

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER-V • EXAMINATION – SUMMER -2021

Subject Code: BP504TP**Date: 06/08/2021****Subject Name: Pharmaceutical Microbiology****Time: 02:30PM TO 05:30PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** **Answer the following questions. (1 mark each)** **16**
- I) The action of alcohol during Gram staining is_____.
- II) Bacterial cultures can be preserved for short term duration by
 A. Deep freezing B. Lyophilization
 C. Refrigeration D. None of the above
- III) The difference between Gram positive and Gram negative bacteria is shown to reside in the nucleus. (True/ False)
- IV) Which scientist introduced the name 'Bacterium'?
- V) Giemsa stain is used for staining of _____.
- VI) Enlist the different phases of bacterial growth curve.
- VII) All endospores contain large amount of _____, which accounts for 10-15% dry weight of spore.
 A. Dipicolinic acid B. Picolinic acid
 C. Techoic acid D. Techeic acid
- VIII) _____ method is used for determining the phenol co-efficient of disinfectant.
- IX) What do you mean by cryophiles type of bacteria?
- X) Trepenoma pallidum causing syphilis is from _____ type of bacteria.
- XI) What do you mean by 'heat fixation'?
- XII) State the name of any 'selective media'.
- XIII) During_____phase of bacterial growth cycle, there may be increase in size but no increase in cell number.
- XIV) Which of the following element is a major element and main constituent of bacterial cell?
 A. Sulphur B. Magnesium
 C. Carbon D. Nitrogen
- XV) Define: Peritrichous bacteria.
- XVI) Define: Sterilization.
- Q.2** (a) Compare and contrast: Prokaryotes and Eukaryotes. **06**
 (b) Write a note on Isolation and preservation methods for pure cultures of bacteria. **05**
 (c) Explain Dark field microscopy in brief and state its application. **05**
- Q.3** (a) Draw a labeled diagram of ultrastructure of bacteria and explain significance of any one component. **06**
 (b) Classify the bacteria based on their nutritional requirements. **05**
 (c) Write a short note on clean area classification. **05**

- Q.4** (a) Enumerate the methods for quantitative measurement of viable count of bacteria and explain any one method in detail. **06**
- (b) Mention any two culture media with their composition and state application of each component. **05**
- (c) Mention the various sterility indicators with their applications in brief. **05**
- Q.5** (a) Describe the principle, procedure, merits, demerits and application of Mechanical method of sterilization. **06**
- (b) Mention the various factors affecting the microbial spoilage of pharmaceutical products and explain any factor in detail. **05**
- (c) Explain any two phases of bacterial growth curve with appropriate diagram. **05**
- Q.6** (a) Classify the various fungi and explain in brief about its reproduction and cultivation. **06**
- (b) State the mode of action of disinfectants with brief explanation about the factors affecting it. **05**
- (c) Define aseptic area and mention the various sources of contamination and preventive measures to be taken in aseptic area. **05**
- Q.7** (a) What do you mean by sterility testing? Write a short note on sterility testing of powders. **06**
- (b) Explain the terms 'Antiseptic' and 'Disinfectants'. **05**
- (c) Explain the various applications of cell cultures in pharmaceutical industry and research. **05**
