1225

Code : 15CS-33T

DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours]   **[Max. Marks : 100**

Note :   (i)   Answer any **six** full questions from Part – **A**. Each questions carries **5** marks.

       (ii)   Answer any **seven** full questions from Part – **B**. Each questions carries **10** marks.

PART – A

1. What are the responsibilities of the DBA and the database designers ?   **5**

2. Define :   **5**
   - (a) Logical data independence
   - (b) Physical data independence

3. List the various notations used for E-R diagram.   **5**

4. Explain with example entity integrity constraints and referential integrity constraints.   **5**

5. Classify the constraints on databases and give example for each of them.   **5**

6. List the different data types supported by SQL.   **5**

7. Explain the different types of aggregate functions with an example.   **5**

8. Explain third normal form with an example.   **5**

9. Explain the desirable properties of a transaction.   **5**

PART – B

10. Explain the important characteristics of database approach.   **10**

11. Develop an E-R diagram for a company database.   **10**

12. Describe the following terms :   **10**
    (1) Simple Attribute   (2) Composite Attribute
    (3) Multi-valved Attribute   (4) Derived Attribute
    (5) Key Attribute

13. Explain the following term with example :   **10**
    (a) Domain   (b) Attribute
    (c) Tuple   (d) Relation Schema (R)
    (e) Relation (r)

14. Explain the following with example :   **10**
    (1) Insert   (2) Delete
    (3) Group by   (4) Order by
    (5) Where

15. Consider the following schema and write the SQL queries :   **10**
    DEPARTMENT (Dno, Dname, loc)
    EMPLOYEE (Empno, Ename, Dno, Salary)
    (a) Retrieve the names of all employees who belongs to 'CS' department.
    (b) Find the sum of the salaries of all employees.
    (c) Retrieve the total No. of employees in each department.
    (d) Create a view that has employee name and salary of employee table.

16. Discuss the informal design guidelines for relational schema.   **10**

17. Explain the different UPDATE anomalies of tables.   **10**

18. Draw a state diagram and discuss the typical states during transaction execution.   **10**

19. Discuss the advantages and disadvantages of distributed computing.   **10**