

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – V • EXAMINATION – WINTER – 2015

Subject Code: 250002

Date: 08/12/2015

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) Define Generation time & classify the bacteria with respect to O ₂ requirement and temperature requirement. Explain Bacterial growth curve. | 06 |
| | (b) Differentiate gram positive and gram negative characters of Bacteria. | 05 |
| | (c) Explain any two methods of isolating the pure cultures with their advantages and disadvantages. | 05 |
| Q.2 | (a) Define Sterilization. Explain the mechanism and operational procedure of industrial autoclave with a neat labeled diagram. | 06 |
| | (b) Write notes on methods for validating the sterilizing equipments. | 05 |
| | (c) Give a detailed account on Gaseous sterilization. | 05 |
| Q.3 | (a) Explain oligodynamic action of metals with the reactions involved. Write short notes on kinetics of disinfection. Name the disinfectants which act by disrupting the cell membrane. | 06 |
| | (b) Explain the factors affecting disinfection associated with test organism. | 05 |
| | (c) Mention the methods of evaluating bacteriostatic agents and explain any two. | 05 |
| Q.4 | (a) Compare and contrast the phenol coefficient tests. | 06 |
| | (b) Write short notes on Test for sterility. | 05 |
| | (c) With a neat diagram, explain the morphology of bacteriophage. | 05 |
| Q.5 | (a) Explain viable count methods of enumerating the microbes. | 06 |
| | (b) How to preserve the microbial cultures? | 05 |
| | (c) State reasons : i)for using special media in test for sterility instead of nutrient broth ii) for using 18 to 24h culture in most of the microbiological experiments iii) for using alcohol(70%) as antiseptic than alcohol(90%). | 05 |
| Q. 6 | (a) Write a detailed account on Microbiological assay of Streptomycin. | 06 |
| | (b) Enumerate the principles and methods of differential staining. | 05 |
| | (c) Criticize the phenol coefficient tests. | 05 |
| Q. 7 | (a) Detail out the sterilization using depth filters. | 06 |
| | (b) Classify the actinomycetes and viruses. | 05 |
| | (c) Explain any one microbiological assay method of Vitamin B ₁ . | 05 |
