Microsoft Excel

VEIS

Computer Education

CONTENTS

Unit 1

Introduction to MS-Excel

Contents :

1.1 Introduction: Microsoft Excel is the most popular windows based software for mathematical calculation. It is a spreadsheet program that is used to create and manage business transections that deal with accounting.

1.2 Benefits of Spreadsheet

- Excel is the best package to do calculations and update data.
- It will calculate large amount of data/values easily.
- You can sort the data easily.
- You can arrange the data either in increasing or decreasing order.
- Spreadsheets have built-in formulas, automatic formating and graphing capabilites
- You can format data in Excel . Excel change the appearance of data in a presentable manner.

1.3 Application of M.S Excel

- Creating reports in offices, Banks, Railway Station, Hospitals.
- Creating Charts and Tables in companies to know about the changing trends and do the comparative study of data available.
- Creating mark sheet in schools & colleges.

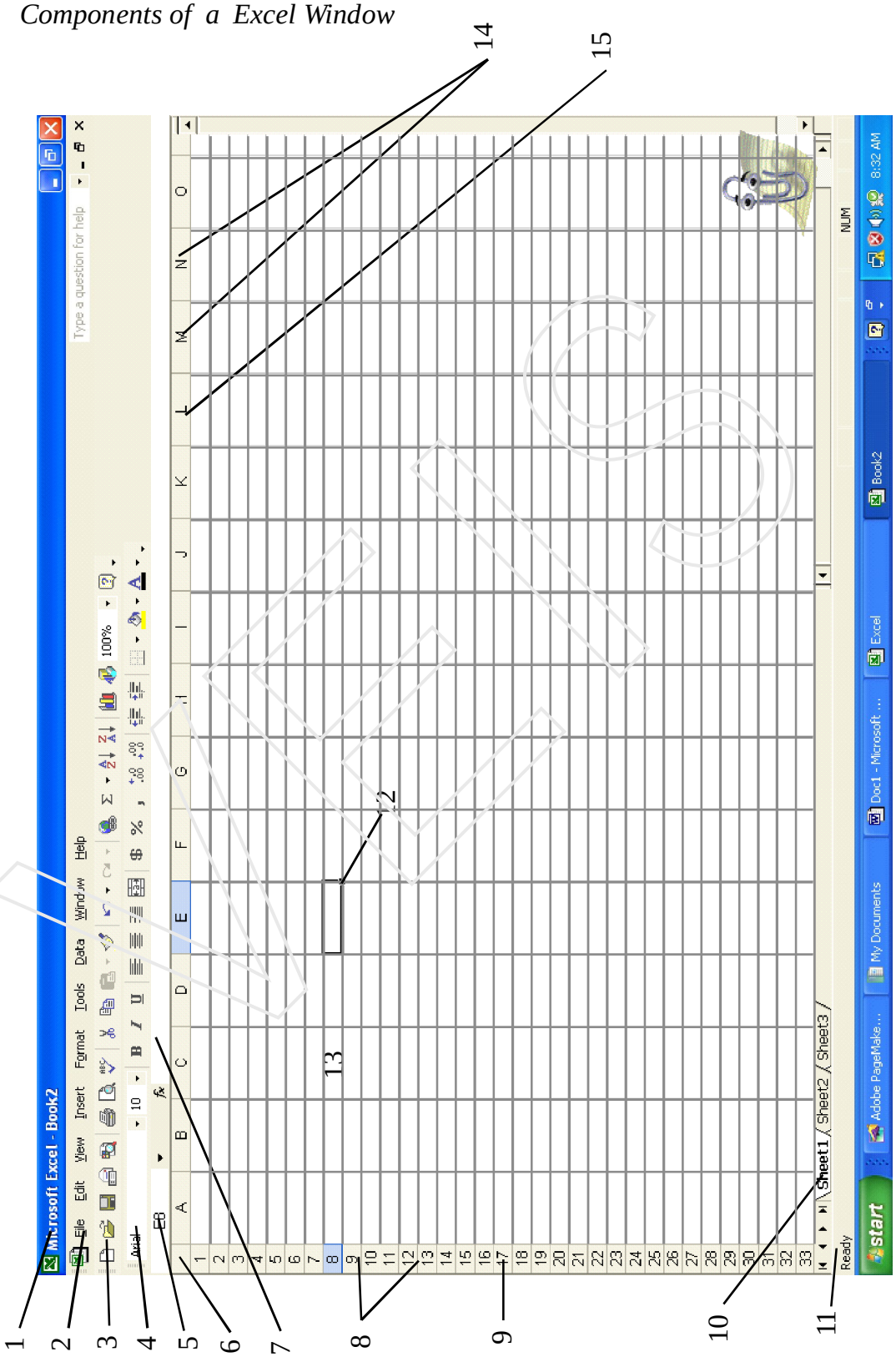
1.4 Starting MS-Excel

To start Ms-Excel select **Start → Programs → Microsoft Excel**.

This opens a blank **Worksheet as shown .**

Start Menu Option

Components of a Excel Window



1.5 Ms-Excel Parts

Workbook:

An Ms-Excel document is also known as a workbook.

Worksheet:

Each workbook contains multiple pages called worksheets (by defalt 3). The active worksheet, is the worksheet in use.Each worksheet in Ms-Excel is made up of rows and columns.

Spreadsheet:

Spreadsheet is a sheet which is spread in such a way that it divides itself into various horozontal rows and vertical colums.

Speadsheet also refers to an application software Ms-Excel which allows you to work with numbers and text, including mathematical calculations and graphing operations

1 A spreadsheet consists of rows and columns in which you can enter data.

2 Rows are the horizontal cells which can contain any information.

3 Columns are vertical cells which can also contain information.

4 You can add as many worksheets as you want to create, within the limits of your computers memory resources.

5 The Spreadsheet that is currently in use is highlighted in bold letters.

6 The tab scrolling buttons to the left of the sheet tabs let you move through the sheets quickly.

7 To select a sheet, click its tab.

8 To give a name to a worksheet, right click on the sheet and select the rename option double-click its tab and type the new name.

.1. Title Bar:

It is at the top of the screen & displays the name of the workbook

2. **Menu Bar:** It displayes the name of main menus and gives access to various commands through excel.
3. **Standard Toolbar:**

   Displays icons for the editing commands like cut,copy,paste etc.

