

Total No. of Questions : 8]

SEAT No. :

PE-4284

[Total No. of Pages : 2

[6582]-56

**S.E. (Information Technology)**  
**DATABASE MANAGEMENT SYSTEM**  
**(2019 Pattern) (Semester - IV) (214452)**

*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.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn whenever necessary.*
- 4) *Make suitable assumption whenever necessary.*

- Q1)** a) Explain SQL data types in detail with example. [6]  
b) Explain with suitable example the concept of view and indexes. [6]  
c) Write a short note on i) Triggers ii) Stored Procedure. [6]

OR

- Q2)** a) Explain Set Comparison in detail with example. [6]  
b) What is ODBC? Explain with suitable example. [6]  
c) Compare Embedded SQL and Dynamic SQL in detail. [6]

- Q3)** a) Explain how to measure query cost in detail. [6]  
b) What is the purpose of Normalization? [5]  
c) Explain the difference between 3NF and BCNF. [6]

OR

- Q4)** a) Explain different types of Functional Dependency in detail. [6]  
b) Explain transformation of relational expression in detail. [5]  
c) Explain selection and Join operation in detail with example. [6]

*P.T.O.*

- Q5)** a) Explain database architecture in detail with diagram. [6]  
b) Explain in detail non recoverable and recoverable schedule. [6]  
c) Explain concept of checkpoints with its purpose. [6]

OR

- Q6)** a) Explain Deferred and immediate crash recovery method in detail. [6]  
b) Explain Shadow paging method in detail. [6]  
c) Explain in detail Multi-version Concurrency Control. [6]

- Q7)** a) Explain 2 Tier and 3 Tier Architecture in detail with example. [6]  
b) Write short note on: 1. Mobile database 2. Internet databases. [6]  
c) Explain distributed database architecture in detail. [5]

OR

- Q8)** a) Explain architecture of parallel database in detail. [6]  
b) Write short note on: 1. SQLite database 2. XML databases. [6]  
c) Write short notes on NOSQL database. [5]

