Seat No.:	Enrolment No.

Subject Code: 2650015

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-V • EXAMINATION – SUMMER • 2015

Date: 11-05-2015

	•	t Name: Bioinformatics (Bio-I) 02:30 pm to 05:00 pm Total Marks: 70	
	tructio	ons: . Attempt all questions. . Make suitable assumptions wherever necessary.	
Q.1	(a) (b)	What is Bioinformatics? Explain the skills required for a Bioinformatician and explain challenges in information processing. Explain the steps involved in an experiment in computational biology.	07 07
Q.2	(a) (b)	Explain Watson and Crick structure of DNA. Explain central dogma of molecular biology in detail. OR	07 07
	(b)	Explain the Public Biological Databases in detail.	07
Q.3	(a) (b)	What is structure visualization? Explain in detail. Attempt following	07
		1. Protein resource databases	03 04
		2. SWISS-MODEL server OR	04
Q.3	(a) (b)	Explain motif databases in detail. Explain multiple sequence alignment techniques in detail.	07 07
Q.4	(a) (b)	Explain protein structure classification in detail. Explain X-ray Crystallography in detail.	07 07
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Q.4	(a) (b)	Explain SCOP, CATH and UPSDS in detail. Explain BLAST algorithm in detail.	07 07
Q.5	(a) (b)	Explain decision trees and neural networks in detail. Attempt following.	07
		1. What is SQL? Explain the datatypes used in SQL.	03
		2. Write short note on CGI. OR	04
Q.5	(a)	Explain flat files databases and relational databases in detail.	07
V .3	(a) (b)	Explain different DBMS software in detail.	07
