OFFICE AUTOMATION

SLOs

- Demonstrate Page Layout Tab of MS Word
- Identify the different groups of Page Layout Tab
- Apply different features available in groups of Page Layout Tab

3.1 MS WORD

Microsoft Word (MS Word) is one of the most famous word-processing software. It was first released and made public in early 1980s by Microsoft. It allows its user to type text and manipulate it. MS Word first introduced the concept of WYSIWYG (What You See Is What You Get) by introducing text formatting and document preview exactly as we would get it on a paper. It has advanced features like tables, images, advanced formatting and reviewing that give its users the ability to customize their documents as required. Even most of this book has been

Figure 3.1
MS Word 2010

written, edited and formatted on MS Word. Latest versions of MS Word come as a part of Microsoft Office Suite (which includes other software as well like MS Excel and MS PowerPoint). MS Word is still most widely used word-processing software in the world. We will be using MS Word 2010 version in this chapter.

3.1.1 Page Layout Tab

The Page Layout Tab allows user to control the look and feel of his or her document. User can set margins, apply themes, control page orientation and size, add sections and line breaks, display line numbers, and set paragraph indentation and lines. The Page Layout tab has five groups of related commands namely Themes, Page Setup, Page Background, Paragraph and Arrange.
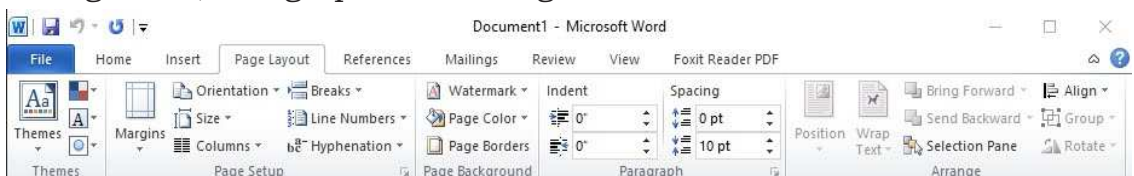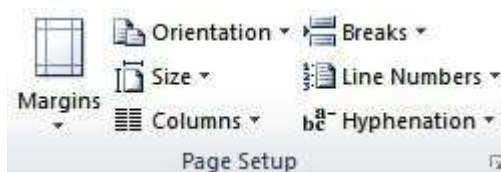
Figure 3.2 Page Layout tab

(i)   Themes Group

A theme is a predefined set of formatting, colors and settings that changes the overall design and look of the entire document. Applying themes to our work gives it a professional look. There are different themes available relevant to the type of document being composed.
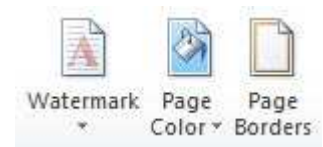
(ii)   Page Setup Group

Page Setup settings help us set the page layout properties such as margins, orientation and size. The settings in this section are often applied throughout the document.

Margins	**Margins** (HOTKEY: ALT+P+M) A margin is the area or space between the main content of a page and the page edges. This button is used to change the margins of the entire document or selected section.
Orientation	**Orientation** (HOTKEY: ALT+P+O) Page orientation or print orientation is the placement of contents on a page. This button sets the contents of the page or section in portrait (Vertical) or landscape (Horizontal) layouts.
Size	**Size** (HOTKEY: ALT+P+S+Z) The size button is used to choose the size of the paper for current section or entire document.
Columns	**Columns** (HOTKEY: ALT+P+J) This button is used to split the text into two or more vertical columns.
Breaks ▾	**Breaks** (HOTKEY: ALT+P+B) Breaks button is used to insert page, section or column breaks in the document.
Line Numbers ▾	**Line Numbers** (HOTKEY: ALT+P+L+N) This button is used to add line numbers on the left side of each line of the document.
Hyphenation ▾	**Hyphenation** (HOTKEY: ALT+P+H) This button is used to specify how hyphenation in a document should be applied.

(iii)   Page Background Group

These settings are used mostly for special documents such as certificates, invitations, brochures, essays, etc. It consists of 3 buttons namely, Watermark, Page Color and Page Borders.

Watermark	**Watermark** (HOTKEY: ALT+P+P+W) A watermark is a faded background image that displays behind the text in a document. This button is used to insert logos, images or text behind the contents of a page.
Page Color	**Page Color** (HOTKEY: ALT+P+P+C) This button is used when user wants to apply a color for the background of the page.
Page Borders	**Page Border** (HOTKEY: ALT+P+P+B) Page Border button is used to put a border around the page.

