

## 12

# BASICS OF MS-EXCEL

### 12.1 INTRODUCTION

MS-Excel 2000 is a Windows based application package. It is quite useful in entering, editing, analysis and storing of data. Arithmetic operations with numerical data such as addition, subtraction, multiplication and division can also be done with Excel. You can sort the numbers/characters according to some given criteria (like ascending, descending etc.)and solve simple financial, mathematical and statistical formulas.

### 12.2 OBJECTIVES

After going through this lesson you would be in a position to

- explain the basic features of MS Excel
  - set pages and their printing
  - modify a worksheet
  - enter and edit data in a worksheet
  - work on keyboard shortcuts
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## 12.3 EXCEL FEATURES

There are a number of features that are available in Excel to make your task easier. Some of the main features are:

AutoFormat - lets you to choose many preset table formatting options.

- 1 **AutoSum** - helps you to add the contents of a cluster of adjacent cells.
- 2 **List AutoFill** - automatically extends cell formatting when a new item is added to the end of a list.
- 3 **AutoFill** - feature allows you 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. You can also alter text and numbers with this feature.
- 4 **AutoShapes** toolbar will allow you to draw a number of geometrical shapes, arrows, flowchart elements, stars and more. With these shapes you can draw your own graphs.
- 5 **Wizard** - guides you to work effectively while you work by displaying various helpful tips and techniques based on what you are doing.  
**Drag and Drop** - feature will help you to reposition the data and text by simply dragging the data with the help of mouse.
- 6 **Charts** - features will help you in presenting a graphical representation of your data in the form of Pie, Bar, Line charts and more.
- 7 **PivotTable** - flips and sums data in seconds and allows you to perform data analysis and generating reports like periodic financial statements, statistical reports, etc. You can also analyse complex data relationships graphically.
- 8 **Shortcut Menus** - commands that are appropriate to the task that you are doing appear by clicking the right mouse button.

## 12.4 STARTING EXCEL

1. Click on (with the help of mouse) the **Start** button on the Windows 98 Taskbar at the bottom of the Screen
2. Highlight the **Programs** item. The program menu will open.

3. Select **Microsoft Excel** from the list of programs. (these steps are shown Figure 12.1)
  4. Click on Microsoft Excel
- Symbolically these actions are shown below.

**Select Start→Programs→Microsoft Excel** commands from your menu bar.



**Fig. 12.1**

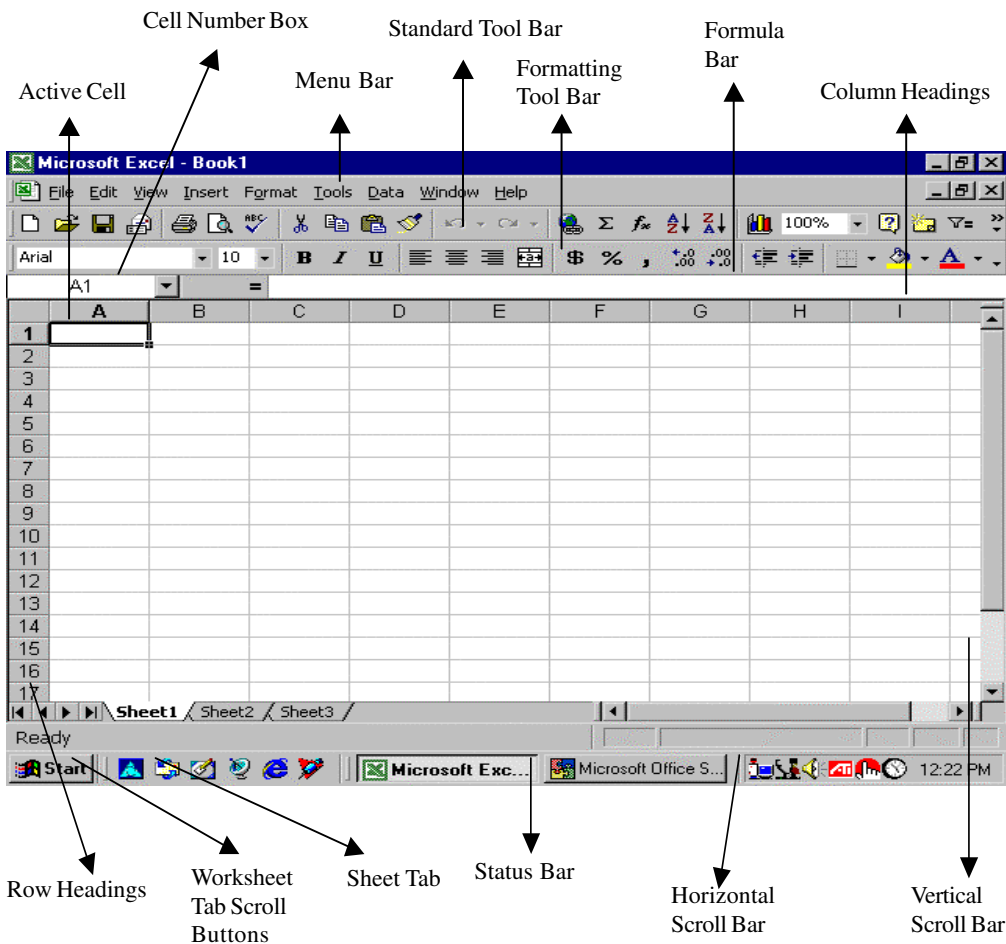
Throughout the text of your lessons on MS Excel we will be showing the symbol → to indicate the direction (steps) you have to follow.

