

Computerised Accounting notes (Based on Focus area 2020-21)

Chapter -1

Overview of Computerised Accounting System

Computerised Accounting System

Computerised Accounting System is a system used by businesses for recording and manipulating financial data with the help of computers and various accounting software.

Computerised accounting system refers to the process of accounting transaction through the use of hardware and software in order to produce accounting records and reports.

Eg: Ledgers, Trial balance, profit and Loss account, Balance sheet

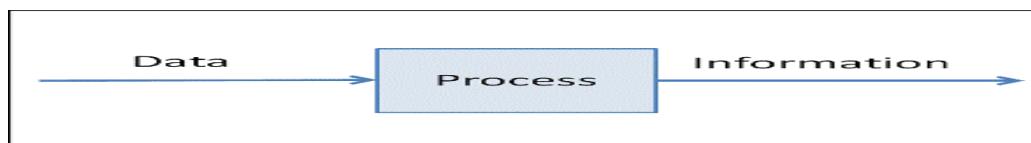
Components of CAS (Five pillars of CAS)

Computerised accounting system has five components. They are,

- a) Procedure – A logical step by step sequence of activities to perform a task.
- b) Data - The raw facts and figures used by a computer
- c) People - users of computerized accounting system. (human ware)
- d) Hardware - Physical parts and network of the computer
- e) Software - All programs which puts hardware into action
(a set of programmes to do a work)

Data and Information

Data is raw, unorganized facts that need to be processed. Data can be something simple and useless until it is organized. When data is processed, organized, structured, it becomes information



Features of Computerised Accounting System (CAS)

1. **Simple and Integrated** – CAS is designed to automate and Integrate the various business operations such purchase, production, sales, finance, marketing, etc.
2. **Transparency and Control** – CAS provides greater transparency for day to day business operations
3. **Accuracy and Speed** – The accuracy of computer is very high. computer can process data millions of times faster than human beings.
4. **Scalability** –Computerised accounting software can be used for any size and type of organisations.
5. **Reliability** - It makes sure that the generalized financial information are accurate, controlled and secured.

Grouping of accounts

Grouping of accounts means classifying the ledger accounts and organizing them under major heads of accounts. The accounts are classified into five ie. Assets, Liabilities, income, expenses and capital

Grouping of accounts in a Computerised Accounting System is based on accounting equation.

ASSETS = LIABILITIES + CAPITAL

The capital may increase by profit and decrease by loss . Therefore accounting equation can be restated as follows.

$$\text{ASSETS} = \text{LIABILITIES} + \text{CAPITAL} + (\text{REVENUES} - \text{EXPENSES})$$

The accounts are classified into five groups as given below

ASSETS

- a. **Fixed Assets**
- b. **Land and Building**
- c. **Plant and Machinery**
- d. **Furniture and Fittings**
- e. **Vehicles**
- f. **Others**

Current Assets

- ❖ Cash
- ❖ Bank
- ❖ Debtors
- ❖ Stock
- ❖ Bills Receivables
- ❖ Loans and Advances (Assets)

LIABILITIES

Long term Liabilities

- ❖ Debentures
- ❖ Loans from Financial Institutions

Short term Liabilities

- ❖ Short term Loans
- ❖ Creditors
- ❖ Bills Payable
- ❖ Provisions

CAPITAL

- ❖ Share Capital

Reserves and Surplus

- ❖ Capital reserve
- ❖ General Reserve
- ❖ Balance of Profit and Loss Account

Income (Revenue)

- ❖ Sales
- ❖ Other Income

Expenses

- ❖ Raw materials consumed
- ❖ Manufacturing Expenses
- ❖ Wages
- ❖ Salaries
- Depreciation

Codification of Accounts

Code is an identification mark. Giving a number or alphabet or both to a particular account for identification is known as codification of accounts.. The codes so used shall be simple, understandable, concise .

Eg: 1 ASSETS

- 1.1 Fixed assets
 - 1.1.1 Land
 - 1.1.2 buildings
 - 1.1.3 Plant and Machinery
- 1.2 Current Assets
 - 1.2.1 cash
 - 1.2.2 bank
 - 1.2.3 Debtors
 - 1.2.4 Bills receivable
- 2. Liabilities
 - 2.1 Long term liabilities
 - 2.2 Current Liabilities
- 3. Capital

Types of Codes

I. Sequential Codes

In sequential code , numbers and/or letters are assigned in consecutive order. These codes are primarily applied to source documents such as invoices, cheques etc. This method of codification is simple, easy and concise

<u>Codes</u>	<u>Account</u>
AC001	excel company Limited
AC002	Goodwill Company Limited
AC003	Modern company Limited

II. Block Codes

In block code, a range of numbers is partitioned into a desired number of sub ranges and each sub range is allotted to a specific group.

Eg:

1001 -1999	Men's clothing
2001-2999	Women's Clothing
3001 -3999	Children's clothing

Sub blocks can be also be allotted inside a range of number

In case 1001 -1999 men's clothing mentioned above the sub codes can be allotted as

1001- 1099 - Half sleeve shirts

1100- 1199 – Full Sleeve shirts

1200-1299 - T shirts

III. Mnemonic Codes

A mnemonic code consists of alphabets or abbreviations as symbols to codify an Account.

E.g. Railway station codes PGT – Palakkad, TCR - Thrissur , SRR – shoranur etc.

Other examples: Sales journal –SJ, Cash Book -CB ,BOD – Bank Overdraft

Trivandrum – TVM, Delhi – DEL, Bangalore – BLR, Idukki – IDK

Methodology to develop coding structure

Let us examine how to develop a coding structure for each of the students coming under Higher Secondary education department. First of all we have to design a hierarchy of the school system and attributes of the students. It can be as follows

School Code - Year of Admission - Combination Code - Admission No

The coding for the students will be as follows based on the above consideration School Code 5 digits

Year of Admission	2 Digits
Combination Code	2 Digits
Admission No	4 Digits

Thus, if we allocate a 13 digit code to a student who is studying in the school 06003, who got admission in the year 2019 in the combination commerce (39) with Admission No.3456, the code will be as follows:

0600319393456

Merits of CAS

- Timely generation of desired format.
- Efficiency in record keeping
- Save time and money
- Confidentiality of data is maintained
- Automated document preparation
- Transparency and reliability
- Accurate and updated information

Demerits of CAS

- Danger of hawkers and stealing of data
- Data may be lost or corrupted due to power interruptions.
- Problems of technology
- Non availability of skilled personnel
- Huge training cost of employees
- Unprogrammed and unspecified reports that cannot be generated from the system.

Chapter-2 SPREADSHEET

Spreadsheet

A spread sheet application is a computer program that allows to record, calculate and compare numerical or financial data. A spreadsheet is a configuration of rows and columns. Horizontal vectors are rows and vertical vectors are columns.. A spreadsheet is also known as a worksheet. The commonly used spreadsheet software are LibreOffice Calc, Lotus 1-2-3, MS Excel and Quattro Pro.

