Roll No. | | | | | | | | | | | | | **Total No. of Pages: 02**

Total No. of Questions: 09

M.Sc. (IT) (2015 Onwards) (Sem. – 2)

RELATIONAL DATABASE MANAGEMENT SYSTEM

M Code: 72729

Subject Code: MSIT-202

Paper ID: [72729]

Time: 3 Hrs. **Max. Marks: 60**

INSTRUCTIONS TO CANDIDATES:

1. **SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks and students have to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**

SECTION A

1. Consider the database of a department store as follows:

   a) Each employee is represented. The data about an employee are his employee number, name, address, and the department he works for.

   b) Each department is represented. The data about departments are its name, employees, manager, and items sold

   c) Each item sold is represented. The data about items are its name, manufacturer, price, model and internal item number

   d) Each manufacturer is represented. The data about a manufacturer are its name, address, item supplied, and price

   Give an E-R diagram for this database. How the E-R diagram can be reduced to tables.

2. Explain the following type of keys with example

   a) Primary Key b) Secondary Key c) Candidate key d) Super key

SECTION B

3. A bank has a client-server database for account withdrawal. What are the concurrency related problems that may occur? How can these problems be resolved? Make your own assumptions about the system

4. What are the first three normalization in relational data base model.

SECTION C

5. What are the features of distributed data base transaction. Explain with example

6. Describe the following terms in the context of RDBMS/DDBMS. Give examples wherever needed.

   a) Contents of Data Dictionary
   b) Integrity and Trigger
   c) Distributed Queries
   d) Two Phase Commit Protocol
   e) ODBC and JDBC Standards

SECTION D

7. What are the steps in the design of a Decision support system data base. Explain with the help of an example.

8. What is Online analytical processing. Explain the architecture of OLAP

SECTION E

9. a) What do you understand by Entity and Entity set. Explain.
   b) What are the structures of projection? Explain.
   c) What is the difference between SPSD and MPSD?
   d) Give example using SQL for the retrieval using exist in client server computing
   e) What is the difference between rollback and recovery in a data base?
   f) What is client server computing?
   g) What is data integrity?
   h) What is a deadlock?
   i) What is two phase locking?
   j) What are the heterogeneous DBMS?