

maker of security software for computers. Symantec Antivirus (SAV) is a very powerful effective program, which can protect computers from different kinds of safety issues.

Q.37:-What is the use of McAfee Antivirus program?

Ans.:-McAfee Virus Scan is an antivirus program created and maintained by McAfee Incorporation. McAfee antivirus offers effective security to the computer from attacks of malware.

Q.38:-What is the use of AVG Antivirus program?

Ans.:-AVG is antivirus software developed by AVG Technologies, a private Czech company formerly known as Grisoft. It provides Internet security for the Windows, Linux and Mac OS X. AVG stands for Antivirus Guard.

Q.39:- What is meant by scanning the computer for threats?

Ans.:-Scanning the computer for threats like viruses, worms, adware, etc. is very important to keep a computer system in good working condition. It helps to protect a computer from different computer security threats.

Unit-3

Spreadsheets in Excel

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EXERCISE

Q1. Tick the correct choice for the following questions.

i. Where is Microsoft Office Button located in Excel window?

- a. Top Left b. Top Right
c. Bottom Left d. Bottom Right

ii. How many command Tabs are

there in Excel 2007 window by default?

- a. Five b. Six
c. Seven d. Eight

iii. In Excel, which of the following is the intersection of a row and a column?

- a. Table b. Form
c. Cell d. Formula

iv. Which of the following is Spreadsheet Software?

- a. Word b. PowerPoint
c. Access d. Excel

v. Which of the following bar gives access to the frequently used commands in Excel?

- a. Quick Access Toolbar
b. Formatting Toolbar
c. Status bar d. Scroll bar

vi. By default, how many sheet tabs are available in Excel workbook?

- a. Two b. Three
c. Four d. Five

vii. _____ are arranged vertically in an Excel worksheet.

- a. Rows b. Columns
c. Cells d. Active Cells

viii. What is a currently selected cell in a spreadsheet called?

- a. First Cell b. Main Cell
c. Active Cell d. Any Cell

ix. _____ consists of the column letter and row number that intersect at the cell's location.

- a. Cell address b. Cell location
c. Selected cell d. Active cell

x. What is the purpose of Cut - Past command?

- a. Copies the contents from one cell to another location
b. Moves the contents from one cell to another location
c. Deletes the content without copying
d. Have no effect on cell contents

Answers:

- (i) Top Left (ii) Seven (iii) Cell
 (iv) Excel (v) Quick Access Toolbar
 (vi) Three (vii) Columns
 (viii) Active Cell (ix) Cell address
 (x) Moves the contents from one cell to another location

Q2. Fill in the Blanks.

- i. _____ is a computer application which displays data in multiple cells usually in a two-dimensional matrix or grid consisting of rows and columns.
 ii. _____ is a file created by Excel spreadsheet application.
 iii. _____ is a single page in Workbook.
 iv. Next to the Microsoft Office Button is _____
 v. _____ bar displays the contents of the active cell and the formulae as user types them in an active cell.
 vi. _____ Box displays the reference of the active cell.
 vii. Selecting more than one cell is known as _____.
 viii. _____ is the use of the fill-handle to copy data and sequences across a range of cells.
 ix. _____ is an equation that performs a calculation using values in the worksheet.
 x. _____ are pre-defined or built-in formulae.
 xi. _____ function returns the largest value from a supplied set of numerical values.
 xii. When users Cut or Copy text, it gets placed on the _____.
 xiii. _____ is the typeface of text and it is a set of characters used in typing of text in a particular style.
 xiv. _____ are the graphical representation of data entered in a worksheet.

Answers:

- (i) Spreadsheet (ii) Workbook
 (iii) Worksheet (iv) Quick Access Toolbar

- (v) Formula (vi) Name
 (vii) Cell Range (viii) Auto filling
 (ix) Formula (x) Functions
 (xi) MAX (xii) Clipboard
 (xiii) Font (xiv) Charts

Q3. Match Column A with Column B.

Column(A)	Column (B)	Answers
Spreadsheet	Currently used cell	Excel
Ribbon	Cell reference	Command Tabs
Active Cell	Fill handle	Currently used cell
Name box	Excel	Cell reference
Auto-filling	Command Tabs	Fill handle
Predefined formula	Function	Function

Q4. Give brief answers to the following questions.

