



Department of Biotechnology		LP: BT22312
B.E/B.Tech/M.E/M.Tech : Biotechnology		Rev. No: 00
Regulation: 2022		Date: 02/08/2023
PG Specialisation : -NA-		
Sub. Code / Sub. Name : BT 22312/ Microbiology Lab		

Session No*	List of Experiments
<b>CYCLE-I</b>	
1	Introduction, Good Laboratory Practices, Safety, Handling of Micropipette
2	Sterilization Techniques.
3	Culture Media - Preparation of Nutrient broth and agar; flask and test tubes, slants and stabs.
4	Culturing Techniques – Aerobic and anaerobic culture methods.
5	Staining Techniques – Simple and Differential Staining.
6	Microbiologic sample collection procedures from the environment
<b>CYCLE-II</b>	
7	Microbial enumeration techniques – Pour plate (Direct Microscopy) and Surface spread (Turbidity) methods
8	Quantification of microbes: Serial Dilution, Viable count determination – CFU
9	Effect of Disinfectants- Phenol Coefficient;
10	Minimal Inhibition Concentration assay; Antibiotic Sensitivity of Microorganisms
11	Growth Curve Determination in Bacteria and Yeast
12	Effect of pH, Temperature and UV on the growth of bacteria
Content beyond syllabus (if any): The nature of microorganisms in soil and water will be analyzed.	

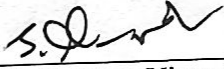

\* Session Duration: 200 minutes



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**REFERENCE BOOKS:**

1. Welsh, C. and Cappuccino, J., "Microbiology: A Laboratory Manual", United Kingdom: Pearson, 2019.
2. Sattley, W. M., Stahl, D. A., Madigan, M. T., Buckley, D. H. and Bender, K. S. "Brock Biology of Microorganisms", United Kingdom: Pearson, IRL, 2018.
3. Prescott, L. M., Harley, J. P., Klein, D. A. (2005). Microbiology. United Kingdom: McGraw-Hill Higher Education.

	Prepared by	Approved by
Signature		
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Designation	Assistant Professor Dept. of Biotechnology	Professor & HOD Dept. of Biotechnology
Date	02/08/2023	02/08/2023
Remarks* : This lesson plan will be followed in the subsequent years		

  
2/8/23