

**VIT**

Vellore Institute of Technology

Approved by the UGC for the purpose of awarding U.G. and P.G. Degrees

SLOT: C1+TC1

SCHOOL OF BIO SCIENCES AND TECHNOLOGY
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2024-2025

Programme Name & Branch : M.Sc. Biotechnology (5 Year integrated)
Course Code and Course Name : TBIT202L / Microbiology
Faculty Name(s) : Dr. E Nalini and Dr. M Kavitha
Class Number(s) : VL2024250104114 and VL2024250104118
Date of Examination : 15th Oct 2024
Exam Duration : 90 minutes **Maximum Marks: 50**

General instruction(s):

- Answer All Questions (Include diagrams and schematics for all the answers).
- M - Max mark; CO - Course Outcome; BL - Blooms Taxonomy Level (1 - Remember, 2 - Understand, 3 - Apply, 4 - Analyse, 5 - Evaluate, 6 - Create)
- Course Outcomes (Type the CO statements covered in this question paper. Use the CO number as per the syllabus copy)
 1. Distinguish various microorganisms based on classification.
 2. Infer, screen, culture and preserve microorganisms.
 3. Explicate growth requirements and control of various bacteria.
 4. Compare methods of cultivation and classification of viruses.
 5. Relate bacterial infection and causes of contamination.
 6. Apply microbiology in industry, clinical and different sectors.

Q. No	Question	M	CO	BL
1.	With a neat diagram represent the different phases of growth when a bacterial population is grown in a batch (closed) system. Critically analyze the conditions that drive the cells into different phases.	10	3	4
2.	If you are interested in counting the bacterial cells in the given water sample, mention the possible direct and indirect methods that can be explored for this objective. Also add a note on the merits and demerits of these methodologies.	10	6	3
3.	Sketch the prominent fermentation pathway in the production of various dairy products in dairy industries.	10	6	4
4.	Viruses are acellular but are still composed of different biomolecules which aids its survival. Analyse the structural and functional features of these viral biomolecules.	10	4	2
5.	Explore the life cycle of a virus that specifically binds to LPS and teichoic acid of Gram negative and Gram positive bacteria respectively and lyse the host cells at the end.	10	4	1
