Register No: ………………………….

M.C.A DEGREE EXAMINATIONS: JUNE 2011

Second Semester

MASTER OF COMPUTER APPLICATIONS

MCA508: Database Management Systems

Time: Three Hours   **Maximum Marks: 100**

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1. Write any two disadvantage of file system

2. Define Schema.

3. How to modify the given database?

4. State the rule for second normal form.

5. What is the difference between dense index and sparse index?

6. How RAID level 2 is better then RAID level 1.

7. What are the factors involved in estimating the query cost?

8. Define query optimization.

9. Let Ti be a transaction that transfers Rs 50 from account A to account B. How to define this transaction?

10. Differentiate shared lock with exclusive lock.

PART B (5 x 16 = 80 Marks)

11. a) Explain the Database System Structure with block diagram.

(OR)

b) List out and explain the various concepts involved in E-R model. Construct the E-R diagram for an online book store.

12. a) (i) Explain the three basic set operations of SQL query operations with an example.   (6)

(ii) Elaborate on the concepts of Embedded SQL and Dynamic SQL with examples.   (10)

(OR)

b) (i) What are triggers? Explain the mechanism of operation of the triggers with relevant examples.   (12)

(ii) What are the pitfalls in relational database design?   (4)

13. a) What is RAID? Explain the different levels of RAID adopted in performance improvement of disk operation.

(OR)

b) (i) Explain the B+ tree based file organization method.   (10)

(ii) Discuss about dynamic hashing.   (6)

14. a) (i) Explain the steps in query processing sequence.   (8)

(ii) Explain the external sort merge algorithm with example   (8)

(OR)

b)(i) Explain the evaluation of expressions using materialization and pipelining approaches.

(12)

(ii) Discuss about the heuristic optimization method.   (4)

15. a) Explain the various deadlock handling mechanism with examples.

(OR)

b) Explain the log based recovery and shadow paging techniques with examples.

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