

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Pharm. - SEMESTER- V • EXAMINATION – SUMMER -2022**

**Subject Code: BP505TT****Date: 31/05/2022****Subject Name: Pharmaceutical Biotechnology****Time: 02:30pm to 05:30pm****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

<b>Q.1</b>	(a) Write a note on Enzyme Immobilization and its applications.	<b>06</b>
	(b) Give applications of Pharmaceutical Biotechnology	<b>05</b>
	(c) Write a note on Polymerase Chain Reactions (PCR)	<b>05</b>
<b>Q.2</b>	(a) Define Immunity. Write a note on Hypersensitivity Reactions	<b>06</b>
	(b) Define Mutation. Give types of Mutation.	<b>05</b>
	(c) What are antibodies? Write a detail note on Immunoglobulins.	<b>05</b>
<b>Q.3</b>	(a) Draw neat and Clean diagram of Ideal Fermenter. Explain various controls of it.	<b>06</b>
	(b) Explain Production of Vitamin B 12 with flow chart.	<b>05</b>
	(c) What are the components of biosensors?	<b>05</b>
<b>Q.4</b>	(a) Explain Production of Penicillins with flow chart.	<b>06</b>
	(b) Differentiate Eukaryotes and Prokaryotes	<b>05</b>
	(c) Explain Principle and Procedure of Western blotting.	<b>05</b>
<b>Q.5</b>	(a) Explain basic steps of recombinant DNA technology with flow diagram.	<b>06</b>
	(b) Differentiate Active immunity and Passive immunity	<b>05</b>
	(c) Give the brief application of genetic engineering in medicine.	<b>05</b>
<b>Q.6</b>	(a) Give the list of different mutagenic agents. How mutants are identify.	<b>06</b>
	(b) Write a note on Hybridoma technology	<b>05</b>
	(c) Write a note on ELISA	<b>05</b>
<b>Q.7</b>	(a) Write a note on Production of Hepatitis B vaccine.	<b>06</b>
	(b) Enlist Blood Products. Write a note on collections, Processing and storage of Whole Human Blood.	<b>05</b>
	(c) Write a note on Monoclonal antibody Production and its applications.	<b>05</b>

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