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BT–5/D–21   **45169**

DATA BASE MANAGEMENT SYSTEM

Paper–PC–CS–301A

Time Allowed : 3 Hours]   [Maximum Marks : 75

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

UNIT–I

1. What do you mean by DBMS. Explain three schema architecture of DBMS in detail?   15

2. Explain the following terms :   15

    (a) Primary key   (b) Foreign key

    (c) Weak Entity and Strong Entity.   (d) Derived attribute

    (e) Unique key.

UNIT–II

3. What is Relational calculus. Create table customer, Branch, Account, Loan, Borrower and Depositor. Present the following query using relational calculus and its result.   15

    (a) Find the loan number, branch, amount of loans of greater than or equal to 10000 amount.

    (b) Find the names of all Customers having a loan at the "ABC" branch.

    (c) Find the names of all Customers who have a loan and an account at the bank.

4. (a) Write a command in SQL to create table having (Id, name, date_of_joining, bank_name)   4

    (b) Write a command in SQL to change name where name is staring with K letter.   4

    (c) Create procedure to copy date from one table to other.   7

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UNIT–III

5. (i) What do you mean by Functional dependency. Explain transitive and multi valued dependency with the help of example. 7

    (ii) Explain 3NF and Boyce codd Normal form with the help of example. 8

6. What is Concurrency control and recovery management. Explain lock based protocol and two phase locking techniques. 15

UNIT–IV

7. What is conflict Serializability and Enforcing Serializibility? Explain with the help of example. 15

8. What is Distributed database and what are different methods to resolve deadlock and also explain different transaction states with the help of flow diagram. 15