

Department of Biotechnology

Proforma for submission of Annual Progress Report supported under Star College Scheme

(Kindly note that the annual report from Point 6 to 10, should not be more than 5 A4 size sheets, with font size 12pt and line spacing 1.5)

1. Name of the College : Atma Ram Sanatan Dharma College, University of Delhi
2. Name of Coordinator, designation Address, Phone nos. : Prof. Vinita Tuli, Department of Physics, Atma Ram Santan Dharma College, University of Delhi, New Delhi-110021
3. Assessment duration : 10/06/2024 to 10/06/2025 Duration in years : 01 year
4. Details of Departments Supported

SI No	Name of Department	Courses (B.Sc./M.Sc./PG Diploma, certificate etc) offered	Regular Faculty members	
			Total =	
			With Ph.D.	Without Ph.D.
1.	Chemistry	B.Sc. Physical Sciences and Honours	23	02
2.	Botany and Zoology	B.Sc. Physical Sciences	04	00
3.	Computer Science	B.Sc. Physical Sciences and Honours	05	09
4.	Electronics	B.Sc. Honours	05	03
5.	Mathematics	B.Sc. Physical Sciences and Honours and B.A (Program)	07	11
6.	Physics	B.Sc. Physical Sciences and Honours	22	04

5. Number & Date of Advisory committee meeting: **02 meetings were held on 18 June 2024 and 10 January 2025**
6. Qualitative improvements due to DBT support. Please highlight 5 salient points (within 500 words).

(You may enumerate 5 minor projects where students were involved and their impact or similar activities and their outcome; this is for representative purpose and coordinator may include details as per his own choice; kindly refrain from providing philosophical data Avoid any introduction. All the justifications must be very crisp like any aspect non-existent pre-STAR Scheme and you achieved after the grant).

Boost in Undergraduate Research and Interdisciplinary Collaboration: Across all departments—Mathematics, Physics, Chemistry, Computer Science, Electronics, Botany, and Zoology—there has been a marked increase in undergraduate participation in research projects. These include interdisciplinary themes such as bioinformatics, green synthesis, AI-based diagnostics, and real-time sensor development. Initiatives like in-house student research groups and cross-departmental collaboration fostered a research-oriented culture.

Infrastructure Upgradation and Hands-On Exposure: The procurement of modern equipment—such as PCR machines, AD8232 ECG sensors, ESP32 boards, deep learning systems, and nanomaterial synthesis kits—has enabled innovative practical work that was previously not possible. New computer labs and advanced instruments allowed students to bridge theoretical knowledge with hands-on experimentation.

Outreach Programs and Educational Visits: DBT funding supported field visits to institutions like the Indian Meteorological Department and public schools. Outreach programs involved training school students (e.g., VVM

participants) in scientific computation, basic biotechnology, and lab demonstrations. These programs helped extend science learning beyond the college walls.

Workshops, Seminars, and Training for Non-Teaching Staff: Multiple seminars, faculty development programs, and training workshops were conducted, benefitting both students and non-teaching staff. Non-teaching personnel received skill-oriented training, improving lab management and technical efficiency.

Research Dissemination and Career Progression: With better access to resources, students participated in national/international conferences and began publishing papers. This not only boosted academic credentials but also inspired many to pursue postgraduate studies and careers in research, aligning with the STAR Scheme's long-term goals.

Department of Mathematics In-House Project Proposal under Star College Scheme 2024-25

Sr. No	Project Code	Project Title	Investigators	Students
1	STARDBTM A01	Analysing Stock Prices to Construct a Profitable Portfolio	Mr. Raj Kumar Bhagat Mr. Anant Tiwari	1. Amrit Kaushik Bora 2. Garima Singh 3. Hari Om 4. Harshil Verma 5. Mohit 6. Vasu Gupta 7. Kanishka Negi 8. Poorvi Aggrawal All the students are from B.Sc. (H) Maths
2	STARDBTM A02	Application of Differential Equations in Climate Modelling	Mr. Chhatra Pal	1. Nihaal Kaur, Sc. (H) Maths, 2. Rohini Kumari B.Sc. (H) Maths, 3. Harshita Singh B.Sc. (H) Maths 4. Chaitany Jain B.Sc. (H) Maths
3	STARDBTM A03	A Study of Mathematical Modeling in Epidemics	Mr. Anil Kumar Rajak Mr. Kapil Kumar	1. Dhawal, Sc. (H) Maths, 2. Shreyansh Palival, B.Sc. (H) Maths, 3. Sreelakshmi S Prasanth .Sc. (H) Maths,
4	STARDBTM A04	Linear Programming in Real-Life Problems	Dr. Priyanka Yadav	1. Anurag Mukherjee, .Sc. (H) Maths, 2. Shubhra Ranjan Patra, Sc. (H) Maths 3. Tarun Sharma, B.Sc. (H) Maths, 4. Aditya Singh, B.Sc. (H) Maths,

5	STARDBTM A05	Case study of Vedic Sutra-Nikhilam	Dr. Preeti Jain	1. Radha Krishna, B.Sc. (Prog.) Computer Science, 2. Ashish Mishra, B.Sc. (Prog.) Computer Science 3. Anshul Patel, B.Sc. (Prog.) Computer Science
6	STARDBTM A06	Case study of concept of square root- Vilokanam	Dr. Preeti Jain	1. Shweta Kumari B.Sc. (H) Maths 2. Garima Singh, B.Sc. (H) Maths 3. Nidhi Sc. (H) Maths
7	STARDBTM A07	Asymptotic Stability of Perturbation of Operator Semigroup on Banach Spaces	Dr. Shard Rastogi	1. Krishnika Baruah Sc. (H) Physics
8	STARDBTM A08	The Cayley transform of the generator of a polynomially stable delay semigroup	Dr. Shard Rastogi	1. Dishita B.Sc. (Prog.) CS
9	STARDBTM A09	Applications of Group Theory and Linear Algebra	Dr. Pratibha Mehrotra Dr. Shilpi Jain	1. Prashant Kumar B.Sc. (H) Maths 2. Manish Sharma Sc. (H) Maths 3. Abhay Gupta Sc. (H) Maths 4. Aditya Kumar Sc. (H) Maths
10	STARDBTM A10	A study on number theoretic functions and it's applications	Dr. Shilpi Jain Dr. Pratibha Mehrotra	1. Prashant Kumar, B.Sc. (H) Maths 2. Manish Sharma Sc. (H) Maths 3. Abhay Gupta Sc. (H) Maths 4. Aditya Kumar Sc. (H) Maths
11	STARDBTM A11	Rediscovering the Methods of Ancient Indian Mathematicians: A Study of Their Utility	Dr. Kunwar Vijay Kumar Singh	1. Ayush Kushwaha 2. Anukriti Dubey 3. Keshav Dubey 4. Jeetpal Baruah
12	STARDBTM A12	Accuracy of Ancient Indian Astronomical Instruments and Calculations	Dr. Kunwar Vijay Kumar Singh	1. Aliza Jasmine, B.Sc. Phy. Sci., Electronics. 2. Saket Saurav B.Sc. Phy. Sci. Electronics 3. Vaibhav Shukla B.Sc. (H) Chemistry 4. Devesh

				B.Sc. (H) Chemistry
--	--	--	--	---------------------

Physics In-house Project Proposal Under STAR College Scheme 2024-2025

Project Code	Project title	Investigators	Students Names	Objectives
STARDBT (PH-01)	Synthesis and characterization of perovskite electroceramics for excellent dielectric and ferroelectric performance	Dr. Abid Husain, Dr. Amit Kr. Vishwakarma, Dr. Raghvendra Pandey and Prof. Vinita Tuli	Ashish Patel, Kushagra Jain	Ø To synthesize lead free Sodium Potassium Lithium Niobate-Barium Titanate [NKLN-BT] ceramic by solid state reaction method. Ø To carry out various characterizations (XRD, FESEM, Dielectric study, Ferroelectric Study) on synthesized ceramic.
STARDBT (PH-02)	Understanding the Electrical Conduction mechanism in glassy amorphous semiconductors for phase change memory applications	Dr. Manisha	Sajal Rana	Investigate electrical conduction mechanisms in telluride-based semiconductors, exploring charge transport processes and their dependence on material properties and external parameters. Optimize these materials for high-performance applications in electronics, thermoelectrics, photovoltaics, and phase-change memory, enhancing device efficiency, stability, and reliability
STARDBT (PH-03)	Investigation of CNT-Metal Matrix Composites (MMCs) for Aerospace Structural Components	Dr. S. Shankar Subramanian, Dr. Avanish Pratap Singh Rajput	Samridhi Wani and Varsha	To develop and optimize synthesis methods for carbon nanotube (CNT)-reinforced titanium metal matrix composites (MMCs) targeted for aerospace structural applications. The project aims to: Improve mechanical properties such as tensile strength, hardness, and fracture toughness. Achieve uniform dispersion of CNTs within titanium matrices. Evaluate thermal and electrical performance for aerospace viability.

STARDBT (PH-04)	To consider the investigation of non - precious metal catalysts (such as cobalt and manganese) that can efficiently split water into hydrogen and oxygen	Dr. S. Shankar Subramanian	Samridhi Wani and Varsha	The main objective of this project is to investigate non-precious metal catalysts—particularly cobalt and manganese-based oxides—for efficient water splitting to generate hydrogen and oxygen. The project aims to develop cost-effective, abundant, and sustainable alternatives to precious metal catalysts by synthesizing and evaluating materials such as CoMn_2O_4 , and LaCoO_3 for their electrocatalytic performance in alkaline media.
STARDBT (PH-05)	Weather Prediction in Indian Context Using Neural Networks	Dr. Ashutosh Vishwabandhu	Paarvi Wadhwa, Diya Agrawal, Gokula Kannan, Neelaksh Sharma	To collect and preprocess comprehensive historical weather data for India. To develop and train a neural network model for weather prediction. To use Physics-Informed Neural Networks (PINNs) by incorporating physical laws into the neural network for weather prediction. To evaluate the model's performance using appropriate metrics.
STARDBT (PH-06)	Development of 2D transition metal dichalcogenides (TMDs) heterostructures electrodes for Energy Storage Applications	Dr. Raghvendra Pandey, Dr. Abid Husain, Dr. Amit Kr. Vishwakarma	Mr. Devvats, Ms. Akshita, Ms. Kanchan Chaudhary, Ms. Rashika, and Sajal Rana	Development of 2D transition metal dichalcogenides (TMDs) heterostructures electrodes for Energy Storage Applications

STARDBT (PH-07)	Electrochemical investigations on nanocomposites for energy storage applications	Dr. Anjani Singh and Mr. Ashok	Shreyansh Shukla, Fathima Subair, Udai Pratap Singh and Jagadish	The primary objective of this project is to design and synthesize advanced nanocomposites using different fabrication methods and evaluate their electrochemical behavior for energy storage applications. Through a combination of metal oxides, carbon-based nanomaterials, and polymers, the project aims to optimize nanocomposite structures to enhance key performance metrics of supercapacitors and related storage devices—such as specific capacity, energy density, power density, and long-term stability.
STARDBT (PH-08)	Investigation of biodegradable polymer electrolyte for electrochemical supercapacitor applications	Dr. Sadiq, Dr. Yogesh Kumar	Souryadeep Lenka, Abir Bhunia, Aaryan Pal	The objective of this project is the preparation and characterization of a biopolymer using PVC/NACMC in combination with NaOH and ionic liquid agents, followed by the evaluation of the electrochemical behavior of the resulting electrolytes. The project aims to optimize ionic conductivity and the electrochemical stability window to enhance the key performance metrics of supercapacitors.
STARDBT (PH-09)	Synthesis and characterisation of perovskite nanomaterials for spintronic applications	Dr. Rita Singh, Dr. Anjali Sharma	Anuj Upadhyay, Ayush Kumar	The students involved in the project were engaged regularly in scientific discussions with the faculty members. Initially, they were given literature related to the subject to provide a fundamental understanding of the project topic and the subject area. The students learnt to conduct the literature survey and developed a methodology to deal with the research problem.
STARDBT (PH-10)	Metal Oxide nanostructures grown using Green synthesis for antimicrobial activity	Dr. Anjali Sharma, Dr. Vinita Tuli, Dr. Sawti Majumdar	Abhishek, Ishaan	The core aim of the project is to synthesize tin dioxide (SnO ₂) nanoparticles through a green, sustainable method utilizing Camellia