You can also use the Microsoft Office Shortcut Bar (MSOB) as shown in figure 12.1 to start your work on Excel.

## **12.5 EXCEL WORKSHEET**

Excel allows you to create worksheets much like paper ledgers that can perform automatic calculations. Each Excel file is a workbook that can hold many worksheets. The worksheet is a grid of columns (designated by letters) and rows (designated by

numbers). The letters and numbers of the columns and rows (called labels) are displayed in gray buttons across the top and left side of the worksheet. The intersection of a column and a row is called a cell. Each cell on the spreadsheet has a cell address that is the column letter and the row number. Cells can contain either text, numbers, or mathematical formulas.



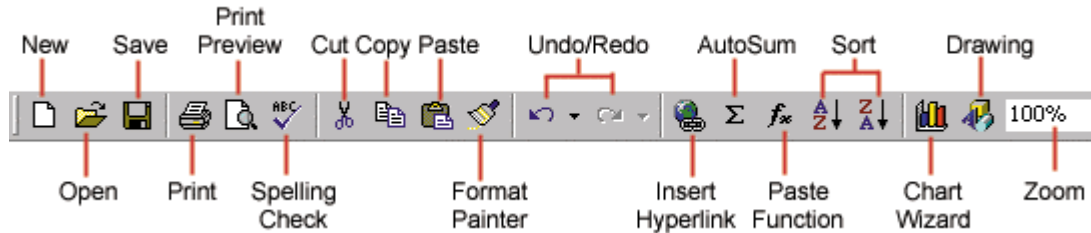
**Fig. 12.2**

### 12.5.1 Selecting, Adding and Renaming Worksheets

The worksheets in a workbook are accessible by clicking the worksheet tabs just above the status bar. By default, three worksheets are included in each workbook. To add a sheet, select **Insert**→**Worksheet** from the menu bar. To rename the worksheet tab, move the cursor to sheet tab, right-click on the tab with the mouse and select **Rename** from the shortcut menu. Type the new name and press the **ENTER** key.

### 12.5.2 Standard Toolbar

This toolbar is located just below the menu bar at the top of the screen and allows you to quickly access basic Excel commands.



**Fig. 12.3**

1. **New** - Select **File→New** from the menu bar, or press **CTRL+N**, or click the **New** button to create a new workbook.
2. **Open** - Click **File→Open** from the menu bar, or press **CTRL+O**, or click the **Open** folder button to open an existing workbook.
3. **Save** - The first time you save a workbook, select **File→Save As** and name the file. After the file is named click **File→Save**, or **CTRL+S**, or the Save button on the standard toolbar.
4. **Print** - Click the Print button to print the worksheet.
5. **Print Preview** - This feature will allow you to preview the worksheet before it prints.
6. **Spell Check** - Use the spell checker to correct spelling errors on the worksheet.
7. **Cut, Copy, Paste, and Format Painter** - These actions will be explained to you later in this lesson.
8. **Undo and Redo** - Click the backward **Undo** arrow to cancel the last action you performed like entering data into a cell, formatting a cell, entering a function, etc. Click the forward **Redo** arrow to cancel the undo action.
9. **Insert Hyperlink** - To insert a hyperlink to a web site on the Internet, type the text into a cell you want to be the link that can be clicked with the mouse. Then, click the Insert Hyperlink button and enter the web address you want the text to link to and click **OK**.
10. **AutoSum, Function Wizard, and Sorting** - These features are discussed in lesson 15.

