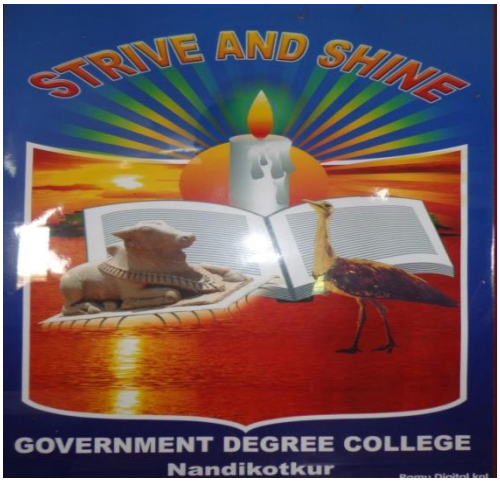
Government Degree College, Nandikotkur



1.1.1: The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

TEACHING SYNOPSIS 2021-22

TEACHING NOTES ACADEMIC YEAR

Subject :- DBMS

Academic Year : 2021-22

Name Of The Topic UNIT-I Overview of DBMS

Course : III Year B.Com (C.A)

Hours Required	06 Hours
Learing Objectives	1. Understand the basics of databases 2. Understand the evolution of dbms 3. Understand various database existing
Previous Knowledge To Be Reminded	Knowledge about data and information.

Topic Synopsis : DataBase Management Systems

DBMS is used for overcoming the limitations of traditional file systems.

DataBase :- It is a collection of related data and data is collection of raw facts that can produce info? DBMS stores data, so that it can be retrieved, manipulated and produce information.

Objectives of DBMS :- The main objectives of the DBMS are data availability, data integrity, data security and data independence.

Evolution of DBMS :- The development of DBMS is as follows (1) Flat Files (1970s - 1990s) :- flat files database is a database that stores information in a single file.

(2) Hierarchical (1970s - 1990s) :- Contains data in hierarchical

Teaching Aids Used	Black Board
Additional Inputs taught	Shown Existing filesystems in Computer
References cited	www.tutorialpoint/DBMS www.janatpoint.com/database
Student Activity Planned After The Teaching	Listening and Understand the concepts and refer the sites of dbms softwares

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(3) Network databases (1970s – 1990s) – This data base allows multiple parent and child relation with graph structure.

(4) Relational databases (1980s – till now) –: It allows the entities to be related through common attribute.

(5) Object-Oriented database (1990s - till now):- This db in which data or information is in the form of object.

Classification of DBMS

Classification based on ~~types~~ number of users

(1) Single user (2) Multiple Users

Single User:- This type can support only one user at a time.

ex:- personal computer.

Multiple users:- Data is integrated and shared between 2/more users.

ex:- library systems,

classification based on sites over the network

(1) Centralized db system:- The database is stored at single site that is used by several other systems too.

(2) Distributed db system:- The dbms software are distributed over several sites but connected to the single computer.

Similarly the computers with dbms classified based on (1) Usage of the databases

(2) Based on the access of the data

TEACHING NOTES ACADEMIC YEAR

Subject :— DBMS

Academic Year : 2021 - 22

Name Of The Topic UNIT-2 File Based Systems Course : III Year B.Com (

Hours Required	06 Hours
Learing Objectives	1. Understand File systems Conventional 2. Understand use of Data Base Systems 3. Understand architecture of DBMS
Previous Knowledge To Be Reminded	Knowledge of Data, Information and Data Bases

Topic Synopsis : File Based Systems

The systems that are used to organise and maintain data file are known as file Based data systems.

The Functionalities :—

→ helps in basic data management
→ data stored in file based system
→ should allow concurrent access of data
→ data is uniformly structured.

→ Advantages of file Based systems are discussed
→ Disadvantages of file Based Systems are discussed
→ DataBase system schematic diagram. with DB system as server and Application User as client.

