

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.**

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|-------------|---|-----------|
| 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 |
