VR10

CS 5004

III/IV B.Tech. DEGREE EXAMINATION, NOVEMBER, 2015

Fifth Semester

COMPUTER SCIENCE AND ENGINEERING

DATABASE MANAGEMENT SYSTEMS

Time: 3hours ***Max. Marks: 70***

Part-A is compulsory

Answer One Question from each Unit of Part-B

PART-A

10 x 1 = 10M

a. What is a data model? List the types of data model used.

b. Define instance and schema.

c. What is a relationship type?

d. Define the terms

i) DDL ii) DML

e. What is foreign key?

f. List the table modification commands in SQL.

g. What is view?

h. Define lock.

i. Define deadlock.

j. What is system log?

PART-B

4 x 15 = 60M

UNIT-I

1. a. Explain the distinction among the terms primary key, candidate key and super key. **5M**

   b. Write about the different types of attributes. **7M**

   c. Write briefly about triggers. **3M**

(or)

2. a. Explain the architecture of Database System. **8M**

   b. What are the Functions of Database Administrator? Also, explain the main activities of different types of database end users. **7M**

UNIT-II

3. a. Distinguish between procedural and non-procedural DMLs. **6M**

   b. Explain about Tuple, Relational Calculus and Domain Relational Calculus. **9M**

(or)

4. a. Explain the various operations in Relational algebra with example. **10M**

   b. Explain the features of E-R Models. **5M**

UNIT-III

5. a. What is a relation schema? Explain various informal design guidelines for Relation Schemas. **8M**

   b. Describe the concept of transitive dependency and explain how this concept is used to define 3NF? **7M**

(or)

6. a. Explain the ACID Proprieties of a transaction. **8M**

   b. What are Multivalued dependencies? Discuss about normalization using multivalued dependencies. **7M**

UNIT-IV

7. a. Explain 3 main properties of ARIES Algorithm. **7M**

   b. Describe each of the following locking protocols

      i) Two-phase lock

      ii) Conservative two phase lock **8M**

(or)

8. a. Explain Log based recovery approach. **8M**

   b. What are the recovery-related steps involved during normal execution? **7M**

* * *