

M. Sc Microbiology Programmes

Programme Outcomes (POs):

On completion of M.Sc. Microbiology, students will be able to

PO1: Domain knowledge: Demonstrate knowledge of basic concepts, principles and applications of the specific science discipline.

PO2: Resource Utilisation. Cultivate the skills to acquire and use appropriate learning resources including library, e-learning resources, ICT tools to enhance knowledge-base and stay abreast of recent developments.

PO3: Analytical and Technical Skills: Ability to handle/use appropriate tools/techniques/equipment with an understanding of the standard operating procedures, safety aspects/limitations.

PO4: Critical thinking and Problem solving: Identify and critically analyse pertinent problems in the relevant discipline using appropriate tools and techniques as well as approaches to arrive at viable conclusions/solutions.

PO5: Project Management: Demonstrate knowledge and scientific understanding to identify research problems, design experiments, use appropriate methodologies, analyse and interpret data and provide solutions. Exhibit organisational skills and the ability to manage time and resources.

PO6: Individual and team work: Exhibit the potential to effectively accomplish tasks independently and as a member or leader in diverse teams, and in multidisciplinary settings.

PO7: Effective Communication: Communicate effectively in spoken and written form as well as through electronic media with the scientific community as well as with society at large. Demonstrate the ability to write dissertations, reports, make effective presentations and documentation.

PO8: Environment and Society: Analyse the impact of scientific and technological advances on the environment and society and the need for sustainable development.

PO9: Ethics: Commitment to professional ethics and responsibilities.

PO10: Life-long learning: Ability to engage in life-long learning in the context of the rapid developments in the discipline.

Programme Specific Outcomes (PSOs):

At the end of the programme, the student will be able to

PSO1: Acquire basic Microbiology laboratory skills and expertise in the use of instruments applicable to research, clinical methods and analysis of the observations.

PSO2: Understand prokaryotic and eukaryotic genetic systems & physiology of microorganisms.

PSO3: Gain familiarity with applications of microbes for synthesis of valuable products through fermentation.

PSO4: Explore the application of genetic engineering to create GMO, transgenic plants, animals, Gene therapy, etc.,

PSO5: Understand the role of microorganisms in human health, immune response to infection and antibiotic resistance.

Overall, the Programme is reasoning and applications oriented, equipping the students eligible for higher studies, jobs in various sectors and entrepreneurship abilities.