

Report of Department of Physics (2024-25)



Mehr Chand Mahajan
DAV College for Women
Sector-36/A, Chandigarh

www.mcmdavcw-chd.edu
0172- 2603355, 0172- 2624921

1. Names of Programmes/Courses offered (UG, PG, M.Phil, Ph.D, Integrated Masters etc.)

- i. B.Sc. Non medical
- ii. B.Sc. Vocational/Computer Application
- iii. B.Sc. Physics Hons.

2. Number of teachers:

1. Dr. Renu Bala (HOD)
2. Dr. R. Ridhi
3. Dr. Kulwinder Kaur
4. Dr. Monika
5. Dr. Swati Khatta

4. Details of Publications by the Faculty in the session: (Hard Copies of the Title Page of the Journal/Contents and First page of the Paper to be collected by the HODs)

Permanent Faculty/ Contractual faculty	Title of Paper	Title of the Journal with ISSN	Month/Year	PEER Reviewed/Refereed	UGC/CARE Enlisted (Yes/No)	URL
Dr Renu Bala	Advances and Applications of Ultracold Systems	New Horizon	2024	Yes	Yes	
Dr. Monika	Harnessing Renewable Energy via Tunable Hydrovoltaic Power Generation on Cobalt Intercalated Nitrogen -doped Graphene	Advanced Energy Materials	2025	Yes	Yes	https://doi.org/10.1002/aenm.202500138
Dr Kulwinder Kaur	Advancement in the thermoelectric performance of bulk SnSe: GGA+U approach for band gap calculation and strain induced thermal conductivity, 182 (2025), 113181	Materials Research Bulletin	2025	Yes		

Optimising the thermoelectric properties of SnTe by band engineering, 98 (2024) 149	Pramana	2024	Yes		
Effect of Pressure on Thermoelectric Performance of Half Heusler Compounds	Inorganic Chemistry Communications	2024	Yes		
Understanding the ultralow thermal conductivity and strong anharmonicity of a lanthanum-based germanium halide monolayer for possible thermoelectric applications, 7 (2024) 9279-9288	ACS Applied Energy Materials	2024	Yes		
Thermoelectric properties of Sn ₂ SSe via band engineering with Ge alloying	Phys. Scr	2024	Yes		
Exploring electron energy dependencies in the formation of surface charge on ZnO crystals, 227 (2024) 113395	Vacuum	2024	Yes		

5. Details of Publication of Books/Chapters in Books by the Faculty in the session (Hard Copies of the Title Page of the Journal/Contents and First page of the Paper/Book/ Book Chapter to be collected by the HODs)

Permanent Faculty/ Contractual faculty	Title of Book/ Book Chapter	Month/ Year	Name of the Publisher	National/ International	ISBN
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6. Awards/ Recognitions received by faculty:

Name and Designation of the Faculty	Name of the Award	Name of the Agency	Month/Year

7. List of eminent Academicians and Scientists/ visitors to the department:

Professor K. N.Pathak, Former Vice-Chancellor Panjab University and Professor Emeritus at Department of Physics, Panjab University, Chandigarh on 03 March 2025 in Physics Fest.

Student Enrichment Programmes organized by the Department**8.(a) Seminars/Conferences organized by the department in the session: Kindly include the sponsoring/funding agency:**

Date	Title of the Event	Name of the Funding Agency	No. of Students benefitted
03 March 2025	Physics Fest Eureka	DST under MCM Vigyan Manch	About 100

8 (b) Skill-based Workshops/ Extension Lectures/Panel Discussions organized by the department in the session:

Title of the Workshop/ Extension Lectures/Panel Discussions	Date	Objective	No. of Students benefitted
3-day Skill Workshop on 'Designing and fabrication of LED'	17 February 2025 to 19 February 2025	To give hands-on training to students on designing and fabrication of LED	About 100

