11718

3 Hours / 100 Marks   Seat No.

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.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1.   (a)   Attempt any SIX of the following :   **12**

(i)   List any four DBMS software.

(ii) List and draw any four symbols used in ER model.

(iii) Define normalization.

(iv) Define domain and entity.

(v)   List any four DCL commands.

(vi) Draw the state diagram of transaction.

(vii) Explain the use of truncate statement. Give example.

(viii) State statement used in PL/SQL to display the output with syntax.

(b)   Attempt any TWO of the following :   **8**

(i)   State four differences between DBMS and RDBMS.

(ii) Explain Alter Command. Give syntax of add and modify options.

(iii) Explain exception handling with its two types.

2. **Attempt any FOUR of the following :** 16

    (a)   Draw neat labelled diagram of overall DBMS structure.

    (b)   Describe following keys :

        (i)   Primary key

        (ii)   Foreign key

    (c)   Explain functional and transitive dependency.

    (d)   Explain group by, order by clause of SQL with example.

    (e)   Describe synonyms. How to create and drop synonym ?

    (f)   Explain implicit and explicit cursors.

3. **Attempt any FOUR of the following :** 16

    (a)   Describe data abstraction with neat diagram.

    (b)   State and explain 1NF and 2NF with example.

    (c)   Explain ACID properties of transaction.

    (d)   Consider the following schema :

        Depositor (ACC_no, Name, PAN, Balance) Create a view on depositor having attributes (ACC_no, PAN) where balance is greater than 1,00,000.

    (e)   Explain for loop in PL/SQL with example.

    (f)   Describe shared lock and exclusive locking strategy in brief.

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

    (a) Explain any four functions of database administrator.

    (b) Draw an E-R diagram for customer branch and account relationship.

    (c) Explain any four integrity constraints.

    (d) Explain set operators with example.

    (e) Define index. Explain types of index.

    (f) Write a PL/SQL program using while loop to display n even numbers.

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

    (a) Explain three tier architecture with suitable diagram.

    (b) Explain on delete cascade clause with example.

    (c) Consider following schema :

        Employee (emp_no,emp_name, dept, salary, designation, dept_location)

        Solve following queries :

        (i) List all managers in Mumbai location.

        (ii) Set salary of all 'project leaders' to ₹ 70,000.

        (iii) List employees with having alphabet 'A' as second letter in their name.

        (iv) Display details of those employees who work in Mumbai or Chennai.

    (d) Describe Grant and Revoke commands.

    (e) Define sequences. Create sequence for student table.

    (f) Define database trigger. Compare database trigger and procedures.

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

(a) Describe data mining and data warehousing.

(b) Explain any 4 types of attributes.

(c) Explain drop and delete commands with syntax. State the difference between them.

(d) Explain any four string functions with example.

(e) Explain PL/SQL block structure.

(f) Write PL/SQL program to calculate factorial of a given number.

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