

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 operon is a negative control. Justify with detail explanation. **07**

OR

- Q.3** (a) Differentiate between positive and negative regulation of gene expression. **07**
If require give example.
(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? **07**
Enlist and explain types of it.

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**
