

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019

Subject Code:2160401

Date:10/05/2019

Subject Name:Advanced Molecular Biology-II

Time:10:30 AM TO 01:00 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)	Explain mismatch repair.	3
	(b)	What are types of mutation?	4
	(c)	How can detection and selection of mutants be done?	7
Q.2	(a)	What is epistasis?	3
	(b)	What is SOS response?	4
	(c)	Explain genetics of M13 virus.	7
		OR	
	(c)	What is catabolite repression?	7
Q.3	(a)	Chemical mutagens.	3
	(b)	Explain Splicing of GU-AG intron.	4
	(c)	Explain positive and negative regulation of transcription	7
		OR	
Q.3	(a)	Draw and name the genes of Lac operon system	3
	(b)	Write a short note on Tn3 transposon in E.coli	4
	(c)	Draw structure of Retrovirus and explain its life cycle.	7
Q.4	(a)	Draw and name the genes of Trp operon system	3
	(b)	Draw and explain hairpin mechanism of strand cleavage and integration of Tn5.	4
	(c)	Explain types of transposable elements.	7
		OR	
Q.4	(a)	How does acetylation and phosphorylation help in gene expression regulation.	3
	(b)	Explain FISH for physical maps.	4
	(c)	What are integrons?	7
Q.5	(a)	Define: Allele, Genotype and phenotype.	3
	(b)	What is difference between linked genes and unlinked genes?	4
	(c)	Explain the splicosome mediated splicing in detail.	7
		OR	
Q.5	(a)	Write the principle of chain termination DNA sequencing.	3
	(b)	What is DNA fingerprinting?	4
	(c)	Explain Maxam-Gilbert's Method of DNA sequencing.	7
