Register Number ……………………

M.C.A. DEGREE EXAMINATIONS: JUNE 2010

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. Give any four applications for DBMS.

2. Compare weak entity set with strong entity set.

3. What is the purpose of dynamic SQL?

4. Define Boyce-codd Normal form.

5. Define Mean Time to Failure.

6. What is the difference between static hashing and dynamic hashing?

7. What is materialized evaluation?

8. What is the advantage of heuristic optimization?

9. What is thomas' write rule?

10.What is dual paging problem?

PART B (5 x 16 = 80 Marks)

11. (a) (i) Explain the Database System Structure with block diagram.   (12)

    (ii) What are the duties for DBA?   (4)

(OR)

  (b) List out and explain the various symbols involved in E-R model. Construct the E-R

     diagram for an online book store.

12. (a) (i) Explain the Embedded SQL concept with example.   (8)

    (ii) List out and explain the various types set operations and aggregate functions.   (8)

(OR)

(b) (i) Explain how the security and authorization are handled in SQL. (8)

(ii) Describe the concepts of First, Second and Third Normal forms. (8)

13. (a) What is RAID? Explain the various levels of RAID.

(OR)

(b) Explain how the B-tree and B+ tree are used in indexing and data storage.

14. (a) (i) List out and explain any four join operations involved in query processing. (12)

(ii) Write short note on pipelining in query processing. (4)

(OR)

(b) (i) List any eight equivalence rules with brief explanation. (12)

(ii) Write short note on choice of evaluation plan. (4)

15. (a) (i) Draw the transaction state. What are ACID properties in transaction management? (8)

(ii) Explain the concepts of two-phase locking. (8)

(OR)

(b) (i) What is deadlock? How to recover the deadlock situation in concurrent situation? (8)

(ii) Explain the method of shadow paging in recovery systems. (8)

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