(iv)   Paragraph Group

The Paragraph Group is where we can modify all the settings of the paragraphs that appear in our document. This allows us to set a few basic paragraph styles and also adjust the indents and spacings.

Left: 0"	**Indent Left** (HOTKEY: ALT+P+I+L) Indent Left is used to define amount of blank space (in centimeters) used to separate a paragraph from left margin.
Right: 0"	**Indent Right** (HOTKEY: ALT+P+I+R) Indent Right is used to define amount of blank space (in centimeters) used to separate a paragraph from right margin.

↕≡ Before: 0 pt ▲▼	**Space Before** (HOTKEY: ALT+P+S+B) Space Before is used to indicate how much space (in points) is added before the selected paragraph.
↓≡ After: 10 pt ▲▼	**Space After** (HOTKEY: ALT+P+S+A) Space After is used to indicate how much space (in points) is added after the selected paragraph.

(v)   Arrange Group

The buttons in Arrange Group help the users to quickly arrange graphical and other elements of the document in relation to the main textual content.

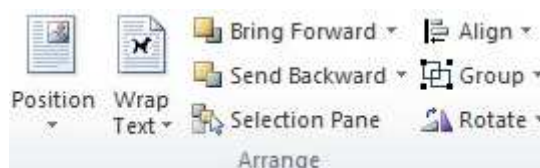|	
Position ▾	**Position** (HOTKEY: ALT+P+P+O) Position is used to place an object (picture or shape) on the page wherever you want.
Wrap Text ▾	**Wrap Text** (HOTKEY: ALT+P+T+W) Text wrapping is used to arrange the text around an object like an image.
Bring Forward ▾	**Bring Forward** (HOTKEY: ALT+P+A+F) Brings a selected object in front of all other objects.
Send Backward ▾	**Send Backward** (HOTKEY: ALT+P+A+E) Sends a selected object behind all other objects.
Selection Pane	**Selection Pane** (HOTKEY: ALT+P+A+P) Selection Pane is used to select, show, hide and change the order of objects in the document.
Align ▾	**Align** (HOTKEY: ALT+P+A+A) Align is used to place objects like pictures, shapes, icons, etc. in alignment with margins, edge, or relative to another object in the document.

⊞ Group ▾	**Group** (HOTKEY: ALT+P+A+G) Group is used to combine two or more objects together so that they can be treated as a single object.
◪ Rotate ▾	**Rotate** (HOTKEY: ALT+P+A+Y) Rotate is used to rotate or flip the selected object.

SLOs
- Insert manual and automatic table of contents in a document.
- Compose in Urdu and Sindhi languages in MS Word.

3.1.2 Table of Contents (ToC)

A Table of Contents (ToC) is an organized listing of the sections, groups and headings of content in a document and identified by page numbers where they are placed. It provides an overview of the document and allows readers to go directly to specific section or content in the document. ToC usually appears after the Title Page in a document. MS Word 2010 provides an advanced feature for automatically creating a ToC. A user can create an Automatic or a Manual table of contents in a document.
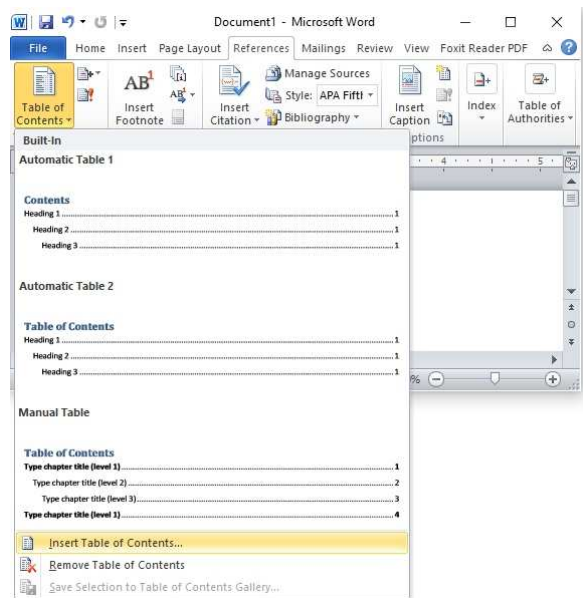
To create a Table of Contents in MS Word document, go to the References Tab where Table of Contents button appears as the first option of that tab. MS Word provides several options of creating a ToC that include Automatic Table creation, Manual Table creation or the user can even create a Customized Table of Contents based on the requirements of the document.

(i)   Automatic Table

Automatic Table creates a Table of Contents automatically based on the content used as Heading presets of MS Word. Based on the type of

Heading, Automatic Table of Contents will create the appropriate levels and show page numbers where those Headings are placed. The only difference between Automatic Table 1 and Automatic Table 2 is the title of the table that is "Contents" or "Table of Contents".

