

DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE (SHIFT-II)

(Autonomous)



Re-accredited with A++ Grade by NAAC
College with Potential for Excellence, Linguistic Minority Institution
Affiliated to University of Madras, Arumbakkam, Chennai – 600 106



POST GRADUATE DEPARTMENT OF PHYSICS

DEPARTMENT ACTIVITIES

2024 – 2025

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POST GRADUATE DEPARTMENT OF PHYSICS

DETAILS OF DEPARTMENT ACTIVITIES- 2024 – 2025

S.No	DATE	DEPARTMENT ACTIVITIES
1.	03.07.2024 – 10.07.2024	Deeksharambh – Student Induction Programme – 2024 (B.Sc. PCA)
2.	21.9.2024	Parents–Teachers Meeting
3.	27.9.2024	Seminar on Role of Physics in Digital Transformation
4.	08.10.2024	Skill Training Programme on Phase Identification of Polycrystalline Materials using XRDA Software
5.	10.10.2024	Seminar on Nanomaterials for Energy Storage and Conversion
6.	03.12.2024	Training Program on STEM Sparks – Intriguing Demonstration in Physics
7.	13-12-2024	Extension Activity Programme – Demonstration in Energy Conservation to Commemorate National Energy Conservation Day
8.	04.01.2025	Alumni Meet 2024–2025
9.	08.01.2025	Student Welfare Activity – From Setbacks to Success – Igniting Positivity and Building a Meaningful College Journey
10.	28.01.2025	EVS Field Visit to Farm Guru
11.	7.02.2025	Parents–Teachers Meeting
12.	15.02.2025	49 th India Tourist and Industrial Fair 2025 – Education department- Science Experiments Display
13.	20.02.2025	Magazine – Illuminate 2024
14.	20.02.2025	International Conference on Spectroscopy, Materials and Observational Sciences (ICOSMOS-2025)