Libre Office Calc

Libre office calc is a spread sheet application that we can use to calculate , analyse and manage data.. It is a Free and open source Software under the General Public Licence (GPL).

FILE FORMAT .Open Document Spread sheet (.ods)

Free and Open Source Software (FOSS)

Free and Open Source Software (FOSS) is computer software that is free and open source. That is, anyone is freely licensed to use, copy and change the software. The source code is openly shared so that people are voluntarily improve the design of the software..

Open LibreOffice Calc

Application → Office LibreOffice Calc

Features of LibreOfficeCalc/ Spread Sheet

1) Easy Calculations: In LibreOffice Calc there are lot of tools which help the user to perform

even complex calculations on different data across sheets with ease.

- 2) **what if calculations:** This let the user to predict what will happen if certain conditions change.
- 3) **Serve as Database:** A spread sheet also performs the function of a database. Even huge volumes of data can be organized, stored and filtered without much efforts.
- 4) **Arranging Data:** The data stored in LibreOffice calc can be organised or reorganised according to the needs of the user.
- 5) **Dynamic Charts:** Different types of charts are available in LibreOffice Calc, which cater to the various needs of the users.

Basic Components of a Spreadsheet/ Libre office calc

Workbook – A file in spread sheet is known as work book.A workbook is a collection of a number of work sheets.

Worksheet - A page in a workbook is called Worksheet which contains rows and columns. By default a workbook consists of one worksheet, **Sheet1**. We can add more sheets in a work book. (Maximum No. of work sheets in a work book - 256).

Active work sheet:

The work sheet which is available to the user for carrying out operations is called active work sheet. . Work sheet name will be shown in the '**sheet tab**' at the bottom left of the window.

Cell -

The intersection of rows and columns is called Cell. We can enter data in the active cell. An active cell is distinguished by the cell pointer (cursor),. The address of active cell is displayed in the **Name box**. The first cell of a worksheet is identified as **A1**.

Rows – A row is the range of cells that go horizontally in a worksheet. Rows are identified by numbers like 1, 2, 3. Maximum no of rows in a work sheet – 1048576

Columns – - A column is the range of cells that go vertically in a worksheet. Columns are identified by letters like A, B, C,D,.....AA,... Maximum no of columns – 1024 (A to AMJ).

Range: Range is a group or block of cells that are highlighted in a work sheet.. range is

specified by giving the address for the first cell in the range and last cell in the range. we can use colon (:) as the range operator.

Eg. B2: D10 represents the range starting from B2 to D10

Sheet tab

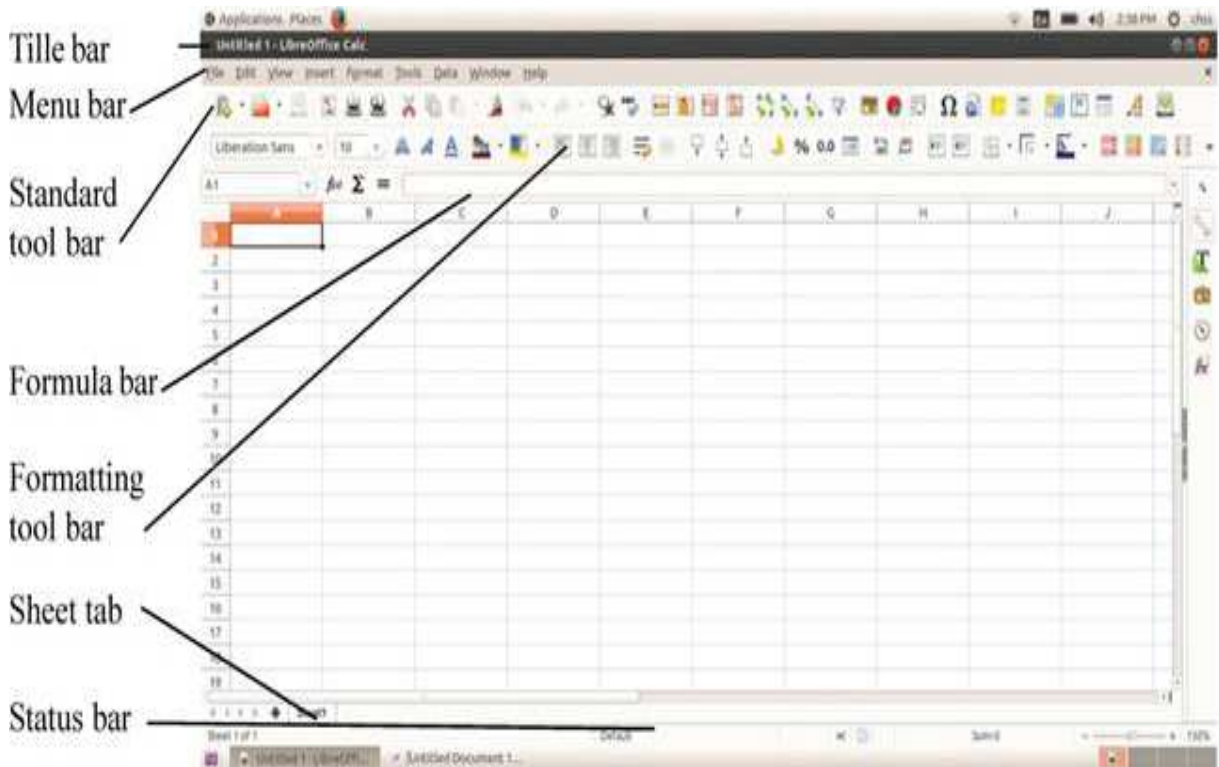
Sheet tab shows the sheets in a work book. Here the user can rename, move, delete and copy a work sheet

Ribbon

The horizontal tabs at the top with a number of related options are called Ribbon

Cell Address – It is the unique identification of each cell. It is a combination of column name and row number. Eg: A1, B5 etc.

10 th column 7 th row	J7
11 th row 4 rd column	D11
26 th column 10 th row	Z10
27 th column 5 th row	AA5



Spread sheet operations

Adding, Deleting and Renaming Worksheets

Open a worksheet

you can open a workbook by

Choosing '**New**' option or clicking the respective icon from the '**file menu**'
 An existing workbook can be opened by choosing 'open' option in the **File menu** or by clicking the icon on the **standard tool bar**

Save a worksheet

Worksheet can be save any of the following ways

- File → save
- Save icon on the standard tool bar can be used to save a file
- Use 'save as' option

Close worksheet

File → close

Quit Libre office Calc

File → exit Libreoffice calc

To add a new worksheet,

By default only one worksheet is available (sheet1).We can add additional worksheet any of the following ways

- a. Right click the mouse **at sheet tab** area and select '**insert sheet**' from the pop up menu
- b. Clicking **plus mark (+)** near the **sheet tab** you can insert as many sheets as you need.

