# EXERCISE

**Q1. Select the best answer for the following MCQs.**

**i. Which of the following software is used for creating professional documents?**

| | | | |
|---|---|---|---|
| A | Spreadsheet Software | B | Word processor |
| C | Typing Tutor | D | Both A and B |

**ii. Which of the following tab of Word Ribbon contains Clipboard group?**

| | | | |
|---|---|---|---|
| A. | Page Layout | B | Insert |
| C. | File | D | Home |

**iii. By default how many tabs are there in Word Ribbon?**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A. | 7 | B | 8 | C. | 9 | D | 10 |

**iv. What is used for creating decorative effects in Word?**

| | | | |
|---|---|---|---|
| A. | Paragraph formatting | B. | Text formatting |
| C. | Page formatting | D. | WordArt |

**v. Which of the following tab contains the commands for creating charts in Excel?**

| | | | |
|---|---|---|---|
| A. | Home | B. | Formulas |
| C. | Insert | D. | Data |

**vi. Which of the following command in Excel allows the user to view only certain data in a worksheet based on a condition?**

| | | | |
|---|---|---|---|
| A. | Data validation | B. | Data filtering |
| C | Conditional formatting | D | Data manipulation |

**vii. Which of the following command in Excel restricts user from entering wrong data in cells of a worksheet?**

| | | | |
|---|---|---|---|
| A | Data validation | B. | Data Filtering |
| C | Conditional formatting | D. | Data manipulation |

**viii. Which of the following command is used to apply formatting to one or more cells based on the value of the cell?**

| | | | |
|---|---|---|---|
| A | Data validation | B | Data filtering |
| C | Conditional formatting | D. | Data manipulation |

**ix. Which of the following shortcut keys are used for pasting selected text?**

| | | | |
|---|---|---|---|
| A | Ctrl+C | B | Ctrl+X |
| C | Ctrl+V | D | Ctrl+F |

**x. Which of the following command is used in Word to select the entire document?**

| | | | |
|---|---|---|---|
| A | Double-click | B | Triple click |
| C | Ctrl+Single click | D | Shift+Single click |

**Answers**

| | | | | |
|---|---|---|---|---|
| **i. B** | **ii. D** | **iii. C** | **iv. D** | **v. C** |
| **vi. B** | **vii. A** | **viii. C** | **ix. C** | **x. B** |

**Q2. Write short answers of the following questions.**

**i. What is a word processor? Write some advantages of it over a typewriter.**

**Ans: Word Processing:**

**Word processing** refers to the use of computer to create edit format and print documents

**Word Processor:**

**Word processor** is computer application software that is used for the creation of different types of documents on computer

Word processor is a commonly used application of computer Word processor allows user to delete, modify and rearrange document without retyping any of the existing text

**Microsoft Word:**

A common word processing program used is Microsoft Word. It is a part of Microsoft Office software. Microsoft Office contains word processing, record-keeping spreadsheet and presentation software

**Advantages of using a word processing program over a Typewriter:**

| | | | |
|---|---|---|---|
| **i.** | We can delete mistakes | **ii.** | Spell-check |
| **iii.** | Different fonts. | **iv** | Different sizes |
| **v.** | Different color | **vi.** | Pictures |
| **vii.** | We can save | **viii.** | We can email it |
| **ix.** | We don't have to move something to start [illegible] | | |

All these things cannot be done on a typewriter

Word processing system has the advantage of reducing time required to prepare documents It provides features to create appealing professional documents. With word processing programs user can create many types of documents such as letters, reports resumes, newsletters, memos, flyers, etc

**ii. Name any three types of documents which can be prepares in Word.**

**Ans:** With word processing programs, user can create many types of documents such as letters, reports, resumes, newsletters, memos, flyers, etc

**iii. Differentiate between page break and section break.**

**Ans: Page Breaks:**

A page break is a marker that tells Word program that the contents which follow are to appear on a new page Word automatically inserts a page break when the user reaches the end of a page Page break is inserted in document when user wants to add a new page to the document

**Section Breaks:**

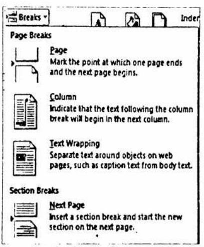
A section break also inserts a new page but it allows the user to change the page format without having any effect on the formatting of the previous pages

For example section break can be used to break a document into sections having different header and footer for each chapter of a book

**Steps for inserting page break and section break:**

The following are the steps for inserting page break and section break.