1. Name of the program: Deeksharambh – Student Induction Programme – 2024 (B.SC PCA)

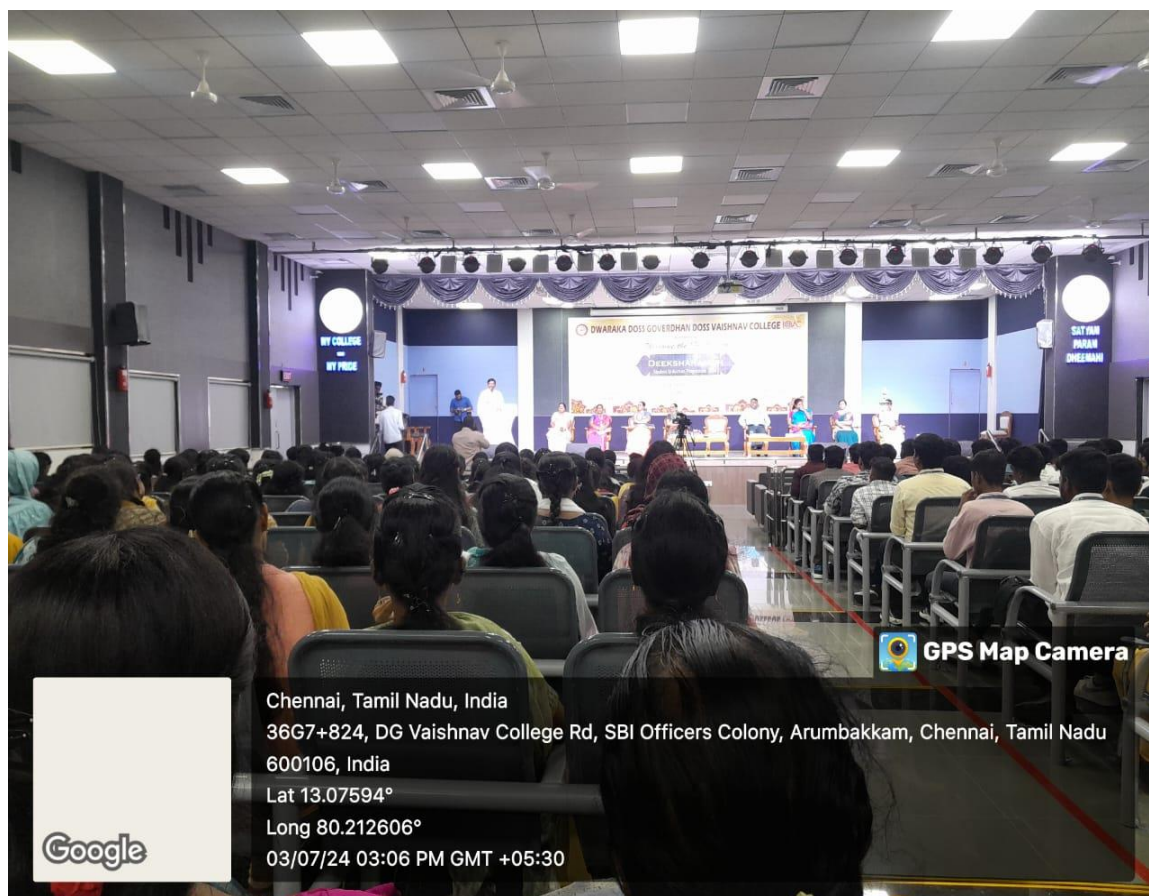
Date : 03.07.2024 – 10.07.2024

Detailed Report of the Programme:

Post Graduate Department of Physics has organized “Deeksharambh - Student Induction Program Prarambh 2024” from 03th July 2022 to 10th July 2024. Eminent speakers were invited from various fields so as to motivate the students to develop their personalities.

Dr. P. Vijayalakshmi, Assistant Professor, Department of Mathematics with Computer Applications, DDGDVC, has given a talk on Student Aspirations towards their goals, and differentiate their school & college Life. Dr. A. Chinnammal Janaki, Assistant Professor, PG Department of Physics, DDGDVC elaborated about the “Assessment, Evaluation and Credit System of the subjects”. Dr. P. Suganya, Assistant Professor and Head, PG Department of Computer Science, DDGDVC, has delivered a talk on Human and Societal Values - Handling Peer Pressure. It optimistically enlightened the students.

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2. Name of the program : Parents Teachers Meeting
Date : 21.9.2024

Detailed Report of the Programme:

Parent Teacher Meeting was organized on 21-09-2024 from 2.00 p.m. to 6.00 p.m. for UG and PG students. The purpose of the meeting was to communicate the academic report of the students and discuss their progression after completion of the course. The ESE results and student's performance in the present semester CIA, the improvement of the slow learners, disciplinary issues, importance of maintaining 75% attendance to attend semester exams, proper utilization of gadgets and control over social media has been explained to both the parent and student. Parents were happy about the coordination with the staff members during the meeting.

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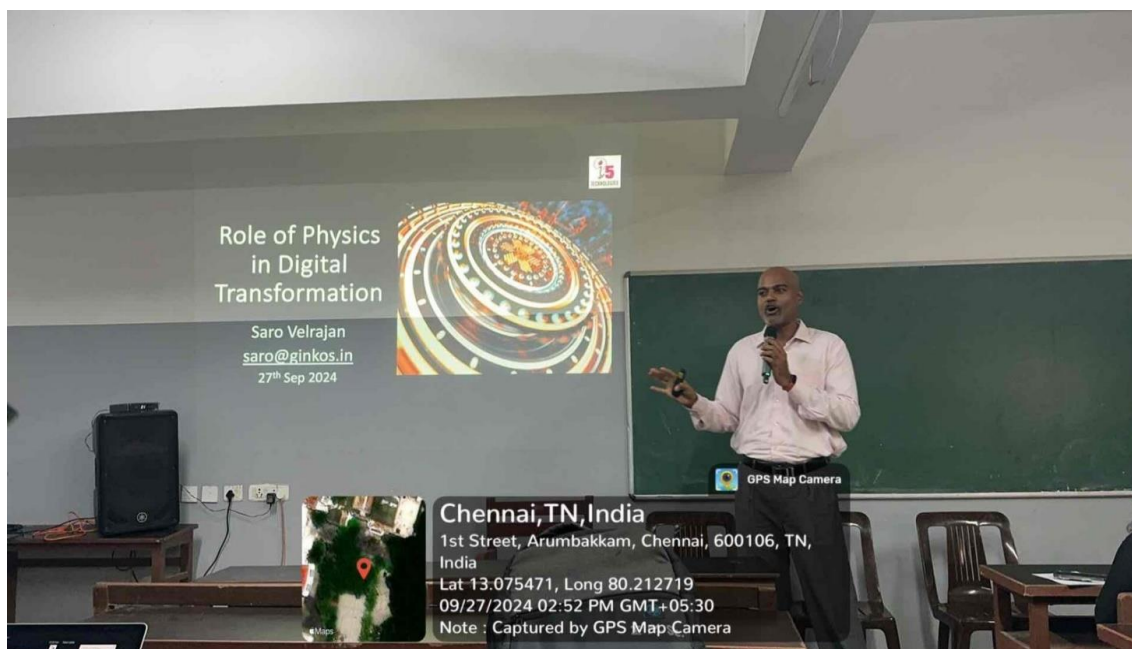