To delete an existing sheet, right click on the **sheet tab** of the desired sheet and select '**Delete**' from the menu.

To Rename a worksheet: - By default Calc sheets are named as 'Sheet1', 'Sheet2, etc

To change the name of a worksheet right click on a sheet tab, select "**rename sheet**" and type in a new name followed by the Enter key.

Cell Reference – A cell coordinates in a formula are called cell references. A cell reference identifies the location of a cell or group of cells, which is also called **cell address**. In other words the cell address used in a formula is called cell references

• A cell reference may be relative, absolute and mixed.

Relative Cell Reference - Normally, when a formula or function from one cell is copied to another, the references given in the formula or function automatically changes to suit the new location. By default cell reference is relative.

For example in the cell C1, we have given a formula as '=A1+B1' to add values in A1 and B1. If we copy the formula to C2, the formula is converted as '=A2+B2 '. This type of reference is called Relative Reference.

Absolute Cell Reference -Unlike relative references, absolute references do not change when copied to another location. An absolute cell reference is used when we want a cell reference to stay fixed on a specific cell. For absolute referencing , you need to use the \$ (dollar) symbol as prefix before the column and row names in a formula.

Eg. \$A\$5

Mixed Cell Reference – It is a combination of relative and absolute cell references that holds either a row or column constant when the formula copied to another location.

E.g. The cell reference \$A1, makes the column A constant, but the row 1 changes according to the new location. In the same way the reference A\$1, makes the row constant, but the column reference relative.

Navigation through Libre office calc

Following navigation methods are available in libre office calc

- a. Using mouse
- b. Using cell reference
- c. Using the navigator

Types of work sheet data

1. Value
2. Label
3. Formula

A. value: value is a number that you can enter in a cell. Thus numerical data is called a value.. It also includes currency symbol, minus sign(-) plus sign(+) and comma. By default values are right aligned . calculations can be done using the values only. Eg ; age, salary etc.

B. Labels – In spreadsheet programs, the text data is called label. It includes alphabets and symbols. They are non numeric data but may include digits also. By default , labels are left aligned. Eg: Name of employee, sex, Designation etc.

C. Formula – Formulas are self-defined instructions entered in cell for performing calculations. Formula should begin with an '=' sign. After entering the formula in a cell, we can see only the result of the formula in the cell. To see the formula again, we have to double click on the cell or just click on the cell and see the formula bar on the top of the window.

Functions – A function is a pre-set formula which can be written directly into a cell, to display an outcome. Some examples are given below:

=Sum(A1:A10) - gives the total of the figures in the range
=Average(A1:A10) gives the average value of the figures in the range
=Max(A1:A10) gives the Maximum value from the figures in the range

Components of a function in spreadsheet

Initial Operator	Function Name	Arguments
=	Sum	(A1:A10)

Useful Functions in Libre office calc

1. Date and Time Function
2. Statistical Function
3. Logical function
4. Mathematical Function

I. Date and Time Function

This function is used to perform operations on date and times values.

- a. **Today ()** - This function gives the current computer system date in the cell.

Syntax: Today()

- b. **Now()** – It shows the current time along with date.

Syntax: Now()

- c. **YEAR:** year function returns the ' year' from the date or date value given in the brackets.

Syntax :- =YEAR(" date") or =YEAR(datevalue)

Eg: =YEAR("05/01/2021") returns 2021

- d. **MONTH():**-MONTH function returns the month of a given date as an integer

between 1 and 12

Syntax: - =MONTH('date") or =MONTH(datevalue)

=MONTH ("05/01/2021") returns 1

- e. **DAY()** :- DAY function returns Integer value of given date between 1 and 31

Syntax : =DAY("date")

=DAY("05/01/2021") returns 05

- f. **DATEVALUE(date text)** - This function converts the date into the corresponding value.

In LibreOffice Calc 30/12/1899 has been set as the default date with the date value as zero (0). Thus January 1, 2000 has the value as 36526.

Its syntax is **= Datevalue("date")**.

Eg:1 To find the date value of 16-05-2015, give the formula as
= Datevalue("16/05/2015"). The result will be 42140.

Eg2: = datevalue ("31/01/2017") displays display 42766

= YEAR(42766) returns 2017

=MONTH(42766) returns 1

- g. **DATE()** :- This function returns a date, when the year, month, and day parameters are given as integer separated by commas

Syntax : = Date (Year, Month, Day)

=Date (2021,01,05) it displays as 05/01/2021

2. Statistical Function

Statistical function operates on a set of data and gives summarized results. Important statistical functions are:AVERAGE(),MINIMUM(), MAXIMUM(),COUNT(),COUNTA(), COUNTBLANK(), COUNTIF()

- a. **COUNT ()** – This function returns the count of numeric value used in a given range of cells. Only numbers, dates and time are counted here.

Syntax =Count (Value1, Value2, Value3, Value 4)

= Count (Range)

Eg:1. =Count(25,39,45,38,12,35) Results 6

Eg 2 =Count(B1:B10) gives the count of cells in the range B1 to

B10, that contain numbers

- b. **COUNTA ()** – The COUNTA counts the total number of cells which contain any value. But empty cells are not counted.

Syntax: = COUNTA(Value1, value 2, value3...)

= COUNTA(Range of cells)

Eg: = COUNTA (A1:C10)

- c. **COUNTBLANK ()** – This function counts the number of cells which are empty in a range. It is an opposite function of COUNTA. A cell that contains formula is not treated as empty, even if its result is empty.

Syntax: =COUNTBLANK(Range of cells)

Eg: =COUNTBLANK(A1:C10)

- d. **COUNTIF ()** – This function is used to count the number of cells that meet a user defined criteria or condition.

Syntax: =COUNTIF (Range,Criteria)

Eg: =COUNTIF (A1:A10,">=100")

Statistical function at a glance

FUNCTION	COUNT
COUNT()	It counts the number of cells in range that contain numbers
COUNTA()	It counts the number of cells that contain any type of value including text.
COUNTBLANK()	It counts the number of empty cells in the given range.
COUNTIF()	It counts the number of cells within the given range that meet the given condition or criteria

3. Logical Functions

A logical functions are used to compare two values or statements.

. All logical functions returns either logical True or Logical False when their functions are evaluated.

Important logical operators are Equal to (=), Greater than (>), lessthan (<), Greater than or equal to (>=), Less than or equal to (<=) and Not equal to (<>).

The commonly used logical functions are IF, AND, and OR..

- a. **IF ()** –This function is used to test a condition. IF returns one value if the condition is true, and another value if the condition is false.

