



Miranda House

UNIVERSITY OF DELHI

Department of Physics Departmental Annual Report-3B 2023-2024

Departmental Activities: Curriculum and Beyond

Index

- Departmental Society, Vidyut and its Office Bearers
- Seminars/Conferences/Workshops conducted by the department
- Extension Activities Organized
- Other events organized as part of student's activities(not listed above)





Miranda House UNIVERSITY OF DELHI

Academic Year: 2023-2024

Departmental Society : **Vidyut**

Office Bearers:

- President-Mehak Rani
- Vice-President-LipiSingh
- General Secretary-Mahak Yadav
- Joint Secretary-Jainee Choubasia
- Treasurer-Kajal

Staff Advisors:

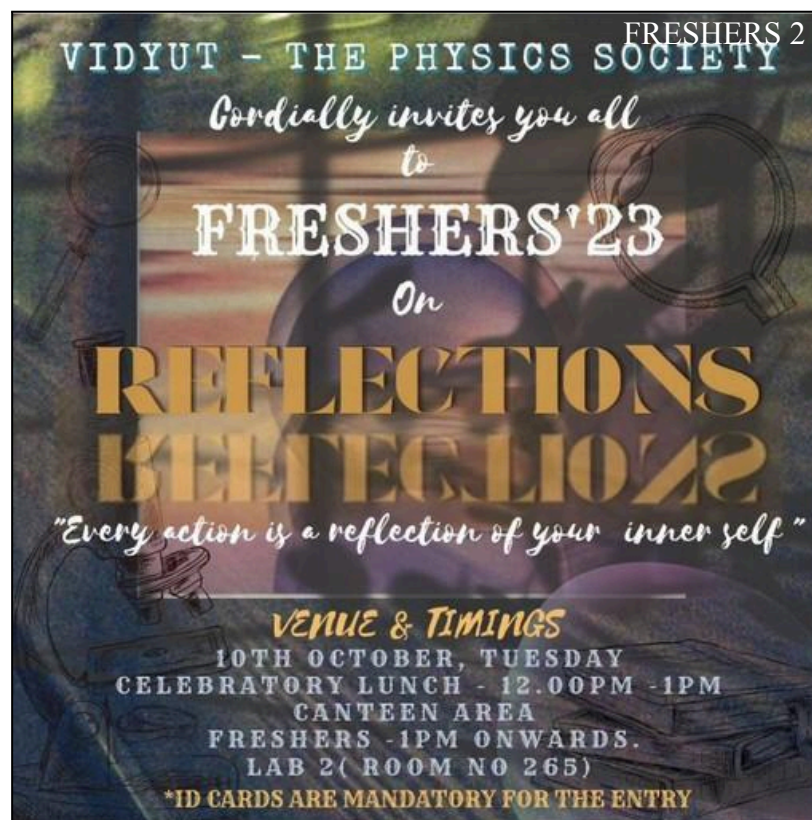
- Prof. Monika Tomar
- Dr. Bilasini Devi Naorem
- Dr. Nisha Rani
- Dr. Vineeta
- Dr. Richa Kundu
- Dr. Divakar Pathak

Teacher-in-charge: Dr. Abha Dev Habib



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On **October 10, 2023**, the Department of Physics hosted a freshmen social event for the 2023-26 batch. The faculty and student moderators of Vidyut, the Physics Society, oversaw the planning and ensured the smooth execution of the program. The celebration revolved around the theme of "**Reflection.**" The event commenced with a welcome address by Mehak Taneja and Lipi Singh, followed by various vibrant performances from the 2nd and 3rd-year students, including singing and dancing. Refreshments were served during the performances. The highlight of the event was the title competition. Overall, it was a lively and successful gathering



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The Department of Physics
is organizing a session with-

AMANJOT KAUR
3rd year student of Bsc.Physics(H) , Miranda House,
University of Delhi

where she will be talking about-

What is **Quarknet Project**
What is **Cosmic Ray muon Detector**

origin **properties** **components** **Visual representation**

Date: 17 October, 2023
Time: 2 pm onwards
Venue: 308-c

Vidyut, The Physics Society, Miranda House conducted an informative session on familiarization with "**COSMIC RAYS MUON DETECTOR**", where students got to know about the **Quarknet Project** and cosmic rays muon detector, it's origin, properties, components and much more .

