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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
**(AUTONOMOUS)**  
**MCA II Year- I Semester Supplementary Examinations August-2021**  
**DATABASE MANAGEMENT SYSTEM**

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

**UNIT-I**

- 1 a List and Explain various Levels of Abstraction. 6M  
 b Write short notes on Hierarchical Model and Network Model. 6M

OR

- 2 List and Explain various notations of E/R diagram with examples. 12M

**UNIT-II**

- 3 a Define Relational Data model and Give any four examples for RDBMS. 6M  
 b What are the different types of keys used in Relational data model? 6M

OR

- 4 Build a relational schema for banking application by converting the ER diagram. 12M

**UNIT-III**

- 5 a List out various Data Definition Language commands with Syntax & examples. 6M  
 b List out various Data Manipulation Language commands with Syntax & examples. 6M

OR

- 6 a Illustrate Nested Queries with an example. 6M  
 b Demonstrate various Aggregate Functions with example. 6M

**UNIT-IV**

- 7 List and explain various normal forms with examples. 12M

OR

- 8 a Define Functional Dependency. 3M  
 b Discuss about different functional dependencies with examples. 9M

**UNIT-V**

- 9 Explain log-Based Recovery in detail. 12M

OR

- 10 a What is a transaction in database system? 3M  
 b List and explain the ACID Properties with neat diagram. 9M

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