3. Name of the program : Seminar on Role of Physics in Digital Transformation
Date : 27.9.2024

Detailed Report of the Programme:

PG Department of Physics has organised a seminar on Role of Physics on Digital Transformation on 27th September 2024. Mr. Saro Velraj, CSO from GINKOS India has delivered a lecture. He explained the architecture, characteristics of digital services , and its applications Like 5G Network, quantum computers.

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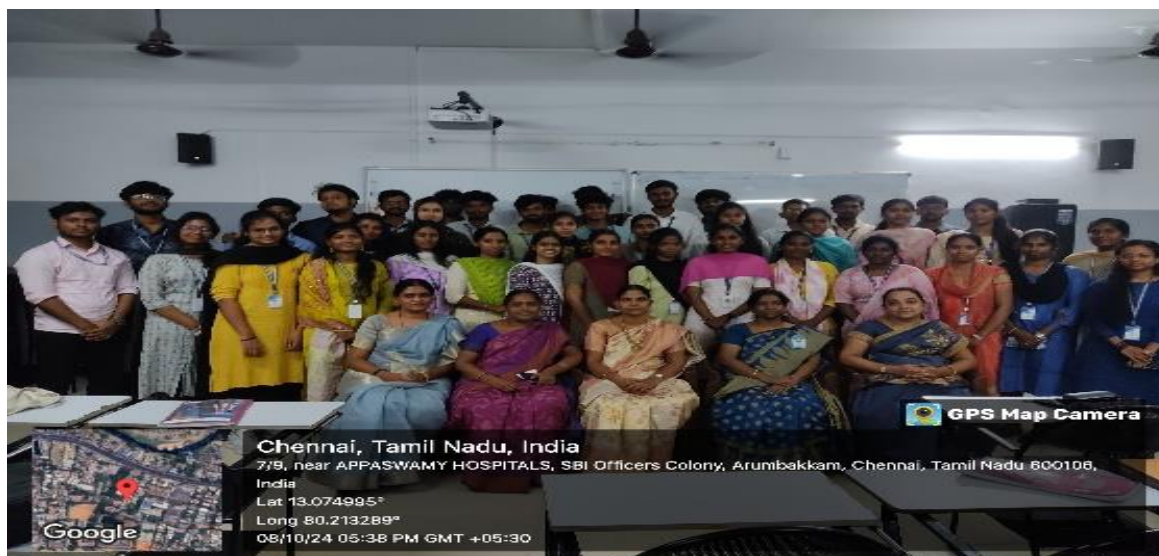
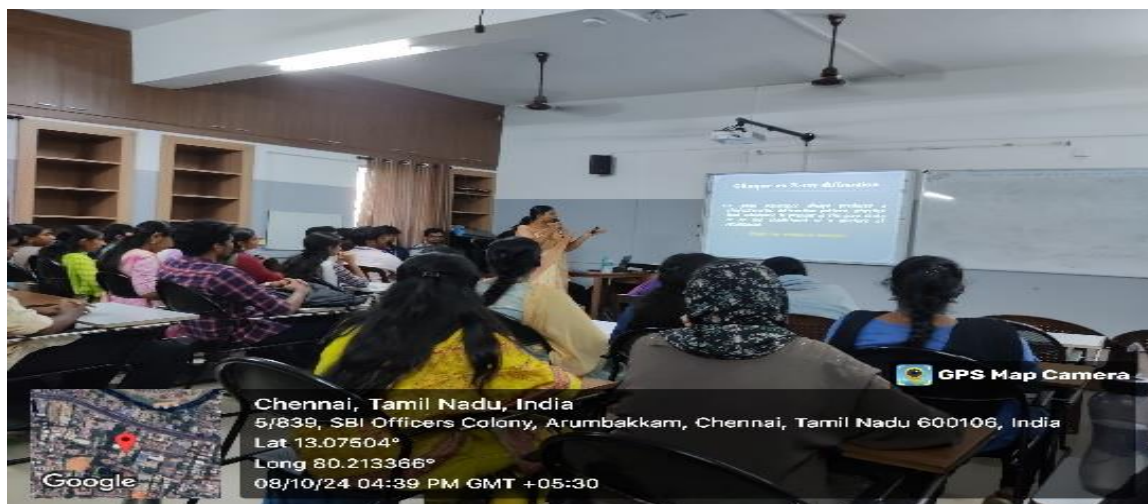
4. Name of the program : Skill training programme on Phase Identification of Polycrystalline Materials using XRDA Software