1. Click the **Page Layout** tab
2. Click the **Breaks** icon to open the drop-down menu shown in Fig.


Breaks
Inder
Page Breaks
Page
Mark the point at which one page ends and the next page begins.
Column
Indicate that the text following the column break will begin in the next column.
Text Wrapping
Separate text around objects on web pages, such as caption text from body text.
Section Breaks
Next Page
Insert a section break and start the new section on the next page.

Breaks drop – down menu

3. To insert a page break click the first option under the **Page Breaks** heading and to insert a section break click the first option under the **Section Breaks** heading.

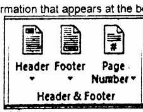
**iv. Why header and footer are important in a Word document?**

**Ans: Header:**

Header refers to information that appears at the top of a page

**Footer:**

Footer refers to information that appears at the bottom of a page.



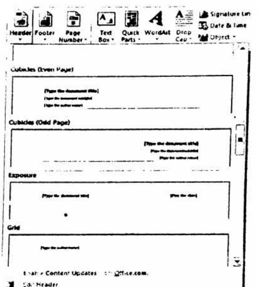
**Importance of header and footer:**

The type of information that may appear in the header or footer includes book title, document title, chapter number and title, page number, company name, etc.

**Steps for inserting header or footer:**

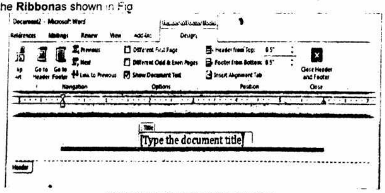
The following are the steps for inserting header or footer.

1. Click the **Insert** tab
2. Click the **Header** or **Footer** in the **Header & Footer** group shown above to open the drop-down menu.
3. Select a predesigned header or footer from the drop-down menu shown in Fig.



Inserting a header

Header or footer will appear in the document and the **Design** tab will appear in the **Ribbonas** shown in Fig



Entering information in header

4. Type the information in the header or footer
5. After entering the information, click **Close Header and Footer** in the **Design** tab

   To edit the information in the header or footer Double-click anywhere on the header or footer and make the changes

**v. What is the purpose of control buttons in Word window?**

**Ans: Control Buttons:** – ☐ ☒

Every window has a set of three control buttons that appear in a row on the right side of the title bar. These are the **Minimize, Maximize/Restore and close buttons** – ☐ ☒. If you point at one of these buttons, a **control menu** appears telling you the action that can be taken on clicking it.

**Minimize button:**

You can minimize a window from the view by clicking the **Minimize** button – when currently it is not required but must remain running.

**Maximize button:**

You can **Maximize** ☐ window by clicking the maximize button that enlarges the window to fill the entire screen.

**Restore button:**

When a Window is maximized, a **Restore** button ⧉ appears in its place. With the **Restore** button you can return the Window to its original size.

**Close button:**

A window has an associated button having its name with an icon on the taskbar. You can close a window by clicking the Close button ☒.

**vi. Why hyperlinks are created in Word document?**

**Ans:** You can add hyperlinks to your document that give your readers instant access to information in another part of the same document.

The hyperlink can be text or graphics. By using hyperlinks, you can provide information to your readers without repeating the same information on different pages.

To add links that jump from one part of a document to another part of the same document, mark the destination and then add a link to it.

**OR (Second Answer)**

A hyperlink is basically a location address inserted into a document that links to another object or location. An object can be a Word file, an HTML web page, an image, sound file, video or other digital file.

The address can also link to a location within the original document, allowing the reader to jump to different sections of the document.

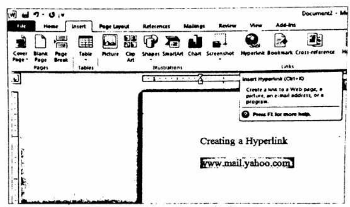
Hyperlinks are clickable and take a user to the target location or object.

**Using Hyperlink:**

Hyperlink is text in a Web page or document that links to another Web page or another place in the same document when the user clicks on it.

The following are the steps to create a Hyperlink.

1. Select the text that is to be displayed as Hyperlink as shown in Fig.



Insert Hyperlink (Ctrl+K)

Create a link to a Web page, a picture, an e-mail address, or a program.

