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Reg. No. : .....

Name : .....

Fifth Semester B.Tech. Degree Examination, November 2014
(2008 Scheme)
08.503 : DATA BASE DESIGN (R)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **all**.

1. List some of the database system applications.
2. What are the responsibilities of DBA ?
3. Define weak entity sets and strong entity sets.
4. What are the attribute types used in the E-R model ?
5. Explain the Cartesian product operation in relation algebra with an example.
6. Discuss about tuple relational calculus .
7. Explain conflict serializability.
8. What are database trigger ?
9. What are the different transaction states ?
10. What are ACID properties of a transaction ? **(10×4=40 Marks)**

PART – B

Module – I

11. a) Draw an entity relationship diagram for a library management systems involving books, publishers, borrowers, suppliers, authors. Include any entities and attributes relevant to the system. State the assumptions you have made. **10**

    b) What is data model ? Explain various categories of data models with examples. **10**

OR

12. a) Explain in detail the database system structure. **10**

    b) Explain the 3 schema architecture. **10**

P.T.O.

Module – II

13. a) Explain in detail about relational algebra operations. 10

    b) Consider the following databases Employee (empno, empname, age), Works (empno, deptno), Department (deptno, deptname, deptaddress). For each of the following queries give an expression in relational algebra.

    i) Find the name of employees who works in a department in Chennai.

    ii) Find the name of the employees who works in all departments.

    iii) Find the average age of employees working in each department. 10

OR

14. a) State and explain four forms of normalization with suitable examples. 10

    b) What do you mean by canonical cover ? Explain the algorithm to find canonical cover. 10

Module – III

15. a) Explain about view serializability. 10

    b) Explain two phase locking protocol in detail. 10

OR

16. a) Write about database recovery. 10

    b) Write short notes on time stamping methods. 10