

**CMR ENGINEERING COLLEGE: : HYDERABAD****UGC AUTONOMOUS****II-B.TECH-I–Semester End Examinations (Supply) – June - 2025****DATABASE MANAGEMENT SYSTEMS****(Common to CSE, CSC & CSD)****[Time: 3 Hours]****[Max. Marks: 70]****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A****(20 Marks)**

1. a) List the database applications. [2M]
- b) Draw the notations of ER-Diagram. [2M]
- c) Define table Constraints and Assertions. [2M]
- d) Define Aggregate Functions. [2M]
- e) Discuss normalization. [2M]
- f) Illustrate functional dependency with example. [2M]
- g) Define Two Phase Commit protocol. [2M]
- h) Discuss different phases of transaction. [2M]
- i) Define Indexed Sequential Access Method. [2M]
- j) Compare I/O costs for all File Organizations. [2M]

**PART-B****(50 Marks)**

2. Discuss about the Concept Design with the ER Model. [10M]
- OR**
3. Compare and Contrast file Systems with database systems. [10M]
4. Write briefly about logical database design. [10M]
- OR**
5. Discuss about integrity constraints over relations. [10M]
6. Define normalization? Explain 1NF, 2NF, 3NF Normal forms. [10M]
- OR**
7. Explain about Schema refinement in Database design. [10M]
8. Discuss Serializability in detail. [10M]
- OR**
9. Illustrate Concurrent execution of transaction with examples. [10M]
10. Compare I/O costs for all File Organizations. [10M]
- OR**
11. Compare and Contrast Extendible Hashing with Linear Hashing. [10M]

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