**21718**

**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) Assume suitable data, if necessary.

(6) 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**

(a) Define RDBMS.

(b) Compare Network model and Hierarchical model. (Min. 2 points)

(c) Define Normalization.

(d) List logical operator.

(e) State any four DDL command.

(f) Define sequence.

(g) List out the types of cursor.

(h) Define foreign key.

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

(a) Differentiate between RDBMS & DBMS. (Min. 4 points)

(b) Explain order by clause with example.

(c) Describe sequential control in PL/SQL with neat diagram.

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

   (a) Explain weak entity and strong entity set with example.

   (b) Describe domain relational calculus.

   (c) Demonstrate the use of COMMIT command with example.

   (d) Explain dropping sequence with example.

   (e) Discuss shared & exclusive rock.

   (f) Elaborate on three tier architecture with neat diagram.

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

   (a) Consider following database EMP (empno, ename, mgr, hiredate, sal, Deptno)

      (i) Select ename, sal, deptno from EMP.

      (ii) List all empno, ename, hiredate from EMP where sal < 5000 AND deptno = 20

      (iii) Write a query to add (city char (20)) to EMP

      (iv) Insert values in EMP
         (7788, 'Asha', Manager 7566, '10 July 1999', 30000, 20)

   (b) Explain PL SQL block structure.

   (c) Describe second normalization form with example.

   (d) Paraphrase simple unique indexes with syntax and example.

   (e) Explain implicit and explicit locking strategy.

   (f) State any four advantages of DBMS over file processing system.

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

    (a)    Explain specialization & Generalization.

    (b)    List user defined exception and explain with suitable example.

    (c)    Describe transaction properties.

    (d)    Write any five string function with syntax and example of each.

    (e)    Memorize different features of sequences.

    (f)    Explain the functions of database administrator.

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

    (a)    Explain instance and schema.

    (b)    Describe views and join in detail.

    (c)    Define following terms with example :

        (i)    declaring

        (ii)    opening

        (iii)   closing a cursor

    (d)    Explain following terms with example :

        (i)    Procedure

        (ii)    Function

    (e)    Summarize multivalue dependency.

    (f)    Explain serializability with example.

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

    (a)    Elaborate on distributed database with example.

    (b)    What is Referential Integrity Constraints ? Explain with example.

    (c)    Write the syntax and example of CREATE and UPDATE command.

    (d)    Explain BCNF with example.

    (e)    What is join ? Explain different types of join.

    (f)    What are the types of triggers ? Describe any two in detail.

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