

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2018

Subject Code: 2160401

Date: 16/11/2018

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 is significance of RNA splicing?	03
	(b) Explain base substitution mutation with suitable illustration.	04
	(c) What are transposable elements? Explain its basic structure.	07
Q.2	(a) Define the terms reversion and suppression of mutation.	03
	(b) Write a short note on base analogue mutagens.	04
	(c) Explain positive regulation of lac operon	07
	OR	
	(c) Explain negative regulation of lac operon.	07
Q.3	(a) What is significance of gene mapping?	03
	(b) Explain regulation of replication at genomic level in eukaryotes	04
	(c) Explain mismatch repair mechanism in detail.	07
	OR	
Q.3	(a) Explain primer walking.	03
	(b) Explain any one mechanism of regulation of metabolic pathway.	04
	(c) Explain intragenic suppression mechanism.	07
Q.4	(a) What are post transcriptional controls?	03
	(b) Explain attenuation mechanism.	04
	(c) Explain lifecycle of T4 phage.	07
	OR	
Q.4	(a) What is alternative and trans splicing?	03
	(b) Write a note on splicing errors.	04
	(c) Explain splicing mechanism of nuclear mRNA.	07
Q.5	(a) What is lysogeny? Give example of any one virus which performs lysogeny.	03
	(b) What are integrons and retrotransposons?	04
	(c) Explain the technique of DNA fingerprinting.	07
	OR	
Q.5	(a) Explain molecular basis of mutation.	03
	(b) Draw structure of retrovirus.	04
	(c) Explain shotgun DNA sequencing approach.	07