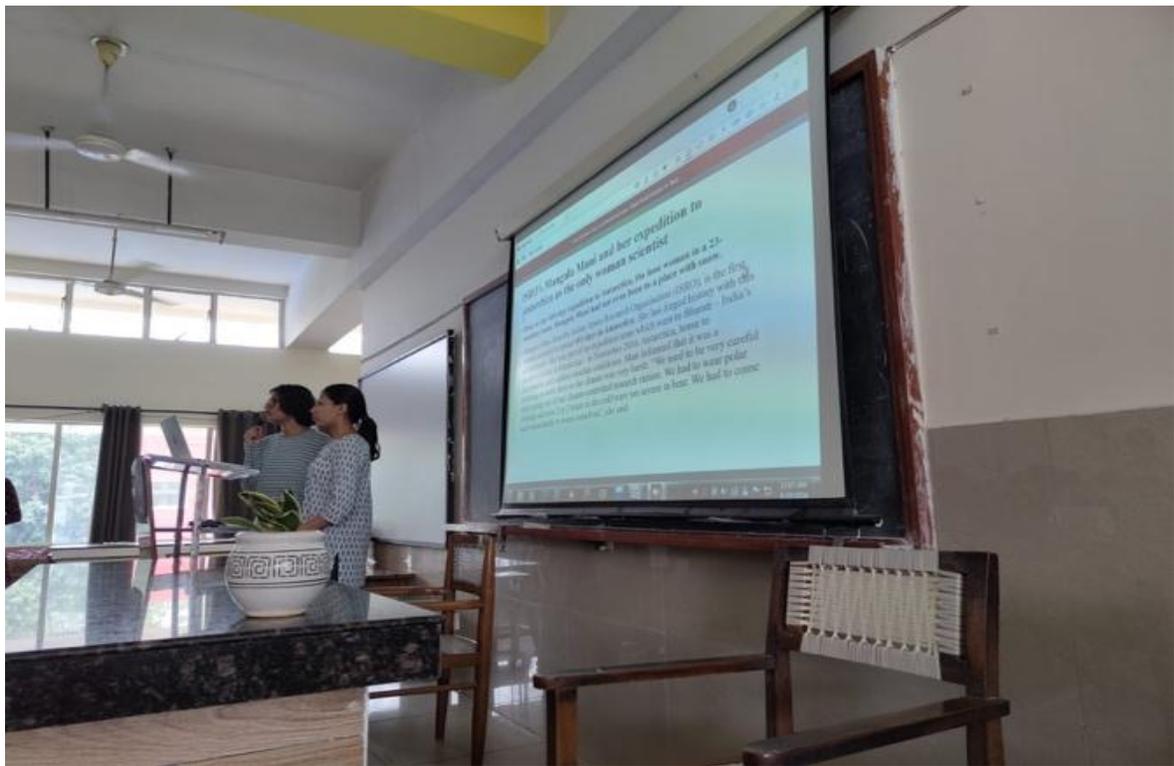
9. ACTIVITIES CONDUCTED BY DEPARTMENT OF PHYSICS, 2024-25

1. **Celebration of National Space Day** on 23 August 2024
2. **Celebration of Ozone day** on 16 September 2024
3. **Lab Visit to INST, Mohali**, 20 September 2024
4. Three days **Workshop on ‘Designing and fabrication of LED’** from 17 February to 19 February 2025
5. **DST sponsored Inter-College Science Fest 2025**, 28 February 2025
(T-shirt painting on theme ‘Importance of Science in Everyday Life’)
6. **DST sponsored Physics Fest ‘EUREKA 2024’** on 03 March 2025
(Quiz, Power Point Presentation, Science Talk, Innovative Physics Model, Sketches of Indian Scientists, Sci-Fi Jagriti)
7. Participation of students in **various inter-College competitions**

1. CELEBRATION OF NATIONAL SPACE DAY, 23 August 2024

Department of Physics celebrated the first National space day on 23 August 2024. Power point competition was organized in which students participated enthusiastically. Students highlighted the contributions by Indian Space Scientists and various National Space missions by Indian Space Research Organization (ISRO), specially the Chandrayaan-3 mission which accomplished safe and soft landing of Vikram Lander on lunar surface on 23 August 2023. To commemorate this success 23 August is celebrated as National Space day. The Principal Dr Nisha Bhargava applauded the efforts of the department.