(ii) Manual Table

Choosing Manual Table from the Table of Contents menu will create a template of a generic table of contents. This table will need to be edited and defined manually by providing all the headings, sub-headings and page numbers. To extend the table, simply copy and paste the template lines and edit them to preserve proper formatting.

3.1.3 Typing in Urdu and Sindhi Languages

MS Word 2010 helps in writing letters, applications, CVs, question papers and books in default language set by Microsoft Windows (that is usually English). MS Word 2010 also supports typing text in various other languages like Urdu and Sindhi. To be able to write in other languages, the keyboards for those languages have to be installed in Microsoft Windows. MS Word also supports changing and setting its default language. To change the default language, go to the File menu and select Options. From the Word Options dialog box, select Language tab. Now choose one of the available languages as the default language for MS Word 2010.

Teacher Note

Teachers are required to demonstrate the installation of multiple languages like Urdu and Sindhi in Microsoft Windows. They can do so by adding languages from the Regional Settings of Windows Control Panel. Installation of these languages also installs their keyboard layouts and enables the ability to type text in those languages.

Urdu Keyboard Layout

Urdu Phonetic Unicode Keyboard Layout **(With SHIFT)** (for regular Urdu alphabets)
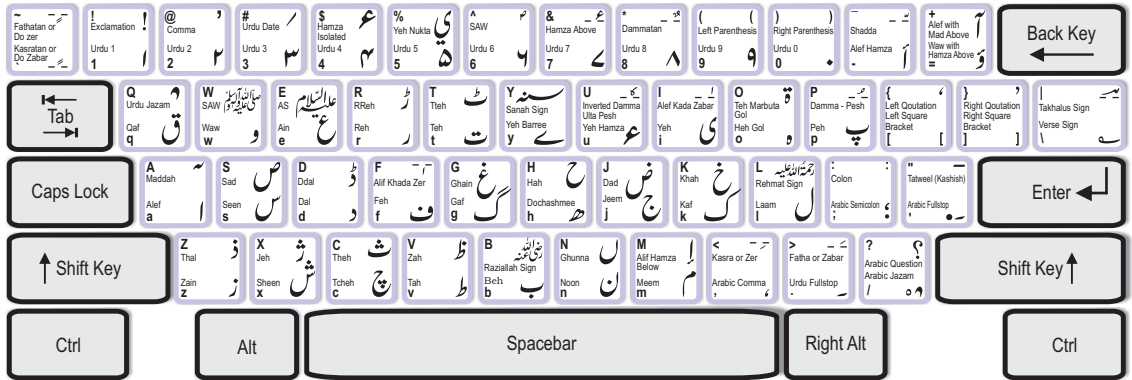
Sindhi Keyboard Layout

Normal State
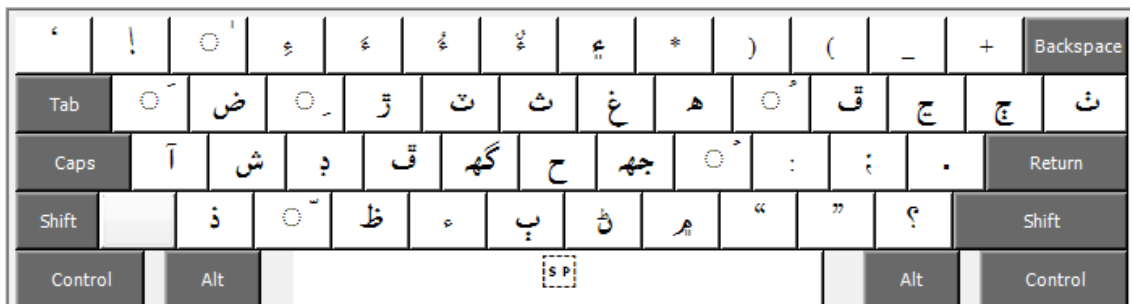
Shift State

SLOs
- Review the basics of MS Excel
- Identify the Elements of MS Excel User Interface
- Display data with charts

3.2 MS EXCEL 2010

Microsoft Excel (MS Excel) is a software that uses spreadsheet system to organize, display, format and calculate data using advanced features and formulas. MS Excel is a part of Microsoft Office Suite and integrates with other applications in the Office Suite. MS Excel offers advanced features to perform calculations, visualize data in graphs and create pivot tables. It efficiently makes use of spreadsheets to organize, analyze and store data in tabular and graphical forms. It is the most widely used spreadsheet system and has a high demand in many organizations for keeping records of data and presenting them as tables and graphs.

