

Subject Code -J-4445/599

M.C.A. EXAMINATION

May 1999

(Second Semester)

DATA BASE MANAGEMENT SYSTEMS

MCA-202

Time: 3 Hours

Maximum Marks: 100

Instruction: Attempt any Five questions in all. All questions carry equal marks.

- 1. What is a Data Base? What are the objectives that should be kept in mind while designing a data base? Can data redundancies be completely eliminated when the data base approach is used. Why or why not?

Define the following terms with suitable examples:

- (a) Data independence
- (b) Entity and Attributes
- (c) Relationship
- (d) External and Conceptual View.

A database is to contain information about students in a University. Sketch a hierarchical and a relational structure for this data base to highlight the distinction

(97)

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4. (a) What is a Key ? What are the different keys used in a relation ?
- (b) Distinguish between a schema and a subschema. Draw a schema for a data base system of your choice.
5. Define 1NF, 2NF, 3NF, BCNF and Domain Key Normal forms with the help of suitable examples.
6. What is relational algebra ? Explain the relational operations : selection, projection, join, division.
7. (a) Discuss with the help of a diagram the various layers of control needed for data base security.
- (b) In what way users of a data base differ from one another. Who all are the other persons involved in a data base environment ?
8. (a) What is a Distributed DBMS ? How can you relate it with a networking environment ?
- (b) For what purpose are Hashed and Indexed Files used ?

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