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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)****MCA I Year II Semester Regular & Supplementary Examinations May 2019
DATABASE MANAGEMENT SYSTEMS**

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)**UNIT-I**

- 1 a Define Database and DBMS. Explain the importance of database design. 6M
b What are the various components of a DBMS? Explain with neat diagram. 4M

OR

- 2 a Write about various notations of E/R diagram. 5M
b Define E/R Model. Explain the following:
i) Entities and Relationships. 5M
ii) Attributes and different types of attributes in details.

UNIT-II

- 3 a Explain Relational Data model and its concepts. 6M
b Briefly explain different types of keys in Relational data model. 4M

OR

- 4 a Discuss Codd's relational database rules in detail. 6M
b Explain the differences between the following:
i) Super Key ii) Candidate key iii) Primary key iv) Secondary key 4M

UNIT-III

- 5 a Explain various Data Definition Commands in details with syntax & samples. 5M
b Write queries using Relational Set operators and SQL Join operators. 5M

OR

- 6 a Explain Aggregate functions, GROUP BY, HAVING Clause with example. 3M
b Write queries using Sub queries and correlated queries. 7M

UNIT-IV

- 7 a What are the problems caused by Redundancy? Explain about Normalization and need for normalization 7M
b Explain the following: Multi-valued dependencies and fourth normal forms. 3M

OR

- 8 a Define Functional Dependencies. 5M
b Discuss about different functional dependencies. 5M

UNIT-V

- 9 a Discuss about B-Tree. Write applications, merits and demerits of B + TREE. 5M
b Define Concurrency control. Explain different concurrency control. 5M

OR

- 10 a Write about Index file organization. Explain various index structures. 5M
b Explain about concurrency control based on time- stamp ordering. 5M

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