Code: 15A05301

R15

B.Tech II Year I Semester (R15) Regular Examinations November/December 2016

DATABASE MANAGEMENT SYSTEMS

(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) What is weak entity? Give an Example.
(b) Define Primary key and Candidate key.
(c) Define Tuple Relational Calculus.
(d) List out different types of join operations.
(e) What are the anomalies in bad design of database?
(f) Define multivalued functional dependency.
(g) Why is concurrency control needed?
(h) Define states of transaction.
(i) Why B+ tree efficient than B tree?
(j) What are the problems with static Hashing?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Construct an Entity Relationship (ER) Model for Company Database and Convert it into normalized relations.

OR

3 Define Database and DBMS. Explain Advantages of using a DBMS over File Processing system.

UNIT – II

4 What is Relational Algebra? Explain in detail Relational Algebra Operations with syntax.

OR

5 Explain in detail DDL (Data Definition Language), DML (Data Manipulation Language) and DCL (Data Control Language) commands in SQL with suitable examples.

UNIT – III

6 What is Normalization? Explain in detail 1NF, 2NF, 3NF, BCNF with example.

OR

7 Explain in detail Lossless join decomposition and dependency preserving decomposition with suitable example.

UNIT – IV

8 What is serializability? Explain in detail its types.

OR

9 Discuss various concurrency control protocols.

UNIT – V

10 What is an index? What are the different types of indexes? Discuss important properties of an index that affect the efficiency of search.

OR

11 Distinguish between Extendible and Linear Hashing with example.

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