

## **Master of Science- Mathematics 2020-22**

### **Programme Educational Objectives (PEOs) – MSc (Mathematics)**

**PEO 1.** To equip students with knowledge, abilities and insight in mathematics and related fields.

**PEO 2.** To enable them to work as a mathematical professional.

**PEO 3.** To equip students with the ability to translate and synthesize their understanding towards nature, human and development.

**PEO 4.** To develop the ability to utilize the mathematical problem solving methods such as analysis, modeling, and programming and mathematical software applications in addressing the practical and heuristic issues.

**PEO 5.** To enable students to recognize the need for and the ability to engage in life-long learning

### **Program Specific Outcomes(PSO)**

**PSO-1:** Understand the mathematical concepts and applications in the field of algebra, analysis, computational techniques, optimization, differential equations, engineering, finance and actuarial science.

**PSO-2:** Handle the advanced techniques in algebra, analysis, computational techniques, optimization, differential equations, engineering, finance and actuarial science to analyze and design algorithms solving variety of problems related to real life problems.

**PSO-3:** Adopt changing scientific environment in the process of sustainable development by using mathematical tools.

**PSO-4:** Have necessary skills and expertise in the field of research and developments through seminar and dissertation.

## PROGRAM OUTCOMES [PO'S]

- PO-01. Scientific knowledge:** Apply the knowledge of basic science fundamentals to the solution of complex scientific problems.
- PO-02: Problem analysis:** Identify, formulate, review research literature, and analyze complex scientific problems reaching substantiated conclusions using principles of Physics, Chemistry, Mathematics, Zoology, Botany, Geo-Informatics, and Applied Sciences.
- PO-03: Design/development of solutions:** Design solutions for complex scientific problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO-04. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO-05. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern chemical IT tools including prediction and modeling to complex chemical activities with an understanding of the limitations.
- PO-06. Social Interaction:** Elicit views of others, mediate disagreements and help reach conclusions in group settings.
- PO-07. Environment and Sustainability:** Understand the issues of environmental contexts and sustainable development.
- PO-08. Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them
- PO-09. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO-10. Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
- PO-11. Project management and finance:** Demonstrate scientific knowledge with the understanding of the management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO-12. Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context research, scientific and technological change.