				sinensis (green tea) extract. The synthesized nanoparticles are characterized .
STARDBT (PH-11)	Metal Oxide thin film based thermoelectric energy harvesters	Dr. Anjali Sharma, Dr. Vinita Tuli	Dhruv Verma, Siddharth Bora	The objective of this project is to investigate and develop metal oxide thin film-based thermoelectric energy harvesters with enhanced performance metrics. This will involve a comprehensive study of the synthesis, characterization, and optimization of metal oxide thin films, aiming to maximize their thermoelectric efficiency. By focusing on the critical parameters that influence the thermoelectric performance, such as carrier concentration, mobility, and thermal conductivity, this project seeks to push the boundaries of current technologies and pave the way for practical applications in waste heat recovery and power generation.
STARDBT (PH-12)	Automatic Door System	Dr. Anjali Sharma, Dr. Rita Singh	Uday Pratap Singh, Swayam Kumar	To implement a reliable and secure remote access system that can be used for various applications, including home automation and access control.
STARDBT (PH-13)	Synthesis And Characterization Of Sodium Bismuth Titanate For High-Temperature Piezoelectric Applications	Dr. Rajveer Singh, Dr. B.L. Prashant and Dr. Devender Rana	Mohd. Abir Bhunia, Souryadeep;	To synthesize lead free Piezoelectric material (NBT) for high temperature piezoelectric applications. To carry out various characterizations (XRD, FESEM, Dielectric study, Ferroelectric Study) on synthesized ceramic.
STARDBT (PH-14)	Development of Rare Earth Doped A ₂ BNb ₅ O ₁₅ (A=Ca, Ba, Sr and B= Li, K, Na) Phosphors for Solid state lighting Applications	Dr. Amit Kr. Vishwakarma, Dr. Abid Husain, Dr. Raghvendra Pandey and Prof. Vinita Tuli		Develop rare earth doped A ₂ BNb ₅ O ₁₅ (A=Ca, Ba, Sr; B=Li, K, Na) phosphors for solid-state lighting applications. Optimize particle morphology and luminescence properties to enhance efficiency for white light emitting diodes (w-LEDs). Investigate thermal, structural, and morphological properties to achieve improved performance.

STARDBT (PH-15)	FABRICATION AND CHARACTERIZATION OF METAL CHALCOGENIDE-BASED NANOSTRUCTURES FOR EFFECTIVE PHOTSENSING BY LOW-COST METHODS	Dr. Devendra Kumar Rana and Dr. Anjani Singh	Rahul Kumar, Ashish Tyagi, Kostubh, Kamya Vardhan	Synthesize and characterize WS2 nanostructures for efficient photo-sensing applications. Enhance structural, optical, electrical, and optoelectronic properties of thin film-based photosensors. Develop cost-effective, eco-friendly, and low-toxic devices, including junction diodes, LDRs, photoconductors, and Schottky diodes, for improved performance and functionality
------------------------	---	--	---	---

Chemistry In-house Project Proposal Under STAR College Scheme 2024-2025

S.No.	Project Code	Project Title	Principal Investigator	Students Name
1.	STARDBT(CH-01)	Design and synthesis of Transition metal complexes based on bis-benzimidazole moiety for their antimalarial and catalytic activities	Dr. Subash Chandra Mohapatra	Saurabh Singh, Tanya Singh, Disha Saini, Kashish Saini, Yasharth Mishra
2.	STARDBT(CH-02)	Enhancing the Solubility of Paracetamol for Improved Therapeutic Potential via Eutectic Mixtures and Surface Dynamics	Prof. Prashant Singh	
3.	STARDBT(CH-03)	New approach in medicinal organometallic chemistry	Prof. Rajeev Singh	Manisha, Garvit, Sonia
4.	STARDBT(CH-04)	Design, Synthesis, Computational and Antimicrobial Study of Triazole-Schiff base Hybrids	Dr. Bhaskara Nand	
5.	STARDBT(CH-05)	Synthesis of Magnetic Nanoparticles using Potato Extract	Dr. Anil Kumar	Srishti Kharola, Twinkle Sharma, Hemant Singh Jeena
6.	STARDBT(CH-06)	Synthesis of valuable products by ammonolytic and aminolytic degradation of Polyethylene terephthalate waste	Dr. Anjali Verma	Amit Kumar Vidyarthi, rohit, Akash Chaurashiya
7.	STARDBT(CH-07)	Study of adsorption of acids on different charcoals	Dr. Meenakshi Gupta	Raushni, Tanu Chauhan, Tanvi Kumar
8.	STARDBT(CH-08)	Applications of Metal Nanoparticles in Degradation of Textile Dyes by Advanced Oxidation Process	Dr. Neeta Azad	Prince Kumar, Yash Pandey
9.	STARDBT(CH-09)	Impact of doping on band gap of Conducting Polymer for Energy Application	Dr. Amit Kumar Sharma	Ishita Joshi, Oditi, Navya Rastogi, Palk Somani, Sumit
10.	STARDBT(CH-10)	Synthesis of N-aryl derivatives of Dihydropyrrones as antimicrobial agent	Dr. Sangeeta Aggarwal	Arju Rawal, Priyanshi Sharma

11.	STARDBT(CH-11)	Synthesis & Application of Metal-Organic Framework (MOF)	Dr. Nidhi Dureja	Sarthak Jaiswal, Sushant
12.	STARDBT(CH-12)	Synthesis of Metal Nanoparticles using Neem leaf extract	Dr. Preeti Chaudhary	Ayush Kumar Garg, Sanjana, Nancy Sharma, Shruti Sharma
13.	STARDBT(CH-13)	Synthesis and Characterization and applications of Gd ₂ O ₃ /g-C ₃ N ₄ Nanocomposites for Enhanced Visible-Light-Induced Photoactivity towards Organic Pollutants Degradation	Mr. Neeraj Mishra	Khushi Kumari, Ankita Singh, Shivam Kumar, Deepak Singh
14.	STARDBT(CH-14)	Insights in adsorption of Congo red using Graphene adsorbed over ZnO/ doped ZnO in aqueous solution	Dr. Ramswaroop Maharia	
15.	STARDBT(CH-15)	Synthesis and Application: Phosphorus Corrole for Anti-cancer Activities	Dr. Omprakash Yadav	
16.	STARDBT(CH-16)	Pharmaceutical/pesticide degradation using transition metal oxide (niobium oxide/Vanadium oxide/ Tungsten oxide) opting advanced oxidation processes	Dr. Nimalini Moirangthem	Itisha
17.	STARDBT(CH-17)	Graphene Oxide-Mediated Sensing: A Triangulated Approach for Chromium ion Detection with dynamic Time-Dependent and Concentration Analyses	Prof. Prashant Singh	

Electronics In-house Project Proposal Under STAR College Scheme 2024-2025

S.No.	Project Code	Project Title	Principal Investigator	Students Name
1.	STARDBT(EL-01)	Smart Vitals: Advanced Patient Monitoring with IoT and Multi-Sensor Technology	Dr. Nisha Jha	Sadique Khan, Khushboo Yadav, Urvashi Malik
2.	STARDBT(EL-02)	Smart Campus: Enhancing Education with Innovation	Dr. Nisha Jha	Prakash Kushwaha, Tanu, Himanshi Chaudhary
3.	STARDBT(EL-03)	Smart Parking System: Streamlining Urban Mobility with IoT Integration	Dr. Nisha Jha	Ashutosh Kumar Jha
4.	STARDBT(EL-04)	Design and Implementation of a Smart Home Security and Automation System Using ESP32	Dr. Sachin Kumar	Bhavya Sharma, Jyoti Oli
5.	STARDBT (EL-05)	Design and Implementation of an IoT-Based Smart Healthcare Monitoring System using STM32	Dr. Sachin Kumar	Bhavya Sharma, Abhishek
6.	STARDBT(EL-06)	IoT-Based ECG Monitoring System Using AD8232 Sensor & ESP32	Dr. Puneet Sehgal	Kartik Karanwal, Pankaj Naga, Vivek

				Yadav, Sanchit K. Mishra
7.	STARDBT(EL-07)	DIY IoT-Based Water pH Monitoring System Using ESP32 & pH Sensor	Dr. Puneet Sehgal	Shravani Srivastava, Siddhanta Patra, Alok Ranjan Mehra, Akshat Kumar Srivastava, Annu Malik
8.	STARDBT(EL-08)	To the effect of nanoparticles on the physical parameters of doped liquid crystal materials	Mr. Harikesh Meena	Jatin Kumar
9.	STARDBT(EL-09)	Effect of MgO nanoparticles on dielectric properties of a negative dielectric anisotropic nematic liquid crystal material	Mr. Harikesh Meena	Jatin Kumar

Department of Biology: In-house Project Proposal Under STAR College Scheme 2024-2025

SNO.	TITLE OF PROJECT	PI/CO-PI	STUDENTS INVOLVED
1.	To develop rapid detection methods for detection of microbial Contaminant in food and water.	Dr. Swati M. Biswas (PI) Department of Zoology Dr. Suman Dudeja (Co-PI) Department of Chemistry	Srusti Pati BSc (H) Chem III rd year
2.	To trace the evolutionary history of disease causing gene using bioinformatics tool.	Dr. Swati M. Biswas (PI) Department of Zoology	Anukriti Dubey BSc(H) Maths III rd year Sapna Yadav BSc(P) Chem III rd year
3.	Vermicomposting: Turning Waste into Gold	Dr. Kanchan Srivastava (PI) Department of Zoology	Anurag B.Sc. Prog Vikram B.Sc. Chemistry H
4.	Comparative Analysis of Artificial diet on biological parameters of Silkworm Bombyx mori Linn.	Dr. Kanchan Srivastava (PI) Department of Zoology	Tanu Shree CS Hons Aaditya Chemistry Program
5.	Antimicrobial activity of Neem plant extract.	Dr. Kanchan Srivastava (PI) Department of Zoology Dr. Priti Chaudhary (Co-PI) Department of Chemistry	Arjun CS Hons Tanvi Chemistry H Shubham Chemistry H

6.	Rapid Field Test of Soil and Effect of Pesticides for Agricultural Purposes	Dr. Anita Singh (PI) Department of Botany	Sofia Shekh B.Sc. (P) Chemistry VI Sem Achuki B.Sc. (P) Chemistry VI Sem Muntaha B.Sc. (P) Chemistry VI Sem
----	--	---	---

Computer Science In-house Project Proposal Under STAR College Scheme 2024-2025

Project Code	Investigator	Objective (as stated in proposal)
STARDBT(CS-01)	Dr. Lokesh Kumar Shrivastav	Lung Cancer Detection and Prediction using Radiological Dataset
STARDBT(CS-02)		Lung Cancer Detection and Prediction using Histopathological Dataset
STARDBT(CS-03)		Quantum Computing: Progress and Prospects
STARDBT(CS-04)	Dr. Parul Jain	Research on developing a Discord Bot using Voice Assisted Commands and Artificial Intelligence
STARDBT(CS-05)	Mr. Manvendra Yadav	Developing an ERP software for the college
STARDBT(CS-06)	Ms. Archana Gahlot	Data collection from different public sources. Preprocessing of datasets Proposed to create a Convolution Neural Network (CNN) for the classification of brain disorders. Explainable classification of decisions made by the CNN
STARDBT(CS-07)	Ms. Rashmi Mishra	Brain-Computer interface-based Motor Imagery Classification using machine learning techniques
STARDBT(CS-08)		Deep Fake Video Identification using machine learning techniques

7. Any Novel aspect introduced or planning to introduce during the Scheme duration.

Department of Mathematics

1. **Student In-House Research Project:** Initiated to address real-world problems under faculty supervision.
2. **Skill-Based Add-on Courses:** Planned courses focused on software tools to support research skills.
3. **International/National Conference:** Planned to promote interdisciplinary research awareness.

Department of Botany and Zoology

1. **One-step Detection Method:** For microbial contaminants in food and water using cheap, readily available materials.
2. **Gene Tracing Using Bioinformatics:** Tracing evolutionary history of genes related to neurodevelopmental disorders.
3. **Pharmaceutical Component Extraction from Neem:** Checking potency as microbial inhibitors.
4. **Silk Production Optimization:** Study of artificial diet impact on Bombyx mori.
5. **Vermicomposting Facility:** Introduction of campus-based biodegradable waste management.

