Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- Vth SEMESTER–EXAMINATION – MAY/JUNE - 2012

Subject code: 150401 **Date: 01/06/2012**

Subject Name: Advance Molecular Biology-I

Time: 02:30 pm – 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.**

Q.1	**(a)**	Define the term mutation. Discuss the molecular basis of mutation.	**07**
	(b)	Describe in detail various types of repair mechanism.	**07**
Q.2	**(a)**	Give a detail account on rDNA technology.	**07**
	(b)	Discuss various types of cloning with brief explanation of the term.	**07**
		OR	
	(b)	Define the term gene libraries. How the construction of gene library is done explain with suitable example.	**07**
Q.3	**(a)**	How prokaryotic replication is regulated explain with detail explanation.	**07**
	(b)	Lac operan is a negative control. Justify with detail explanation.	**07**
		OR	
Q.3	**(a)**	Differentiate between positive and negative regulation of gene expression. If require give example.	**07**
	(b)	Signifies the term Attenuation. How regulation of translation is done by small RNA molecules?	**07**
Q.4	**(a)**	Give brief account on eukaryotic replication regulation.	**07**
	(b)	Define following terms with suitable example:	**07**

- Feedback inhibition
- Feed forward activation
- End product activation

OR

Q.4	**(a)**	Write a detail account on gene therapy and its applications.	**07**
Q.4	**(b)**	What are the significances of restriction endonucleases? Enlist and explain types of it.	**07**
Q.5	**(a)**	Define the term vector. What are the capacities and types of vectors?	**07**
	(b)	Describe the isoelectric focusing with its application in physiological system.	**07**

OR

Q.5	**(a)**	What do you understand by PCR? Discuss the types of PCR with application.	**07**
	(b)	What are different antibiotics that blocks transcription, explain with their mode of action.	**07**

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