Date : 08.10.2024

Detailed Report of the Programme:

PG Department of Physics has organised a Skill training programme on Phase Identification of Polycrystalline Materials using XRDA Software. The speaker, Dr. Aparnadevi Natarajan, Assistant Professor, Department of Physics, Ethiraj College for Women, Chennai gave a detailed note on instrumental signal, peak-by-peak fitting, and whole pattern fitting. This skill training program helped the students to know the concepts and applications of XRDA software, X-ray diffraction, qualitative and quantitative analysis and Miller Indices. This program enlightened the students to do research on the latest technology in X-rays.

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5. Name of the program : Seminar on Nanomaterials for Energy Storage and Conversion

Date : 10.10.2024

Detailed Report of the Programme

A seminar on the topic "Nanomaterials for Energy Storage and Conversion" was organized on 10th October 2024 by PG Department of Physics. The event was graced by the esteemed presence of Dr. R. Siddheswaran, Assistant Professor of Physics from Pondicherry University, as the keynote speaker. The seminar witnessed enthusiastic participation from around 120 students and 12 faculty members from various departments. Dr. Siddheswaran's presentation focused on the emerging role of nanomaterials in revolutionizing energy storage systems, such as batteries and super capacitors and energy conversion technologies including fuel cells and solar cells. He discussed how the unique properties of nanomaterials like high surface area and enhanced conductivity can lead to more efficient, durable, and sustainable energy solutions. The session was followed by an engaging Q&A segment, where participants posed insightful questions on the challenges and future prospects of nanotechnology in energy applications.

Dr. Siddheswaran's in-depth knowledge and thought-provoking responses added immense value to the seminar. The seminar concluded with a vote of thanks, appreciating Dr. Siddheswaran for his time and expertise and the participants for their active involvement. The event was a great success, fostering new ideas and stimulating discussions on cutting - edge research in the field of nanomaterials and energy technologies.

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6. Name of the program : Training Program on STEM Sparks – Intriguing Demonstration in Physics

Date : 03.12.2024

Detailed Report of the Programme:

The main objective of the training program is to expose the students to the concepts of stem education which provides innovative thinking, build confidence and prepare them for careers which are in high demand by demonstrating intriguing experiments and make them easily understandable. The speaker Mr. M. A. Aravind Co-founder of Infinite Engineers, Chennai gave a demonstration along with Syed Umar raj and Gokul of I M.Sc Physics on flower and ball shattering using liquid nitrogen, sound rod with rosin powder, hydrogen gun, paper rocket with pins and explained why the bottom part of the rocket not melted, COM and COP of rocket, why is hydrogen used in rockets, convection and vibration. He motivated students fostering their interest in science and promoting practical learning. This training program encouraged the students to explore the wonders of science, question the world around them and view life through the lens of science. The event has blended the excitement of experiments with a happiness of visualizing them and has nurtured the next generation of innovators, thinkers and leaders. This program enlightened the students about the importance of Physics experiments in day today life from STEM education and innovation. This program helped students to identify the present demand in Physics experiments for their career and future generation. The program ended with doubt clarifying session.

