

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – VI • EXAMINATION – SUMMER 2013

Subject Code: 260002**Date: 27-05-2013****Subject Name: Pharmaceutical Microbiology & Biotechnology II****Time: 10.30 am - 01.30 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) Describe production and applications of Recombinant DNA technology. | 06 |
| | (b) Discuss the Historical development in the field of biotechnology. | 05 |
| | (c) Write applications of biotechnology in the area of pharmacy. | 05 |
| Q.2 | (a) Explain the followings with examples: 1) Protoplast fusion
2) Infection 3) Mutagens | 06 |
| | (b) What are general features of antigen antibody reactions?
Write applications of antigen antibody reactions. | 05 |
| | (c) Describe methods for preparation and maintenances of master culture in industries. | 05 |
| Q.3 | (a) Differentiate the followings: 1) Genotype V/S Phenotype.
2) Active immunity V/S Passive immunity. | 06 |
| | (b) Write a detail note on biotechnology product: viz. activase | 05 |
| | (c) What is vaccination? Write preparation methods for viral vaccines. | 05 |
| Q.4 | (a) What is Enzyme immobilization? Enlist the methods of Enzyme immobilization. Write merits of Enzyme immobilization. | 06 |
| | (b) Describe the mechanism of phagocytosis in a phagocyte with labeled diagram. | 05 |
| | (c) What is gene cloning? Write a process of gene cloning with examples. | 05 |
| Q.5 | (a) Draw the flow sheet of Vit. B ₁₂ production by fermentation. Write its isolation from broth. | 06 |
| | (b) Explain microbial biotransformation process and its improvement with special reference to steroids. | 05 |
| | (c) Write applications of precipitation type antigen antibody reactions. | 05 |
| Q. 6 | (a) Discuss in brief hypersensitivity reactions. | 06 |
| | (b) Write a note on binding of enzyme with various carriers. | 05 |
| | (c) Describe defense mechanism against infection. | 05 |
| Q.7 | (a) What are antibodies? Write a detail note on Immunoglobulins. | 06 |
| | (b) What is fermentation? Write a note on submerged fermentation | 05 |
| | (c) Write a short note on Diphtheria Toxoid. | 05 |
