Roll No .....

CS - 503

B.E. V Semester

Examination, December 2012

Database Management System

Time : Three Hours

Maximum Marks : 70/100

Note : 1. Attempt one question from each unit.
2. All questions carry equal marks.

Unit-I

1. What are the main difference between a file processing system and a database management system? Describe the overall system architecture of a database system. Also show the connection system. Also show the connection amongst its various components.

2. Construct an ER diagram of customer account relationship. Customer entity with attributes SS#, customer name, street, customer City and account entity with attributes account No. and balance. The Customer Account relationship with date attributes.

Unit-II

3. What do you mean by pneuny language? Explain following operations by taking suitable examples.
   i) Select ii) Project
   iii) Cartesian Product iv) Rename
   v) Union
   Also explain supekey & candidate key.

OR

4. What are database languages? Why were the DDL and DML called data sublanguage? Also explain functional dependency.

Unit-III

5. What is the utility of normalization & various normal forms? Explain the concept of transaction atonicity and serializability.

OR

6. Explain why ⊥NF is acceptable for data processing applications. How 2NF is better than ⊥NF. IS BCNF better than 3NF? Give an example of a relation that is in 3NF but not in BCNF.

Unit-IV

7. What is transaction in database. Discuss properties of transaction? Explain transaction logging in databases and its use in two phase commit policy.

OR

8. What are database locks and how do they lead to deadlock? Briefly discuss strategies for preventing deadlocks. How do you detect deadlocks?

Unit-V

9. Write short notes on any two:
   i) RDBMS.
   ii) Distributed database.
   iii) Self join & outer join.

OR

10. At what point during query processing does the optimization occur. Discuss the advantages of distributing database. Also explain database security.

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