4. **Formatting Toolbar:** Displayes the common formatting tools.
5. **Name Box:**

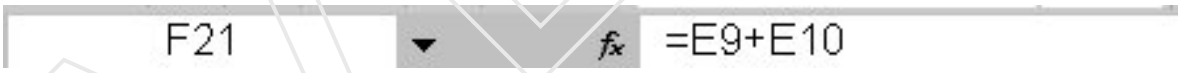
   It shows the address of the selected cell.
6. **Comman Heading Area:**

   It is the place by clicking on which the whole sheet gets slected.
7. **Formula Bar:**

   Is divided into Three partsName Box\ Reference Area ; shows the address of the current cell .

   Button Box Gives you 3 buttons…..1.Tick- To accept an entry

   2. Cross to reject an entry 3. Fx to enter a formula



8. **Row Header:**

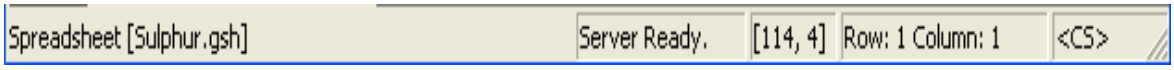
   Shows the row number by clicking on which complete row can be selected.
9. **Rows:**

   The rows are identified by numbers, labeled down the left side of the work sheet in the heading area. Each worksheet has a total of 65,536 rows.
10. **Sheet Tab:**

    Shows the name of the sheets in a worksheet

11. Status Bar:

Gives you the information about the status\ mode of the cell and the keyboard.Cell Mode (left pane)



Three modes are available on status bar

1 **Ready** Shows that cell is ready. Now you can type data.

2 **Enter** shows that cell is ready to accept the data and you can make the entry final.

3 **Edit** available when the cell is in edit mode. Allows you to change the contents. Cell can be brought in edit mode by pressing F2 key also.

Keyboard Mode (Right Pane)

a **Extend Mode** You can extend the selection using navigation keys F8 key is used

b **Add Mode** – You van add the selection means multiple selections can be done Shift+F8 is used

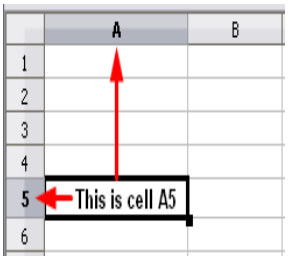
c **Other Status** Information about keyboard like num lock caps lock key is on\off etc, etc…..

12. Cell pointer:

A cell pointer is a highlighted cell boundary that specifies which cell is active at that moment.

13. Cell:

A cell is the smallest unit of a worksheet, formed by the intersection of arrow and a column. Each cell has a unique address formed by the combination of a column letter and a row number. For example, where row 5 is intersected by the column A, the cell so formed has the address A5.



14 Column Header :

Shows the column name by clicking on which complete column can be selected.

15. Columns:

The columns are identified by letters, labeled across the top of the sheet in the heading area. Each worksheet has a total of 256 columns. The columns are labeled as A,B,C,.....

1.7 Creating a New Workbook

A workbook in Excel can be creating using the following ways.

- Using Task Pane
- Using Standard Toolbar
- Using Short-cut keys

Steps to create a file using Task Pane

- Select **New** from **File menu.** The **New Workbook** task pane appears.
- Click **Blank Workbook** under **New.**

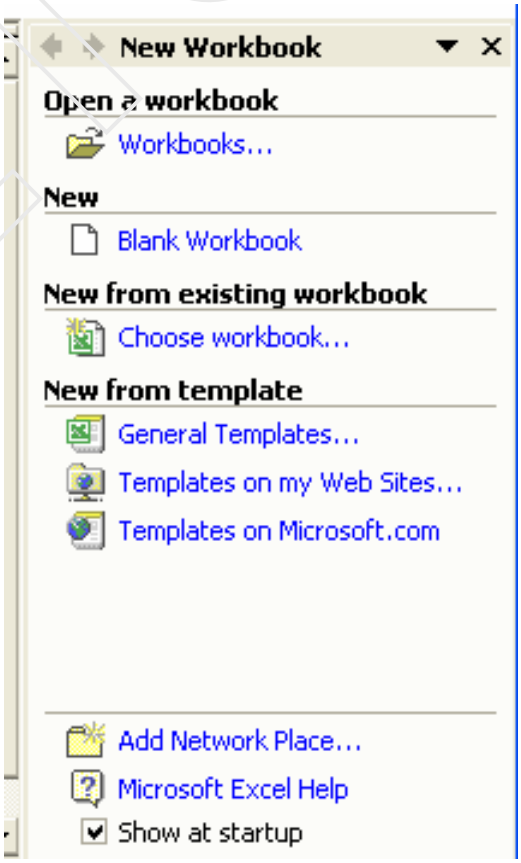
To create a file using Standard toolbar-

Select **New** on the **Standard Toolbar.**

To create a file using the short-cut keys-

Press **Ctrl +N** from the keyboard.

Task Pane



Task Pane

1.8 Opening a Workbook

Select File, Menu and click on Open option Or, click choose workbook…. Under New from existing workbook. After that Open dialog box appears.

- In the Look in list, click on the drive, folder, or Internet location that contains the file you want to open.
- In the folder list, locate and select the folder that contains the file
- Click open.

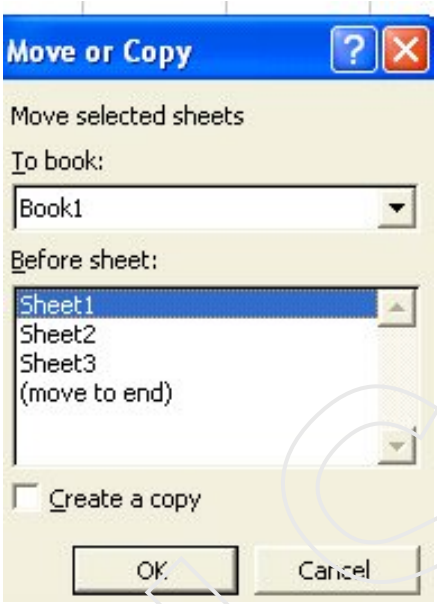
1.9 Moving or Copying Sheets

Moving or Copying Sheets to another workbook

It is possible to move or copy sheets from one work book to another, but at times calculation and data are not transferred accurately so the process should be undertaken with care.

