

Seat No.: _____

Enrolment No. _____

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.

- 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, Capnophiles. **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**
