

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**B. PHARM - SEMESTER- V • EXAMINATION – WINTER -2019****Subject Code: BP504TP****Date: 22/11/2019****Subject Name: Pharmaceutical Microbiology****Time: 02:30PM TO 05:30PM****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 bacteria according to their physical requirement for the growth with suitable example **06**
(b) Differentiate following **05**
i) Gram positive and Gram negative bacteria
ii) Bacteria and virus
(c) Enlist types of media for bacterial growth with suitable example. Explain selective and differential media **05**
- Q.2** (a) Draw a labeled diagram of horizontal autoclave and discuss its principal, merits, demerits and applications. **06**
(b) What is differential staining technique? explain acid fast staining **05**
(c) Discuss cultivation of anaerobic bacteria in detail **05**
- Q.3** (a) Classify the disinfectants. Enlist the factors affecting disinfection. Discuss any two **06**
(b) Enumerate the methods of evaluation of disinfectant. Explain Rideal-Walkar test **05**
(c) Explain various methods for the preservation of pure culture **05**
- Q.4** (a) Explain significance of control test, Media and Method recommended for the sterility testing of Pharmaceutical product as per IP **06**
(b) Give a detailed account on Gaseous sterilization **05**
(c) Discuss sterility indicators for the validation of Sterilization methods **05**
- Q.5** (a) Enumerate various methods used for microbiological Assay. Discuss one level assay method for microbial assay of antibiotics **06**
(b) How do you carried out the microbiological assay of Vitamin B12 as per IP **05**
(c) Explain electron microscopy with its application and limitation **05**
- Q. 6** (a) Enumerate technique for the quantitative measurement of bacterial growth and explain any one method for viable count **06**
(b) Write a short not on IMViC test for the identification of bacteria **05**
(c) Discuss factors affecting the microbial spoilage of Pharmaceutical products **05**
- Q.7** (a) Explain the various sources of contamination in an aseptic area and methods of prevention **06**
(b) Give the applications of cell cultures in Pharmaceutical industry **05**
(c) Explain various parameters to maximize the preservative efficacy of an antimicrobial agent **05**