2. CELEBRATION OF OZONE DAY, 16 September 2024

Department of Physics celebrated the Ozone day in Collaboration with Viksit Bharat Abhiyan Committee on 16 September 2024. Extempore Competition was organized on theme impact of ozone layer depletion on climate risk, with aim to sensitize the students about Montreal protocols that need to be adopted for preventing ozone layer depletion. The participants expressed their viewpoint about various preventive measures that need to be incorporated in day today life. Students and faculty also took a pledge to use the ozone friendly goods and services. Principal Dr Nisha Bhargava appreciated the efforts of the department.



MCM celebrates World Ozone Day

September 20, 2024 03:23 PM



CHANDIGARH, 20.09.24- The Department of Physics at Mehr Chand Mahajan DAV College for Women, Chandigarh, in collaboration with Viksit Bharat Abhiyan Committee, marked the celebration of World Ozone Day 2024 with an

Extempore Competition on the theme 'Impact of Ozone layer depletion on climate risk'. The aim of this competition was to sensitise students about imperative Montreal protocols that need to be adopted for averting Ozone layer depletion. The participants expressed their viewpoints about various paradigm preventive measures that need to be incorporated in day-to-day life like waste segregation at source, planting more trees and other methodologies to reduce the emission of harmful gases and vapours like CFC, methane gas and other ozone depleting sources. The event concluded with a pledge ceremony wherein the students and faculty members vowed to promulgate the use of Ozone friendly goods and services. Dr. Nisha Bhargava, Principal of the college, while appreciating the efforts of Department of Physics and Viksit Bharat Abhiyan Committee, said that such competitions on current issues are a platform to bring together students from all streams, generate awareness about those issues and deliberate on possible solutions.

MCM celebrates World Ozone Day



CHANDIGARH: The Department of Physics at Mehr Chand Mahajan DAV College for Women, Chandigarh, in collaboration with Viksit Bharat Abhiyan Committee, marked the celebration of World Ozone Day 2024 with an Extempore Competition on the theme 'Impact of Ozone layer depletion on climate risk'. The aim of this competition was to sensitise students about imperative Montreal protocols that need to be adopted for averting Ozone layer depletion.

The participants expressed their viewpoints about various paradigm preventive measures that need to be incorporated in day-to-day life like waste segregation at source, planting more trees and other methodologies to reduce the emission of harmful gases and vapours like CFC, methane gas and other ozone depleting sources. The event concluded with a pledge ceremony wherein the students and faculty members vowed to promulgate the use of Ozone friendly goods and services. Dr. Nisha Bhargava, Principal of the college, while appreciating the efforts of Department of Physics and Viksit Bharat Abhiyan Committee, said that such competitions on current issues are a platform to bring together students from all streams, generate awareness about those issues.

3. LAB VISIT to INST Mohali, 20th September 2024

Department of Physics at Mehr Chand Mahajan DAV college for Women organized B.Sc. NM 3rd year students visit to Institute of Nano Science and Technology (INST) Mohali on 20th September, 2024. Students were accompanied by Dr. Monika, Physics department. Students got opportunity to get information about diverse research activities that are held at the institute. Various experimental techniques were showcased to the students including facilities such as Nuclear Magnetic Resonance (NMR) spectroscopy, X-Ray diffraction, Transmission Electron Microscope (TEM), Scanning Electron Microscope (SEM), Raman Spectroscopy, Atomic Force Microscopy (AFM), Physical Property Measurement System (PPMS), Drop Shape Analyzer, electron beam evaporation system. Students also visited state of the art fabrication techniques placed in the Clean room including Sputtering, Pulsed Laser Deposition (PLD), mask aligner and the characterization tool: parametric analyzer for current-voltage measurements. The research scholars and the technical staff at the institute demonstrated fundamental functioning of the instruments and its applications for research purpose. The visit was very informative for the students seeking to pursue their career in research and development field.