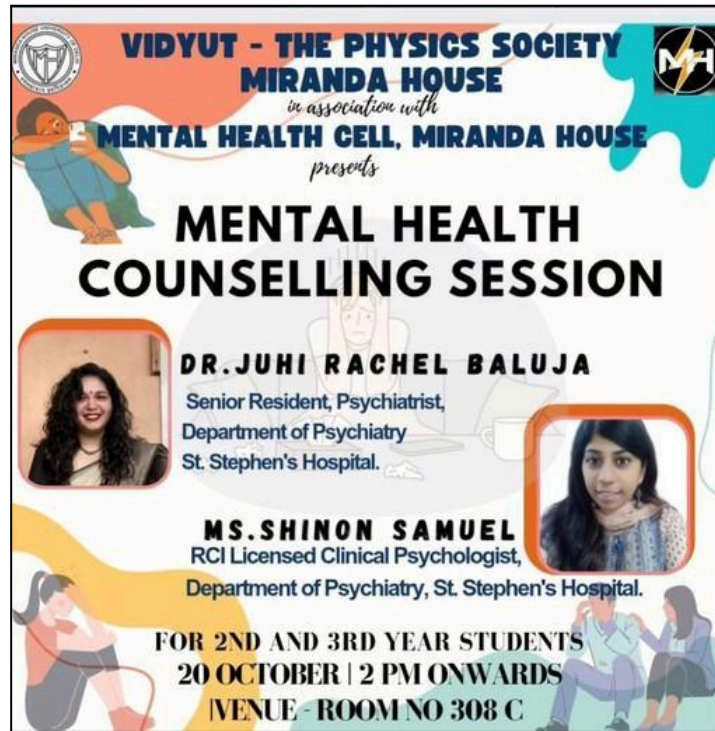
Ms. Amanjot Kaur, student, sem-V, B.Sc.(H) Physics, Miranda House explained in length about cosmic rays and their origin including its uses and detection processes. She also talked about the **QUARKNET** project which aims to detect Cosmic Ray Muons. The seminar was organized on **18th October 2023** at 2 pm in room no. 308 C.

No. of participants: 50



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Haso, Jiyo, Muskuraao, Kya Pata Kal Ho Naa Ho!

Vidyut -The Physics Society of Miranda House organized a session on “our Mind, Our Rights” on 20th of October, 2023, 2p.m. The first speaker was **Dr. Shinon Ashley** who started the discussion that mental health is a continuum which goes from healthy to ill by day-to-day actions. Students were made aware about good stress bio-psychosocial effects on mental health and healthy coping mechanisms.

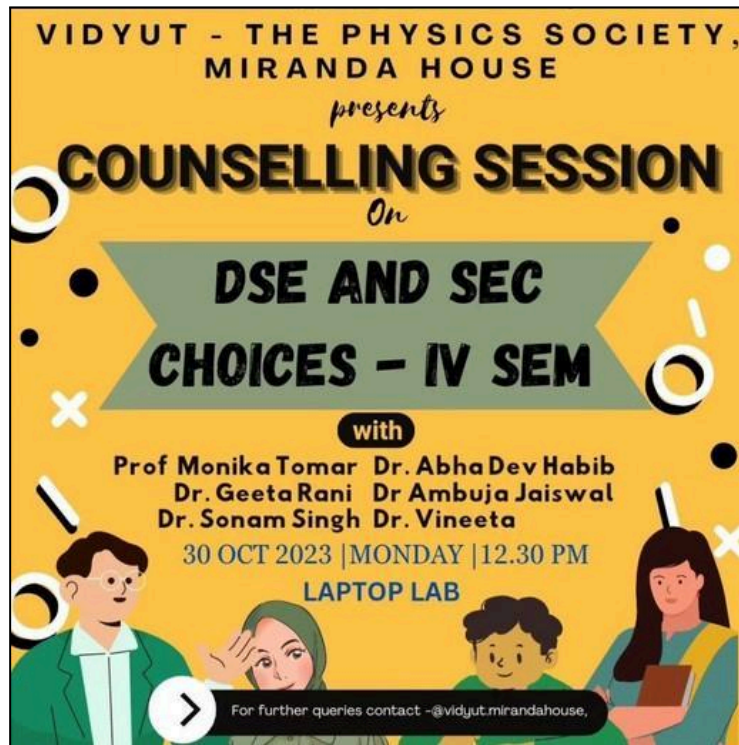
Our second speaker **Dr. Juhi** discussed various case studies, real life scenarios to help us recognise signs, warnings and cry for help. She highlighted the use of psychotherapy and the importance of seeking guidance from a professional. The session concluded with a question and answer round where students talked about personal conflicts and were counselled for the same. It was truly an enlightening session which helped everyone recognise the importance of a healthy mind.

