

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

**B.Pharm - SEMESTER-V- (NEW SYLLABUS) EXAMINATION – SUMMER-2015**

**Subject code: 2250002**

**Date: 30/04/2015**

**Subject Name: Pharmaceutical Microbiology & Biotechnology-I**

**Time: 2.30 pm to 5.30 pm**

**Total Marks: 80**

### **Instructions:**

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

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|------------|--|-----------|
| <b>Q.1</b> | (a) Discuss the Scope of Microbiology  | <b>06</b> |
|            | (b) Define the terms: Bioburden, Sterilization, D- value, Incineration, MIC.                                 | <b>05</b> |
|            | (c) Discuss the following Staining methods in brief:   | <b>05</b> |
|            | 1. Gram Staining   |           |
|            | 2. Spore staining  |           |
| <b>Q.2</b> | (a) Describe biological indicators for monitoring sterilization processes                                    | <b>06</b> |
|            | (b) Enumerate the factors affecting disinfection. Discuss any two.   | <b>05</b> |
|            | (c) Write short note on fungi.   | <b>05</b> |
| <b>Q.3</b> | (a) Classify the methods of sterilization. Discuss Hot air oven with its applications.                       | <b>06</b> |
|            | (b) Explain the Growth Promotion test.   | <b>05</b> |
|            | (c) Write a brief note on protein synthesis.   | <b>05</b> |
| <b>Q.4</b> | (a) Discuss methods for evaluation of disinfectants.   | <b>06</b> |
|            | (b) Write note on Scanning Electron Microscopy.  | <b>05</b> |
|            | (c) Give the nutritional requirements for microorganisms.  | <b>05</b> |
| <b>Q.5</b> | (a) Differentiate following:   | <b>06</b> |
|            | 1) Gram -ve and Gram +ve Bacteria. 2) Spores and capsules  |           |
|            | (b) Write detail note on spirochetes.  | <b>05</b> |
|            | (c) Why test for sterility is carried out? What is the importance of Control test in the test for sterility? | <b>05</b> |
| <b>Q.6</b> | (a) Draw a labeled diagram of bacterial cell. Explain flagella.  | <b>06</b> |
|            | (b) Write down ideal requirements of disinfectant. Write mode of action of Phenol.                           | <b>05</b> |
|            | (c) Enumerate various techniques of immobilization of enzymes and explain any one.                           | <b>05</b> |
| <b>Q.7</b> | (a) Explain: Total count & Viable count.   | <b>06</b> |
|            | (b) Differentiate: DNA & RNA.  | <b>05</b> |
|            | (c) Give the difference between prokaryotic cell and eukaryotic cell.  | <b>05</b> |

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