SCHEME OF TEACHING, EXAMINATION AND SYLLABUS AS PER NEP 2020 for M. Sc. Microbiology

Choice Based Credit System (Semester Pattern) Effective from 2023-2024

Program Outcomes (POs)

After completion of M.Sc Semester-I Microbiology Program students will able

- To get perceptions of Microbial Metabolism along with different terms.
- To understandthe fundamental principles of quantitative and qualitative research methods with the basic and advance techniques.
- Toprovidethe knowledge about the Enzymology and its related techniques.
- To acquire the facts about the membrane structure and signal transduction within the microorganism.
- To offer opportunities by the seminar to engage in productive scholarly research projects that complements their classroom training and instruction.

SEMESTER – II

After completion of M.Sc Semester-II Microbiology Program students will able

- To prepare the basic appreciative strategies of microbial methods for environment management.
- To provide the detailed training of microbial metabolites using a wide range of techniques.
- To provide the familiarity about medical microbiology and parasitology and further studies.
- To get the studies about the immunology and immunodiagnostics insights.
- To provide an educational situation that nurtures the expansion of appropriate scientific studies with practical approach.

SEMESTER – III

After completion of M.Sc Semester-III Microbiology Program students will able

- To furnish the basic structural knowledgeof the fundamental principles of molecular biology and genetics.
- To provide opportunities to engage in productive scholarly research projects that complements their classroom training and instruction.
- To get the research tools and techniques of recombinant DNA technology and nano-biotechnology for further research.
- To acquire the study about the microbial diversity, evolution and ecology & bioinformatics.
- To provide an educational environment that fosters the development of appropriate scientific vocabulary, reasoning skills, and effective oral and written communication abilities.

SEMESTER – IV

After completion of M.Sc Semester-IV Microbiology Program students will able

- To understand the knowledge about the study of viruses in virology.
- To provide the thorough training of microbial fermentation technology using a wide range of techniques.
- To provide opportunities for preparation& remedies of vaccines and its delivery system to involve in research project.
- To get insights of ethical and philosophical issues associated with research in education.
- To provide an educational environment that fosters the development of appropriate scientific vocabulary, reasoning skills, and effective oral and written communication abilities.

Program Specific Outcomes (PSOs)

PSO1 - Constructing a summative project or paper that draws on current research, scholarship and/or techniques in Microbiology.

PSO 2 - Explaining the theoretical basis of the tools, technologies and methods which are common to Microbiology.

PSO3 - Developing to present and articulate their knowledge of Microbiology.

PSO4 - Acquiring knowledge and understanding of the Microbiology concepts as applicable to diverse areas such as Medical, Industrial, Environment, Genetics, Agriculture, food and others.

PSO5- Handling of Microbial and Biochemical systems.

PSO6-Demonstrating key practical skills/competencies in working with microbes for study and use in the laboratory as well as outside, including the use of good microbiological practices.

PSO7- Developing a broader perspective of the discipline of Microbiology to enable them to identify challenging social problems and plan his professional career to develop innovative solutions for such problems.