Jan. 2010

Subject Code—3188-X

M.B.A. EXAMINATION

(Fourth Semester)

(Re-appear)

ITM-421

RDBMS AND SQL CONCEPTS

Time : 3 Hours   *Maximum Marks :* 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. (a) What is the difference between logical data independence and physical data independence ? Explain.

   (b) What is the difference between procedural and non-procedural DMLs ?

2. (a) Define Boyce/Codd normal form (BCNF). How does it differ from 3NF ? Why is it considered a stronger form of 3NF ?

(b) Define and explain fourth normal form. Why is it useful ?

3. Discuss the different algorithms for implementing each of the following relational operators and the circumstances under which each algorithm can be used :

SELECT, JOIN, PROJECT, UNION, INTER-SECT, SET DIFFERENCE.

4. What do you understand by concurrency ? Describe in detail various concurrency control techniques.

5. (a) Give example using SQL for the retrieval using exist.

(b) Give example using SQL for the retrieval using union.

6. (a) Explain the purpose of check points mechanism. How often should check points be performed ? How does the frequency of check points affect system performance when no failure occurs ?

(b) What is recovery ? Explain various recovery techniques.

7. (a) Describe the following :

(i) Candidate Key

(ii) Foreign key

(iii) Unique Key

(iv) Trival and Non-Trival Functional Dependency

(b) What is generalization and aggregation in E-R model ? Explain with examples.

8. Write short notes on the following :

(a) Client-server architecture

(b) Database security

(c) DDBMS.