- i. Define the following terms:
Spreadsheet, Workbook, Worksheet, Cell, Cell address, Cell reference, Formula, Function

Ans.:- a) Spreadsheet:

A spreadsheet is a computer application which is used to display data in multiple cells usually in a two-dimensional matrix or grid consisting of rows and columns. Spreadsheets are used in different fields for variety of purposes like accounting, budgeting, charting/graphing, financial analysis and scientific applications, etc.

b) Workbook:

A Workbook is a file created by Excel spreadsheet application. Excel workbooks are actually sets of spreadsheet 'pages', each of which can include separate data.

c) Worksheet:

Worksheet (also known as a spreadsheet) is a single page in workbook. It is a collection of cells on a single sheet where user keeps and manipulates the

data. Worksheets in a workbook can be accessed by the sheet tabs located at the left corner of excel window.

d) Cell: The intersection of row and column in a worksheet is called cell. Cell is the basic unit in the worksheet where user can enter data, function or formula.

e) Cell Address:

Cell Address identifies the location of a cell or group of cells in a worksheet. It consists of the column letter and row number that intersect at the cell's location.

f) Cell Reference:

Cell Reference identifies the location of a cell or group of cells in a worksheet. It consists of the column letter and row number that intersect at the cell's location. Cell references are used in formulae, functions, charts and other excel commands.

g) Formula:

Formula is an equation that performs a calculation using values in the worksheet. A formula always begins with an equals sign followed by either values or cell references and an operator.

h) Function:

Functions are pre-defined or built-in formulas. Different types of functions are available in Excel. These functions can be used for different calculations. Functions can be located from Formulas tab or by clicking on Insert function option in formula bar or by typing the function manually. For example SUM, PRODUCT, MAX and etc.

ii. Give few purposes of Spreadsheet?

Ans.:- Purposes of Spreadsheet:

Spreadsheets are used in different fields for variety of purposes like accounting, budgeting, charting/graphing, financial analysis and scientific applications, etc.

Spreadsheet is used to:

- Store and maintain data in a tabular form.
- Manipulate and calculate data by using

various functions and formulas.

- Perform complex mathematical calculations.
- Recalculate formula automatically whenever a value is changed or modified.
- Create charts/graphs to represent data.
- Process and display needed information by sorting and filtering entries according to established criteria.

iii. Name any five components of Excel window.

Ans.:- Components of Excel Window

The Excel 2007 window is made up of the several components discussed as follows.

1. Office Button
2. Title Bar
3. Quick Access Toolbar
4. Ribbon
5. Formula Bar
6. Name Box
7. Document (worksheet) Window
8. Sheet Tabs

iv. What is cell range? Give one example.

Ans.:- Cell Range:

Selecting more than one cell is known as a cell range. Two cell references are used for a range of cells separated by a colon (:) which tells Excel to include all the cells between the start and end points.

v. What is Auto-filling data feature in Excel? Give one example.

Ans.:- Editing data:

Editing data means doing any changes in it.

Auto filling Data:

Auto filling is the use of the fill-handle to copy data and sequences across a range of cells. The fill-handle is at the right corner of each cell, as shown in Figure 3.11.

Example: To fill a range of cells:

- Select the cell with the content to fill.
- Point at the black square that appears in the bottom right corner of the cell, until the mouse pointer becomes the fill

handle.

- Click and drag in the direction of the range to fill.

Excel copies the contents of the cell across the range that user selects. This feature becomes very powerful when used with cells containing formulas. A lot of time can be saved by copying formulas across a range of cells.

Figure 3.11 shows auto filling of even numbers in Column C from 2 to 16.