11. **Chart and Drawing** - These feature are discussed in lesson 16.
12. **Zoom** - To change the size that the worksheet appears on the screen, choose a different percentage from the Zoom menu.

## 12.6 SELECTING CELLS AND RANGES

To enter data into your worksheet you must first have a cell or range selected. When you open an Excel worksheet, cell A1 is already active. An active cell will appear to have a darker border around it than other cells on the worksheet. The simplest way to select a cell is with your mouse pointer. Move your mouse to the desired cell and click on it with right button. Whatever you type goes into the cell. To select a range of cells, click on one cell, hold down the left mouse button and drag the mouse pointer to the last cell of the range you want to select. You can also use keyboard shortcuts given at the end of this lesson for selecting cells.

## 12.7 NAVIGATING THE WORKSHEET

You can advance through your worksheet by rows with the vertical scrollbar or by columns with the horizontal scrollbar (see Figure 13.2). when you click and drag the thumb tab on the scrollbar, a Screen Tip will appear alongside the bar identifying the row or column to which your view is advancing. You can also use keyboard shortcuts given at the end of this lesson for navigating the worksheet.

## 12.8 DATA ENTRY

You can enter various kinds of data in a cell.

1. **Numbers:** Your numbers can be from the entire range of numeric values: whole numbers (example, 25), decimals (example, 25.67) and scientific notation (example, 0.2567E+2). Excel displays scientific notation automatically if you enter a number that is too long to be viewed in its entirety in a cell. You may also see number signs (#####) when a cell entry is too long. Widening the column that contains the cell with the above signs will allow you to read the number.
2. **Text:** First select the cell in which data has to be entered and type the text. Press ENTER key to finish your text entry.

The text will be displayed in the active cell as well as in the Formula bar. If you have numbers to be treated as text use an apostrophe (') as the first character. You cannot do calculations with these kind of data entry.

3. **Date and Time:** When you enter dates and times, Excel converts these entries into serial numbers and kept as background information. However, the dates and times will be displayed to you on the worksheet in a format opted by you. You will learn about date and time formats later in lesson 10.
4. **Data in Series:** You can fill a range of cells either with the same value or with a series of values with the help of AutoFill.

### 12.9 EDITING DATA

Editing your Excel worksheet data is very easy. You can edit your data by any of the following ways:

1. Select the cell containing data to be edited. Press F2. Use Backspace key and erase the wrong entry. Retype the correct entry.
2. Select the cell and simply retype the correct entry.
3. If you want only to clear the contents of the cell, select the cell and press Delete key.
4. To bring back the previous entry, either click on **Undo** button on standard Toolbar or select **Edit→Undo** command or use keyboard shortcuts **CTRL+Z**.

### 12.10 CELL REFERENCES

Each worksheet contains a number of columns and rows. Each cell of the worksheet has a unique reference. For example, D5, refers to the cell containing column number D and row number 5.

### 12.11 FIND AND REPLACE DATA IN A WORKSHEET

You may want to locate a number or text that is already typed in the worksheet. This is done through **Edit→Find**. You can also locate your data and replace with new data with **Edit→Find→Replace**.

### 12.12 MODIFYING A WORKSHEET

#### 12.12.1 Adding Worksheets, Rows, and Columns

1. **Worksheets** - Add a worksheet to a workbook by selecting **Insert→Worksheet** from the menu bar.
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2. **Row** - To add a row to a worksheet, select **Insert→Rows** from the menu bar, or highlight the row by clicking on the row label, right-click with the mouse, and choose **Insert**.
3. **Column** - Add a column by selecting **Insert→Columns** from the menu bar, or highlight the column by click on the column label, right-click with the mouse, and choose **Insert**.

### 12.12.2 Resizing Rows and Columns

There are two ways to resize rows and columns.