6. **Rapid Pesticide Detection in Soil:** Development of cost-effective field test methods.

Department of Chemistry

1. **Green Synthesis Using Potato Extract:** Acts as solvent, reducing and capping agent—non-toxic, eco-friendly, and energy-saving.
2. **Efficient Dye Degradation:** $\text{Fe}_3\text{O}_4 + \text{H}_2\text{O}_2$ system achieved >99% removal in 30 minutes under ambient conditions.
3. **Less Waste, No Harsh Chemicals:** Approach eliminates toxic reagents and minimizes waste.

Department of Computer Science

1. **Discord Bot with Voice-Assisted Commands and AI:** For real-time user interaction and automation.
2. **Multimodal Brain Disorder Classification:** Using CNN with SPECT and MRI modalities.
3. **Custom CNN Pipelines:** Developed entirely by undergraduate students.
4. **Model Interpretability Tools:** Grad-CAM, LIME planned to validate decisions.
5. **Synthetic Data Augmentation:** GAN-based generation for minority class enrichment.
6. **EEG Classification with Attention Mechanisms**
7. **Transformer Architectures for Deepfake Detection**
8. **Hybrid Spatio-Temporal Models**
9. **Custom Regional Dataset Development**

Department of Electronics

1. **Low Power and Cost-Efficient Designs:** Tailored for Indian households using minimal infrastructure changes.
2. **Open-Source Frameworks:** Encouraging transparency and adaptability in academic research.
3. **Wireless Health Monitoring Systems:** Integrating biomedical sensors with IoT for affordable clinic/home use.
4. **Modular Smart Parking Solutions:** Open-source, low-cost IoT systems.
5. **Scalable Smart Home Automation:** Unified platform using ESP32.
6. **Cardiac Monitoring in Rural Areas:** IoT + biomedical tech for heart health democratization.
7. **MgO Nanoparticle-Based Displays:** Advanced optical material development.

Department of Physics

1. **Physics-Informed Neural Networks (PINNs):** Combining deep learning with physical laws for weather prediction.
2. **Green Synthesis Techniques:** Using green tea extract for SnO_2 nanoparticles.
3. **Rare-Earth Doped $\text{A}_2\text{BNb}_5\text{O}_{15}$ Oxides:** For high-efficiency solid-state white LEDs.
4. **Low-Cost WS_2 -Based Photodetectors:** Eco-friendly photosensing device fabrication.
5. **Non-Precious Metal Catalysts for Water Splitting:** Cobalt and manganese-based catalysts for sustainable hydrogen generation.
6. **SPR based studies:** Evaluation of the refractive index of nanomaterial for sensing applications.

8. Lessons learnt / difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words).

Need for Flexibility and Clear Guidelines in Fund Utilization: Many departments reported a lack of clarity on whether expenses for research training, honorariums, or external characterizations are allowed under the DBT grant. Introducing flexible budgeting and clearer permissible expenditure guidelines would enhance the scheme's impact.

Time Constraints and Academic Load: Balancing core academic schedules with in-house research and outreach activities proved challenging for both students and faculty. A dedicated research semester or structured integration of research into the curriculum could improve participation and project outcomes.

Infrastructural and Technological Limitations: Departments noted a lack of high-end computing facilities (e.g., GPU workstations for AI), licensed software (e.g., MATLAB, Mathematica), and full sets of requested lab instruments. Adequate provisioning of such infrastructure is essential for advanced-level undergraduate research and practical work.

9. Key performance indicators

S. no	Indicator	Pre-support 2023-2024								During /After Support 2024-25								Remarks
1	No. of students admitted	Total = 613								Total = 739								
		M= 489				F= 124				M= 523				F= 216				
		SC	ST	OB	G	SC	ST	OB	G	SC	ST	OBC	G	SC	ST	OBC	G	
		81	7	144	257	16	5	25	78	79	16	150	278	22	5	45	144	
2	No. of students passing out (%) Students Admitted/passing out (pass %)	91%								Result Awaited								
3	Drop-out rates	Less than 1%								Result Awaited								
4	No. of students opting for MSc	128								Result Awaited								
5	Average marks	7.2 (CGPA)								Result Awaited								
6	No. of hands-on experiments being conducted	00								03								Anex. 1
7	No. of new experiments introduced	00								11								Anex. 1
8	Publications (scopus indexed) /patents, if any.	174								197								Anex. 2
9	Training received by Faculty under training program	00								03								Anex. 3
10	Exhibitions/seminars /training courses conducted	00								11								Anex.4
11	Books/journals subscribed from grants	Nil								Nil								
12	Outreach activities (Popular lectures)	00								09								Anex.5
13	Colleges mentored to apply for DBT Star College grants	0								0								
14	Invited lectures	0								03								Anex. 6

- Proofs (S.No. 6-14 not more than 5 pages, 1.5 line spacing 11 times roman font size) to be provided duly attested by Principal and Coordinator.

10. Self-evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Computer Science	Lung Cancer Detection and Prediction using Radiological Dataset	15%	Literature Review has been done Data Collected Preparing for the Experiment
	Lung Cancer Detection and Prediction using Histopathological Dataset	15%	Literature Review has been done Data Collected Preparing for the Experiment

	Quantum Computing: Progress and Prospects	15%	Literature Review has been done Preparing to write review paper
	Research on developing a Discord Bot using Voice Assisted Commands and Artificial Intelligence	50%	Literature Review and design has been done
	Developing an ERP software for the college	15%	Requirements from different stakeholders are being collected and being analyzed. After requirements analysis, a design will be prepared and technologies will be identified.
	Data collection from different public sources. Preprocessing of datasets Proposed to create a Convolution Neural Network (CNN) for the classification of brain disorders. Explainable classification of decisions made by the CNN	15%	Students were studying the research papers based on the stated objectives.
	Brain-Computer interface-based Motor Imagery Classification using machine learning techniques	82%	Accuracy
	Deep Fake Video Identification using machine learning techniques	90%	Accuracy
Chemistry	Photocatalytic and biological activity	60%	Lack of instrument
	Characterization part	50%	Lack of fund
	Application part	50%	Lack of fund
Electronics	Application Part	60%	Lack of funds
	Experimental work	51%	Lack of funds
	Hands-on training for undergraduate students	100%	Hands-on training sessions provided invaluable insights into the design and implementation of sensor-based systems, focusing on industry-relevant tools such as Arduino and ESP32.
	Field-Trip	50%	This is a valuable academic experience for the Electronics Department students, offering firsthand insight into India's power infrastructure and the advanced technologies used to maintain and manage it.
Physics	Synthesis and Characterization of Advanced Functional Materials Application in Energy, Sensing, and Environmental Technologies Integration of Artificial Intelligence and Physics-Based Modeling Development of Low-Cost, Scalable, and Eco-Friendly Technologies	60%	Lack of instrument and funds
Mathematics	All the In-House Research Projects	Ranges from 50% to 95%	The following is remaining to complete the projects:

			Stability analysis, numerical simulation of epidemic models, Risk management theory through the Monte-Carlo Simulation, and the future scope of the research work.
	Mathematics lab by procuring new equipment (Desktop Computer)	59%	Due to insufficient funds
Botany and Zoology	Introduction to various advances in diagnostic field	100%	Students were introduced the latest research in Medical diagnostic field through International Conference where renowned experts shared their knowledge and interacted with students.
	Hands on training for undergraduate students	50%	Difficulty in balancing time between classes and attending training sessions
	In house research project with involvement of students	50%	Time constraint for both faculties and students
	Outreach programme	100%	Trained school students of Class XII both through lectures and hands on training about various aspects of biotechnology. Introduction to instrumentation facility in lab.

* For quantitative analysis you may fix five objective (max) each having 2 marks and accordingly can calculate the matrix.

11. Provide detailed information on budget utilization under Grants-in-Aid (General), including the exact percentage of funds allocated and utilized for the purchase of chemicals, travel, mentoring activities, contingency and any other activity: **Annexure 7**

Course Coordinator
(With Seal)

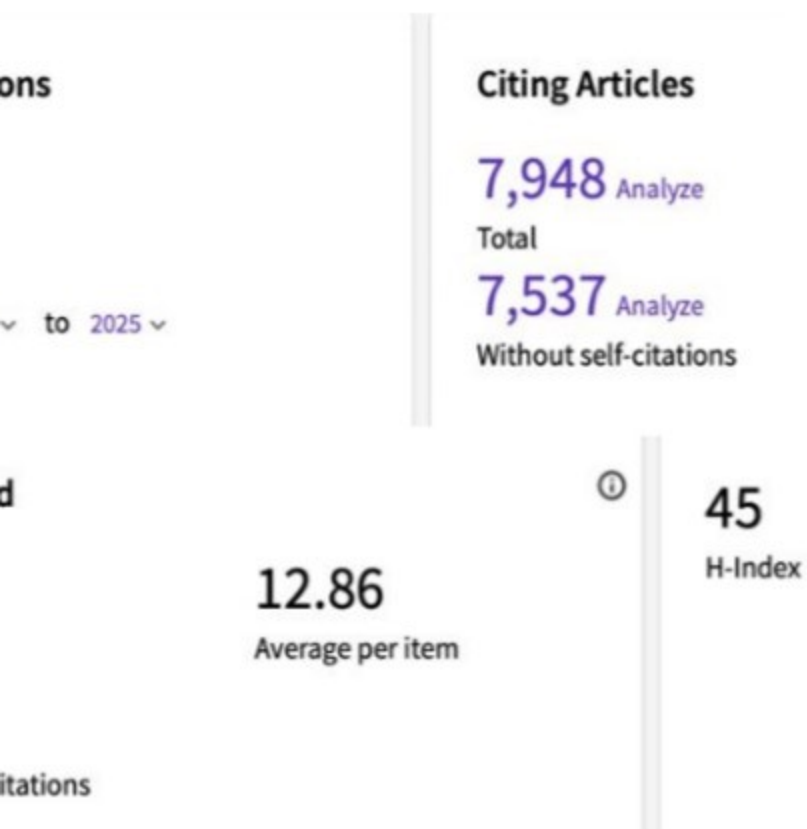
Head of the Institution
(With Seal)

