4.1 Electronic Spreadsheets (Exercises Solution)

A. Multiple Choice Questions

1. (a)	2. (b)	3. (c)	4. (b)	5. (c)	6. (a)
7. (c)	8. (a)	9. (c)	10. (a)	11. (b)	12. (c)

B. Fill in the blanks

1. spreadsheet	2. workbook	3. cell address	4. AMJ, 1048576
5. Name	6. Sum	7. text, number	8. Undo 9. above, left
10. Merge and Center	11. Borders	12. Scientific.	

C. State Whether the Statements Given Below are True or False

1. T 2. F 3. T 4. T 5. F 6. F 7. T 8. F 9. T 10. T 11. F 12. T

D. Define the Following

1. Formula Bar— situated It is at the top of the worksheet which is used to enter edit formulas, and perform calculations, and view on worksheet data.

3. Active Cell—When we click on any cell, a black dark border appears a round it. This cell is called active cell.

6. Value—Any numeric data (only numbers) that we enter is value.

7. Formula—It is a sequential combination of labels, values, cell references, and operators that produces a new value from existing values. Any expression that begins with an equal to sign '=' is treated as a formula.

8. AutoFill— This feature of Calc is used to add duplicate entries or a data series to our worksheet cells. It helps to complete a series across a row or a down a column in a worksheet.

E. Differentiate Between the Following

1. Workbook: The collection of one or more worksheet is called workbook. It is a spreadsheet file that is like a notebook containing many individual worksheets.

Worksheet: It is the collection rows and columns. On each worksheet, data is organized vertically in columns and horizontally in rows.

2. Row Header: It is situated at far left side of the worksheet which identifies each row by unique a number like 1, 2, ..., 1048576.

Column Header: It is situated on the top of the worksheet which identifies each column by a unique letter like A, B, ..., AMJ.

5. Moving Data: It allows us to re-organize data in our worksheet. When we move data, the data disappears from its original location.

Copying Data: It allows us to repeat data in our worksheet without having to retype the data. When we copy data, the data appears in both the original and the new locations.

F. Short Answer Questions

1. A spreadsheet program is an application software package that is used to organize and analyse numeric data rows in and columns, and perform on the data.

3. The intersection of a column and a row is called a cell. A cell is the basic unit of a worksheet in which we enter data. Cells are identified by the column letter and row number in which they are located.

4. Three types of data can be added in a cell such as Label (text), Number (value) and Formula (expression).

7. For accommodating the data properly in column and row. We need to change the column width and row height.

8. Freeze feature allows us to keep row and column labels displayed on our screen as we move though a large worksheet.

11. To center data across several columns in worksheet, we use Merge and Center cells button. This is useful for centering titles over data.

12. Different alignment buttons are: Align Horizontally—Align Left, Center Horizontally and Align Right Align Vertically—Align Top, Center Vertically and Align Bottom

13. Border is used to separate the data from surrounding cells in a worksheet.

14. Number formats offer different styles to format the number. It includes number, percent, fraction, currency, etc.

15. The default alignment of text in Calc is left and it is right for number.

G. Long Answer Questions.

2. The history of spreadsheet packages is given below:

- In 1979, The first spreadsheet VisiCalc was introduced.
- In 1983, Lotus 1-2-3 was introduced and became very popular for a considerable period of time.
- In 1987, Excel was released; which uses graphical user interface (GUI). Excel, however, is considered the most fully featured and easy to use spreadsheet program.
- SuperCalc and Multiplan are also good spreadsheet packages.
- LibreOffice Calc is spreadsheet component of the LibreOffice software package. After separating from OpenOffice.org in 2010, LibreOffice Calc

underwent a massive re-work and became a powerful open source spreadsheet program.

4. Features or Calc are given below:

Edit and Format Data—Calc allows us to efficiently enter, edit, and format data in a worksheet. Formulas and Functions—It allows us to perform calculations and analyze data in a worksheet. Common calculations include finding the sum, average, or total number of values in a list.

AutoFill—This feature allows us to quickly fill cells with repetitive or sequential data such as chronological dates or numbers, and repeated text. AutoFill can also be used to copy functions.

Print Worksheets— We can produce a hard copy of a worksheet. Before printing, we can see on our screen how the worksheet will look after printing, using Print Preview option Calc . also allows us to adjust the margins or change the size of printed data.

Create Charts and Objects: Calc helps us to create colorful charts from worksheet data to visually display the data. We can also add objects, such as shapes, to enhance the appearance of our worksheet and illustrate important concepts.

6. Formatting is a very important feature in Calc. It displays the worksheets in an attractive and more legible manner. We can make our worksheets more presentable by applying one or several of Calc formatting features. They include ’s changing the font and size of the data, adding color and shading, and giving the worksheet a more professional and polished look.

9. The functions of various number formats are describing below:

All—Displays all the formats.

User-defined—Enables us to create our own custom format.

Number—Displays numbers with two decimal points by default.

Percent—Multiplies cell value by 100 and displays percent sign.

Currency—Adds currency sign and decimals to display monetary values.

Date—Enables us to display current date.

Time—Enables us to display current time.

Scientific—Uses scientific or exponential notation.

Fraction—Displays value as a specified fraction.

Boolean Value—Displays true values

Text—Treats values as text.

10. Conditional formatting feature is used to assign certain formatting only when the value of the cell meets the specified condition (e.g. to highlight the cells with values greater than 70).

Follow the given steps to apply conditional formatting:

i. Select the cell or range.

ii. Click on the Format menu.

iii. Click on Conditional Formatting.

iv. Click on Condition.

The Conditional Formatting dialog box appears.

v. Click on the down arrow and select the condition.

vi. Enter a value or text for the condition here.

vii. Click on the down arrow and choose a format style to apply.

viii. Click on OK.

