

**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.

- |             |  |           |
|-------------|--|-----------|
| <b>Q.1</b>  | (a) Define viable count and total count. Enlist methods for viable and total count. Explain any two methods in detail.   | <b>06</b> |
|             | (b) Classify staining techniques. Discuss gram staining in detail.   | <b>05</b> |
|             | (c) Write a detail note on isolation and preservation of pure culture.   | <b>05</b> |
| <b>Q.2</b>  | (a) Differentiate [i] Gram positive and gram negative cell wall [ii] Prokaryotic and Eukaryotic organisms.   | <b>06</b> |
|             | (b) Define culture media. Classify them. Explain selective and differential media in detail.   | <b>05</b> |
|             | (c) Write a note on microorganism according to oxygen requirement, temperature requirement and nutritional requirement.  | <b>05</b> |
| <b>Q.3</b>  | (a) Write a note on Bacterial growth curve.  | <b>06</b> |
|             | (b) Write a note on Electron Microscopy.   | <b>05</b> |
|             | (c) Explain applications of animal cell culture in pharmaceutical research.  | <b>05</b> |
| <b>Q.4</b>  | (a) Give a brief account on Horizontal Autoclave with neat labeled diagram.  | <b>06</b> |
|             | (b) Write a note on physical, chemical and biological indicators.  | <b>05</b> |
|             | (c) Give a brief account on IMViC test.  | <b>05</b> |
| <b>Q.5</b>  | (a) Write a note on factors affecting on Disinfection action.  | <b>06</b> |
|             | (b) Mention the various factors affecting on types of spoilage of pharmaceutical products.   | <b>05</b> |
|             | (c) Define aseptic area and mention the various sources of contamination and preventive measures to be taken in aseptic area.  | <b>05</b> |
| <b>Q. 6</b> | (a) Define; Sterilization, Disinfection, D value, Z value, Inactivation factor, Antiseptic   | <b>06</b> |
|             | (b) Define microbiology. Write down a complete summery on historical perspective of microbiology   | <b>05</b> |
|             | (c) Write a short note on test for sterility.  | <b>05</b> |
| <b>Q.7</b>  | (a) Name the Microorganisms used for the assay of the following ( <b>Any 6</b> ):<br>Tetracycline, Amphotericin B, Penicillin, Gentamicin, Streptomycin, Chloramphenicol, Bacitracin, Doxycycline. | <b>06</b> |
|             | (b) Classify the viruses and its method of replication.  | <b>05</b> |
|             | (c) Write a note on microbial assay of Vitamin B12.  | <b>05</b> |

\*\*\*\*\*