Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM.-SEMESTER–VIII- EXAMINATION –SUMMER-2017

Subject Code: 2280015 **Date: 09/05/2017**

Subject Name: Genetic engineering and gene therapy

Time: 10:30 AM to 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.**

Q.1	**(a)**	Define Vectors. Discuss about Plasmid vectors in Gene therapy.	**06**
	(b)	Explain about gene expression in details.	**05**
	(c)	Write a note on immunological screening methods for expressed genes.	**05**
Q.2	**(a)**	Explain Restriction enzymes. Write down types and uses of restriction enzymes.	**06**
	(b)	Write down about gel electrophoresis in details.	**05**
	(c)	Write a note on DNA profiling and its applications.	**05**
Q.3	**(a)**	Write about Handling and Quantification of Nucleic acids.	**06**
	(b)	Discuss about DNA sequencing in details.	**05**
	(c)	Write a note on DNA ligases.	**05**
Q.4	**(a)**	Define Ribozymes. Write down applications of Ribozymes.	**06**
	(b)	Write a note on advanced cloning strategies.	**05**
	(c)	Write down applications of genetic engineering.	**05**
Q.5	**(a)**	Define PCR. Discuss the types and applications of PCR.	**06**
	(b)	Short note on nucleic acid hybridization.	**05**
	(c)	What is Immunodeficiency? How to useful Gene therapy in immunodeficiency?	**05**
Q. 6	**(a)**	Discuss DNA delivery methods in detail.	**06**
	(b)	Write a note on different types DNA vaccines.	**05**
	(c)	Explain about bacteriophage with diagram.	**05**
Q.7	**(a)**	Write down gene therapy in Cancer and HIV infection.	**06**
	(b)	Explain about Transgenic plants and Transgenic animal models.	**05**
	(c)	Write down application of recombinant DNA technology in medicine.	**05**

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