Teaching Aids Used	Black Board
Additional Inputs taught	Files and its storage shown in computer.
References cited	www.databasepoint.com
Student Activity Planned After The Teaching	Refer various files in computer

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Components of DBMS

Query processor :- a major component that transform queries into a series of instruction

Database Manager :- accepts queries, examines the external and conceptual schema-

File Manager :- manipulates the underlying storage files and manages the allocation of storage space.

Database Vendors and Products :-

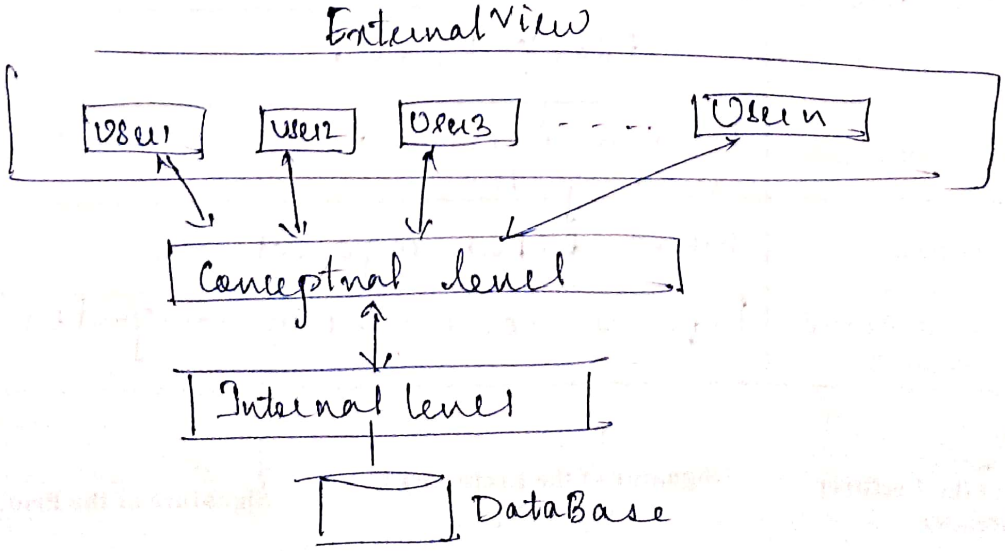
DBMS software controls the Organization, storage, retrieval, security and integrity of data in a database.

There are list of DB tools

→ MySQL
→ Oracle RDBMS
→ Microsoft SQL Server.
→ Mango DB
→ SQL Developer and many more.

All the business and personal data we use on a daily basis in a database management system or a storage array in the world.

fig:- Three level architecture of DBMS.



TEACHING NOTES ACADEMIC YEAR

Subject :- DBMS

Academic Year : 2021-22

Name Of The Topic : UNIT-3 Entity Relationship Model

Course : III B.Com (CA)

Hours Required	06 Hours.
Learing Objectives	1. Understand the ER model 2. Understand the relationships of entities 3. Understand the relational Integeity
Previous Knowledge To Be Reminded	Knowledge about the data need to store in the database.

Topic Synopsis : Entity Relationship Model

ER Model stands for an Entity Rel model. It is a high level data model.

→ The model is used to define the data elements and relationship for a specified system.

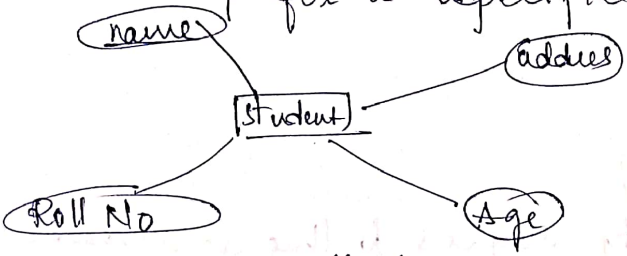
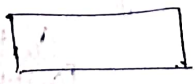


fig:- example of Student ER model.

In ER model, various diagrams are used to represent the entities & real in the DBMS.