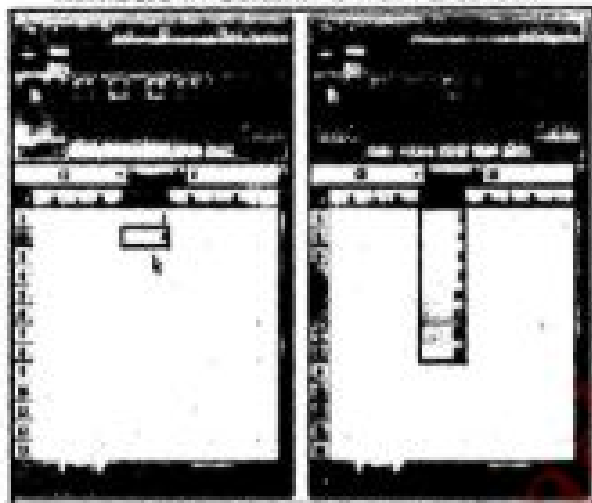


Figure 3.11 Auto Filling

vi. How formula is used in Excel sheet? Give one example.

Ans.: - Entering a Formula:

A formula is an equation that performs a calculation using values in the worksheet. A formula always begins with an equal sign followed by either values or cell references and an operator.

Example: = 23 + 29 = D8+F9-E9

To enter a simple formula that adds two numbers in two cells:

Follow these steps:

- Click the cell where the formula will be entered (For example D3), as shown in figure 3.12
- Type the equal sign (=) to let Excel know a formula is being defined.
- Click on the first cell containing a number (For example B3), as shown in Figure

3.12

- Press the addition sign (+) key to let Excel know that an add operation is to be performed.
- Click on the second cell containing a number (For example C3), as shown in Figure 3.12
- Press Enter or click the Enter button on the Formula bar to complete the formula.



Figure 3.12 Entering Formula

vii. Name different parts of function with the help of an example.

Ans.: - Inserting Functions:

Functions are pre-defined or built-in formulas. Different types of functions are available in Excel. These functions can be used for different calculations. Functions can be located from **Formulas** tab or by clicking on **Insert Function** option in formula bar or by typing the function manually. Figure 3.13 shows different locations of function application.



Figure 3.13 Different locations of function application

Each function has a specific order as follows:

- All functions begin with the = sign.
 - After the = sign, the function is inserted (e.g., = Sum).
 - Then there will be an argument.
- An argument is the cell range or cell references that are enclosed by parentheses. If there is more than one argument, separate each by a comma.

An example of a function with one argument that adds a range of cells A3 through A9.

$$=SUM(A3:A9)$$

 equal sign function name argument

viii. What is the difference between Copy-Paste and Cut-Paste?

Ans.: - Copy - Paste and Cut - Paste:

The Copy-Paste option is used to take the duplicate of the selected cell contents by copying them and pasting them where required.

This option does not remove the text from the source location.

The Cut- Paste or Move option is used to move text from one place (source) to another place (destination). When users Cut or Copy text, it gets placed on the clipboard.

ix. What is a chart? Name any three types of charts used in Excel.

Ans.: - Charts:

Charts are the graphical representation of data entered in a worksheet. Charts are helpful in showing the comparison between different categories. Different types of charts are used for different purposes. Excel offers many types of charts including: Column, Line, Pie, Bar, Area, Scatter and more, as shown in Figure 3.47

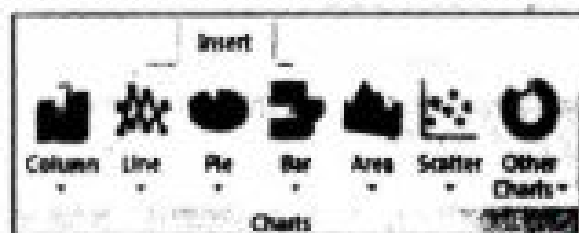


Figure 3.47 Different Types of Charts

Q5. Give detailed answer to the following questions.

i. Explain different parts/ components of Excel window.

Ans.: - User can start Excel program as follows:

- Click Start
- Select All Programs
- Point to Microsoft Office
- Click Microsoft Office Excel 2007
- Excel window appears as shown in Fig 3.1