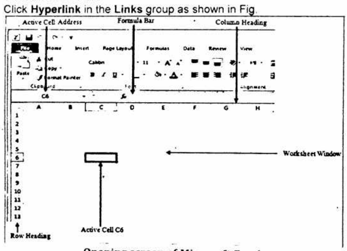
Press F1 for more help.

Creating a Hyperlink

www.mail.yahoo.com

Inserting a Hyperlink

2. Click the **Insert** tab.
3. Click **Hyperlink** in the **Links** group as shown in Fig.



Opening screen of Microsoft Excel

4. Click **OK**.

There is also an easy way to create a Hyperlink to Web page. Type the Hyperlink text and press Spacebar or Enter key.

Hyperlink appears in blue color and underlined. To open the Web page, position the mouse pointer over the Hyperlink and press the Ctrl key while clicking the mouse button.

The text format of Hyperlink can be formatted to regular text, that is, it should not be in blue color or underlined. To remove the text format of Hyperlink, Right-click the Hyperlink and select **Remove Hyperlink** from the shortcut menu.

**vii. Name any three areas of application of Excel.**

**Ans:** Excel allows us to perform calculations (like a calculator) and manipulate text (like a word processor).

1) **Pivot Tables:**

PivotTables summarise large amounts of Excel data from a database that is formatted where the first row contains headings and the other rows contain categories or values.

2) **Conditional Formatting:**

Conditional formatting helps users to quickly focus on important aspects of a spreadsheet or to highlight errors and to identify important patterns in data.

3) **Sorting and Filtering:**

Sorting and filtering your data will save you time and make your spreadsheet more effective.

4) **Basic Math:**

We can type the calculation you want to perform directly into the cell or the formula bar and when you press Enter the answer will show in the cell.

5) **Mixed Type Charts:**

Mixed type or combo (combination) charts combine two styles of charts, such as Excel's column chart and line chart. This format can be helpful for displaying two different types of information or a range of values that varies greatly.

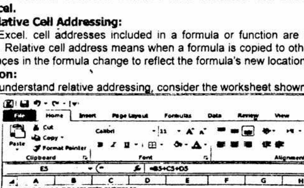
**viii. Differentiate between relative and absolute cell addressing in Excel.**

**Ans: Relative Cell Addressing:**

In Excel, cell addresses included in a formula or function are relative cell addresses. Relative cell address means when a formula is copied to other cells, the cell references in the formula change to reflect the formula's new location.

**Explanation:**

To understand relative addressing, consider the worksheet shown in Fig.



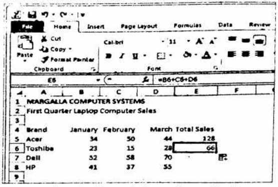
E5 =B5+C5+D5

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | MARGALLA COMPUTER SYSTEMS | | | | |
| 2 | First Quarter Laptop Computer Sales | | | | |
| 3 | | | | | |
| 4 | Brand | January | February | March | Total Sales |
| 5 | Acer | 34 | 50 | 44 | 128 |
| 6 | Toshiba | 23 | 15 | 28 | |
| 7 | Dell | 52 | 58 | 70 | |
| 8 | HP | 41 | 37 | 55 | |

Entering formula in worksheet

- Enter the formula =B5+C5+D5 in cell E5 to calculate the total number of Acer laptop computers sold in the first quarter.

- Copy the formula in cell E6.
- The formula in cell E6 becomes =B6+C6+D6 as shown in Fig.



E6 =B6+C6+D6

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | MARGALLA COMPUTER SYSTEMS | | | | |
| 2 | First Quarter Laptop Computer Sales | | | | |
| 3 | | | | | |
| 4 | Brand | January | February | March | Total Sales |
| 5 | Acer | 34 | 50 | 44 | 128 |
| 6 | Toshiba | 23 | 15 | 28 | 66 |
| 7 | Dell | 52 | 58 | 70 | |
| 8 | HP | 41 | 37 | 55 | |

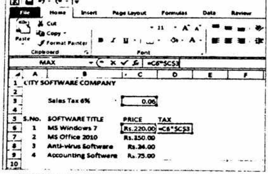
Copying formula to another cell

- The cell references have automatically changed based on the relative position of row and columns because relative cell addressing is used in formula in cell E5.
- Similarly the formula will become =B7+C7+D7 in cell E7 and in cell E8 it will become =B8+C8+D8. This is what is required in this worksheet.

