Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject code: 170406 **Date: 28/12/2012**

Subject Name: Bioinformatics

Time: 10.30 am - 01.00 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 briefly primary protein databases	**07**
	(b)	State the applications and significance of Genomics research.	**07**
Q.2	**(a)**	Elaborate on the aims and applications of Bioinformatics.	**07**
	(b)	Enlist the different sequence retrieval tools and explain any one in brief.	**07**
		OR	
	(b)	Explain pair-wise alignment.	**07**
Q.3	**(a)**	Explain protein secondary structure prediction	**07**
	(b)	Elaborate on phylo-genetic analysis.	**07**
		OR	
Q.3	**(a)**	Explain how sequence similarity search is attained by BLAST.	**07**
	(b)	Elaborate on protein microarray	**07**
Q.4	**(a)**	Explain the role of bioinformatics in drug designing	**07**
	(b)	Elaborate on modeling of bimolecular systems.	**07**
		OR	
Q.4	**(a)**	Elaborate on protein structure and modeling.	**07**
	(b)	Explain biochemical networks.	**07**
Q.5	**(a)**	Explain the use of molecular modeling to discover and design new molecules.	**07**
	(b)	State the significance of biological databases.	**07**
		OR	
Q.5	**(a)**	Explain the different commercial bio-softwares in molecular modeling.	**07**
	(b)	Elaborate on prediction of protein function	**07**

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