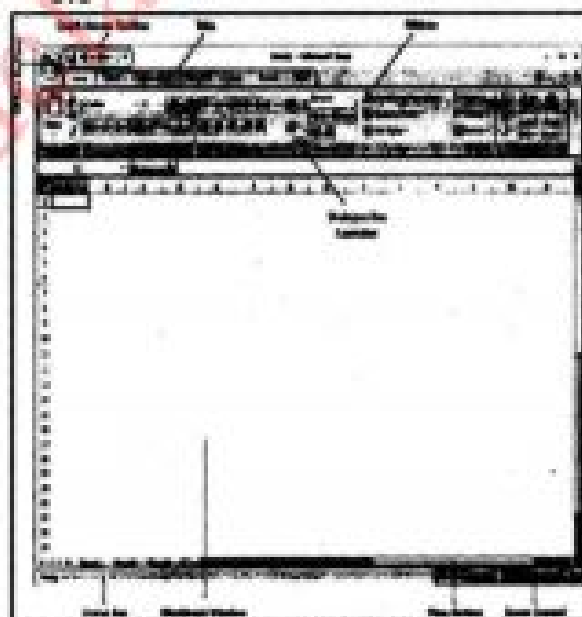


Figure 3.1 Excel Window

Parts/Components of Excel Window:

The Excel 2007 window is made up of the several components discussed as follows.

a) Office Button:

The Office Button is at the top left of the Excel window. Clicking this button opens a menu of commands. Recent documents can be seen on the right of the

Office Button menu. Figure 3.2 shows Office Button menu with commands.

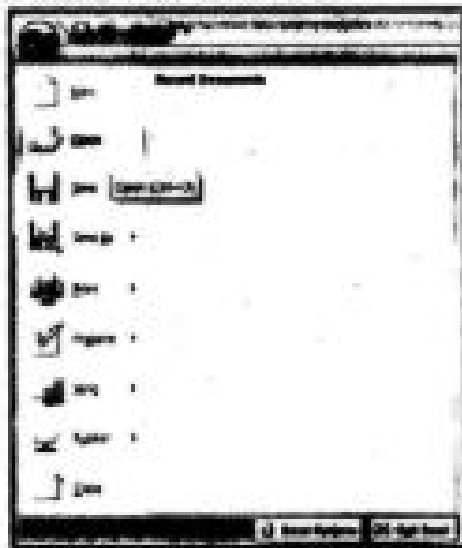


Figure 3.2 Office Button Menu

b) Quick Access Toolbar:

Next to the Microsoft Office Button is the Quick Access Toolbar. The Quick Access Toolbar gives access to frequently used commands. By default, Save, Undo, and Redo appear on the Quick Access Toolbar.



c) Title Bar:

It is located at the top of the Excel window. On the Title bar, Microsoft Excel displays the name of the workbook currently used. User could see "Book1 - Microsoft Excel" at the right side of the Quick Access Toolbar of Excel window.



On the right side of Title bar are three control buttons: Minimize, Restore or Maximize, and Close buttons to control the window.

d) Ribbon:



Figure 3.3 Ribbon

The Ribbon, as shown in Figure 3.3, is

located below the Quick Access toolbar. The commands on the Ribbon are organized in seven tabs and each tab is divided into groups which have buttons of related commands.

e) Formula Bar:

Formula bar displays the contents of the active cell and the formulas as user types them in an active cell. The formula bar can be used to edit cells content easily.

The formula bar also contains the Insert Function button used to guide the user through the creation of mathematical formulae. Figure 3.4 shows Formula bar.



Figure 3.4 Formula bar

f) Name Box:

Name Box displays the reference of the active cell. It is located next to the formula bar, as shown in Figure 3.5. It can also be used to go to a specific cell by entering the name of the cell in it.

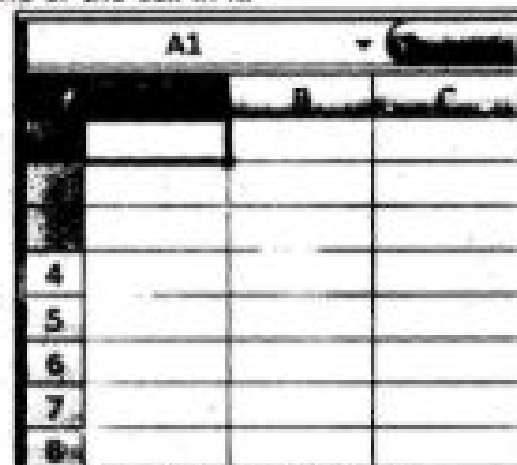


Figure 3.5 Name Box

g) Document (worksheet) Window:

The document (worksheet) window contains an Excel workbook that consists of a number of worksheets. A worksheet is a document window where user can enter data and modify it. The worksheet is made up of rows and columns. Intersection of a row and a column is called a cell. The name of the cell is made up of the column name

and the row number, for example, A1 is the cell in column A and row 1.

