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BT-3/D-14 **8301**

DATABASE MANAGEMENT

CSE-201-E

Time : Three Hours] [Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Explain characteristics of Database approach. Mention various advantages of using DBMS approach.

   (b) Explain Network and Hierarchical data models in detail with example.

2. (a) What is difference between 2 tier and 3 tier client server architecture with example.

   (b) Define the following terms :

   Meta data, Schema, DDL, DML, Query language, Primary key, Foreign key, composite attribute, Multivalued attribute, Derived attribute.

Unit II

3. (a) List the operations of relational algebra and purpose of each with example.

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   (b) In what sense relational calculus differ from relational algebra and in what sense are they similar ?

4. (a) Explain B trees and various operations implemented on it with example.

   (b) Explain hashing technique in detail. How can we use hashing in direct file access ?

Unit III

5. (a) What is Functional Dependency ? Explain various rules of it.

   (b) What is QBE ? Also explain various operations in it.

6. (a) What is difference between BCNF and 3NF. Explain with example.

   (b) Explain key constraint, domain constraint, integrity constraint and referential integrity constraint in detail.

Unit IV

7. (a) What is parallel database ? Discuss its advantages and disadvantages.

   (b) What are the various types of topologies used in distributed database ? Also discuss advantages and disadvantages of distributed database.

8. (a) Explain the Lock based protocol and Time stamping protocol.

   (b) What do you mean by transaction ? Explain ACID properties associated with it. Explain various operations performed on it with example.

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