**Absolute Cell Addressing:**

User can address a particular cell location no matter where the formula appears, by using absolute cell address. Absolute cell addressing keeps a cell reference constant when copying a formula or function. Absolute cell addresses begin with a dollar sign in the formula, such as =$C$5 + $D$5.

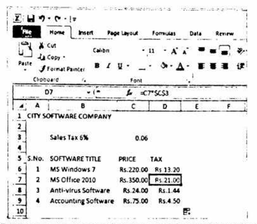
In the worksheet of Fig (a), sales tax is calculated as 6% for software items. Absolute cell addressing is used for the cell C3 in the formula =C6*$C$3 in cell D6 for calculating sales tax because it should not change when the formula will be copied to cells D7, D8 and D9 as shown in Fig (b).



MAX =C6*$C$3

| | A | B | C | D |
|---|---|---|---|---|
| 1 | CITY SOFTWARE COMPANY | | | |
| 2 | | | | |
| 3 | | Sales Tax 6% | 0.06 | |
| 4 | | | | |
| 5 | S.No. | SOFTWARE TITLE | PRICE | TAX |
| 6 | 1 | MS Windows 7 | Rs.220.00 | =C6*$C$3 |
| 7 | 2 | MS Office 2010 | Rs.150.00 | |
| 8 | 3 | Anti-virus Software | Rs.24.00 | |
| 9 | 4 | Accounting Software | Rs.75.00 | |
| 10 | | | | |

(a) Using absolute cell addressing in formula



D7 =C7*$C$3

| | A | B | C | D |
|---|---|---|---|---|
| 1 | CITY SOFTWARE COMPANY | | | |
| 2 | | | | |
| 3 | | Sales Tax 6% | 0.06 | |
| 4 | | | | |
| 5 | S.No. | SOFTWARE TITLE | PRICE | TAX |
| 6 | 1 | MS Windows 7 | Rs.220.00 | Rs 13.20 |
| 7 | 2 | MS Office 2010 | Rs.350.00 | Rs.21.00 |
| 8 | 3 | Anti-virus Software | Rs.24.00 | Rs.1.44 |
| 9 | 4 | Accounting Software | Rs.75.00 | Rs.4.50 |
| 10 | | | | |

(b) Copying formula that has absolute addressing

**ix.** **What are the advantages of protecting an Excel worksheet?**

**Ans:** **Protecting an Excel Worksheet:**

Sometimes the data in your worksheets contain important information that you may not want others to edit or delete. Fortunately you can protect sensitive information in elements down to the cell level in Excel.

When a worksheet is protected, other users can only view the information in it but changes cannot be made.

**Steps to protect a worksheet:**

The following are the steps to protect a worksheet.

1. Click **Review** tab in the **Ribbon**.
2. Click **Protect Sheet** command in the **Changes** group
3. Enter a password and click **OK**.
4. Re-enter password to confirm and click **OK**.

**x.** **How graphical representation of spreadsheet data can be helpful in business.**

**Ans:** A chart is used to represent data graphically. Charts are very helpful in explanation and representation of data. A commonly used chart is the column chart.

Excel allows business users to **unlock the potential of their data**, by using formulas across a grid of cells. Data is inserted into individual cells in rows or columns, allowing it to be sorted and filtered, and then displayed in a visual presentation.

Using pie charts, graphs and clustered columns adds meaning to data, which otherwise may just exist as row after row of numbers These visualisations can add extra emphasis to business reports and persuasive marketing material

**Q3.** **Write long answers of the following questions.**

**i.** **Which shortcut keys are used in Word to move cursor to the beginning of line, end of line, top of the document and end of the document?**

**Ans:** Shortcut keys for cursor movement are shown in Table.

Shortcut keys for cursor movement

| Cursor Movement | Shortcut Key |
|---|---|
| Beginning of the line | Home |
| End of line | End |
| Top of the document | Ctrl + Home |
| End of document | Ctrl + End |

**ii.** **Write the mouse commands used for selecting various items is a Word document such as single word, sentence, paragraph, etc.**

**Ans:**

| Item to Select | Mouse Command |
|---|---|
| **Single word** | Double-click the word |
| **Sentence** | Press and hold down Ctrl key and click anywhere in the sentence |
| **Paragraph** | Move the mouse pointer to the left of the paragraph until it changes to a right-pointing arrow and then Double-click |

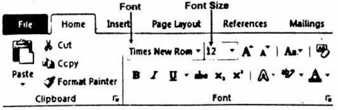
**iii.** **Explain text and paragraph formatting in Word.**

**Ans:** **Text Formatting:**

Formatting text means changing the font type, size, style, color and effects of text.

