



Miranda House

UNIVERSITY OF DELHI

Departmental Annual Report

Departmental Activities: Curriculum and Beyond

Rasayanika: The Chemical Society of Miranda House

Session 2024-25

[Date]



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Society: Rasayanika

Year: 2024-2025

Staff Advisors: Dr. Nutan Rani and Dr. Sujata Sengupta

Office Bearers:

President	Vice President	General Secretary	Treasurer
Hiteshi Gahlawat	Divyanshi Sharma	Rangat Rana	Karunya

The **Department of Chemistry, Miranda House** and its vibrant **Chemical Society *Rasayanika***, had a dynamic and enriching academic year in 2024–25. The department and the society actively organized a range of seminars and hands-on workshops aimed at fostering learning beyond the traditional classroom. The year's major initiatives included conducting the Bridge Course for first-year students, arranging inspiring lectures by distinguished speakers, international conferences including IUPAC_GWB. The Department was also successful in running an Ad-On Certificate Course in Forensic Sciences. These activities collectively contributed to creating a holistic and engaging academic environment for the students.

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DSKC Summer Internship

The annual flagship workshop, the **Summer Internship Programme on Investigative Projects in Multidisciplinary Contexts**, organized by DS Kothari Centre for Research and Innovation (DSKC), attracts students from all of DU's institutions as well as those from outside of Delhi. Over the course of six weeks, it aims to provide undergraduate students with the opportunity to conduct guided research in interdisciplinary settings. Under this program, the Chemistry Department offers a great chance to develop and implement innovations.

The inaugural ceremony on 13 June, 2024 featured an address by the chief guest Prof. R. K. Sharma, Dean (Research) of University of Delhi. Students formed groups based on their research interests in chemistry and collaborated throughout the duration of the workshop under the guidance of faculty mentors from the department. Some of the project themes explored included: Modified Biochar, Photocatalysis, and the Synthesis, Characterization, and Potential Applications of Metal Oxide Nanoparticles. These projects provided students with valuable hands-on research experience and strengthened their understanding of contemporary areas in chemical science. This year saw 46 students participating in the summer workshop.

Details:

S. No.	Name of the Student	Project Title	Name of the Mentors
1	Aarushi	Modified Biochar	Prof. Mallika Pathak and Prof. Malti Sharma

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2	Aashu Jangid	Photocatalysts	Dr. Deepti Rawat and Dr. Anshika Lumb
3	Devika	Photocatalysts	Dr. Deepti Rawat and Dr. Anshika Lumb
4	Deepshikha Singh	Modified Biochar	Prof. Mallika Pathak and Prof. Malti Sharma
5	Shinjinee Bhattacharyya	An approach to inhibit corrosion of mild steel by using green corrosion inhibitors	Dr. Taruna Singh and Dr. Anita Kumari
6	Vaani Danda	An approach to inhibit corrosion of mild steel by using green corrosion inhibitors	Dr. Taruna Singh and Dr. Anita Kumari
7	Prachi Gautam	An approach to inhibit corrosion of mild steel by using green corrosion inhibitors	Dr. Taruna Singh and Dr. Anita Kumari
8	Manisha Sharma	Role of Nanoparticles in Green Hydrogen Production	Prof. Mallika Pathak
9	Riya	Synthesis, characterization, and application of mixed metal oxide nanoparticles	Prof. Mallika Pathak, Prof. Malti Sharma, P Lishinai Paoteimai, Dr. Taruna Singh

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10	Molishree Mittal	Synthesis, characterization, and application of mixed metal oxide nanoparticles	Prof. Mallika Pathak, Prof. Malti Sharma, P Lishinai Paoteimai, Dr. Taruna Singh
11	Amitesh Mahato	Synthesis, characterization, and application of mixed metal oxide nanoparticles	Prof. Mallika Pathak, Prof. Malti Sharma, P Lishinai Paoteimai, Dr. Taruna Singh
12	Ritul Kumari	Synthesis, characterization, and application of mixed metal oxide nanoparticles	Prof. Mallika Pathak, Prof. Malti Sharma, P Lishinai Paoteimai, Dr. Taruna Singh
13	Khushi	Synthesis, characterization, and application of mixed metal oxide nanoparticles	Prof. Mallika Pathak, Prof. Malti Sharma, P Lishinai Paoteimai, Dr. Taruna Singh
14	Manya Yadav	Synthesis, characterization, and application of mixed metal oxide nanoparticles	Prof. Mallika Pathak, Prof. Malti Sharma, P Lishinai Paoteimai, Dr. Taruna Singh
15	Priyanka Mishra	Synthesis, characterization, and application of mixed metal oxide nanoparticles	Prof. Mallika Pathak, Prof. Malti Sharma, P Lishinai Paoteimai, Dr. Taruna Singh
16	Anila S	Role of Artificial Intelligence in Chemistry	P Lishinai Paoteimai, Dr. Swati Rani

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17	Laya V Thomas	Synthesis, Properties of Mxene and their application in sensor	P Lishinai Paoteimai, Dr. Swati Rani
18	Husna Jan U	Andrographolide loaded nanoformulations in drug delivery	P Lishinai Paoteimai, Dr. Swati Rani
19	Amala Abraham	Green Synthesis	Prof. Sharda Mahilkar Sonkar, Dr. Sujata Sengupta
20	Vrinda Sharma	In silico studies on exploring the potential of flavonoids as inhibitors in the treatment of Systemic Scleroderma	Ptof. Smriti Sharma Bhatia & Dr. Mamta Sethi
21	Anjitha P Satheesh	Green Synthesis	Prof. Sharda Mahilkar Sonkar, Dr. Sujata Sengupta
22	Padmakshi Majoka	Synthesis, Characterization, and potential application of metal oxide nanoparticles	Prof. Kalawati Saini, Dr.Nutan Rani, Dr. Swati Rani, Dr. Sapna Yadav
23	Komal Yadav	Synthesis, Characterization, and potential application of metal oxide nanoparticles	Prof. Kalawati Saini, Dr.Nutan Rani, Dr. Swati Rani, Dr. Sapna Yadav
24	Anshika Singhal	Synthesis, Characterization, and potential application of metal oxide nanoparticles	Prof. Kalawati Saini, Dr. Nutan Rani, Dr. Swati Rani, Dr. Sapna Yadav