No. of Participants: 55



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As we progress through our academic journey, it's essential to make informed choices regarding the DSE (Discipline Specific Elective) and SEC (Skill Enhancement Course) options for the upcoming semesters. To assist the 2 nd year students in this decision-making process, Vidyut - The Physics society of Miranda House organized a counselling session with following faculty members on 30 th Oct,2023 :

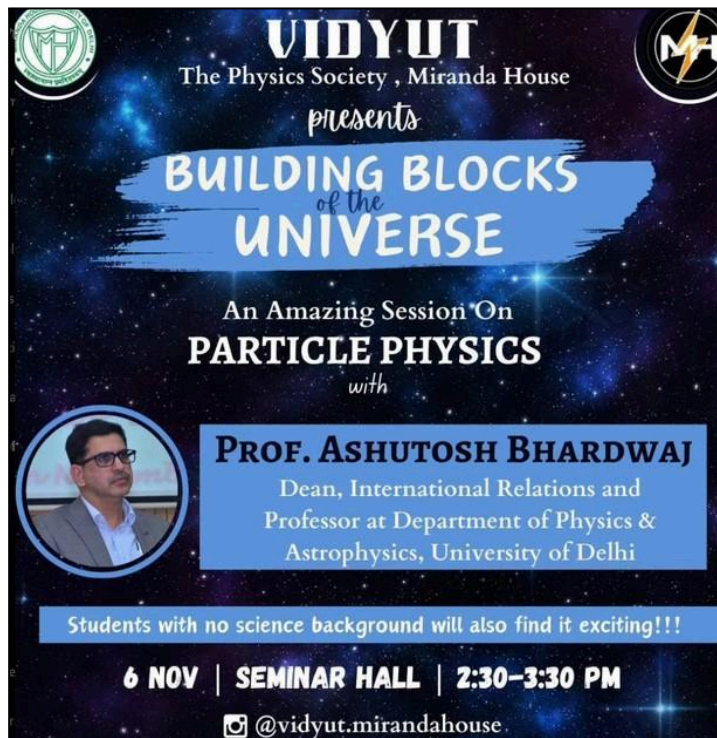
- Prof. Monika Tomar
- Dr. Abha Dev Habib
- Dr. Geeta Rani
- Dr. Ambuja Jaiswal
- Dr. Sonam Singh
- Dr. Vineeta

This session provided valuable insights and guidance to help them select the right courses that align with their academic and career goals. All 2 nd year students attended this session and made the most of this opportunity.



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Event Spotlight: "Exploring the World of Particle Physics"

On November 6, **Vidyut**, The Physics Society of Miranda House, hosted a captivating lecture titled "Exploring the World of Particle Physics" presented by the esteemed **Prof. Ashutosh Bharadwaj**, Professor at the Department of Physics and Astrophysics, University of Delhi. Held from 2 : 30 to 3 : 30 PM in the Seminar Hall of Miranda House, this event was open to all Mirandians and aimed to spark curiosity and deepen understanding in the fascinating field of particle physics.