3.2.1 MS Excel User Interface
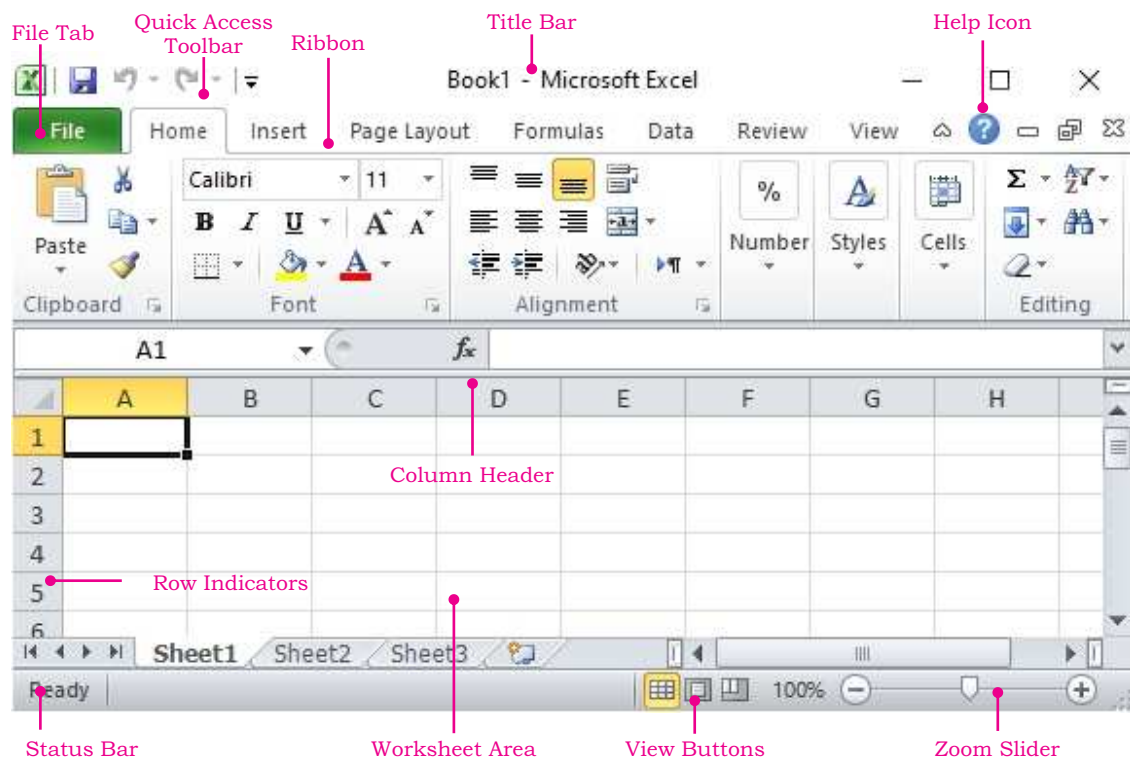
Fig: 3.3 MS Excel Screen

3.2.2 Sorting

Sorting is the process of rearranging or reordering data based on different criteria like size, quality, value and quantity. MS Excel has the ability to sort data according to the needs of the user. To help better understand this concept, take or create a list of products with their unit prices and quantities as shown below.

The objective is to sort this list of products with prices and quantities, in alphabetical order based on the names of the products. To achieve this, first select all the rows and columns which make up this product list then go to the Data tab and select the Sort option.
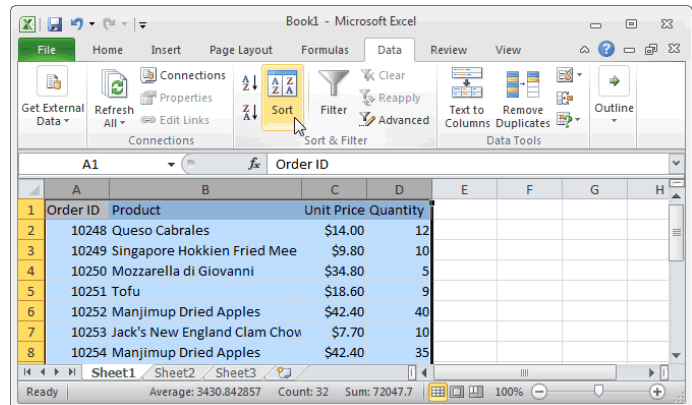
In the Sort dialog box, choose Product from the Sort by dropdown list and make sure that in the Order dropdown list, A to Z is selected.