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25	Nidhi	Synthesis, Characterization, and potential application of metal oxide nanoparticles	Prof. Kalawati Saini, Dr. Nutan Rani, Dr. Swati Rani, Dr. Sapna Yadav
26	Mansi Kushwaha	Synthesis, Characterization, and potential application of metal oxide nanoparticles	Prof. Kalawati Saini, Dr. Nutan Rani, Dr. Swati Rani, Dr. Sapna Yadav
27	Aayushi Sharma	Synthesis, Characterization, and potential application of metal oxide nanoparticles	Prof. Kalawati Saini, Dr. Nutan Rani, Dr. Swati Rani, Dr. Sapna Yadav
28	Nandana Narayanan	Green synthesis	Prof. Sharda Mahilkar Sonkar, Dr. Sujata Sengupta
29	Pooja	Green the qualitative analysis: spot test to detect amino acid	Prof. Sharda Mahilkar Sonkar, Dr. Sujata Sengupta
30	Monika	Green the qualitative analysis: spot test to detect amino acid	Prof. Sharda Mahilkar Sonkar, Dr. Sujata Sengupta
31	Shreya	Recycling of Paper Cups	Dr Anuushka Pal
32	Akhila N	Recycling of Paper Cups	Dr Anuushka Pal
33	Ashika K V	Recycling of Paper Cups	Dr Anuushka Pal
34	Monu Kumar	Synthesis of nanocellulose from waste	Dr Anuushka Pal, Dr Sujata Sengupta

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35	Hridik Dinesh	Synthesis of nanocellulose from waste	Dr Anuushka Pal, Dr Sujata Sengupta
36	Numa Rizvi	Photocatalysts	Dr. Deepti Rawat and Anshika Lumb
37	Shalini Mishra	Photocatalysts	Dr. Deepti Rawat and Anshika Lumb
38	Nandinii Biswal	Development of novel Quinazoline based derivatives and their application in antiviral activity.	Dr. Priyamvada Singh
39	Vaishnavi Shukla	Development of novel Quinazoline based derivatives and their application in antiviral activity.	Dr. Priyamvada Singh
40	Tinu Baliyan	Development of novel Quinazoline based derivatives and their application in antiviral activity.	Dr. Priyamvada Singh
41	Devesh Panchal	Development of novel Quinazoline based derivatives and their application in antiviral activity.	Dr. Priyamvada Singh
42	Anupam Jaglan	Synthesis of novel Quinolinone based derivatives for antimalarial drug discovery.	Dr. Priyamvada Singh

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43	Lucky Panwar	Synthesis of novel Quinolinone based derivatives for antimalarial drug discovery.	Dr. Priyamvada Singh
44	Aarti Nain	Synthesis of novel Quinolinone based derivatives for antimalarial drug discovery.	Dr. Priyamvada Singh
45	Vanshika	Synthesis of novel Quinolinone based derivatives for antimalarial drug discovery.	Dr. Priyamvada Singh
46	Nandini Verma	An approach to inhibit corrosion in mild steel in acidic medium	Dr Taruna Singh and Dr Anita Kumari

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DS KOTHARI CENTRE FOR RESEARCH AND INNOVATION
IN SCIENCE EDUCATION (DSKC)

Miranda House
University of Delhi

invites you at the inaugural ceremony of

Summer Internship Programme
on
**Investigative Projects in
Multidisciplinary Contexts**

June 13 – July 25, 2024

 Chief Guest Prof. R.K. Sharma <small>Dean (Research), University of Delhi</small>	 Patron Prof. Bijayalaxmi Nanda <small>Principal, Miranda House</small>	 DSKC Coordinator Prof. Monika Tomar <small>Miranda House</small>
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June 13, 2024 10:30 a.m.

Venue: Auditorium, Miranda House

All are cordially invited to attend

Nano Jatha

Nano Jatha 2024, jointly organized by the **Department of Chemistry, Miranda House**, University of Delhi, and the **Department of Chemistry, Indian Institute of Technology Delhi**, was held on July 5, 2024. The event was sponsored by the Karnataka Science and Technology Promotion Society, Government of Karnataka, and the Indian National Young Academy of Sciences (INYAS) under their flagship initiative, the **Rural Science and Education Training Utility Program (RuSETUP)**. Designed to inspire students and ignite interest in nanoscience and technology, the programme highlighted current advancements and disseminated key scientific insights in the field.

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The event began with an address by the Chief Guest, **Prof. Satish K. Awasthi**, Head of the Department of Chemistry, University of Delhi, followed by remarks from **Dr. Ritu Gupta**, Associate Professor, Indian Institute of Technology Delhi, and **Dr. Kalpana Nagpal**, Associate Professor, Amity University. The technical session opened with an invited lecture by **Prof. Sasanka Deka**, University of Delhi, on green hydrogen and diverse applications of nanomaterials. This was followed by a video presentation on the evolution of nanoscience and an invited talk by Dr. Ritu Gupta, IIT Delhi, which further explored recent developments in the field.

Exhibition on the theme – ‘**Nanotechnology for Sustainability: Climate, Energy and Healthcare**,’ with resource persons and contributors from **CeNS, IISc, IISER-Berhampur, IIT-Delhi, JNCASR and SASTRA**, was launched. The exhibition included several live demonstrations illustrating the topics of Faraday’s sol, Gilding, Piezoelectric pavement, Electricity from fruit juice, Humidity sensors, Graphene for electrical circuits, electrochemically active glass, Microfluidic smart window, and a sustainable sodium-ion battery. The **Nano Jatha Quiz** featured four teams, with Dr Anirban Das, Associate Professor of the Department of Chemistry, Biochemistry, and Forensic Sciences, Amity University, and his team assisting.