Open the workbook and select the sheets you want to move or copy. If you want to select a single sheet, just click the sheet. If you want to select more than one adjacent sheets, click the first sheet tab, hold down SHIFT key and then click next and so on. If you want to select sheets randomly , click the first sheet tab, hold down CTRL key and select others.

- Select **Edit Menu** and click on **Move or Copy** Sheet
- In the **To book box,** click the workbook to receive the sheets.
- To move or copy the selected sheets to a new workbook, click **New Book**.
- In the **Before Sheet Box,** click the sheet before which you want to insert the moved or copied sheets.
- To copy the sheets instead of moving them, select the **Create a Copy** check box.



Move or Copy dialog box.

Moving or Copying Sheets to Current workbook

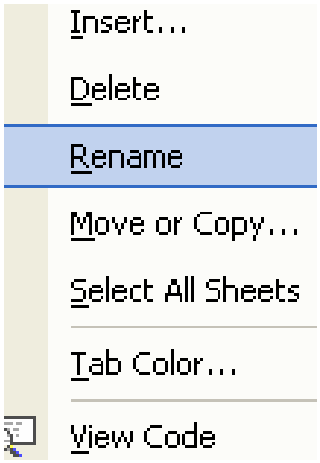
To move sheets within the current workbook, drag the selected sheets along the row of sheet tabs.

To copy sheets, hold down CTRL, and then drag the sheets; release the mouse button before releasing the CTRL key.

1.10 Inserting a Sheet.

Maximum 225 sheets can be inserted in a Ms Excel workbook

- Select sheet before which you want to insert a sheet. (For e.g to Insert a sheet between sheet1 and sheet2, select sheet2)
- From the **Insert menu** select **Worksheet** option.



Pop-up Menu

1.11 Renaming a Sheet

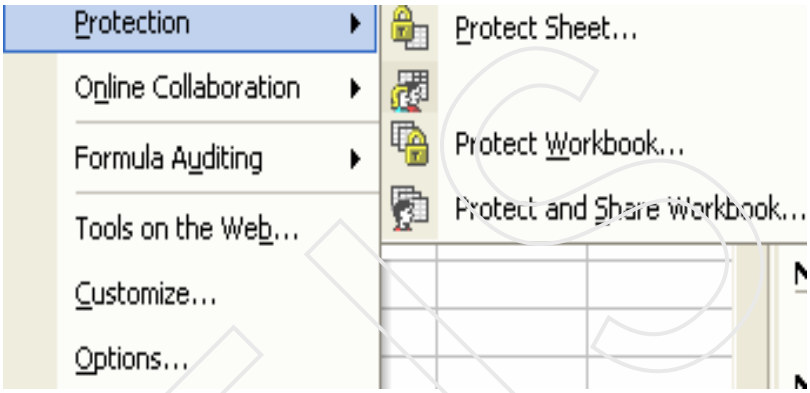
Double click on the **Sheet Tab** for which you want to rename or right click on the sheet tab select the **Rename** option from the **Pop-up menu.**

1.12 Protecting a Workbook or Worksheet

Sometimes you may need that nobody should make any changes in your workbook. To do so, Excel provides option to protect your workbook.

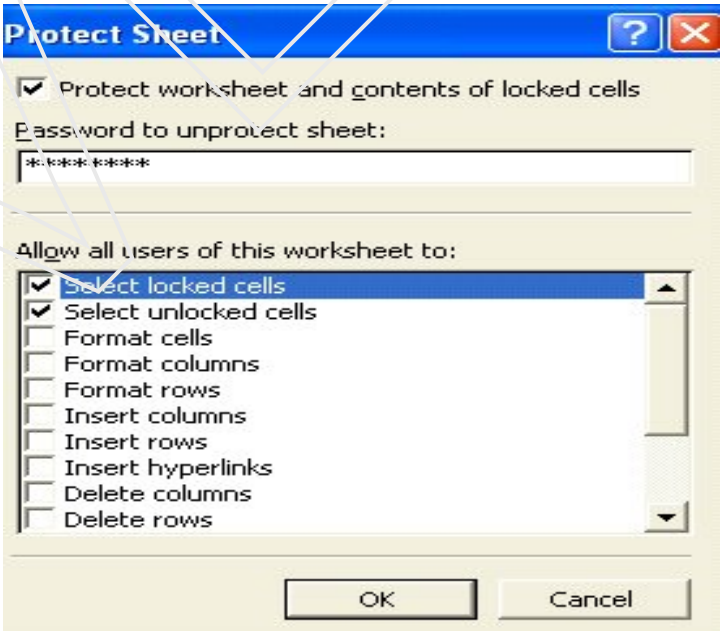
Follow these steps.

- Select **Tools Menu** and choose **Protect sheet** option**.**



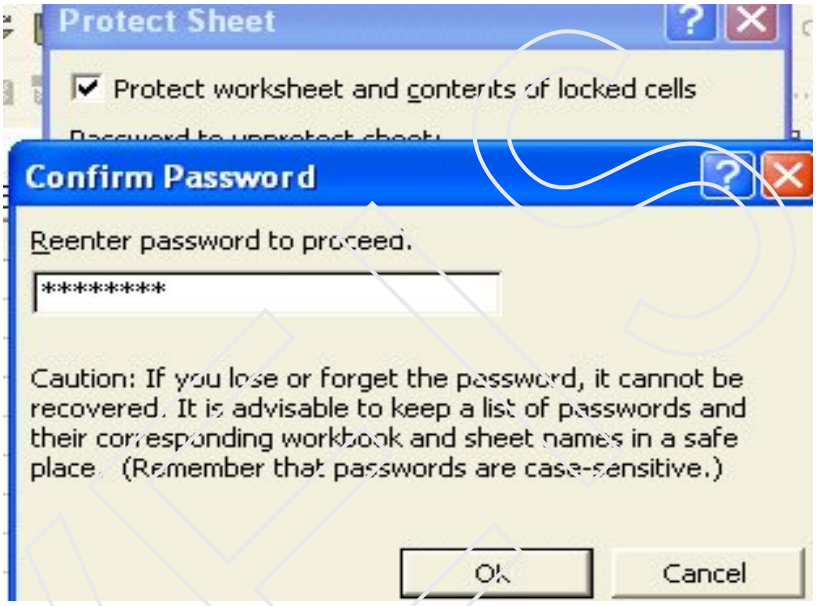
Protecting Workbook

- In the **Protect Sheet** dialog box .Enter the **password**
- Click OK



Entering Password

- The dialog box appears which prompts you to **Re-Enter** the **Password** for confirmation
- Type the password and click OK
- The worksheet is protected. Now one can view the worksheet but cannot modify its contents.



