

Total No. of Questions : 12]

SEAT No. :

**P2342**

**[4758] - 79**

[Total No. of Pages :3

**T.E. (Computer)**  
**DATABASE MANAGEMENT SYSTEMS**  
**( 2008 Pattern) (Semester - I) (310241)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) Answers to the two sections should be written in separate answer books.*
- 2) Answer any three questions from each section.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right side indicate full marks.*
- 5) Assume suitable data, if necessary.*

**SECTION - I**

**Q1) a)** Write short note on Multi-User DBMS Architecture and System Catalogs. **[9]**

b) Explain Data abstraction with different levels of abstractions. **[9]**

OR

**Q2) a)** Explain Structure of D.B.M.S. **[10]**

b) Explain extended ER features. Specialization, Generalization and Aggregation. **[6]**

c) What is physical and logical data independence? **[2]**

**Q3) a)** Explain concept of Stored Procedures, Cursors, Triggers, assertions. **[8]**

b) Write short note DDL, DML and DCL. **[8]**

OR

**Q4) a)** What is need of embedded SQL? List various embedded commands. **[6]**

**P.T.O.**

- b) Explain Views with suitable example. [4]
- c) Explain any four operations in Relational Algebra with example. [6]

- Q5)** a) What is normalization? Explain First Normal form and Second Normal Form with Example. [8]
- b) Write short note on Transitive dependency and Third Normal Form 3NF. [8]

OR

- Q6)** a) What is decomposition? Explain lossless decomposition and dependency preserving decomposition with suitable example. [8]
- b) What are the different Anomalies in databases? [6]
- c) What is Canonical Form? [2]

## **SECTION - II**

- Q7)** a) What is ordered indices? Explain the types of Ordered indices with suitable example. [8]
- b) Write short note on estimation of cost of query. [4]
- c) What is role of relational algebra in query processing? [4]

OR

- Q8)** a) What are the steps involved in query processing. Explain each in brief with diagram. [8]
- b) Explain static Hashing and Dynamic Hashing with suitable examples. [8]
- Q9)** a) Explain Two Phase Locking Protocol and rigorous Two Phase Locking Protocol. [6]

- b) How concurrency control is achieved using Graph Based protocol? Explain in detail with Example. [6]
- c) What are the properties of transaction? Explain each in short. [4]

OR

- Q10)**a) Write Short note on Log-Based Recovery: Deferred and Immediate.[6]
- b) Explain recoverable and cascade less schedules. [4]
  - c) Explain deadlock prevention and Recovery. [6]

- Q11)**a) Explain OO Data Models. [4]
- b) Draw Architecture of Data warehouse and explain in detail. [8]
  - c) Write Short Note on 1. Pointer Swizzling techniques 2. Persistent Programming Languages. [6]

OR

- Q12)**a) What is data mining? Explain in short association rule mining. [8]
- b) Write Short Note on distributed databases? [6]
  - c) What are the different methods for horizontal Partitioning of data in distributed Databases? [4]