Syntax: =IF(logical_test, value_if true, value_if_false)

Logical test = The condition that is determined to be true or false Value if true = If the condition is true, this value will be returned Value if false = If the condition is false, this value will be returned

Eg: if (c2>=18, "PASSED", "FAILED")

Here if the value given in C2 cell is greater than or equal to 18, the function gives the result "PASSED", otherwise returns the results "FAILED".

b. **Nested IF ()** : In nested IF, more IF functions are used to check different conditions at the same time. Number of nested IF conditions allowed in a single nested if statement is 64.

syntax =IF(Test 1,Then Value 1,IF(Test 2,Then Value 2,IF(.)))

=IF(B2>=90,"A+",IF(B2>=80,"A",IF(B2>=70,"B+",IF(B2>=60,"B",IF(B2>=50,"C+",IF(B2>=40,"C",IF(B2>=30,"D+","D"))))))))

c. **AND ()** : AND function is used to determine whether the output will be TRUE or FALSE. It checks more than one condition at the same time and returns TRUE if all the conditions are satisfied. Otherwise it returns FALSE.

syntax: =AND(Condition 1, Condition 2.....Condition 255)

Syntax	Description	Result
=AND(True,True,True)	If all arguments True	TRUE
=AND(True,False,False)	If any argument False	FALSE
=AND(5<9,15>13,23>20)	If all arguments True	TRUE
=AND(5>9,15>13,23>20)	If any argument False	FALSE
=AND (2+2=5, 5+3=8)	One argument is False	FALSE
=AND(2+2=5, 4+3=8)	All arguments are False	FALSE
=IF(AND(B2="Male",C2>=18,D2<=55), "Selected", "Not Selected")	If all three conditions satisfied- (selected) If any one of the conditions not satisfied (Not selected)	TRUE FALSE

**male, 18 years and 55 kg*

d. **OR ()** –OR function is used to compare two values or statements.If any of the argument is true, it return the result True and if all the arguments are wrong, it returns the result as False.

Syntax: =OR(logical test 1, logical test 2, logical test 255)

Syntax	Description	Results
=OR(6>9,15>13,22<20)	If at least one	TRUE

	argument is true	
=OR(6>9, 15<13, 22<20)	All arguments are False	FALSE
=IF(OR(B2="Male",C2>=18,D2<=55),"Selected","Not Selected")	IF any one arguments true- 'selected' otherwise 'not selected'	TRUE

**male, 18 years and 55 kg*

The difference between OR and AND is that OR will return 'TRUE' if atleast one argument is correct and 'FALSE' if all arguments are wrong. But in 'AND' all the arguments must be correct for giving 'TRUE' value.

4. Mathematical Function

- a. **SUM()** – This function is used to get the sum of given numbers, cells or range of cells

Syntax =SUM(cell1, Cell2, Cell3,)
 =SUM(Range)
 =SUM(Range Name)

Eg: 1. =Sum(100,200,400) 2. =Sum(A1,A2,A3)
 3. =Sum(A1:A3)
 4.. If the range is named as "Totalvalue", then =SUM(Totalvalue)

- b. **SUMIF** – It returns the sum of cells as per a given criteria. It only sums its values when a particular condition or criteria is met.

Syntax: =SUMIF(Range, Criteria, Sum range)
 Range – Range of cells to evaluate.
 Criteria – It is the conditions to be evaluated.
 Sum range – Actual range of cells to add.

Eg:1 Total salary of employees whose name is started with "J" is calculated by

=SUMIF(A2:A10, "J", B2:B10)*

- c. **ROUND()** – This function rounds a number to a specified number of digits following normal rounding rules, i.e.; round down if the decimal portion is < 5, and round up if

the decimal portion is ≥ 5 .

Syntax : = Round(Number, count)

Number = Number to round to specified number of digits

Count= The number of digits to which we want to round the number.

Eg: =Round(250.5673,2) The result will be 250.57

Num_digits	-3	-2	-1	0	1	2	3
Rounds to	Nearest 1000	Nearest 100	Nearest 10	Nearest 1	1 Decimal	2 Decimal	3 Decimal
Examples	12795.285	1875.81	1414.654	1528.654	332.654	2185.9214	115.1479
Result	13000	1900	1410	1529	332.7	2185.92	115.148

SYNTAX	DESCRIPTION	RESULT
=ROUND(45431.6572, 3)	Rounds 45431.6572 to 3 decimal place	45431.657
=ROUND(45431.6572,2)	Rounds 45431.6572 to 2 decimal place	45431.66
=ROUND(45431.6222,1)	Rounds 45431.6222 to 1 decimal place	45431.6
=ROUND(45431.2572,0)	Rounds 45431.2572 to 0 decimal place	45431
=ROUND(45431.6572,-1)	Rounds 45431.6572 to nearest 10	45430
=ROUND(45431.6572,-2)	Rounds 45431.6572 to nearest 100	45400
=ROUND(45431.6572,-3)	Rounds 45431.6572 to nearest 1000	45000

d. **ROUNDUP()** – This function always round a number to upward, without considering the value next to the rounding digit.

Syntax : Roundup(number, count)

- Eg:*
1. =Roundup(185.462,2) results in 185.47
 2. =Roundup(185.462,0) results in 186
 3. =Roundup(11430,-3) results in 12000

SYNTAX	DESCRIPTION	RESULT
=ROUNDUP(45431.6579, 3)	Rounds 45431.6579 up to 3 decimal place	45431.658

=ROUNDUP(45431.6572,2)	Rounds 45431.6572 upto 2 decimal place	45431.66
=ROUNDUP(45431.6222,1)	Rounds 45431.6222 up to 1 decimal place	45431.7
=ROUNDUP(45431.2572,0)	Rounds 45431.2572 up to 0 decimal place	45432
=ROUNDUP(45431.6572,-1)	Rounds 45431.6572 up to next 10	45440
=ROUNDUP(45431.6572,-2)	Rounds 45431.6572 up to next 100	45500
=ROUNDUP(45431.6572,-3)	Rounds 45431.6572 up to next 1000	46000

e. **ROUNDDOWN()** – This function always round a number to downward, without considering the value next to the rounding digit.

Syntax =rounddown (number, count)

- Eg: 1. =Rounddown(85.462,2) results in 85.46
 2. =Rounddown(85.462,0) results in 85
 3. =Rounddown(1430,-3) results in 1000

SYNTAX	DESCRIPTION	RESULT
=ROUNDDOWN(45431.6579, 3)	Rounds 45431.6579 down to 3 decimal place	45431.657
=ROUNDDOWN(45431.6572,2)	Rounds 45431.6572 down to 2 decimal place	45431.65
=ROUNDDOWN(45431.6222,1)	Rounds 45431.6222 down to 1 decimal place	45431.6
=ROUNDDOWN(45431.2572,0)	Rounds 45431.2572 down to 0 decimal place	45431
=ROUNDDOWN(45431.6572,-1)	Rounds 45431.6572 down to next 10	45430
=ROUNDDOWN(45431.6572,-2)	Rounds 45431.6572 down to next 100	45400
=ROUNDDOWN(45431.6572,-3)	Rounds 45431.6572 down to next 1000	45000

Chapter 3

USE OF SPREADSHEET IN BUSINESS APPLICATIONS

Spreadsheet can be used for a number of purposes in business, some of them are Payroll Accounting, Asset Management and Loan Repayment Schedule.

