Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Ph. - SEMESTER–VI • EXAMINATION – SUMMER-2016

Subject Code:2260002 **Date:03/05/2016**

Subject Name: Pharmaceutical Microbiology& Biotechnology-II

Time: 10:30 AM to 1:30 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)**	Classify different types of immunity	**06**
	(b)	Describe methods for preparation and maintenances of master culture in industries.	**05**
	(c)	What is vaccination? Write preparation methods for viral vaccines.	**05**
Q.2	**(a)**	Differentiate Humoral and Cellular immunity, Active and Passive immunity.	**06**
	(b)	Enlist methods for sterility testing. Discuss direct inoculation method.	**05**
	(c)	Why test for sterility is carried out? What is the importance of Control test in the test for sterility?	**05**
Q.3	**(a)**	Write short note on dried human plasma	**06**
	(b)	Define plasma substitute and give a brief note on dextran	**05**
	(c)	Discuss the cup plate method for the microbiological assay of antibiotics.	**05**
Q.4	**(a)**	Write in detail the design of ideal fermenter.	**06**
	(b)	Give short notes on Immunoglobulins.	**05**
	(c)	Give the flow chart for the production of vitamin B_{12}	**05**
Q.5	**(a)**	Write a note on frame shift mutation.	**06**
	(b)	Write short notes on media used for fermentation	**05**
	(c)	Explain gradient plate method for isolation of mutants.	**05**
Q. 6	**(a)**	Write applications of biotechnology in the area of pharmacy	**06**
	(b)	Explain the terms: (i) Gene cloning (ii) Monoclonal antibodies	**05**
	(c)	Write a short note on protoplast fusion	**05**
Q.7	**(a)**	Write a note on recombinant DNA technology.	**06**
	(b)	How is BCG vaccine prepared & sterilized?	**05**
	(c)	Write in brief about different antigen antibody reactions	**05**

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