M.Tech. (CE) 3rd Sem. Exam. – January, 2012
Advanced DBMS (MTCE-703A)

Time: 3 Hours   Max. Marks:100

NOTE: *Attempt any FIVE questions.*

1.a) With suitable example, explain difference between Natural Join, Semi Join and Cartesian product operations in relational algebra.   08

b) What is Normalization? What is its need? Define & discuss 3NF and BCNF using suitable examples.   12

2.a) Does the data dictionary have any role to play in query processing? Describe with the help of an SQL query requiring Join operation, Selection and Projection.   10

b) What do you mean by query processing? Explain various steps of query processing with the help of a diagram.   10

3.a) Explain how the recovery in Centralized DBMS is performed in detail.   10

b) Why is recovery needed in databases? How log based recovery is different from check point based recovery? Explain.   10

4.a) What do you mean by object oriented database? What are its features? How is it different from relational databases?   12

b) Explain object query language in detail.   08

5.a) What do you mean by DDBMS? What are its advantages & disadvantages?   10

b) Explain various data replication techniques of DDBMS by giving their merits & demerits.   10

6.a) What is difference between database and dataware house? Explain by example.   10

b) Explain various components of data warehouse in detail. 10

7.a) Compare & contrast object relational databases and object oriented databases.   10

b) Explain features of enhanced SQL of object relational databases with help of examples.   10

8. What is concurrency control? Explain multiversion concurrency control technique. How timestamp based concurrency control is different from locking schemes? Explain.   20

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