Roll No. .....

Total Pages : 02

BT-3/D-19

33001

DATABASE MANAGEMENT SYSTEM

CSE-201E

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 are properties of Relational Model ? Explain integrity constraints in details.

2. Explain the following in detail :
   (a) Mapping Cardinalities in E-R Model.
   (b) Total and Partial Participation
   (c) Composite and Derived Attribute.

Unit II

3. What are Hierarchical and Network Database Models ? Discuss applications of database models to database design.

4. Explain the following by examples :

(a) Index Sequential Files

(b) Hashing

(c) B-Tree Index Files

(d) Direct Files.

Unit III

5. (a) Define Normalization and its various forms. How does BCNF differ from 3 NF.

(b) What are prime and non-prime attribute in a relation ? Discuss their significance in Normalization process.

6. What is Relational Algebra ? Discuss Query Language-SQL and QBE ?

Unit IV

7. (a) Discuss the Atomicity, Durability and Consistency Preservation Properties of a database transaction.

(b) Describe the basic techniques to implement database recovery in a DBMS.

8. Explain the following :

(a) Time Stamping

(b) 2PL Protocol.