Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Subject code: 1723109 **Date: 07-06-2013**

Subject Name: Introduction to Bioinformatics

Time: 10.30 am – 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.**

Q.1	**(a)**	Explain in detail with figure: Structure and function of DNA.	**07**
	(b)	What is bioinformatics? Enlist the objectives of Bioinformatics.	**07**
Q.2	**(a)**	Describe the basic structure and function of amino acid.	**07**
	(b)	Explain perl. Why it is used for bio informatics?	**07**
		OR	
	(b)	Explain cloning methodology in detail.	**07**
Q.3	**(a)**	Explain different applications of bio informatics.	**07**
	(b)	Explain in detail with figure: Structure and function of RNA.	**07**
		OR	
Q.3	**(a)**	What is molecular biology? Explain central dogma of molecular biology.	**07**
	(b)	Explain the process of polymer chain reaction (PCR).	**07**
Q.4	**(a)**	What is text processing? How Perl is useful for text processing?	**07**
	(b)	Explain following functions with example: substr, join, split	**07**
		OR	
Q.4	**(a)**	Explain variables used in Perl	**07**
	(b)	Write short notes on ñFASTAò and ñBLASTò.	**07**
Q.5	**(a)**	What is sequence analysis? Give biological motivations of sequence analysis.	**07**
	(b)	Explain primary, secondary, tertiary and quaternary protein structures.	**07**
		OR	
Q.5	**(a)**	Explain with example : grep	**07**
	(b)	Explain protein folding problem in detail.	**07**

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