BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MSc BIOINFORMATICS & COMPUTATIONAL BIOLOGY   SEMESTER: I
BRANCH: BIO-ENGINEERING AND BIOTECHNOLOGY   SESSION: MO/2024

SUBJECT: BI102 BIOLOGICAL DATABASES AND MYSQL

TIME: 3 Hours   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

		Marks	CO	BL
Q.1(a)	Give a brief account on various Biological Data types used as Bioinformatics Resources	[5]	1	1
Q.1(b)	Describe Human Genome Project and its objectives	[5]	1	1
Q.2(a)	What do you understand by Sequence Similarity searching of Database? Differentiate between PSI and PHI Blast.	[5]	2	2
Q.2(b)	What is Statistical Significance of BLAST. Explain E and P Value of BLAST	[5]	2	3
Q.3(a)	What do you understand by Computer Databases. Describe various characteristics of a database	[5]	2	2
Q.3(b)	Describe briefly different kinds of Database models.	[5]	2	2
Q.4(a)	What do you understand by Relational Database Management System? Explain MySQL Database.	[5]	2	1
Q.4(b)	Elaborate with example the creating of a database using MySQL. Perform the INSERT, SELECT and UPDATE operation on the database.	[5]	2	2
Q.5(a)	Explain Gene Ontology database and its application.	[5]	3	3
Q.5(b)	Describe current challenges in NGS data generation and handling.	[5]	3	2

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