

Physics Department

Department Profile:

Located on the 4th floor of the wide campus of Acharya Marathe College, the Department of Physics was established in the year 1982. It is an expansive with area of 2500 sq. feet with well-furnished infrastructure. It houses Senior lab & Junior lab with it has a spacious dark room. The department caters to FYBSc and SYBSc Physics.

In this department, students are provided with adequate facilities to learn the basic principles of Physics, both theoretically and practically. The department has well equipped Laboratory with sufficient instruments and a library with good number of books.

The Department of Physics has always witnessed remarkable growth in all domains such as teaching, research and student support over the years. Regular parent teachers meetings and systemized mentoring are the key features of the department. The department has vibrant faculty members who are active researchers with interests spanning a wide range of domain in Physics. Organizing study visits, guest lectures and workshops are regular features of the Department, to create awareness on recent topics of global importance related to physics.

The department maintains a regular practice of replacing the damaged components and apparatus with contemporary kits which are compact, performs better, consume less power with internal tripper and inbuilt power supply.

The goal of the Physics department is to nurture young talents, to focus on standards, assessment and outcomes, and to ensure that all students learn in a more powerful way. We also find ways to motivate our students to scale greater heights than ever before.

Achievements

a. Popularization of Physics: BARC workshop

The department of Physics organized a workshop for FYBSc and SYBSc students on “Nuclear energy and Ion Beam accelerators”. Scientific officers from BARC/IADD (Ion Accelerator Development Division) division visited our college to interact with science students on Thursday, 25th August, 2022. They talked about basic Science and the work they do in the field of accelerator. The aim of the activity was to inspire students to work in the fields related to research and accelerators. The visiting team had 9 people who were experts in the field of accelerators and cryogenics. They gave presentations on basics of accelerators and cryogenics, they had Quiz for students and 2 interacted with students to solve their queries.

b. Visit to an exhibition at the BARC DAE Convention Centre:

After a very successful workshop and extensive interaction with the BARC scientific officers, there was a lot of excitement amongst students to visit the center. Hence the department of Physics immediately planned a visit to an exhibition held at the BARC DAE Convention Centre on 27th August 2022. Bhabha Atomic Research Centre (BARC) is India's premier nuclear research facility, head quartered in Trombay, Mumbai. BARC is a multi-disciplinary research Centre with extensive infrastructure for advanced research and development covering the entire spectrum of nuclear science, engineering and related areas. Students saw a working model of Dhruva reactor and visited the food processing unit.

c. Community Radio for Students benefit:

Physics is an intriguing branch of science that nurtures the primary knowledge for scientific advancement of research and technology both. Physics is one of the oldest disciplines of science and offers vast career opportunities to the aspirants. To make students aware about the benefits of choosing Physics after 12th range from a good salary package to amazing career growth as one gains relevant knowledge and experience. Dr. Swarnalata Sunatkari, Head, Department of Physics had an informative talk on Acharya 90 FM "Careers after Physics" on 10th October 2022. The talk was well appreciated by the students.

d. Avishkar Research Convention:

4 Students of F.Y.B.Sc participated in the Avishkar Research Convention an intercollegiate event organized by the University of Mumbai. There were two projects submitted on the topics "Semiconductor Nanoparticles for application in opto electronic devices" and "Understanding room-temperature ferromagnetism in MoS_2 nanosheets for spintronic applications".

- Phynovate: An intercollegiate exhibition

To develop an understanding about the role of science and technology to meet the needs of the society "Science Utsav 2023" was organized by all streams of Science. The Department of Physics organized "Phynovate" an intercollegiate exhibition on 25th February 2023. The topics for the exhibits were Environmental Consciousness and Sustainability, Information and Communication Technology, Alternative Energy to substitute hydrocarbon, Modern Physics and Robotics. There were 25 exhibits in all which were highly enjoyed and appreciated by the teachers and students that visited the event. The winners were given cash prizes and certificates.

- Study Visit: IUCAA, Pune

On 26th February 2023 IUCAA (Inter University Center for Astronomy and Astrophysics), Pune had organized an open exhibition for registered participants in the Main campus and also a special public interaction with the scientists and engineers who are actually leading the Aditya L-1 mission in Chandrasekhar auditorium at IUCAA. Physics department visited IUCAA on this day with 27 students, 2 teaching and 2 non teaching staff. There were models and 3D printed demos along with posters based on Astronomy and Astrophysical events and phenomena. Live Sun Observations were done with special telescopes showing the current active regions on its surface. Students were very happy and satisfied with the wonderful knowledgeable experience they had at IUCAA.

· Celebrating National Science Day: 28th February

The National Science Day was celebrated on 28th February 2023 collectively by all Science departments. This year the theme was “Global Science for Global Wellbeing”. On this occasion the Guest speaker was Dr. Bhavesh Sinha from National Center for Nanoscience and Nanotechnology, University of Mumbai. He gave a very good presentation on “What is a Quest?” The other speaker was Dr. Paresh More from V. G. Vaze College, Mumbai. He presented power point on advancement in science from ancient period till today. Students had a very fruitful interaction session with the speakers.

Future Plan:

- The NEP 2020 is a comprehensive policy that aims to transform the education system in India and make it more inclusive, flexible, and interdisciplinary. The Department of Physics plans to undertake several initiatives to achieve the key features of the National Education Policy (NEP) 2020 through various programs that will be implemented at the department level. To be aligned with NEP 2020, the department is majorly focusing on the curricular aspects; student nurturing, well-being and performance i.e. mentoring, faculty support in research and teaching and skill development.
- The Department plans to apply for more funds from University and UGC schemes to improve the academic amenities by providing access to specialized infrastructure for upgraded instruments and research facilities.
- Department also plans to apply for higher courses in the subject of Physics i.e. extension for T.Y.B.Sc Physics affiliated to University of Mumbai.

