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7E 4171

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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)**

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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)**

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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)**

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