The session provided a unique opportunity to delve into the intricate workings of the subatomic world, led by a distinguished expert in the field. Prof. Bharadwaj's lecture offered an intellectually stimulating and enriching experience, fostering a profound appreciation for the complexities of particle physics. This event was not only a platform for gaining insights but also an occasion that contributed significantly to broadening the scientific horizons of the students of Miranda House

No. of Participants: 75



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The poster is for a seminar titled "Physics of Accelerators and Detectors". It is presented by Vidyut, The Physics Society of Miranda House. The background is a colorful, abstract image of particle tracks. The text on the poster includes:

Vidyut : The Physics Society
Miranda House
presents
A SESSION ON
Physics of Accelerators and Detectors
with
Dr. Bhuban Kumar Sahu
SCIENTIST H
(Inter University Accelerator Centre)
will be speaking on "PARTICLES ACCELERATORS AND WHY DOES IT MATTER"
Dr. Akhil Jhingan
SCIENTIST G
(Inter University Accelerator Centre)
will be speaking on "DETECTORS IN NUCLEAR PHYSICS"
Wednesday | 8th Nov | 1 pm | Seminar Hall
vidyut.physics@mirandahouse.ac.in

Event Highlight: Seminar on " Physics of Accelerators and Detectors"

On November 8, **Vidyut** , The Physics Society of Miranda House, hosted an enlightening seminar on " **Physics of Accelerators and Detectors**" . Held in the Seminar Hall and attended by 70 enthusiastic students, the event featured distinguished speakers **Dr. Bhuban Kumar Sahu** and **Dr. Akhil Jhingan** .

The seminar began with a warm welcome from **Prof. Bijayalakshmi Nanda** , Principal of Miranda House. Dr. Sahu' s presentation on " Particle Accelerators and Why They Matter" and Dr. Jhingan' s lecture on " Detectors in Nuclear Physics" provided profound insights into the latest developments in particle physics. The discussions explored the intricacies of accelerators and detectors, their associated phenomena, and the notable scientists behind their advancements. This seminar offered a valuable opportunity for students and academics to interact with experts and gain fresh perspectives on cutting- edge research in particle physics.

No. of Participants: 80



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VIDYUT: The Physics Society
with
ROBSOC: The Robotics Society
Miranda House
INVITES YOU TO
**POSTER MAKING
COMPETITION**
ON THE OCCASION OF SCIENCE DAY

THEME : EXPLORING THE FRONTIERS OF PHYSICS AND ROBOTICS

REGISTRATION DEADLINE
24TH FEBRUARY 2024

DATE: 28TH FEBRUARY 2024
TIME: 10 AM
VENUE: DSKC LAB

WIN EXCITING REWARDS,
CASH PRIZES, CERTIFICATES

POSTER SIZE SHOULD NOT
EXCEED A3 RULINGS

VIDYUT
Mehak (President)
83072 66022

ROBSOC
Pragya (President)
88690 34534

NATIONAL SCIENCE DAY was celebrated with unmatched spirit with a series of events.

EVENT 1- The society of physics department, **Vidyut** and **Rob Soc**, the Robotics Society of Miranda House collaborated to celebrate the advancements and achievements of great Indian scientists and invited science enthusiasts from colleges pan Delhi to its **SCIENCE DAY CELEBRATORY EVENT on 28 February 2024** with immense dynamism and spirit.

Students were invited to participate in a **Poster Making Competition** and Unlock their imagination and delve into the realms of science. This event aimed to celebrate the marvels of science and ignite your creative sparks in a visually captivating manner.

No. of Participants: 15



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VIDYUT : THE PHYSICS SOCIETY
AND
ROBSOC : THE ROBOTICS SOCIETY
MIRANDA HOUSE
INVITES YOU TO

MODEL EXHIBITION
ON THE OCCASION OF SCIENCE DAY

SCAN THE QR CODE TO REGISTER

last date to register:
24th February 2024

CASH PRICES AND CERTIFICATES WILL BE PROVIDED

DATE : 28TH FEBRUARY 2024
TIME : 12:00 PM
VENUE : LAPTOP LAB,
MIRANDA HOUSE

VIDYUT-PHYSICS SOCIETY
MIRANDA HOUSE
MEHAK(PRESIDENT) -83072 66022
LIPI(VICE-PRESIDENT) -7078261747

ROBSOC-THE ROBOTICS SOCIETY
MIRANDA HOUSE
RAGYA(PRESIDENT)- 88690 34534
JYOTI(VICE PRESIDENT)-93063 11567

EVENT 2 - On the eve of **National Science Day**, the society of physics department, **Vidyut** and **Rob Soc**, the Robotics Society of Miranda House collaborated to celebrate the advancements and achievements of great Indian scientists and invited science enthusiasts from colleges pan Delhi to its **SCIENCE DAY CELEBRATORY EVENT on 28 February 2024** with immense dynamism and spirit.