List of new experiments proposed

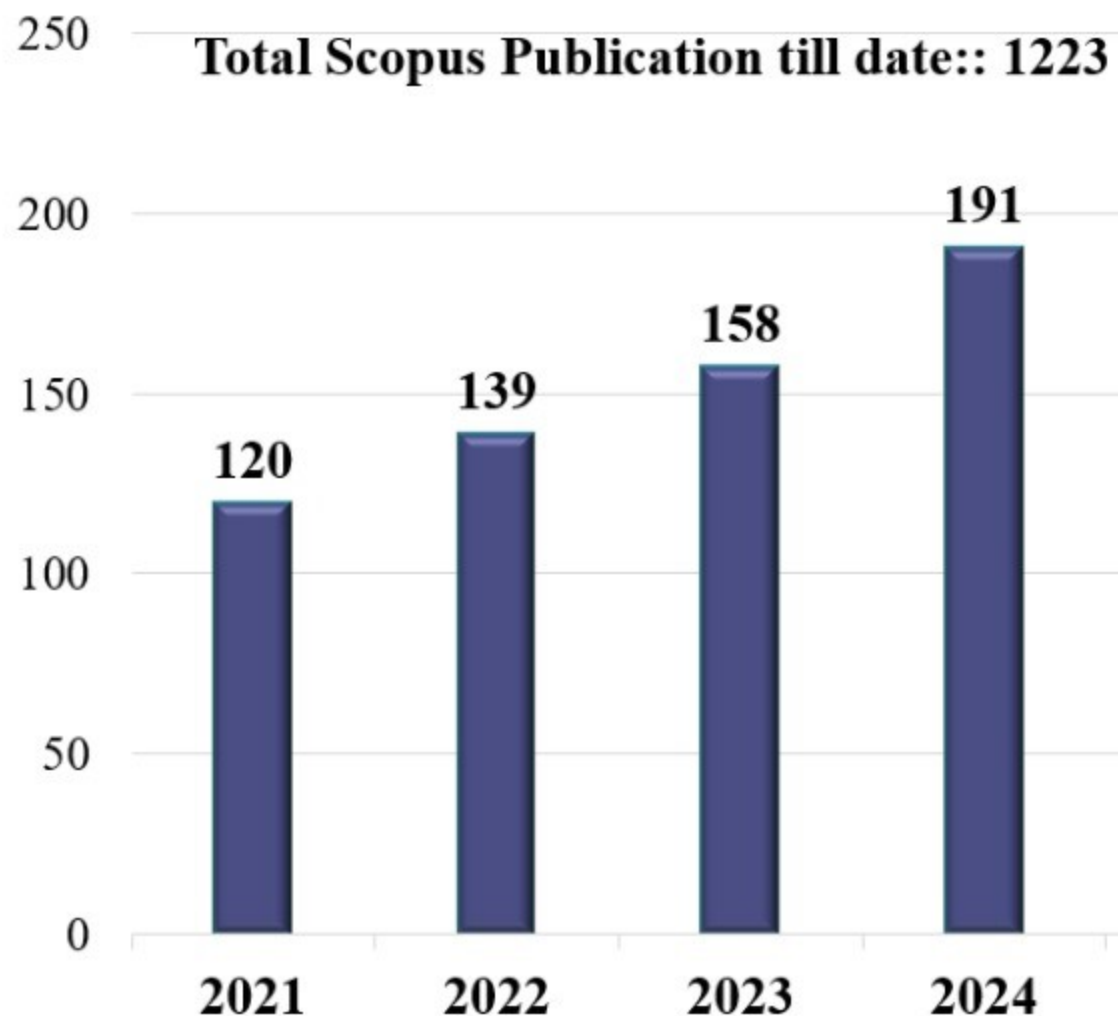
1. Smart Vitals: Advanced Patient Monitoring with IoT and Multi-Sensor Technology
2. Design and Implementation of an IoT-Based Smart Healthcare Monitoring System using STM32
3. DIY IoT-Based Water pH Monitoring System Using ESP32 & pH Sensor
4. To consider the investigation of non - precious metal catalysts (such as cobalt and manganese) that can efficiently split water into hydrogen and oxygen
5. Weather Prediction in Indian Context Using Neural Networks
6. Automatic Door System
7. Study of adsorption of acids on different charcoals
8. Synthesis of Metal Nanoparticles using Neem leaf extract
9. Graphene Oxide-Mediated Sensing: A Triangulated Approach for Chromium ion Detection with dynamic Time-Dependent and Concentration Analyses
10. To develop rapid detection methods for detection of microbial Contaminant in food and water.
11. Vermicomposting: Turning Waste into Gold
12. Application of Differential Equations in Climate Modelling
13. A Study of Mathematical Modeling in Epidemics
14. Linear Programming in Real-Life Problems

RESEARCH PUBLICATIONS

Web of Science Data



Scopus Data





ATMA RAM SANATAN DHARMA COLLEGE

(UNIVERSITY OF DELHI)

WORKSHOP ON ADVANCING SUSTAINABILITY:

GREEN CHEMISTRY INNOVATION AND PRACTICES

Date of the Program: 23-10-2024

No. of Attendees: 205

Organized by: ChemCrown, The Chemistry Society and Seminar Society

Collaboration with DBT Star College Scheme

Hand-on demonstration by: Prof. Ranjana Dixit, Dr. Radhika Gupta, Dr.

Gunjan Arora, Dr. Sriparna Dutta, Dr. Prashant Kumar, Mr. Harish Kumar

Summary: On Science Day, ChemCrown: The Chemical Society organized a workshop with the guest speakers Prof. RK Sharma and Prof. Shrikant Kukreki on the topic Advancing sustainability: Green Chemistry Innovations and Practices. The Seminar was followed by Hands on Practices session. The seminar and workshop was carried forward in the presence of the chief guests, Prof. Gyantosh Jha (principle ARSD college) Prof. Vinita Tuli (IQAC Coordinator), Dr. Anjali Verma (ChemCrown, Convener), Dr. Anil Kumar (Seminar Society, Convener) and Dr. Sneha lata (Coordinator, Chemistry Department).

Prof. RK Sharma addressed the gathering about the different atmospheric particles and their impact. Prof. Shrikant Kukreki discussed numerous issues related to climate and human health in an exquisite manner. He explained characterization techniques used in analysis of particles present in atmosphere. It indulged the students in a fruitful interaction with the guest speaker.

During the workshop, our invited professors showcased various ways through which we can innovatively use green chemistry to approach to our day-to-day lifestyle. Experiments were performed under their guidance and certificates were awarded to the participants.

Poster and Certificate:

RSC LOCAL SECTION NORTH INDIA

ATMA RAM SANATAN DHARMA COLLEGE
(UNIVERSITY OF DELHI)

Accredited grade "A++" by NAAC | NIRF (MoE) Rank 5
Under the aegis of IQAC

STAR DBT Scheme (Government of India)
in association with
The Chemistry Department
is organising
a Workshop on
Advancing Sustainability
Green Chemistry Innovations and Practices

23rd October, 2024
9:30 am

Prof. RK Sharma
Chairperson
Green Chemistry Network Centre,
University Of Delhi

Prof. Shrikant Kukreki
Guest Of Honor
Department Of Chemistry,
University Of Delhi

Hands on Practice with:

Prof. Ranjana Dixit
Ramana College

Dr. Radhika Gupta
Gyaneshwari College

Dr. Gunjan Arora
Sankar Prasad Memorial College

Dr. Briparna Dutta
Vidya College

Dr. Prashant Singh
Jawahar University

Prof. Gyantosh Kumar Jha
Principal

Prof. Vinita Tuli
IQAC Convenor

Dr. Anil Kumar
Convenor

Dr. Anjali Verma
Co- Convenor

Dr. Sneha Lata
Teacher In-Charge

RSC LOCAL SECTION NORTH INDIA

ATMA RAM SANATAN DHARMA COLLEGE
University of Delhi

All India Rank 5th in NIRF (MoE) NAAC Grade A++ (3.79/4.0)
STAR College Scheme
(Department of Biotechnology, GoI)

CERTIFICATE
OF PARTICIPATION

This Certificate is Proudly Presented To

of _____ for his/her participation in
the **WORKSHOP- ADVANCING SUSTAINABILITY : GREEN CHEMISTRY INNOVATIONS AND PRACTICES** jointly organized by Chemistry Seminar Society and Chemistry Society (CHEMCROWN), ATMA RAM SANATAN DHARMA COLLEGE, UNIVERSITY OF DELHI held on 23rd October 2024.

Dr. Anil Kumar
(Convenor)

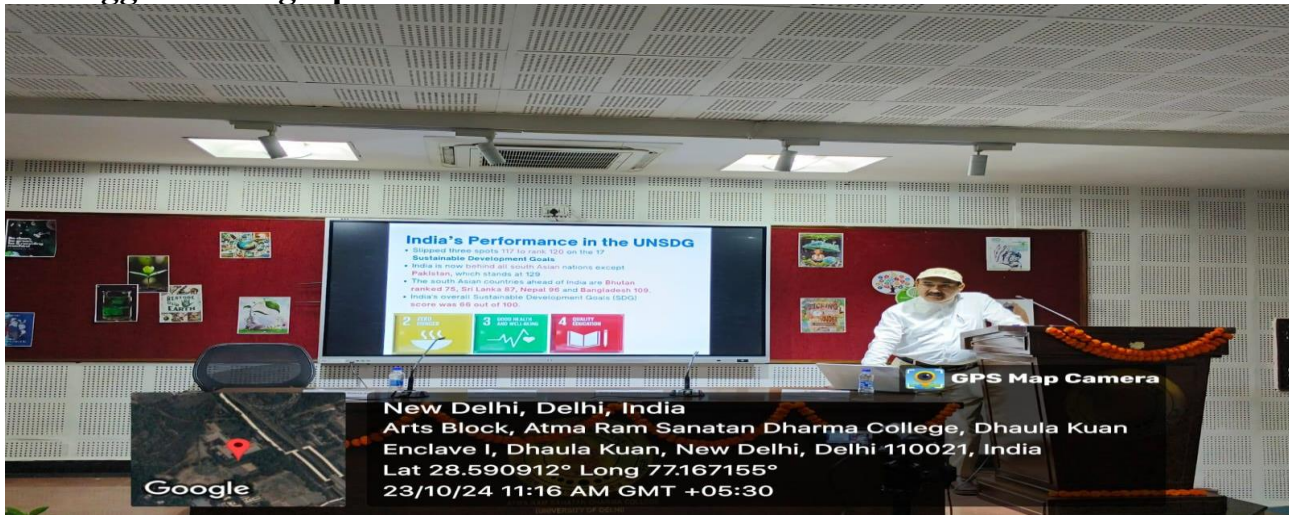
Dr. Anjali Verma
(Co-Convenor)

Dr. Sneha Lata
(Teacher In- Charge)

Prof. Vinita Tuli
IQAC Coordinator

Prof. Gyantosh Kumar Jha
(Principal)

Geotagged Photographs:





List of Participants/Attendance :

NO.	Name	College
1	Aaditya Kumar	Atma ram sanatan dharma college
2	Aashish	ARSD
3	Aayush Roy	Atma Ram Santan Dharma College
4	Abhijeet Dhama	Atma Ram Sanatan Dharma
5	Adarsh kumar	Acharya Narendra dev college
6	Aditi	Atma Ram sanathan dharma college
7	Aditya Bhaskar	Atma Ram Sanatan Dharma College, Dhaula Kuan
8	Aditya Singh	Atma ram sanatan dharma college
9	Advika Singh	Acharya narendra dev college
10	Akash chaurasiya	Atma Ram sanatan dharma college, university of Delhi
11	Akash Singh	Arsd
12	Akash yadav	ARSD college
13	Aman Kumar	Atma Ram Sanatan Dharma College
14	Amrit Raj	Atma Ram Sanatan Dharma College
15	Ananya giri	Rajdhani college
16	Ankit	ARSD
17	Ankit Kumar	Hindu college
18	Ankit Kumar	Arsdcollege
19	Ankita agrawal	Acharya Narendra dev college
20	Anshika	Atma Ram Sanatan Dharma
21	Anshu Kumari	Atma Ram Sanatan Dharma
22	Anubhav Arya	Acharaya Narendra Dev College
23	Anurag Tripathi	Atma Ram sanatan dharm college
24	Anushka Baral	Atma Ram Sanatan Dharma College
25	Arpit Choubey	Atma Ram Sanatam dharma
26	Arshia Sharma	Atma ram sanatan dharma college
27	Arti	Atma Ram sanatan dharm college
28	Aryan chaturvedi	Atma ram sanatan dharma college
29	Aryan prasad	Acharya Narendra dev collage
30	Ashish kumar singh	ATMA RAM SANATAN DHARMA
31	Astha	Atma Ram sanatan dharm college
32	Awani Chauhan	Atma Ram Sanatana Dharma
33	Ayush	ARSD
34	Ayush Kumar	Atma Ram Sanatan Dharma College
35	Ayush kumar garg	Atma Ram sanatan Dharma college
36	Ayush Raj	Aatma ram sanatan dharma
37	Badal Chawla	ANDC
38	Bhumika Meena	Arsd
39	Bishal Manna	Atma Ram Sanatan Dharma College
40	Bratati Mahadanda	Arsd , du
41	Chanchal	Rajdhani College
42	Chanchal Joshi	Deshbandhu College
43	Deepak Singh	ARSD COLLEGE
44	Deepti Baghel	Atma Ram Sanatan Dharma College
45	Devansh Dwivedi	Acharya Narendra Dev College
46	Devanshi Malguri	Atma Ram Sanatan Dharma College
47	Devraj	Arsd
48	Dheeraj Kumar	ARSD
49	Dimple	Atma ram sanatan dharma college
50	Disha saini	
51		