Details of the students who visited INST Mohali

S. No.	Name	Roll number	Class
1.	Aastha	1329	B.Sc. III NM
2.	Anmol Verma	1340	B.Sc. III NM
3.	Navriti	1335	B.Sc. III NM
4.	Kirti	1364	B.Sc. III NM
5.	Bhawna	1312	B.Sc. III NM
6.	Sneha	1366	B.Sc. III NM
7.	Asmita	1355	B.Sc. III NM
8.	Sanya	1356	B.Sc. III NM
9.	Prachi	1360	B.Sc. III NM
10.	Disha	1365	B.Sc. III NM
11.	Sahajpreet	1369	B.Sc. III NM
12.	Suhani	1361	B.Sc. III NM
13.	Diya Singh	1362	B.Sc. III NM

4. WORKSHOP ON DESIGNING & FABRICATION OF LED, 17 to 19 February 2025

The Physics department of Mehr Chand Mahajan DAV College for Women, Chandigarh organized three days workshop on 'Designing and fabrication of LED' from 17 February 2025 to 19 February 2025. The aim of the workshop was to inculcate skill and innovation among students. The participants were trained to assemble LED bulbs and were taught about their constituent elements and fabrication processes. Mechanical pressing for adhesions, Soldering for electrode connections, gluing the Printed Circuit Boards (PCBs) and LED diodes were some of the skills practiced by the participants during the workshop.

The workshop was inaugurated on 17th February, 2025 in which Dr. Deepak Garg, Department of Physics, DAV College delivered the key note address highlighting the significance of LED. He discussed the energy efficiency of LED with its durability. Mrs Suman Mahajan, the officiating Principal MCM DAV College, felicitated the resource person and encouraged the students during the workshop. She also appreciated Dr. Renu Bala, HOD and Co-Convener for conducting such skill oriented workshop for the students. About 90 students and 15 staff members participated in this workshop.

The workshop was conducted for three continuous days in which students were divided into small groups to give them individual attention and hands on training for assembling LED bulbs. On the last day, a session was also conducted for teaching and non-teaching staff of the college. The students participated enthusiastically in the workshop and learned various skills of electronic.







एमसीएम में एलईडी डिजाइनिंग कार्यशाला में स्टूडेंट्स ने सीखे गुर

जागरण संघाद्वारा, चंडीगढ़ :

मेहर चंद महाजन डीएवी महिला महाविद्यालय के भौतिकी विभाग की ओर से 'डिजाइनिंग एंड फेब्रिकेशन आफ एलईडी' विषय पर तीन दिवसीय कौशल विकास कार्यशाला का आयोजन किया गया। कार्यशाला का उद्देश्य विद्यार्थियों में तकनीकी दक्षता के साथ-साथ नवाचार की भावना को प्रोत्साहित करना था। कार्यक्रम के उद्घाटन सत्र में डीएवी कालेज के डा. दीपक गर्ग ने एलईडी की ऊर्जा दक्षता और पर्यावरणीय लाभों पर मुख्य भाषण दिया। कार्यशाला के दौरान प्रतिभागियों को एलईडी बल्ब असेंबल करने, सोल्डरिंग, पीसीबी तकनीक और झयोड चिपकाने जैसी विधियों का व्यावहारिक



