Total No. of Questions : 4]

SEAT No. : ____

P8555

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Oct-22/TE/Insem-525
T.E. (Computer Engg.) (AI & DSE)
DATABASE MANAGEMENT SYSTEM
(2019 Pattern) (Semester - I) (310241)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions to the candidates :

1) ***Answer Q.1 or Q.2, Q.3 or Q.4.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) For the database system to be usable, it must retrieve data efficiently. The need of efficiency has led designers to use complex data structures to represent data in the database. Developers hide this complexity from the database system users through several levels of abstraction. Explain those levels of abstraction in detail with example. **[5]**

b) Draw an ER diagram for the banking system. Assume the banking requirements are as given below. **[10]**

- The bank is organized into branches. Each branch is located in a particular city.
- The bank offers two types of accounts: saving and current. Accounts can be held by more than one customer and a customer can have more than one account.
- A loan originates at a particular branch and can be held by one or more customers

Identify the relationship among the entities along with the mapping cardinalities, keys in the E.R. diagram. Construct appropriate tables for E-R diagram designed with above requirements.

OR

Q2) a) Explain the concept of candidate key and primary key, foreign key. Identify above listed key for the following schema: **[6]**

Person (driver_id, name, address, contactno)

Car(licence, model, year)

Owns (driver_id, licence)

P.T.O.

b) Draw architecture of DBMS system and explain function of following components: **[9]**

i) Storage manager

ii) Query Processor

Q3) a) What is view and how to create it? Can you update view? If yes, how? If not, why not? **[5]**

b) Defined stored procedure. Explain the creating and calling stored procedure with example. **[5]**

c) Consider following schema. **[5]**

Student_fee_details (rollno, name, fee_deposited, date)

Write a trigger to preserve old values of student fee details before updating in the table.

OR

Q4) a) Consider the following schemes **[6]**

Supplier(SNO, Sname, Status, City)

Parts (PNO, Pname, Color, Weight, City)

Shipments(SNO,PNO,QTY)

Write SQL queries for the following:

i) Find shipment information (SNO, Sname, PNO, Pname, QTY) for those having quantity less than 157.

ii) List SNO, Sname, PNO, Pname for those suppliers who made shipments of parts whose quantity is larger than the average quantity

iii) Find aggregate quantity of PNO 1692 of color green for which shipments made by supplier number who residing Mumbai.

b) What is an index? What are the advantages and disadvantages of using index on a table? **[4]**

c) What is a trigger? How to create it? Discuss various types of triggers. **[5]**

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