Entries for MODEL EXHIBITION were invited where students showcased their flair in science research and innovation through their Projects and models.



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The poster is rectangular with a light beige background. At the top left is the 'MH' logo with a lightning bolt, and at the top right is a circular icon of a microchip. The text 'VIDYUT x ROBSOC' is centered at the top. Below it, 'Miranda House, Delhi University' is written. A line of text says 'PRESENTS AN ENLIGHTENING SESSION ON'. The main title 'Magnetoelectric Multiferroic Materials' is in a dark brown box. Below that, 'With Prof. Ratnamala Chatterjee' is written, followed by 'Professor at IIT DELHI'. A circular portrait of Prof. Chatterjee is on the left. At the bottom, event details are listed: '28 February, 2024', '12:15 pm onwards', and 'Laptop Lab, room no. 264'. The names of the organizers, 'Mehak (President-Vidyut)' and 'Pragya (President-RobSoc)', are at the very bottom.

EVENT 3

Excitingly continuing the series, On the eve of **National Science Day**, the society of physics department , **Vidyut** and **Rob Soc** , the Robotics Society of Miranda House collaborated to celebrate the advancements and achievements of great Indian scientists and invited science enthusiasts from colleges pan Delhi to it' s **SCIENCE DAY CELEBRATORY EVENT on 28 February 2024** with immense dynamism and spirit.

A scholarly speaker session commemorating Science Day was organized for an enlightening discussion on "**Magnetoelectric Multiferroic Materials**"

The session was graced by our esteemed speaker Ms Ratnamala Chaterjee , IIT Delhi delved into the fascinating realm of Magnetoelectric Multiferroic Materials, exploring their significance, applications, and the latest advancements in the field.

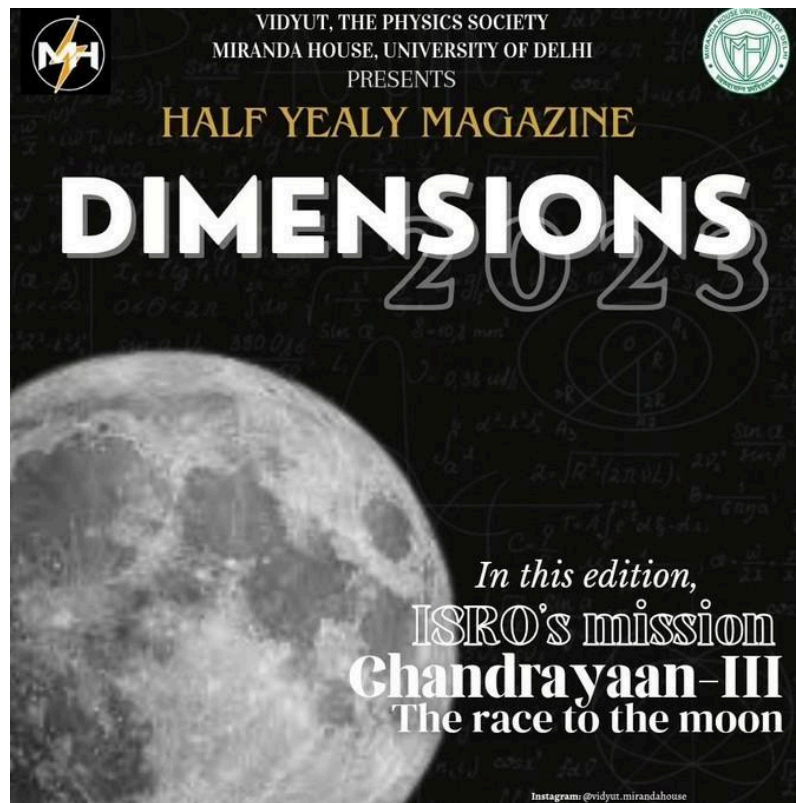
This hand on opportunity to expand our knowledge and engage with cutting- edge scientific research was truly exhilarating. The celebration of the spirit of discovery and innovation together on Science Day 2024 series is concluded here.