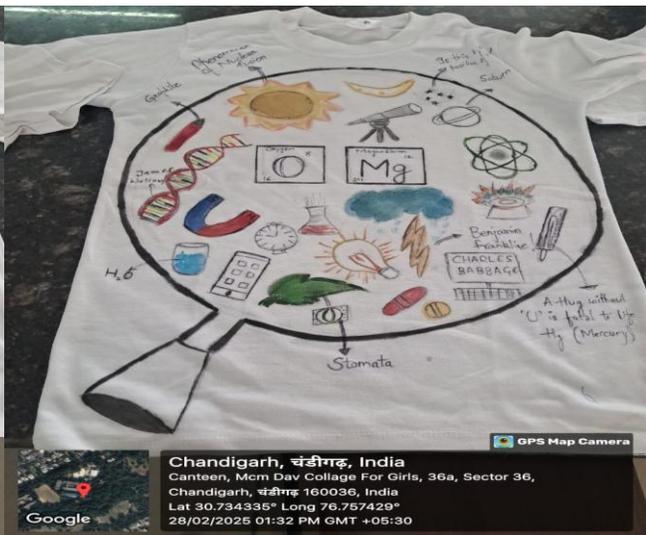
कार्यशाला में भाग लेते कालेज स्टूडेंट्स। प्रशिक्षण दिया गया। कार्यवाहक प्राचार्या नीना शर्मा ने इस पहल की सराहना करते हुए कहा कि ऐसे कार्यक्रम विद्यार्थियों के समग्र विकास में सहायक होते हैं और उन्हें उद्योग की जरूरतों के अनुरूप तैयार करते हैं।

5. CELEBRATION OF NATIONAL SCIENCE DAY, 28 February 2025

Inter-College T-Shirt Painting competition was organized by Department of Physics on the theme 'Importance of Science in Everyday life' to celebrate National Science day on 28 February 2025 under the aegis of MCM Vigayan Manch and IIC. It was sponsored by DST, Chandigarh. Students from the host institute and various institute from Chandigarh enthusiastically participated in this event. Students exhibited innovation and creativity by combing Science and art. The first prize was won by team Ms Shreya Rana, Neha Kumari of B.Sc II from MCM DAV College, second prize won by team of Ms Komalpreet Multani, Hitanshu of B.Sc III from MCM DAV College, third prize won by Ms Akshdeep Kaur, Akshita Sharma of B.Sc I from Post Graduate Govt. College for Girls Sector 11. Dr Neeru Chaudhary from Physics Department, Panjab University judged the participants on the basis of creativity and motivated them for future endeavors. Dr Renu Bala, Head of the department and Coordinator, applauded the efforts of the students and encouraged them.



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एमसीएम ने राष्ट्रीय विज्ञान दिवस मनाया

2 दिवसीय इंटर-कॉलेज साइंस फ़िरादा 2025 का आयोजन

चंडीगढ़, 1 मार्च : राष्ट्रीय विज्ञान दिवस के अवसर पर वैज्ञानिक नवजागरूकता को प्रोत्साहित करने और छात्रों को प्रेरित करने के लिए एमसीएम कॉलेज चंडीगढ़ ने इंटर-कॉलेज साइंस फ़िरादा 2025 का आयोजन किया।

चंडीगढ़ प्रशासन के विज्ञान और प्रौद्योगिकी और नवीकरणीय ऊर्जा विभाग (डीएनपीडी और आरए) द्वारा प्रायोजित इस उत्सव का विषय का उपसर्ग 'इंटर-कॉलेज साइंस फ़िरादा 2025' का आयोजन किया। छात्रों को इंटर-कॉलेज साइंस फ़िरादा 2025 का आयोजन किया।

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प्रक्रिया, डिजिटल चित्रण और नवीकरणीय ऊर्जा विभाग (डीएनपीडी और आरए) द्वारा प्रायोजित इस उत्सव का विषय का उपसर्ग 'इंटर-कॉलेज साइंस फ़िरादा 2025' का आयोजन किया। छात्रों को इंटर-कॉलेज साइंस फ़िरादा 2025 का आयोजन किया।



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5. CELEBRATION OF PHYSICS FEST ‘EUREKA 2024’, March 2025

The Department of Physics, Mehr Chand Mahajan DAV College for Women, organized Department of Science and Technology (DST) Sponsored Physics Fest ‘EUREKA 2024’ under the aegis of MCM Vigayan Manch on 03 March 2025. Various competitions such as Quiz, PowerPoint Presentation, Science Talk, Innovative Physics Model, Sketch of Indian Scientists, Sci- Fi Jagriti were organized for students. About 100 students enthusiastically participated in the Fest showing their innovative ideas and scientific knowledge. The Chief Guest Prof. K. N. Pathak, Former Vice-Chancellor and Professor Emeritus Panjab University Chandigarh interacted with the students, appreciated their creativity and gave prizes to the winners of various categories. He also motivated the students for spending more time with books and less with phone to enhance the overall growth. Dean Science, Dr Indu Arora honored the Chief Guest. Co-Convener and HOD, Dr Renu Bala, also appreciated the efforts of the students. The details of winners of various events are as follows:

