

**GUJARAT TECHNOLOGICAL UNIVERSITY****B.PHARM. - SEMESTER- V • EXAMINATION – SUMMER-2016****Subject Code: 250002****Date:30/04/2016****Subject Name: Pharmaceutical Microbiology - I****Time: 2:30 PM to 5:30 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) Classify the microorganisms. Describe structure & composition of virus. **06**  
(b) Describe Scope of Microbiology in pharmaceutical industry. **05**  
(c) Differentiate gram positive and gram negative microorganisms. **05**
- Q.2** (a) Discuss in detail the structure, chemical composition and importance of spores. **06**  
Draw the cycle of endospore formation.  
(b) Write taxonomy of Rickettsia, Actinomycetes. **05**  
(c) Write note on Scanning Electron Microscopy. **05**
- Q.3** (a) Classify different staining techniques. Describe different staining techniques used in light microscopy. **06**  
(b) Define Fungi. Describe its characteristics, nutrition, growth and cultivation. **05**  
(c) Enumerate and discuss various methods used for isolation of aerobes. **05**
- Q.4** (a) Classify the disinfectants. Enumerate the factors affecting disinfection. Discuss any two. **06**  
(b) Enlist various evaluation tests for disinfectants. Describe the Rideal Walker test for phenol. **05**  
(c) Classify various methods of sterilization. Describe working principle and applications of autoclave. **05**
- Q.5** (a) Define antiseptic. Describe the method used to determine the efficiency of the disinfectant? **06**  
(b) Give required culture media and test organism and incubation condition for sterility testing as per IP. **05**  
(c) Discuss in brief about chemical and biological indicators for Heat Sterilization methods. **05**
- Q.6** (a) Differentiate between Viable and Total count. Describe photometric method for determining total count. **06**  
(b) Comment: Super saturated steam is better sterilizing agent than super heated steam. **05**  
(c) How do you carried out the microbiological assay of Vitamin B<sub>12</sub> as per IP. **05**
- Q.7** (a) How do perform test for sterility of Sulphacetamide Sodium eye drops. **06**  
(b) How to perform validation of bacterial filters **05**  
(c) Why test for sterility is carried out? What is the importance of control test in the test for sterility? **05**

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