No. of Participants: 80



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Under the umbrella of events commemorating the day, we had
EVENT 4-

Launch of our magazine preceded by esteemed speaker Ratnamala Chatterjee Ma'am

Introducing "**Dimensions**" magazine: We were thrilled to unveil our latest issue, dedicated to the remarkable **Chandrayaan 3 mission**. Within these pages, we invited the readers to embark on a cosmic journey, exploring the depths of space and the pioneering efforts of India's space exploration. From the inception of the mission to its groundbreaking discoveries, we delved into the intricacies of Chandrayaan 3, shedding light on its scientific significance and technological advancements. Through captivating articles, stunning visuals, and insightful interviews, we aimed to inspire curiosity and ignite the imagination of our readers. Join us as we celebrate the spirit of exploration, pushing the boundaries of human knowledge and venturing into the vast expanse of the cosmos.



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VIDYUT
The Physics Society, Miranda House
presents

THE SEMICONDUCTOR MISSION IN INDIA

Online Inauguration session
by
Hon'ble PM Narendra Modi

Date : 13th March 2024
Time : 9:30 am Onwards
Venue : Mini Auditorium

9.30 - 10:30 : Miranda House initiatives on Semiconductors - Prof Monika Tomar, MH

10:30 - 11:30 : Inauguration by Honorable Prime Minister on Semiconductor Projects in India

11:30 - 12:30 : Expert Talk Startups on Semiconductors and Future Industry - Dr M.V.G. Padmavati, Associate Director ,SSPL , DRDO

12:30 - 1:00 pm : Quiz for Students

Certificates will also be provided to the participants

India Semiconductor Mission (ISM) is a specialized and independent Business Division within the Digital India Corporation that aims to build a vibrant semiconductor and display ecosystem to enable India's emergence as a global hub for electronics manufacturing and design.

Under the same with the Cabinet approval of 3 semiconductor units, we are further strengthening our transformative journey towards technological self-reliance. This will also ensure India emerges as a global hub in semiconductor manufacturing.

Vidyut, the physics society of Miranda house hosted a prestigious event on 13 March, 2024 where the **live inauguration of groundbreaking projects in the field of semiconductors by the Honorable Prime Minister** was screened. Before this, **Prof. Monika Tomar** of Miranda House talked about the initiatives by the college and department on semiconductors and shared enlightened the path. The third phase of this event was an **expert talk related to startups on Semiconductors and future industry by Dr. M.V.G. Padmavati, Associate Director, SSP, DRDO** which gave students the reality check of its significance globally.. The event concluded with a **quiz** for the participants. This event marks a significant milestone in technological advancement and offers a unique opportunity for you to witness history in the making.

No. of Participants: 120



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THE ANNUAL PHYSICS FEST: VOLT



Volt' 24, the annual fest of the Physics Department at Miranda House, was organized by **Vidyut**, the Physics Society, on April 9, 2024. This eagerly awaited event saw enthusiastic participation from all members of the department, including students, faculty, and laboratory staff. Everyone actively volunteered and worked closely with the Student Convenors and office bearers of the society throughout the month-long preparation process to ensure the fest's success.

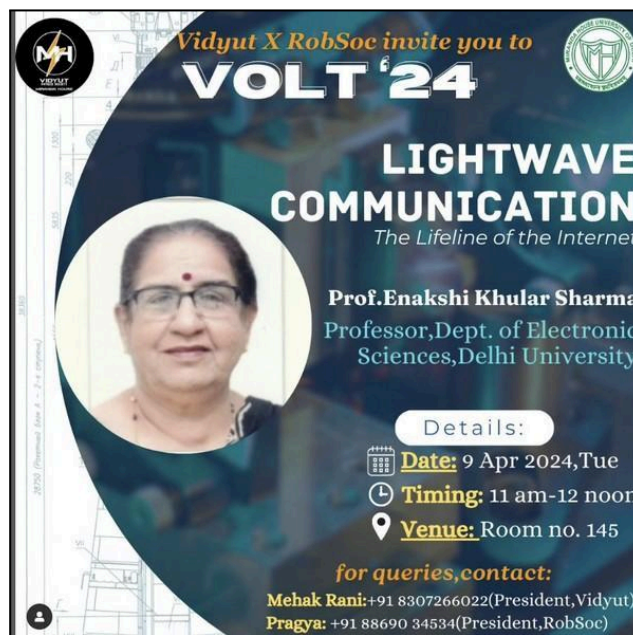
When the fest day finally arrived, the entire department was buzzing with excitement and ready to make the most of the occasion. The day was packed with a variety of events and activities, each meticulously planned and executed to provide a memorable experience for all attendees



