Roll No. ------------------

**MCA-07**

**Fundamentals of Database Management System**

2nd Semester Examination 2024 (Dec.)

**TIME: 2 Hours Max Marks: 70**

Note: This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. ***Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.***

**SECTION – A**

**Long-answer - type questions**

**Note: Section ‘A’ contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only. (2×19=38)**

1. Write down complete syntax of create, insert, delete and modification commands supported by SQL.
2. Explain Entity Set, Attribute, Relationship Set, Entity Relationship Diagram (ERD), Extended features of ERD with help of example.
3. What do you mean by Normal Form? Explain different anomalies you remove while going from 1 NF to 2 NF and then from 2 NF to 3 NF.
4. Explain the following categories of SQL commands with example:
5. DML command
6. DDL command
7. DCL command
8. Create a table with attribute emp-no., emp-name, emp-designation, dept-no., emp-net-sal and write the command for:
9. List the name of all employees who belongs to the dept no 10.
10. List the dept no. where the number of employees is more than five.
11. List the name of employees who withdraw the net salary more than rs. 10,000.

**SECTION – B**

**Short – answer – type questions**

**Note: Section ‘B’ contains eight (08) short- answer type questions of Eight (08) marks each. *Learners are required to answer any Four (04) questions only.* (4×8=32)**

1. Explain the modeling techniques of Database Management System (DBMS)?
2. What is the difference between Logical and Physical Independence?
3. What is Relationship? What are its types?
4. What is the difference between Equi Join and Self Join?
5. Explain ‘group by’ SQL query with example.
6. What is the difference between primary key and super key?
7. What do you understand by primary file organization?

1. What is the difference between Network Model and Hierarchical Model?