**Changing the Font Type and Size of Text:**

Open the **Home** tab and click the arrow on the right side of the currently selected font type as shown in Fig, and choose another font type. To change the font size, click the arrow on the right side of the font size and select a font size from the drop-down list or type a new font size. To change the font type or size of existing text, select the text and then make the changes.

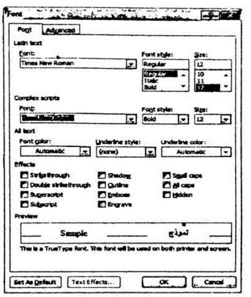


Changing font type and font size

**Changing Font Styles and Effects:**

The following are the steps for changing font styles and effects

1. Click the **Home** tab.
2. Click the dialog box launcher on the lower-right corner of the **Font** group. This will open the **Font** dialog box shown in Fig. Now, the user can change font styles and effects of text



Latin text

Font: Times New Roman

Font style: Regular

Size: 12

Complex scripts

Font style: Bold

Size: 12

All text

Font color: Automatic

Underline style: (none)

Underline color: Automatic

Effects

☐ Strikethrough
☐ Double strikethrough
☐ Superscript
☐ Subscript
☐ Shadow
☐ Outline
☐ Emboss
☐ Engrave
☐ Small caps
☐ All caps
☐ Hidden

Preview

Sample نموذج

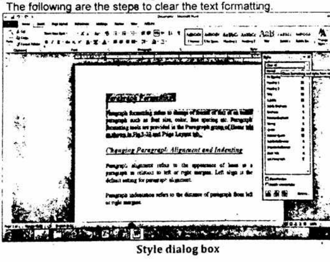
This is a TrueType font. This font will be used on both printer and screen.

Font dialog box

Some changes that are available in the **Font** dialog box can be made directly from the **Font** group in **Home** tab.

**Steps to clear the text formatting:**

The following are the steps to clear the text formatting.



Style dialog box

[redacted]

1. Select the text you want to clear the formatting.
2. Click the **Home** tab.
3. Open the **Styles** dialog box and select **Clear all** as shown in Fig.

**Paragraph Formatting:**

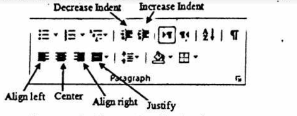
Paragraph formatting refers to change of format of text of paragraph such as font size, color, line spacing, alignment etc. Paragraph formatting tools are provided in the **Paragraph** group of **Home** tab and **Page Layout** tab.

- **Changing Paragraph Alignment and Indenting:**

Paragraph alignment refers to the appearance of lines in a paragraph in relation to left or right margins. Left align is the default setting for paragraph alignment.

Paragraph indentation refers to the distance of paragraph from left margin.

Select the paragraph to change the alignment and then select an alignment from the **Paragraph** group on **Home** tab as shown in Fig.



Paragraph alignment and indenting

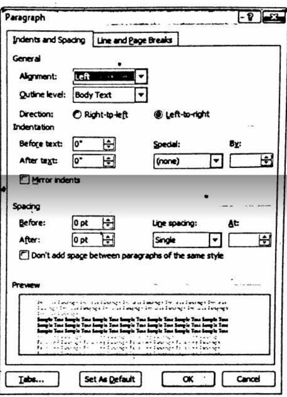
**Align left:** It will align the text to the left margin.
**Center:** It will center the text within the left and right margins.
**Align right:** It will align the text to the right margin.
**Justify:** It will align the text both to the right and left margins.

To increase paragraph indent, click the **Increase Indent** button shown in Fig, in the **Paragraph** group on **Home** tab. To decrease the paragraph indent, click the **Decrease Indent** button. Increasing indentation will move the paragraph to the right side by one tab position. Decreasing indentation will move the paragraph to the left side by one tab position.

- **Changing Spacing between Paragraphs and Lines:**

The following are the steps for changing spacing between paragraphs and lines

1. Select the paragraph or paragraphs.
2. Click **Home** tab
3. Open the **Paragraph** dialog box shown in Fig, by clicking the small arrow at the bottom right corner of the **Paragraph** group.
4. Make the required changes.
5. Click **OK** to apply the changes.