Re-Entering Password

1.13 Saving a File

To save a file do the following:

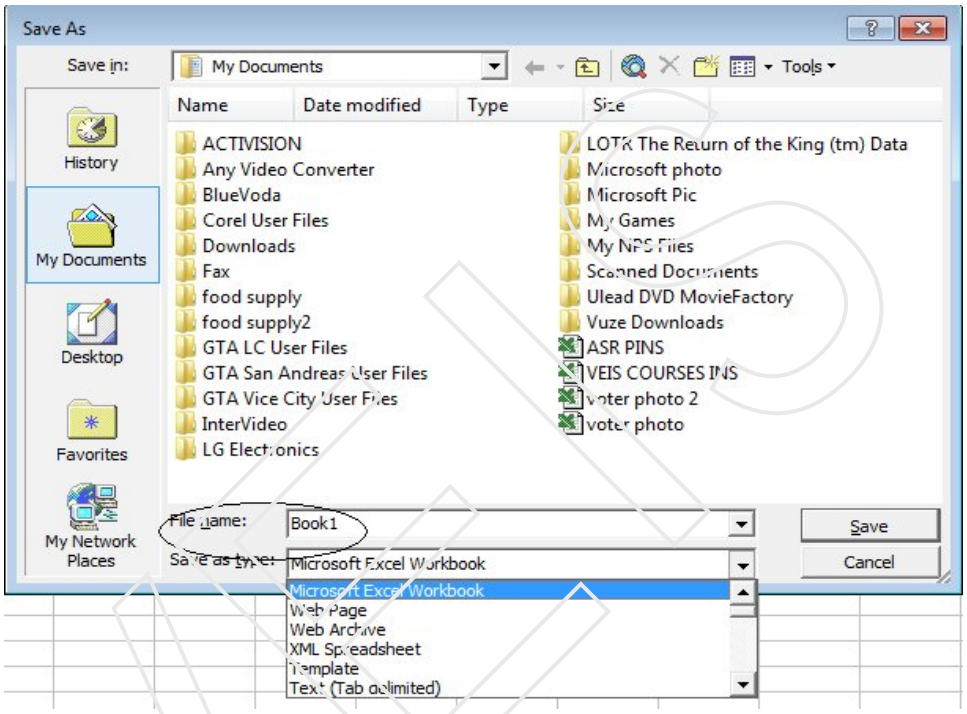
- Select **File menu** and then click on **Save As**. Save dialog box appears as shown in figure
- Type the file name of your choice in the **File name text box**
- Click Ok

Saving a File in another format

To save a file in another format, do this

- Select **File menu** and click on **Save As…**

- After that **Save As** dialog box appears.
- Enter a new name for the file in the **File name text box.**
- Click the **Save as type** drop-down list, and select the file format that you want the file to be saved in.



Saving a file to a different Format

1.14 Opening a file as a copy

To open a file as a copy

Select **File menu** click on and **Open** option

- In the look in list, click the drive, folder that contains the file you want to open.
- In the folder list, locate and select the folder that contains the file.
- Select the file you want to open a copy of. Click the arrow next to the open button, and then click Open as Copy.

When you open a file as a copy, a new copy of the file is created in the folder that contains the original file.

Opening a file as read-only

- Select **File menu** and click on **Open** option
- In the **Look in** list, locate and open the folder that contains the file

Select the file you want to open a copy of. click the arrow next to the **Open** button, and then click open as read-only.

1.15 Copying a File

To create a copy of the file, the steps mentioned are usually followed

- Select **File menu** and click on **Open** option. Or press **Ctrl+ O** together
- In the Look in box, click the drive or folder that contains the file you want to copy
- Right- click the file you want to copy, and then click on **Copy** from **Pop up menu**
- Now, in the **Look in** box, click the drive or folder you want to copy the file to.
- Right-click in the folder list (make sure a file is not selected), and then click on **Paste** from the **Pop- up menu.**

You can copy a file in one more way. To copy in another way do the following:

- Open the file you want to create a copy
- Click **File** and select **Save As**
- Type the new name of the file in the **File Name** text box
- Click **Save.**

1.16 Renaming a File

To rename a file, do the following:

- Select **File menu** and click on **Open** option
- In the look in box, click the driver or folder that contains the file you want to rename
- Right-click the file you want to rename, and then click **Rename** on the shortcut menu. Or press **F2** key
- Type the new name, and press **Enter.**

1.17 Closing a File

To close a file, follow the steps as below:

- Select **File menu** and then click on **Close** option
- Or, click **Close** from the application window.

  Or, press **ALT+ F4** together from the keyboard.

Self-Assessment Questions

1 Describe Benefits of Ms-Excel.

2 Parts of an Ms-Excel Window.

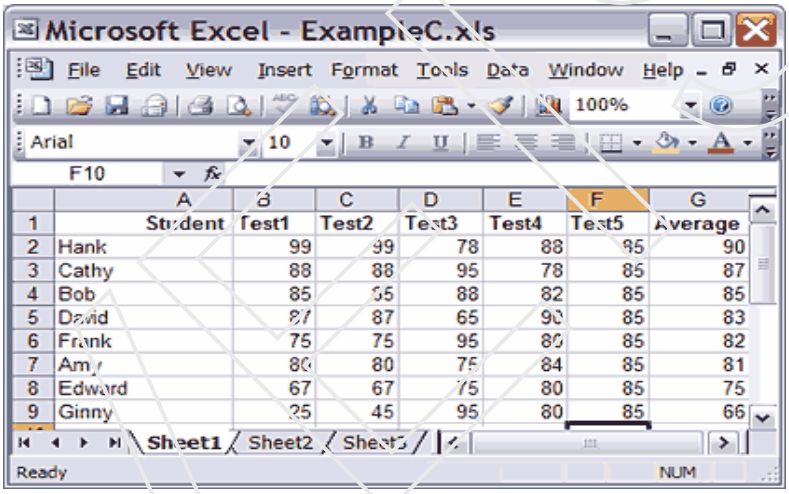
3 Explain moving or copying sheets.

