

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharm. – SEMESTER – VI • EXAMINATION – SUMMER • 2014**

**Subject Code: 260002****Date: 22-05-2014****Subject Name: Pharmaceutical Microbiology & Biotechnology II****Time: 10:30 am - 01:30 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 Biotechnology. Discuss scope and potential of it.	<b>06</b>
	(b) Write brief note on production of monoclonal antibodies.	<b>05</b>
	(c) Write a short note on protoplast fusion.	<b>05</b>
<b>Q.2</b>	(a) Write in brief about products produced by biotechnology.	<b>06</b>
	(b) Write short note on Mutation.	<b>05</b>
	(c) Give brief note about plasmids	<b>05</b>
<b>Q.3</b>	(a) Write in brief about antigen antibody reactions	<b>06</b>
	(b) Classify different types of immunity	<b>05</b>
	(c) Differentiate vaccine and sera	<b>05</b>
<b>Q.4</b>	(a) What is master culture? How it is to be prepared and preserved?	<b>06</b>
	(b) Write short note on interferons.	<b>05</b>
	(c) Write short note on BCG vaccine.	<b>05</b>
<b>Q.5</b>	(a) Write in detail the design of ideal fermenter.	<b>06</b>
	(b) Describe the methods for the isolation of mutants.	<b>05</b>
	(c) Give the flow chart for the production of vitamin B <sub>12</sub>	<b>05</b>
<b>Q.6</b>	(a) Discuss various media used for the fermentation process.	<b>06</b>
	(b) Discuss about Recovery and purification of fermentation products.	<b>05</b>
	(c) Write short note on recombinant DNA technology	<b>05</b>
<b>Q.7</b>	(a) Discuss various techniques for enzyme immobilization	<b>06</b>
	(b) Explain salient features of enzyme immobilization	<b>05</b>
	(c) Explain the term attenuated vaccine and discuss its method of preparation	<b>05</b>

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