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Bharat Ratna Prof. C.N.R. Rao, FRS
Chief Mentor, Vision Group on Nanotechnology
National Research Professor,
Union Paying Research
Professor,
Honorary President, JNCASR

Nano Jatha

LECTURE SERIES, ROADSHOW AND EXHIBITION



At nanoscale, matter behaves differently, depending sensitively on the size and shape. The contribution of nanoscience and technology is in every conceivable field: Agriculture, Industries, Technology, Electronics, Communications, Healthcare, Space explorations, Energy, Material Sciences, and Environment, to name a few.

To showcase the current knowledge in nanoscience and technology, and to disseminate information about Bengaluru India Nano, Karnataka Science and Technology Promotion Society (KSTePS) is organising in different parts of the country nano jathas - special events comprising lectures by expert scientists in the field, video shows, interactive sessions with the audience and exhibition that has several live demonstrations illustrating the topic.

EXHIBITS INCLUDE

- Faraday's cell: Gold nanoparticles
- Gilding: galvanisation reaction between metals
- Piezoelectric pavement for futuristic applications
- Electricity from fruit juice
- Humidity sensor for real world applications
- Pencils to electrical circuits: Graphene holds the key
- Electrochromically active glass
- Microfluidic smart window
- Breaking lithium barriers: a sustainable sodium-ion battery

Innovative Applications



NANO SCIENCE & TECHNOLOGY

Nano Jathas
Bengaluru, Bikanpur, Calicut, Coimbatore, Delhi, Dharwad, Gandhinagar, Goa, Kolluru, Kollate, Mangal, Malabar, Tanjpur, Tirunelveli, Vijayawada, Visakhapatnam

Organized By
Department of Chemistry
Miranda House
University of Delhi
Delhi-110007
Date: 05 July 2024
Time: 9:00am - 5:00pm
Venue: Mini Auditorium, Miranda House

Resource Partners & Contributors:
ICNS-Bengaluru, ISC-Bengaluru, JNCASR-Bengaluru, IISER-Bikanpur, IIT-Delhi, SASTRA-Tanjpur



Figure 1 Winners of the Nano Quiz Competition

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Figure 2 Demonstrations and participants of Nano Jatha 2024

Orientation 2024

At the start of the 2024–25 academic session, the Department of Chemistry, Miranda House, warmly welcomed the incoming batch on August 29, 2024. The day began with an orientation in which students were introduced to the institution and the department. The core council of *Rasayanika*, the Chemical Society, presented an overview of the curriculum and highlighted key changes introduced under the NEP framework. This was followed by a guided tour of the college, including the campus, libraries, chemistry laboratories, and other facilities.

Students were familiarised with the academic environment and the opportunities available during their time in college. Faculty members introduced themselves along with their areas of specialisation, ensuring that students felt supported and well-prepared as they embarked on this new phase of their academic journey

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Figure 3 Orientation 2024

Teachers Day

On September 5th, the Department of Chemistry celebrated Teachers' Day with great enthusiasm, expressing heartfelt gratitude to those who make every day brighter and every lesson more meaningful. The event, organized by *Rasayanika*, the Chemical Society, brought together all faculty members and laboratory staff for a warm and memorable celebration. First-year students presented performances dedicated to their teachers, followed by a cake-cutting ceremony led by the Teacher-in-Charge. The council also prepared personalized cards for each faculty and lab staff member, adding a thoughtful touch to the occasion. The celebration was marked by affection, appreciation, and cherished moments for everyone involved.

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Figure 4 Glimpses of Teacher's Day 2024

Looking after Our Mental Health

To promote mental health, a workshop by Dr. Suman Behmani, Family Counsellor, Hisar district court, was conducted on 8th October, 2024. It aimed to discuss the psychology behind relationships, and to encourage tending to our mind, body and spirit for a successful and happy life.

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Departmental Inaugural Lecture: Art Meets Science

The Department of Chemistry, Miranda House, hosted its **Departmental Inaugural Lecture** on October 15, 2024 under the Inaugural Endowment Fund, instituted by former faculty member Dr. Bani Roy. **Prof. Rajesh Prasad** from the Department of Materials Science and Engineering, IIT Delhi, delivered an engaging talk titled “**Art Meets Science: Life and Work of M.C. Escher.**” The session captivated students as it explored the deep connections between artistic visualization and scientific representation—both essential tools for communicating complex ideas. On the same occasion, the department also released the annual issue of *Rasayani*, the departmental magazine, featuring a special theme on the wonders of **Nanochemistry**.

The poster is for the Departmental Inaugural Lecture. It features the logos of the Department of Chemistry, Miranda House, and the University of Delhi. The title is "Inaugural Lecture" and the speaker is Prof. Rajesh Prasad, Professor at IIT Delhi, Department of Materials Science and Engineering. The topic is "Art Meets Science: Life and Work of M.C. Escher". The date is 15th October, 2024, and the venue is Room Number 145, Time: 10:45 a.m. The poster also lists the Faculty Coordinators (Dr. Nutan Rani, Dr. Sujata Sengupta), Student Coordinators (Hiteshi Gahlawat, Divyanshi Sharma), Teacher in charge (Prof. Kalawati Saini), and Patron (Prof. Bijayalaxmi Nanda).

RASAYANIKA
DEPARTMENT OF CHEMISTRY
MIRANDA HOUSE
PRESENTS

Inaugural Lecture

Prof. Rajesh Prasad
Professor, IIT Delhi
Department of Materials science and Engineering

Topic
Art Meets Science: Life and Work of M.C. Escher

Date : 15th October, 2024
Venue : Room Number 145, Time: 10:45 a. m.

