Relational Database Management System

Time: 3 Hrs.]   Prelim Question Paper   **[Marks : 100**

Instructions :   (1) **All** questions are **compulsory**.
               (2) Answer **each** next main question on a **new** page.
               (3) Illustrate your answers with **neat** sketches wherever necessary.
               (4) Figures to the **right** indicate **full** marks.

1. (a) Attempt any **SIX** of the following :   **[12]**
       (i)   List any four DBMS software.
       (ii)   List any four DDL commands.
       (iii) Explain group by, having clause of SQL with example.
       (iv) What is index? List its types.
       (v)   Define data independence. List its type.
       (vi) Explain any two characteristics of DBMS?
       (vii) Define DBMS. List any two applications of DBMS.
       (viii)What is Primary Key? Give example.

     (b) Attempt any **TWO** of the following :   **[8]**
       (i)   Explain any four Codd's Rules/Laws of RDBMS.
       (ii)   Explain ACID properties of Transaction.
       (iii) Write features of SQL. What is view? Give example.

2. Attempt any **FOUR** of the following :   **[16]**
     (a) Describe Hierarchical Data Model with suitable example.
     (b) Give syntax of UPDATE command. Demonstrate with suitable example.
     (c) Consider following schema :
         ACCOUNT_HOLDER (Account_No, Name, Account_Type,
                             PAN_Number, Balance).
         Create a view on ACCOUNT_HOLDER having attributes (Account_No,
         Name, PAN_Number) where Balance is greater than 50,000.
     (d) What is CURSOR? Explain its types.
     (e) List and explain four types of Database users.
     (f) Draw E-R diagram for library management system. The library should
         maintain the data about the staff, student and books.

3. Attempt any **FOUR** of the following :   **[16]**
     (a) Consider Following Schema
         Employee (ENO, ENAME, Department, Designation,
                          DOJ, Salary, Dept_Location)

Solve the following query :

(i) List the employees having Designation as "Manager" and .Dept_Location as "Mumbai"

(ii) Set the salary as Rs.50,000/- having Designation as "Project Leader"

(iii) List ENO, ENAME, Salary of employees having Salary between Rs. 20,000/- to Rs.30,000/-

(iv) List Ename of employees having 2nd alphabet in the name as "A".

(b) Give block-structure of PL/SQL and explain main components.

(c) Describe in brief 2NF.

(d) State properties of Boycee Codd Normal form.

(e) What are different data types of SQL? Explain with example.

(f) Explain Domain Integrity Constraint with suitable example.

4. Attempt any **FOUR** of the following : **[16]**

(a) Draw an E-R Diagram for College Management System.

(b) Write PL/SQL program to display the Factorial of any number.

(c) Explain ALTER command. Demonstrate with any two options.

(d) What are sequences? Why it is used? Create sequence for "STUDENT" table.

(e) What is data warehousing and data mining?

(f) Describe the use of Grant and REVOKE privilege with the help of example.

5. Attempt any **FOUR** of the following : **[16]**

(a) What are snapshots? Create Snapshot for "Vehicle" table.

(b) Explain two Locking Strategies.

(c) Explain four different types of SET operators.

(d) What is client server architecture? Draw diagram.

(e) What is data abstraction? What are the levels of abstraction?

(f) Explain following terms with suitable example (i) Entity (ii) Entity set.

6. Attempt any **FOUR** of the following : **[16]**

(a) List and explain any four advantages of DBMS over File processing system.

(b) Explain any four aggregate functions with example.

(c) Describe following keys :

(i) Candidate Key　　　(ii) Primary Key

(d) Describe Grant and Revoke commands.

(e) Explain WHILE....LOOP in PL/SQL with example.

(f) Explain join concept of SQL. State types of join.

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