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B.Tech. IV Semester (Main/Back) Examination 2012

Ceramic Engineering

4CRE6.1 Elective Data Base Management System

Common with EC & AI

Time : 3 Hours **Maximum Marks : 80**

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt Overall **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 may suitably be assumed and stated clearly. Units of quantities used/ calculated must be stated clearly.)*

Unit - I

1. a) Define and explain different level of data abstraction? **(8)**

   b) Why would you choose a database system instead of simply storing data in operating system file? Justify your answer? **(8)**

OR

   a) What is data dictionary? Explain in brief. **(8)**

   b) Describe different database schemas in detail and also explain the difference between physical and logical data independence. **(8)**

Unit - II

2. a) What is the difference between relational Algebra and relational calculus? Explain. **(8)**

   b) Define the operations given below: **(2x4)**

      i. Projection

      ii. Union

      iii. Intersection

      iv. Selection

OR

a) Differentiate between candidate key, primary key and superkey. **(8)**

b) Differentiate between Composite and Multi-valued attributes. **(8)**

Unit - III

3. a) Differentiate between Dynamic SQL and Embedded SQL? **(8)**

b) Describe Triggers. Why do we need Triggers? **(8)**

OR

a) Write short notes on the followings:

i) DDL and DML.

ii) Integrity Constraints. **(2x4)**

b) Describe views. What are their importance in DBMS? **(8)**

Unit - IV

4. a) What is a sequential file organisation? What are its advantages and disadvantages? Explain with example. **(8)**

b) Explain the various methods to represent implement variable - length records in a file system. **(8)**

OR

a) What is an index? Explain the basic kinds of indices for a file system in detail. **(8)**

b) Explain B^+ - Tree file organisation in brief. **(8)**

Unit - V

5. a) List the ACID properties of transaction. Explain the usefulness of each. **(8)**

b) What is serializability? Explain an efficient algorithm to determine conflict serializability. **(8)**

OR

a) Explain Two-phase locking protocol in detail. **(8)**

b) Describe one method for deadlock detection. What is Log based recovery. **(8)**
