

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

**DATABASE MANAGEMENT SYSTEM**

[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 system.
2. List any two keys in relational database.
3. Mention the use of CHECK keyword.
4. Define database View.
5. Define data warehouse.

(5×2 = 10)

**PART — B**

(Maximum marks : 30)

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

1. Explain the merits of DBMS.
2. Describe Centralized and Client-Server Database Systems.
3. Draw an E-R diagram corresponding to the relation: BOOK(B\_NO, B\_NAME, PRICE, AUTHOR, PHONE\_NO); Where B\_NO is a primary key and PHONE\_NO is a multivalued attribute.
4. Differentiate relational algebra operations SELECT and PROJECT.
5. Describe different datatypes in SQL.
6. Explain how to create and use trigger in DBMS.
7. Describe the need of database normalization.

(5×6 = 30)

## PART — C

(Maximum marks : 60)

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

## UNIT — I

- III (a) Explain three schema DBMS architecture with diagram. 9  
 (b) Describe different database users. 6

OR

- IV (a) Explain different data models. 9  
 (b) Describe different DBMS languages. 6

## UNIT — II

- V (a) Explain generalization and specialization in enhanced E-R model. 8  
 (b) Describe different JOIN operations in relational algebra. 7

OR

- VI (a) Explain following relational algebra concepts :  
 (i) Domain (ii) Relational Schema (iii) Attribute (iv) Degree of relation 8  
 (b) Describe set operations in relational algebra. 7

## UNIT — III

- VII (a) Explain DML commands with syntax. 8  
 (b) Describe any five DBMS constraints. 7

OR

- VIII (a) Given a relational database table STUDENT (Reg. No, Name, Age, Mark).  
 Write the following queries.  
 (i) Display details of students whose age greater than 20.  
 (ii) Display details of students whose name start with letter 'S'.  
 (iii) Find the total Mark of all the students.  
 (iv) Display details of students with highest Mark. 8  
 (b) Explain JDBC database connectivity. 7

## UNIT — IV

- IX (a) Explain the features of Object Oriented Database. 9  
 (b) Write a short note on Mobile databases. 6

OR

- X (a) Explain various Parallel DBMS architectures. 9  
 (b) Describe the features of data warehouses. 6