

GUJARAT TECHNOLOGICAL UNIVERSITY
BPharm - SEMESTER V – EXAMINATION - WINTER 2017

Subject code: 250002

Date: 03-11-2017

Subject Name: Pharmaceutical Microbiology - 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) What is Microbiology? Briefly describe the scope of microbiology. | 06 |
| | (b) Draw typical bacterial growth curve and explain various stages of bacterial growth. | 05 |
| | (c) Classify bacteria on the basis of:
1. Oxygen requirement
2. Temperature requirement | 05 |
| Q.2 | (a) Classify methods of bacterial counting. Discuss methods for determining viable count. | 06 |
| | (b) How the electron microscopy differs from light microscopy? Write in brief on TEM. | 05 |
| | (c) Enlist the methods for isolation of microorganism. Discuss the streak plate technique. | 05 |
| Q.3 | (a) Enumerate various factors affecting disinfectant action. Explain any two. | 06 |
| | (b) Describe in brief the Rideal walker test for the evaluation of disinfectant. Give its advantages and disadvantages. | 05 |
| | (c) Classify the disinfectants. Write the mode of action of any two. | 05 |
| Q.4 | (a) Explain the principle of sterility testing. Which media are used for sterility testing? | 06 |
| | (b) Discuss the ethylene oxide gas sterilization. | 05 |
| | (c) Write the significance of sterility testing of pharmaceuticals. Discuss the method for sterility testing of soluble powders. | 05 |
| Q.5 | (a) Classify various methods of sterilization. Describe principle and application of dry heat. | 06 |
| | (b) Write a short note on Autoclave. | 05 |
| | (c) Explain the D, Z and F values with their significance in sterilization. | 05 |
| Q.6 | (a) Discuss in brief the microbial assay of vitamins. | 06 |
| | (b) Enlist various methods used for microbial assay. Discuss any one. | 05 |
| | (c) How the validation of bacterial filters is carried out? | 05 |
| Q.7 | (a) Classify the staining techniques. Explain the principle of differential staining. | 06 |
| | (b) Write a brief note on spirochetes. | 05 |
| | (c) Discuss various techniques used for isolation and cultivation of virus. | 05 |