Your data will be rearranged and sorted alphabetically based on the values in Product column and their respective prices and quantities will also be rearranged as sorted data

as shown in the figure here. This data can also be sorted in terms of unit price and quantity.
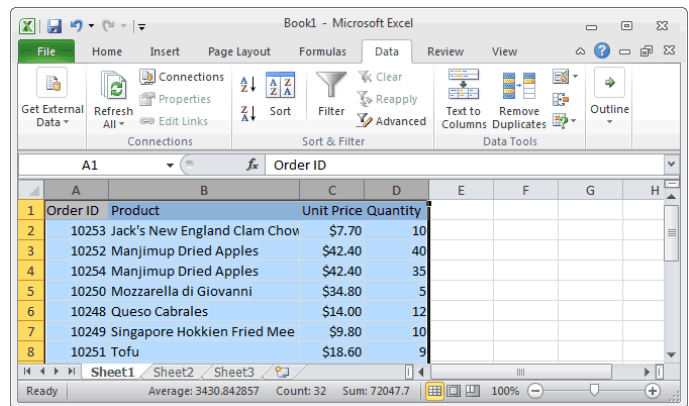
3.2.3 Formulas

MS Excel 2010 allows its user to perform numerous calculations on data. Common calculations include addition, subtraction, multiplication and division. Comparison of two numbers and finding their average is also

possible. Formulas tell MS Excel what calculation needs to be performed on the data. Formulas always start with an equal sign (=). They are defined in the Formula Bar.

To understand this concept, take an example of two numbers, which are 220 and 87, placed in columns A2 and B2, respectively. The objective is to add these two numbers using MS Excel formula. To achieve this, follow these steps:

1. Select cell C2.
2. Type = (equal sign).
3. Select cell A2 in the worksheet by using the mouse or the keyboard. This action places the cell reference A2 in the formula of selected cell.
4. Type +.
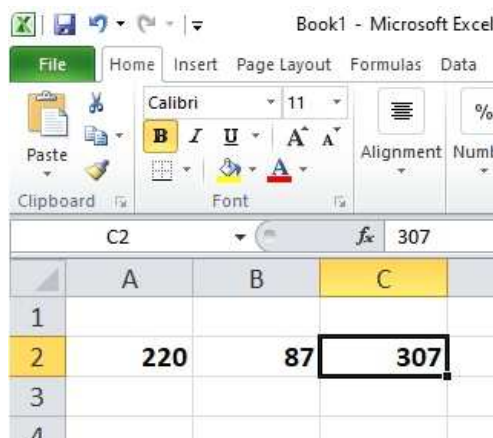5. Select cell B2 in the worksheet by using the mouse or the keyboard to put that cell's reference in the formula of selected cell.
6. Press Enter.
7. The answer (307) will be calculated by MS Excel and displayed in the selected cell (C2) where the addition formula was composed. Likewise subtraction, multiplication, division and other mathematical functions can be applied.

3.2.4 Charts

Charts are also known as graphs. They include diagrams and tables. Charts feature in MS Excel allows the users to present a set of data visually. A huge set of data may not succeed in presenting its meaning to the reader whereas visual information helps better understand those data values at a glance. To understand this concept, take an example of the average monthly temperature for Larkana in 2018 as shown below:

	Month	Temp		Month	Temp
1	January	23°C	7	July	41°C
2	February	26°C	8	August	39°C
3	March	32°C	9	September	39°C
4	April	38°C	10	October	36°C
5	May	43°C	11	November	31°C
6	June	44°C	12	December	24°C

The temperature table contains data in a form which is not very helpful for every user to understand. If the same data is converted into a graph or chart, the user would be better able to reach a conclusion. From the bar chart, we can easily derive the hottest and the coldest months and compare them with each other.

The same data, if displayed as a graph or chart, will give more meaning and a user can easily derive an understanding of such values at a glance as seen in the below figures.

