

## Master of Science (M.Sc.) Mathematics

## **Program Outcomes**

**PO1: Critical Analysis:** Develop critical thinking skills to do mathematical analysis objectively. Create arguments that make sense and analyze theories, practices, and policies critically by using a mathematical approach to knowledge acquiring. Analyze concepts, facts, and experiences critically from an unbiased and logical standpoint.

**PO2: Knowledge Skill:** provide the student with the knowledge and abilities to examine problems, create hypotheses, evaluation and validate outcomes, and make logical conclusions from them. rather than simply repeating curricular topic information, the ability to extrapolate from what has been learnt and apply one's competencies to solve many types of unfamiliar issues.

**PO3:** Scientific Communication Skills: Learn how to communicate technically and scientifically both orally and in writing. Being able to demonstrate the significance of the topic as a predecessor to diverse scientific developments since the earliest days of civilization.

**PO4: Ethics:** Continue gaining knowledge and skills that are pertinent to professional activities, and exhibit the highest levels of ethical behavior in the area in concern. The capacity to recognize unethical activity, such as fabrication, falsification, or misrepresentation of data, and to adopt impartial, truthful, and objective behavior in all circumstances.

**PO5: Enlightened Citizenship:** Create awareness to become an informed citizen who is committed to carrying out their duties within the parameters of their rights and privileges.

**PO6:** Analytical Reasoning: Ability for evaluating the validity and applicability of the evidence, detect logical errors and gaps in arguments made by others, analyze and synthesize data from many sources, form valid conclusions and back them up with examples and evidence, and debate disagreements.

**PO7: Multicultural Competence:** The creation of a set of skills to support and encourage the expansion of multicultural awareness in higher education. providing a space that is embracing for all students while including intercultural understanding such as color, gender, physical ability, age, poverty, and other social factors.

**PO8: Lifelong Learning:** Ability to reason logically, gather knowledge and skills, and cultivate a lifelong love of learning through self-paced, self-directed learning focused toward personal growth. This includes being able to adapt to the changing academic requirements of the workplace through skill maintenance and restructuring.

**PO9: Leadership Qualities:** Having the ability to plan out the tasks of an entity or team, set direction, create a team that can help achieve the vision, inspire and motivate team members to



engage with that vision, and use leadership abilities to lead people in an effective and efficient manner to their intended destination.

**PO10: Research Skills:** Enable students to pursue research or professional employment in the industry in mathematics and related fields. possessing the ability to use the proper tools to tackle a variety of problems and to apply Sage, Mathematica or Matlab programming to a variety of scientific investigations, problem solving, and interpretation.

## **Program Specific Outcomes**

**PSO1: Strong Foundation in Knowledge:** Possess a solid foundation in the foundational areas of mathematics and be proficient in communicating mathematics.

**PSO 2: Abstract Skills:** Examine theories, methodologies, and evidence in the contexts in which they were presented.

**PSO3: Problem Solving:** Utilize critical comprehension, analysis, and synthesis to resolve complex problems.

**PSO4: Proficiency in Interdisciplinary Skills:** Choose, understand, and critically analyze data from a variety of sources, including books, journals, case studies, scientific reports, and the internet.

**PSO 5: Application and Research Efficiency:** Improve employment possibilities in a wide range of industries, including industry, commerce, education, finance, and research, by giving students an advanced degree of grasp of the concepts and theories of mathematics and how they are used in the actual world.

**PSO 6: Lifelong Practical Knowledge:** Recognize the importance of continuing education, as well as research leading to higher degrees in Mathematics like a PhD or PDF, etc.