52	Divyanshi Srivastava	Arsd
53	GARV NANDWANI	Atma Ram Sanatan Dharma College
54	Garvit Negi	Atma Ram sanatan dharma college, university of Delhi
55	Gaurav	Atma Ram Sanatan Dharma College
56	GAURAV SHARMA	Rajdhani college
57	Gopal Kumar	DESHBANDHU COLLEGE
58	Hardik Kaushik	Atma Ram Sanatan Dharm College
59	Harsh	Atma Ram Sanatan Dharma College
60	Harsh Kumar	Aatma ram Santana dharma college
61	Harsh kumar sangat	Arsd
62	Harshita Yadav	Acharya Narendra dev College
63	Hemant Singh Jeena	Atma Ram Sanatana Dharma college
64	Hemant Yadav	Atma Ram Sanatan Dharma College
65	Himani	Atma Ram Sanatan Dharma college
66	Himanshu Chaurasia	Atma ram sanatan dharma college
67	Himanshu Kumar	Rajdhani college
68	Himanshu Saini	A. R. S. D. C
69	Ishita joshi	Atma Ram Sanatan Dharma College
70	Jaiveer malik	Atmaram Sanatan Dharma college
71	Janvi Pandey	Hansraj college
72	Jyoti Pradhan	Atma Ram Sanatan Dharma College
73	Kashish Rana	ARSD
74	Kashish saini	Acharya Narendra dev college
75	Kelam Ashish Venkata Sai	Atma Ram Sanatan Dharma College
76	Keshav Agrawal	Rajdhani College, University of Delhi
77	Khushi	Atma Ram Sanatan Dharma College, University of Delhi
78	Khushi kumari	Atma Ram sanatan Dharma (DU)
79	Khushi Pandey	Atma Ram santan dharma
80	Kirti Kumari	Atma Ram Sanatan Dharma College
81	Kirti Malhotra	Rajdhani College
82	Komal Gupta	Deshbandhu college
83	Krishna bansal	A. R. S. D. College
84	Krishna Kumari	Acharya Narendra dev
85	Kritika Pokharia	Atma Ram Sanatan Dharma
86	Kshitij Yadav	Rajdhani College
87	Kuldeep Singh	Atma ram sanatan dharma college
88	Kumkum	Atma Ram sanatan dharm college
89	Lucky Panwar	Rajdhani College (DU)
90	Mahima	Hansraj College
91	Mamta Sharma	atma Ram sanatan dharma college
92	MANISH SARAN	Acharya Narendra Dev College, DU
93	Manisha Maurya	ACHARYA NARENDRA DEV COLLEGE
94	Manisha Maurya	ARSD
95	Mansi Singh	ARSD
96	Manvi	Atma Ram Sanatan Dharm College
97	Manvi jain	Acharya Narendra dev
98	Mayank Joshi	Atma ram santan dharma college
99	Mehak Bholowalia	Rajdhani college
100	Mishthi Sharma	Atma Ram Sanatan Dharma College
101	Moh Sameer	Hansraj College
102	Moh Sameer	ARSD college
103	Mohini Singh	ARSD college
104	Mohit kumar	ARSD college

105	Monalisha keshri	ARSD
106	Monika	Atma Ram sanatan dharm college
107	MUHAMMED LUTHUFI P	Acharya Narendra Dev college
108	Muhammed Nabeel M B	Rajdhani
109	Muhammedameen c a	ARSD
110	Mukul	ARSD College
111	Muskan	ARSD college
112	Muskan	ARSD
113	Muskan kumari	Rajdhani college(Delhi University)
114	Muskan lilghar	Atmaram Sanatan dharma college
115	Nancy Singh	Atma Ram Sanatan Dharma
116	Nancy Singh	ARSD
117	Nandini Tiwari	Atma Ram sanatan dharm college
118	Naveen Kumar Singh	Atma Ram sanatan dharm college
119	Navya Rastogi	Aatma ram sanatan dharma college
120	Neha Pandey	Acharya Narendra Dev College
121	Nibir	Atma Ram Sanatan Dharma College
122	Nidhi Tiwari	Atma Ram Sanatan Dharma College
123	Nikhil Kumar	ARSD
124	Nitin Rao	Acharya Narendra Dev College
125	Nitish Singh	Atma Ram Santan Dharma College
126	Noman Sheikh	Sri Aurobindo College
127	Oditi	Arsd
128	Palak Somani	Hindu College
129	Payal	Arsd
130	Piyush Sharma	Atma Ram Sanatan Dharma college
131	Piyush Vishwakarma	ARSD college
132	Pragyan parimita Behera	Rajdhani College
133	Prashant Kumar	Atma Ram Sanatan Dharma College University of Delhi
134	Prashant kumar chaubey	Acharya Narendra Dev college, Delhi University
135	Prateek Yadav	Rajdhani college
136	Priya	Deshbandhu college
137	Priya Ranjan Kumar	Acharya Narendra Dev College
138	Priyanka	Atma Ram sanatan dharm college
139	Priyanshi	CSIR-NIScPR
140	Priyanshi Rawat	Arsd college
141	Priyanshu dwivedi	Atma Ram Sanatan Dharma
142	Prof Geetu Gambhir	ARSD College
143	Punit yadav	Acharya narendra dev college (ANDC)
144	Purvi	Acharya Narendra Dev College
145	Rachita	Atma ram Sanatan dharam
146	Raghav Sharma	Andc
147	Rahul Maurya	Rajdhani college, University of Delhi
148	Raj	Arsd
149	Rajat Saxena	ARSD
150	Ranjeet Ranjan	Arsd
151	Ridham	Atmaram Sanatan Dharma College
152	Rishabh bajaj	ARSD college
153	Riya chaurasiya	ARSD
154	Rohit	Arsd
155	Rohit Buswala	Atma Ram Sanatan Dharma
156	Roshan Singh	Atma Ram Sanatan Dharma College
157	Rudraksh Sharma	Atmaram sanatan dharam college

158	Runit singh	Aatma ram sanatan dharm college
159	Sakshi	Rajdhani College
160	Sakshi Awasthi	Atma ram sanatan dharma college
161	Samyak Jain	Atma Ram Sanatan Dharma
162	Sandeep Kumar	Atma Ram sanatan dharma college
163	SANDEEP SUTHAR	atma ram sanatan dharma college
164	Sanjana	Arsd
165	Sarthak Jaiswal	Rajdhani College
166	Sarthak Jaiswal	Atma Ram Sanatan Dharma College
167	Saurabh singh	Atma Ram Sanatan Dharma College
168	Shakshi	Atma Ram Sanatan Dharma College
169	Shashank	ARSD COLLEGE
170	Shivam Kumar	Atma ram sanatan dharma college
171	Shivam raj	Acharya Narendra Dev College
172	Shivangi Singh	Atma Ram Sanatan Dharma College
173	shivmangal kumar	Acharya narendra dev college
174	Shreya saha	Atma ram sanatan dharma college , university of delhi
175	Shreyansh shukla	Atma ram sanatan dharma college
176	Shruti kumari	ARSD college
177	SHRUTI SINGH	Arsd college
178	SHUBH CHAHAL	ARSD
179	Shubh Tyagi	Atma Ram Sanatan Dharma College
180	Shubhangi Bhatnagar	ARSD
181	Siya dua	ARSD College
182	Smriti yadav	atmaram sanatan dharma college
183	Sneha mittal	Atma ram sanatam dharma college
184	Srishti Kharola	Acharya Narendra dev college
185	Suman	Rajdhani college
186	Sumit Kumar	ATMA RAM SANATAN DHARMA COLLEGE
187	Sunny kumar	Atma Ram sanatan dharma college
188	SURAJ KUMAR GUPTA	Atma Ram Sanatan Dharma College
189	Sushant Sharma	Acharya Narendra dev college
190	Tanvi Kumar	Ranchi University
191	Tanya Sehwat	ARSD
192	Tarun kumar nigam	Arsd
193	TWINKLE SHARMA	Atma Ram Sanatan Dharma College
194	Ujjwal Sharma	ATMA RAM SANATAN DHARMA COLLEGE
195	Uma Krishna Kant Dev Singh	Atma Ram Sanatan Dharma college
196	Vaibhav Kumar Mishra	Atmaram sanatan dharma college
197	Vaishnavi	Atma Ram Sanatan Dharma College
198	Varsha	ARSD college
199	Versha behwal	Atma Ram sanatan dharam college
200	Vidit Singhal	Atma Ram Sanatan Dharma
201	Vikas kumar	Arsd
202	Vikram Singh	Deshbandhu College
203	Vineet khardia	Atmaram sanatan dharma college
204	Vipul	Atma Ram Sanatan Dharma
205	VISHAL	ARSD college
206	Yaashika Singh	Arsd
	Yash Pandey	Deshbandhu college

Three-Day International Conference on *Recent Advances in Medical Diagnostics* (RAMD-2025) was organized under the aegis of IQAC from **19-21, February 2025** by **Bionomie** in hybrid mode highlighting the importance of correct and rapid diagnosis. We were fortunate to have many eminent speakers for this event. The Keynote speaker for the Inaugural session was **Dr. Pragya D Yadav**, Director in Charge, National Institute of One Health, Nagpur; Scientist 'F' and Group Leader, Maximum Containment Laboratory, ICMR-NIV, Pune who was **recently awarded President's award** shared her insights about their role in fighting COVID. **Prof. V. K. Chaudhary**, NASI Fellow, another recipient of the President's **award** and many **US Patents** shared his journey of developing rapid diagnostics for various diseases. **Dr. Amit Kumar Yadav** from THSTI, Faridabad and **Dr. Kumardeep Chaudhury**, Senior Scientist, IGIB shared important insights about their research. Dr. Himanshu Narayan Singh and Dr. Sanjay Singh joined us from the USA and shared the latest research in the field of Diagnostics and also the challenges associated with it. **Dr. Tushar Sehgal**, Associate Professor Haematology, AIIMS shared the various challenges of Healthcare and also introduced us to their patented Made in India diagnostic machine. Prof. R. Elangovan from IIT Delhi shared his expertise in the field of X-rays. Prof. Rup Lal shared his 25 years of path breaking research in the field of anti-tuberculosis drugs using genetic manipulation. **Dr. Sonu Gandhi** shared her extensive work in the field of Diagnostics. There was also a poster and oral presentation of students and faculties. They were suitably rewarded with prize money and certificates for their hard work. The valedictory session included the lecture of Dr. Sachin Kumar Agrawal from SONY India who introduced the audience to the fascinating world of AI. The abstract book was released on the first day of the conference. Overall it was a success.

आत्मा राम सनातन धर्म महाविद्यालय
ATMA RAM SANATAN DHARMA COLLEGE
 (Under the aegis of IQAC & DBT STAR COLLEGE SCHEME)
 ACCREDITED GRADE A++ BY NAAC
 ALL INDIA 5TH RANK IN NIRF (2023)

BIONOMIE
 DEPARTMENT OF BOTANY AND ZOOLOGY
 UNDER THE AEGIS OF IQAC & DBT STAR COLLEGE SCHEME
 INVITES YOU TO JOIN US FOR INTERNATIONAL SEMINAR ENTITLED
RECENT ADVANCES IN MEDICAL DIAGNOSTICS:
FROM CHEMICALS TO AI

INVITED SPEAKERS:-

 Prof. Sushil Kumar Chaudhary Rank Professor of Biochemistry Bachchan College, India	 Prof. Rup Lal Rajendra Prasad, Panchajanya Bachchan College, India	 Dr. Himanshu Narayan Singh Postdoctoral Research Scientist at Columbia University Irving Medical Center, New York, USA	 Dr. Sonu Gandhi Scientist 'F' and Group Leader Maximum Containment Laboratory (ICMR)	 Dr. Tushar Sehgal Associate Professor ICMR National Institute of Virology Gurgaon, India
 Dr. Sanjay Singh Senior Scientist, ICMR National Institute of Virology Gurgaon, India	 Dr. Kumardeep Chaudhury Senior Scientist, ICMR National Institute of Virology Gurgaon, India	 Dr. Amit Kumar Yadav Senior Scientist, ICMR National Institute of Virology Gurgaon, India	 Dr. Sachin Kumar Agrawal Senior Scientist, ICMR National Institute of Virology Gurgaon, India	 Dr. R. Elangovan Senior Scientist, ICMR National Institute of Virology Gurgaon, India

KEYNOTE SPEAKERS:

 Dr. Pragya D. Yadav Director in Charge National Institute of One Health Nagpur, India	 Prof. R. Elangovan Professor Mechanical Engineering and Biotechnology IIT Delhi	 Dr. Sachin Kumar Agrawal A Director Artificial Intelligence Center of Excellence AIIDE
--	---	--

SDG: 3 GOOD HEALTH & WELL BEING



**DEPARTMENT OF MATHEMATICS ACTIVITIES UNDER THE AEGIS OF
INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE
SCHEME
(2024-25)**

One-Day Hands-on Training Programme on “Mathematical Python” held on 20th March, 2025

Department of Mathematics under the aegis of IQAC and DBT Star College Scheme organized a One-Day Hands-on Training Programme on “Mathematical Python” on 20th March, 2025. The session started with an introduction to Python by **Dr. Ruchika Lalit, Assistant Professor, University School of Automation and Robotics, GGSIP University, Delhi**, discussing its syntax, variables, and basic operations. She continued the session with data structures, highlighting their importance in handling mathematical data efficiently. The discussion on functions in Python emphasized the high-level nature of the programming language. She further discussed the Python Math Module, where built-in mathematical functions like trigonometric, logarithmic, and exponential operations were demonstrated. The NumPy library, a crucial tool for numerical computing, was introduced with hands-on examples.

