Register Number: ……..

MCA DEGREE EXAMINATIONS: APRIL/MAY 2014

(Regulation 2009)

Second Semester

MASTER OF COMPUTER APPLICATIONS

MCA508 : Database Management Systems

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

Answer all the Questions

PART A (10 x 2 = 10 Marks)

1. Write the advantages of database systems over file systems.
2. Define primary key.
3. What is the use of commit and rollback statement?
4. What is functional dependency?
5. Define 'seek time'.
6. Write the difference between dense index and sparse index.
7. Define query optimization.
8. Write the properties of hash function.
9. Mention the two types of errors that may cause a transaction to fail.
10. What are the uses of having check points in a database transaction?

PART B (5 x 16 = 80 Marks)

11. a) (i) Discuss the database structure in detail. (12)

(ii) Write short notes on views of data. (4)

(OR)

b) (i) What is an E-R Diagram? Explain how to draw an E-R diagram. (8)

(ii) Draw an E-R diagram for online movie ticket reservation system. (8)

12. a) Briefly explain various types of joins with suitable examples.

(OR)

b) What is database normalization? Explain the 1^{st}, 2^{nd}, 3^{rd} and BCNF with examples.

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

(OR)

b) What is a B+ Tree? Explain the various operations of B+ trees in detail.

14. a) Explain the algorithms for computing the any four types of join relations and analyze their respective costs.

(OR)

b) Briefly explain the transformation of relational expressions.

15. a) Explain in detail how deadlocks are handled during database transaction.

(OR)

b) Write short note on following:

(i) Time stamp based protocols (8)

(ii) Remote Backup systems (8)

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