TED (15) — 3132

(REVISION — 2015)

Reg. No. ....

Signature ....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2017

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 a database system.

2. Distinguish between candidate key and super key.

3. Write the query to retrieve all employees from employee table whose city is in "Mumbai". Assume that employee table contains attributes ssn, empname, dob, salary and city.

4. List the various costraints in sql.

5. Define datawarehousing.

$(5 \times 2 = 10)$

PART — B

(Maximum marks : 30)

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

1. Explain the three schema architecture with a diagram.

2. Describe the UNION, INTERSECTION and DIFFERENCE operations of relational algebra set theory with examples.

3. Distinguish between natural join and outer join operations with a suitable example.

4. Point out the different aggregate functions in sql. Also write a query to find the total number of employees in the automobile company and number of employees in the production department.(Table name is 'auto').

5. Write the various steps when writing a java application program with database access through JDBC function calls.

6. Explain the decomposition of a table.

7. State the characteristics of mobile database environment.

$(5 \times 6 = 30)$

[28]

[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) Describe the advantages and disadvantages of using database management system. — 9

(b) Define Data Independence. Differentiate between physical data Independence and logical data Independence. — 6

Or

IV (a) Write short notes on heirarchical, network and relational model. — 6

(b) Explain Centralised and Client - Server Database Systems. — 9

Unit — II

V (a) Explain the Entity Relationship model with a suitable example. — 8

(b) Explain the various ER diagram symbols and its meaning. — 7

Or

VI (a) Discuss the concepts of Enhanced ER model with an example. — 8

(b) Distinguish between Specialization and Generalization in EER diagram. — 7

Unit — III

VII (a) List and explain the different data types that are allowed for SQL attributes. — 8

(b) Write appropriate SQL DDL statements for declaring AIRLINE relational database table as shown below :

AIRPORT

Airport code	Name	City	State

FLIGHT

Flight Number	Airline	Days of Operation

— 7

Or

VIII (a) Explain the concept of transaction. — 3

(b) Consider the following database tables that keeps track of automobile sales in a car dealership.

(i) CAR (Serial_no, Model, Manufacturer, Price)

(ii) SALE (Salesperson_id, Serial_No., Date, Sale_Price)

(iii) SALESPERSON (Salesperson_id, Name, Salary, Phone, Place)

Update Salary of the SALESPERSON with Salesperson_id = '506431' to ₹ 25,000

Update the Price in CAR table whose model is 2010 to 80000 — 12

Unit — IV

IX (a) Define normalization and explain the need of normalization. — 5

(b) Discuss lossless decomposition and lossy decomposition with an example. — 10

Or

X (a) Explain the object Oriented concepts of database. — 9

(b) Differentiate parallel DBMS and Distributed DBMS. — 6