TED (15) – 4255

(REVISION — 2015)

Reg. No. .....

Signature .....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

RELATIONAL 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. Define database schema.
2. What do you mean by normalization of relations ?
3. Define the term degree of a relation.
4. Name the data types in SQL.
5. What are triggers ?

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. What is an EER model ? Differentiate between specialization and generalization with the help of an example.
2. Describe the design guidelines for a relation schema.
3. Describe the use of GROUP BY and HAVING clauses in SQL with example.
4. Explain states of a transaction with state transition diagram.
5. Explain the two tier client server architecture with a neat sketch.
6. What is the purpose of join operation in relational algebra ? Differentiate between equijoin and natural join operations.
7. What is the importance of stored procedure ? Write syntax and example for creating procedure in SQL.

(5×6 = 30)

Marks

PART — C

(Maximum marks : 60)

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

UNIT — I

III (a) Define data independence. Explain logical and physical data independence. 7

(b) What is the significance of ER model ? Explain ER diagram with an example. 8

OR

IV (a) Discuss about the different types of users who interact with database system. 7

(b) Define attribute of an entity. Explain the different types of attributes. 8

UNIT — II

V (a) What is functional dependency ? Explain with example. 7

(b) Explain the following relational algebra operations.

(i) Select (ii) Rename

(iii) Cartesian product (iv) Join 8

OR

VI (a) What is decomposition of a relation ? Describe properties of decomposition. 8

(b) Define BCNF. Why BCNF is considered simpler as well as stronger than 3NF ? 7

UNIT — III

VII (a) Explain aggregate functions in SQL with example. 8

(b) What do you mean by views in SQL? Explain how views are created and updated ? 7

OR

VIII (a) What is the use of constraints in SQL ? Explain the following constraints.

(i) Not null (ii) Primary key

(iii) Default (iv) Unique 9

(b) Describe the following SQL statements.

(i) Commit (ii) Rollback (iii) Savepoint 6

UNIT — IV

IX (a) What is embedded SQL ? Describe how it is differ from dynamic SQL. 8

(b) Briefly explain about cursors. 7

OR

X (a) Discuss about the ACID properties of a transaction. 8

(b) Explain how the queries are specified at run time using dynamic SQL. 7