

**Point 20: Does the department carry out mapping of course outcome to programme outcome?**

**YES**

<b>S.No</b>	<b>Course Outcome Mapping</b>	<b>Page No.</b>
1	Program Learning Outcomes	1
2	Program Learning Outcomes of Odd and Even Semesters	2-3



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## Name of the Programme: Microbiology 2023-2024

### Programme Learning Outcomes

S.No.	Programme Learning Outcomes (POs)	Details mentioned in LOCF
PO 1	Scientific Logic	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 such as Bacteriology, Virology, Biochemistry, Microbial Physiology, Immunology, Cell Biology, Molecular Biology, Genetics, Systems Biology, Immunology and Molecular biology, in addition to becoming aware of the applied aspects of microbiology such as Industrial Microbiology, Food and Dairy Microbiology, Environmental Microbiology and Medical Microbiology to name just a few.
PO2	Microbiological Diversity and Processes	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.
PO3	Biotechnological Applications and Genetic Modification	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.
PO4	Scientific Methodology and Literature	Students will become familiar with scientific methodology, hypothesis generation and testing, design and execution of experiments. Students will develop the ability to think critically and to read and analyze scientific literature.
PO5	Good Laboratory Practices	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.
PO6	Quantitative Skills	Students will develop proficiency in the quantitative skills necessary to analyze biological problems (e.g., arithmetic, algebra, and statistical methods as applied to biology)
PO7	Communication Skills	Students will develop strong oral and written communication skills through the effective presentation of experimental results as well as through seminars.



PO8	Career Prospects and Societal Role	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.
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### Mapping of Course Outcomes (COs) with Programme Outcomes (POs)

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
<b>B.Sc. (Hons.) Microbiology I Year (NEP)</b>									
ODD SEMESTER									
2532011101	INTRODUCTION TO MICROBIAL DIVERSITY	YES	YES	YES		YES		YES	YES
2532011102	BASIC BACTERIOLOGY	YES	YES	YES	YES	YES	YES	YES	YES
2532011103	BIOCHEMISTRY OF CARBOHYDRATES AND LIPIDS	YES	YES		YES	YES	YES	YES	YES
2534001002	INTRODUCTION AND SCOPE OF MICROBIOLOGY (GE)	YES	YES	YES	YES	YES		YES	YES
EVEN SEMESTER									
2532011201	BACTERIAL DIVERSITY AND SYSTEMATICS	YES	YES	YES	YES	YES	YES	YES	YES
2532011202	BIOCHEMISTRY OF NUCLEIC ACIDS AND PROTEINS	YES	YES		YES	YES	YES	YES	YES
2532011203	FOOD AND DAIRY MICROBIOLOGY	YES	YES	YES	YES	YES	YES	YES	YES
2534001203	APPLICATION OF MICROBES IN BIOTECHNOLOGY (GE)	YES	YES	YES	YES	YES		YES	YES
<b>B.Sc. (Hons.) Microbiology II Year (NEP)</b>									
ODD SEMESTER									



2532012301	BASIC CONCEPTS OF CELL BIOLOGY	YES	YES		YES	YES		YES	YES
2532012302	MICROBIAL PHYSIOLOGY AND METABOLISM I	YES	YES	YES	YES	YES	YES	YES	YES
2532012303	ENVIRONMENTAL MICROBIOLOGY	YES	YES		YES	YES		YES	YES
2534001005	MICROBIAL QUALITY CONTROL AND TESTING(GE)	YES	YES	YES	YES	YES		YES	YES
EVEN SEMESTER									
2532012401	ADVANCES IN CELL BIOLOGY	YES	YES		YES	YES		YES	YES
2532012402	MICROBIAL PHYSIOLOGY AND METABOLISM -II	YES	YES	YES	YES	YES	YES	YES	YES
2532012403	VIROLOGY	YES	YES	YES	YES	YES	YES	YES	YES
2534001201	MICROBES IN ENVIRONMENTAL MANAGEMENT (GE)	YES	YES	YES	YES	YES		YES	YES

### YESB.Sc. (Hons.) Microbiology III Year (LOCF)

ODD SEMESTER									
32531501	INDUSTRIAL MICROBIOLOGY	YES		YES	YES	YES		YES	YES
32531502	IMMUNOLOGY	YES			YES	YES		YES	YES
32537501	BIOINFORMATICS	YES			YES	YES	YES	YES	YES
32537505	INSTRUMENTATION AND BIOTECHNIQUES	YES			YES	YES		YES	YES
EVEN SEMESTER									
32531601	MEDICAL MICROBIOLOGY	YES	YES	YES	YES	YES		YES	YES
32521602	RECOMBINANT DNA TECHNOLOGY	YES		YES	YES	YES		YES	YES
32537605	MICROBIAL BIOTECHNOLOGY	YES	YES	YES	YES	YES		YES	YES
32537608	BIOSAFETY AND INTELLECTUAL PROPERTY RIGHTS (IPR)	YES	YES	YES	YES	YES		YES	YES

