

Subject Code: G0503/R13

M. Tech –I Semester Regular Examinations, March, 2014

DATA BASE MANAGEMENT SYSTEMS

(Common to CS and CS&E)

Time: 3 Hours

Max Marks: 60

Answer any FIVE questions

All questions carry EQUAL marks

1. a) Explain the three schema architecture with suitable figure. How the scheme is defined at various levels? Explain.
b) Explain the two types of Data independence.
2. What are the various guidelines required to guide the design process of Entity Relationship concepts. Explain with an example.
3. Describe the six clauses in the syntax of an SQL retrieval query. Show what type of constructs can be specified in each of the six clauses. Which of the six clauses are required and which are optional?
4. a) Define insertion, deletion, and modifications anomalies. Why they are considered bad? Illustrate with examples.
b) List the informal guidelines for a relational scheme design. What happens when the guidelines are violated?
5. What is Normalization? Define, and explain various normal forms with examples.
6. a) What is a lock? Describe the types of locks used in concurrency control.
b) What are the rules followed when shared/exclusive locking scheme is used?
7. Explain the following terms: Transaction, granularity, concurrency, dirty read, serializability, and ACID properties of Transactions.
8. a) Discuss the merits and demerits of providing secondary indexes, and primary indexes.
b) Discuss the different conditions of modification of a B-tree and a B+ tree when an element is inserted.