In the Second session, **Mr. Vikash, Senior Software Developer, Oracle**, discussed Python and its software development applications. Important case studies were discussed as well as understanding how the programming language plays a key role in the industry. Graph theory and its applications in industry, and the implementation of graph algorithms in Python, were also discussed.

In the third session, Mr. Brij Mohan, Assistant Professor, Department of Mathematics, Hansraj College, explored plotting in Python using Matplotlib, showing how visual representation aids in data interpretation. Error handling was also discussed with multiple examples. He concluded the session by elaborating on Object-Oriented Programming.

All the sessions were very informative and interactive. The faculty members and students found this hands-on training program very useful and skill-enhancing





DEPARTMENT OF MATHEMATICS ACTIVITIES UNDER THE AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE SCHEME

(2024-25)

Interactive Seminar on “Modelling Aspects of Weather Forecasting in India” held on 28 August, 2024

Department of Mathematics under the aegis of IQAC and DBT Star College Scheme, organized an interactive seminar on “Modelling Aspects of Weather Forecasting in India” on 28 August, 2024. The guest speaker, **Dr. Shashi Kant, Scientist ‘D’, India Meteorological Department, Delhi**, started with the need of weather forecasting, the process of weather forecasting- a mathematical problem. He continued his lecture by exploring the basics of numerical weather prediction models, the primitive equations, challenges and limitations in weather forecasting. He ended his lecture with a discussion of rainfall analysis and the dynamics of cyclones. Faculty members and students found the seminar very useful and insightful.



Three-Day International Conference on *Recent Advances in Medical Diagnostics* (RAMD-2025) was organized under the aegis of IQAC from **19-21, February 2025** by **Bionomie** in hybrid mode highlighting the importance of correct and rapid diagnosis. We were fortunate to have many eminent speakers for this event. The Keynote speaker for the Inaugural session was **Dr. Pragya D Yadav**, Director in Charge, National Institute of One Health, Nagpur; Scientist 'F' and Group Leader, Maximum Containment Laboratory, ICMR-NIV, Pune who was **recently awarded President's award** shared her insights about their role in fighting COVID. **Prof. V. K. Chaudhary**, NASI Fellow, another recipient of the President's **award and many US Patents** shared his journey of developing rapid diagnostics for various diseases. **Dr. Amit Kumar Yadav** from THSTI, Faridabad and **Dr. Kumardeep Chaudhury**, Senior Scientist, IGIB shared important insights about their research. Dr. Himanshu Narayan Singh and Dr. Sanjay Singh joined us from the USA and shared the latest research in the field of Diagnostics and also the challenges associated with it. **Dr. Tushar Sehgal**, Associate Professor Haematology, AIIMS shared the various challenges of Healthcare and also introduced us to their patented Made in India diagnostic machine. Prof. R. Elangovan from IIT Delhi shared his expertise in the field of X-rays. Prof. Rup Lal shared his 25 years of path breaking research in the field of anti-tuberculosis drugs using genetic manipulation. **Dr. Sonu Gandhi** shared her extensive work in the field of Diagnostics. There was also a poster and oral presentation of students and faculties. They were suitably rewarded with prize money and certificates for their hard work. The valedictory session included the lecture of Dr. Sachin Kumar Agrawal from SONY India who introduced the audience to the fascinating world of AI. The abstract book was released on the first day of the conference. Overall it was a success.



A society of ARSD College organized a **Everything** in the Seminar Hall to promote g formats. Students from all years to witness the remarkable life of renowned ing.

guidance of Dr. Rita Singh, Seminar s smooth execution. The society's executive

team efficiently managed the arrangements, providing a comfortable and enriching experience for all.

Directed by James Marsh, *The Theory of Everything* portrays Hawking's journey from a brilliant Cambridge student to a pioneer in black hole physics, while battling motor neuron disease. The film deeply moved the audience, who were inspired by his resilience, intellect, and unshakable spirit.

After the screening, students engaged in an informal discussion, reflecting on the emotional and intellectual depth of the film. Many shared their admiration for Hawking's scientific contributions and personal courage.

The event concluded with a heartfelt vote of thanks and group photographs to commemorate the evening. It was a memorable and motivating initiative by *Illuminati*, reinforcing the human spirit behind great scientific achievements.



One-day workshop on "FactShala: A Media and Information Literacy Program" held on 10th February 2025, led by the Press Trust of India (PTI)

Under the guidance of IQAC and the Department of Biotechnology (DBT) Star College Scheme, Tech-a-thon, the Computer Science Society organized a workshop titled **"FactShala: A Media and Information Literacy Program"** on February 10, 2025. Led by the Press Trust of India (PTI) in collaboration with DataLeads and the Google News Initiative, FactShala is a nationwide initiative aimed at empowering individuals, particularly from small towns and rural areas, to critically evaluate online information and distinguish facts from misinformation. The program goes beyond addressing misinformation from traditional and social media sources, emphasizing media literacy, content analysis, and the development of essential digital skills for responsible online navigation. The workshop featured distinguished speakers, Mr. Pratyush Ranjan, Head of

Fact-Checking & Digital Services at PTI, and Mr. Abhinav Gupta, News Editor - Digital Media & Fact-Checking, who provided valuable insights into the evolving media landscape. This initiative played a crucial role in equipping participants with the knowledge and tools needed to engage with digital information responsibly and effectively.



DEPARTMENT OF PHYSICS ACTIVITIES UNDER THE AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE SCHEME

(2024-25)

**One-Day Workshop on “Basics of Physics Laboratory Instruments” held on
13th September, 2024**

The Department of Physics, Atma Ram Sanatan Dharma College, under the aegis of the STAR-DBT College Scheme, in collaboration with the Physics Seminar Society, organized a One-Day Workshop on “Basics of Physics Laboratory Instruments” on 13th September, 2024. The workshop was specifically designed for the non-teaching staff to enhance their understanding and operational skills regarding fundamental laboratory equipment used in undergraduate physics laboratories. The event was coordinated by Dr. Nutan Mishra, Department of Physics, Atma Ram Sanatan Dharma College, and Prof. Arijit Chowdhuri, Department of Physics, Acharya Narendra Dev College, University of Delhi.

The workshop commenced with a welcome address followed by a hands-on session conducted by the Key Resource Person. The session included detailed demonstrations on the use, calibration, and maintenance of standard instruments such as the Vernier Calipers, Screw Gauge, Multimeter, Power Supply, and CRO. Emphasis was laid on safety procedures, troubleshooting techniques, and regular upkeep of lab equipment. The participants actively engaged in the sessions and appreciated the practical insights offered. The event successfully fulfilled its objective of skill enhancement and capacity building among the supporting laboratory staff, thereby contributing to the smooth and effective functioning of undergraduate practical labs.



ATMA RAM SANATAN DHARMA COLLEGE
UNIVERSITY OF DELHI
ACCREDITED GRADE 'A++' BY NAAC
ALL INDIA RANK 5TH BY NIRF (MoE)



Physics Seminar Society
 Under the Aegis of
STAR-DBT College Scheme
 Organizes a workshop on
“Basics of Physics Laboratory Instruments”
 For non-teaching staff
 On 13th september, 2024
 at 10:00 am



Key Resource Person
Dr. Nutan Mishra
 Department of Physics
 Atma Ram Sanatan Dharma College
 University of Delhi





Key Resource Person
Prof. Arijit Chowdhuri
 Department of Physics
 Acharya Narendra Dev College
 University of Delhi

Prof. Gyantosh Kumar Jha
Principal, ARSD college

Prof. Vinita Tuli
Star-DBT College Scheme Coordinator

Dr. Anjali Sharma Kaushik
Department Star-DBT Coordinator

Dr. Rita Singh
Physics Seminar Convener

Dr. Manisha Upadhyay
Teacher-in Charge, Physics Department



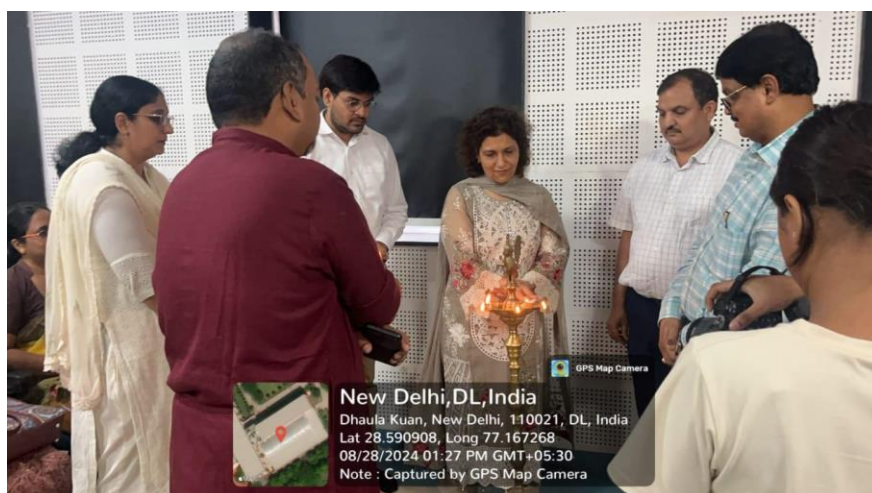


**DEPARTMENT OF
COMPUTER SCIENCE
ACTIVITIES UNDER
THE AEGIS OF
INTERNAL QUALITY
ASSURANCE CELL
(IQAC) AND DBT STAR**

COLLEGE SCHEME 2024-25

1. Seminar on “Research Opportunities in IoT” held on 28th August, 2024

A seminar by professor Amit Prakash Singh from the University School of Information, Communication & Technology, Guru Gobind Singh Indraprastha University, was conducted on August 28, 2024, on the topic **"Research Opportunities in IoT"**. Prof. Singh shared insights from his journey and informed students about the vast opportunities and applications of IoT across various sectors. He discussed its transformative impact on fields such as healthcare, smart cities, and industrial automation, emphasizing key research areas like sensor networks, data analytics, and security and privacy enhancements. Additionally, he highlighted emerging trends, including AI integration and advanced network architectures, while addressing challenges such as interoperability and sustainability.



DEPARTMENT OF PHYSICS ACTIVITIES UNDER THE AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE SCHEME

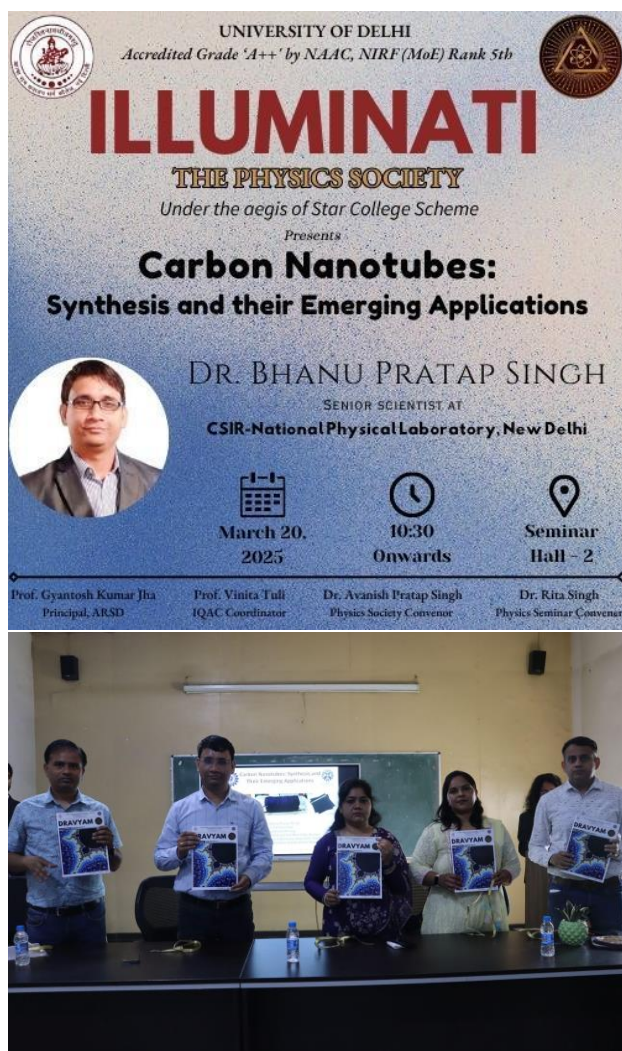
(2024-25)

Seminar on Carbon Nanotubes: Synthesis and their Emerging Applications held on 20th March, 2025

Illuminati The Physics Society organised a highly enriching seminar on “Carbon Nanotubes: Synthesis and their Emerging Applications” by Dr. Bhanu Pratap Singh, Senior Scientist at CSIR-National Physical Laboratory, New Delhi. Dr. Singh offered deep insights into the world of nanomaterials, focusing on carbon nanotubes and their transformative applications in electronics, material science, and healthcare. The session struck the right balance between

research depth and conceptual clarity, garnering praise from students and faculty alike.