1. **Resize a row** by dragging the line below the label of the row you would like to resize. **Resize a column** in a similar manner by dragging the line to the right of the label corresponding to the column you want to resize.
2. Click the row or column label and select **Format→Row→Height** or **Format→Column→Width** from the menu bar to enter a numerical value for the height of the row or width of the column.

### 12.12.3 Selecting Cells

Before a cell can be modified or formatted, it must first be selected (highlighted). Refer to the table below for selecting groups of cells.

Cells to select	Mouse action:
One cell	click once in the cell
Entire row	click the row label
Entire column	click the column label
Entire worksheet	click the whole sheet button (at the intersection of rows and columns)
Cluster of cells	drag mouse over the cells or hold down the <b>SHIFT</b> key while using the arrow keys

To activate the contents of a cell, double-click on the cell or click once and press **F2**.



### 12.12.4 Moving and Copying Cells

#### 1. **Moving Cells**

To cut cell contents that will be moved to another cell select **Edit→Cut** from the menu bar or click the **Cut** button on the standard toolbar.

#### 2. **Copying Cells**

To copy the cell contents, select **Edit→Copy** from the menu bar or click the **Copy** button on the standard toolbar.

#### 3. **Pasting Cut and Copied Cells**

Highlight the cell you want to paste the cut or copied content into and select **Edit→Paste** from the menu bar or click the **Paste** button on the standard toolbar.

#### 4. **Drag and Drop**

If you are moving the cell contents only a short distance, the drag-and-drop method may be easier. Simply drag the highlighted border of the selected cell to the destination cell with the mouse.

#### 5. **Freeze Panes**

If you have a large worksheet with column and row headings, those headings will disappear as the worksheet is scrolled. By using the Freeze Panes feature, the headings can be visible at all times.

1. Click the label of the row below the row that should remain frozen at the top of the worksheet.
  2. Select **Window→Freeze** Panes from the menu bar.
  3. To remove the frozen panes, select **Window→Unfreeze** Panes.
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The screenshot shows a Microsoft Excel window titled 'Microsoft Excel - Book1'. The active worksheet is 'Sheet1' and the active cell is B1, containing the text '= Marks Scored'. The worksheet contains a table with the following data:

1	Marks Scored					J	K	L	M
2	Name	Maths	Science	English	Hindi				
9	Ram	55	65	69	60				
10	Suneeta	40	35	25	65				
11	Rahim	70	78	85	75				
12	John	50	45	42	58				
13	Lalita	92	86	85	90				
14	Lakshmi	58	63	65	55				
15	Alisa	65	69	78	63				
16	Kapoor	65	76	58	85				
17	Singh	55	35	45	53				
18	Saxena	25	32	54	45				
19	Sunil Ray	98	95	65	87				
20	Mahendra	54	52	56	54				
21	Bhatia	80	68	74	75				
22	Rawat	25	15	32	45				
23	Sharma	92	85	79	78				
24	Sunil	95	87	65	78				
25	Powar	56	53	50	56				
26	Rajat	87	90	76	87				

The status bar at the bottom shows 'Ready' and the system tray includes the Start button, taskbar icons, and the time '1:11 PM'.

**Fig. 12.4**

Freeze panes has been added to row 2 in the image above. Notice that the row numbers skip from 3 to 8. As the worksheet is scrolled, rows 1 and 2 will remain stationary while the remaining rows will move. Following similar steps you can Freeze or Unfreeze selected columns.

### 12.13 PAGE BREAKS

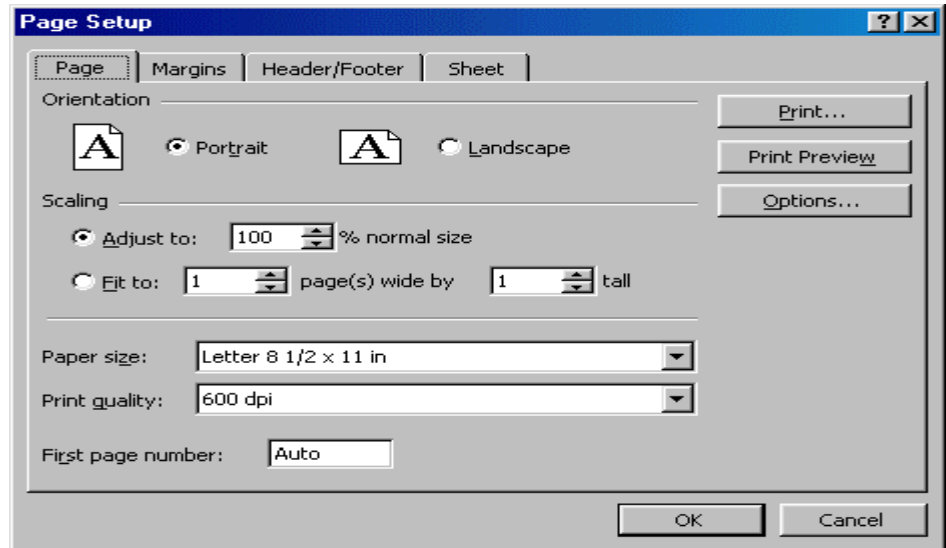
To set page breaks within the worksheet, select the row you want to appear just below the page break by clicking the row's label. Then choose **Insert→Page Break** from the menu bar. You may need to click the double down arrow at the bottom of the menu list to view this option.

