7E4242

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B.Tech. (Sem.VII) (Main) Examination- Dec. 2012
Information Technology
7IT6.1 Advance Database Management Systems (Common to CS & IT)

Time : 3 Hours

Total 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) What information is stored in the stored in the system catalog of a DBMS and how is it used in query optimization? (10)

   (b) What are query evaluation plans and how are they represented ? (6)

OR

1. (a) What is the role of relational algebra equivalences in query optimization ? (6)

   (b) How is the cost of a plan estimated ? (4)

   (c) What is the goal of query optimization ? Is it to find the best plan ? (6)

UNIT - II

2. (a) Compare ORDBMS and OODBMS with various database system. (8)

   (b) Discuss how a DBMS exploits encapusulation in implementing support for ADT's ? (8)

OR

2. (a) Describe two objects that are deep equal but not shallow equal. (8)

   (b) What is late binding of methods ? Give an example that illustrates how collection hierarchies facilitate quering.(8)

UNIT - III

3. (a) How are data flow concept used to parallelize existing sequential code ? (8)

   (b) How can we evaluate and optimize queries over distributed data ? (8)

OR

3. (a) Define the term scale-up and speed up. (4)

   (b) What are the similarities and differences between parallel and distributed database management system ? (8)

   (c) What are the alternative architectures for parallel database system? (4)

UNIT - IV

4. (a) What is the role of the database administrator with respect to security ? (8)

   (b) Discuss the DoD security levels for database system. (8)

OR

4. (a) Explains the term security policy and security mechanism and how they are related ? (8)

   (b) Describe AES and its relationship to DES. (8)

UNIT - V

5. (a) What is the POST GRES user interface ? Explain its architecture. (8)

   (b) Explain transaction management with various key notation. (8)

OR

5. Write short notes on :

   (i) Extensibility

   (ii) XML Application

   (iii) Storage and Indexing

   (iv) Quering and Transformation. (16)