

KHARAGPUR COLLEGE

DEPARTMENT OF CHEMISTRY

Certificate Course on "Chemistry in Forensic Science (30 HRS)"


Date: 01.03.2022

This is to inform to all 2<sup>nd</sup> & 4<sup>th</sup> Semester Chemistry Honours students, a certificate course of duration of 30hrs will be conducted by Department of Chemistry from 7<sup>th</sup> March 2022 onwards on above mentioned topic. Interested students are requested to contact the course coordinators for enrollment. The detailed course schedule will be intimated in due course of time.

Course Fee: Rs. 100/-

Course Coordinators: Dr. Forid Saikh, Asst. Professor, Dept. of Chemistry

Smt. Kuheli Pramanik, Asst. Professor, Dept. of Chemistry

 01/03/2022

(Dr. Bidyut Samanta)

Principal

Kharagpur College

*Principal*

Kharagpur College

## SUMMARY REPORT OF THE CERTIFICATE COURSE

**Topic of the Certificate Course: Chemistry in Forensic Science**

**Organized by: Department of Chemistry, Kharagpur College.**

**Duration: 7<sup>th</sup> March, 2022 to 17<sup>th</sup> March, 2022 (duration: 30 hrs).**

**Participants:** Thirty six (37) students of B.Sc (Chemistry Honours), Kharagpur College.

**Nature of delivery:** Theoretical.

**Resource Persons:** Ten (10) resource persons were involved in the course.

**Co-ordinators:** : Dr. Forid Saikh, Asst. Professor, Dept. of Chemistry, Smt. Kuheli Pramanik, Asst. Professor, Dept. of Chemistry

**Areas covered:** This certificate course covered some fundamental topics related to forensic science. Analytical Chemistry, Instrumental Techniques and Evidence Analysis was the major part of the focused course. Besides there are some topics like ethics and law, DNA analysis and explosion investigation in point of view of Chemistry also covered.

**Course outcome:** The course has been especially meant to make the students aware of the huge openings of the subject and also the challenges to be faced therein. During the tenure of the course discussions on different topics like analytical chemistry, instrumental chemistry, biological sampling, DNA analysis and fire & explosion investigation was elaborated. Students can differentiate forensic Chemistry and general Chemistry from the certificate course. Students first time learned the application of Chemistry in Forensic Science.

*Forid Saikh*

(Dr. Forid Saikh)  
Assistant Professor, Department of  
Chemistry  
Kharagpur College  
Jt. Coordinator

*Kuheli Pramanik*

(Smt. Kuheli Pramanik)  
Associate Professor, Department of  
Chemistry  
Kharagpur College  
Jt. Coordinator

Certificate course on “**Chemistry in Forensic Science**” organized by the department of Chemistry, Kharagpur College from 7<sup>th</sup> March 2022 onwards

### Syllabus Distribution

Sl no.	Dates	Topics	Name of Teacher	Lecture hours
1	07.03.22	Introduction of forensic science	Dr. Forid Saikh	2
2		Principle of Analytical Chemistry-I	Sri Prasananna Duley	2
3	08.03.22	Ethics and Legal Aspects of Forensic Science	Dr. Gagan Ch. Mandal	3
4		Principle of forensic science	Sri Kalyan Sur	2
5	09.03.22	Principle of Analytical Chemistry-II	Smt. Laboni Giri	2
6	10.03.22	Techniques and Instrumentations-I	Sri Sanjoy Kumar Bera	3
7		Forensic Toxicology-I	Smt. Kuheli Pramanik	2
8	11.02.22	Forensic Toxicology-II	Smt. Kuheli Pramanik	2
9		Chemical Analysis of Evidence-I	Dr. Sumit Kr. Ray	2
10	14.03.22	Forensic DNA analysis	Dr. Subhra Mishra	3
11	15.03.22	Techniques and Instrumentations-II	Dr. Indranil Chakraborty	2
12	16.03.22	Chemical Analysis of Evidence-II	Dr. Forid Saikh	2
13	17.03.22	Fire and explosion Investigation	Dr. Sumit Kr. Ray	3