I. Payroll Accounting

Payroll is a statement or schedule showing various components and various deductions of salary of all employees in a business organization. Payroll accounting involves all aspects of paying compensation and benefits to employees.

Components of Payroll

1. **Basic Pay (BP):** It is the pay in the pay scale . It is the fixed amount paid to the employees by their employees based on their work.. Many other components are computed based on this amount.
2. **Grade Pay (GP):** It is the pay to be added to Basic Pay according to the designation/ category of the employee.
3. **Dearness Pay (DP):** It is the portion of Dearness Allowance which has been declared and deemed to have been merged with Basic Pay.**e (DA):** It is the compensation for reduction in the purchasing power of money due to price rise. It is granted by Govt. periodically as a percentage of Basic Pay + Dearness Pay.
4. **House Rent Allowance (HRA):** It is an amount paid to facilitate employee in acquiring rental accommodation.
5. **Transport Allowance (TA / TRA) :** Transport allowance granted to employee for the purpose of travelling between place of duty and residence.
6. **Any other Earnings (AOE):** It includes Education Allowance, Medical Allowance, Washing Allowance etc.

Deductions :-

1. **Professional Tax (PT):** It is the tax levied by the state on the income earned by way of profession, trade or employment.. Normally it is collected by Local self-Government Institutions
2. **Provident Fund (PF):** It is a statutory deduction as a part of social security. It is deducted as certain percentage of Basic Pay + Dearness pay
3. **Tax Deductions at Source (TDS):** IA statutory deduction made on a monthly basis towards income tax liability of an employee.
4. **Recovery of Loan Instalment (LOAN):** Deduction towards loan provided by the employer to the employee such as PF loan, Housing Loan, Vehicle loan etc.
5. **other Deductions :** Any other deductions made towards 'Advance against Salary', 'Festival Advance' etc.

GROSS PAY =Basic Pay + Grade Pay + Da + HRA + TA + other allowances

NET PAY = Gross pay – Total deductions

2. Asset Accounting

Asset accounting means the recording values of assets after depreciation. Accounting of assets covers the complete life cycle of an assets. Hence records relating to assets are to be maintained right from the acquisition of assets till its disposal.

Depreciation should be charged on fixed assets so as to recoup the amount spent on fixed assets. Depreciation accounting is used to estimate the amount of depreciation charged to an assets and closing balance sheet. The two important methods for calculating depreciation are Straight Line Method and Diminishing Balance Method..

Straight Line Method

Under this method fixed amount of depreciation is charged on asset every year. The following is the formula for computation of depreciation under this method.

Syntax: =SLN(Cost, Salvage, Life)

- **Cost** – Purchase Value + Other Expenses such as Transportation charges, installation charges, Pre-operating expenses etc.
- **Salvage** – Scrap value after the life of asset.
- **Life** –Total life period of an assets.

Eg. An asset purchased for Rs. 9,000 and its installation cost is Rs. 1,000. The useful life of the asset is 10 years, at the end of which it will bring a salvage value of Rs.2,000.

These details can be applied in SLN Function to calculate Straight Line Depreciation as follows:-
=SLN(10000,2000,10) The result is Rs.800

Written Down Value Method (WDV)

Written Down Value method uses the current book value as the base for calculating depreciation for the next period. It is also called Declining Balance method or Diminishing Balance method . In spreadsheet the **DB()** function is used to calculate depreciation under Written Down Value method.

Syntax: =DB(cost, salvage, life, period, months)

- **Cost** – The original cost of the asset.
- **Salvage** – The salvage value after the life period.
- **Life** – Life period of asset.
- **Period** – The year for which the depreciation is calculated, say 1st year , 5th year etc.
- **Months** – (This is Optional) It is the number of months in the first year, it is applicable only if the asset is purchased in the middle of the year. If this parameter

is omitted, the DB function will assume that there are 12 months in 1st year.

Example

A machinery is purchased on 1st August 2019 for Rs.4000 and installation charges is Rs.2000. The salvage value after 5 years will be Rs.3000. Ascertain the amount of depreciation of third year using Db function. Assuming books are closed on 31st march every year.

Total cost = 40000 + 2000 =42000

Salvage value = 5

Period = 3

Month = 8 (from 1/8/2019 to 31/3/2020)

Enter the formula

= DB(42000,3000,5,3,8)

Chapter 4

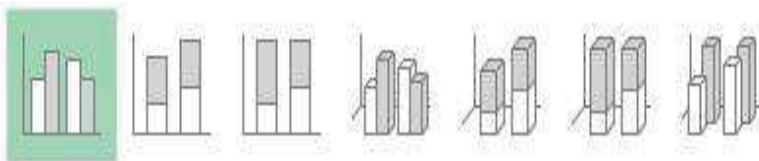
GRAPHS AND CHARTS FOR BUSINESS

Charts and graphs are used to make information clear and easier to understand. A good picture is worth a thousand numbers. Spreadsheet offers many types of charts including: Column, Line, Pie, Bar, Area, Scatter and more.

Types of Charts in Spreadsheet

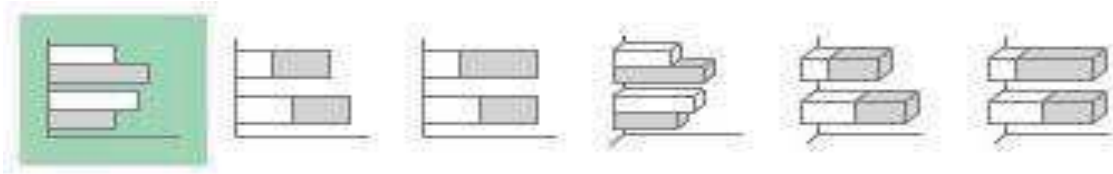
Spreadsheet provides wide variety of charts to display data in different ways as per the need of the users. Following are the most widely used charts.

Column Chart : Column charts are used to compare several items in a specific range of values. In the column chart, categories are displayed horizontally and values vertically. Column chart is used to emphasise comparison of data items within a specified time period.

