

11. DATABASE CONCEPTS

Learning Objectives

At the completion of this chapter, the student will be able to know

- ❖ The concept of a database and relational database.
- ❖ Different components of the database.
- ❖ Types of database models.
- ❖ Types of relationship.
- ❖ The concepts of relational algebra.

Important Notes and Points

- A database is an organized collection of data, generally stored and accessed electronically from a computer system.
- Data are raw facts stored in a computer. A data may contain any character, text, word or a number.
- A data model describes how the data can be represented and accessed from a software after complete implementation.
- In Hierarchical model, data is represented as a simple tree like structure form. This model represents a one-to-many relationship ie parent-child relationship.
- A relation key is an attribute which uniquely identifies a particular tuple (row in a relation (table)).

- Network database model is an extended form of hierarchical data model.
- Object model stores the data in the form of objects, attributes and methods, classes and Inheritance.
- Database Administrator or DBA is the one who manages the complete database management system.
- Relational Algebra is a procedural query language used to query the database tables using SQL.
- The relational model was invented by Edgar Frank Codd (Father of Relational DataBase) as a general model of data, and subsequently promoted by Chris Date and Hugh Darwen among others.