At the bottom of each worksheet is a numbered sheet tabs. It has the name of the worksheet on it, which can be changed. Sheet tab can be used to bring the worksheet to the front. Figure 3.6 shows a document window.



Figure 3.6 Excel Document window

h) Sheet Tabs:

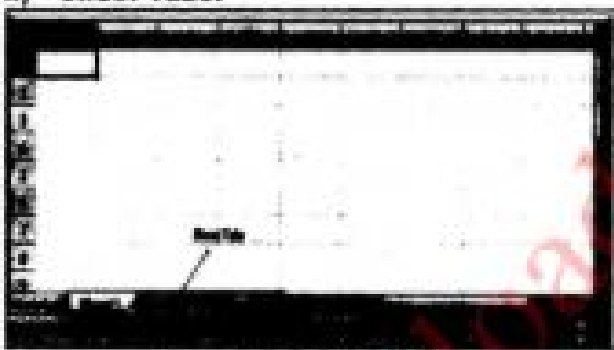


Figure 3.7 Sheet Tabs

Sheet tabs, as shown in Figure 3.7, are used to access different worksheets in a workbook. By default three sheet tabs are available in a workbook. User can add more tabs as required by using mouse right click menu and selecting the 'Insert' option followed by 'worksheet' option. User can also change the tabs name to easily identify the data entered in the sheet using right click menu.

ii. Explain basic elements of a worksheet.

Ans.:- Basic Elements of a Worksheet:

The following are basic elements of a worksheet.

a) Columns:

Columns in a worksheet are arranged vertically. They are identified by alphabet in

the column header from A to Z, AA, AB, AC, to XFD, as shown in Figure 3.8.

b) Rows:

Rows are arranged horizontally in a worksheet. They are identified by numbers in the row header (1, 2, 3, 4, ...), as shown in Figure 3.8.

c) Cell:

The intersection of row and column in a worksheet is called cell. Cell is the basic unit in the worksheet where user can enter data, function or formula. The active cell is the cell which is currently selected. It can be identified by the black border around it, or by its cell address in the Name Box. Given Figure 3.8 shows cell and active cell (C6).

d) Cell Address or Cell Reference:

Cell Address or Cell Reference identifies the location of a cell or group of cells in a worksheet. It consists of the column letter and row number that intersect at the cell's location. Cell references are used in formulas, functions, charts, and other Excel commands. Figure 3.8 shows cell address of the active cell as C6.

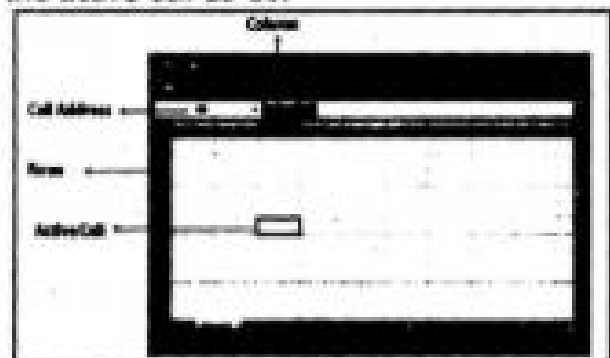


Figure 3.8 Elements of Worksheet

e) Cell Range:

Selecting more than one cell is known as a cell range. Two cell references are used for a range of cells separated by a colon (:) which tell Excel to include all the cells between the start and end points. Figure 3.9 shows range of cells from C4 to F7.

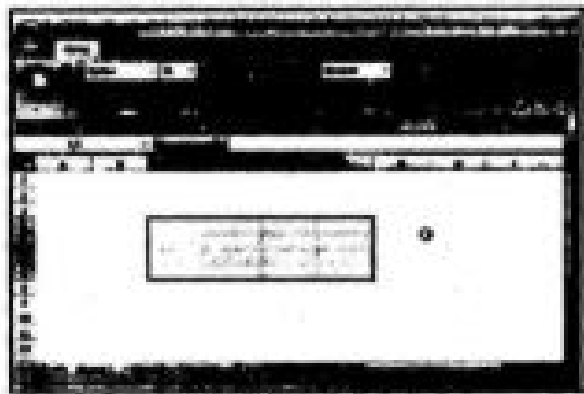


Figure 3.9 Cell Range

iii. What is purpose of the following functions? Give one example of each.

