Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019

Subject Code: 2160401 **Date: 04/12/2019**

Subject Name: Advanced Molecular Biology-II

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
Q.1	**(a)**	What do you mean by mapping of genes? What is significance of gene mapping?	**03**
	(b)	Explain trans splicing and alternative splicing.	**04**
	(c)	Describe the mechanism of lariat formation during splicing process.	**07**
Q.2	**(a)**	How do intercalating agents lead to mutations?	**03**
	(b)	Compare missense and non sense mutations.	**04**
	(c)	Explain base substitution mutation and its effects with proper illustration.	**07**
		OR	
	(c)	Explain frameshift mutation and its effects with proper illustration	**07**
Q.3	**(a)**	Draw a neat diagram of retrovirus.	**03**
	(b)	Compare lytic and lysogenic life cycles of virus.	**04**
	(c)	Explain intragenic supression of mutation with proper example.	**07**
		OR	
Q.3	**(a)**	What is primer walking?	**03**
	(b)	What is gene replacement and gene targetting?	**04**
	(c)	Explain effect of Ultraviolet radiation on DNA.	**07**
Q.4	**(a)**	What are transposable elements? Give its types.	**03**
	(b)	Explain structure of trp operon.	**04**
	(c)	Explain the process of assembly and maturation of T phage in its host.	**07**
		OR	
Q.4	**(a)**	What is catabolite repression?	**03**
	(b)	Explain principle of LM PCR.	**04**
	(c)	Explain Base Excision Repair in detail.	**07**
Q.5	**(a)**	What are self splicing RNAs?	**03**
	(b)	Enlist different methods for regulation of metabolic pathway. Explain any one in detail.	**04**
	(c)	Explain principle, mechanism and application of DNA Fingerprinting technique.	**07**
		OR	
Q.5	**(a)**	What is linkage disequillibrium?	**03**
	(b)	Write a note on retrotransposon.	**04**
	(c)	Explain positive regulation of lac operon.	**07**

****