

B.Sc. in Physical Sciences

► **Program Outcomes (POs):**

- **PO1:** Core Knowledge – Demonstrate a strong foundation in Physics, Chemistry, and Mathematics with an understanding of their interrelations and applications.
- **PO2:** Scientific Temper & Inquiry – Develop an aptitude for scientific reasoning, critical thinking, and an evidence-based approach to problem solving.
- **PO3:** Practical & Laboratory Skills – Acquire hands-on experience in laboratory techniques, instrumentation, and data analysis for Physical Science experiments.
- **PO4:** Problem Solving & Research Aptitude – Apply analytical, mathematical, and computational skills to solve real-world and theoretical problems in physical sciences.
- **PO5:** Ethics & Professional Responsibility – Recognize and follow ethical principles in scientific practices, research, and environmental sustainability.
- **PO6:** Communication Skills – Communicate scientific concepts effectively in oral and written form to peers, professionals, and the community.
- **PO7:** Interdisciplinary Approach – Integrate knowledge from allied sciences and technology to understand complex scientific problems and propose solutions.
- **PO8:** Life-long Learning – Develop the ability to engage in independent and continuous learning in the context of rapid scientific and technological advancement.
- **PO9:** Teamwork & Leadership – Work effectively both as an individual and as part of multidisciplinary teams; demonstrate leadership qualities when necessary.
- **PO10:** Career & Higher Education Readiness – Prepare students for higher studies, research, teaching, and careers in industries, scientific organizations, or allied fields.

► **Program Specific Outcomes (PSOs):**

- PSO 1: Physics

Understand the fundamental principles of mechanics, electromagnetism, quantum physics, optics, and thermal physics.

Develop proficiency in experimental methods, error analysis, and data interpretation in physics laboratories.

Apply physical principles and mathematical techniques to model and solve real-world physical problems.

- PSO 2: Chemistry

Gain comprehensive knowledge of inorganic, organic, and physical chemistry concepts, including reaction mechanisms and thermodynamics.

Perform qualitative and quantitative analyses using classical and instrumental techniques.

#. Apply chemical principles to address environmental, industrial, and societal challenges safely and ethically.

- PSO 3: Mathematics

Acquire strong analytical, logical, and problem-solving skills in calculus, algebra, statistics, and differential equations.

Use mathematical modeling and computational tools to solve scientific and engineering problems.

Develop abstract thinking and the ability to connect mathematical theory with physical applications.

PSO 4: Interdisciplinary Integration

Correlate concepts across Physics, Chemistry, and Mathematics to interpret phenomena in natural and applied sciences.

Employ multidisciplinary approaches in scientific investigations, projects, and research initiatives.

- PSO 5: Professional Growth

Prepare for careers in research, academia, industry, and competitive examinations (NET, GATE, JRF, BARC, ISRO, DRDO, etc.).

Cultivate skills for entrepreneurship, innovation, and lifelong learning in emerging areas of science and technology.