XI - CHAPTER - 4

DATA ANALYSIS USING SPREADSHEET

1. **Formula :** Expression which calculates the value of a cell
   Function : Predefined formula

	Function	Use
Mathematical Functions	**SUM ( )**	Calculate the sum of a set of numbers and numbers in a range. **Syntax :** = SUM (Number1,Number2,Number3,.....)
	ROUND( )	Rounds the Number to specified decimal places **Syntax:** =ROUND (Number ,Count)
	ROUND UP( )	Rounds the number **UP** to its specified decimal places **Syntax :** = ROUNDUP(Number ,Count)
	ROUND DOWN( )	Rounds the number **DOWN** to its specified decimal places **Syntax :** = ROUNDDOWN (Number ,Count)
	COUNTIF( )	Counts the number of values in the range that meets the specified criteria. **Syntax :** = COUNTIF (Range, Criteria)
Statistical Functions	**AVERAGE( )**	It gives the average of a given set of numbers. **Syntax:** = AVERAGE (Number1, Number2,Number3..)
	MAX( )	It gives the maximum value in a list (or Range) of numbers. **Syntax:** =MAX (Number1, Number2,Number3..)
	MIN( )	It gives the minimum value in a list (or Range) of numbers. **Syntax:** = MIN (Number1, Number2,Number3..)
	COUNT( )	Counts number of values in the list of arguments (Range) **Syntax:** =COUNT (Number1, Number2,Number3..)
Logical Functions	**IF()**	Returns a value of true or false depending on the given condition. **Syntax:** = IF(Condition,True Value,Falsevalue)
	AND()	Returns True if all the conditions are True ;otherwise returns False. **Syntax:** = AND(Logical value1, Logical value2,.....)
	OR()	Returns True if any of the conditions is True; returns False if all the conditions are False. **Syntax :** = OR(Logical value1, Logical value2,.....)
	NOT()	if the test condition is evaluated to True ,then NOT returns False and vice versa. **Syntax :** = NOT (Logical value)
Text Functions	**UPPER( )**	Converts the given text into uppercase (Capital letter). **Syntax :** = UPPER(Text)
	LOWER()	Converts the given text into lowercase. **Syntax :** = LOWER(Text)
	LEN()	Calculate number of characters in a text. **Syntax** : LEN(Text)

2. Nested Functions : Function inside another function.

3. Data manipulation: Used to find specific data in the spreadsheet.

3.1 Sorting : Arranging data based on ascending or descending order.

Step 1 : Select entire Table
Step 2 : MenuBar–>**Data** --> Sort
Step 3 : select column from Sort by list
Step 4 : Choose either Ascending or Descending option
Step 5 : Click OK

3.2 Filtering: Display only data that meets some criteria(condition).

'Sort' option is available in **Data menu** in Calc

3.2.A. **Auto filter :** Displays a drop down list from which users can select rows based on column values

Step 1 : Select entire table
Step 2 : Data→Filter→AutoFilter

3.2.B. **Standard filter:** Filters the data using One or more logical conditions.

Step 1 : Select entire table
Step 2 : Data→Filter→Standard Filter

4. Chart : Presents data graphically in a more understandable manner. This makes comparison much easier.

Steps 1 : Select data range
Step 2 : Insert →Chart
Step 3 : Select **Chart Type**
Step 4 :Click Chart Elements
Step 5 : Click Finish

4.1 chart elements

Chart Area : Includes the entire chart

- **X axis Title :** Title of the data range on the X-axis
- **Y axis Title :** Title of the data range on the Y-axis
- **X axis category :** The category of data used to construct the graph
- **Y axis Value :** Data can be plotted along the depth of a chart
- **Data Labels :** Values of the data range used to construct the graph
- **Legends :** It help to readers understand the charted data

4.2 Different types of Chart

- **Bar Chart :** Data is displayed in horizontal rectangular bars.
- **Column Chart** : Data are presented as vertical columns.
- **Line Chart :** Displays data points connected by straight lines.
- **Pie Chart :** Data representing data in a circular form