

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER - V • EXAMINATION – SUMMER 2017

Subject Code: 250002

Date: 29/05/2017

Subject Name: Pharmaceutical Microbiology - I

Time: 10:30 AM to 1:30 PM

Total Marks: 80

Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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| Q.1 | (a) Describe the test to be comply for the media used for sterility testing as per IP | 06 |
| | (b) Explain the two level factorial microbial assay method for antibiotics in brief. | 05 |
| | (c) Describe the morphological structure of a bacteriophage with a labeled diagram. | 05 |
| Q.2 | (a) What is electron microscopy? Differentiate between Transmission Electron Microscopy (TEM) and Scanning Electron Microscopy (SEM). | 06 |
| | (b) Describe in brief about acid fast staining techniques. | 05 |
| | (c) Classify the bacteria based on the temperature requirements and give temperature range for growth of each class of bacteria. | 05 |
| Q.3 | (a) Enumerate the various factors affecting disinfection action and discuss the effect of concentration of disinfectant in detail. | 06 |
| | (b) Write sterilization condition of moist and dry heat sterilization process along with their applications. | 05 |
| | (c) Enlist the methods for evaluation of efficiency of filtration sterilization process and describe any one detail. | 05 |
| Q.4 | (a) Write a short note on Scope of Microbiology. | 06 |
| | (b) Describe the structure and functions of flagella. | 05 |
| | (c) What are endospores? Describe the process of endospores formation by suitable diagram. | 05 |
| Q.5 | (a) Discuss the mechanism of destruction of microbes by following methods
(i) Ethylene oxide method (ii) Ionizing radiation (iii) Dry heat sterilization. | 06 |
| | (b) Describe Most probable number (MPN) method of bacterial enumeration in brief. | 05 |
| | (c) Discuss significance and limitations of Sterility testing. | 05 |
| Q. 6 | (a) Describe Anaerobic Jar in cultivation of anaerobic microbes. | 06 |
| | (b) Give the mechanism of following disinfectants
(i) Phenols (ii) Alcohols | 05 |
| | (c) Discuss the limitations of phenol coefficient test. | 05 |
| Q.7 | (a) Write a brief note on spirochete. | 06 |
| | (b) What are selective and differential media? Discuss its significance. | 05 |
| | (c) Enumerate the methods of isolation of bacteria and describe spread plate method in brief. | 05 |
