Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – VI • EXAMINATION – WINTER • 2015

Subject Code: 2260002 **Date: 30-12-2015**

Subject Name: Pharmaceutical Microbiology & Biotechnology-I

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.**

Q.1	**(a)**	Write a note on Recombinent DNA technology.	**06**
	(b)	Explain Hybridoma cell technology 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)	How Humulin is produced?	**05**
	(c)	Write a note on techniques and applications of protoplast fusion in plant biotechnology.	**05**
Q.3	**(a)**	Explain phagocytosis in detail.	**06**
	(b)	Give brief note on production of Diptheria toxoid.	**05**
	(c)	Define and classify immunity in detail.	**05**
Q.4	**(a)**	Enlist different types of antigen antibody reactions. Explain ELISA in detail.	**06**
	(b)	What are antibodies? Describe the general structure of antibody with neat diagram.	**05**
	(c)	Explain the method of production and standardization of BCG vaccine.	**05**
Q.5	**(a)**	Define fermentation. Write a note on media used for fermentation.	**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)**	Give the importance of control test in the sterility testing of Pharmaceuticals.	**06**
	(b)	Explain the diffusion method for antibiotic assay.	**05**
	(c)	How cynocobalamine is prepared by fermentation.	**05**
Q.7	**(a)**	Explain following techniques. 1. PCR 2. Agarose Gel Electrophoresis	**06**
	(b)	Describe ideal characteristics of plasma substituent. Explain Dextran as a plasma substituent.	**05**
	(c)	How is the test for sterility of catgut carried out?	**05**

****