### 12.14 PAGE SETUP

Select **File→Page Setup** from the menu bar to format the page, set margins, and add headers and footers.

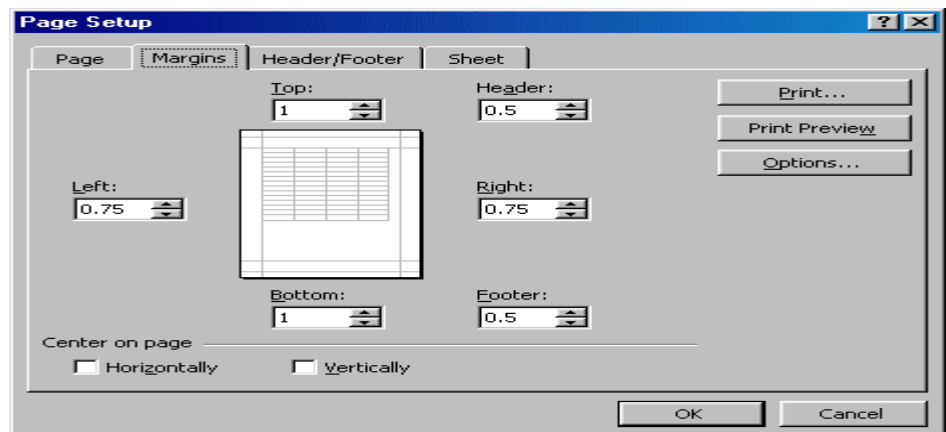
1. **Page:** The page option allows you to set the paper size, orientation of the data, scaling of the area, print quality, etc. Select the **Orientation** under the **Page** tab in the Page Setup

window to make the page Landscape or Portrait. The size of the worksheet on the page can also be formatted using **Scaling**. To force a worksheet to print only one page wide so that all the columns appear on the same page, select **Fit to 1 page(s) wide**.