① Entity ⟹  ⟹ Rectangle symbol

Teaching Aids Used	BlackBoard
Additional Inputs taught	Real time entities are explained
References cited	www.database point.com
Student Activity Planned After The Teaching	Draw the entity diagrams

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(2) ⟶ Attributes ⟹ Oval shape

(3) ⟶ ⟶ Link ⟹ Arrowmark

(4) ⟶ relationship with degress

⟹ relationship ⟹ Diamond shape

Classification of Entities

An Entity set is a set of same type of entities. An entity refers to any object having - either physical existance such as a particular person, office, house or car.

Entity set is classified as 2 sets

(1) Strong Entity set

(2) Weak Entity set

Relational Integrity

Relational integrity refers to the relationship between the tables.

→ Each table in a data base must have have a primary key, foreign key, super key and the Candidate key.

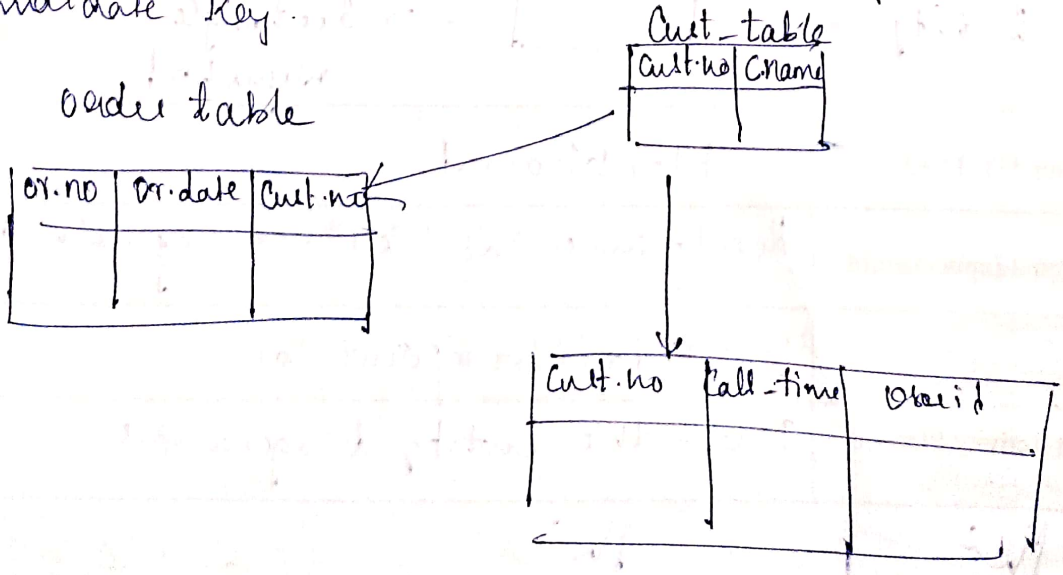

fig:- Referential Integrity demonstrated in the database

TEACHING NOTES ACADEMIC YEAR

Subject:- DBMS

Academic Year : 2021 – 22

Name Of The Topic UNIT-4 Structured Query Lang **Course** : III B.Com (CA)

Hours Required	06 Hours
Learing Objectives	1. Understand the SQL Commands 2. Understand functions & operations of SQL 3. Understand the Data Manipulation Lang.
Previous Knowledge To Be Reminded	Knowledge of Data Base represented in the form of tables/relation.

Topic Synopsis : Structured Query Language (SQL)

SQL is used for storing and managing data in RDBMS. It enables a user to create, read, update and delete relational databases & tables.

→ All the RDBMS like MySQL, Informix, Oracle, MS Access and SQL server use SQL as their standard db lang.

→ SQL Allows users to query the db in the number of ways.

→ characteristics of SQL are explained

→ Advantages of SQL are explained

SQL Datatype :- used to define the values that a column can contain.