Course Coordinators: Dr. Forid Saikh, Asst. Professor, Dept. of Chemistry

Smt. Kuheli Pramanik, Asst. Professor, Dept. of Chemistry

Dr Bidyut Samanta

Principal

Kharagpur College

6/20/03/2022

Principal  
Kharagpur College

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### ATTENDANCE RECORD

SL	NAME OF THE STUDENTS	Sem	Dates									
			With Signature									
2	ARPITA BERA		07.03.22	08.03.22	09.03.22	10.03.22	11.03.22	14.03.22	15.03.22	16.03.22	17.03.22	
3	SURAJIT ADDHYA		4 S. Addhya	S. Addhya	S. Addhya	Ab	S. Addhya	S. Addhya	S. Addhya	S. Addhya	S. Addhya	
5	SASWATA MONDAL		4 S. Mondal	Ab	S. Mondal	S. Mondal	S. Mondal	S. Mondal	S. Mondal	S. Mondal	S. Mondal	
10	SATYAJIT NAYEK		2 S. Nayek	S. Nayek	S. Nayek	S. Nayek	S. Nayek	S. Nayek	S. Nayek	S. Nayek	S. Nayek	
12	PALLABI BERA		4 Pallabi	Pallabi	Pallabi	Pallabi	Ab	Ab	Pallabi	Pallabi	Ab	
13	KRISHNENDU MAITY		4 K. Maity	K. Maity	K. Maity	K. Maity	K. Maity	K. Maity	K. Maity	K. Maity	K. Maity	
14	JOYDIP PAL		4 Joydip	Joydip	Joydip	Joydip	Joydip	Joydip	Joydip	Joydip	Joydip	
15	PRASENJIT MAHATA		2 P. Mahata	P. Mahata	P. Mahata	P. Mahata	P. Mahata	P. Mahata	P. Mahata	P. Mahata	P. Mahata	
16	SURAJIT BISAL		2 S. Bisal	S. Bisal	AB	S. Bisal	S. Bisal	S. Bisal	S. Bisal	AB	S. Bisal	
17	SOMNATH SANTRA		2 S. Santra	S. Santra	S. Santra	S. Santra	AB	S. Santra	S. Santra	S. Santra	S. Santra	
19	ARPITA BERA		2 A. Bera	A. Bera	A. Bera	A. Bera	A. Bera	A. Bera	A. Bera	A. Bera	A. Bera	
20	SOUMYAJIT HAIT		4 S. Hait	S. Hait	S. Hait	S. Hait	S. Hait	S. Hait	S. Hait	S. Hait	S. Hait	
21	DEBANJAN PARI		2 D. Parri	D. Parri	D. Parri	D. Parri	D. Parri	D. Parri	D. Parri	D. Parri	D. Parri	
22	RITWIK SAHOO		2 Ritwik	Ritwik	Ritwik	Ritwik	Ritwik	Ritwik	Ritwik	Ritwik	Ritwik	
23	PRALAY KUMAR JANA		4 P.K. Jana	P.K. Jana	P.K. Jana	P.K. Jana	P.K. Jana	P.K. Jana	P.K. Jana	P.K. Jana	P.K. Jana	
24	SHREYA ROY		2 S. Roy	S. Roy	S. Roy	S. Roy	S. Roy	S. Roy	S. Roy	S. Roy	S. Roy	
25	SILPA SAHOO		2 Silpa	Silpa	Silpa	Silpa	Silpa	Silpa	Silpa	Silpa	Silpa	
26	SHANKHA SUBHRA		2 Shanka	Shanka	Shanka	Shanka	Shanka	Shanka	Shanka	Shanka	Shanka	



BHUNIA

27	SURAJIT MAITY									
28	DEBAPRIYA MAITY									
29	STHITI DAS									
30	DIPA PRADHAN									
31	ARPAN DUTTA									
32	SK SAHIL ALI									
33	AMIYA KUMAR GHORAI									
34	DEBRAJ GHOSAL									
35	RUDRA PRASAD SATPATI									
36	SUBRATA MAITI									
37	SUCHITA GHOSH									

2	Surajit Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity
2	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal
2	S. Das	S. Das	S. Das	S. Das	S. Das	S. Das	S. Das	S. Das	S. Das	S. Das
2	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan	Dipa Pradhan
2	Arpan Dutta	Arpan Dutta	Arpan Dutta	Arpan Dutta	Arpan Dutta	Arpan Dutta	Arpan Dutta	Arpan Dutta	Arpan Dutta	Arpan Dutta
2	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali	Sk Sahil Ali
2	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai	Amiya Kumar Ghorai
2	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal	Debraj Ghosal
2	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati	Rudra Prasad Satpati
2	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity	S. Maity
2	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh	Suchita Ghosh

**Question paper for final evaluation of  
Certificate Course on Chemistry: Chemistry in Forensic Science  
Department of Chemistry, Kharagpur College**

**F.M.: 30**

**Time: 1 hour**

**Date: 21.03.22**

**Answer any 10 questions (each question carries 03 marks)**

1. What is forensic chemistry?
2. How does forensic chemistry differ from general chemistry?
3. Explain the role of analytical chemistry in forensic science?
4. How is the principle of chromatography applied in forensic investigations?
5. How is IR spectroscopy used to identify substances in forensic cases?
6. Outline the steps to detect a toxic substance in a biological sample?
7. What are the main steps in the process of DNA profiling?
8. Explain how forensic chemists analyse paint samples from a crime scene?
9. What methods are used to identify hair and fiber evidence?
10. What chemical reactions are involved in combustion?
11. Describe the forensic techniques used to identify explosive residues?
12. What are the challenges in distinguishing between accidental and intentional fire?
13. Discuss the ethical responsibilities of forensic chemists when handling evidence?
14. How can forensic chemists ensure their findings are admissible in court?