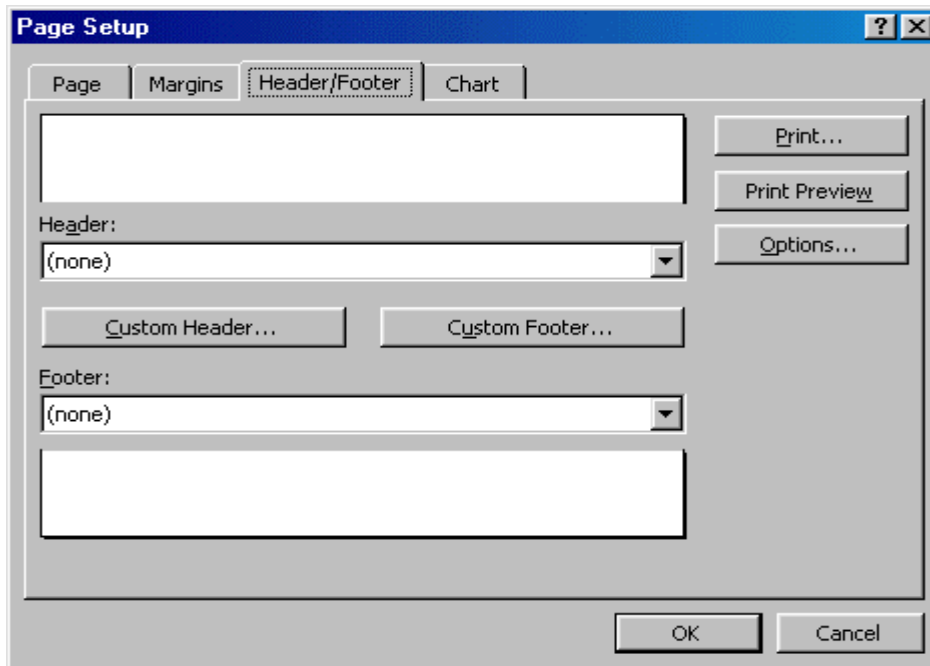
**Fig. 12.5**

2. **Margins** Change the top, bottom, left, and right margins under the **Margins** tab. Enter values in the header and footer fields to indicate how far from the edge of the page this text should appear. Check the boxes for centering horizontally or vertically on the page.



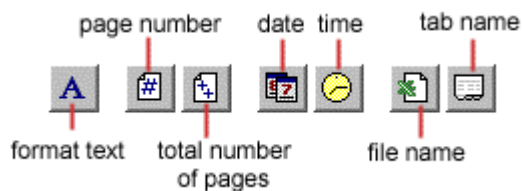
**Fig. 12.6**

3. **Header/Footer** tab gives you the option to set the Header (which will be displayed on the top of every page) and the Footer (which will be displayed on the bottom of every page). Add preset headers and footers to the page by clicking the drop-down menus under the Header/Footer tab.



**Fig. 12.7**

To modify a preset header or footer, or to make your own, click the **Custom Header** and **Custom Footer** buttons. A new window will open allowing you to enter text in the left, center, or right on the page.



**Fig. 12.8**

**Format Text** - Click this button after highlighting the text to change the font, size, and style.

**Page Number** - Insert the page number of each page.

**Total Number of Pages** - Use this feature along with the page number to create strings such as “page 5 of 10”.

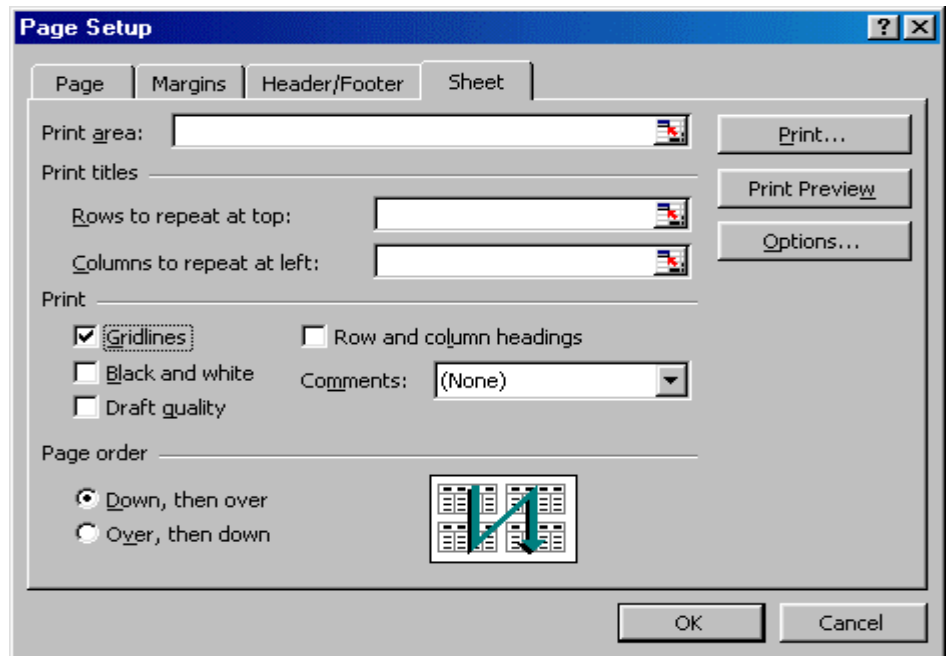
**Date** - Add the current date.

**Time** - Add the current time.

**File Name** - Add the name of the workbook file.

**Tab Name** - Add the name of the worksheet’s tab.

4. **Sheet** tab has the option to select the area to be printed (that is, range of cells). Check **Gridlines** if you want the gridlines dividing the cells to be printed on the page. If the worksheet is several pages long and only the first page includes titles for the columns, select **Rows to repeat at top** to choose a title row that will be printed at the top of each page.



