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

### DATABASE MANAGEMENT SYSTEMS

[*Time* : 3 hours

(Maximum marks: 100)

#### PART — A

(Maximum marks : 10)

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.

#### 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.
- 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.

[48]

 $(5 \times 6 = 30)$ 



TED (15) – 3132 (REVISION – 2015)

 $(5 \times 2 = 10)$ 

Marks

Marks



# PART — C

## (Maximum marks : 60)

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

 $U_{\rm NIT} - I$ 

Ш	(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	
Х	(a)	Discuss mobile databases with an example.	6
	(b)	Distinguish Data Warehousing and Data Mining.	9