

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER - 2024**

DATA BASE MANAGEMENT SYSTEM

[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 data independence. | M1.02 | U |
| 2 | How the 1NF helps in normalizing a table? | M4.02 | A |
| 3 | How to retrieve a set of tuples from a table based on a condition? | M2.01 | A |
| 4 | Which command is used to add more columns into a relation? | M2.01 | A |
| 5 | List the features of an enhanced ER model. | M3.03 | R |
| 6 | Which aggregate function is used to display the number of tuples in a relation? | M2.02 | A |
| 7 | Define Normalization. | M4.02 | U |
| 8 | List the data models in database. | M1.01 | U |
| 9 | Define weak entity set. | M3.01 | U |

PART B

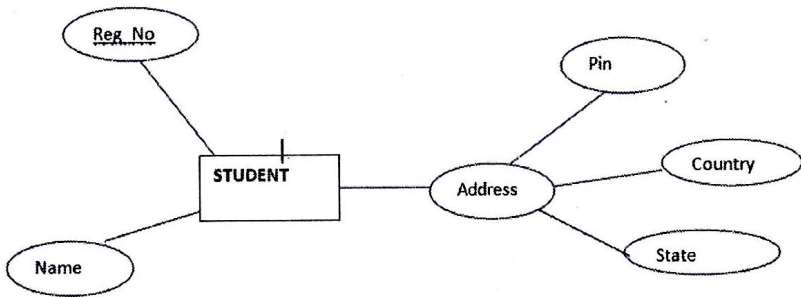
II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

| | | Module outcome | Cognitive level |
|----|--|----------------|-----------------|
| 1 | Write any three characteristics of dbms. | M1.01 | U |
| 2 | How dbms classified based on the number of users? | M1.01 | U |
| 3 | What are the roles of a DBA? | M1.01 | U |
| 4 | Explain hierarchical data model. | M1.02 | U |
| 5 | How to insert records into a relation? | M2.01 | A |
| 6 | Compare count and count(*). | M2.01 | A |
| 7 | Create a procedure to select all tuples from a relation. | M2.02 | A |
| 8 | How to retrieve ISBN, Book_title and category with minimum price in a BOOK relation? | M2.01 | A |
| 9 | What are the symbols used in ER diagram? | M3.02 | U |
| 10 | Explain the desirable properties of a transaction. | M4.04 | U |

PART C
Answer all questions. Each question carries seven marks.

(6 x 7 = 42 Marks)

| | | Module outcome | Cognitive level |
|------|---|----------------|-----------------|
| III | With a neat sketch, explain three schema architecture. | M1.02 | U |
| | OR | | |
| IV | Explain relational model with example. | M1.02 | U |
| V | Create a table STUDENT with the following fields. Roll_Nn, Name, Place. (a) Each student should be identified by his rollno. (b) Populate table with valid data. (c) Display all students whose name starts with 'A'. | M2.01 | A |
| | OR | | |
| VI | Create a table EMPLOYEE with the following fields. EMP_ID, Name, Designation and salary. (a) Each employee should be identified by his/her emp_id. (b) List all employee names whose salary>50000. (c) Retrieve all employees whose designation=peon. | M2.01 | A |
| VII | List and Explain enhanced ER model features. | M3.03 | R |
| | OR | | |
| VIII | Map the following student entity type into a relation. | M3.02 | U |
| |  | | |
| IX | Explain the advantages of a mobile database. | M4.05 | U |
| | OR | | |
| X | Explain the functional dependency with example. | M4.01 | U |
| XI | Explain the need of concurrency control. | M4.03 | U |
| | OR | | |
| XII | With a state diagram and discuss the various states that a transaction goes through during execution. | M4.04 | U |
| XIII | Draw an ER diagram showing the relationship PUBLISHED BY in between BOOK and PUBLISHER. Also represent mapping cardinality and participation constraints. | M3.05 | A |
| | OR | | |
| XIV | Explain the components of a mobile data base. | M4.05 | U |
