

Roll No. ....

Total Pages : 2

**BT-3/D-18**

**33001**

**DATABASE MANAGEMENT SYSTEM**

Paper : CSE-201 (E)

Time : Three Hours]

[Maximum Marks : 100

**Note :** Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

### UNIT-I

1. What is E-R Diagram? Explain the working of an E-R model with the help of an example of Hospital system taking your own assumptions.
2. How does 3-tier architecture differ from 2-tier architecture of DBMS. Explain in detail.

### UNIT-II

3. Define Relational Algebra. By taking suitable example explain select, join, projection and division operation.
4. What are Hierarchical and Network database models? Discuss the applications of database models to database design.

### UNIT-III

5. What is Normalization? Explain by giving definition and with examples 1NF, 2NF, 3NF & BCNF. Discuss how can you decompose a 3NF relation to BCNF by taking suitable example.

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6. What is Relational Calculus? Give an overview of introduction to 4GL. Also explain SQL & QBE.

### UNIT-IV

7. Explain each of the following :
  - (a) Lock Based Protocols.
  - (b) Recovery Techniques.
8. What are Distributed databases? Explain various security issues in a DBMS.

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