

## UNIT: 1 \* "DATABASE MANAGEMENT SYSTEM,"

### \* "INTRODUCTION TO DATABASE MANAGEMENT SYSTEM" \*

#### \* "Def" of DBMS \*

A DBMS is a collection of programs that enables users to create and maintain a database. DBMS is a general purpose application spw system that facilitates the process of defining, constructing, manipulating and storing database among various users & application.

- (i) Defining a Database means specifying the Datatype, structure & constraints of the data to be stored.
- (ii) Constructing the Database is the process of storing the on some storage media which is controlled by DBMS.
- (iii) Manipulating a Database include function to query the Database, retrieve specific data, update the database & so on.
- (iv) Sharing a Database means allowing multiple users & programs to access the Database simultaneously.

#### \* Advantage & Disadvantage of DBMS \*

##### (a) Restricted unauthorized access \*

When multiple users share large database then a DBMS should provide some security & authorization mechanism. It can be



login password or certain privileges to d/s categories of users.

(b) Providing storage structure for efficient query processing →  $\frac{1}{2}$

DBMS must provide specialized data structure to speed-up search & retrieval of the desired records. Fields like indexes are used for these purpose. A good DBMS must be capable of executing query efficiently.

(c) { Providing storage structure for efficient query processing →  $\frac{1}{2}$

(c) Providing persistent storage for data & records \*

A DBMS is used to store data & records persistently (permanent). It means the data & records are kept in there original form & will not get corrupted modification.

(d) "Enforcing integrity constraints" →  $\frac{1}{2}$

A DBMS should provide capability for defining & enforcing certain integrity & constraints. A simple type of integrity constraints involves specifying the data type for each data item.

(e) "Controlling Redundancy" →  $\frac{1}{2}$



DBMS is use to control & eliminate redundancy. If it occurs in a table.

\* NOTE \*

Redundancy means storage the same data and records multiple times.

[4] "providing multiple user interfaces" →

DBMS is used by many types of users with varying levels of technical knowledge. Therefore, a DBMS should provide a variety of user interface. Both forms style interfaces & menu driven interfaces are commonly used known as GUI.

→ "Limitations of DBMS" →

Despite of many advantages DBMS has some limitations with respect to traditional file processing systems. These are as follows:

- (a) High initial investment in H/w, s/w & training.
- (b) Overhead for providing security, concurrency control, recovery & integrity constraints.
- (c) A DBMS is not able to operate when two or more tables are required to be used as a single table.

\* D/f Data models \*