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SEMINAR AND INTERACTIVE SESSION WITH PROF. ENAKSHI KHULAR SHARMA



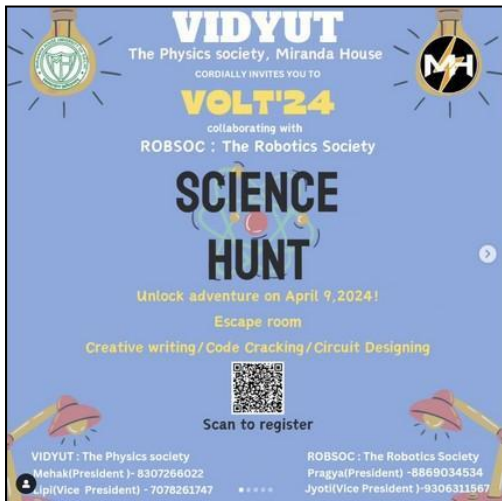
A seminar titled "**LIGHTWAVE COMMUNICATION: THE LIFELINE OF THE INTERNET**" was presented by **Prof. Enakshi Khular Sharma**, a distinguished professor in the **Department of Electronic Sciences at Delhi University**. The seminar was attended by Prof. Monika Tomar, along with other faculty members and students from the department. It was a highly interactive and demonstrative session, with both the speaker and attendees actively participating and showing great interest in the topic. Prof. Sharma's insights into lightwave communication captivated the audience, highlighting its critical role in the functioning of the internet.

No. of Participants:75



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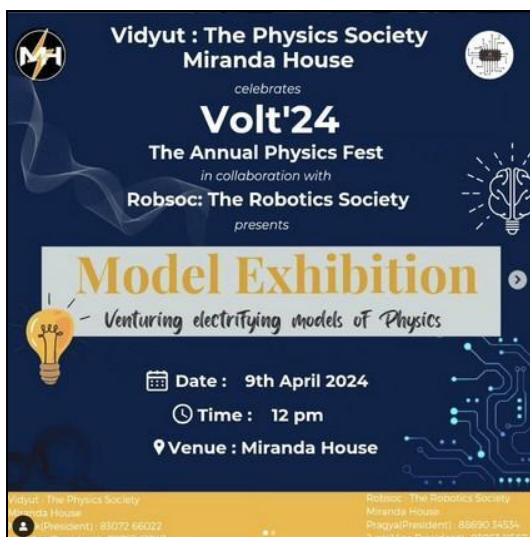
The annual fest of the Physics Department, "Volt," was held on April 9, 2024, in collaboration with the RobSoc society. A Science Hunt was part of this program, featuring activities such as an escape room, circuit designing, code cracking, and creative writing. Several students from other colleges also participated in it. The event was a great success, fostering a spirit of innovation and collaboration among all participants.

During the annual fest "Volt," organized by the Physics Department on April 9, 2024, in collaboration with the RobSoc society, a quiz competition focused on physics was also held.

The event was a great success, with tough competition among the participants. Despite the challenges, many participants thoroughly enjoyed the experience, making it a memorable part of the fest.



During the annual fest "Volt," organized by the Physics Department on April 9, 2024, in collaboration with the RobSoc society, a model exhibition was also conducted. Students presented various models showcasing their innovative and uprooting talents. The event was a great success, drawing interest and enthusiasm from participants and attendees alike.