Faculty Coordinators
Dr. Nutan Rani
Dr. Sujata Sengupta

Student Coordinators
Hiteshi Gahlawat
Divyanshi Sharma

Teacher in charge
Prof. Kalawati Saini
Department of Chemistry
Miranda House

Patron
Prof. Bijayalaxmi Nanda
Principal
Miranda House



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Figure 5 Launch of Rasayani: The Department Magazine

Freshers Welcome 2024

Miranda House celebrated its Fresher's Welcome on October 24, 2024. *Rasayanika*, the Chemical Society of the Department of Chemistry, organized its departmental freshers' event under the theme "**ChemRosa – Pearls and Blush.**" Adorned in the theme colours of white and pink, the new batch expressed their individuality while embracing the spirit of the occasion. Entirely coordinated by the Rasayanika Council, the event featured a series of interactive activities designed to make the day memorable. Freshers were grouped into teams and participated in various competitions for the titles of *Ms. Fresher* and *Ms. Theme*, showcasing their creativity, wit, and talent. The festivities continued with a lively quiz, a dance segment, and a ramp walk, culminating in the crowning of the winners. Faculty members also joined in, adding to the warmth and joy of the celebration.

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Title	Winner
Ms. Theme	Tana Khompu
Ms. Freshers	Mehak Singh
1st Runner Up	Dhriti Anand
2nd Runner Up	Aneshya Dey



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Figure 6 Glimpses of Chem Rosa

Rasayanika Rebonding: ‘From Lab to Leadership: Alumnae Insights’

The Department of Chemistry, Miranda House, organized ***Rasayanika Rebonding***, a special event dedicated to reconnecting alumnae and celebrating their professional and personal journeys beyond college. Supported through a generous grant instituted by retired faculty member Dr. Amrita T. Shiekh, this initiative aims to strengthen the department’s alumni network and preserve the long-standing legacy of mentorship, community, and shared growth. The programme provided a meaningful platform for graduates to reflect on their experiences—from early days in the laboratory to the leadership roles they hold today—highlighting stories of perseverance, innovation, and success.

Held on November 12, 2024, the event began with an inspiring keynote lecture by **Mrs. Veena Goel**, Principal of Apeejay School, New Delhi, and a distinguished alumna from the **Chemistry batch of 1986**. Her address illustrated how a strong academic foundation, paired with resilience

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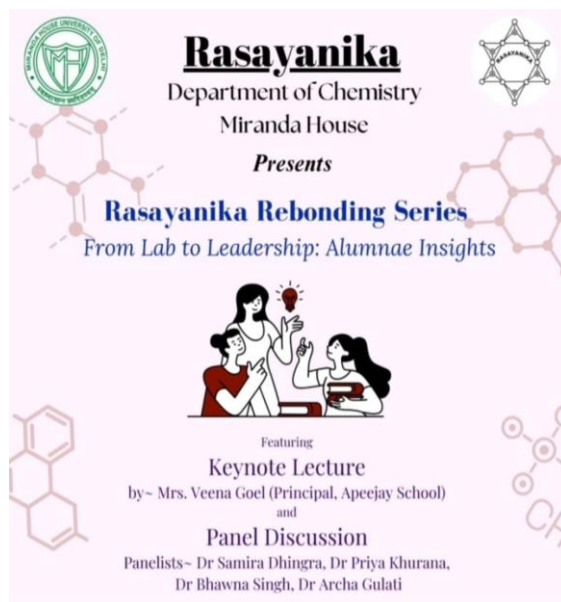
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and vision, can open doors to diverse career paths, motivating current students to imagine wider horizons.

This was followed by a dynamic panel discussion featuring prominent alumnae—**Dr. Samira Dhingra, Dr. Priya Khurana, Dr. Bhawna Singh, and Dr. Archa Gulati**—who shared insights from their varied professional journeys. Their experiences offered students valuable perspectives on the numerous opportunities available to Chemistry graduates and the ways in which they can carve meaningful roles across disciplines.

The event concluded on a warm and nostalgic note, as inspiring conversations evolved into lively interactions, rekindling old friendships and reaffirming the enduring bond of the Miranda House community.





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Organ Donation Sensitization Program

‘Organ donation is not a tragedy, but it can be a beautiful light in the midst of one.’ To spread awareness on organ donation and its procedures, an **organ donation sensitization program** was held by the Department of Chemistry on January 29, 2025. The event was graced by the presence of Dr. Bijayalaxmi Nanda, Principal, Miranda House and the chief guest **Shri Alok Kumar**, Senior Lawyer, Supreme Court and Patron, **Dadhichi Deh Daan Samiti**. **Prof. Rajni Abbi**, Chairperson, Miranda House and **Mr. Raqesh Mutreja**, Director of IRRAH. Shri Alok Kumar talked to the crowd about personal anecdotes, where he had personally witnessed organ donation giving patients a second chance at life. He talked about the work done at his Samiti, and how the need for organs is high. Dr. Nanda urged the attendees to think about the positive impact of signing up for donation. Prof. Abbi and Mr. Mutreja also shared their experience working with Mr. Kumar and their

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firsthand exposure to the Samiti's work. Competitions for poems and slogans were held to promote the cause of organ donation, and the winners were announced at the program.