Annual Temperature of Larkana (Bar Chart)
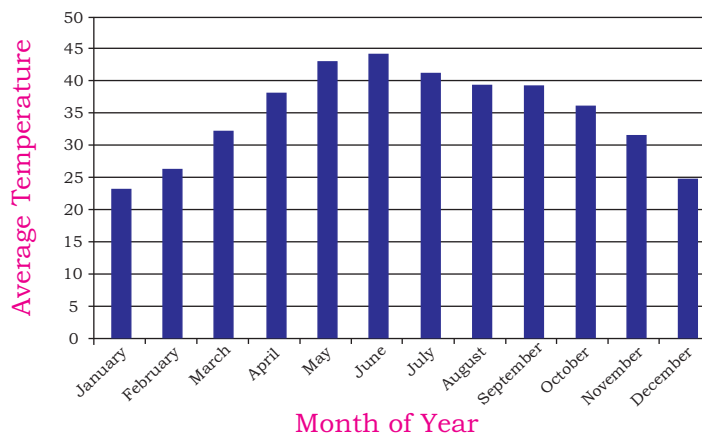
Annual Temperature of Larkana (Line Chart)
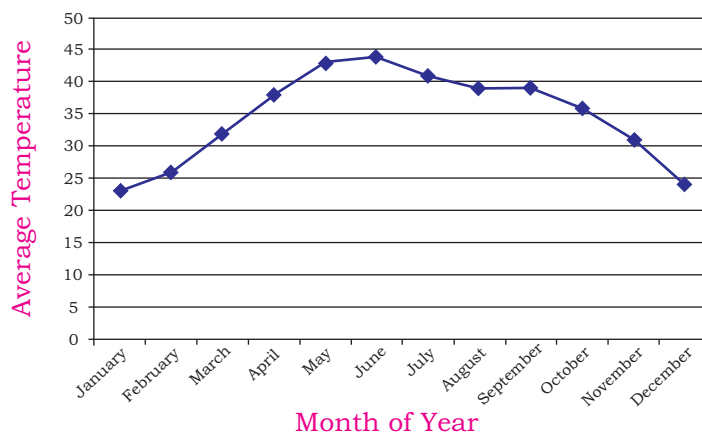
Making this chart is very easy . All we need to do is to select the table and click at chart button.

There are many types of Charts. Four most common types of chart used are: Bar Charts, Column Charts, Line Charts and Pie Charts.

SUMMARY

- MS Word is widely used word processing software in the world.
- The Page Layout Tab has five groups of related commands namely: Themes, Page Setup, Page Background, Paragraph and Arrange.
- Themes Group is a predefined set of formatting, colors and settings that changes the overall design and look of the entire document.
- Page Setup settings help us set the page layout properties such as margins, orientation and size.
- Page Background Group consists of 3 buttons namely, Watermark, Page Color and Page Borders.
- The Paragraph Group allows you to set a few basic paragraph styles and also adjust the indents and spacing.
- Arrange Group helps the users to quickly arrange graphical and other elements of the document in relation to the main textual content.
- A Table of Contents (ToC) is an organized listing of the sections, groups and headings of content in a document, identified by page numbers where they are placed
- Typing in Urdu and Sindhi Languages: Change the default language, go to the File menu and select Options. From the Word Options dialog box, select Language tab.
- Microsoft Excel is a software that uses spreadsheet system to organize, display, format and calculate data using advanced features and formulas.
- Sorting is the process of rearranging or reordering data based on different criteria like size, quality, value and quantity.
- Formulas help user to perform different types of calculation easily.
- MS Excel 2010 allows its user to perform numerous calculations on its data
- Charts are also known as graphs. They are used to show data graphically.
- There are many types of Charts. Four most common types of chart used are Bar Charts, Column Charts, Line Charts and Pie Charts.

EXERCISE

A.   Choose the right answer:

1. Which chart will be suitable to show the share of three partners in a business?

a)
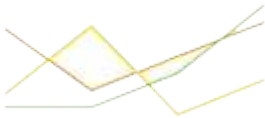
b)

c)
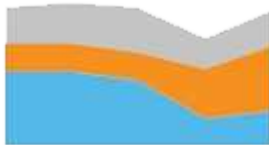
d)

2. The software that is used for accounting purpose is:
   a) MS Word
   b)   MS Excel
   c) MS Power point
   d)   MS Access

3. The software that is used to format a document is:
   a) MS Word
   b)   MS Excel
   c) MS Power point
   d)   MS Access

4. The special character that initiates the formula mode in a cell is:
   a) /
   b)   =
   c) -
   d)   *

5. The function which is used to re-arrange data according to specific criteria is called:
   a) Filtering
   b)   Sorting
   c) Organizing
   d)   Grouping

6. If we want to change the overall design of a word document, we should use:
   a) themes
   b)   page layout
   c) watermark
   d)   margins

7. The correct formula to calculate the total in the given table is:

	A	B	C	D	E	F
1	Name	English	Sindh/Urdu	Maths	Science	Total
2	Ghulam Shabir	40	41	41	40	
3	Riaz Hussain	41	39	34	38	
4	Nabil Ahmed	41	35	32	40	
5	Anwar Ali	40	38	33	37	

a) = B2 + C2 + D2+ E2
b) = B2 + E2
c) = sum (B2 to E2)
d) = sum (B2 from E2)

