

**Department of Post Graduate Studies & Research in
Physics & Electronics
Rani Durgawati University, Jabalpur**

M.Sc. Physics (Under CBCS)

1. PROGRAMME OBJECTIVES

- 1.1. The objective of the Master's Program in Physics is to develop strong student competencies in all the core topics of Physics and its applications in a technology-rich, interactive environment.
- 1.2. Impart higher level knowledge and understanding of Condensed Matter Physics (CMP), Material Science, Nuclear Physics, Basic of Classical, Statistical and Quantum & their applicability in different situations.
- 1.3. To develop strong student skills in research, analysis and interpretation of complex information.
- 1.4. Enable students to analyze mathematical models of physical systems for enhancement of system performance and arrive at limitations of physical systems.
- 1.5. To prepare the students to successfully compete for employment in Material Science, Manufacturing and Teaching and to offer a wide range of experience in research methods, data analysis to meet the industrial needs.

2. PROGRAMME OUTCOMES

On completion of program, the post-graduates will

- 2.1 Cater to the expanding demand for skilled manpower, which is equipped with an understanding of modern research, protocols and ethics involving related to Materials and Materials characterization.
- 2.2 Able to correlate the structure and physical properties (mechanical, electrical, optical & thermal) of materials and develop a strategy for the preparation and characterization of new materials.

- 2.3 Able to conduct experiments using a variety of scientific equipment with minimum guidance and design a material for a specific application.
- 2.4. Build, manage and lead a team to successfully complete a project and communicate across teams and organizations to achieve professional objectives.
- 2.5. Demonstrate highest standards of Actuarial ethical conduct and Professional, actuarial behavior, critical, interpersonal and communication skills as well as a commitment to life-long learning.

3. PROGRAMME SPECIFIC OUTCOMES (PSOs)

- 3.1. Students are expected to acquire deep knowledge in physics, including the major areas of classical mechanics, quantum mechanics, electromagnetism, Nuclear and particle physics, electronics, modern physics and microprocessors.
- 3.2. Have fundamental and advanced level knowledge in physics so as to handle the computational tools and Scientific software.
- 3.3. Discover of physics concepts in other disciplines such as mathematics, computer science, Non-linear dynamics, Chemistry etc.
- 3.4. Have necessary skills and expertise in field of research and development and be able to apply experimental expertise in basic as well as advanced areas of physics.
- 3.5. Students will be capable of oral and written scientific communication and will prove that they can think critically and work independently.