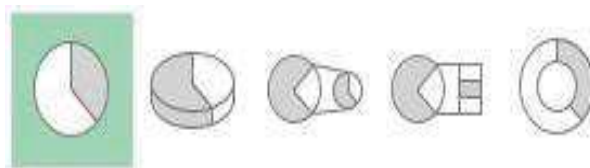


Bar Chart : The bar chart is similar to the column chart, with the difference being that the data series are displayed horizontally and not vertically. Similar to the column

chart, in the bar chart we can compare one or more data series. A bar chart used to demonstrate comparison among individual items.



Pie Chart : Pie charts are generally used to show percentage or proportional data when one element of data having more significance than the other. The pie chart contains only one data series. A series of data in a pie chart is displayed as a percentage of the total.



The main purpose of the pie chart is to show part- whole relationships

Subtypes of pie charts

a. **Normal pie chart:** This sub type of piechart shows sectors as coloured areas of total pie for one data column only

b. **Exploded pie Chart:** Exploded pie chart is the kind of pie chart in which one or several slices are separated from the other. It is useful because it makes the highlighted portion more visible.



c. **Donut Chart: A Donut or Doughnut chart** is a pie chart, with two exceptions: It has a hole in the middle and it can display more than one series of data. Doughnut charts display data in rings, where each ring represents a data series. The first data series is displayed in the centre of the chart.



d. **Exploded Donut Chart:** It is a Donut chart with all slices exploded. It shows the outer sectors already separated from the remaining Donut.

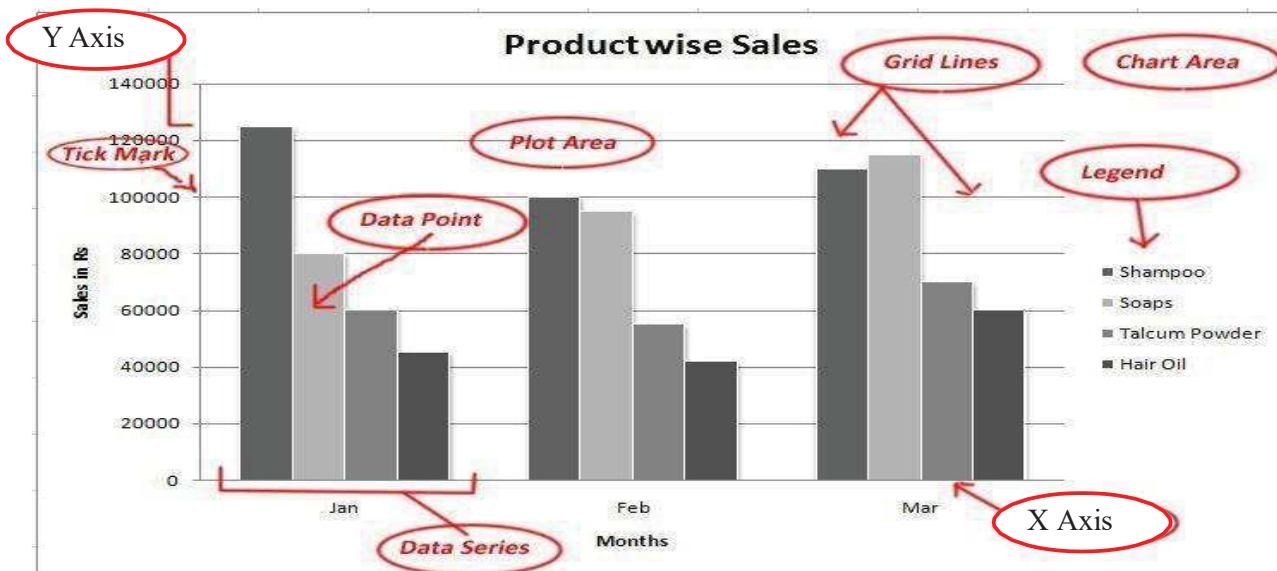


Steps to Create Charts

1. Open libre office calc
Applications → office → libre office calc
2. Enter the data in a spreadsheet with column headers and row headers.
3. Select the data including column headers and row headers if necessary.
4. Insert – Chart – Chart Type – Next.
5. Data Range – Tick the options **First row as label** and **First column as label**.
6. Click on Finish.

	A	B	C	D	E
1	Sales figures for 4 months				
2	Products	Jan	Feb	Mar	Apr
3	Washing Powder	125000	200000	160000	210000
4	Bath Soap	85000	90000	120000	100000
5	Washing Soap	38000	42000	40000	50000

ELEMENTS OF CHART



- **Chart Area** – Entire area of the chart, which includes labels, data, axis etc.
- **Plot Area** – It is the area in which the actual data is plotted.
- **Data Point** – A symbol that represents the data, it may be a bar, pie, line, bubble etc.
- **Data Series** – A group of data points.
- **Axis** – A line that serves as a major reference for plotting data. X-axis, Y-axis and Z-axis.
- **Tick Mark** – A small line intersecting an axis.
- **Grid lines** – Optional lines extending from tick marks across the plot area.
- **Chart Text** – A label or title added to the chart. Eg. Chart Title, Vertical Axis Title, Horizontal Axis Title etc.

Legend – They are the indicators of data items. It is shown in the form of colours or symbols

Advantages of using Graphs and Charts

1. Visually appealing
2. Easy to read the data
3. Analyse and interact the data quickly
4. To know the trends easily
5. To grasp the data quickly
- 6.. Present huge volume of data easily and within limited space

Chapter 5

ACCOUNTING SOFTWARE – GNUKhata

Commonly used Accounting Software

There is innumerable accounting software packages available in the market like GNUKhata, SAP, Tata Ex, Peachtree, Daceasy, Tally, Fresh books, Quick books, Zoho books, Wave etc.

GNUKhata

GNUKhata (pronounced as *jee_new khata*) developed by Digital Freedom Foundation, a public charitable trust, in association with International Centre for Free and Open Source Software (ICFOSS). It supports a wide range of applications related with accounting and inventory management. It can be easily transformed into different Indian languages.

Features of GNUKhata

- It is a free and open source accounting software
- It is based on double entry book keeping
- Comprehensive financial reports are available like Ledgers,
- Trial balance, Profit and loss Account, Balance sheet etc.
- Source document can be attached along with the voucher entry.
- Export and import of data from Spreadsheet is possible.
- Password security and data audit facility provided.

To run GNUKhata:

Applications → Office → GNUKhata

GNUKhata Screen is displayed with the following options.

When we are using GNUKhata for the first time, after installation, a screen is displayed with the following tabs

1. **Create Organisation** : This tab is used to create a new organisation for entering transactions.
2. **Language** : This is a unique feature of GNUKhata, which provides the facility to use the software in different languages. Now only three languages English, Marathi and Malayalam are available. Use of other languages are in progress.

Creating Organisation means entering the details of business organisation in the computer. Organisation can be created in four options.

