

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. - SEMESTER-VI • EXAMINATION – SUMMER-2016**

**Subject Code:2260002**

**Date:03/05/2016**

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

**Time: 10:30 AM to 1:30 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 different types of immunity   | <b>06</b> |
|             | (b) Describe methods for preparation and maintenances of master culture in industries.                       | <b>05</b> |
|             | (c) What is vaccination? Write preparation methods for viral vaccines.                                       | <b>05</b> |
| <b>Q.2</b>  | (a) Differentiate Humoral and Cellular immunity, Active and Passive immunity.                                | <b>06</b> |
|             | (b) Enlist methods for sterility testing. Discuss direct inoculation method.                                 | <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> |
| <b>Q.3</b>  | (a) Write short note on dried human plasma   | <b>06</b> |
|             | (b) Define plasma substitute and give a brief note on dextran  | <b>05</b> |
|             | (c) Discuss the cup plate method for the microbiological assay of antibiotics.                               | <b>05</b> |
| <b>Q.4</b>  | (a) Write in detail the design of ideal fermenter.   | <b>06</b> |
|             | (b) Give short notes on Immunoglobulins.   | <b>05</b> |
|             | (c) Give the flow chart for the production of vitamin B <sub>12</sub>  | <b>05</b> |
| <b>Q.5</b>  | (a) Write a note on frame shift mutation.  | <b>06</b> |
|             | (b) Write short notes on media used for fermentation   | <b>05</b> |
|             | (c) Explain gradient plate method for isolation of mutants.  | <b>05</b> |
| <b>Q. 6</b> | (a) Write applications of biotechnology in the area of pharmacy  | <b>06</b> |
|             | (b) Explain the terms:<br>(i) Gene cloning (ii) Monoclonal antibodies  | <b>05</b> |
|             | (c) Write a short note on protoplast fusion  | <b>05</b> |
| <b>Q.7</b>  | (a) Write a note on recombinant DNA technology.  | <b>06</b> |
|             | (b) How is BCG vaccine prepared & sterilized?  | <b>05</b> |
|             | (c) Write in brief about different antigen antibody reactions  | <b>05</b> |

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