MCA/D-17
DATABASE MANAGEMENT SYSTEM
Paper: MCA-14-34

Time: Three Hours   Maximum Marks: 80

Note: Attempt five questions in all. Question No. is compulsory. Attempt four more questions by selecting one question from each unit. All questions carry equal marks.

Compulsory Question

1. Write short note on the following :

    (a) Candidate key and composite key.

    (b) Data independence.

    (c) Commit and Rollback statement.

    (d) Insert statement.

    (e) Full functional dependency.

    (f) Domain key normal form.

    (g) Incorrect summary problem.

    (h) ACID properties.
                              UNIT-I

2. (a) Define database management system. Discuss the objectives of database approach.

    (b) What are the components of database management system? Explain database interfaces.

3. (a) What do you mean by relationship constraints? How an ER schema is reduced to relation tables?

    (b) Explain select, project and join operations of relational algebra with syntax and suitable example.
                              UNIT-II

4. (a) What is SQL? How views and indexes are created and dropped in SQL?

(b) Discuss the storage organization in ORACLE.

5. (a) How constraints are implemented in SQL? Explain.

   (b) Draw a hierarchical data model. Discuss its advantages.

UNIT-III

6. What are the important properties of normalization? How multivalued and join dependencies are implemented and resolved in normalization?

7. What is the role of information system in organizations? List the phases of database designing. Explain the consequences of bad database design.

UNIT-IV

8. (a) Explain binary and shared exclusive locking mechanism with illustration.

   (b) Briefly explain granularity of data items.

9. (a) Discuss various recovery techniques in centralized DBMS.

   (b) Explain the factors with influence the security of database.