**Fig. 12.9**

## INTEXT QUESTIONS

1. Write True or False for the following statements
  - (a) To modify a preset header or footer click the custom header and custom footer buttons.
  - (b) Autofill helps you to add the contents of a cluster of adjacent cells.

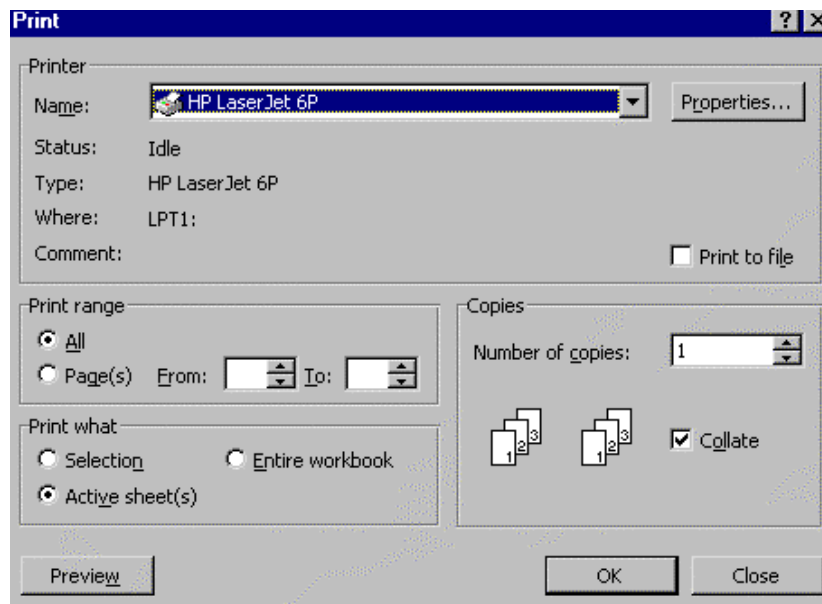
- (c) Charts features help you in presenting a graphical representation of data.
- (d) Click the edit button to print the worksheet.
- (e) Pivot table allows you to perform data analysis.

## 12.15 PRINT PREVIEW

Select **File→Print Preview** from the menu bar to view how the worksheet will print. Click the **Next** and **Previous** buttons at the top of the window to display the pages and click the **Zoom** button to view the pages closer. Make page layout modifications needed by clicking the **Page Setup** button. Click **Close** to return to the worksheet or **Print** to continue printing.

## 12.16 PRINT

To print the worksheet, select **File→Print** from the menu bar.



**Fig. 12.10**

1. **Print Range** - Select either all pages or a range of pages to print.
2. **Print What** - Select selection of cells highlighted on the worksheet, the active worksheet, or all the worksheets in the entire workbook.

3. **Copies** - Choose the number of copies that should be printed. Check the **Collate** box if the pages should remain in order.
4. Click **OK** to print.

### 12.17 FILE CLOSE AND EXIT EXCEL

When your work is finished and it has been saved properly:

1. Select **File→Close** command and then click mouse to close your file
2. Select **File→Exit** command and then click mouse to close your file

### 12.18 WORKBOOK PROTECTION

You have learned how to save your workbook as a file. Some times your data can be very confidential which you would like to protect from unauthorised people. Protection prevents changes to all or part of a document. You can also assign a password so that other users can be limited in accessing protected information. A password is case sensitive, can be up to 255 characters long, and can contain any combination of letters, numbers, and symbols. When a document is protected, this command changes to Unprotect Document.

You can restrict access to your workbook in three ways.

1. **Protect Sheet:** Select **Tools→Protect Sheet** commands and click. This feature prevents changes to cells on worksheets, items in a chart, graphic objects on a worksheet or chart sheet. When the active document is protected, the command name changes to **Unprotect Sheet**. If you want to unprotect a sheet that has been already protected. Select **Tools→Unprotect Sheet** commands and click.
  2. **Protect Workbook:** Select **Tools→Protect Workbook** commands and click. This feature protects a workbook's structure and windows. You can prevent changes to the structure of a workbook so that sheets can't be deleted, moved, hidden, unhidden, or renamed, and new sheets can't be inserted. You can also protect windows from being moved or resized. When the active document is protected, the command name changes to **Unprotect Workbook**. If you want to unprotect a workbook that has been already protected. Select **Tools→Unprotect Workbook** commands and click.
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3. **Protect for Sharing:** Select **Tools→Protect and Share Workbook** commands and click. This feature protects the sharing and change history tracking in a shared workbook so the features can't be turned off. If you select this check box and click **OK** when the workbook isn't a shared workbook, you are asked if you want to save it as a shared workbook. In a workbook that is already shared, you can turn on protection for sharing and the change history, but you can't assign a password for this protection. To assign a password, you must first remove the workbook from shared use. When the active shared workbook is protected, the command name changes to **Unprotect for Sharing**. If you want to unprotect a share workbook that has been already protected. Select **Tools→Unprotect Workbook** commands and click.