In addition to the sensitization program, **representatives of 'Project Amrit'** gave a musical performance promoting their goal to clean river Yamuna, and their appeal for maximum student registrations for the same. The event was a success with a large amount of registrations for **Project Yamuna** and the entire audience being positively impacted towards organ donation. The event ended with Dr. Smriti Sharma Bhatia thanking all the speakers for educating the audience on their expertise




Department of Chemistry
Miranda House
in collaboration with
Dadhichi Deh Daan Samiti
organizes
Organ Donation Sensitization Program




Chief Guest
Shri Alok Kumar
Senior Lawyer, Supreme Court &
Patron, Dadhichi Deh Daan Samiti

Patrons






Prof. Rajni Abbi
Chairperson
Miranda House



Prof. Bijayalaxmi Nanda
Principal
Miranda House

Organizing Committee
Department of Chemistry, Miranda House

 January 29, 2025  11:00 am  Mini Auditorium,
Miranda House

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Figure 7 Glimpses of Organ Donation Sensitization Programme



Figure 8 Winner of Poetry Competition

[Date]



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Figure 9 Project Amrit

IUPAC GWB 2025: International Conference on Chemical, Biological and Environmental Sciences-2025 (ICCBES-IUPAC 2025)

Date of the event: 11-12 February 2025 (Two Day)

Grant Sanctioned: Rs 3,00,000 (DBT/CTEP/01/20241157353 (Dated 11-11-2025))

The Department of Chemistry, Miranda House, hosted the **International Conference on Chemical, Biological, and Environmental Sciences 2025 (ICCBES-IUPAC 2025)** in association with **IUPAC-GWB**. The conference provided an invaluable platform for researchers, academics, and professionals to engage in meaningful discussions, exchange knowledge, and explore collaborative opportunities. With a focus on critical issues in chemical, biological, and

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environmental sciences, the event aimed to foster innovation and interdisciplinary approaches to address global challenges. ICCBES-IUPAC 2025 showcased cutting-edge research, innovative solutions, and interdisciplinary approaches to addressing global challenges, ranging from environmental sustainability to advancements in biological sciences and chemical engineering.

Held in conjunction with the **IUPAC Global Women's Breakfast (GWB)**, celebrated annually on **February 11th** alongside the **United Nations Day of Women and Girls in Science**, ICCBES-IUPAC 2025 also recognized the remarkable contributions of women in science. GWB aimed to foster an active network of women chemists, empowering them to overcome barriers to gender equality and supporting career growth at all professional stages. The Department of Chemistry, Miranda House, University of Delhi, had been hosting the Global Women's Breakfast since 2019 and remains committed to advocating for greater equity in STEM. The **2025 GWB theme, "Accelerating Equity in Science," aligned with the vision of ICCBES-IUPAC 2025 by promoting an inclusive and collaborative scientific community.** Through this conference, these values were celebrated, reaffirming the department's dedication to supporting and elevating women in science. The event successfully brought together experts from diverse fields, facilitating discussions that contributed to shaping the future of scientific innovation and sustainability.

A **curtain raiser event** was held on the **24 January, 2025** with a talk by **Ms. Meaghan Blight, the 26th President of Wesleyan College**, titled **"Fastrack Your Leadership Journey"**. President Blight, in her address, laid stress on the need for increased participation of women in STEM, shared statistics of the poor ratio between women and men in higher education and how GWB provides a special platform for women chemists and students to come together and share their research and experiences. While acknowledging and celebrating the achievements of Miranda House in establishing a strong foundation for women's education, she emphasized the crucial role of women

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in leadership positions. She painted a compelling picture of the impact that women leaders can have across various fields and highlighted the essential qualities they should cultivate, such as resilience, confidence, and strategic thinking. Additionally, she shed light on the numerous challenges women in leadership roles often face, including societal biases, workplace disparities, and the delicate balance between professional and personal responsibilities. Through her insightful address, she underscored the need for continued efforts in fostering inclusive environments that empower women to take on leadership roles and drive meaningful change.

A second curtain raiser event was held on **10 February 2025**, featuring an interactive session between faculty members of **Miranda House** and academicians from **Universidad CEU San Pablo - Vice Chancellor Ricardo Palomo, Vice-Dean Manuel Molina, Business Development director and Directeur Entrepreneurship Maria Losana, and Gloria Aznar, Head of International Relations**. Ranked 6th among Spanish universities and listed among the top 500 universities worldwide in the 2021 Times Higher Education Ranking, the institution has a strong emphasis on academic excellence and interdisciplinary research. The session primarily aimed to foster **research collaborations** between the two institutions, focusing on areas of **mutual scientific interest**, including artificial intelligence, environmental sciences, and biomedical research. Discussions also explored the potential for **faculty and student exchange programs, joint research initiatives, and collaborative academic workshops**. Both institutions expressed a keen interest in developing **interdisciplinary programs**, to enhance knowledge exchange and encourage innovation in sustainable practices. This event marked a significant step toward strengthening **international academic partnerships**, providing faculty and students with expanded opportunities for **collaborative research, joint publications, and exposure to diverse scientific perspectives**.

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ICCBES-IUPAC-2025 began with the **inaugural address by Dr Sudhir Chandna, Scientist H and Director, INMAS, DRDO** and him being felicitated by Prof Bijayalaxmi Nanda, Principal, Miranda House. Dr Chandna, delivered his talk titled “**Natural Warriors (Organisms) with Commendable Levels of Radiation Tolerance – Lessons Learned from Scientific Studies**”, offering a unique perspective on how these natural mechanisms can inspire solutions in the field of radiation research. He then spoke in detail about the effect of radiation on human health and the contributions made by DRDO on upcoming technologies in radiation and biosafety.

The **keynote address** of the day was delivered by **Professor Avinash Chandra Pandey, the Director of the Inter University Accelerator Centre (IUAC)**, Delhi, India, formerly known as the Nuclear Science Centre. Dr Pandey’s talk, titled “Responding to Climate Change: Mitigation and Adaptation”. Prof. Pandey discussed the **urgent global challenge of climate change** and the need for both mitigation and adaptation strategies. They highlighted mitigation efforts such as **reducing greenhouse gas emissions** through sustainable practices, renewable energy adoption, and **carbon capture technologies**. Additionally, the speaker addressed adaptation measures, including strengthening infrastructure, promoting climate-resilient agriculture, and implementing policies to protect vulnerable communities. The talk emphasized the importance of integrating these approaches to build a sustainable and resilient future. Finally, Prof. Pandey concluded his talk by inviting students of Miranda House to visit **IUAC**.

