

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER - 2023**

DATABASE MANAGEMENT SYSTEMS

[Maximum marks: 75]

[Time: 3 Hours]

PART A

I. Answer all the following questions in one word or one sentence. Each question carries 1 mark

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	Define DBMS	M1.01	R
2	DDL stands for	M1.02	R
3	Write the command to retrieve all data from STUDENT table.	M2.01	A
4	List any two aggregate functions in SQL	M2.01	R
5	What are different type of participation constraints	M3.02	R
6	Define domain of an attribute.	M3.02	R
7	An entity having key attribute is known as.....	M3.02	R
8	Expand the term 'BCNF'	M4.02	R
9	Define Normalization	M4.02	R

PART B

II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

		Module outcome	Cognitive level
1	Write any three characteristics of DBMS	M1.01	U
2	Describe Data Independence	M1.02	U
3	Define Primary key, candidate key and super key.	M1.03	U
4	Explain Centralized DBMS architecture.	M1.02	U
5	Mention the use of GROUP BY-HAVING clause in SQL. Give example.	M2.01	U
6	Draw an E-R diagram corresponding to the relation: BOOK(BOOK_ID, B-NAME, PRICE, AUTHORS); Where B-NO is a primary key and AUTHORS is a multivalued attribute.	M3.05	A
7	Explain how to map a multi valued attribute to relational model with example.	M3.04	U
8	Differentiate between specialization and generalization	M3.03	U
9	Explain different types of attributes.	M3.02	U
10	Compare 3NF and BCNF	M4.02	U

PART C

Answer all questions. Each question carries seven marks

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Draw the DBMS architecture diagram with component modules.	M1.02	U
	OR		
IV	Write short note on conceptual, representational and physical data model	M1.02	U
V	List and explain DML commands.	M2.01	U
	OR		
VI	Write SQL queries to perform following operations (a) Create a table PROJECT with attributes (Pname, Pno and Plocation) giving PRIMARY KEY constraint to Pno and NOT NULL constraint to Pname) and insert four tuples of data. (3 Marks) (b) Modify the above table by changing the Plocation to 'MUMBAI' whose Pno is 3. (2 Marks) (c) Change the table name 'PROJECT' to 'PROJECTS' in the above table (2 Marks)	M2.01	A
VII	Discuss the use of views with suitable example.	M2.02	U
	OR		
VIII	Given a relational database table STUDENT (Reg.No, Name, Age, Mark). Write the following queries. (a) Display details of students whose age is greater than 20. (1 Mark) (b) Display details of students whose name start with letter 'S' (2Marks) (c) Find the total Mark of all the students. (2 Marks) (d) Display details of students with highest Mark. (2Marks)	M2.01	U
IX	Draw ER Diagram notations and specify their use.	M3.02	R
	OR		
X	Explain aggregation with example	M3.03	U
XI	Explain functional dependency with example.	M4.01	U
	OR		
XII	Discuss the need for concurrency control.	M4.03	U
XIII	Mention the criteria for a relationship to be in 4NF. Give example.	M4.02	U
	OR		
XIV	List and explain properties of transaction.	M4.04	U