## 12.19 KEYBOARD SHORTCUTS

Keyboard shortcuts can save time and the effort of switching from the keyboard to the mouse to execute simple commands. Print this list of Excel keyboard shortcuts and keep it at your computer desk for a quick reference.

<b>Action</b>	<b>Keystroke</b>
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### *Document Actions*

Open a file	CTRL+O
New file	CTRL+N
Save As	F12
Save	CTRL+S
Print	CTRL+P
Find	CTRL+F
Replace	CTRL+H
Go to	F5

### *Cursor Movement*

One cell up	up arrow
One cell down	down arrow



One cell right	Tab
One cell left	SHIFT+Tab
Top of worksheet (cell A1)	CTRL+Home
End of worksheet (last cell with data)	CTRL+End
End of row	Home
End of column	CTRL+left arrow
Move to next worksheet	CTRL+PageDown

### *Formulas*

Apply AutoSum	ALT+=
Current date	CTRL+;
Current time	CTRL+:
Spelling	F7
Help	F1
Macros	ALT+F8

### *Selecting Cells*

All cells left of current cell	SHIFT+left arrow
All cells right of current cell	SHIFT+right arrow
Entire column	CTRL+Spacebar
Entire row	SHIFT+Spacebar
Entire worksheet	CTRL+A

### *Text Style*

Bold	CTRL+B
Italics	CTRL+I
Underline	CTRL+U
Strikethrough	CTRL+5

### *Formatting*

Edit active cell	F2
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Format as currency with 2 decimal places	SHIFT+CTRL+\$
Format as percent with no decimal places	SHIFT+CTRL+%
CTRL+X	Cut
CTRL+C	Copy
CTRL+V	Paste
CTRL+Z	Undo
CTRL+Y	Redo
Format cells dialog box	CTRL+1

*Note: A plus sign in the above list indicates that the keys need to be pressed at the same time.*

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## **INTEXT QUESTIONS**

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Fill in the blanks

- When the active document is protected the command name changes to \_\_\_\_\_ workbook.
- Select \_\_\_\_\_ from the menu bar to view how the worksheet will print.
- A password can be upto \_\_\_\_\_ characters long.
- You can restrict access to your workbook in \_\_\_\_\_ ways
- Check \_\_\_\_\_ if you want the gridlines dividing the cells to be printed on the page.

## **12.20 WHAT YOU HAVE LEARNT**

In this lesson you learnt about starting Excel and working on a worksheet. You can select a cell or a range of cells. Also you can enter data in a worksheet. You can define the size of a page by going to page set up and insert a page break. You have learnt about page-preview which gives an idea on how the print out will look like.

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### **12.21 TERMINAL QUESTIONS**

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1. List any four applications of MS Excel.
2. What are the main features of MS Excel?
3. Differentiate between a worksheet and a workbook?
4. What are the different types of data that can be entered into worksheet cells?
5. Explain three different ways you protect your workbook.
6. What are the three different ways you save your workbook?
7. How do you find a single number or name you want in a large worksheet containing thousands of numbers and names? Is it possible to replace a name or number with some other name or number? How?
8. How do you select a single cell, a single column, a single row, a cluster of cells, and a entire worksheet?
9. Difference between Move cells and Copy cells
10. Explain the use of Freeze Panes
11. What are the different features available in Page setting command?
12. Describe different features available in Print command

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### **12.22 KEY TO INTEXT QUESTIONS**

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1. (a) True  
(b) False  
(c) True  
(d) False  
(e) True
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2. (a) Unprotect
- (b) Print preview
- (c) 255
- (d) three
- (e) gridlines