The third lecture of the day was presented by **Dr. Anita Sharma, Manager at Biotech Consortium India Ltd, DBT, Government of India**. Dr Sharma addressed the audience by sharing information related to various financial assistance provided by DBT to students and faculty for carrying out research work and organizing conferences. She explained the procedure of availing DBT funds in detail and laid emphasis on the general mistakes made by scholars and suggested solutions to them. She provided the audience with a requisite checklist needed before and after applying for the funding. She also told about the basic guidelines on which a project work

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could be passed for funds, as in, it has to be a novel work, for students no single author will be considered, a twelve week advance application is a must, so on and so forth. She urged the audience to go through the BCIL website and get benefitted by the service the government is providing.

Post lunch, oral presentations by undergraduate, post graduate, research scholars and faculty were held in two parallel sessions. Prof. Md. Imtaiyaz Hassan, from Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia University and Dr Priyamvada Singh, Associate professor, Department of Chemistry, University of Delhi and Dr and Dr. Rekha, Assistant Professor, Miranda House presided over as judge to oral presentations by UG/PG students, while Dr. B.K. Singh, Professor, Department of Chemistry, University of Delhi and Dr Shalini Anand Scientist F at the Center for Fire Explosive and Environment Safety, Defense Research and Development Organization (DRDO). judged the presentation from Research Scholars/ Faculty Members. The comprehensive works presented by presenters were indeed a testimony to the amount of effort that had gone in studying, and curating their work.

Day 2 of the event began with an address from **Dr. Sujatha Sunil, Group Leader of the Vector Borne Diseases Group at the International Centre for Genetic Engineering and Biotechnology (ICGEB)**. Dr. Sunil delivered a thought-provoking session titled “Can we reverse Climate Change?” emphasizing the undeniable reality of **climate change** and its far-reaching consequences. She provided valuable insights into the science behind **climate change and global warming**, explaining how rising temperatures, erratic weather patterns, and environmental disruptions are not distant threats but present-day challenges affecting ecosystems, human health, and biodiversity. Building on this foundation, Dr. Sunil delved into her research, which focuses on **advanced strategies for controlling vector-borne diseases, particularly dengue and chikungunya**. She explained how climate change has **directly influenced the spread and**

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intensity of these diseases. Her expertise and thought-provoking insights gave the audience a deep understanding of the complexities surrounding climate change and its potential solutions.

The second address of the day was delivered by **Dr. Monika Jaggi, currently serving as Principal Scientist at CSIR–National Institute of Science Communication and Policy Research, New Delhi.** Dr. Jaggi delivered an insightful session titled “**Science Unplugged: Communicating with Impact**” highlighted the art of writing articles for general science journals, offering students a comprehensive understanding of effective scientific communication. Her clear and engaging presentation, enriched with practical examples, provided valuable guidance on various key aspects of scientific writing. She emphasized the importance of **choosing the right topic**, ensuring that it is relevant, original, and contributes meaningfully to the field. She also highlighted the significance of **clarity and precision in language**, stressing the need for proper **grammar, sentence structure, and coherence** to enhance readability. Furthermore, Dr. Jaggi discussed the careful use of **scientific jargon**, advising students to strike a balance between technical accuracy and accessibility to a broader audience. She also touched upon the importance of **logical organization, proper referencing, and adherence to journal-specific guidelines**, which play a crucial role in increasing the chances of publication. Through her well-structured talk, she provided students with a deeper insight into the nuances of scientific writing, equipping them with the tools necessary to communicate their research effectively and professionally.

The final address of the morning was presented by **Prof. Raj Mohan, distinguished Professor of Environmental Engineering at NITK Surathkal.** Prof Mohan spoke on the **Role of Women in Sustainable Development Technologies** – highlighting the vital **role of women in driving sustainable development technologies**, providing several examples of their contributions in fields such as renewable energy, waste management, and climate resilience. Prof. Mohan discussed how women-led initiatives, such as **solar energy projects** in rural communities and innovative

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Sustainable and Women-Led Food Enterprises, such as Bluepine Foods, have significantly improved environmental and social outcomes.

Post-lunch, the conference featured an **engaging and dynamic poster session**, showcasing the research work of UG/PG students and research scholars. The session provided a platform for young researchers to present their innovative projects across a diverse range of scientific disciplines. Students enthusiastically shared their findings on topics spanning **green chemistry, molecular modeling, nano chemistry, environmental science and other emerging fields**, highlighting their contributions to sustainable and cutting-edge scientific advancements. The session was judged by Dr Bani Roy and Dr Amrita Tripathi Sheikh - both superannuated faculty of the Department of Chemistry and Prof Anand Sonkar, Department of Botany, Hansraj College and Prof Saloni Bahri from the Department of Botany, Miranda House. The session facilitated **fruitful discussions between presenters, faculty members, and fellow attendees**, encouraging critical thinking, constructive feedback, and interdisciplinary collaboration. The enthusiasm and depth of understanding displayed by the students underscored the **importance of fostering research at the undergraduate level**, equipping them with essential analytical and problem-solving skills. The poster session was not just a showcase of research but also an opportunity for young minds to engage in meaningful scientific discourse and gain valuable insights for their future academic and professional pursuits. Finally, a valedictory Session, was held to felicitate the winners of the various competitions – oral presentations and digital poster designing.

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Pictures from the event:



Figure 10 Ms. M. Blight, President Wesleyan College, USA, delivers her talk at the Curtain Raiser Event.



