

## **Programmes**

### **Master of Science in Mathematics (for 2 Years)**

**Course Intensity:** Full Time Programme

**Duration:** 2 years

#### **About the programme:**

M.Sc. Mathematics is a 2-year postgraduate program. The objective of this program is to cultivate a mathematical aptitude and nurture the interests of students towards problem-solving. Further, it aims at motivating students for research in pure and applied mathematics.

Pure Mathematics includes developing the fundamental tools used by mathematicians such as Algebra and Calculus, describing multi-dimensional space, or a better understanding of the philosophical meaning of Mathematics and numbers themselves. Pure Mathematics is the study of the basic concepts and structures that underlie Mathematics. Its purpose is to search for a deeper understanding and an expanded knowledge of Mathematics itself.

Applied Mathematics focuses on the innovative creation and imaginative use of mathematical concepts to present and solve problems in the various field of Natural Sciences, Engineering Sciences, Medical Sciences, and emerging fields such as Data Sciences and Artificial Intelligence. The program is designed to provide students with an increased knowledge and a comprehensive understanding of Mathematics, particularly in Algorithms, Fluid Mechanics, Differential Equations, Probability and Stochastic, and Optimization.

**Eligibility:** 3-year undergraduate program in Science with Mathematics.

**Tuition fee per annum:** 50000

**Exam fee per annum:** 15000

**Programme Objectives (POs):**

1. PO1: Identify the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspective.
2. PO2: Analysis of complex real-life mathematical problems by using concept, formulation and reaching conclusions by analytical and numerical methods.
3. PO3: Develop the ability to critically evaluate theories, methods, principles, and applications of pure and applied mathematics.
4. PO4: Develop professional skills required for industry through learning of demandable mathematics, programming languages and software tools.
5. PO5: Communicate effectively through soft skills, report writing, documentation and effective presentations.
6. PO6: Develop contemporary mathematical knowledge to predict the effect of environment changes and contribute to the sustainable development.
7. PO7: Apply logical reasoning obtained from the contextual knowledge to perform professionally with social, cultural and ethical responsibility as an individual as well as in multifaceted teams with positive attitude.
8. PO8: Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.

**Programme Specific Outcomes (PSOs):**

1. PSO1: An ability to apply basic and research based mathematical knowledge to model and simulate various complex problems of our society through experiments, analysis and interpretation of data and to provide the optimal solution.
2. PSO2: An ability to select and apply appropriate cutting-edge mathematical and computational tool(s) to provide solution(s) effectively and efficiently.

**Programme Educational Objectives (PEOs):**

1. PEO1: The Post Graduates will be successful professionals in Academia, Research, Industry, Government and Entrepreneurship.
2. PEO2: The Post Graduates will play important role in research-oriented organizations to enhance the quality for products and processes.
3. PEO3: The Post Graduates will be successful team members in an interdisciplinary set up for solving real word problems.

**Program Structure:**

<https://drive.google.com/drive/u/1/folders/1cmdYynl7HMH2wzrapvzF4rJNfhDo-Bn1>