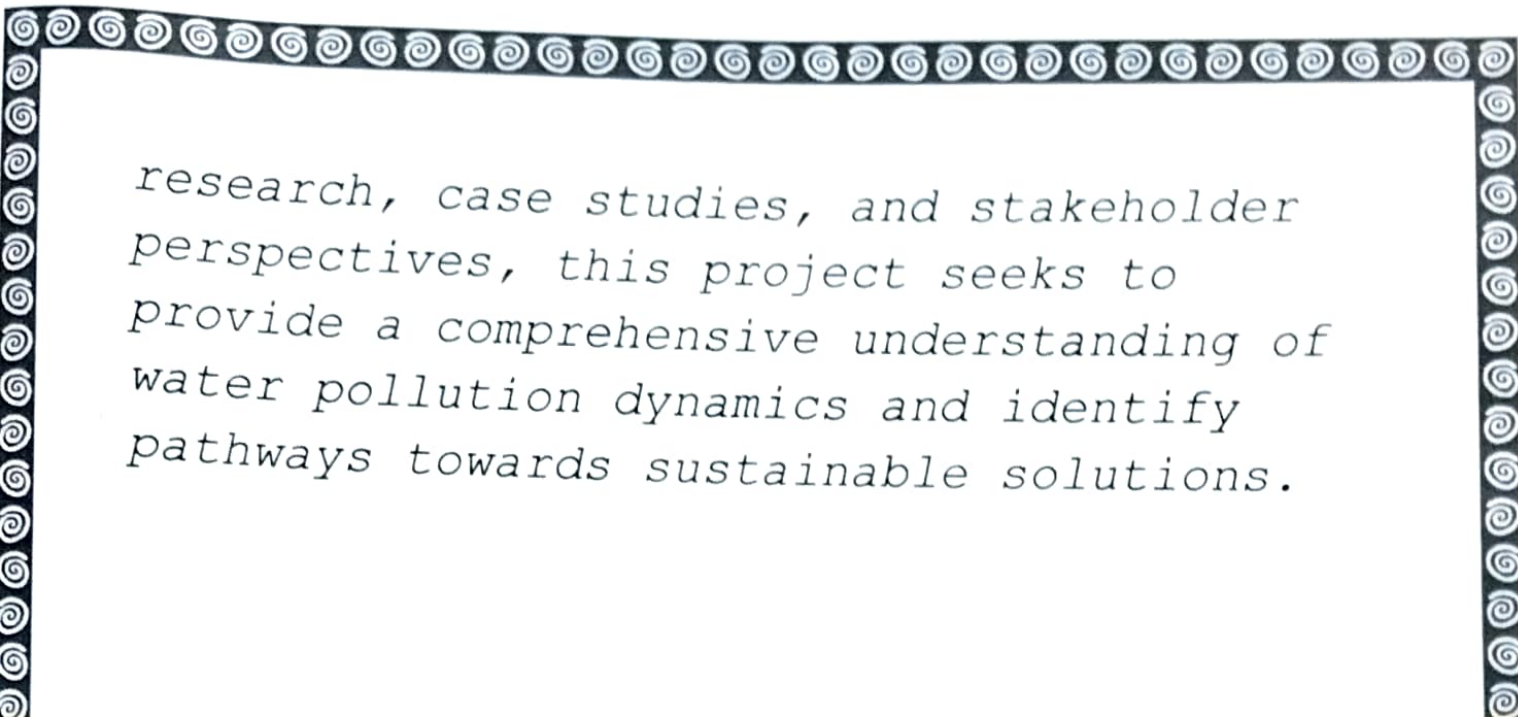
CONTENTS

INTRODUCTION

Water pollution is a pressing environmental issue with far-reaching consequences for ecosystems, biodiversity, and human well-being. Originating from diverse sources such as industrial activities, agricultural practices, urbanization, and improper waste disposal, pollutants contaminate water bodies, degrade water quality, and pose risks to aquatic life and public health. To address this multifaceted challenge, comprehensive strategies are required, encompassing regulatory frameworks, technological innovations, community engagement, and international cooperation.

This project delves into the complexities of water pollution and explores effective approaches to its control. Beginning with an overview of pollution sources and their impacts, it examines key control measures ranging from policy interventions and infrastructure investments to public awareness campaigns and sustainable practices. By synthesizing insights from scientific

research, case studies, and stakeholder perspectives, this project seeks to provide a comprehensive understanding of water pollution dynamics and identify pathways towards sustainable solutions.

