

**VINAYAKA MISSION'S RESEARCH FOUNDATION
(DEEMED TO BE UNIVERSITY), SALEM**

**B.PHARM. DEGREE EXAMINATION – July 2021
Third Semester**

PHARMACEUTICAL MICROBIOLOGY

Time : Three hours

Maximum: 75 marks

I. Write essays on any **TWO** questions: (2 x 10 = 20)

1. What is Microbial Assay? Explain the principle and type of microbiological assays with reference to Vitamins and Antibiotics.
2. Discuss the principle and instrumentation of Moist heat sterilization with examples.
3. Diagrammatically represent various phases in bacterial growth and classify the methods of bacterial growth measurement. Describe one method each for finding out total count and viable count.

II. Write short answers on any **SEVEN** questions: (7 x 5 = 35)

4. Preservation of microbes.
5. Gram staining and Acid fast staining.
6. Applications of Animal cell culture.
7. Evaluation of Disinfectants.
8. Nutritional requirements of bacteria.
9. Sources of microbial contaminants.
10. Sterility tests for pharmaceutical products as per IP.
11. Design and working principles of Laminar Air Flow.
12. Types of Sterility indicators.

III. Write short notes on : (10 x 2 = 20)

13. Classify organisms based of flagella.
14. Define Fumigation.
15. Uses of culture media.
16. Name any two bactericidal agents.
17. Examples of chemical method sterilization.
18. Give any two importance of aseptic technique.
19. What is Minimum Inhibitory Concentration (MIC)?
20. Give any two examples of G (+) and G (-) bacteria.
21. Name the factors affecting microbial spoilage of pharmaceutical products.
22. Merits and demerits of radiation sterilization.