Reg. No. : .....

Name : .....

Fifth Semester B.Tech. Degree Examination, November 2013
(2008 Scheme)
08.503 – DATA BASE DESIGN (R)

Time: 3 Hours Max. Marks : 100

PART – A

Answer **all**.

1. Explain one to one, one to many and many to many relationships with examples.
2. What is data independence ?
3. Define entity sets, keys, primary key and a super key.
4. Explain the attribute types used in the E-R model.
5. Explain the natural join operation in relation to algebra with an example.
6. Explain Trivial Functional dependency.
7. What are properties of a transaction ?
8. What is a serializable schedule ?
9. What do you mean by cascading rollback ?
10. What is strict two phase locking scheme ? **(10×4=40 Marks)**

PART – B

Module – I

11. a) Using standard notations draw an entity relationship diagram to describe the student database of your college. Include any entities and attributes relevant to the system. Clearly mention the assumptions you have made. **10**

    b) Explain the 3 schema architecture and describe how it contributes to data independence. **10**

OR

12. a) Explain in detail the extended E-R features. **10**

    b) Discuss features of sequential, random and indexed sequential files. **10**

P.T.O.

Module – II

13. a) Explain in detail about select, project and set difference operations in relational algebra with examples. 10

    b) Consider the following database Customer (cname, cstreet, ccity), Account (acno, balance), Depositor (cname, acno), Loan (lno, amount), Borrower (lno, cname), Branch (bname, bcity) Express the following in SQL

    1) Find the customers who live in Trivandrum
    2) Find all customers who have a loan but no account
    3) Find the largest account balance in the bank
    4) Find the names of all branches with customers who have an account and who lives in Trivandrum. 10

OR

14. a) What do you mean by normalization ? Explain in detail with suitable examples. 10

    b) What do you mean by an attribute ? Explain the algorithm to find the closure of an attribute. 10

Module – III

15. a) Explain about conflict serializability. 10

    b) Explain any concurrency control scheme. 10

OR

16. a) Compare the deferred and immediate modification versions of the log based recovery schemes. 10

    b) Write short notes on transaction management issues. 10