2044   **MCA–05/ PGDCA–04**

M.C.A./P.G.D.C.A. EXAMINATION
JANUARY, 2006.

First Semester

INTRODUCTION TO DATABASE MANAGEMENT SYSTEM

Time : 3 hours   Maximum marks for M.C.A: 60

Maximum marks for P.G.D.C.A : 75

PART A — (5 × 5 = 25 marks)

P.G.D.C.A. students should answer any FIVE questions.

M.C.A. students should answer any FOUR questions.

1. With a neat sketch discuss the three-schema architecture of a DBMS.

2. Define cardinality ratio. Discuss the same with relevant examples.

3. With an example discuss index sequential file organization.

4. With an example discuss the division operation in relational algebra.

5. Justify the need for normalization.

6. With an example discuss generalization and specialization. Also state what inheritance is.

7. Compare and contrast file systems with database systems.

PART B — (5 × 10 = 50 marks)

P.G.D.C.A. students should answer any FIVE questions.

M.C.A. students should answer any FOUR questions.

8. Perform a comparative study between the hierarchical data model and relational data model.

9. With a relevant example discuss the following :

  (a) Ternary relationship.

  (b) Unary relationship.

  (c) Aggregation.

10. With relevant examples discuss the different types of join operations in relational algebra.

11. Discuss with relevant examples the following in SQL :

  (a) GROP BY

  (b) ORDER BY

  (c) IN

  (d) EXCEPT.

12. Perform a comparative study between Centralized databases and distributed databases.

13. What is a knowledge base management system? Discuss the same with a relevant example.

14. Describe the multi key file organisation.

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