CONCLUSION

In conclusion, addressing water pollution requires concerted efforts at local, national, and global levels. By implementing a combination of regulatory measures, technological innovations, community engagement strategies, and international cooperation initiatives, we can mitigate pollution risks, restore degraded ecosystems, and ensure access to clean and safe water for all. However, addressing emerging challenges such as the proliferation of emerging pollutants, the impacts of climate change, and the inequitable distribution of pollution burdens will require ongoing commitment, innovation, and collaboration across sectors and stakeholders. Through collective action and shared responsibility, we can build a more resilient and sustainable future where water resources are protected, valued, and managed in harmony with nature.

KHARAGPUR COLLAGE

Affiliated By-

VIDYASAGAR UNIVERSITY
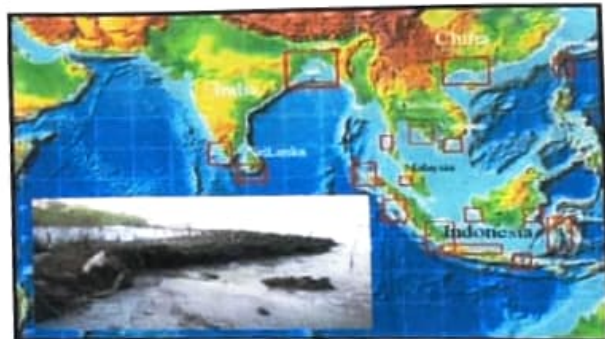
TOPIC - ENVIRONMENTAL IMPACT ASSESSMENT FOR POLLUTION CONTROL

(A Project Work toward the practical fulfillment of requirement for the award of the degree of Undergraduate)

Environmental Studies: (VAC)

B.Sc.(Geography Honors)

Semester: 1st

Submitted By: Nibedita Das

Roll: 2324030

Registration: VU 2512 10240

Year: 2023-2024

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INTRODUCTION

- Environmental Impact Assessment (EIA) is a process of evaluating the likelyenvironmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

- UNEP defines Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.

- Environment Impact Assessment in India is statutorily backed by the Environment Protection Act, 1986 which contains various provisions on EIA methodology and process.

CONCLUSION

- EIA is an important tool in assuring that projects and plans will not give adverseImpact on the environment.

- The use of EIA has developed throughout the world and may different applications exists.

- EIA process thus could not only prevent costs due to environmental aspects but also prevent possible public opinions and protest against a project.

VIDYASAGAR UNIVERSITY

KHARAGPUR COLLEGE

PROJECT ON ENVIRONMENTAL STUDIES

TOPIC: BIODIVERSITY LOSS

SUBMITTED BY: MITALI DHAL

DEPARTMENT: BOTANY

REG NO: VU221211002 OF 2022-2023

ROLL- 1122121-220007

SEMESTER : 2ND

PROJECT CONTENT

- Introduction
- Levels of diversity
  (i) Genetic diversity
  (ii) Species diversity
  (iii) Ecosystem diversity
- The causes of Biodiversity loss
- Conservations of Biodiversity
- Conclusion
- Reference

Introduction

Biodiversity loss refers to the decline in the variety abundance of life on Earth, encompassing the wide range of species, ecosystems and genetic diversity. The phenomenon is a result of various interconnected factors, primarily driven by human activities. The intricate web of life on our planet in facing unprecedented threats, leading to the extinction of numerous species and the degradation of ecosystem.

Key contributors to biodiversity loss include habitat destruction, pollution, climate change, overexploition of natural resources, and invasive species. Human expansion, industrialization and unsustainable agricultural practices often lead to the destruction and fragmentation of natural habitats, disrupting the balance of ecosystems and jeopardizing the survival of many species.

Biodiversity loss has far reaching consequence, affecting not only the natural world but also human societies. Ecosystems provide essential services such as pollination of crops, regulation of climate and the purification of water. The loss of biodiversity can compromise these services, leading to negative impacts in agriculture, human health and overall wellbeing.

Efforts to address biodiversity loss involve conservation initiatives, sustainable land management and international cooperation to mitigate the root causes of the problem. Conservation strategies focus on preserving critical habitats, implementing sustainable practices and raising awareness about the importance of biodiversity. Global cooperation is crucial to addressing the cross-border nature of biodiversity issues and ensuring a more sustainable future for the planet.

