

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 5 EXAMINATION – SUMMER -2023

Subject Code: BP504TP**Date: 21/06/2023****Subject Name: Pharmaceutical Microbiology****Time:02.30 p.m. to 5.30 p.m.****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** (a) Define viable count and total count. Enlist methods for viable and total count. Explain any two methods in detail. **06**
- (b) Classify staining techniques. Discuss gram staining in detail. **05**
- (c) Write a detail note on isolation and preservation of pure culture. **05**
- Q.2** (a) Differentiate [i] Gram positive and gram negative cell wall [ii] Prokaryotic and Eukaryotic organisms. **06**
- (b) Define culture media. Classify them. Explain selective and differential media in detail. **05**
- (c) Write a note on microorganism according to oxygen requirement, temperature requirement and nutritional requirement. **05**
- Q.3** (a) Write a note on Bacterial growth curve. **06**
- (b) Write a note on Electron Microscopy. **05**
- (c) Explain applications of animal cell culture in pharmaceutical research. **05**
- Q.4** (a) Give a brief account on Horizontal Autoclave with neat labeled diagram. **06**
- (b) Write a note on physical, chemical and biological indicators. **05**
- (c) Give a brief account on IMViC test. **05**
- Q.5** (a) Write a note on factors affecting on Disinfection action. **06**
- (b) Mention the various factors affecting on types of spoilage of pharmaceutical products. **05**
- (c) Define aseptic area and mention the various sources of contamination and preventive measures to be taken in aseptic area. **05**
- Q. 6** (a) Define; Sterilization, Disinfection, D value, Z value, Inactivation factor, Antiseptic **06**
- (b) Define microbiology. Write down a complete summery on historical perspective of microbiology **05**
- (c) Write a short note on test for sterility. **05**
- Q.7** (a) Name the Microorganisms used for the assay of the following (**Any 6**): Tetracycline, Amphotericin B, Penicillin, Gentamicin, Streptomycin, Chloramphenicol, Bacitracin, Doxycycline. **06**
- (b) Classify the viruses and its method of replication. **05**
- (c) Write a note on microbial assay of Vitamin B12. **05**