The seminar was meticulously coordinated under the guidance of Dr. Rita Singh, Seminar Convener, and Dr. Avanish Pratap Singh, Convener of the Society, whose continued mentorship played a key role in the smooth execution of the fest.



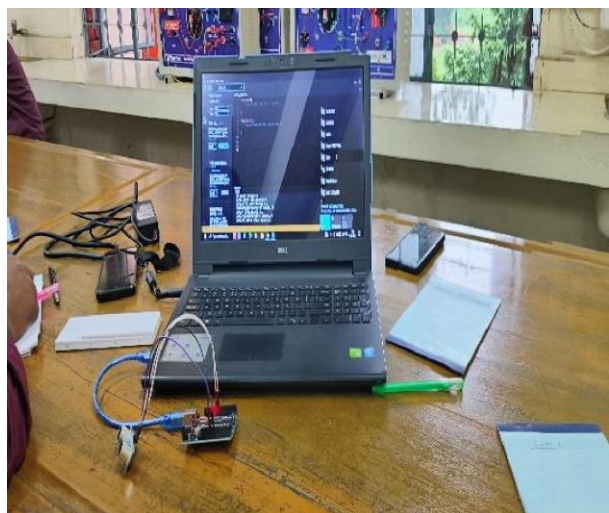
DEPARTMENT OF ELECTRONICS ACTIVITIES UNDER THE AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE SCHEME

Two-Day Hands-On Workshop: Embedded System Design - Learning the Design Paradigms

The Electronics Seminar Society (ElectroSpark), under the aegis of IQAC and *DBT Star College Scheme*, organized a two-day hands-on workshop on "*Embedded System Design*:"

Learning the Design Paradigms" on the 13th and 14th of September 2024. The workshop aimed to give participants practical insights into embedded systems, focusing on the Arduino and ESP32 microcontrollers. Two distinguished industry experts led the sessions: Mr. Akhilesh Yadav, Incubation Manager at K.R. Mangalam University, and Mr. Sunil Kumar, Founder and Director of Electrifuell Pvt. Ltd.

The workshop was highly successful in bridging the gap between theoretical learning and practical application in embedded systems. Both sessions provided invaluable insights into the design and implementation of sensor-based systems, focusing on industry-relevant tools such as Arduino and ESP32.



**DEPARTMENT OF COMPUTER SCIENCE ACTIVITIES UNDER THE AEGIS OF
INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE
SCHEME 2024-25**

Two-day workshop on "Data Science for Sustainable Development: A Path to Viksit Bharat" held on 20-21 March 2025

At the end of the academic session, a **two-day workshop** was conducted on **March 20-21, 2025**, titled **"Data Science for Sustainable Development: A Path to Viksit Bharat"**. The event featured a distinguished lineup of speakers, including **Prof. Vivek Kumar Singh, Prof. Sanjeev Singh, Prof. Kapil Sharma, Prof. Udyan Ghose, Prof. Vasudha Bhatnagar, Prof. Amit Prakash Singh, Prof. Sameer Anand, and Prof. Ajat Jaiswal**, who delivered insightful seminars on the topic. The workshop concluded on a highly positive note, leaving a lasting impression on all the participants.







**DEPARTMENT OF PHYSICS ACTIVITIES UNDER THE AEGIS OF
INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR
COLLEGE SCHEME**

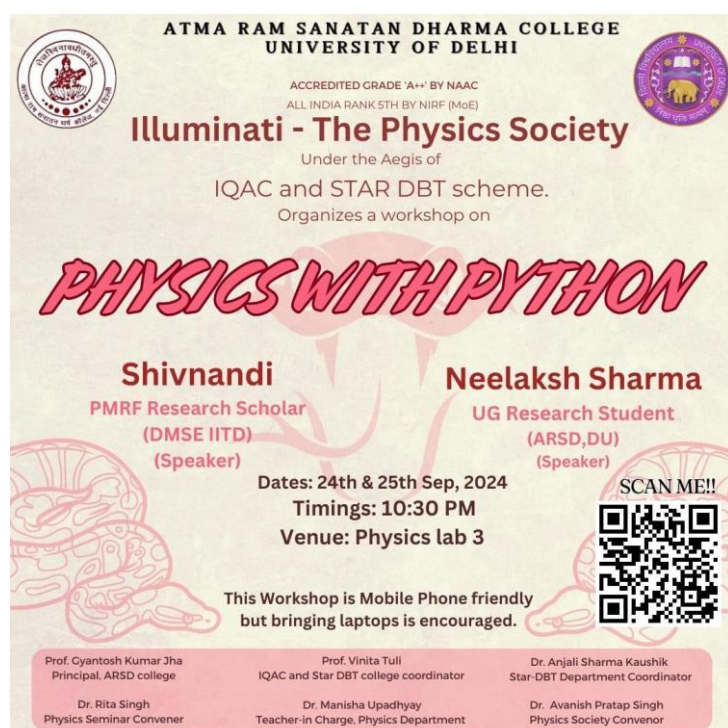
(2024-25)

Two-Day Workshop on “Physics with Python 3” held on 24–25 September, 2024

The academic year for *Illuminati – The Physics Seminar Society* of Atma Ram Sanatan Dharma College, University of Delhi, commenced with a Two-Day Workshop on “Physics with Python 3” held on 24–25 September, 2024. Organized under the aegis of the STAR-DBT College Scheme and IQAC, ARSD, the workshop aimed to bridge programming skills with physics applications, attracting over 100 enthusiastic participants.

The first day of the workshop began with an introduction to Python fundamentals by Shivnandi from IIT Delhi, covering essential topics such as data types, control structures, loops, and user-defined functions. The session smoothly transitioned into more advanced applications with Neelaksh Sharma demonstrating regression models, file handling, and matrix operations relevant to data analysis in physics. On the second day, the focus shifted toward theoretical applications, including Galilean transformations and object-oriented programming. Vyom Singh Rathore concluded the technical sessions with an engaging presentation on integrating APIs for data-driven physics simulations.

The workshop concluded with a two-tier quiz designed to assess and reinforce the participants' understanding of the concepts covered. The interactive and hands-on approach of the sessions ensured that students not only learned Python but also gained confidence in applying it to real-world physics problems.



ATMA RAM SANATAN DHARMA COLLEGE
UNIVERSITY OF DELHI

ACCREDITED GRADE 'A++' BY NAAC
ALL INDIA RANK 5TH BY NIRF (MoE)

Illuminati - The Physics Society
Under the Aegis of
IQAC and STAR DBT scheme.
Organizes a workshop on

PHYSICS WITH PYTHON

Shivnandi
PMRF Research Scholar
(DMSE IITD)
(Speaker)

Neelaksh Sharma
UG Research Student
(ARSD, DU)
(Speaker)

Dates: 24th & 25th Sep, 2024
Timings: 10:30 PM
Venue: Physics lab 3

SCAN ME!!

This Workshop is Mobile Phone friendly
but bringing laptops is encouraged.

Prof. Gyanesh Kumar Jha
Principal, ARSD college

Prof. Vinita Tuli
IQAC and Star DBT college coordinator

Dr. Anjali Sharma Kaushik
Star-DBT Department Coordinator

Dr. Rita Singh
Physics Seminar Convener

Dr. Manisha Upadhyay
Teacher-in Charge, Physics Department

Dr. Avansh Pratap Singh
Physics Society Convener

**DEPARTMENT OF COMPUTER SCIENCE ACTIVITIES UNDER THE AEGIS OF
INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE
SCHEME 2024-25**

A seminar on "Adaptive Methods for Supervised Learning" held on 11 November 2024

A seminar on "Adaptive Methods for Supervised Learning" was conducted on November 11, 2024, by Professor Pravin Chandra from the University School of Information, Communication & Technology, Guru Gobind Singh Indraprastha University. The session opened with an **inspiring quote** and a **warm welcome** to the attendees. Prof. Chandra explained how **adaptive methods enhance the learning process** by enabling algorithms to adjust to **new, incoming data**. His presentation provided a **comprehensive overview** of supervised learning techniques, emphasizing their importance across various domains. He also discussed the role of **neural networks**, illustrating how they function similarly to the human brain in recognizing patterns and making predictions.



An outreach program from Sri Venkateshwara International School was held on 24th September 2024

An **outreach program** was held on September 24, 2024, at ARSD College in collaboration with the departments of Computer Science, Chemistry, Botany, Zoology, Mathematics, Physics, and Electronics. Students registered for VVM 2024 from Sri Venkateshwara International School participated in the event, engaging in an exploration of science and technology. The visit offered a unique and enriching experience, aiming to inspire young minds through hands-on learning and interactive demonstrations. Beyond providing valuable educational exposure, the program fostered a sense of community and collaboration between the college and the school. By encouraging students to delve into scientific principles and technological advancements, ARSD College strives to nurture the next generation of innovators and thinkers.

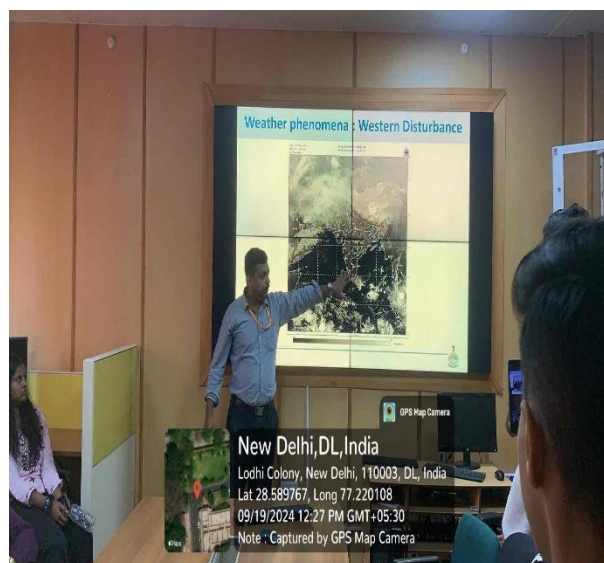


**DEPARTMENT OF MATHEMATICS ACTIVITIES UNDER THE
AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND
DBT STAR COLLEGE SCHEME**

(2024-25)

Educational Visit to the Indian Meteorological Department (IMD), New Delhi, on September 19, 2024

The Department of Mathematics, in collaboration with the Department of Computer Science and the Department of Chemistry, organized an educational visit to the *Indian Meteorological Department (IMD), New Delhi, on September 19, 2024.*



DEPARTMENT OF PHYSICS ACTIVITIES UNDER THE AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE SCHEME

(2024-25)

Educational Visit to the National Science Centre in Pragati Maidan, New Delhi, on September 10, 2024

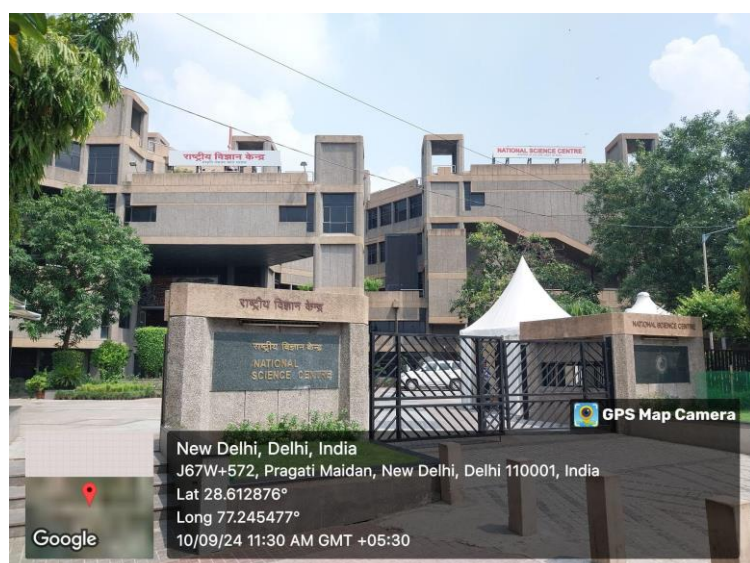
The Department of Physics organized an educational visit to the National Science Centre, Pragati Maidan, New Delhi, on September 13, 2024. The visit aimed to provide students with experiential learning beyond the classroom and to ignite curiosity about scientific concepts through interactive exploration.

