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Roll No .....

MCSE-203

M.E./M.Tech., II Semester

Examination, June 2017

Advance Concept in Data Bases

Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Justify "Any relation which is in BCNF is in 3NF but converse is not true". 7

   b) Differentiate between Relational DBMS, Object-relational DBMS and Object-oriented DBMS. Also, give one application for each of these DBMS. 7

2. a) Differentiate between Query processing and Query optimization. Also, explain Query trees and Query graphs using an example for each. 7

   b) What is the difference between persistent and transient object? How persistent handled in typical Object oriented database system. 7

3. a) How do optimistic concurrency control techniques differ from other concurrency control techniques. Why they are also called validation or certification techniques? Discuss the typical phases of an optimistic concurrency control method. 7

   b) What are web-databases? How databases are accessed through web? 7

4. a) What do you mean by the term "database recovery"? Explain any two recovery techniques. 7

   b) Define the following: 7

      i) Pipelining and Materialization

      ii) Relational calculus

5. a) Give the architecture of a data mining system. What are the essential components of a data mining system? Describe the purpose of each of these components. 7

   b) What do you mean by data warehouse modeling? Explain data warehouse schemas for multidimensional data models? 7

6. a) Differentiate between star and snowflake schemas. 7

   b) What are the various types of inner join operators? Why theta join is required? Explain by giving proper example. 7

7. a) What are the advantages of DDBMS over centralized DBMS? Why is data replication and fragmentation performed in DDBMS? What typical units of data are replicated? 7

   b) State two integrity rules. Explain the anomalies that occur when two integrity rules are violated? 7

8. Write short notes on the following: (any four) 14

   a) Data Reduction

   b) Fact Constellations

   c) Distributed Data Marts

   d) Client-Server Database

   e) Query Simplifier

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