Figure 11 Faculty Interaction between Miranda House and Universidad San Pablo



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Figure 12 Inaugural address by Dr Sudhir Chandna, Scientist H and Director, INMAS, DRDO

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Figure 13 Day 2: Lecture by Dr. Sujatha Sunil



Figure 14 Group Picture with Prof. Mohan



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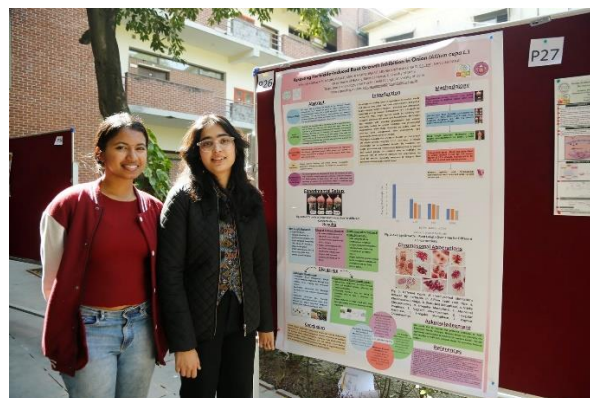
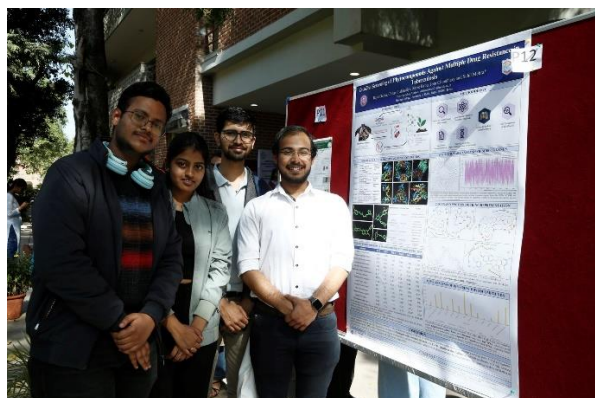


Figure 15 Day 2: Glimpses from Poster Presentation



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Figure 16 Day 1: Glimpses from Oral Presentation Session

[Date]



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Posters of ICCBES-IUPAC 2025

**D S Kothari Centre for Research and Innovation in Science Education
Miranda House
University of Delhi**



**International Conference on Chemical, Biological
and Environmental Sciences-2025**



**Organized by
Department of Chemistry
Miranda House, University of Delhi**

**Date: 11-12 February 2025
Time: 9.00 am to 4.00 pm**



Programme Details & Pre-registration
<https://www.mirandahouse.ac.in>



Dr. Sudhir Chandna
Director
INMAS, DRDO



Prof. Shishir Sinha
Director General
CIPET, Gol.



Dr. Sujatha Sunil
ICGEB, Delhi



Dr. Meghan Blight
President
Wesleyan College
USA



Prof. Sanjeev Kumar
UPES, Dehradun






Dr. Monika Jaggi
Principal Scientist
CSIR-NIScPR, Delhi

[Date]




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**INTERNATIONAL CONFERENCE ON CHEMICAL,
BIOLOGICAL AND ENVIRONMENTAL SCIENCES 2025
(ICCBES-2025)**
IN CONJUNCTION WITH
IUPAC GLOBAL WOMEN'S BREAKFAST
ORGANIZED BY
**DEPARTMENT OF CHEMISTRY
MIRANDA HOUSE, UNIVERSITY OF DELHI**




 **11 AND 12 FEBRUARY 2025**
 **MIRANDA HOUSE
UNIVERSITY OF DELHI**

**CURTAIN RAISER: 24 JANUARY 2025
& 10 FEBRUARY 2025**


 **Programme Details & Pre-registration**
<https://forms.gle/TLiITEMw7e6g5h6eA>

FOR MORE DETAILS VISIT [HTTPS://WWW.MIRANDAHOUSE.AC.IN](https://www.mirandahouse.ac.in)

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**LAST DATE OF REGISTRATION IS 5 FEBRUARY 2025
LAST DATE OF SUBMISSION OF ABSTRACTS IS 6 FEBRUARY 2025**

FOR QUERIES
DR SUJATA SENGUPTA: 8130720275
DR MAMTA SETHI: 9958482045

Link to Registration Form: <https://forms.gle/oxmSKDAjnNSpTxeg8>

[Date]



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AWARDS

POSTER PRESENTATION PRIZE WINNERS

UG/PG

First Prize:

- i. Bhumika Deb (P19)
- ii. Hridya (P6)
- iii. Ayushi Agarwal (P11)

Second Prize:

- i. Jesu Choudhary (P12)
- ii. Sushmita Bhatia (P27)

Third Prize: Aryan (P10)

RESEARCH SCHOLARS/FACULTY

First Prize: Aishwarya Anand (P30)

Second Prize: Rashika (P32)

ORAL PRESENTATION PRIZE WINNERS

UG/PG

First Prize: Pragati

Second Prize: Archisha Dhingra

Third Prize: Sreeja Dutta

RESEARCH SCHOLARS/FACULTY

1ST PRIZE: Prof. Saloni Bahri

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2ND PRIZE: Medhavi Vashisth

Third Prize: Kunika Saini

Pratikriya 2024-25

Rasayanika, the Chemical Society of Miranda House, organized its annual fest **Pratikriya** on April 8, 2025. The fest was designed to engage students through a vibrant blend of academic enrichment and creative competition, offering a platform for learning, exploration, and collaboration.

The event opened with an insightful keynote session by **Professor R. Nagarajan** from the University of Delhi. Speaking on the theme “*Why is Solid State Interesting?*”, Prof. Nagarajan highlighted the real-world applications of solid-state chemistry and shared perspectives from his ongoing research. Beyond the scientific aspects, he also emphasized the key skills students should develop to become well-prepared and thoughtful researchers. As part of the fest, the department organized three interactive competitions that drew enthusiastic participation from students across various colleges. These included **Sci-Quiz**, featuring general science trivia; **Prayog**, a hands-on laboratory competition for first-year students involving identification and execution of basic experimental tasks; and **Sci-Lens**, a photography contest themed “*Elements of Miranda House.*” Each event offered students an opportunity to showcase their knowledge, creativity, and scientific curiosity.

