DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019

DATABASE MANAGEMENT SYSTEMS

[*Time* : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. List few application areas of DBMS.

2. State the different types of join operations.

3. Write the general syntax of DELETE command in sql.

4. Define VIEW of a database.

5. Define datamining.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain the concept of schema, instance and subschema of dbms.

2. Describe the various DBMS languages with examples.

3. Explain the following relational model concepts - Domains, Attributes, Tuples and Relations.

4. Define indexing and state the method of creating index in sql.

5. Explain the method of connecting to database using SQL.

6. Define and explain functional dependency with respect to a relational schema.

7. Differentiate Object Identity and Object Structure.

(5×6 = 30)

[P.T.O.

Marks

PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT — I

III   (a)   List the various database users and their duties in a database system.   6

     (b)   Describe the various database models in DBMS.   9

OR

IV   (a)   Explain the components modules of dbms with diagram.   10

     (b)   Show the diagram of basic client/server architecture.   5

UNIT — II

V   (a)   Draw the E-R diagram of a bank database with entities BANK (ifscode, bank-name, addr), ACCOUNT(Acc-no, Acc-type, Balance), LOAN (Loan-no, amount), Customer (Ssn,Name,Phone, Address), BRANCH (Address, Branch no) showing the relevant relationship.   12

     (b)   List the steps to convert ER diagram to Relational model.   3

OR

VI   (a)   Explain the various types of keys used in RDBMS.   9

     (b)   Describe the fundamental operations of relational algebra.   6

UNIT — III

VII   (a)   Write an SQL query to create a table PROJECT with attributes (Pname, Pno and Plocation) giving PRIMARY KEY constraint to Pno and NOT NULL constraint to Pname) and insert four tuples of data.   9

     (b)   Modify the above table by changing the Plocation to "Colombo" whose Pno is 3.   3

     (c)   Change the table name 'PROJECT' to 'PROJECT2016' in the above table.   3

OR

VIII   (a)   Define transaction.   3

     (b)   Describe the various TRANSACTION STATES with a diagram.   12

UNIT — IV

IX   (a)   Define normalisation.   3

     (b)   Explain the relationship between functional dependency and normalisation in a relational database environment with an example.   12

OR

X   (a)   Discuss mobile databases with an example.   6

     (b)   Distinguish Data Warehousing and Data Mining.   9

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