4 Explain the diffrernt methods of saving the file.

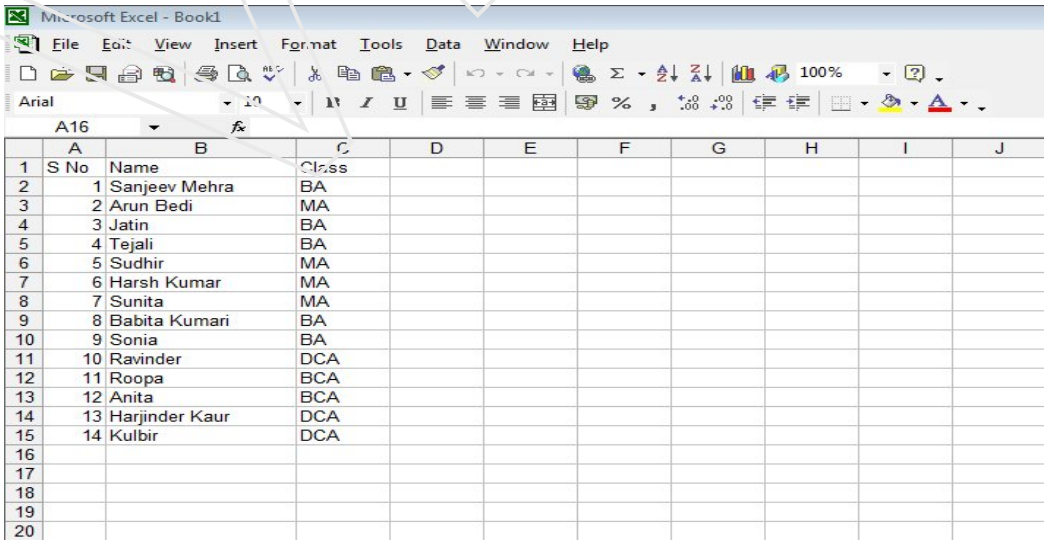
5 Renaming and closing a file

Lab Session

1. Enter the Data in Ms-Excel Sheet



	A	B	C	D	E	F	G
1	Student	Test1	Test2	Test3	Test4	Test5	Average
2	Hank	99	99	78	88	95	90
3	Cathy	88	88	95	78	85	87
4	Bob	85	85	88	82	85	85
5	David	87	87	65	90	85	83
6	Frank	75	75	95	80	85	82
7	Amy	80	80	75	84	85	81
8	Edward	67	67	75	80	85	75
9	Ginny	25	45	95	80	85	66



	A	B	C	D	E	F	G	H	I	J
1	S No	Name	Class							
2	1	Sanjeev Mehra	BA							
3	2	Arun Bedi	MA							
4	3	Jatin	BA							
5	4	Tejali	BA							
6	5	Sudhir	MA							
7	6	Harsh Kumar	MA							
8	7	Sunita	MA							
9	8	Babita Kumari	BA							
10	9	Sonia	BA							
11	10	Ravinder	DCA							
12	11	Roopa	BCA							
13	12	Anita	BCA							
14	13	Harjinder Kaur	DCA							
15	14	Kulbir	DCA							
16										
17										
18										
19										
20										

2. Create yourself 2 to 4 Excel Data Sheets inserting your own data.

Unit 2

Entering and Editing data in MS- Excel

Contents :

2.1 Introduction

You can enter text, a number, images, fill colour, or a formula into each cell in a worksheet.

Four types of data can be entered in excel :-

1. Numeric (Value Entry) : The entry that consists of only numbers.

- ➔ Along with the number it may consists of some symbols like Decimal (.), Comma (,), Percentage (%), Currency ($) etc.
- ➔ Value Entry is right aligned (By default).

2. Formula Entry

It is an entry that start with

a) = b) + c) @ symbol

- ➔ In-built formula can start with '=' or '@' or '+' symbol.
- ➔ User defined formulas can start with '+' or '=' symbol.

3. Text (label Entry)

All the entries other than value entry and formula entry is called as Text\ Label entry.

It may consist of

1. alphabets
2. numerals
3. special symbols and combination of all these.
4. All the text entries are left aligned (by default).

4. Images

Image files like JPEG, PNG..... can be inserted in a cell.

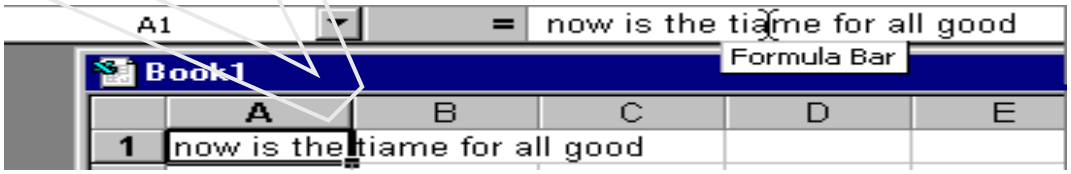
2.2 Keyboard Shortcuts in MS-Excel

For entering the data in the M.S Excel sheet, use the following keys.

Command	Function
Right arrow / Tab Key	To move one column right
Left arrow Key	To move one column left
Up arrow Key	To move one row up.
Down arrow Key/ Enter	To move one row down
Page Up	To move one up
Page Down	To move one screen down
Ctrl +Home	To move to the first cell of the row.
Ctrl+ End	To move to the last used cell of Spreadsheet.

2.3 Editing Data

The easiest way to change the text or number in a cell is to click the cell and then type right over the contents. If you do not want to replace the data, but simply need to corect some part of it, move your cursor to the location in formula bar, where you want to make changes.



1. Inserting More Cells

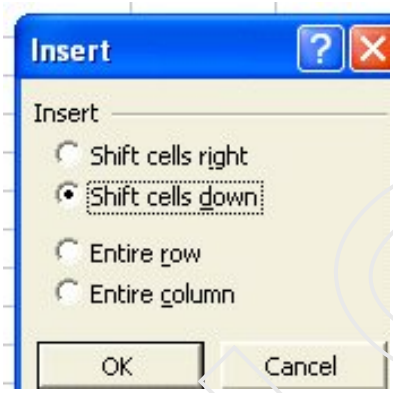
If you want to insert cell before B3

Select cell B3.

