7E 4171

B.Tech. VII Semester (Main/Back) Examination - 2014
Electrical Engg.
7EE1 Data Management System
(Common with EX)

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 24

Instructions to Candidates:

*Attempt any **five** questions, selecting **one** question from each unit. All questions carry **equal** marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.)*

Unit - I

1. a) Differentiate between a file system and a database system   (6)
    b) Draw and explain the architecture of DBMS.   (8)
    c) Explain weak and strong entity in brief   (2)

OR

1. a) What are E-R diagrams? Explain various kinds of symbols that are used in ER diagram.   (6)
    b) Write short notes on :-
        i) Specialization
        ii) Generalization   (5×2)

Unit - II

2. a) Explain the difference between logical and physical data independence.   (4)
    b) Define relational Algebra? Explain the following Operations with respect to relational Algebra :-
        i) Natural Join
        ii) Project operation
        iii) Select operation   (8)
    c) What are primitive and composite data types ? Explain.   (4)

OR

2. What is normalization? Why it is required for database design Discuss all the normal forms using suitable examples. Compare 4NF with BCNF.   (16)

Unit - III

3. What are stored procedure? Differentiate between stored procedure and triggers. How stored procedure and triggers are created. Explain using a suitable example. **(16)**

OR

3. a) Write short notes on :-
   i) Embedded SQL
   ii) JDBC. **(4×2)**
   b) What are DDL and DML? Differentiate between DDL and DML. **(6)**
   c) Is there an easier way to retrieve all the columns of a single table without having to mention all the attributes of the table. **(2)**

Unit - IV

4. a) What do you mean by Indexed file organization. Write down its advantages & disadvantages **(8)**
   b) Explain dense and sparse index. When is it preferable to use a dense index rather than a sparse index. **(8)**

OR

4. a) What is hashing ? Differentiate between closed and open hashing. Discuss the advantages of each technique in database applications. **(8)**
   b) Write short notes on :-
   i) Inverted structure
   ii) Sequential file organization. **(4×2)**

Unit - V

5. a) What do you mean by deadlock in database? How it is deleted. Explain using a suitable example. **(8)**
   b) What is meant by database locking ? Explain the two phase locking Protocol. **(8)**

OR

5. a) What do you mean by transaction. What are the various states of a transaction. Write down various desirable properties of a transaction. **(12)**
   b) Explain serial schedule. **(4)**