- a Accounting only – Used to maintain books of accounts only.
- b Accounting with invoicing – Used to record and prepare invoices along with book keeping.
- c Invoicing with Billwise Accounting – Same as 2nd option along with bill tracking against payments and receipts.
- d Inventory with Invoicing and Bill wise Accounting - Provides the facility to use complete set of inventory and accountingsystem.

Create Organisation (steps)

1. Click on **Create Organisation** tab (**Shift + Ctrl + R**)

An Organisation creation screen is displayed with the following options:

a **Organisation Name** – Type the Name of theorganisation.

b **Case** – Change the appearance of the Name of the organisation.
Four options are available.

1. **As – is** : As -is stands for as it is entered
2. **Upper case** : Organisation name appears in capital letters
3. **Lower case** : Organisation name appears in small letters
4. **Title case** : First letter of each word capitalised

c **Organisation Type** : Organisation may be either 'profit making' or 'Not for profit'

d **Financial year** : Enter the starting date of the financial year (DD/MM/YYYY) and press Enter key. Closing date will be generated by the software automatically. Once the organisation is created, the financial year cannot be changed.

e **Select mode of accounting**: .it has four options: Accounting only, Accounting with invoicing, Invoicing with bill wise accounting, Inventory with invoicing and bill wise accounting

Click on **Proceed** button.

2. **Create Admin User** : After the creation of the organisation, a new screen for the creation of Admin user is appeared as Create Admin with the following options.

- **User name** : Enter the name of the Admin user.
- **Password** : Enter password .
- **Confirm Password** : Retype the password.
- **Security Question** : Enter a question of your choice. This is for use when you forget the password.
- **Answer to Security Question** : Give an answer to the question.
Click on **Create and Login** button

Groups And Sub-Groups

GNUKhata has 13 predetermined Groups of which 9 related to Balance sheet and the other 4 to the P& L account.. It is available in 'Create Account' menu as detailed below:

Master → create account → group → select group → sub group

Profit & Loss or Income & Expenditure Account Groups:

SI.No.	Group Name	Sub-Group Name
1	Direct Income	None
2	Direct Expense	None
3	Indirect Income	None
4	Indirect Expense	None

Balance Sheet Groups

SI.No.	Group Name	Sub-Group Name
1	Fixed Assets	Building, Furniture, Land, Plant & Machinery
2	Investments	Bank Fixed Deposits, Shares & Debentures
3	Loans (Asset)	None
4	Current Assets	Cash, Bank, Inventory, Loans and Advances, Sundry Debtors
5	Miscellaneous Expenses (Assets)	None
6	Capital / Corpus	None
7	Loans (Liability)	Secured, Unsecured
8	Reserves	None
9	Current Liability	Provisions, Sundry Creditors for Expenses, Sundry Creditors for Purchases

Description of the Groups and Sub-Groups

1. Direct Income: Income from operating activities comes under this group.
For e.g., sale of goods.

2. Direct Expense: Expenses which are mainly related with purchase or manufacturing of goods. For eg., Purchases, wages, factory lighting, carriage inwards, consumables, Opening stock etc.

3. Indirect Income: It includes rent received, interest received, discount received, commission received, dividend received etc.

4. Indirect Expense: All office, administration, selling and distribution expenses such as salary, office telephone, electricity expenses, maintenance of vehicles, interest on loan, rent, depreciation etc. are included in this group.

5. Fixed Assets: Accounts of all fixed assets are opened under this group. The Names of Sub-Groups are Building, Furniture, Land and Plant & Machinery.

6. Investments: This contains accounts of investments made by the organization. It involves two Sub-Groups which are Investments in Bank Deposits, and Investments in Shares & Debentures.

7. Loans (Asset): All long term loans issued by the organisation comes under this group.

8. Current Assets: The amount invested in stock, debtors etc. are included in this category.

9. Miscellaneous Expenses (Assets): Preliminary expenditure which are not written off, huge advertisement expenditure etc. come under this group.

10. Capital / Corpus: Capital in case of business organisations and Corpus in case of not for profit organisations are included here.

11. Loans (Liability): This contains accounts of loans taken by the organization from banks and other financial institutions.

12. Reserves: It involves retained earnings, reserves and surplus.

13. Current Liability: The sub groups and accounts of Current Liabilities are: Provisions, Accounts of PF, ESI and TDS dues etc. Sundry Creditors for Expenses: Accounts of outstanding expenses, such as Salary Payable, Audit Fee Payable etc. Sundry Creditors for Purchases.

Groups and Sub-groups some peculiar items in GNUKhata:

Item / Account Name	Group	Sub-group
Sales Return	Direct Expense	None
Purchase Return	Direct Income	None
Income Received in Advance	Current Liability	New Sub-group – Advances (Liability)
Expense Paid in Advance	Current Asset	Loans & Advances

Drawings	Capital	None
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System Generated Ledger Accounts

When an organisation is created the software automatically creates the following ledgers. These accounts can neither be modified nor deleted.

Sl.No	Account Name	Group Name	Sub-Group Name
1	Closing Stock	Current Assets	Inventory
2	Opening Stock	Direct Expenses	None
3	Profit & Loss Account (For Profit Making Organizations;) Or Income & Expenditure Account (For NotforProfit Organizations)	Direct Income	None
4	Stock at the Beginning	Current Assets	Inventory

Ledger Creation

In GNUkhata an account itself is called ledger. A ledger account is a formal record of transaction affecting a particular item. Transactions of similar nature are recorded in a particular ledger account. The accounts need to be created first and we should be able to define group under which this ledger should be placed.

Master → Create Accounts

- Select Group Name
- Select Sub-group Name
- Enter the Account Name
- Opening Balance and click on Save button.

Display Ledger Accounts

Report → Ledger → Account Name → Select the name of ledger → Check or uncheck the option Monthly Ledger → View

Alter a Ledger

Master → Edit Account

Select the Ledger and Click on Edit Button and make changes in the details and

save.

Delete a Ledger

Master → Edit Account → Select the Ledger → Delete

Voucher Entry

Recording transactions through voucher interface is called voucher entry. The voucher entries are made on the basis of concerned source documents. While recording a transaction through the voucher, we have to enter the voucher no, date, amount to be debited/credited along with narration.

The following procedures are to be followed:

- Select the appropriate voucher type from Voucher tab.
- Enter Voucher Number and Date. (Mandatory)
- Select the Account to be debited and enter amount, then press Enter key.
- Select the Account to be credited and enter amount, then press Enter key. Enter Narration if any and click on Save button.

Types of Vouchers

GNUKhata offers the following pre-defined voucher types. We cannot create a new voucher type as it is not required.