8. The correct formula to calculate the percentage in the given table is:

	A	B	C	D	E	F
1	Name	English	Sindh/Urdu	Maths	Science	Per
2	Ghulam Shabir	40	41	41	40	
3	Riaz Hussain	41	39	34	38	
4	Nabil Ahmed	41	35	32	40	
5	Anwar Ali	40	38	33	37	

a) =B2 + C2 + D2+ E2 / 400 * 100
b) =B2 + C2 + D2+ E2   * 100
c) =(B2 + C2 + D2+ E2) / 400 * 100
d) =(B2 + C2 + D2+ E2) / 100 * 400

9. Charts are basically used to
   a) design tables
   b) organize data in tables
   c) Sort data in different columns
   d) show the quantities and their relationships graphically

10. To apply the table of contents automatically, the most important task is to properly define the
   a) levels of heading
   b) page numbering
   c) page layout
   d) themes

B.   Respond the following:

1. What is a word processor? Write any three applications of a word processor.
2. Discuss the Margins and Paper Size options in the Page Setup group.
3. Name and describe two options in Orientation.
4. How can we apply Margins in a document?
5. Describe the different types of breaks in MS Word.
6. Differentiate "Bring Forward" and "Send Backward" options in the Arrange group with example.

7. Explain the "Columns" option in the Page Setup group.
8. List and define Position and Wrap Text option in Arrange Group.
9. In what way does a ToC help book reader?
10. Write steps that will multiply 37 by 15 using the formula bar in MS Excel.
11. Why do we use Watermark in a document? Give some examples of Watermarks.
12. List four uses of spreadsheets in business.

C.   Match the columns:

S.NO.	A	S.NO.	B	C
(i)	Wrap Text	(a)	documentation	
(ii)	Automatic Table of Contents	(b)	allows to arrange text around an image	
(iii)	Page Setup Group sets	(c)	Show data graphically	
(iv)	Excel is used to	(d)	is created based on heading	
(v)	Charts	(e)	margins, orientation and size	
(vi)	Ms Word is widely used for	(f)	organize, display, format and calculate data	

ACTIVITIES

1. Compose a document in MS Word and apply Watermark, Page Color and Page Border.

2. Apply different options of Margins, Orientation, Size and Columns in a document.

3. Add a) 15 Names and b) 15 Marks Obtained in two columns and apply different sorting options in MS Excel.

4. Type the following text in MS Word using Urdu or Sindhi language facility.

ماهرين مطابق فائيوجي ٽيڪنالاجي جي عام ٿيڻ سان دنيا ۾ ٽي وڏيون تبديليون ٿي سگهن ٿيون.

هڪ ت انٽرنيٽ جي اسپيڊ ڏاڍي تيز ٿي ويندي جنهن سان آن لائن ويڊيو ايڊيتنگ ۽ گڏ ڪم ڪرڻ آسان ٿي ويندو.

ٻيو ت انٽرنيٽ ڊيوائس سان منزل تائين پيغام پهچڻ وارو وقت تمام گهٽ لڳندو جنهن سبب سرجنز گهٽو پري وارن علائقن م ويهي ائين سرجري ڪندا جيئن هو پاڻ اتي موجود هجن. ورچوئل ريئلٽي جي ذريعي راند روند ڪري سگهبي.

ٽيون مشينن سان ڪنڪشن ۾ بهتري ايندي جنهن سان انٽرنيٽ آف ٿنگس (آئي او ٽي) جي ميدان ۾ وڏي ترقي جي توقع آهي.

فائيوجي اچڻ سان هيءُ اميد ڪئي وڃي ٿي ت روبوٽڪس، انٽرنيٽ آف ٿنگس، ٽرانسپورٽ، طب ۽ انسان جي لاءِ خطرناڪ شعبن ۾ مشينن جو استعمال ممڪن ٿي ويندو.

ماہرین کے مطابق فائیوجی ٹیکنالوجی کے عام ہونے سے ساری دنیا میں بڑی تبدیلیاں متوقع ہیں۔

پہلے تو یہ کہ انٹرنیٹ کی اسپیڈ بہت زیادہ تیز ہو جائے گی جس سے آن لائن ویڈیو ایڈیٹنگ اور مشترکہ کام کرنا آسان ہو جائے گا۔

دوسرے انٹرنیٹ ڈیوائس سے منزل تک پیغام پہنچانے کا وقت کم ہو جائے گا جس سے سر جنز دور دراز علاقوں میں اس طرح آپریشن کر سکیں گے جیسے وہاں موجود ہوں۔ ورچوئل رئیلٹی کے ذریعے کھیل کھیلے جاسکیں گے۔

تیسرے مشینوں سے کنکشن میں بہتری سے (آئی او ٹی) کے میدان میں بڑی ترقی کی توقع ہے۔

فائیوجی کے آنے سے امید ہے کہ روبوٹکس، انٹرنیٹ آف تھنگس، ٹرانسپورٹ، طب اور انسانوں کے لئے خطرناک شعبوں میں مشینوں کا استعمال ممکن ہوگا۔

5. Using the following pie chart, prepare an excel sheet to calculate:

(a) How many runs came for ones, twos, fours and sixes?

