

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER-V • EXAMINATION – WINTER -2020**Subject Code:2250002****Date: 05/01/2021****Subject Name: Pharmaceutical Microbiology & Biotechnology-I****Time: 10:30AM TO 12:30PM****Total Marks: 54****Instructions:**

1. Attempt any **THREE** questions from Q-1 to Q-6.
2. Q.7 is compulsory to attempt.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

- Q.1** (a) Define microbiology. Discuss the various scope of microbiology. **06**
(b) Discuss principle, working and applications of TEM. **05**
(c) Differentiate: Prokaryotes and eukaryotes, Bacteria and virus. **05**
- Q.2** (a) Give the suitable condition for growth of following: Autotrophs, Chemolithotrophs, Microaerophiles, Psychrophiles, Basophiles, Obligate anaerobes. **06**
(b) Differentiate: spore and capsule, Gm+ve and Gm -ve bacteria. **05**
(c) Write a note on bacterial flagella. **05**
- Q.3** (a) Define and Classify culture media. Write a note on Enriched media. **06**
(b) What are FTM and SCM? Write a note on aerobic and anaerobic media. **05**
(c) Define total count and viable count. Discuss any one method used for viable counting of E.coli. **05**
- Q.4** (a) Explain D-value, F-value, Z-value, Q10Value, SAL, Bio burden. **06**
(b) Write a note on Cold sterilization methods. **05**
(c) Comment on followings: (i) Superheated steam is more active than saturated steam. (ii) Roll tube method cannot be used for viable count of anaerobic organism. **05**
- Q.5** (a) Suggest suitable sterilization method for Oily injections, Boric acid, Transfusion sets, Petri plates, Ethyl oleate and Syringes. **06**
(b) Differentiate: tyndallization and pasteurization, Sterilization and disinfection. **05**
(c) Write a note on biological indicators for monitoring of sterilization. **05**
- Q. 6** (a) Enlist the various evaluation tests for disinfectant. Write a note on Riedel Walker coefficient test. **06**
(b) Write a note on QAC and halide class of disinfectants. **05**
(c) Discuss principle and procedure involved in staining for mycobacterium species. **05**
- Q.7** (a) Define immobilization. Enlist methods of immobilization and write any one in detail. **06**
- OR**
- (a) Discuss in detail about genetic code and its properties **06**
- OR**
- (a) Write a note on DNA replication. **06**
