

Roll No.

Exam Code : J-19

Subject Code—0408

M.C.A. (Second Year) EXAMINATION

(5 Years Integrated Course)

(Batch 2009 Onwards)

DATABASE MANAGEMENT SYSTEM

MCA-202

Time : 3 Hours

Maximum Marks : 70

Section A

Note : Attempt any *Seven* questions. **7×5=35**

1. What is Database State ? What are the various states of a database ?
2. Define the term relation with example.
3. Explain integrity constraints. Describe their importance.

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4. What is SQL ? List major categories of SQL commands.
5. Define trivial and non-trivial functional dependency.
6. Describe recursive partitioning.
7. What is the difference between lock based technique and time-stamp based technique ?
8. What are two types of log entry maintained during an update operation of a transaction ?
9. What is a transaction ? List various properties of a transaction.
10. What is Mixed Fragmentation ?

Section B

Note : Attempt all the questions.

11. Define the term data model. Explain different types of data models.

Or

Explain various constraints in network model.

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12. What is the role of join operation in relational algebra ? Explain equi-join, natural join and outer join with example.

Or

What is functional dependency ? Explain its types. When are two sets of functional dependencies said to be equivalent ? **12**

13. What is Timestamp ? Discuss basic timestamp ordering ? How is it different from strict timestamp ordering protocol ?

Or

Discuss the semi-join method for executing an equi-join of two files located at different sites. Under what conditions is an equi-join strategy efficient ? **11**