

# LESSON PLAN

Class: Major Biotech. 2<sup>nd</sup> Sem (Life Science)

Semester: 2<sup>nd</sup> sem

Paper: General Microbiology

Session: 2023-24

Sr. No	Week	Topic
1.	15/01/24-20/01/24	History and evolution of microbiology with special reference to the contribution of the scientists: A. V. Leeuwenhoek, Louis Pasteur, Robert Koch, Edward Jenner and Alexander Fleming.
2.	22/01/24-27/01/24	Introduction to classification of microorganisms: Microbial taxonomy,
1.	29/01/24-03/02/24	different criteria including molecular approaches, Microbial phylogeny and current classification of bacteria.
2.	05/02/24-10/02/24	<b>Stains and staining procedures:</b> Acidic, basic and neutral stains, Gram staining, Acid fast staining, Flagella staining, Endospore staining
3.	12/02/24-17/02/24	<b>Distribution and characterization:</b> Prokaryotic and Eukaryotic cells,
4.	19/02/24-24/02/24	Morphology and cell structure of major groups of microorganisms eg. Bacteria, Algae, Fungi and Protozoa.
5.	26/02/24-02/03/24	<b>Cultivation and Maintenance of microorganisms:</b> Nutritional requirements of microorganisms.
6.	04/03/24-09/03/24	Methods of isolation, purification and preservation of microorganisms.
7.	11/03/24-16/03/24	<b>Microbial growth:</b> Study of growth curve, generation time, quantitative measurement of growth and factors affecting growth of bacteria.
8.	18/03/24-22/03/24	<b>Bacterial Reproduction:</b> Transformation, Transduction and Conjugation. Endospores and sporulation in bacteria.
9.	23/03/24-31/03/24	<b>Holi Break</b>
10.	01/04/24-06/04/24	<b>Viruses:</b> General characteristics of viruses, difference between virus and typical microbial cell, structure, different shapes and symmetries with one example of each type, classification of viruses on the basis of nucleic acids, phage and animal cell viruses, example of each and their importance. Brief idea of lytic cycle and lysogeny.
11.	08/04/24-13/04/24	<b>Control of microorganisms:</b> By physical and chemical antimicrobial agents including antibiotics and their mode of action
12.	15/04/24-20/04/24	<b>Food and Water Microbiology:</b> Bacterial pollutants of water, coliforms and non coliforms. Sewage composition and its disposal. Microbial spoilage of foods. Major food

		born infections and intoxications.
<b>13.</b>	<b>22/04/24-30/04/24</b>	Microbiology of fermented Foods. <b>Microbial ecology:</b> Microenvironment & Niche. <b>Soil microbiology:</b> Types & functions of microorganisms in soil.

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