H. Application Based Questions

1. Number format 2. Conditional formatting

4.2 Formula and Function in Calc (Exercises Solution)

A. Multiple Choice Questions

1. (a) 2. (b) 3. (d) 4. (c) 5. (b) 6. (a)

7. (d) 8. (b) 9. (d) 10. (c) 11. (c) 12. (b)

13. (b) 14. (c)

B. Fill in the Blanks

1. equal to sign 2. cell reference 3. cell range 4. colon 5. Arithmetic

6. Parentheses 7. Auto Fill 8. absolute 9. Normal 10. white

11. Esc 12. data objects 13. Legend 14. Chart Area 15. Bar

16. =SUM.

C. State Whether the Statements Given Below are True or False

1. F 2. T 3. T 4. F 5. F 6. T 7. T 8. T 9. F 10. T 11. F 12. F

D. Define the Following

2. Cell reference— Every cell in a worksheet has a unique address, also called cell reference. By default, cells are identified by a specific column letter and row number, so cell A5 identifies the fifth cell down in column A.

3. Cell range—A group of related cells in a worksheet is called a cell range. Cell ranges are identified by their anchor points, the upper left corner and the lower right corner of the range.

6. Reference operators—The reference operators combine two cell ranges to create a single joint reference. For example, colon(:) is used to produces a range from two cell references, e.g. C5:D5.

10. COUNT function—This function is used to get the number of entries in a number field in a selected range.

11. Worksheets—The Calc workbook contains sheets called worksheets. By default, the workbook contains one worksheet. We can add additional worksheets as per our requirement. Each sheet has a name displayed on a sheet tab at the bottom of the workbook.

12. Page Break view– This view indicates page breaks with lines in an active worksheet. We can modify page break by clicking and dragging these lines.

E. Differentiate Between the Following

1. Formula: It is a statement written by the user to be calculated. It can be as simple or as complex as the user wants it to be. It contains values or references to cells. It must start with an equal to sign (=).
   Function: It is a piece of code designed to calculate specific values and is a part of formulas. Functions used to add values or to calculate the current time are built into Calc. Equal to sign (=) is automatically included in Calc when we apply Function.

   2. Absolute reference: This type of reference does not change when copied or filled. Absolute reference is used to keep a row and/or a column constant. To specify an absolute cell reference in a formula, we should enter a dollar sign ($) before any column letter and row number that we want to keep constant in formulas we plan to copy.

   Relative cell reference: While copying the formulas, Calc modifies the cell references. Calc uses a technique called relative cell referencing. The formula using the relative cell reference adjusts the cell reference as it copies to the destination area.

F. Short Answer Questions

1. A Formula is a sequential combination of labels, values, cell references, names of functions or operators (+, -, *, /, etc.) that produces a new value from existing values. In other words, Formula is used to calculate numeric information and display the resulting value in a cell.

2. An operator is the symbol which specifies the type of calculation we want to perform. A formula can contain one or more operators. Four types of operators used in Calc are: Arithmetic operators, comparison operators, reference operators and logical operators.

5. It is better to use cell referencing instead of values in a formula because If we use cell references in a formula and whenever we change a number used in a formula, it will automatically redo the calculation on it.

6. A group of related cells in a worksheet is called a cell range. Range name must start with a letter and can include uppercase and lowercase letters. For example, the range name A1:B3 includes cells A1, A2, A3, B1, B2 and B3. We cannot add space in range names.

7. There are three types of cell referencing used in Calc: i. Relative referencing ii. Absolute referencing iii. Mixed referencing.

9. Advantages of using charts in calc are mentioned below: i. Charts can display a lot of information in an easy to understand format. ii. Data and information can be presented in an attractive manner with the help of a chart. iii. A chart is more impressive and informative as compared to a simple data statement.

11. Customizing chart means to format and fine-tune a chart for its better appearance. It helps to modify plot area, chart area and many other components of chart for making it more appealing.

G. Long Answer Questions:

2. Function always begins with an equal to sign (=), followed by the Function name. Function name is followed by opening parenthesis then arguments separated by comma or colon and closing parenthesis. The structure of the function is given below:

3. Unlike relative reference, absolute reference does not change when copied or filled. We can use an absolute reference to keep a row and/or a column constant. To specify an absolute cell reference in a formula, we enter a dollar sign ($) before any column letter and row number that you want to keep constant in formulas you plan to copy. For example, C5 is an absolute cell reference. A formula using the absolute cell reference C5 instructs Calc to keep the cell reference C5 constant (absolute) in the formula as it copies it to the destination area.

5. A cell reference with only one dollar sign ($) before either a column or a the row is called a mixed cell reference. It can be either C$5 or $C5. When it shows C$5, the column reference changes when we copy this cell to another column because it is relative. The row reference does not change because it is absolute. When it shows $C5, the column reference does not change because it is absolute.

The row reference changes when you copy this cell reference to another row because it is relative.

6. In Calc, there are three different views of a worksheet such as Normal view, Page Break view and Full Screen view.

i. The Normal View (default view) shows one continuous page of columns and rows.

ii. The Page Break view indicates page breaks with lines. We can click and drag these lines to modify where pages break.

iii. The Full Screen view shows or hides the menus and toolbars. To exit the full screen mode, click the Full Screen button or press the Esc key.

8. Printing a worksheet means to produce hard copy of the worksheet displayed on screen. Before printing our document, we should make sure that the printer is turned on. The shortcut key of print is Ctrl+P. Calc offers these print options to print a worksheet.

i. Printing an Individual Sheet.

ii. Printing Multiple Sheets.

iii. Printing a Range of Cells.