

**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.

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|------------|--|-----------|
| <b>Q.1</b> | (a) Classify the microorganisms. Describe structure & composition of virus.  | <b>06</b> |
|            | (b) Describe Scope of Microbiology in pharmaceutical industry.   | <b>05</b> |
|            | (c) Differentiate gram positive and gram negative microorganisms.  | <b>05</b> |
| <b>Q.2</b> | (a) Discuss in detail the structure, chemical composition and importance of spores. Draw the cycle of endospore formation. | <b>06</b> |
|            | (b) Write taxonomy of Rickettsia, Actinomycetes.   | <b>05</b> |
|            | (c) Write note on Scanning Electron Microscopy.  | <b>05</b> |
| <b>Q.3</b> | (a) Classify different staining techniques. Describe different staining techniques used in light microscopy.               | <b>06</b> |
|            | (b) Define Fungi. Describe its characteristics, nutrition, growth and cultivation.   | <b>05</b> |
|            | (c) Enumerate and discuss various methods used for isolation of aerobes.   | <b>05</b> |
| <b>Q.4</b> | (a) Classify the disinfectants. Enumerate the factors affecting disinfection. Discuss any two.                             | <b>06</b> |
|            | (b) Enlist various evaluation tests for disinfectants. Describe the Rideal Walker test for phenol.                         | <b>05</b> |
|            | (c) Classify various methods of sterilization. Describe working principle and applications of autoclave.                   | <b>05</b> |
| <b>Q.5</b> | (a) Define antiseptic. Describe the method used to determine the efficiency of the disinfectant?                           | <b>06</b> |
|            | (b) Give required culture media and test organism and incubation condition for sterility testing as per IP.                | <b>05</b> |
|            | (c) Discuss in brief about chemical and biological indicators for Heat Sterilization methods.                              | <b>05</b> |
| <b>Q.6</b> | (a) Differentiate between Viable and Total count. Describe photometric method for determining total count.                 | <b>06</b> |
|            | (b) Comment: Super saturated steam is better sterilizing agent than super heated steam.                                    | <b>05</b> |
|            | (c) How do you carried out the microbiological assay of Vitamin B <sub>12</sub> as per IP.                                 | <b>05</b> |
| <b>Q.7</b> | (a) How do perform test for sterility of Sulphacetamide Sodium eye drops.  | <b>06</b> |
|            | (b) How to perform validation of bacterial filters   | <b>05</b> |
|            | (c) Why test for sterility is carried out? What is the importance of control test in the test for sterility?               | <b>05</b> |

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