

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER - 2022**

DATABASE MANAGEMENT SYSTEMS

[Maximum marks: 75]

(Time: 3 Hours)

PART A

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

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	Define the term DBMS	M1.01	R
2	State whether true or false. “Data independence can be defined as the capacity to change the schema at one level of a database system without having to change the schema at the lower level.”	M1.01	R
3	UPDATE EMPLOYEE..... Salary = Salary*1.1.....Dno = 5;	M2.01	R
4	Which SQL command delete the structure of a relation.	M2.01	R
5is the property of an entity.	M3.02	R
6	Draw the symbol used for a relationship.	M3.02	R
7	State whether true or false. “A weak entity type will have only partial key”.	M3.02	R
8	Which is the symbol used for denoting functional dependency between two attributes A and B.	M4.01	R
9	A.....is an atomic unit of work that should either be completed in its entirety or not done at all	M4.04	R

PART B

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

(8 x 3 = 24 Marks)

		Module outcome	Cognitive level
1	Consider the relational schema stud_mark(reg_no, name, cgpa), which attribute can be selected as a primary key. Also give the reason for your selection.	M1.03	A
2	A table ACCOUNT contains the attributes (acct_no, cust_name, balance), Retrieve the acct_no and cust_name in ascending order of acct_no	M2.01	A

3	Draw a ER diagram showing any two attributes with BOOK Entity.	M3.02	A
4	Draw an ER diagram showing relationship between TEACHER and STUDENT entities with necessary attributes.	M3.02	A
5	List any three symbols used in ER diagram.	M3.02	R
6	Define (i)Entity (ii)Relationship (iii)Attribute	M3.02	R
7	Explain the concept of transaction.	M4.04	U
8	Explain functional dependency with example.	M4.01	U
9	List any two advantages of mobile database.	M4.05	R
10	Define the term concurrency control.	M4.03	R

PART C

Answer all questions. Each question carries seven marks

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Explain any four characteristics of DBMS.	M1.01	U
OR			
IV	Explain three schema architecture. Distinguish physical data independence with logical data independence.	M1.02	U
V	Explain on the following terms with example – Relation, Attribute, Tuple	M1.03	U
OR			
VI	Explain on client-server architecture of DBMS.	M1.02	U
VII	Exercise the following questions with SQL commands. (i)A table BOOK which contains the attributes ISBN, book_title category, price need to be created giving primary key constraint to ISBN, NOT NULL constraint to book_title and category. Also check constraint for price is greater than 100. (3 Marks) (ii)The user wants to see title of all novels. (2 Marks) (iii) The user need to find the title of top priced book. (2 Marks)	M2.01	U
OR			
VIII	Exercise the following questions with SQL commands. (i)A table PROJECT which contains the attributes Pno, Pname and Plocation need to be created giving primary key constraint to Pno, NOT NULL constraint to Pname. (3 Marks) (ii)Modify the above table by changing the Plocation to “Colombo” whose Pno is 3. (2 Marks) (iii)Change the name of attribute Plocation to Ploc. (2 Marks)	M2.01	U
IX	List and Explain any three integrity constraints with example.	M2.01	U
OR			

X	Describe the use of the following terms with example (a) nested query (b) joining tables	M2.02	U
XI	Compare specialization and generalization with example. OR	M3.03	U
XII	Explain how the ER model is mapped to relational model with example.	M3.04	U
XIII	Compare 1NF and 2NF. OR	M4.02	R
XIV	Explain the desirable properties of transaction.	M4.04	R