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7. Name of the program : Demonstration in Energy Conservation to commemorate National Energy Conservation Day
Date : 13-12-2024

Detailed Report of the Programme:

The main objective of this extension activity program is conducted to provide awareness among the student's community regarding energy conservation in day to day life. This program gave insight about the responsibility and critical need for adopting sustainable energy practices. Energy conservation is the practice of using less energy. Energy conservation can help to reduce cost, protect natural resources and minimize environmental impact like pollution and greenhouses gases emissions. Our faculty Dr. Z. Delci and PG students J. Johnmilton, R. Shakthi and M. Gokul gave explanation about different energy production source like solar energy and hydrogen production for future fuel with working model demonstrations. Essentially this extension program focused on how to reduce the use of energy and to encourage people to use it efficiently. We motivated the students to turn off lights, fans, and air conditioners whenever they leave a room or when they are not in use, replace old appliances with energy-efficient models, use LED light bulbs instead of tube lights and install solar panels on our home or work place, or use solar cookers. This program enlightened the students about the connection of solar cells and importance of solar panel application. This program helped students to identify the present manufacturing technology in solar panels and Hydrogen production. The program ended with doubt clarifying session.

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8. Name of the program : Alumni Meet 2024-2025
Date : 04.01.2025

Detailed Report of the Programme:

The event began with a warm welcome address by Dr. B. Sylaja, Head of the Department. She expressed her gratitude to the alumni for their continued coordination with the department and the positive impact they had on their growth. She emphasized the importance of such events in strengthening the bond between the department and its alumni network, allowing for meaningful discussions and the exchange of ideas. After the welcome address, the faculty members of the department shared their personal experiences with the alumni. Each faculty member reflected on their time spent with the students, highlighting memorable moments in the classrooms, laboratories and examinations. These interactions not only helped to rekindle old memories but also showcased the lasting impact the department had on the academic and professional lives of the students. The alumni, in turn, shared their own experiences from their time in the department. They recollected memorable moments from their classroom sessions, lab work, special classes and examinations. Many alumni expressed their appreciation for the supportive environment the department provided, which helped them grow both academically and personally. The stories shared ranged from light-hearted anecdotes to profound insights on how the education they received shaped their careers and personal growth. The alumni meet concluded with a vote of thanks by Capt. Dr. P. Arularasan, who expressed his gratitude to all the alumni for their presence and valuable contributions. He encouraged the alumni to continue engaging with the department and supporting the current batch of students. The event was a great success, fostering a sense of community and alumni pride. The department looks forward to organizing more such events in the future to maintain and strengthen these invaluable relationships. The Alumni Meet held on January 4, 2025, at the Post Graduate Department of Physics resulted in several positive outcomes:

Strengthening of Alumni-Department Bond: The meet provided an excellent platform to reconnect alumni with the department, fostering a strong sense of community. Many alumni expressed their appreciation for the nurturing environment they experienced, reinforcing their connection to the department and its growth.

Exchange of Valuable Experiences: Alumni shared memorable experiences from their time in the classroom, lab, and examination halls, giving current faculty and students valuable insights into the department's legacy. These stories not only highlighted the strengths of the program but also served as inspiration for current students.

Networking Opportunities: The event facilitated networking among alumni from various professional backgrounds. This could potentially lead to new collaborative opportunities, mentorship, or even career advice to current students.

Feedback for Improvement: Through discussions with alumni, the department gathered feedback on its curriculum, teaching methods, and overall student experience. This feedback will be useful in refining the department's programs relevant and impactful.

Inspiration for Current Students: Hearing from successful alumni about how their education shaped their career served as a source of motivation for the current students. It reinforced the value of the department's programs and encouraged them to work towards similar success.