Choose **Cell** option from **Insert menu.**

Choose **Shift Cell Down** option from **Insert dialog box.**

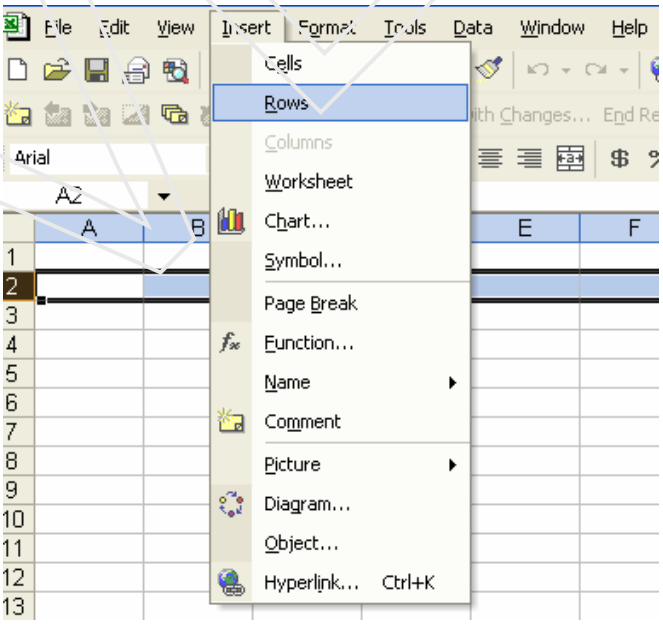
Blank cell will be inserted between cell B2 and B3.



Insert dialog box

2. Inserting Rows

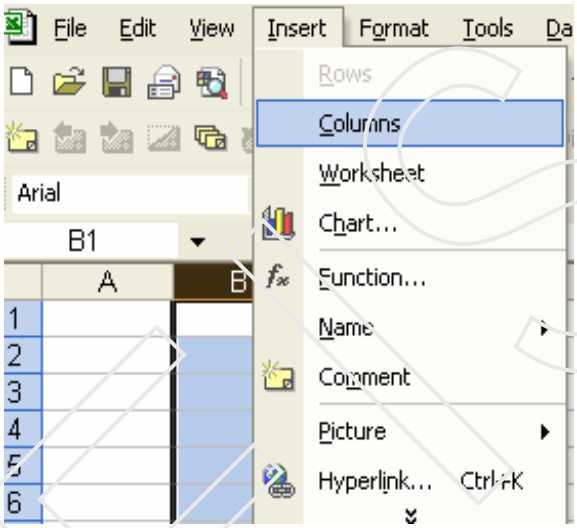
1. Select **Row 2** by clicking on row header.
2. Select **Row** option from **Insert menu.**
3. A blank Row is inserted above the Row 2.



Inserting Rows

3. Inserting Columns

1. Select **Column B** by clicking on **Column header.**
2. Select **Column** option from **Insert menu.**
3. A blank Column is inserted between column A and column B.



Inserting Columns

2.4. Deleting Rows, Columns and Cells

1. Deleting Rows

1. Select the Row 3 by clicking on row header. Press shift key and select Row 4,5.
2. Select **Delete** option from **Edit menu.**
3. All the three rows are deleted.

2. Deleting Columns

1. Select the **Column** B by clicking on **Column header**. Press **Shift key** and select Columns C,D,E.
2. Select **Delete** option from **Edit menu.**
3. All the four Columns are deleted.

3. Deleting Cells

Select the Cells to be deleted and from the edit Menu, select Delete option. Cells will be deleted. Or right click the cell and chose delete from the shortcut menu.

2.5 Resizing Rows, Columns and Cells

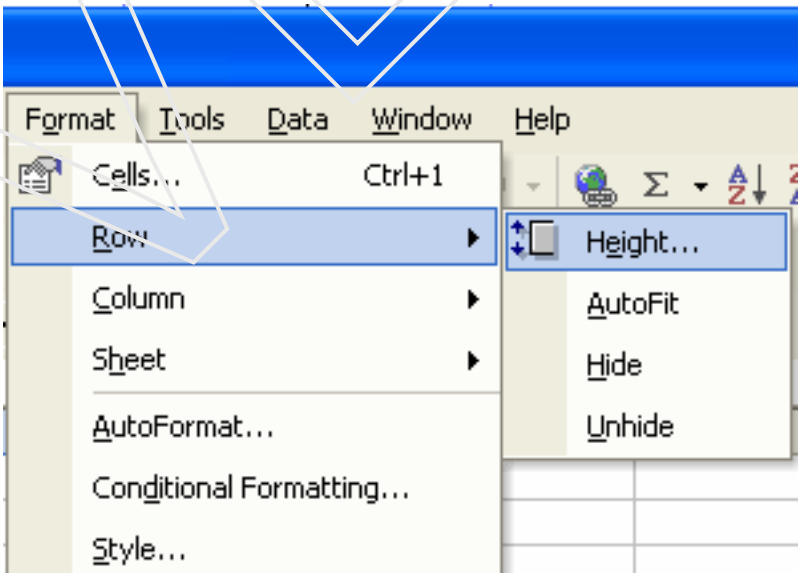
1. Changing Row Height

Ms-Excel adjust row height automatically if you enter taller or wider characters.

Manually change the row height: Position the mouse pointer on the bottom edge of the gray row and drag up or down to change row height.

To change the height of several rows, the steps are:

1) Select the rows
2) Click on the **Format menu** and choose the **Row** option. Then select the **Height** option from the **Submenu**
3) The **Row Height** dialog box is displayed.



Increasing Row Height

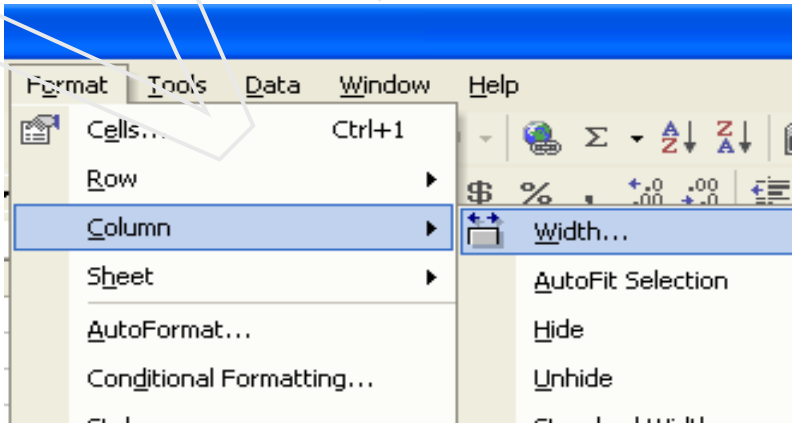
4) Enter the new row height.