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Luminescence 2024, the farewell event, took place on May 1, 2024, in Lab 2, with a delightful floral theme setting the mood for the celebration. The evening was filled with a variety of entertaining activities, including singing, dancing, and poetry recitations. A touching memory video dedicated to the seniors was also showcased, evoking nostalgia and fond memories. The event featured engaging games that brought laughter and joy to everyone. Seniors shared heartfelt messages, expressing their gratitude and reminiscing about their time together. The highlight of the event was the title round competition, which captivated everyone's attention. The farewell concluded with group photographs, capturing the bittersweet emotions of joy and the sadness of parting. The overall atmosphere was a mix of heartfelt emotions, with tears of joy and the sorrow of separation reflected in everyone's eyes.



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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

**Flavour of Research: Investigative
Projects in Multidisciplinary Contexts**

June 6 – July 17, 2023

Chief Guest



Prof. Rajender Singh
Professor IIT Delhi

Patron



Prof. Bijayalaxmi Nanda
Principal, Miranda House

Program Coordinator



Prof. Monika Tomar
DSKC Coordinator

June 06, 2023 11:00 a.m.

Venue: Auditorium, Miranda House, DU

All are cordially invited to attend



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On June 6, 2023 the orientation program for the **DS Kothari Centre for Research and Innovation** was held at the Miranda House auditorium, drawing an impressive gathering of over **365 students and educators from diverse disciplines such as physics, chemistry, computer science, geography, mathematics, zoology, and botany etc.** Participants included students from prestigious institutions like **Delhi University (DU) and (IISER)**. This internship initiative is designed to provide undergraduate students with a '**Flavour of Research**', fostering a scientific temperament through a blend of theoretical knowledge and practical experience.

The program commenced with an inspiring address by **Principal, Prof. Bijjalakshmi Nanda** , who motivated the attendees and extended a warm welcome to the guest speaker. **Dr. Malika Verma**, General Body Advisor, then recounted the historical journey and achievements of the DS Kothari Centre over its **remarkable 16-year tenure** . **Prof. Monika Tomar**, Coordinator, DSKC, elucidated the operational and statistical dimensions of the internship program. The distinguished **guest speaker, Prof. Rajender Singh, Professor, Indian Institute of Technology, Delhi** , delivered an insightful and meticulously curated lecture on multidisciplinary projects, encompassing various aspects such as energy storage and nanoparticles. The program concluded with a formal vote of thanks from **Dr. Rekha Kumari**, leading to the respective departmental orientations.




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DSKC SUMMER INTERNSHIP PROGRAMME

JOIN US FOR
Arduino
WORKSHOP



19th
June, 2024

10:15 am
onwards

DSKC LAB-1
(Room no. 254)

Students enrolled in any program in DSKC can attend the workshop.

For further details, contact :

Prof. Monika Tomar (DSKC Co-ordinator)	Dr. Malika Verma (General Body Advisor)	Mehak (8307266022) Lipi (7078261747)
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The students who participated in any of the **DSKC program** had a hands-on opportunity to learn working with **Arduino**. **VIDYUT** was exhilarated to be able to prepare for a well presided Arduino work-shop on 19 th June organized by **DS Kothari Center of Research and Innovation, Miranda House**.

This learning ambience in the campus of Miranda House welcomed all the Physics learners eager to grasp an insight of how things work in Robotics at a frontier stage.



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**Council of Scientific and Industrial Research (CSIR) –
Miranda House Students Connect Program**

Join us and unlock endless possibilities in the world of
science and technology.

Key Highlights

Connect
Learn about CSIR during interactive session
25 April 2024 (Thursday), Auditorium, Miranda House, 11.15 – 11.45 A.M.

Explore
More about CSIR at the CSIR Information Desk
25 April 2024 (Thursday), Mini Auditorium Annex, Miranda House, 11.00 A.M. – 3.30 P.M.

Council of Scientific and Industrial Research (CSIR) visited Miranda House on 25 April as part of the Miranda House Student Connect Program. G. Mahesh, Chief Scientist and Head of Science Communication and Dissemination (SCDD), as well as Head of the Director General's Executive Directorate at CSIR HQ, joined us to provide an in-depth description of the various programs. All students from science or related departments were cordially invited to attend this session to gain insights into these wonderful opportunities

In addition, students had the opportunity to learn about various internship opportunities offered by CSIR. They discovered that CSIR was opening up 33 labs for both long and short-term opportunities for undergraduate students..

No. of Participants: 160