

Code No.: CS301PC

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**CMR ENGINEERING COLLEGE: : HYDERABAD**  
**UGC AUTONOMOUS**  
**II-B.TECH-I-Semester End Examinations (Regular) - January- 2022**  
**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) Write short notes on DDL and DML. [2M]
- b) What is the need of normalization? [2M]
- c) Explain about outer join. [2M]
- d) What is meant by nested queries? [2M]
- e) What is a view? How it can be created? [2M]
- f) What is the use of sub queries? [2M]
- g) Define the term ACID properties. [2M]
- h) Write about transaction states. [2M]
- i) What is meant by secondary index? [2M]
- j) What are the advantages of using tree base indexing? [2M]

**PART-B**

(50 Marks)

2. What is E-R model? Draw an E-R Diagram for any Online shopping system. [10M]
- OR**
3. Explain the relational database architecture. [10M]
4. a) Explain the following: [5M]  
i) View of Data ii) Data Abstraction  
b) Discuss in detail about the properties of relation algebra. [5M]
- OR**
5. Discuss different types of aggregate operators with examples in SQL? [10M]
6. Explain the following Operators in SQL with examples [10M]  
i) SOME ii) IN iii) EXCEPT iv) EXISTS
- OR**
7. Explain various types of Domain constraints in SQL with examples. [10M]
8. Discuss in detail about timestamp based concurrency control techniques. [10M]
- OR**
9. Explain Lock Based Protocols types in detail. [10M]
10. Explain insertion and deletion operations of ISAM with examples. [10M]
- OR**
11. What are the index data structures? Explain different types of index data structures. [10M]

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