

Total No. of Questions : 8]

SEAT No. :

**P298**

**[6003]-377**

[Total No. of Pages : 2

**T.E. (Electronics/E&T.C.)**

**DATABASE MANAGEMENT**

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

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8 from following questions.
- 2) Neat diagram must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

- Q1)** a) Explain with example: Aggregate functions, Builtin functions. [6]  
b) Describe role of Primary key, Foreign key, Unique key. [6]  
c) Explain any two transaction control commands. [6]

OR

- Q2)** a) Explain with example, sub-queries and correlated subqueries. [6]  
b) Explain use of group by, having, order by, join and its types. [6]  
c) How stored procedures, stored functions, database triggers work in SQL, explain with example. [6]

- Q3)** a) What is database transaction management? List properties of transaction. [5]  
b) In database transaction management. What is the role of schedule? Explain serial schedule in details. [6]  
c) In serializability, explain conflict and view with example. [6]

OR

- Q4)** a) Explain with example, recoverable and non recoverable schedules. [6]  
b) What is need of concurrency control in database management? Explain locking methods and deadlock handling. [6]  
c) Explain need and role of Time-Stamp based protocols in database management control. [5]

**P.T.O.**

- Q5)** a) Explain in detail an architecture of a parallel database. [5]  
b) Explain multiuser DBMS architecture. [6]  
c) With schematic diagram, explain the architecture of Oracle Database. [6]

OR

- Q6)** a) What are performance parameters in parallel database. [5]  
b) Explain in detail, types of architectures of parallel databases. [6]  
c) Explain virtualization in multicore processor. [6]

- Q7)** a) What is necessity of distributed database management system? What are advantages of distributed database. [6]  
b) What are types of distributed database? Explain with schematic diagram, architecture of distributed databases. [6]  
c) With suitable example, explain design of distributed database. [6]

OR

- Q8)** a) Explain how data is stored in distributed database. [6]  
b) What is distributed transaction? Explain failure modes of distributed transaction. [6]  
c) Explain in short: Commit protocols and concurrency control in distributed database. [6]