SUM, PRODUCT, AVERAGE, POWER, SQRT, MAX, MIN

Ans.:- a) **SUM:**

The **SUM** function adds all the numbers that user specifies as arguments. Each argument can be a range, a cell reference, an array, a constant, a formula, or the result from another function.

For example **=SUM(B5:B9)** adds all the numbers that are contained in cells B5 through B9, as shown in Figure 3.14.



Figure 3.14 SUM Function

b) **PRODUCT:**

The **PRODUCT** function multiplies all the numbers given as arguments and returns the product.

For example in cell A4 the function **=PRODUCT (A1, A2)** is used to multiply two numbers in cells A1 and A2, as shown in Figure 3.15



Figure 3.15 PRODUCT Function

c) **AVERAGE:**

AVERAGE function returns the average (arithmetic mean) of the arguments. For example, if the range B1:B5 contains numbers, the formula **=AVERAGE(B1:B5)** returns the average of those numbers, as shown in Figure 3.16.



Figure 3.16 AVERAGE Function

d) **POWER:**

POWER function returns the result of a number raised to a power. Its general form is:

= POWER (number, power)

- **Number** is the base number. It can be any real number.
- **Power** is the exponent to which the base number is raised.

Example : The function **=POWER(55,3)** is used to find the value for 55 raised to the power 3, as shown in Figure 3.17.



Figure 3.17 POWER Function

e) **SQRT:**

SQRT function calculates the square root of a given number. Its general form is:
 = SQRT(number) Number is the number for which the square root is needed.

Example: The function =SQRT(256), finds the square root value of the number 256, as shown in the Figure 3.18.



Figure 3.18 SQRT Function

f) **MAX:**

The MAX function returns the largest value from a supplied set of numerical values. Its general form is:
 = MAX(number1, [number2], ...)

Where, the number arguments are a set of one or more numeric values to return the largest value of them.

Example: The function =MAX(A1:E1) in cell B3 returns the maximum value, as shown in the Figure 3.19.



Figure 3.19 MAX Function

g) **MIN:**

The Excel MIN function returns the smallest value from a supplied set of numerical values. The general form of the function is:
 = MIN (number1, [number2], ...)

Where, the number arguments are a set of one or more numeric values.

Example: The function = MIN(A1:E1) in cell B3 returns the minimum value, as shown in the Figure 3.20.

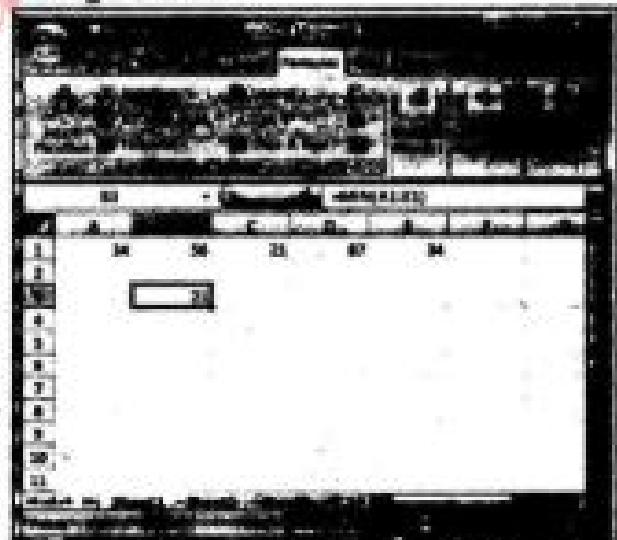


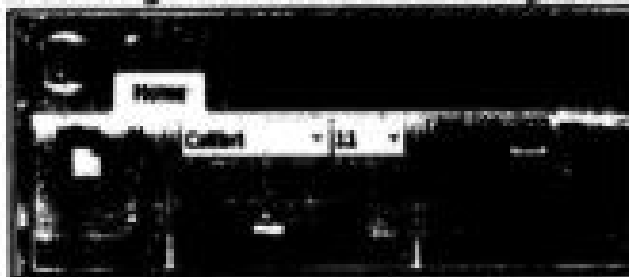
Figure 3.20 MIN Function

iv. **What is text formatting? Give procedure to change font and font size in Excel.**

Ans.:- **Formatting Text:**

Text formatting includes formatting the font size, style, and color; and using the Bold , Italic , Underline , and Aligning the

text. User can format a single cell or range of cells. Figure 3.34 shows formatting tools.