Event	1st position	2nd Position	3rd position
Quiz	Aaditya,Diya,Riya	Navkiran Chouhan, Jasleen Kaur, Utkarsh Kaur Bedi B.Sc III	Nidhi Sharma, Anshika, Kirti
PowerPoint Presentation	Roopamdeep, Palak B.Sc II	Nisha Mittal, Aastha B.SC I CA	Prakshi B.SC I CA
Science Talk	Diya Singh Omta, B.Sc III NM	Komal B.Sc II NM	Sakshi Sharma B.Sc II NM
Innovative Physics Model	Manal Choudhry, Arshiya B.Sc II	Neha Kumari, Simran B.Sc II NM	Sehajpreet Kaur, Disha B.Sc III NM
Sketch of Indian Scientist	Deepika B.Sc Medical III	Harsimarjit Kaur B.Sc I NM	Jayanti Garg B.Sc II NM
Sci- Fi Jagriti	Navrosedeeep Kaur B.Sc II NM	Poorvi, Himani, Samriti B.Sc II N M	Anmol Verma, Suhani, Diya Singh Omta, B.Sc III NM







GPS Map Camera



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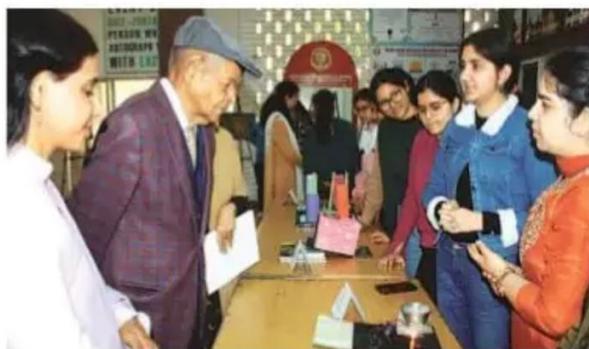
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एमसीएम में फिजिक्स फेस्ट यूरिका आयोजित



फेस्ट में प्रदर्शनी को देखते हुए मुख्यातिथि।

सवेरा न्यूज/नीना चंडीगढ़, 12 मार्च : एमसीएम डीएवी कॉलेज फॉर वूमैन सैक्टर 36 के भौतिकी विभाग ने एमसीएम विज्ञान मंच के तत्वावधान में डीएसटी प्रायोजित फिजिक्स फेस्ट यूरिका का आयोजन किया गया। इस फेस्ट में पंजाब विश्वविद्यालय, चंडीगढ़ के पूर्व कुलपति एवं प्रोफेसर एमेरिटस प्रो. केएन पाठक बतौर मुख्य अतिथि शामिल हुए। फेस्ट के तहत विजय, पावरपॉइंट प्रेजेंटेशन, साइंस टॉक, इनोवेटिव फिजिक्स मॉडल, भारतीय वैज्ञानिक का स्केच और साइ-फाई जागृति जैसी विभिन्न प्रतियोगिताओं का आयोजन किया गया। इस फेस्ट में लगभग 100 विद्यार्थियों ने उत्साहपूर्वक भाग लिया और अपनी नवीन विचारधारा व वैज्ञानिक ज्ञान का प्रदर्शन किया। प्रो. पाठक ने विद्यार्थियों से संवाद किया उनकी रचनात्मकता की सराहना की और विभिन्न श्रेणियों के विजेताओं को पुरस्कार प्रदान किए। उन्होंने विद्यार्थियों को उनके समग्र विकास के लिए प्रेरित भी किया। कार्यवाहक प्राचार्या सुमन महाजन ने विद्यार्थियों की रचनात्मकता को उजागर करने की इस पहल की सराहना की।

