

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2017****Subject Code: 2160509****Date: 16/11/2017****Subject Name: Biotechnology****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

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

		MARKS
<b>Q.1*</b>	(a) Write down the step involved in gene cloning.	<b>03</b>
	(b) Write down the various application of rDNA technology.	<b>04</b>
	(c) Define the biotechnology. Discuss the scope and importance of biotechnology in chemical industries.	<b>07</b>
<b>Q.2</b>	(a) What are applications of monoclonal antibodies.	<b>03</b>
	(b) Write down a short note on genome map.	<b>04</b>
	(c) Explain any one method of biogas production.	<b>07</b>
	<b>OR</b>	
	(c) What are the benefits from IPR. Explain briefly.	<b>07</b>
<b>Q.3</b>	(a) Define pollutant. What are the sources of water pollution?	<b>03</b>
	(b) How the water pollution can be controlled? Discuss with appropriate method.	<b>04</b>
	(c) Briefly discuss the production of Biodiesel?	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) What are the problems from IPR?	<b>03</b>
	(b) Discuss the types of bioremediation.	<b>04</b>
	(c) Draw a schematic diagram of wastewater treatment plant and discuss biological treatment of waste water.	<b>07</b>
<b>Q.4</b>	(a) What is aerobic and anaerobic treatment?	<b>03</b>
	(b) What is landfill? Write down advantage and disadvantage of landfills.	<b>04</b>
	(c) Briefly describe the production of SCP.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) What are the features of biofuels?	<b>03</b>
	(b) What is biomass? How it can be utilize for agriculture field.	<b>04</b>
	(c) Discuss the use of enzymes in different industries.	<b>07</b>
<b>Q.5</b>	(a) What are the applications of micropropagation?	<b>03</b>
	(b) Write a short note on DNA fingerprinting.	<b>04</b>
	(c) Discuss the step involved in cheese production.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Write a short note on Cancer.	<b>03</b>
	(b) How the vaccine can be produced. Explain.	<b>04</b>
	(c) Define plant tissue culture. Discuss various techniques of plant tissue culture.	<b>07</b>

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