

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – VI • EXAMINATION – WINTER • 2015

Subject Code: 260002

Date: 30-12-2015

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.**

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|-------------|---|-----------|
| Q.1 | (a) Mention applications of biotechnology in Pharmacy. | 06 |
| | (b) Discuss in detail 'translation' in DNA replication. | 05 |
| | (c) Write a note on frame-shift mutation. | 05 |
| Q.2 | (a) Give applications of immobilized enzymes. | 06 |
| | (b) What are the different techniques of immobilization of enzymes? | 05 |
| | (c) What is Gene Cloning? Give its importance. | 05 |
| Q.3 | (a) Write a note in on substrates used in fermentation process. | 06 |
| | (b) Give an account of double helical structure and replication of DNA. | 05 |
| | (c) Discuss regulation of Gene expression in Bacteria. | 05 |
| Q.4 | (a) How do antigens and antibodies react with each other? | 06 |
| | (b) Give different types of interferon. How do they work? | 05 |
| | (c) Give a brief account of "Principles of immunology". | 05 |
| Q.5 | (a) Write a note on protoplast fusion. | 06 |
| | (b) Write a note on drugs produced by Biotechnology. | 05 |
| | 1) Humatropes | |
| | 2) Humulin | |
| | (c) Write a note on plasmids. | 05 |
| Q. 6 | (a) What are vaccines? Write a note on development of vaccines from small-pox to hepatitis B. | 06 |
| | (b) How are vaccines standardized? | 05 |
| | (c) How are vaccines stored? | 05 |
| Q.7 | (a) Enumerate different types of mutations. Explain in details any one of them. | 06 |
| | (b) Name the cultures and process used for the preparation of the following using biotechnology | 05 |
| | 1) Streptomycin. | |
| | 2) Penicillin | |
| | (c) Draw a neat and labeled diagram of fermentor. | 05 |
