

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – V • EXAMINATION – WINTER • 2014

Subject Code: 2250002

Date: 28-11-2014

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

Time: 10:30 am - 01:30 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) Differentiate Disinfection & Sterilization. What are the ideal characters of the disinfectants and classify them with their mode of action? | 06 |
| | (b) Give a brief account on
i) Dynamics of Disinfection ii) Biological indicators in sterilization | 05 |
| | (c) Compare and contrast the Phenol Coefficient tests. | 05 |
| Q.2 | (a) Differentiate Defined and Complex media. What are the various components of medium and uses of the same? Mention the various types of medium with suitable examples. | 06 |
| | (b) With a neat labeled diagram, explain the bacterial cell components. | 05 |
| | (c) Write short notes on Scanning Electron Microscopy. | 05 |
| Q.3 | (a) Describe the construction and working of HORIZONTAL AUTOCLAVE with a neat labeled diagram. | 06 |
| | (b) Write short notes on
i) Cold sterilization ii) Radiation sterilization | 05 |
| | (c) Differentiate Depth filters and Screen filters. Explain screen filtration sterilization. | 05 |
| Q.4 | (a) Explain the different techniques of Immobilization. | 06 |
| | (b) Give applications of Immobilization. | 05 |
| | (c) How to identify the microbes using dry mount techniques and explain the principle involved? | 05 |
| Q.5 | (a) Explain the various enzymes of DNA metabolism. | 06 |
| | (b) What are the steps involved in DNA replication and explain? | 05 |
| | (c) Describe the historical development in the field of Biotechnology. | 05 |
| Q. 6 | (a) Write morphological classification of Virus. Describe the structure and composition of Virus. | 06 |
| | (b) Give a brief account on cultivation methods of ANAEROBIC organisms. | 05 |
| | (c) Explain the methods of determining Viable Count. | 05 |
| Q.7 | (a) Define: Pasteurization, Tyndallization, Okazaki fragment, Semi conservative replication, Transcription, Translation, Z -value, D-value, Inactivation factor, Thermal Death Point, Thermal Death time, Bio burden. | 06 |
| | (b) Explain sporulation cycle of bacteria with a neat diagram. | 05 |
| | (c) How to sterilize Oily injections, Bed sheet, Tissue transplants, Transfusion sets, Plastic instruments, Surgical Powders, Surgical dressings, Blood products, Insulin preparation, Petriplates? | 05 |
