

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm - SEMESTER-5 • EXAMINATION – SUMMER -2018

Subject Code: 2250002

Date: 16/05/2018

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) Enlist the methods of evaluation of disinfectant. Discuss phenol coefficient test. | 06 |
| | (b) Differentiate: Gram +ve Bacteria and Gram –ve Bacteria, Bacteria and Virus. | 05 |
| | (c) Write a note on TEM. | 05 |
| Q.2 | (a) Enlist the different methods of bacterial counting. Write a note on one of viable counting method. | 06 |
| | (b) Write a short note on flagella and capsule. | 05 |
| | (c) Define terms: D-Value, Z-Value, Bioburden, Sterility, MIC | 05 |
| Q.3 | (a) Enumerate various techniques of enzyme immobilization and explain any one in detail. | 06 |
| | (b) Write a note on dark field microscopy. | 05 |
| | (c) Discuss the scope of biotechnology in pharmacy. | 05 |
| Q.4 | (a) Classify Bacterial Identification methods. Discuss principle involved in Zeil-neelson Staining. | 06 |
| | (b) (i) Comment: Oily injections in a sealed container can be sterilized by autoclave. | 05 |
| | (ii) Comment: Oxygen is lethal or life for microorganisms. | |
| | (c) Write a brief note on Protein synthesis. | 05 |
| Q.5 | (a) Write a note on DNA Replication. | 06 |
| | (b) Define sterility assurance. Write a note on Biological indicators. | 05 |
| | (c) Write a note on Rickettsia and Actinomycetes. | 05 |
| Q. 6 | (a) Define: Autotrophs, Chemotrophs, Microaerophiles, Psychrophile, Facultative anaerobes, chemolithotrophs, Capinophiles. | 06 |
| | (b) Differentiates: Prokaryotes and Eucaryotes | 05 |
| | Differentiates: DNA and RNA. | |
| | (c) Enlist factor affecting disinfection. Discuss any two in detail. | 05 |
| Q.7 | (a) Classify Culture media. Discuss in detail any two culture media. | 06 |
| | (b) Suggest suitable sterilization method for: Arachis oil, Boric acid, Surgical gloves, Glass beaker, Ascorbic acid injection. | 05 |
| | (c) Give mechanism of killing: Ethylene oxide sterilization, Pasteurization, Oil bath sterilization, UV radiation, Surface sterilization method. | 05 |
