



Department of Biotechnology		LP: BT22311
B.E/B.Tech/M.E/M.Tech : Biotechnology Regulation: 2022		Rev. No: 00
PG Specialisation : - NA-		Date: 12/06/2026
Sub. Code / Sub. Name : BT22311 / Microbiology Laboratory		

Session No*	List of Experiments
CYCLE-I	
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.
CYCLE-II	
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 various microorganisms in soil and water will be analyzed with the principle of biochemical tests.	

* Session Duration: 200 minutes



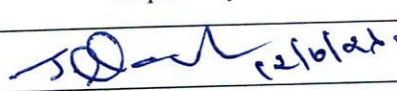
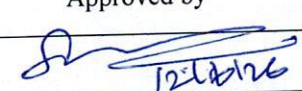
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REFERENCE BOOKS

1. Welsh, C., Cappuccino, J. (2019). Microbiology: A Laboratory Manual. United Kingdom: Pearson.
2. Sattley, W. M., Stahl, D. A., Madigan, M. T., Buckley, D. H., Bender, K. S. (2018). Brock Biology of Microorganisms. United Kingdom: Pearson.
3. Arora, B., Arora, D. R. (2020). Practical Microbiology. India: CBS Publishers & Distributors.

	Prepared by	Approved by
Signature		
Name	Mr . S. Naga Vignesh	Prof. E. Nakkeeran
Designation	Assistant Professor	Head of the Department
Date	12.06.2026	12.06.2026
Remarks *: This lesson plan will be followed in the subsequent years.		