Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm - SEMESTER–VI- (OLD SYLLABUS) EXAMINATION – SUMMER-2015

Subject Code: 260002 **Date: 01/05/2015**

Subject Name: Pharmaceutical Microbiology & Biotechnology – II

Time: 10:30 a.m. to 1:30 p.m. **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)**	Define Biotechnology. Explain the scope of biotechnology in the field of Pharmacy.	**06**
	(b)	Explain genetic codes in detail.	**05**
	(c)	Write in brief about bacterial variation by conjugation.	**05**
Q.2	**(a)**	Write a note on mutation and its consequences.	**06**
	(b)	Write a note on genetic engineering.	**05**
	(c)	What is gene vector? Explain plasmids.	**05**
Q.3	**(a)**	Write on techniques and applications of protoplast fusion.	**06**
	(b)	Give brief note on production of humulin.	**05**
	(c)	Explain Polymerase Chain Reaction in detail.	**05**
Q.4	**(a)**	Write a note on antigen antibody reactions.	**06**
	(b)	Differentiate between Cellular and humoral immunity.	**05**
	(c)	Explain the method of production and standardization of attenuated vaccine.	**05**
Q.5	**(a)**	What are antibodies? How monoclonal antibodies are produced?	**06**
	(b)	What are the fermenters? Draw neat and labeled diagram of it.	**05**
	(c)	How the organisms for fermentation are isolated, cultivated and screened?	**05**
Q. 6	**(a)**	Draw and explain a generalized flowchart of antibiotic production by fermentation process with suitable example.	**06**
	(b)	Explain replica plate technique.	**05**
	(c)	Enumerate and explain factors affecting enzymatic reactions.	**05**
Q.7	**(a)**	Draw and explain Watson and Crick model of DNA.	**06**
	(b)	How protein is synthesized from RNA?	**05**
	(c)	Define enzyme immobilization and explain different techniques adopted.	**05**

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