Font:

Font is the typeface of text and it is a set of characters used in typing of text in a particular style. Excel provides many different fonts from which user can choose.

To change Font:

- Select cells to change the Font. For example G3 to J3 as in Figure 3.34
- Choose the **Home tab**. As shown in Figure 3.34.
- Click the down arrow next to the **Font box**. A list of fonts appears.
- Find and click the required font from the list. For example **Arial Black** as shown in Figure 3.34.



Figure 3.34 Changing Font

To change Font Size:

- Select cell or cells to change the font size.
- Choose the **Home tab**.
- Click the down arrow next to the **Font Size box**. A list of font sizes appears.
- Click on the required size.

Figure 3.35 shows how to change the font size.

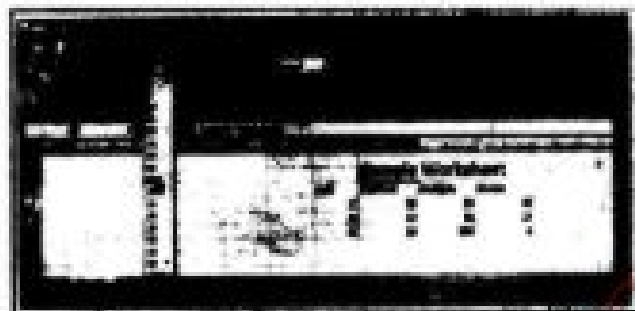


Figure 3.35 Changing Font Size

v. **What is a border? Give procedure to apply a border to a selected range in Excel.**

Ans.:-Borders: Borders are outlines around the cell or cells. User can use borders to make entries in worksheet stand out.

To Apply Borders:

- Select cell or cells to apply borders.
- Choose the **Home tab**.
- Click the down arrow next to the **Borders button**, a menu appears.
- Click the required border option.
- Excel applies the selected border to the selected cells, as shown in Figure 3.40



Figure 3.40 Applying Borders

vi. **Give procedure to insert new rows and columns in Excel.**

Ans.:- Inserting New Rows/Columns:

User can insert new rows and columns as required.

To Insert a column:

- Click on the column before which a new column is required to be inserted. For example **Column A** in Figure 3.42.
- Click the down arrow next to **Insert** in the **Cells group**. A menu appears as

shown in Figure 3.43.

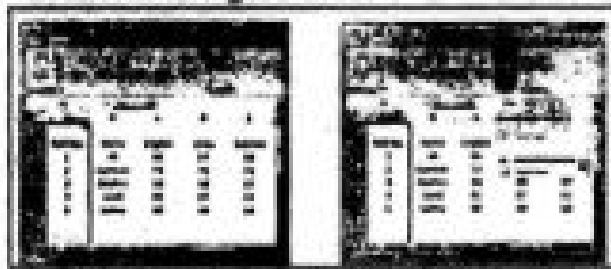


Figure 3.42 Selection of a column

Figure 3.43 Insert sheet column Menu

- Click Insert Sheet Columns. Excel Inserts a new column. As shown in Figure 3.44
- Click any where on the worksheet to remove your selection.



Figure 3.44 Inserting of a New column

To insert row:

- Click on the row above which a new row is required to be inserted.
- Click the down arrow next to Insert in the Cells group. A menu appears as shown in Figure 3.45.
- Click Insert Sheet Rows. Excel inserts a new row as shown in Figure 3.46.



Figure 3.45 Insert sheet Row Menu

Figure 3.46 Inserting of a New Row

vii. Write down the steps to create a Bar chart in Excel.

Ans.:- Inserting Column Chart:

Select cells in the sheet as data for column chart. For example A3 to D8 as shown in Figure 3.48(a).



