

Code No.: R22CS301PC

R22

H.T.No.

8

R

**CMR ENGINEERING COLLEGE: : HYDERABAD  
UGC AUTONOMOUS**

**II-B.TECH-I-Semester End Examinations (Regular) - December- 2024  
DATABASE MANAGEMENT SYSTEMS  
(Common for CSE, CSC)**

[Time: 3 Hours]

[Max. Marks: 60]

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 10 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**

**(10 Marks)**

1. a) List any four applications of DBMS. [1M]
- b) Differentiate between data and information. [1M]
- c) What is E-R model? [1M]
- d) What is the Relational Model? [1M]
- e) Explain Functional dependencies in Database. [1M]
- f) List the types of Joins. [1M]
- g) Explain about ACID properties. [1M]
- h) What is Recoverability? [1M]
- i) What is primary index data structure? [1M]
- j) Define index data structure. [1M]

**PART-B**

**(50 Marks)**

2. Define data model. Explain the entity-relationship model with a neat diagram. [10M]
- OR**
3. Explain specialization and generalization relationship in E-R model with example. [10M]
4. Discuss briefly about Domain relational calculus with suitable example. [10M]
- OR**
5. Explain Types of Integrity Constraints in DBMS. [10M]
6. Explain difference between BCNF and 4NF? With Examples. [10M]
- OR**
7. Explain about Importance of NULL values and Primary keys. [10M]
8. Explain strict 2PL and logical undo operation. [10M]
- OR**
9. Explain the implementation of Atomicity and Durability. [10M]
10. Explain about a dynamic tree base index structure with example. [10M]
- OR**
11. Explain about static hash based Indexed data structures in detail. [10M]

\*\*\*\*\*