Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012

Subject code: 160401 **Date: 02/01/2013**

Subject Name: Advanced Molecular Biology - II

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain the mechanism of physical transfer of DNA through generalized transduction.	**07**
	(b)	Explain restriction mapping taking a suitable illustration.	**07**
Q.2	**(a)**	Group I Introns are released as linear molecule. Explain how this occurs?	**07**
	(b)	How F primes are generated? Explain their conjugational properties.	**07**
		OR	
	(b)	Explain the terms RFLPs, SNPs and SSLPs.	**07**
Q.3	**(a)**	Write a detailed account on mode of infection and life cycle of M13 virus.	**07**
	(b)	Explain the mechanism of plasmid conduction through conjugation process.	**07**
		OR	
Q.3	**(a)**	Draw neat diagram of Retrovirus explaining its structural components.	**07**
	(b)	Explain Packaging of host DNA by the phage p22 by heedful packaging mechanism.	**07**
Q.4	**(a)**	Elaborate on the structures involved in conservative site specific recombination.	**07**
	(b)	Explain the phenomena of binding of DNA and its subsequent uptake by competent cell during transformation in *Haemophilus Influenza.*	**07**
		OR	
Q.4	**(a)**	Explain the types on conservative site specific recombination.	**07**
Q.4	**(b)**	Explain the phenomena of binding of DNA and its subsequent uptake by competent cell during transformation in *Streptococcus Pneumonia*.	**07**
Q.5	**(a)**	Explain the Holliday model for homologous recombination.	**07**
	(b)	Elaborate on the cut-and paste mechanism of transposition.	**07**
		OR	
Q.5	**(a)**	Elaborate on the double-strand break-repair pathway for homologous recombination.	**07**
	(b)	Elaborate on DNA transposons.	**07**

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