

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. – SEMESTER – VI • EXAMINATION – WINTER • 2016**

**Subject Code: 2260002**

**Date: 21-10-2016**

**Subject Name: Pharmaceutical Microbiology and Biotechnology - II**

**Time: 02:30 pm - 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.

- |             |     |                                                                                                                            |           |
|-------------|-----|----------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Q.1</b>  | (a) | Explain the scope of microbial genetics in pharmaceuticals.                                                                | <b>06</b> |
|             | (b) | Write a note on mutagenic agents.                                                                                          | <b>05</b> |
|             | (c) | Differentiate transduction and transformation.                                                                             | <b>05</b> |
| <b>Q.2</b>  | (a) | Write a note on applications of monoclonal antibodies and gene cloning.                                                    | <b>06</b> |
|             | (b) | Write a note on streptokinase.                                                                                             | <b>05</b> |
|             | (c) | Explain growth promotion test.                                                                                             | <b>05</b> |
| <b>Q.3</b>  | (a) | Write a note on importance of analytical microbiology in pharmaceuticals.                                                  | <b>06</b> |
|             | (b) | How do you carried out sterility testing for Iodex and sulphacetamide sodium eye drops.                                    | <b>05</b> |
|             | (c) | Write a note on microbiological assay of cyanocobalamine as per I.P.                                                       | <b>05</b> |
| <b>Q.4</b>  | (a) | Describe the method of preparation, standardization and storage of BCG.                                                    | <b>06</b> |
|             | (b) | Classify immunity and immunological preparations in detail.                                                                | <b>05</b> |
|             | (c) | Enlist antigen-antibody interactions.write in detail any one.                                                              | <b>05</b> |
| <b>Q.5</b>  | (a) | Enlist different diagnostic tests involved with immunological principle. Write a note on any one.                          | <b>06</b> |
|             | (b) | Differentiate vaccine and sera.                                                                                            | <b>05</b> |
|             | (c) | Write a note on whole human blood and its storage.                                                                         | <b>05</b> |
| <b>Q. 6</b> | (a) | Draw neat and labeled diagram of ideal fermentor with role of each part.                                                   | <b>06</b> |
|             | (b) | List out the requirements for ideal plasma substitutes.                                                                    | <b>05</b> |
|             | (c) | How the organisms for fermentation are isolated, cultivated, screened and preserve?                                        | <b>05</b> |
| <b>Q.7</b>  | (a) | Give the flow sheet of Penicillin production, isolation and recovery by fermentation.                                      | <b>06</b> |
|             | (b) | Discuss the importance of different parameters for fermentation process.                                                   | <b>05</b> |
|             | (c) | What are standard organism required for production of streptomycin, tetracycline, vitamin B12, citric acid and Riboflavin? | <b>05</b> |

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