Paragraph
Indents and Spacing | Line and Page Breaks
General
Alignment: Left
Outline level: Body Text
Direction: ○ Right-to-left ● Left-to-right
Indentation
Before text: 0"
After text: 0"
Special: (none)
By:
☐ Mirror indents
Spacing
Before: 0 pt
After: 0 pt
Line spacing: Single
At:
☐ Don't add space between paragraphs of the same style

Paragraph dialog box

**iv. Describe the Paste Special command used in Excel.**

**Ans: Paste Special:**

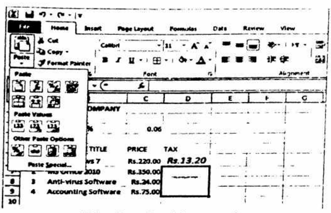
Excel copies all the information in the selected range of cells when you paste data.

Excel's Paste Special command allows many other options while pasting cells such as paste only formats of selected cells without contents or paste contents without formulas

**Steps describe the use of Paste Special command:**

The following steps describe the use of Paste Special command.

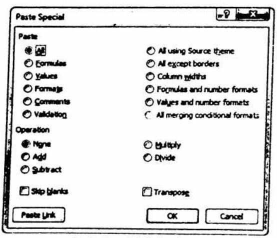
1. Select the cell range to paste.
2. Open the **Paste** drop-down menu in **Clipboard** group of **Home** tab and select **Paste Special** as shown in Fig. **Paste Special** dialog box will open.



| | C | D |
|---|---|---|
| OMPANY | | |
| % | 0.06 | |
| TITLE | PRICE | TAX |
| ws 7 | Rs.220.00 | Rs.13.20 |
| MS Office 2010 | Rs.350.00 | |
| 3 Anti-virus Software | Rs.24.00 | |
| 4 Accounting Software | Rs.75.00 | |

Using Paste Special command

3. Select an option from the **Paste Special** dialog box shown in Fig. and click **OK**.


Paste Special
Paste
● All
○ Formulas
○ Values
○ Formats
○ Comments
○ Validation
○ All using Source theme
○ All except borders
○ Column widths
○ Formulas and number formats
○ Values and number formats
○ All merging conditional formats
Operation
● None
○ Add
○ Subtract
○ Multiply
○ Divide
☐ Skip blanks
☐ Transpose

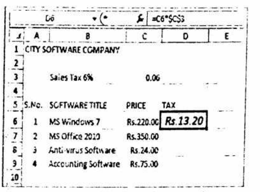
Paste Special dialog box

**Commonly used options of Paste Special dialog box:**

Commonly used options of Paste Special dialog box are explained below.

**All:** Used to paste all the information in the selected cell range. This is same as normal paste command.

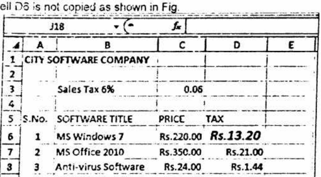
**Formulas:** Used to paste text, numbers and formulas without formatting. The formula in cell D6 in the worksheet shown in Fig, is formatted.


D6 · =C6*$C$3

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | CITY SOFTWARE COMPANY | | | | |
| 2 | | | | | |
| 3 | | Sales Tax 6% | 0.06 | | |
| 4 | | | | | |
| 5 | S.No. | SOFTWARE TITLE | PRICE | TAX | |
| 6 | 1 | MS Windows 7 | Rs.220.00 | Rs.13.20 | |
| 7 | 2 | MS Office 2010 | Rs.350.00 | | |
| 8 | 3 | Anti-virus Software | Rs.24.00 | | |
| 9 | 4 | Accounting Software | Rs.75.00 | | |
| 10 | | | | | |

Formula in cell D6 is formatted

When this formula is copied to cells, D7, D8 and D9 using paste special, the format of cell D6 is not copied as shown in Fig.


J18

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | CITY SOFTWARE COMPANY | | | | |
| 2 | | | | | |
| 3 | | Sales Tax 6% | 0.06 | | |
| 4 | | | | | |
| 5 | S.No. | SOFTWARE TITLE | PRICE | TAX | |
| 6 | 1 | MS Windows 7 | Rs.220.00 | Rs.13.20 | |
| 7 | 2 | MS Office 2010 | Rs.350.00 | Rs.21.00 | |
| 8 | 3 | Anti-virus Software | Rs.24.00 | Rs.1.44 | |
| 9 | 4 | Accounting Software | Rs.75.00 | Rs.4.50 | |
| 10 | | | | | |

Formula in cell D6 is copied to cell D7, D8 and D9

**Values:** Used to convert formulas in the selected cell range to their calculated values and then apply the paste command.