Future Engagement: The event sparked a renewed interest among alumni to stay connected with the department. Many expressed interest in participating in future events, contributing to research and mentoring students. The meet also highlighted the potential for organizing more alumni activities in the future to sustain and grow these relationships. Overall, the alumni meet proved to be a successful and enriching experience, benefiting both alumni and the department, and setting the foundation for future engagements and collaboration

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9. Name of the program: Student Welfare Activity - From Setbacks to Success – Igniting Positivity and Building a Meaningful College Journey
Date : 08.01.2025

Detailed Report of the Programme:

Mrs. Alima Zehra, Head, Department of Psychology has directly addressed student's issues facing in day to day life. She discussed the importance of human values that guide our interactions with others. They include kindness, honesty, loyalty, and respect. She has also explored various extension activities and outreach programs that will be helpful for mentally and physically challenged persons. She also explained about the moral values and guidelines that assist a person in deciding between right and wrong. Based on the feedback obtained from students, this programme inculcates positive approach towards their wellbeing of oneself. This session imbibes human values and confidence in their minds.

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10. Name of the program : EVS Field Visit to Farm Guru
Date : 28.01.2025

Detailed Report of the Programme:

The Environmental Studies (EVS) trip was organized by the PG Department of Physics, DDGDVC on 28.01.2025. The environment provides the essentials for life to flourish on earth. We had around 35 students participated along with two staffs. Farm guru is a certified organic farm, known for conceptualized and conceived by a group of individuals including professionals, agriculturalists, educationalists and entrepreneurs. The students explored crop fields, orchards, livestock area and composting sites. We visited farming area with the aim of observing the current farming techniques and advances in green houses and water harvesting facility for various crops. Students actively participated in various farm activities, such as planting seeds, weeding and harvesting paddy. Farm staff conducted workshops and demonstrations on topics such as organic farming techniques, soil health management and water conservation strategies. Students had the opportunity to interact with the farmers and agricultural workers, asking questions and exchanging ideas about sustainable farming practices and the challenges faced in modern agriculture. Hands on experience allowed them to gain practical skills in agricultural practices while also appreciating the hard work involved in food production. Students came to know about different techniques and method used for farm in production, modern farming, integrates technology and innovation to improve productivity, efficiency and sustainability.

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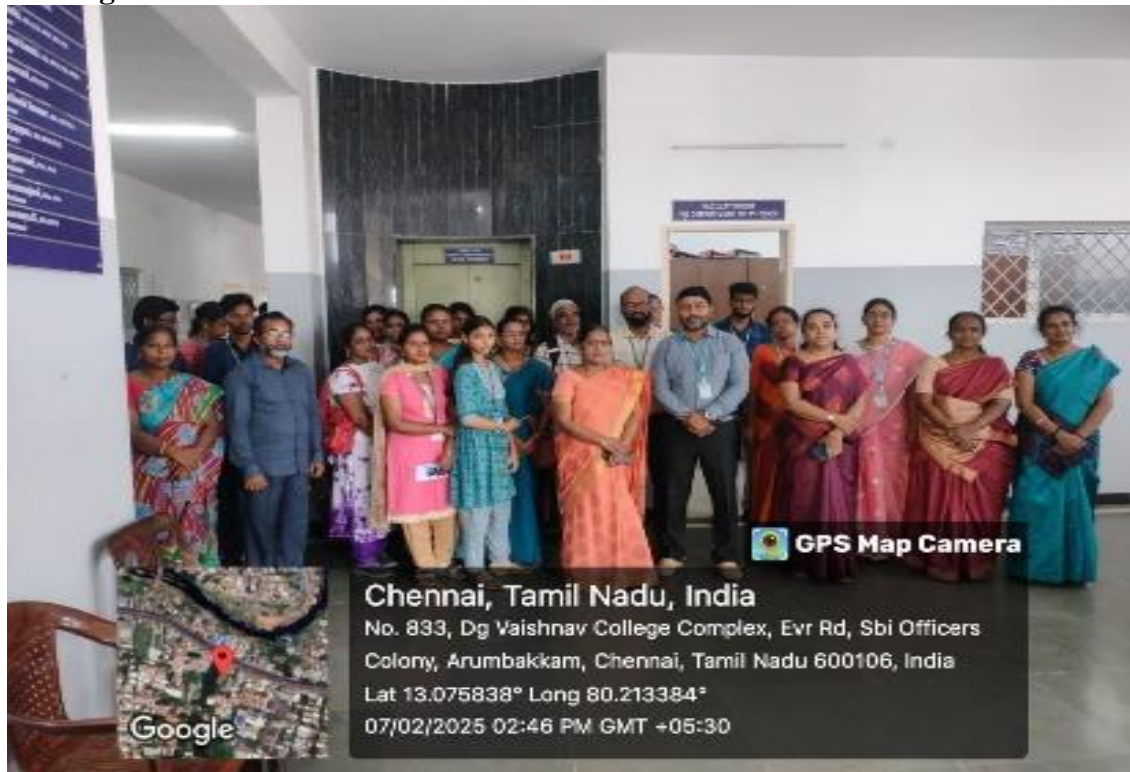


