

A-1301

Total Pages : 3

Roll No.

MCS-505/MIT (CS)-402

(MCA/MSIT/MSCCS)

**Database Management System/
Introduction to DBMS**

Examination February, 2026

Time : 2:00 Hrs.

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) (2×19=38)

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.

A-1301

(1)

P.T.O.

1. Discuss traditional file systems vs. database approach. Explain advantages and disadvantages of DBMS.
2. Explain the Relational Data Model. Discuss relation schema, attributes, tuples, relational instances, and properties of relations.
3. Explain SQL structure, data types, IN operator, LIKE operator, concatenation operator, alias names, and ORDER BY clause with examples.
4. What is Normalization ? Explain 3NF, BCNF, 4NF and 5NF with suitable examples.
5. What is Database Backup ? Explain backup scopes, backup types, database failures, and general recovery strategies.

Section–B

(Short Answer Type Questions) (4×8=32)

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.

1. What is Database Architecture ? Explain the three-level architecture.

2. What is an ER model ? Explain with suitable example.
3. Define Cardinality and Degree. Explain their importance in Relational Model.
4. Write short notes on the following :
 - (a) SQL Commands
 - (b) Aggregate Functions (SUM, AVG).
5. Explain AND, OR, BETWEEN, NOT operators with examples.
6. Explain Alternate Key and Super Key with suitable examples.
7. What are integrity constraints ? Explain Entity and Referential Integrity.
8. Write a short note on Database Security and Codd's rule.
