

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Ph. - SEMESTER-5 • EXAMINATION – SUMMER -2020**

**Subject Code: BP505TT****Date: 02-11-2020****Subject Name: Pharmaceutical Biotechnology****Time: 2:30 PM TO 5:30 PM****Total Marks: 80****Instructions:**

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

<b>Q.1</b>	(a) Define Biosensors. Give Working and Applications of Biosensors in field of Pharmacy.	<b>06</b>
	(b) Write a note on Protein Engineering.	<b>05</b>
	(c) Give applications of Pharmaceutical Biotechnology.	<b>05</b>
<b>Q.2</b>	(a) Write a note on Enzyme Immobilization and its applications.	<b>06</b>
	(b) Write a note on Polymerase Chain Reactions (PCR).	<b>05</b>
	(c) Define Recombinant DNA Technology and give its applications.	<b>05</b>
<b>Q.3</b>	(a) Write a note on Humulin.	<b>06</b>
	(b) Write a note on Production of Hepatitis B vaccine.	<b>05</b>
	(c) Explain role of Cloning Vectors, Restriction endonucleases enzymes and DNA ligases enzymes in genetic engineering.	<b>05</b>
<b>Q.4</b>	(a) Define Immunity. Draw neat and clean structure of Immunoglobulins.	<b>06</b>
	(b) Write a note on Hypersensitivity Reactions.	<b>05</b>
	(c) Give structure and functions of Major Histocompatibility Complex (MHC).	<b>05</b>
<b>Q.5</b>	(a) Write a note on Monoclonal antibody Production and its applications.	<b>06</b>
	(b) Enlist Blood Products. Write a note on collections, Processing and storage of Whole Human Blood.	<b>05</b>
	(c) Give Ideal Properties of Plasma Substituent. Write a note on Dextran.	<b>05</b>
<b>Q. 6</b>	(a) Define Mutation. Give types of Mutation.	<b>06</b>
	(b) Write a note on Griffith Theory of Transformation.	<b>05</b>
	(c) Write a note on Immuno blotting Techniques.	<b>05</b>
<b>Q.7</b>	(a) Draw neat and Clean diagram of Ideal Fermenter. Explain various controls of it.	<b>06</b>
	(b) Explain Production of Penicillins with flow chart.	<b>05</b>
	(c) Explain Production of Vitamin B 12 with flow chart.	<b>05</b>

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