Figure 3.48 (a)

- Choose the **Insert** tab.
- Click the **Column** button in **Charts** group. A list of column chart sub-types appears.



Figure 3.48 (b)

- Click the required chart sub-type.
- For example Clustered Column chart sub-type, as shown in Figure 3.48(b)
- Excel inserts a Clustered Column chart as shown in Figure 3.49.

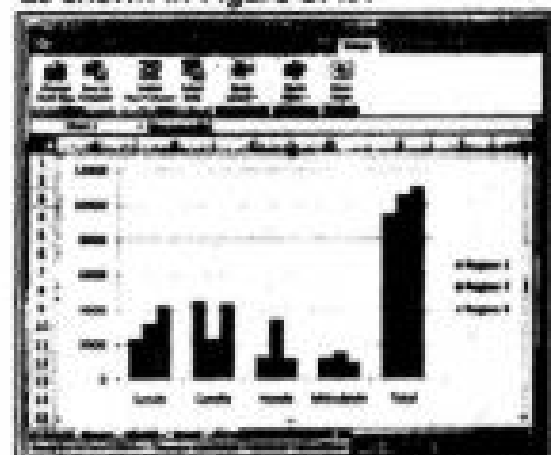


Figure 3.49 Inserting Column Chart

viii. Write down the steps to create a Pie chart in Excel.

Ans.:- Inserting Pie Chart:

Pie charts or circle graphs are used to show percentages. The circle of pie charts represents 100%. The circle is subdivided into slices representing data values. The size of each slice shows what part of the 100% it represents.

- Select the cells to include as data for Pie chart. For example the cells A2 to D5 as shown in the Figure 3.51.
- Click the Insert menu.
- Click Pie from the Charts group.
- Click the down arrow and select the first Pie chart sub-type
- A Pie chart is inserted as shown in Figure 3.51.

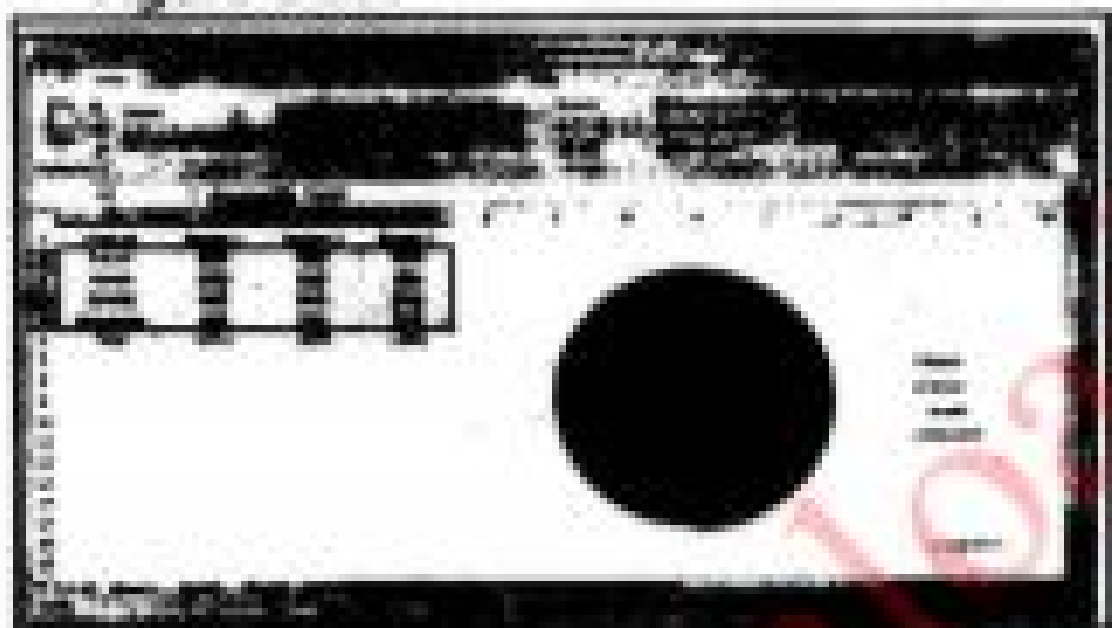


Figure 3.51 Pie Chart