

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

B. Sc. with Mathematics & B. A. with Mathematics & B. Sc. (Physical Science)

Program Outcomes (POs)

- PO1: Solid Foundation:** To acquire profound knowledge in various branches of mathematics, including calculus, algebra, differential equations, numerical methods, matrices, and more. Moreover, it facilitates exploration of interconnected domains like computer science and physical science. Consequently, learners can establish a solid foundation for advanced studies in mathematics.
- PO2: Critical Thinking:** To foster critical thinking skills and equip individuals with the ability to conduct unbiased scientific investigations. This involves the critical evaluation of practices and theories through the application of mathematical methodologies.
- PO3: Knowledge Skill:** To cultivate students' abilities in formulating hypotheses, creating models, devising solutions, validating findings, and drawing sound conclusions.
- PO4: Communication Skills:** To instill effective communication skills for expressing mathematical concepts and ideas.
- PO5: Social Responsibility:** To enlighten students about the potential of utilizing mathematical knowledge in their lives to contribute to society's betterment.
- PO5: Analytical Reasoning:** To equip students with the ability to demonstrate quantitative and analytical reasoning skills effectively.
- PO7: Lifelong Learning:** To foster a culture of self-learning through self-directed study, peer discussions, and adaptability to evolving academic environments and requirements.
- PO8: Leadership Quality:** To cultivate a sense of teamwork and leadership skills, enabling individuals to excel both as team members and leaders in various situations.

PO9: Competitive Skills: To cultivate competitive skills among students, enabling them to excel and thrive in competitive environments.

PO10: Ethics: To educate students about the importance of embracing moral and ethical values in their behavior and professional pursuits.

Program Specific Outcomes (PSOs)

At the end of the program, the students will be able to:

PSO1: Utilize mathematical concepts, tools, and techniques in interdisciplinary domains to effectively address real-world challenges and solve complex problems.

PSO2: Enhance understanding of abstract mathematical concepts and foster exploration of potential avenues for further investigation.

PSO3: Mathematically model real-world problems and utilize the resulting inferences to enhance the quality of life.

PSO4: Identify and engage with challenging problems within the realm of mathematics.

PSO5: Dedicate diligent effort to acquire mathematical knowledge and skills relevant to professional pursuits, while upholding the highest standards of ethical values.

PSO6: Comprehend, formulate, and utilize quantitative models that arise in social science, business, and various other contexts.

PSO7: Qualify national-level tests such as JAM, TIFR, Banking exams, CDS, HPPSC, UPSC, and others.

PSO8: Efficiently communicate and explore mathematical ideas to disseminate knowledge and promote the popularization of mathematics within society.

PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

M. Sc. (Mathematics)

Program Outcomes (POs)

PO1: Critical Thinking: To develop critical thinking and prepare them to carry out scientific investigation objectively. Critically evaluate practices and theories by following mathematical approaches.

- PO2: Knowledge Skill:** To develop skills among the students to formulate hypothesis, modeling, solutions and validate, and draw conclusions.
- PO3: Communication Skills:** To inculcate the communication skills to express mathematical ideas.
- PO4: Social Responsibility:** To enlightened the students to serve the society by helping them by using mathematical knowledge in their life.
- PO5: Analytical Reasoning:** To equip the students for demonstration of quantitative and analytical reasoning skills.
- PO6: Lifelong Learning:** To inculcate the habit of self-learning through self-directed learning and through peer discussion and adapting to the changing academic environment and demands.
- PO7: Leadership Qualities:** To develop the team spirit and leadership quality to work effectively as an individual and as a leader in diverse situations.
- PO8: Research Skills:** Prepare students for pursuing research in various fields of mathematics and research-oriented career.
- PO9: Ethics:** The students are educated to follow the moral and ethical values in their behavior and professional life.

Program Specific Outcomes (PSOs)

At the end of the program, the students will be able to

- PSO1:** Apply the knowledge of mathematical concepts and mathematical tools and techniques in interdisciplinary fields to solve the real-world problems.
- PSO2:** Enrich the abstract mathematical concepts and explore the possibility for further investigations.
- PSO3:** Modeling the real-world problems mathematically and use the inferences for improvement of quality of life
- PSO4:** Identify challenging problems in mathematics and work on them.
- PSO5:** Pursue research in pure/applied mathematics.
- PSO6:** Work hard to acquire mathematical knowledge and skills suitable to professional activities and follow highest standards of ethical values.
- PSO7:** Qualify national level tests such as CSIR-NET/GATE and others.

PSO8: Effectively communicate and explore ideas of mathematics for propagation of knowledge and popularization of mathematics in the society