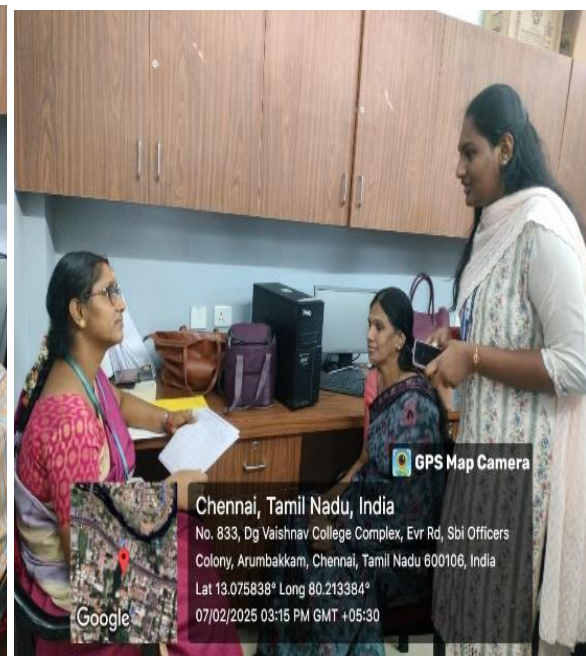
11. Name of the program : Parents Teachers Meeting
Date : 7.2.2025

Detailed Report of the Programme:

Parents Teacher Meeting was organized on 07.02.2025 from 2.00 p.m. to 6.00 p.m. for both UG and PG students. The purpose of the meeting is to intimate the parents about the Nov 2024 ESE results and Jan 2025 CIA results. The parents clarified their doubts about the student's class timetable, schedule of value added courses and remedial classes. The involvement and participation of the students during the class hours and during the department events are deliberated. Parents sought advice for the academic progression of their ward. The improvement in the slow learners have been acknowledged and explained to their parents. Parents are encouraged to give their continuous support to their wards for their well-being. The most of the parents requested to shift the college timing from 1 p.m. to 5.30 p.m. Parents mentioned that continuous co-curricular classes during 9.30 a.m. to 1.30 p.m. acts as hindrance to their preparation of TNPSC and other exams. Parents were consulted on disciplinary matters pertaining to certain pupils. The importance of maintaining 75% attendance to attend semester exams has been insisted to parents as well as students. Importance of skill based courses and value added courses have been elaborated with the parents

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**12. Name of the program : 49th India Tourist and Industrial Fair 2025-
Education department- Science Experiments display
Date : 15.2.2025**

Detailed Report of the Programme:

