

# Microbiology

## B.Sc. Microbiology

Students will be able to

- Demonstrate a rational understanding of the diversity of microorganisms, structure, functions, their role in the biosphere, bioinformatics and biostatistics.
- Identify the microorganisms, classify them based on their morphological characteristics and the relationship between them and the environment.
- Explain the fundamental concepts, processes, core theories and practices within microbiology, immunology and clinical microbiology.
- Apply the tools, technologies and scientific methods for laboratory and conventional investigations safely and formulate valid conclusions based on the results in the field of microbiology and its associated areas.
- Describe the role of microbes in human, food and dairy technology, agriculture, the process of heritable information in microorganisms and forming new genetic combinations through recombinant DNA
- Recognize bio safety measures, intellectual property rights and explore career options in the field of microbiology.

## M.Sc. Microbiology

Students will be able to

- Describe the cell structure, functions, their characteristics, cultivation methods, concept of culture, type of culture and microbial techniques.
- Construct the use of microbial knowledge in genetics, genetic engineering, fermentation technology, medical microbiology and waste management.
- Identify the ways microorganisms play an integral role in disease, and microbial and immunological methodologies, are used in disease treatment and prevention.
- Devise and execute safe laboratory experiments following the research ethics and presentation of reports.
- Locate career options in and related field of microbiology either through competitive examinations or entrepreneurial activities.

## M.Phil Microbiology

Students will be able to

- Recognize and critically use the theoretical understanding of the subject in questioning and plausible explanations.
- Design and implement effective strategies in carrying out a research in microbiology, possible solutions for the benefits of the biosphere.
- Transcribe research reports for the advancement in career and journal publications.
- Utilize the knowledge of teaching learning skills into one's own professional life.
- Locate the use and implementation of modern technologies in research.