

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2250002

Date: 08/12/2015

Subject Name: Pharmaceutical Microbiology and Biotechnology 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.

- | | | | |
|-------------|-----|---|-----------|
| Q.1 | (a) | Define sterilization and classify the methods with mechanisms of action & name of the instrument used. Explain the autoclave. | 06 |
| | (b) | Give a brief account on mechanical method of sterilization. | 05 |
| | (c) | Write short notes on physical, chemical and biological indicators for checking the efficiency of autoclave. | 05 |
| Q.2 | (a) | Give a brief account on various staining techniques to identify microbes. | 06 |
| | (b) | Classify the bacteria with respect to oxygen requirement, flagellar arrangement and temperature requirement. | 05 |
| | (c) | Write short notes on oxygen toxicity to anaerobic organisms. | 05 |
| Q.3 | (a) | Explain the structure and taxonomy of Actinomycetes. | 06 |
| | (b) | Give a brief account on Electron microscopy technique. | 05 |
| | (c) | Define Generation time and explain various stages of bacterial growth curve. | 05 |
| Q.4 | (a) | Explain Redial walker coefficient test in comparison to Chick martin test. | 06 |
| | (b) | Enumerate the tests available for checking the efficiency of bacteriostatic activity. | 05 |
| | (c) | Name the various categories of disinfectants and their mechanism of action. | 05 |
| Q.5 | (a) | Describe the structure of DNA and the process of DNA replication. | 06 |
| | (b) | Write short notes on scope of biotechnology. | 05 |
| | (c) | Give a brief account on restriction endonucleases. | 05 |
| Q. 6 | (a) | Differentiate total and viable count. Explain the methods of determining total count. | 06 |
| | (b) | Explain various techniques of immobilization. | 05 |
| | (c) | Describe the structure of Virus and its cultivation methods. | 05 |
| Q.7 | (a) | What are the factors affecting disinfectant action? Explain. | 06 |
| | (b) | Explain the gene expression in terms of LAC OPERON. | 05 |
| | (c) | Write short notes on EtO sterilization. | 05 |
