

EXAM CODE 1004

JUNE - JULY 2023 EXAMINATION
M.Sc. II SEMESTER EXAM
MA 94206: DATA PROCESSING AND COMPUTATION

Time: 3 Hrs.] [Max. Marks: 70]

TOTAL NO. OF QUESTIONS IN THIS PAPER : 5

Note: Each question carry five subparts a, b, c, d and e. Attempt subparts a, b, c and any one from d or e in each question. All questions carry equal marks.

		MARKS	CO	BL	PI
Q.1	(a) What are the different levels of data abstraction in DBMS?	02	CO1	BL-1	1.1.1
	(b) Differentiate between database schema and database state with example.	02	CO1	BL-1	1.1.1
	(c) Define Data Models? What are different types of Data Models.	03	CO1	BL-2	1.1.1
	(d) List and explain the advantages and disadvantages of using the DBMS approach.	07	CO1	BL-2	1.1.1
OR					
	(e) Who are the workers behind the scene in a database system? Discuss their role in brief	07	CO1	BL-2	1.1.1
Q.2	(a) Define the following: Derived attribute and composite attribute with example.	02	CO2	BL-1	1.1.1
	(b) Define primary key with example?	02	CO2	BL-2	1.1.1
	(c) Explain various types of constraints on relationship types of E-R model.	03	CO2	BL-2	1.1.1
	(d) Describe the following relational algebraic operations giving one example each – Union, Intersection and Cartesian product.	07	CO2	BL-2	1.1.1
OR					
	(e) Write short note on EER Model.	07	CO2	BL-2	1.1.1
Q.3	(a) Write query to delete the data and table in SQL.	02	CO3	BL-1	1.1.1
	(b) Define views in SQL.	02	CO3	BL-1	1.1.1
	(c) Explain the following commands with an example : (i) Group by (ii) Order by	03	CO3	BL-2	1.1.1
	(d) What do you mean by indexing in database? How indexing improve the efficiency of searching.	07	CO3	BL-2,3	1.1.1
OR					
	(e) Create the table for the following database structure. Client_master (Client_no, name, city, state, balance_due) Product_master (Product_no, profit_percent, sell_price) Sales_master (Sales_no, salary, city)	07	CO3	BL-3	1.1.1
Write the SQL queries for the above tables					
(i) Retrieve the list of names and the cities of all the clients.					
(ii) Find the names of the salesman who have a salary > 30000.					
(iii) Change the city of Client_no, 'C00005' to 'Bombay'.					
(iv) Delete from Client_master where state holds the value 'Delhi'.					
Q.4	(a) Define Normalization.	02	CO4	BL-1	1.1.1
	(b) Define First Normal Form.	02	CO4	BL-1	1.1.1
	(c) Differentiate between DBMS and RDBMS	03	CO4	BL-2	1.1.1

- (d) How Boyce Codd Normal form differ from 3NF? Why is it considered a stronger form of 3NF. 07 CO4 BL-3 1.1.1

OR

- (e) Explain the concept of Network data model with the help of example. 07 CO4 BL-2 1.1.1
- Q.5 (a) Define concurrency control? 02 CO5 BL1 1.1.1
- (b) What is Recoverability? 02 CO5 BL-1 1.1.1
- (c) What are Schedules? What are differences between conflict serializability and view serializability? 03 CO5 BL-2 1.1.1
- (d) Explain the ACID property of transaction. 07 CO5 BL-2 1.1.1

OR

- (e) How deadlock is detected in database system? How can it be avoided? Discuss in detail. 07 CO5 BL-3 1.1.1

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