

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 6 EXAMINATION – SUMMER -2019**Subject Code: 2260002****Date: 10-05-2019****Subject Name: Pharmaceutical Microbiology & Biotechnology – II****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) Classify the mutagenic agents and Describe test for identification of mutagens. **06**
(b) Write a note on protoplast fusion. **05**
(c) Define gene cloning. Discuss gene cloning by Restriction endonuclease. **05**
- Q.2** (a) How do you carried out sterility test for Iodex, sulfacetamide eye drops, Penicillin, Talcum powders and surgical dressings. **06**
(b) Differentiate transformation and transduction. **05**
(c) Write a note on Hybridoma Technique. **05**
- Q.3** (a) Explain Microbiological test of vitamin B12. **06**
(b) Discuss the growth promotion test. **05**
(c) Comments: (i)TAB is a simple monovalent vaccine.(ii) Sub culturing is required in sterility testing of oily injections. **05**
- Q.4** (a) Discuss antigen antibody reactions. **06**
(b) Write a note on ELISA and Widal Tests. **05**
(c) Differentiate Humoral and Cellular immunity, Active and passive immunity. **05**
- Q.5** (a) Give examples of Polyvalent vaccine, Toxoid, Attenuated vaccine, viral vaccine, killed vaccine and sera. **06**
(b) Write a note on immunoglobulins. **05**
(c) Write a note on streptokinase. **05**
- Q.6** (a) Write a note on collection, processing and storage of whole human blood. **06**
(b) Write a note on ideal requirements of plasma substitutes and Dextran. **05**
(c) Give schematic diagram of production of penicillin V by fermentation. **05**
- Q.7** (a) Give the organisms required for production of Streptomycin, Tetracycline, Citric acid, Vitamin B12, Riboflavin and alcohol. **06**
(b) Define fermentation. Draw labeled diagram of typical fermentor and give role of different parts of fermentor. **05**
(c) Discuss control of different parameters during fermentation process. **05**