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Competition	Prize Winner
Prayog - the lab work competition	1st - Anyesha Dey (Miranda House) 2nd - Parnika Chandra (Miranda House) 3rd - Akshita (Miranda House)
Sci-Lens - the photography competition	1st - Varun Singh (Hansraj College) 2nd - Anushka Sahu (Miranda House)
Sci-Quiz	Nikita Joshi and Aditi Sharma (Miranda House)



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Figure 17 Glimpses of Pratikriya 2025

[Date]



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Farewell

As the academic session 2024–25 drew to a close, the Department of Chemistry bid farewell to the outgoing batch of 2022–25. The newly elected union of *Rasayanika*, the Chemical Society of Miranda House, organized the departmental farewell ceremony on 22nd April 2025, themed “**Equivalence Unveiled: The Endpoint of an Era.**” The event began with a warm welcome to the graduating students by anchors Arisha Baliyan and Krati Singh. The Teacher-in-Charge, **Prof. Nutan Rani**, addressed the batch, applauding their achievements and extending her best wishes for their future endeavors. The junior batches presented heartfelt performances—including dance, music, and poetry—that added to the celebratory atmosphere. Engaging games were also conducted for the seniors, and based on their participation, five students were honored with title sashes. Graduation hats were then presented to the outgoing batch as a symbolic gesture marking the conclusion of their journey at Miranda House. The ceremony was filled with joy, nostalgia, and deep emotion, leaving the graduating students with cherished memories and a profound sense of gratitude as they step forward into the next chapter of their lives.

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Title	Winners
Ms. Farewell	Anushka
Ms. Evening	Deepshika
Ms. Famous	Anshika Singhal
Ms. Cute	Kirti Kaushal
Ms. Juniors' Choice	Hiteshi Gehlawat

[Date]



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Add-on Certificate Course in Advance Forensics

Course Design:

- **20 Lectures of 90 mins each:**
 - Lectures from eminent forensic experts
- **20 Hands-on Session of 2 hours & 30 mins each:**
 - Hands-on practical sessions on fingerprint analysis and crime scene investigation techniques.
- **Field Visit:**

The field visit shall be made to **Forensic Laboratory / Crime Scene Investigation Unit**, where students will observe forensic experts in action. The visit will acquaint students with various techniques required for fingerprint analysis and crime scene investigation.

Course Fees: Rs.6000/-

Number of seats: 80

Eligibility: Students from any University pursuing Undergraduate/ Post-Graduate courses.

Course Completion Details

Organized by: Department of Chemistry, Miranda House, University of Delhi

Conveners: Dr. Anita Kumari and Dr. Taruna Singh

Number of Students Enrolled: 33 students

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Guest Faculty: Dr. Kanudeep Kaur

Guest Lecturers by:

- Dr. Deepak R. Handa, Head of Documents at the Central Forensic Science Laboratory, CBI, New Delhi
- Dr. G. S. Sodhi, Visiting fellow at the National Crime Records Bureau, Ministry of Home Affairs, New Delhi
- Dr. Anil Aggrawal, Professor of forensic medicine at Maulana Azad Medical College, New Delhi

The Department of Chemistry, Miranda House, offered an **add-on certificate course** titled “**Advanced Forensics: Fingerprinting and Crime Scene Investigation**” over a period of **10 weeks, from 8 September to 17 November, 2024**. The course was open to both undergraduate and postgraduate students from any university, attracting a diverse group of participants interested in exploring the interdisciplinary field of forensic science.

The programme combined theoretical instruction, hands-on practical sessions, and real-world case studies, enabling students to gain a comprehensive understanding of key forensic techniques and their applications. Through a curriculum featuring lectures by eminent forensic professionals alongside practical field work, participants received robust and holistic training.

The course opened with an **inaugural lecture by Dr. Deepak R. Handa**, former Principal Scientific Officer and Head of Documents at the Central Forensic Science Laboratory, CBI, New Delhi, who spoke on the “**Use of Forensics in White Collar Crime Investigation.**” His insightful

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talk shed light on the critical role forensic science plays in unraveling complex financial crimes and emphasized its importance in ensuring justice.

This was followed by an introductory session on the fundamentals of forensic science and fingerprint analysis delivered by Dr. Kanudeep Kaur. Dr. Kaur, an expert in fingerprints, crime scene investigation, evidence collection, signature forgery examination, and the estimation of stature from bone examination, has a wealth of experience. In the afternoon session, Dr. Kanudeep Kaur conducted an engaging lecture on the "Basics of Forensic Science and Introduction to Fingerprints."

Over the duration of the course, students engaged in a series of specialized lectures and interactive activities. **Dr. G. S. Sodhi** of the Ministry of Home Affairs led an insightful session on ten-digit fingerprint classification, index card preparation, and advanced latent fingerprint detection techniques, while **Dr. Anil Aggarwal** from Maulana Azad Medical College discussed the broad and evolving applications of forensic sciences. The learning experience was further enriched through a **field visit to the National Forensic Science University**, Delhi Campus, where participants gained valuable exposure to cutting-edge forensic tools, methodologies, and laboratory environments.

Lectures and Practical Conducted in the Course:

- I. 15 September 2024: Fingerprint Classification
- II. 22 September 2024: Crime Scene Management
- III. 29th September 2024: Lecture delivered by Dr. G. S. Sodhi on ten-digit fingerprint classification, the creation of index cards, and advanced techniques for detecting latent

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- fingerprints, including the phase transfer catalyst method, duct tape method, and nanoparticle method
- IV. 6 October 2024: Crime Scene Presentation by Dr. G. S. Sodhi
 - V. 13 October 2024: Chain of Custody by Dr. G. S. Sodhi
 - VI. 19 October 2024: Evidence Collection by Dr. G. S. Sodhi
 - VII. 20 October 2024: Lecture by Dr. Anil Aggrawal
 - VIII. 27 October 2024: Fingerprint Development Techniques by Dr. Anil Aggrawal
 - IX. 9 November 2024: Real Crime Presentations by Dr. Anil Aggrawal
 - X. 17 November 2024: Crime-Solving Presentations by Dr. Anil Aggrawal
 - XI. 22 December 2024 and 12th January 2025: Practical and Theory Exams



[Date]



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Figure 18 Glimpses of Add On Certificate Course

[Date]



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Figure 19 Field Trip

[Date]