The 49th India Tourist and Industrial Fair 2025 provided an excellent platform for showcasing innovative projects, and we, the MSc Physics students from Dwaraka Doss Goverdhan Doss Vaishnav College, participated by displaying several physics-based projects. Our objective was to engage school students and help them understand various scientific concepts in an exciting and hands-on manner. We demonstrated the concept of data transfer through a laser using an aux cable, an amplifier, and a laser module to transmit sound, illustrating how the internet works. Another project focused on wireless sound transmission, which also used a laser beam to transfer sound signals. Our sound visualizer project created a visual representation of sound vibrations using a speaker, PVC pipe, balloon cloth, and a laser pointer, showing how sound frequencies influence light patterns. The Bernoulli's Principle Paper Bag project demonstrated airflow dynamics by inflating a bag efficiently using Bernoulli's principle. In our home automation project, we used an Arduino, Bluetooth HM-10 module, and a relay module to control a bulb remotely, introducing the audience to IoT applications. Additionally, we showcased laser projection to visualize microorganisms in contaminated water by pointing a laser at a suspended water droplet, revealing tiny particles through reflected light. Our participation in the fair was a valuable learning experience, allowing us to simplify complex physics concepts and demonstrate their real-world applications. Through interactive demonstrations, we aimed to spark curiosity and encourage students to explore physics and technology. We believe such exhibitions make science accessible, fun, and relevant to everyday life. Capt. Dr. P. Arularasan, Assistant Professor of Physics, PG Department of Physics, was the staff coordinator for this programme.

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13. Name of the program : Magazine Illuminate 2024
Date : 20.02.2025

Detailed Report of the Programme:

Magazine: ILLUMINATE – 2024 was released on 20.02.2025 by PG Department of Physics to commemorate National Science Day. This magazine dedicated to nanophysics serves as a testament to our students and faculties for their dedication towards exploring cutting-edge scientific concepts. Their articles, research highlights and creative insights demonstrate their enthusiasm for learning and their drive for innovation. This initiative is a departmental milestone and also a proud achievement for our college, reflecting our commitment to academic excellence and research - driven education. During, International Conference on Spectroscopy, Materials and Observational Sciences (ICOSMOS-2025) Magazine- ILLUMINATE – 2024 was released by Prof. S. Gunasekaran, Founder President, ISPA.

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14. Name of the program : International Conference on Spectroscopy, Materials and Observational Sciences (ICOSMOS-2025)
Date : 20.02.2025

Detailed Report of the Programme:

In honor of National Science Day, the PG Department of Physics, Dwaraka Doss Goverdhan Doss Vaishnav College hosted the International Conference on Spectroscopy, Materials and Observational Sciences (ICOSMOS-2025) on February 20, 2025 in collaboration with the Indian SpectroPhysics Association (ISPA). The interdisciplinary conference will bring together leading researchers, academicians and industry experts to discuss innovative ideas and solutions. It is intended to create a good exposure to researchers by interacting with experts in their research fields and also present their research findings and building a network in the proposed theme areas. It was like a pool of technical scientific professionals, with about 172 students, 14 research scholars and 22 faculty members participated in the conference. Proceeding book with an ISBN number for this conference was released. The department magazine illuminate 2024 was released with ISBN number.

The conference started with inaugural address by Prof. S. Gunasekaran, Founder President, ISPA focused on the “light legendary Sir. CV Raman” setting the tone for the rest of the event. Initial Presentation by *Dr. Bhavana Lalchand* , who discussed “ A Perspective on the Formation of Brown Dwarfs in Star-forming Regions” offering fresh views on Astrophysics. Other notable sessions included discussions on Diagnosing Thyroid and Treatment of Thyroid by Dr. Janani P presentation leads to new development in both Nano medicine and Ayurvedic drug formulations, providing more effective treatments for thyroid-related health issues. Another session was about solar cells by Dr S. Srinivasan, Associate Professor, Presidency College, provided ideas about the growing awareness about climatic change and environmental protection. Abstract submissions for oral or poster presentations in a range of subjects with the aim of showcasing research results, building a network in the recommended theme areas, and providing researchers with positive publicity through contacts with other students and specialists in their disciplines.

With successful presentations, insightful discussions and valuable networking, the International Conference on Spectroscopy, Materials and Observational Sciences (ICOSMOS - 2025) has proven to be an essential gathering for professionals in material science, nanomaterials, bio-materials, energy storage materials, computational methods and astrophysics. As the event wraps up, the impact of the ideas shared here will resonate across industries, promising a future of innovation, collaboration and progress.

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