5) And click on the OK button You will find the changed row height in the selected rows.

Entering new Row height

2. Changing Column Width

1. Select the Columns A and B by dragging.
2. From the format menu choose the column option.
3. Select the width option from the submenu.



Increasing Column Width

Entering new Column Width

4. Enter the new column width 16 in column width text box

2.6 Copying and Moving Data

1. Data in Ms-Excel can be Copied using two methods

(a) Drag and Drop Method

(b) Copy and Paste Method

(a) Drag and Drop Method

1. Select the Range of cells to be copied
2. Position the mouse pointer at the lower border of the selected range.
3. Hold down the Ctrl key. You will notice that the mouse pointer changes to an **arrow with plus sign**.
4. Keeping the left mouse button pressed, drag the border to target location.
5. Data from the selected cells is copied to the new location.

(b) Copy and Paste Method

1. Select the Range of data to be copied.
2. Choose copy from the **Edit** menu or **Shortcut menu.**
3. Click on the cell to which you want to copy data
4. Select **Paste** from the **Edit menu or Shortcut menu.**

5. The data from the selected cells is copied to new location

2. Moving Cell Contents :-

(a) Drag and Drop Method

Select the Range of data to be moved

Take the mouse pointer to any place at the boundary of the border. When the cursor changes from the (+) to the arrow sign click and hold the left mouse button pressed, drag the data to the new location.

When data has reached the desired location release the mouse button.

The selected data is moved to the new location.

(b) Cut and Paste Method

1. Select the range of data to be moved.
2. Select the **Edit menu**, and click on **Cut** option
3. Click on the cell where the contents are to be pasted
4. From the **Edit** menu select **Paste** option.

2.7 Hiding and Unhiding Rows/Columns

1) To hide a particular row/column
2) Select the cells from the row /column
3) From the **Format menu** click row/column and click on **Hide option.**

To unhide a particular row/column

Position mouse pointer at the row/column split bolded bar, when the mouse pointer changes to hollow arrow, drag it.

Or

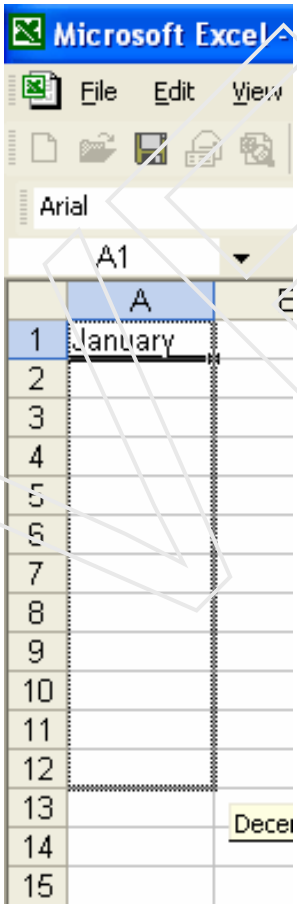
1) Select the hide cells range from rows/columns.
2) From the **Format menu** click row/column and click on **Unhide option.**

Note: We cannot hide or unhide a row and a column simultaneously.

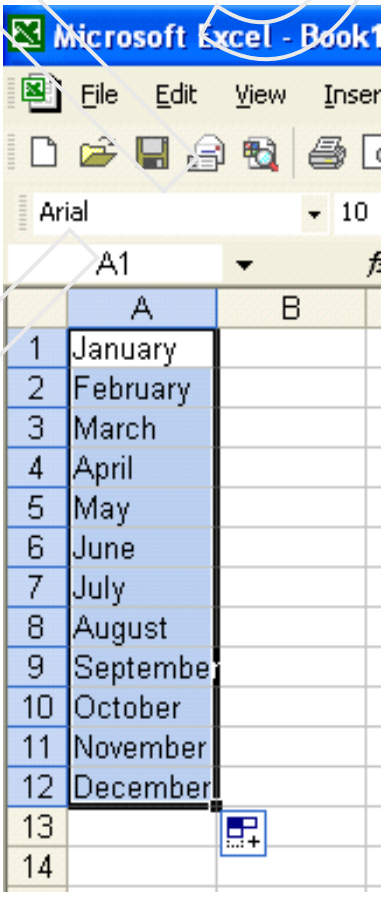
2.8 Auto Fill Pre-defined Series of Text

You can also generate a pre-defined series of dates, weekdays or month names. The step are:

1. Type the first value of the series. For example, type ‘January' in cell A1.Select this cell.
2. Click the Auto Fill handle and drag it to enclose the area you want to fill with the series.
3. Release the mouse button. The enclosed cells with the grey border are filled with the series



Generating Fill Series



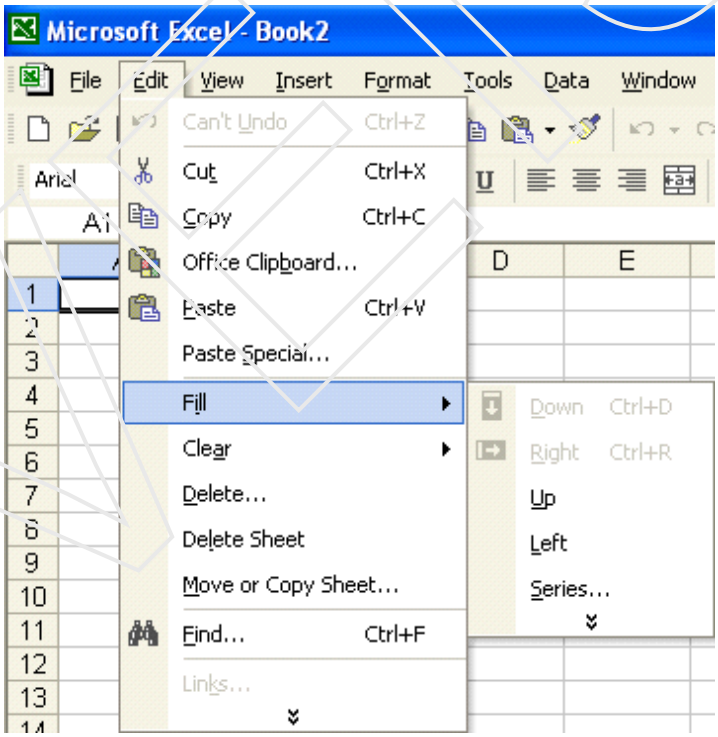
Fill Series Data

The Series Dialog Box

The Series dialog offers further options for generating a series.