**Formats:** Used to paste only the formatting of selected cell range without cell contents.

**All except borders:** Used to paste all the information in the selected range without copying any borders if used.

**v. Describe how functions are used in Excel with examples.**

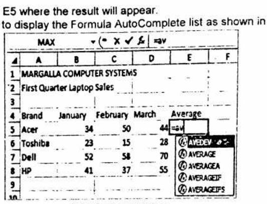
**Ans: Working with Functions in Excel:**

Functions are built-In formulas in Excel that allow user to easily perform common calculations on data. Functions can be entered in a worksheet using keyboard, **Insert Function** command or **AutoSum** drop-down menu.

- **Using Keyboard to Find Average:**

The following are the steps to calculate average sale for Acer laptop computer during the first quarter using the AVERAGE function.

1. Select cell E5 where the result will appear.
2. Type **= av** to display the Formula AutoComplete list as shown in Fig.


MAX · =av

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | MARGALLA COMPUTER SYSTEMS | | | | | |
| 2 | First Quarter Laptop Sales | | | | | |
| 3 | | | | | | |
| 4 | Brand | January | February | March | Average | |
| 5 | Acer | 34 | 50 | 44 | =av | |
| 6 | Toshiba | 23 | 15 | 28 | | |
| 7 | Dell | 52 | 58 | 70 | | |
| 8 | HP | 41 | 37 | 55 | | |
| 9 | | | | | | |

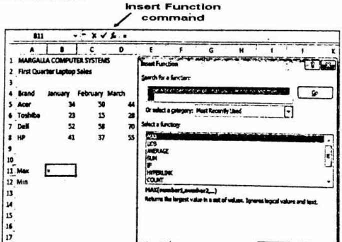
Calculating average

3. Point to **AVERAGE** function and Double-click.
4. Select the range B5:D5 to insert it as argument to the **AVERAGE** function.
5. Press **Enter** key.

- **Using Insert Function command to Find the Highest Value:**

The following are the steps to find the highest value.

1. Select cell B11 where the answer will appear.
2. Click **Insert Function** command shown in Fig. **Insert Function** dialog box will be displayed.



B11 · =

| | A | B | C | D |
|---|---|---|---|---|
| 1 | MARGALLA COMPUTER SYSTEMS | | | |
| 2 | First Quarter Laptop Sales | | | |
| 3 | | | | |
| 4 | Brand | January | February | March |
| 5 | Acer | 34 | 50 | 44 |
| 6 | Toshiba | 23 | 15 | 28 |
| 7 | Dell | 52 | 58 | 70 |
| 8 | HP | 41 | 37 | 55 |
| 9 | | | | |
| 10 | | | | |
| 11 | Max | = | | |
| 12 | Min | | | |

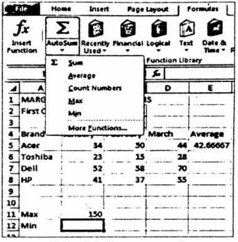
Insert Function
Search for a function:
Or select a category: Most Recently Used
Select a function:
MAX
LOG
AVERAGE
SUM
IF
HYPERLINK
COUNT
MAX(number1,number2,...)
Returns the largest value in a set of values. Ignores logical values and text.

Using Insert Function command to insert a function

3. Select **MAX** in the function list and click **OK**.
4. Type B5:B8 in the **Number 1** text box of **Function Arguments dialog** box and click **OK**.

- **Using AutoSum Drop-down Menu to Find the Lowest Value:**
  The following are the steps to find the lowest value in the range B5:B8 using **AutoSum** drop-down menu.

1. Select cell B12 where the answer will appear.
2. Click **Formulas** tab.
3. Open the **AutoSum** drop-down menu in the **Function Library** group as shown in Fig, and select **Min**.



Using AutoSum command

4. Type the range B5:B8 and press **Enter**.

**vi. Describe how formulas are used in Excel with examples.**

**Ans: Working with Formulas in Excel:**

A formula is an expression that performs calculations. It consists of operators, constants and cell addresses. The standard operators used in Excel formulas are given in Table.

