Relational Data base Management Systems-II
(EC-302, Dec-2007)

Note: Section A is compulsory. Attempt any four questions from Section-B and any two from Section-C.

Section-A
1. a) What are representational data models? Explain.
   b) Differentiate between record-at-a-time and set-at-a-time DMLs.
   c) What do you mean by relation schema and relation instance?
   d) Differentiate between dense and sparse indexing.
   e) What are the contents of system catalog?
   f) Discuss two advantages and disadvantages of shadow paging.
   g) SQL server is based on which architecture? Explain it.
   h) Illustrate the function of PMON and RECO processes.
   i) How does data security issues are handled in T-SQL?
   j) What does trigger restriction specify?

Section-B
2. List the basic features of embedded SQL.
3. Differentiate between Automation stored procedures and replication stored procedures.
4. What are the four operations that must be performed for successful working of cursor?
5. Illustrate the statement used to create a table. Explain it with all possible options.
6. What is advantage of using indexes? Write the statements to create and delete an index?

Section-C
7. (a) List the types of integrity constraints used in Transact-SQL.
   (b) Write about control structures.
8. (a) Write the queries for the following database
   EMPLOYEE ANME (FNAME, LNAME, SSN SALARY DNO)
   WORKS_ON (ESSN, PNO, HOURS)
   PROJECTS (PNAME, PNUMBER, PLOCATION, DNUM)
   For each project retrieve the project number, project name and the number of employees who work on project. Solve this query in T-SQL and relational algebra.
   (b) What are the advantages and disadvantages of triggers?
9. Discuss the problems of deadlock and starvation, and different approaches to deal with these problems.