Total No. of Questions : 8] **SEAT No. :**

PA-1486 **[Total No. of Pages : 3**

[5926]-105
T.E. (Electronics / E & TC)
DATABASE MANAGEMENT
(2019 Pattern) (Semester - I) (304183)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, and Q.7 or Q.8.***
2) ***Figures to the right indicate full marks.***
3) ***Assume suitable data, if necessary.***

Q1) a) Consider the following database:
Student (Roll_no; Name, motrine_no; Address)
Subject (Sub_Code, Sub_name)
Marks (Roll_no; Sub_code, marks)
Write following queries in SQL. **[6]**

i) Average marks of each student along with Roll_no. of student.
ii) Find how many students have failed in the subject "DBM".

b) Write the syntax for following SQL commands. **[5]**

i) Create Table
ii) Alter Table
iii) Drop Table
iv) DELETE
v) UPDATE

c) Explain following terms with examples. **[6]**

i) Procedure
ii) Function

OR

Q2) a) With the help of block diagram, describe PL/SQL block structure. **[5]**

b) What are the different types of joins in SQL? Explain any one join with example. **[6]**

c) Explain the following operations with suitable queries. **[6]**

i) Set operations (any two)
ii) Aggregate functions (any two)

P.T.O.

Q3) a) Explain commit and Roll back operations of transaction. **[6]**

b) Explain how beadlock occurs? Which are the actions required for the deadlock recovery process? **[6]**

c) Define the following terms. **[5]**

i) Concurrency

ii) Timestamp

iii) Timestamp ordering

iv) Schedule

v) Transaction

OR

Q4) a) What are ACID properties of a transaction? **[6]**

b) Identify the following schedule is view serializable or not. Justify your answer. **[5]**

T_1	T_2	T_3
R(X)		
	W(X)	
		W(Z)
W(Y)		
W(X)		
		W(X)

c) Explain the transaction states with state diagram. **[6]**

Q5) a) Explain client server architecture with suitable database application. **[6]**

b) Draw two tier architecture and describe its advantages. **[6]**

c) Draw and explain memony structure of instance in oracle architecture. **[6]**

OR

Q6) a) Describe speed up attribute in parallel database architecture. **[6]**

b) List the parallel database architectures and explain shaved disk architecutre. **[6]**

c) Explain the intra query parallelism query evaluation technique. **[6]**

Q7) a) List and explain advantages and disadvantages of distributed databases. **[6]**

b) Compare homogeneous and heterogeneous distributed database. **[6]**

c) Draw and explain client-server architecutre for DDBMS. **[6]**

OR

Q8) a) Write the types of data fragmentation and explain horizontal fragmentation with one example. **[6]**

b) Explain the distributed database system failure modes (any two). **[6]**

c) Explain two phase commit protocol in distributed database. **[6]**

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