Voucher Type	Used To Record	Short cut Keys
Receipts	To record receipt of cash or cheque	F4
Payments	All payment made by cash or cheque	F5
Sales	Cash and credit sales of goods	F6
Purchase	Cash and credit purchase of goods or raw materials	F7
Contra	Deposits or withdrawals of cash from bank or transfer of funds from one bank to another and transfer of cash to petty cash	F8
Journal	Rectification entries or transfer or adjustment entries purchase or sale of fixed assets on credit	F9
Sales Return	Return of goods by a customer	Ctrl+1
Purchase Return	Return of goods to supplier	Ctrl+2

Credit Note	Reduction in the amount due from a customer or	Ctrl+3
	for allowances	
Debit Note	Reduction in the amount payable to a supplier or for	Ctrl+4
	allowances	

Delete a voucher

**Voucher → Find/Edit voucher → Select the criteria to search → Select the transaction
→Press Enter Key →Press Delete Key →Yes**

To view ledger

Report→ ledger→ select account→Set the date → view

Chapter 6

DATABASE MANAGEMENT SYSTEM FOR ACCOUNTING

Database :Data is always organized in data table consisting of rows and columns in relational model. Data base is a collection of information that is organized so that it can easily to be accessed, managed and updated. A database is an integrated and logical collection of data

Database Management System:

Database management System is a software system that manages the creation and the use of database. It is a general purpose software system which helps the users in the process of defining, creating, updating, reading, maintaining and protecting the database. Eg: Oracle, Sybase, Ms Access, Libre Office Base

Libre office Base : It is one of the popularly used Database Management System (DBMS) to create, store and manage database. It has the following objects or components. The default extension of LibreOffice Base files is **.odb**

Capabilities of Libre Office Base

- Storing data in an organized manner
- Enforcing data integrity constraints
- Representing complex relationship among data
- Restricting unauthorized access to database
- flexibility to create multiple user interfaces
- Providing for data sharing and multi user transaction processing

Terms in Database / Libreoffice Base

Database Design Concepts:- 1)_Reality (2) Data (3) Data base (4) information (5) DBMS

Data: Data means facts. It is the raw materials for information. It may be a number,name,mark etc.

Entity: Anything in the real world with independent existence is called an entity . Every entity has a unique name and is graphically represented by a rectangular box containing entity name

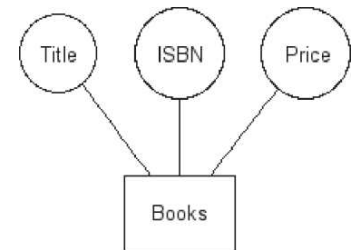
Eg : STUDENT , EMPLOYEE, SCHOOL, ACCOUNT

STUDENT

EMPLOYEE

ACCOUNT

Attributes: Attributes are some properties of interest that further describe the entity. Every entity has some attributes eg: height, weight, and date of birth in the case of a person and code and name, narration, account prepared by etc. in case of an account.



Example of entity and attributes

ENTITY	ATTRIBUTES
Employee	Empid, Fname, Midname, Lname, Sex, age, job., dept, supervisedby
Vouchers	Vno, Vchdate, credit amt, narration, preby
account	Acccode, acname, acctype
customer	Customerid, firstname, lastname, dateofbirth, address, phonenumber
Student	Student_AdmnNo, Student_ClassNo, Student_Name, Stdent_Sex

Field/ attributes: A column (its value) in LibreOffice Base Table is called **Field**.

Record/Tuple: A row (its value) in LibreOffice Base is called **Record**

Primary key/identifier/key attribute: The key which identify a table uniquely and cannot be repeated is called primary key

Eg: reg. no in "student" relation

LibreOffice Base components/ objects

It is one of the popularly used Database Management System (DBMS) to create, store and manage database. It has the following objects or components.

1. **Tables** – Table is the simplest form of data storage. It consists of data logically arranged in rows and columns
2. **Queries** –It is used to extract , append and modify data from a database. SQL(structured Query language) is most widely used language to handle queries
3. **Forms** It allows the front end user for entering data to a database file. The interface that allows the user to input , retrieve and manipulate data.
4. **Reports**: This is used to create various reports by using the data from tables and queries. It is used to present selected set of contents in a format.

Table

Tables are used to store data in a database. It is the combination of Field and Record (columns and rows). A column of the table in Access is called field. Row of a table in Access is called record.. Table helps in organizing data in a structured manner on the basis of data types.

Creating Table: Click on Tables component' in the panel.

- ❖ **Create table in Design View** : This option is used to create a table by specifying the field names and properties, as well as the data types.
- ❖ **Use Wizard to create Table** : This option allows choosing from a selection of business and table samples, which we can customise to create a table

Creating Tables in design view

Steps

1. Click **Tables** from Database pane.
2. Click **Create Table in Design View** in Tasks area

The Design View of the new table will appear in the working area of the window

In Design View, we can see three columns viz, Field Name, Field Type and Description

Field name: enter the names of various fields you wishes to create

Field Type:It describes the nature of data to be included in fields

Description A very short description about the field name. It is not mandatory.

Field properties: : This is used to define the characteristics of field and data types

It includes four options

1. Entry required: Two options available. YES/No. Choosing YES makes input of data to this field mandatory while NO makes input optional
2. Length:- Value entered here limits the maximum length/size permitted
3. Default value:-Enter a default value here
4. Format example:it defines data display format

3. set primary key

To select a particular field (For eg EMP ID) as primary key right click on the row sector of that field (eg: EMP ID) and select the “Primary Key” from the drop down menu. A key symbol will appear next to selected field

- 4.. Save the table by providing table name

Field/Data Type

Data types define particular characteristics of data that we intended to store or manipulate. Field type determines the type of data that the field can store LibreOffice .Base supports different data types, Some useful data types are :

1. **Text [VARCHAR]:** It is used to store words or numbers that are not to be used in any arithmetic calculations.
2. **Memo [LONGVARCHAR]:** A Memo field can be used for storing large amounts alphanumeric information. Some typical uses for this data type would be a note, comments, description, or address field.
3. **Number :** It is meant to store numbers.
4. **Date :** Used to store date into Database table.
5. **Time :** It is used to store time only.
6. **Date/Time :** It is used to store combination of both.
7. **Currency :** It is used for storing numbers in terms of Dollars, Rupees or other Currencies.
8. **Yes/No :** It is to declare a logical field which may have only one of the two opposite values alternatively given as: Yes or No, On or Off, True or False.

Example for field type	
FIELD NAME	FIELD/DATA TYPE
EMP ID	Text[VARCHAR]
EMP NAME	Text[VARCHAR]
EMP DESIGNATION	Text[VARCHAR]
EMP ADDRESS	Text[VARCHAR]

EMP QUALIFICATION	Text[VARCHAR]
EMP SEX	Text[VARCHAR]
EMP DOB	Date[DATE]
EMP BP	Number[NUMERIC]
EMP DA	Number[NUMERIC]
EMP HRA	Number[NUMERIC]
EMP Ph No	Text[VARCHAR]
