GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2016			
St	ıhiecí	t Code:2160410 Date:17/05/201	6
	•	Name: Bioinformatics - Department Elective I	U
Ti	me: 1	10:30 AM to 01:00 PM Total Marks:	<b>70</b>
Ins	1, 2, 3, 4,	<ul><li>Attempt all questions.</li><li>Make suitable assumptions wherever necessary.</li><li>Figures to the right indicate full marks.</li></ul>	
Q.1	(a) (b)	Justify the statement: "Progressive alignments have limitations also". Explain methods of secondary structure predictions.	07 07
Q.2	(a) (b)	What is DOT plot technique? State its limitation. Write a note on: BLOSSUM matrix.	07 07
	(b)	OR Giving an example, discuss QSAR and ADMET properties.	07
Q.3	(a)	Explain the terms: Cladogram, Rooted Tree, Terminal Node, Ancestral Node, Indel events, Domains, Motifs.	07
	<b>(b)</b>	Discuss about evolution of protein function(s). <b>OR</b>	07
Q.3	(a) (b)	Explain Hidden Markov models.  Differentiate between [1] global and local alignments [2] BLAST and FASTA	07 07
Q.4	(a) (b)	Write a note on: Applications of proteomics What are the main steps for drug discovery? State the roles of bioinformatics therein.	07 07
		OR	
Q.4	(a) (b)	Enlist and briefly explain the uses of bioinformatics in real fields.  Discuss the importance of various gene prediction tools.	07 07
Q.5	(a) (b)	Write a note on: protein microarrays Explain the terms: molecular phylogeny, consensus sequence  OR	07 07
Q.5	(a)	Write a note on any one protein database search tool.	07
-	<b>(b)</b>	Enlist different methods of phylogenetic analysis. Discuss any 2 of them.	07

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