(b) The strike rate of the player.

(c) Using the scores prepare a pie chart to show the share of ones, twos, three, fours and sixes in score of 149.
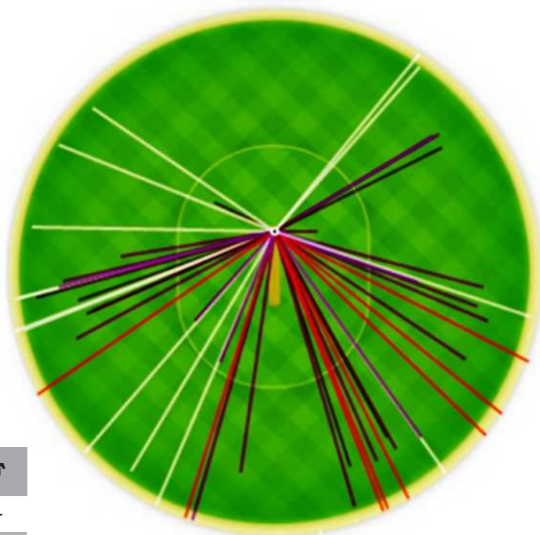
1s	2s	3s	4s	5s	6s	Runs	BF
21	7	0	14	0	9	**149**	64

6. Create a newsletter in MS Word using your knowledge. The newsletter is required to have a header, three columns, and some graphics with text wrapped around them. The final result may look like:

All the News

That's Fit to Print
Volume 1 - 1/20/2004

This tutorial is based on using the Menus, not the floating palettes. If you are more comfortable with the floating palettes, by all means use them.

Creating a Newsletter

Here are some tips on creating a newsletter.

A side from basic Word Skills there are a few things you need to known. they are: using headers, using columns, inserting graphics and putting borders around text and graphics.

The Header

You will find the header in the **view Menu.** Click on **View** and drag to **Header and Footer.** It will instantly put you in the header or you can scroll to the Footer. You can use all the standard word formatting option and also insert graphics and put a boarder around the text.

Columns

You can add **Columns** easily to your newsletter. You will find this option

in the **Format Menu.**

1. Click on Format and drag to Columns.
2. Choose one of the presets (One, Two, Three, Left, Right).
3. Click on the Line Between option if you want a line between the columns.
4. Experiment with other options.

Borders and Shading

You can apply a boarder to selected text and/or the whole Page. You can also apply some Shading or color behind text.

To apply a boarder to whole document:
1. Click on Format drag to boarder and shading.
2. Click on the page Boarder Tab
3. Choose your setting. style, Color, Width etc.
4. Click OK.
5. Experiment with other options.

Applying a Border to Text

1. Hi-light the text you want the border around.
2. Click on Format, drag to **Boarders and Shading.**

3. Click on the Borders Tab
4. Choose your Setting, Style, Color, Width etc.
5. Click OK.
6. Experiment with other options.

Applying a Border to a Picture

1. Insert the picture
2. Turn on the text wrap
3. Click on the picture (you should see handles)
4. Click on the **Format Menu .** Drag to **Picture** or **Object**
5. Click on the **colors and Lines** tab .
6. Select a Color, Dashed, Size and Weight.
7. Experiment with other options.

7. Create a spreadsheet of employees' payroll in MS Excel. The spreadsheet should meet the following requirements:
   - The columns should include Emp ID, Emp Name, Dept, Basic Pay, Medical Allowance, Conveyance Allowance, House Rent, Gross Salary, Income Tax and Net Salary.
   - As User enters Basic Pay, rest of the columns should be calculated automatically.
   - The calculation should be done on following method:

Columns for Calculation	Criterion
Medical Allowance (MA)	15% of Basic Salary
Conveyance Allowance (CA)	22.5% of Basic Salary
House Rent (HR)	40% of Basic Salary
Gross Salary	Sum of Basic Pay, MA, CA, HR
Income Tax	7.5% of Gross Salary
Net Salary	Amount after deduction of Income Tax