

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 5 EXAMINATION – WINTER -2019

Subject Code: 2250002**Date: 18-11-2019****Subject Name: Pharmaceutical Microbiology & Biotechnology – I****Time: 02:30 PM TO 05:30 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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| Q.1 | (a) Describe growth curve of bacteria with labeled diagram. | 06 |
| | (b) Classify the staining techniques. Discuss gram staining method. | 05 |
| | (c) Draw a labeled diagram of bacterial cell. Explain flagella. | 05 |
| Q.2 | (a) Write a brief note on nutritional requirements of microorganisms. | 06 |
| | (b) Classify media. Write in detail about any one media used for cultivation of anaerobic organisms. | 05 |
| | (c) Define the terms: Bioburden, Sterilization, D- value, Incineration, MIC. | 05 |
| Q.3 | (a) Define sterilization. Classify various methods of sterilization. Write in brief about Hot Air Oven. | 06 |
| | (b) How will you perform the sterility test for penicillin? | 05 |
| | (c) Write a note on gaseous sterilization. | 05 |
| Q.4 | (a) Describe the structure of DNA and the process of DNA replication. | 06 |
| | (b) Discuss in detail about genetic code and its properties. | 05 |
| | (c) Give a brief account on restriction endonucleases. | 05 |
| Q.5 | (a) Define enzyme immobilization. Write merits and demerits of enzyme immobilization. | 06 |
| | (b) Discuss preservation of bacterial cultures. | 05 |
| | (c) Differentiate total and viable count. Explain the methods of determining total count. | 05 |
| Q. 6 | (a) Enumerate the factors affecting disinfection. Discuss any two. | 06 |
| | (b) Enlist the methods of evaluation of disinfectant. Discuss phenol coefficient test. | 05 |
| | (c) Explain Redial walker coefficient test in comparison to Chick martin test. | 05 |
| Q.7 | (a) Write detail note on spirochetes. | 06 |
| | (b) Describe biological indicators for monitoring sterilization processes. | 05 |
| | (c) Write applications of biotechnology in Pharmacy. | 05 |