Teaching Aids Used	Black Board
Additional Inputs taught	SQL Queries are executed & shown in mySQL software
References cited	www.dbpoint.com
Student Activity Planned After The Teaching	Execute the Query Commands

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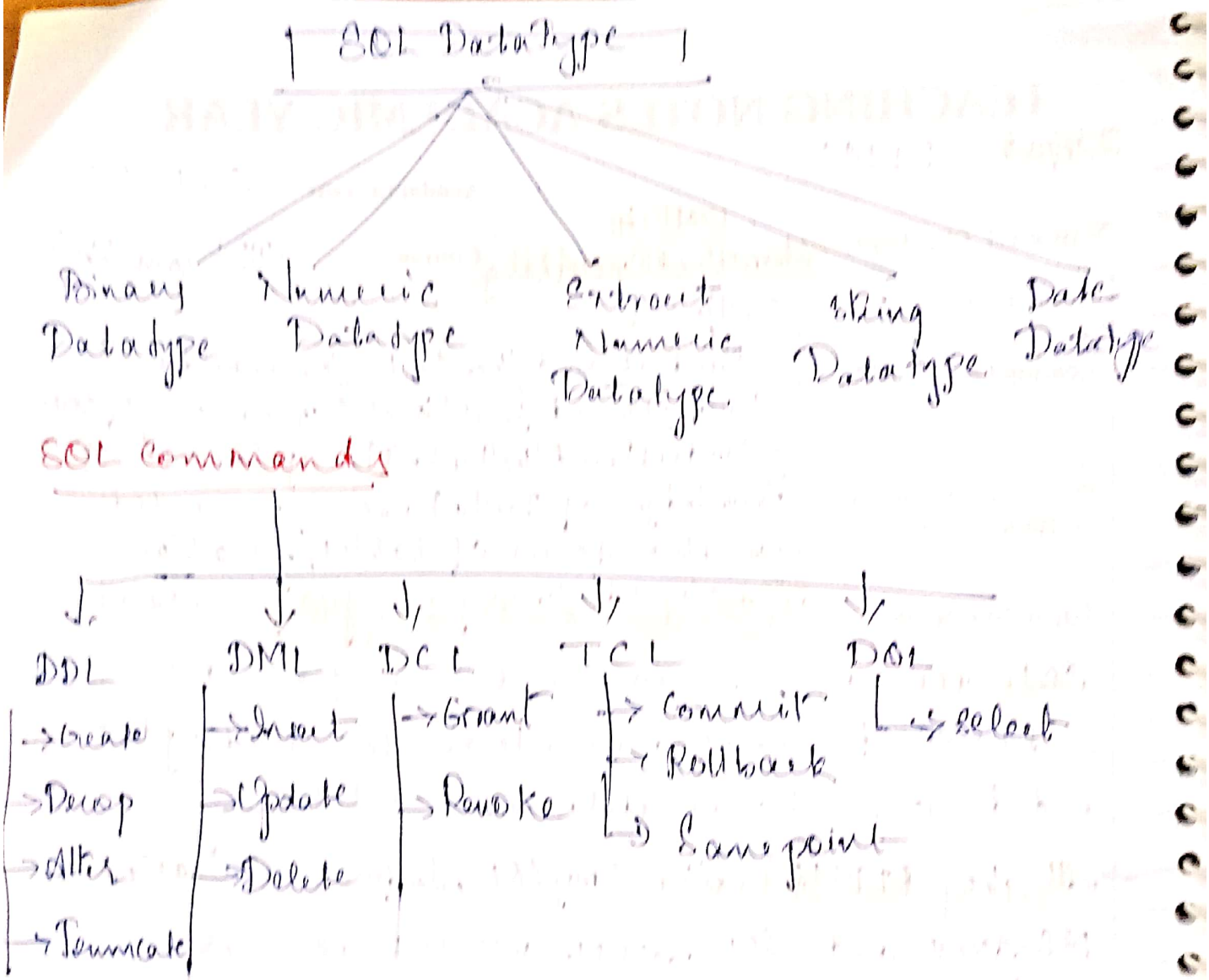
SQL Datatype
Binary Datatype
Numeric Datatype
Exact Numeric Datatype
String Datatype
Date Datatype
SQL Commands
DDL
DML
DCL
TCL
DQL
Create
Drop
Alter
Truncate
Insert
Update
Delete
Grant
Revoke
Commit
Rollback
Savepoint
Select