**Arithmetic operators used in Excel**

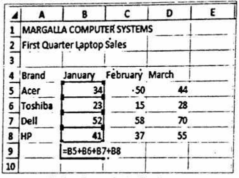
| Arithmetic Operation | Excel Operator |
|---|---|
| Addition | + |
| Subtraction | - |
| Multiplication | * |
| Division | / |
| Exponent | ^ |

All the Excel formulas begin with equal sign (=) just like functions. For example, to multiply two numbers 4 and 7, the formula will be =4*7. User can also use cell addresses in formulas such as =(A4+B4)/5. This formula will first add the contents of cell A4 and B4 and then divide the sum by 5.

**Examples:**

Following are the steps to calculate the total number of laptop computer sale for the months of January, February and March in the worksheet shown in Fig.

1. Click cell B9 where the answer will appear.
2. Type the formula =B5+B6+B7+B8 as shown in Fig, and press Enter.



|  | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | MARGALLA COMPUTER SYSTEMS | | | | |
| 2 | First Quarter Laptop Sales | | | | |
| 3 | | | | | |
| 4 | Brand | January | February | March | |
| 5 | Acer | 34 | 50 | 44 | |
| 6 | Toshiba | 23 | 15 | 28 | |
| 7 | Dell | 52 | 58 | 70 | |
| 8 | HP | 41 | 37 | 55 | |
| 9 | | =B5+B6+B7+B8 | | | |
| 10 | | | | | |

Using formula to find sum

3. To calculate the total number of laptop computers sold in the months of February and March copy the formula from cell B9 to C9 and D9.
4. Click the cell B9, point to the fill handle and drag it through cell D9.
   The user can also calculate the total number of laptop computers sold in January by performing the following steps.

1. Click cell B9.
2. Click **Formulas** tab.
3. Double-click the **AutoSum** command in the **Function Library** group.

**Excel Automatically Recalculates Formula Results:**

Whenever the user changes the value in a cell, the result of the formula in which that value is used will be automatically updated. This feature known as ***automatic recalculation*** is one of the main advantages that spreadsheets have over calculators.

## Lab Activities

**Activity 1:**

**Type the following text and apply the commands given at the end.**

**Computer Ethics:**

**Computer ethics is concerned with the moral guidelines for the ethical use of computer technology. It emerged with the invention of**

**computer. It specifies what is right and what is wrong when using computer technology. The following are some important points of computer ethics.**

**Computer should not be used to harm other people**
**Computer should not be used to commit any type of crime**
**Computer users should not create computer virus**

a. **Center the title and make it bold**
b. **Apply font size 16 to the title**
c. **Justify the paragraph**
d. **Underline and bold the words "Computer ethics" in the paragraph**
e. **Apply italics and bold to the words "computer technology"**
f. **Apply bullets to the last three lines**

**Activity 2:**

**Create weekly timetable of your class in Word and give title to it using WordArt.**

**Activity 1:**

**Activity 3:**

**Create the following worksheet in Excel and calculate sum and average using formulas.**

| Expenses of 1st Quarter | | | | | | |
|---|---|---|---|---|---|---|
| S.No. | Expense | Jan | Feb | Mar | Total | Average |
| 1. | Salary | 87000 | 102400 | 113800 | | |
| 2. | Rent | 2500 | 2500 | 2500 | | |
| 3. | Utilities | 3250 | 3500 | 3080 | | |
| 4. | Transport | 7830 | 6885 | 8940 | | |
| 5. | Miscellaneous | 4500 | 6708 | 7740 | | |

**Activity 4:**

**Create a column chart for expenses in the months of January, February and March for the above worksheet.**

**Activity 5:**

**Create the following worksheet in Excel and enter marks in the subject columns in the range 0 to 75. Restrict data entries in the subject columns to the specified range using data validation command.**

| S.No. | Student Name | Mathematics | Physics | Computer | Chemistry |
|---|---|---|---|---|---|
| 1. | Abrar Nabi | | | | |
| 2. | Mumtaz Akbar | | | | |
| 3. | Muhammad Bilal | | | | |
| 4. | Javed Akhtar | | | | |
| 5. | Afzal | | | | |
| 6. | Muslim Khan | | | | |

**Activity 6:**

**Write a leave application in Urdu using the Inpage Urdu editor**