

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 5 EXAMINATION – SUMMER -2019

Subject Code: 2250002

Date: 29-05-2019

Subject Name: Pharmaceutical Microbiology & Biotechnology – I

Time: 02:30 PM TO 05:30 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 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) Classify the staining techniques. Discuss gram staining method. | 06 |
| | (b) Differentiate bacteria and viruses. | 05 |
| | (c) Write application and scope of Pharmaceutical Microbiology. | 05 |
| Q.3 | (a) Enlist various evaluation tests for disinfectants. Describe the Rideal Walker test for phenol. Write its merits & demerits. | 06 |
| | (b) Define Disinfectant. Discuss in detail ideal properties of disinfectant. | 05 |
| | (c) Define the following terms: Bioburden, Antiseptic, Thermal death point, Bactericide, Sanitizer | 05 |
| Q.4 | (a) Classify methods of bacterial count. Differentiate between Total count and Viable count methods. Discuss plate count method of counting bacteria in detail. | 06 |
| | (b) Draw and discuss in detail normal bacterial growth curve | 05 |
| | (c) Classify bacteria according to their shape and size. Write functions of capsule and fimbriae. | 05 |
| Q.5 | (a) Explain salient features of enzyme immobilization. | 06 |
| | (b) Discuss any two methods of immobilization of enzymes. | 05 |
| | (c) Write note on bacterial flagella. | 05 |
| Q.6 | (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.7 | (a) Discuss in detail about various techniques used for maintenance and preservation of pure culture. | 06 |
| | (b) Write a detailed note on the scope of Biotechnology. | 05 |
| | (c) Discuss in detail about translation. | 05 |
