Seat No.: _____ Enrolment No._____

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.**

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**

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