

B.SC. (HONOURS) MICROBIOLOGY

PROGRAM OUTCOMES

Upon graduation, the students will be able to acquire, retain and apply specialized concept and knowledge relevant to plethora of microbiological field. They will also acquire knowledge in laboratory safety and in routine and specialized microbiological skills applicable to clinical research, including accurately reporting observations and analysis.

PO1: Knowledge: Students of the B.Sc. (Honors) Microbiology programme will learn to use scientific logic as they explore a wide range of contemporary subjects spanning various aspects of basic microbiology, in addition to becoming aware of the applied aspects of microbiology. Students will gain knowledge of various biotechnological applications of microorganisms and will learn of industrially important substances produced by microorganisms. They will gain familiarity with the unique role of microbes in genetic modification technologies.

PO2: Problem Analysis and Solution: Students will appreciate the biological diversity of microbial forms and be able to describe/explain the processes used by microorganisms for their replication, survival, and interaction with their environment, hosts, and host populations. They will become aware of the important role microorganisms play in maintenance of a clean and healthy environment. They will learn of the role of microorganisms in plant, animal and human health and disease. Students will acquire and demonstrate proficiency in good laboratory practices in a microbiological laboratory and be able to explain the theoretical basis and practical skills of the tools/technologies commonly used to study this field.

PO3: Lifelong learning, Value Education and Ethics: The students will engage in lifelong learning, apply the knowledge judiciously and remain continuously employable. Carry out projects and develop new projects in the area of applied science and pursue higher studies up to the end of the life like ageing process. They will apply ethical principles and commit to professional ethics and responsibilities and norms of the microbial technologies.

PO4: Environment Sustainability and Society: Graduates of the B.Sc. (Honours) Microbiology programme will be informed citizens who can understand and evaluate the impact of new research discoveries in the life sciences, and will be able to pursue a wide range of careers, including biological and medical research in higher education institutions as well as

careers in public and global health, scientific writing, environmental organizations, and food, pharmaceuticals and biotechnology industries.

PO5: Advanced Usage of Technology: Apply advanced instrumentation tools, online resources with an understanding of the troubleshooting and limitations. Use of Scientific skills for industrial applications and entrepreneurship. The students will be imparted with entrepreneurial skills in microbiology to make them ready to contribute to society as responsible individuals.

PO6: Future Endeavour: Students will develop strong oral and written communication skills through the effective presentation of experimental results as well as through seminars. The course is reasoning and application based, making the students eligible for higher studies, jobs in various sectors and entrepreneurship abilities. Demonstrate leadership qualities by working collaboratively in a team, to set goals, communicate scientific information to stakeholders, comprehend and write reports, develop documentation, make presentation and to give and receive clear instructions.