MCM holds Physics Fest Eureka

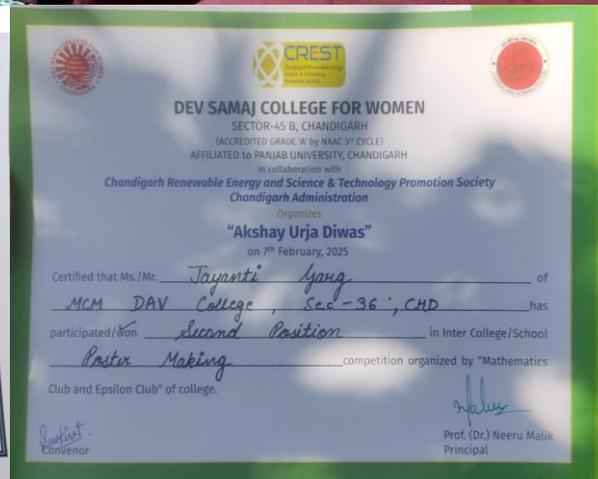
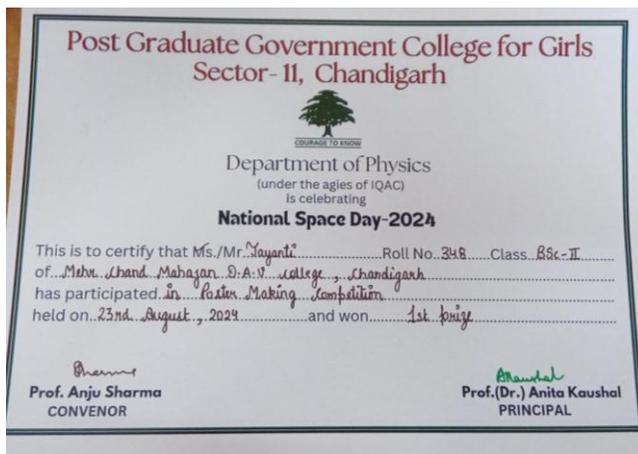


CHANDIGARH: The Department of Physics at Mehr Chand Mahajan DAV College for Women, Chandigarh, under the aegis of MCM Vigyan Manch, organised DST sponsored Physics Fest Eureka. Prof. K. N. Pathak, Former Vice-Chancellor and Professor Emeritus, Panjab University, Chandigarh, graced the Fest as the Chief Guest. Various competitions such as Quiz, PowerPoint Presentation, Science Talk, Innovative Physics Model, Sketch of Indian Scientist, and Sci-Fi Jagriti were organised as part of the Fest.

7. Participation of students in Various Inter-College Competitions

The students of Physics department participated and won prizes in various Inter-College Competitions organized by various institutions such as at GCG-11 (PPT, Poster Making) on 23 August 2024, Dev Samaj College (Poster, Declamation) on 07 February 2025, Govt College, Sector 11 (Physics Quiz) on 24 February 2025, SD College on 04 March 2025. Ms Neha and Isha of B.Sc II N.M stood second in Scientific Rangoli, Roopamdeep second in PPT at SD College. Ms Jayanti of B.Sc II N.M stood First in inter-College Poster-making competition at GCG-11. She also stood second at Dev Samaj College.





10. Achievements by Department Students in session 2024-2025

(i) Ms Asmita, of B.Sc III (Hons) , Roll number 1355 qualified JAM in Physics in April 2025

(ii) Ms Suhani of B.Sc III (Hons) , Roll number 1361, won Gold medal in special national camp NCC, Gujarat and was awarded at Annual Prize distribution function held on 09 April 2025.

(iii) Ms Gaganjot Kaur of B.Sc II (CA) Roll number 74 won First Prize in Pranda Making in PU Zonal Youth and Heritage Festival. She was awarded at Annual Prize distribution function held on 09 April 2025. She also won special prize.

Your JAM 2025 Result [PH]

Name	ASMITA
Registration Number	PH811B018
Gender	Female
Category	GEN