Students began their journey with engaging exhibits on space science, gaining insights into the solar system and recent advancements in space exploration. A major attraction of the visit was the 3D planetarium show, which offered an immersive experience of celestial bodies and cosmic phenomena.

The visit also included exploration of the outdoor science park, where students actively participated in hands-on experiments related to fundamental principles of physics and chemistry. A dedicated section on renewable energy introduced students to sustainable technologies and their real-world applications, further stimulating interest in environmental science.

Workshops conducted during the visit encouraged analytical thinking and creativity, helping students relate theoretical concepts to practical scenarios. The dynamic and inspiring environment of the centre, filled with interactive exhibits and enthusiastic learners, made the experience enriching and memorable.

The educational trip to the National Science Centre proved to be a valuable opportunity for students to deepen their scientific understanding and foster a spirit of inquiry.



**DEPARTMENT OF PHYSICS ACTIVITIES UNDER THE AEGIS OF
INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR
COLLEGE SCHEME**

(2024-25)

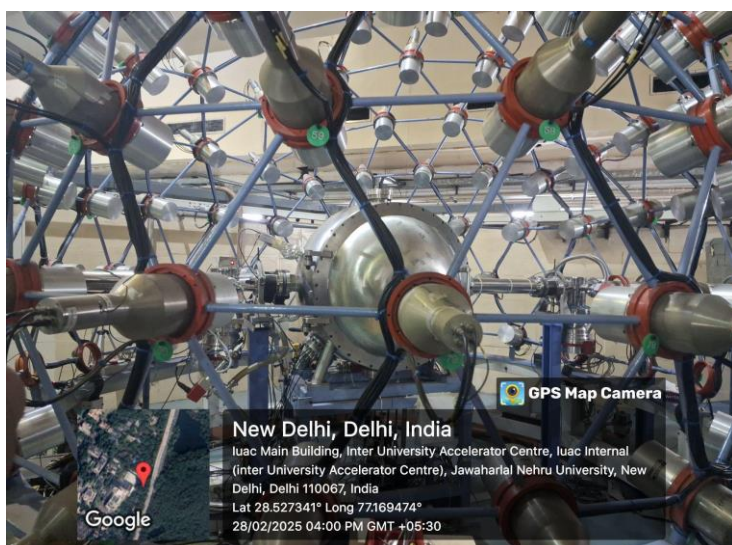
Educational Visits to AMD and IUAC on National Science Day – 28 February, 2025

To celebrate National Science Day, students of Atma Ram Sanatan Dharma College visited two leading scientific institutions on 28 February, 2025, offering them a unique opportunity to engage with cutting-edge research and technological advancements.

A group of students visited the *Atomic Minerals Directorate for Exploration and Research (AMD)*, where they attended an insightful seminar on mineral detection techniques and the role of nuclear energy in sustainable development. The visit included a guided tour of laboratories housing advanced analytical instruments used in geological and nuclear research. Two students from ARSD College were recognized for their excellence, winning an on-the-spot quiz conducted during the event.

Simultaneously, another group explored the *Inter-University Accelerator Centre (IUAC)*. The highlight of this visit was an engaging lecture by Dr. Vedangdas Mohanti on the origin of mass in fundamental particles. Students had the opportunity to tour world-class facilities, including the UV Spectroscopy Lab and PARAM RUDRA, one of India's high-performance computing clusters dedicated to particle physics research.

These parallel visits provided invaluable exposure to frontier scientific research and significantly enriched the students' academic experience by fostering curiosity and deepening their understanding of contemporary science.



DEPARTMENT OF MATHEMATICS ACTIVITIES UNDER THE AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE SCHEME

(2024-25)

Outreach Program for School students held on 24 September 2024

An outreach program was held on September 24, 2024, at ARSD College in collaboration with the departments of Computer Science, Chemistry, Botany,

Zoology, Mathematics, Physics, and Electronics. Students registered for VVM 2024 from *Sri Venkateshwara International School* participated in the event.



Outreach Program for School students held on 24 September 2024

An outreach program was held on September 24, 2024, at ARSD College in collaboration with the departments of Computer Science, Chemistry, Botany, Zoology, Mathematics, Physics, and Electronics. Students registered for VVM 2024 from *Sri Venkateshwara International School* participated in the event.



On **September 24, 2024**, the Department actively participated in an Outreach Programme organized under DBT STAR College Scheme. The faculties introduced the students to various types of microscopes, instruments and also did hands on training on blood test rapid field test.



Report on the Electronics Department Visit to PowerGrid PAL, Manesar, Gurugram

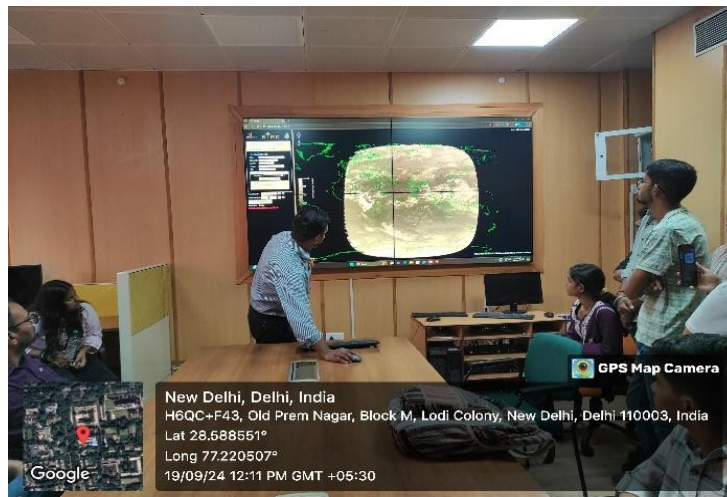
The Department of Electronics under the aegis of the *Star-DBT College Scheme*, organized a one-day educational trip to the PowerGrid Academy of Leadership (PAL) in **Manesar, Gurugram**. This academic trip aimed to give students an in-depth understanding of power transmission systems and advanced technologies.

The visit to the PowerGrid Academy of Leadership (PAL) in Manesar, Gurugram, on 24th September 2024 was a valuable academic experience for the Electronics Department students, offering firsthand insight into India's power infrastructure and the advanced technologies used to maintain and manage it. The trip not only enhanced our theoretical knowledge but also provided a real-world context for the subjects we studied, such as circuit breakers, power transmission, and digital monitoring systems. It was an enriching experience that emphasized the role of electronics and technology in shaping the future of India's power sector.



An educational visit to the Indian Meteorological Department (IMD), New Delhi held on 19th September 2024

A visit to the **Indian Meteorological Department (IMD), New Delhi**, was organized on **September 19, 2024**. An insightful presentation was delivered in conference room covering various technologies used for monitoring India's climate and weather. The session included discussions on **geostationary and polar satellites, data collection from neighboring countries, historical weather records, public and private IMD websites, as well as maps and color-coded graphs representing climate patterns across different regions**. The visit concluded with an engaging Q&A session, fostering a deeper understanding of the future prospects of meteorology.



DEPARTMENT OF BOTANY ACTIVITIES UNDER THE AEGIS OF INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR COLLEGE SCHEME

(2024-25)

Departmental society *Bionomie* collaborated with the Eco Club under the aegis of IQAC to organize a one day interactive session with experts under annual fest of *Paritantrika, Prakriti Parv* on February 17, 2025. **Dr. Anil Kumar, Ex-Director, Department of Education, Government of India**, shared his view on Mission Life and Low Carbon Strategies-A Path to Climate Resilience and also actively engaged with the audience. The next interactive talk about the Bird's strike and Air safety was given by **Mr. Rohit Kumar Baldodia, Wildlife Expert from Airport Authority of India**.



**DEPARTMENT OF PHYSICS ACTIVITIES UNDER THE AEGIS OF
INTERNAL QUALITY ASSURANCE CELL (IQAC) AND DBT STAR
COLLEGE SCHEME**

(2024-25)

**Lecture on Quantum Entanglement & EPR Paradox held on February 7,
2025**

The Illuminati—Physics Seminar Society of ARSD College—organized a compelling seminar on *Quantum Entanglement and the EPR Paradox*, featuring Prof. Tabish Qureshi from the Centre for Theoretical Physics, JMI, New Delhi, as the distinguished speaker. The event began with a warm welcome by Siya and Garvit from the physics society, followed by opening remarks from Dr. Manisha Upadhyaya, Teacher-in-Charge, who emphasized the value of such academic initiatives. A memoir was presented to Prof. Qureshi, setting the stage for an intellectually enriching session.

Prof. Qureshi skillfully laid out the foundations of quantum mechanics, drawing contrasts with classical physics and using vivid analogies. He explained quantum entanglement and unraveled the EPR Paradox, analyzing Einstein, Podolsky, and Rosen's arguments. His engaging discussion on Bell's Inequality captivated the audience, highlighting experimental validations of quantum non-locality. The session concluded with practical insights into quantum cryptography and its future applications.

A lively Q&A followed, with Prof. Qureshi addressing student and faculty queries in depth. The event ended with a heartfelt vote of thanks by Dr. Rita Singh, Seminar Convener. The seminar left attendees inspired and deeply curious about the quantum world and its vast possibilities.





ATMA RAM SANATAN DHARMA COLLEGE
UNIVERSITY OF DELHI
Accredited Grade 'A++' by NAAC, NIRF (MoE) Rank 5th



ILLUMINATI

PHYSICS SEMINAR SOCIETY
Under the aegis of Star College Scheme

Is Organizing A Seminar On

QUANTUM ENTANGLEMENT & EPR PARADOX



Prof. Tabish Qureshi
Centre for Theoretical Physics, JMI, New Delhi
 Postdoc at IMSc Chennai and IGCAR Kalpakkam.
 Notable work on wave-particle duality, delayed-choice eraser,
 and Popper's experiment.



7th February, 2025



Physics Lab-3



10:30 AM

Prof. Gyantosh Kumar Jha
Principal

Prof. Vinita Tuli
IQAC Coordinator

Dr. Avanih Pratap Singh
Physics Society Convener

Dr. Rita Singh
Physics Seminar Convener

ANNUAL REPORT OF DEPARTMENT OF BOTANY AND ZOOLOGY



The Departmental Society of Botany and Zoology, *Bionomie*, started the eventful academic year by organizing one day seminar to celebrate **Ozone Day with the theme Montreal Protocol: Advancing Climate Action on September 17, 2024** under the aegis of IQAC, ARSD College and DBT Star College scheme in collaboration with *Paritantrika*. **Dr. Ojit Singh M.**, Associate

Professor Zoology Ramjas College shared his thought with our students on Montreal Protocol. His lecture was followed by interactive session with **Dr. Arun Kumar Maurya**, Assistant Professor Botany from Multanimal Modi College, Modinagar. He shared the various aspects of Ozone Depletion.

Annexure A

Budgetary Object Heads	Grant Received/ Assigned from DBT during the Financial Year (Rs.)	Total Grant Available (Rs.)	Actual Expenditure (Rs.)	Balance Grant Available (Rs.)
Grants-in- aid General	17,50,000/-	17,50,000/-	17,49,920/- Utilized for the 1) Purchase of chemicals and other consumables: (Rs. 15,50,920/-): 88.7% 2) Travel: (Rs. 71,000/-): 4% 3) Contingency: (Rs.1,00,000/-): 5.7% 4) Mentoring activities: (Rs. 28000/-): 1.6%	80/-