1509237340

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER - 2023

DATABASE MANAGEMENT SYSTEM

[Maximum marks: 100]   [Time: 3 Hours]

PART – A
Maximum marks: 10

I (Answer *all* the questions in one or two sentences. Each question carries **2** marks)

1. Define Database.

2. Define the degree of a relation.

3. Write the SQL command to remove tuples from a relation.

4. Write the SQL statement to create an index for the EMPLOYEE table
   based on FNAME attribute.

5. State data mining technology.   (5 x 2 = 10)

PART – B
Maximum marks: 30

II (Answer any *five* of the following questions. Each question carries **6** marks)

1. Describe the different DBMS Languages.

2. Explain the advantages of DBMS.

3. Explain super key and candidate key with examples.

4. Describe the use of Aggregate functions in SELECT statements with examples.

5. Explain transactions.

6. Describe decomposition of a table with examples.

7. Write short notes on parallel DBMS.   (5 x 6= 30)

PART – C
Maximum marks: 60
(Answer *one full* question from each unit. Each full question carries **15** marks)

UNIT –I

III. (a) Describe the applications of DBMS.   (8)

   (b) Distinguish between centralised and client-server database system.   (7)

IV. (a) Explain any two data models.   (8)
     (b) Explain three schema architecture with diagram.   (7)

UNIT-II

V. (a) Distinguish between Generalization and Specialization in Enhanced E-R diagram.   (8)
    (b) Explain the following terms used in relational model.
        (i) Relational Schema   (ii) Relation   (iii) Domain   (7)

OR

VI. (a) Explain the following relational algebra operations with examples.
        (i) SELECT   (ii) PROJECT   (8)
    (b) Explain the various E-R diagram symbols and their meanings.   (7)

UNIT-III

VII. (a) Write the SQL statements to create the following tables in a BANK database with proper PRIMARY KEYs and FOREIGN KEYs.
        (i) ACCOUNT (Account Number, Account Type, Account Opened date, Balance Amount, Customer ID)
        (ii) CUSTOMER (Customer ID, Customer Name, Address, Mobile Number)   (8)
    (b) Explain how to grant and revoke privileges on database tables with examples.   (7)

OR

VIII.(a) Give a database with the following tables:
       EMPLOYEE (Emp_No, Emp_Name, Designation, Salary, Dept_ID)
       DEPARTMENT (Dept_ID, Dept_Name, Manager_Emp_ID)
       Write the SQL statements for the following:
       (i)   To display the Employee Name, Designation and Department Name of all employees.
       (ii)   To display the Employees details whose name starts with the letter 'A'.
       (iii)   To display the details of Employees whose salary is greater than 50000.
       (iv)   To display the Department ID, Department Name and Manager's Name of all departments.   (8)
    (b) Write short notes on views in SQL with examples.   (7)

UNIT-IV

IX. (a) Explain the characteristics of Data Warehouses.   (8)
    (b) Explain Functional Dependency.   (7)

OR

X. (a) Write short notes on the following object oriented concepts.
       (i) Object Identity   (ii) Object Structure   (8)
    (b) Describe Normalisation and state the need for normalisation.   (7)