

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)

- 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.