The steps to generate a Series are:

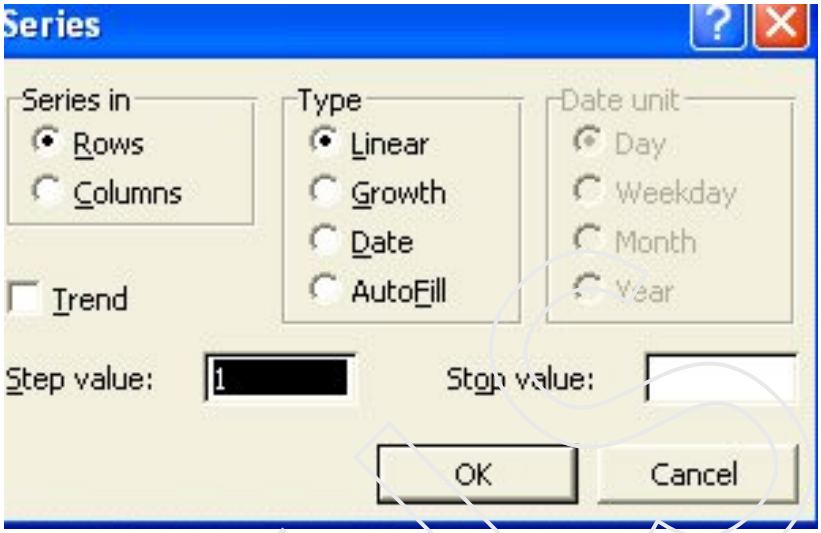
1. Enter the initial values.
2. Select the range of cells that need to be filled up.
3. Select the Fill option from the Edit menu
4. Select the Series option from the Fill submenu. The series dialog box is displayed .



Fill Series Option

5 Select the appropriate options and click the OK button.

The series dialog box offers the following options:



Fill Series dialog box

Series in: Rows or columns

Excel will guess the correct orientation, depending upon the range selected. If you have selected a single cell, you must indicate in which direction you want the series to be placed across a row or down a column

Type Linear

This option creates a straight linear progression, starting at the current value of the cell and incrementing each cell in the range by the number entered in the step value.

For example, if you have entered 6 in the first cell and number entered in the step value is 10, the numbers will increment by 10, i.e.6,16,26,36 and so on.

Type Growth

This option will grow the data by the numbers entered in the step value box using simple multiplication. If you start with a value of 1 and grow the data by a step value of 5, the series will be 1,5,25,125,625 and so on.

Type Date

This allows you enter a series of dates a specific number of days apart, ie. if you enter 03-09-2010 in the first cell and choose Monthly, the date series will read 03-09-2010, 03-10-2010, 03-11-2010, and so on.

Type AutoFill

This option allows you to enter a series of numbers and have excel determine the relationship between them in order to fill the remaining cells in the series. For example, if you enter 5 in the first cell and 10 in the next, excel will fill the remaining cells with 15, 20, 25, and so on.

Step Value

The step value is the increment value for a linear series or data series and multiplication rate for a growth series.

Stop Value

Stop value is the maximum value for the series.

2.9 Highlighting Gridlines

Gridlines are the lines which are present on the Ms-Excel sheet. By default they are not printed on the paper.

1. To Print the Gridlines

1) Select **File menu** and click on **Page Setup.**
2) Select the **Sheet tab.**
3) Then click **Gridlines** check box.
4) Click Ok.

2. Hiding the Gridlines

1. Select the sheets on which you want to hide the gridlines.
2. On the **Tools menu,** click **Options**

3. Then click the **View** tab under Windows options. Then clear the **Gridlines** checkbox.

2.10 Selection Technique

Selection can be done using Mouse and keyboard. We shall discuss Continuous Selection and Non Continunous Selection in each way.

Using Mouse:-

(a) Continuous Selection

Range

1) Drag the mouse over the cells
2) Select the first cell of Range then pressing Shift key, click on the last cell.

Column

Single click on the Column Heading

Drag the mouse over the column headings for multiple columns

Row

Single click on the row heading

Drag the mouse over row headings for Multiple Selection.

Worksheet

Single click on the common heading area (i.e. Intersection are of row heading column heading)

(b) Non continous Selection

Range

Select a range of cells holding down CTRL key and then select another range.

Row\Column

Select a row\ column

Hold down Ctrl key and again select another row\ column

Using keyboard

(a) Continuous Selection

Range

Shift key + Arrow keys

Column

For single Column Ctrl + Spacebar

For single row, Shift + Spacebar

For multiple rows , Select any cells of the row and press Ctrl+Spacebar

Whole Worksheet

Ctrl +A

Or ctrl +shift+ spacebar

(b) Non Continuous Selection

For this we have to bring the keyboard into add mode.

Add mode can be done by pressing shift+F8

Select the first range

Press Shift + F8 key to send the Keyboard to add mode

Now use arrow Key to move the cell pointer

Again use Shift + Arrow key for next range selection

(c) Extended Mode Selection

Selection is done , Using navigation keys.

Press F8 Key for extend selection

The Keyboard will go to Extended mode.

Use Navigation Keys (arrows Keys) to extend the Selection

To cancel it, press Esc key

Self-Assessment Question

1 Write the short cut keys for entering data in MS-Excel sheet.

2 Explain different ways of selecting rows and columns.

3 Explain two methods of copying data in Excel Sheets.

4 Write the steps to increse the row height and column width.

5 Explain Fill Series in detail.

6 Explain selection technique using keyboard.

Lab Session

A Generate the table of 8 upto 10 multiples using Fill Series.

B Fill January to December using Fill Series.

C Make the following series 23333,27333.....upto 103333.

D Change column width using format menu