

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

Subject Code: 2250002

Date: 29/05/2017

Subject Name: Pharmaceutical Microbiology & Biotechnology I

Time: 10:30 AM to 01:30 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) Discuss the Scope of Microbiology | 06 |
| | (b) Enumerate methods for evaluation of disinfectants. Describe Rideal-Walker test. | 05 |
| | (c) Explain: D- value, F- value, Z- value, Q10- value, Inactivation factor | 05 |
| Q.2 | (a) Classify the microorganisms. Differentiate the bacteria and viruses. | 06 |
| | (b) Discuss electron microscopy with its applications | 05 |
| | (c) Describe biological indicators for monitoring sterilization processes | 05 |
| Q.3 | (a) Classify the staining techniques. Discuss gram staining method | 06 |
| | (b) Discuss in Detail about genetic code and its properties | 05 |
| | (c) Write a brief note on Spirochetes. | 05 |
| Q.4 | (a) Classify the disinfectants. Discuss the mechanism of action of any two. | 06 |
| | (b) Differentiate between: (i) capsule and spore (ii) Selective and differential media | 05 |
| | (c) Discuss factors affecting disinfection. | 05 |
| Q.5 | (a) Write a note on an autoclave. | 06 |
| | (b) Draw a labeled diagram of bacterial cell. Explain flagella. | 05 |
| | (c) Write a note on gaseous sterilization | 05 |
| Q. 6 | (a) Define total counts. Enlist methods for total count and discuss any one. | 06 |
| | (b) Explain various techniques of immobilization | 05 |
| | (c) Discuss the nutritional requirement of microbes. | 05 |
| Q.7 | (a) Explain salient features of enzyme immobilization. | 06 |
| | (b) Describe the structure of DNA and the process of DNA replication | 05 |
| | (c) Write short note on scope of biotechnology | 05 |