⊕ CONCLUSION :

for biodiversity loss is due to the primary cause of mankind on world's natural system. The people have profoundly modified the environment. Several factors discussed in the review such as pollution, hunting, invasive species, habitate loss, and degradation, over population, exploitation of natural resources etc. are the conductive factors for biodiversity loss. The phenomenon of biodiversity loss has severe negative impact on all the living organisms including human beings. It is our responsibility to save our planet and take some crucial steps to prevent the loss of biodiversity. This is highly significant if we wish to secure an inhabitable planet for next generation and for all the plants and animals.

VIDYASAGAR UNIVERSITY

KHARAGPUR COLLEGE

PROJECT ON ENVIRONMENTAL STUDIES

TOPIC: ROLE OF EX SITU CONSERVATION IN MAINTAIN BIODIVERSITY

SUBMITTED BY: BINA MAITY

DEPARTMENT: BSC. BIO GENERAL

REG NO: VU221211151 of 2022 - 2023

ROLL- 1222121   NO - 221018

SEMESTER : 2nd

PROJECT CONTENT

INTRODUCTION

According to the convention Biological Diversity bioderversity rebers the variability among living organisms animals plants and micnoorganism including inter alias, termestrial, mari a and other equaue ecosystem with their ecalogical complexes in another expression, bioder vesity encompasses the variety and variabiuity of all formsobübe on that play a great nale in human existesee. It also include the enieul value of biodiversity such as tradition afd traditional knowledge the ago incluele the in human genetidiversity rebeng the variation with spesic. diversity plant animal micnabs in the functional units of hereby species divensity rebere to the variety as a paint of referance in the biodiversity consenvation.

Finauy ecosyslem diversilf refers. to the variety of life borny in gives fernitony or area with au ecalagicau process

CONCLUSION

Although ex situ conservation is more encouraged to be used for biodiversity conservation, ex situ conservation is recommended as it complements though different technique like zoo, captive breeding aquarium, botanical garden and gene bank

VIDYASAGAR UNIVERSITY

KHARGAPUR COLLEGE

ENVIORNMENTAL STUDIES

TOPIC: MORPHOLOGY AND IMPORTANCE OF CUMIN

SUBMITTED BY: OYENDRILA KHASNOBIS

DEPARTMENT: BCA

REG NO: VU221211363 of 2022-23

ROLL NO: 411212122025

SEMESTER: 2ND

CONTENT

INTRODUCTION

Cumin (CUMINUM CYMINUM) is an annual plant that is not only one of the most popular speed species but also one of the oldest and most cultivated aromatic and herbaceous natural products with numerous medicinal, nutraceutical and pharmaceutical properties. An essential ingredient in many mixed spices, chutneys, curry. Powders, cumin a is especially popular in Asia, North Africa and Latin America Cuisines. The seed like fruits can be used whole or ground as a spice. Their distinctive aroma is heavy and strong, and their taste is warm and reminiscent of caraway. At one time cumin was widely used as a home medicinal and is still of local importance is traditional medicine in some places. The oil is used in perfumery for flavoring a Variety of liquors and for medicinal and veterinary purposes. The cumin plant is small, slender and herbaceous with finely dissected leaves. The flowers are born in characteristic flat-topped umbel clusters and are white or rose colored. The cumin or comio," seeds "are actually dry fruits known as schizocarps. Black cumin or fennel flower (Nigellasotiva), a similar Eurasian herb of the family Ranunculaceae, also is used as a seasoning.

CONCLUSION

The medicinal and health potential of cumin is mainly attributed to its antioxidant, antibacterial, antifungal, anti-inflammatory antidiabetic, insecticide and immunomodulatory properties. More studies are, however, required to unravel novel components and application of cumin. The overall evaluation of this study concludes that the cumin has a good antioxidant potential. The essential oil of spices showed appreciable amounts of antioxidant compounds having high antioxidant activity and its nonvolatile extracts also have good inhibition properties against the free radicals. Methanol extracts were found to have better antioxidant action than the hexane extracts. There is also a good correlation between the total phenolic content and antioxidant activities of the non-volatile extracts. So, this study concludes that cumin has good antioxidant potential and this species can be used to produce novel natural antioxidants as well as flavoring agents that can be used in various food products.