



# ST. FRANCIS DE SALES COLLEGE

A FRANSALIAN INSTITUTE OF HIGHER EDUCATION **AUTONOMOUS**

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2, Electronics City P.O., Bengaluru - 560 100, Karnataka, INDIA. ☎ (+91) 8088140679 ☐ pro@sfscollage.in ☐ www.sfscollage.in

## END SEMESTER EXAMINATION – APRIL 2025 COMPUTER SCIENCE – I SEMESTER MCA 24MCA14 – DATABASE MANAGEMENT SYSTEMS

Time: 3 Hours

Max. Marks: 70

Instruction: *Answer should be written completely in English*

### SECTION - A

Answer any **FIVE** questions. Each question carries **SIX** marks each.

(5X6=30)

1. Briefly explain the advantages of using the DBMS Approach.
2. Explain schema in detail.
3. Explain attributes and keys with an example.
4. Discuss secondary storage devices in detail.
5. List all the aggregate functions in detail.
6. Discuss two-phase locking technique in detail.
7. Briefly explain concurrency control techniques and their types.
8. Discuss desirable properties of transactions in DBMS.

### SECTION - B

Answer any **FOUR** questions. Each question carries **TEN** marks each.

(4X10=40)

9. Describe the Data Models in DBMS.
10. Explain in detail File Operations and File Organization.
11. Elaborate Codd's rule in detail.
12. Write a MongoDB queries to create collection with nested fields and indexes.
13. Explain relational algebra with extended operations.
14. Explain recovery concepts, recovery in multi-database systems.

