Total No. of Questions : 8]

SEAT No. :

PC-1759

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T.E. (Electronics / E & TC)

DATABASE MANAGEMENT

(2019 Pattern) (Semester - I) (304183)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Make Suitable assumptions wherever necessary.***
5) ***Use of Calculator is allowed.***

Q1) a) Explain with example : Aggregate functions (any 3), String functions (any 3) **[6]**

b) Explain any two transaction control commands. **[6]**

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

OR

Q2) a) With the help of block diagram, describe PL / SQL block structure. **[6]**

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

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

c) Explain what do you mean by DDL, DML and DCL in SQL. **[6]**

Q3) a) What is database transaction management? Write transaction states. **[6]**

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

c) What are ACID properties of a transaction? **[5]**

OR

Q4) a) Explain need and role of Time-Stamp based protocols in database management control. **[6]**

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b) Explain serializability with respect to conflict and view. **[6]**

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

i) Concurrency

ii) Timestamp

iii) Timestamp ordering

iv) Schedule

v) Transaction.

Q5) a) Explain the terms speed up and scale up in parallel database. **[6]**

b) What are different parallel database architectures? Explain its advantages. **[6]**

c) Draw and explain memory structure of instance in oracle architecture. **[5]**

OR

Q6) a) Write short note on centralized database system. **[6]**

b) Explain the intra query parallelism query evaluation technique with one example. **[6]**

c) Explain Virtualization in multi core processor. **[5]**

Q7) a) Draw and explain client-server architecture for DDBMS. **[6]**

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

c) Explain data replication in distributed data storage. **[6]**

OR

Q8) a) Explain the distributed database system failure modes (any two). **[6]**

b) Discuss in detail about single -lock-manager approach in concurrency control. **[6]**

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