Roll No ....

MCADD-305
M.C.A. (Integrated), III Semester
Examination, November 2023
Database Management System
Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
　　　　ii) All questions carry equal marks.

1. a) Define Database Management System (DBMS). What are the major components of this system? Explain each component.

   b) Explain ER Modeling with the help of example.

2. a) What is weak entity set and strong entity set?

   b) Explain Various Key constraints with example.

3. a) What is the significance of using the views? Write a command to create the view.

   b) Differentiate DML, DDL and DCL with suitable example.

4. a) What do you mean by query optimization?

   b) What do you mean by the terms loss-less decomposition?

5. a) What do you mean by transaction processing? Explain ACID properties of transaction.

   b) Find the attribute closures of given FDs in relation R.

   FDs R (ABCDE)=$\{ AB \rightarrow C, B \rightarrow D, C \rightarrow E, D \rightarrow A \}$

6. a) What is join dependency? How is it different to that of Multivalued dependency and Functional dependency?

   b) Explain natural join, outer join, full outer join, left outer join and join with examples.

7. a) Discuss the concurrency control mechanism in detail using suitable example.

   b) What is distributed database system? How it is different from the centralized database system? Give the use of distributed system.

8. Explain following term :
   i) Schemas
   ii) Entity and Attribute
   iii) Cursor
   iv) RDBMS

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