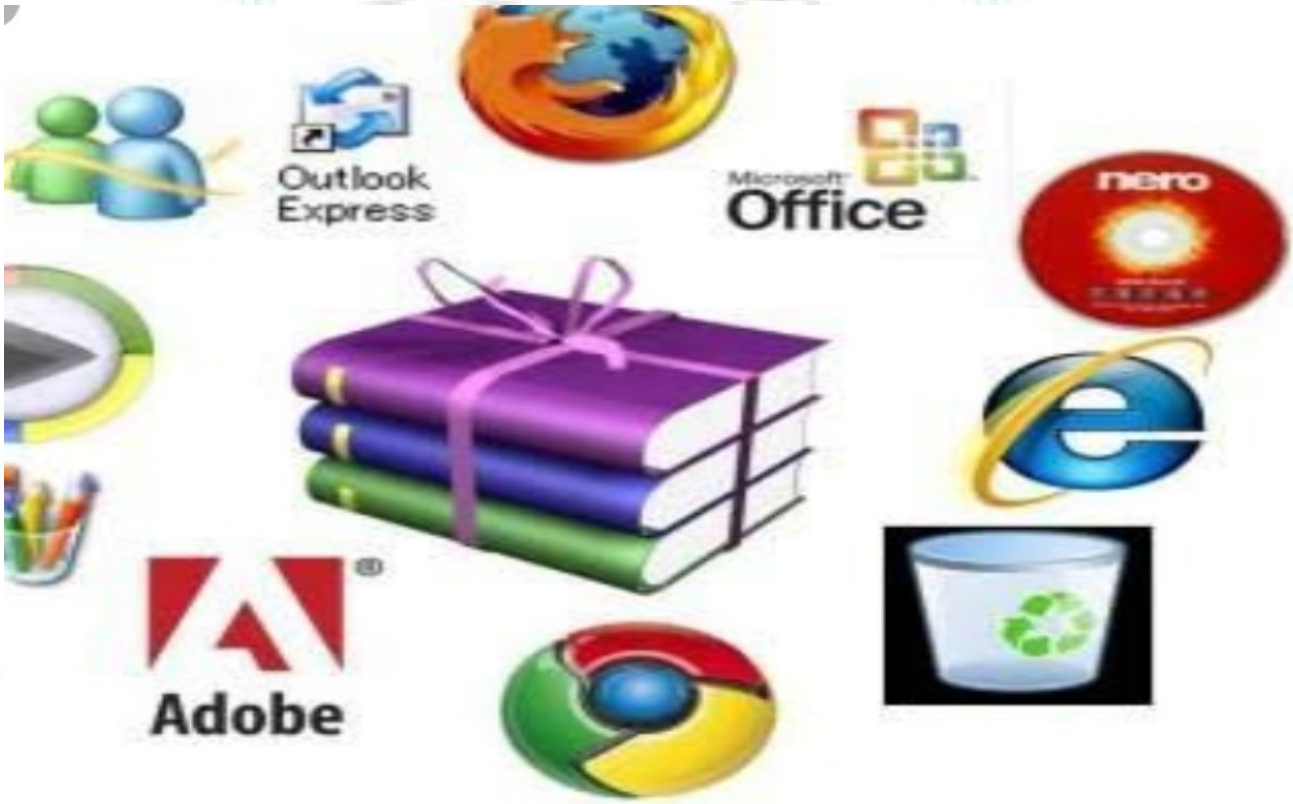
COMPUTER NOTES FORM TWO



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TOPIC 1: WORD PROCESSING

Introduction

There has always been a need to come up with better writing tool to improve on efficiency and legibility of the written work. These tools include manually type writers, electronic type writers.

ELECTRONIC WORD PROCESSORS

An electronic word processor is application software documents,
Examples of common word processors include; Microsoft word, cavil word perfect, lotus word pro and apple works.

WORD PROCESSOR

Definition: Is software for preparing formatting and editing of a document.

Eg: of word processors packages;

1) Microsoft word
2) Microsoft works
3) Apple work
4) Open office writer
5) Lotus word pro,
6) Corel word perfect.

THE DIFFERENT BETWEEN WORD PROCESSOR AND MICROSOFT WORD

A word processor is the type of software. Word processing is what you do with a word processor.
So Microsoft word processor, typing a letter in Microsoft word is word processing.

BENEFIT OF USING A WORD PROCESSOR OVER TYPEWRITERS

1) Word processor can save data while typewriters cant
2) You can edit while you work on a word processor, but with a typewriter you have to start over
3) Easy to correct mistake while a typewriter cant
4) Typewriter also didn't have features like spell check while word processor has

STARTING MICROSOFT WORD
There are two alternatives.
<u>Alternative 1</u>
Using start button.
1.Click start button,the menu will appear.
2.Select all programs

3.Select Microsoft office,the group menu will appear.
4.Double click the Microsoft word 2003-2010 the window will appear.

Alternative 2
Using keyboard
1.Pres window logo key.
2.Select all programs for double click on microsoft word 2003-2010
NOTE
If you select all programs follow procedure 3 and 4 above other wise
3.The window will appear.

FEATURES OF A WORD PROCESSOR

Most word processors have common features. Each task appears in a rectangular are called Application window.

TITTLE bar

A title bar indicates the tasks which are currently running on its right. There are; minimize, restore and close button

Menu bar

The menu bar provides the user with a group of commands. Each command has a drop down list, when clicked, used to create and manipulate documents

Tool bar

Tool bar consist of buttons of command (icons) that provide shortcuts to command available in the menu bar. The two default tool bars are the standard and formatting tool bar.

DOCUMENT WINDOW

This is the work area where you create documents. It is resembled on an ordinary piece of paper.

STATUS BAR

The status bar is the communication channel between the user and application program. It displays the current page, section line and activities such as file saving process.

Search and replace: Allows you to direct the word processor to search for a particular word or phrase.
Print feature : Allows you to send a document to a printer to get hard copy
File management: Many word processors contain file management capabilities that allow you to create, move and search for files.
Font specification: Allows you to change font within a document.

Mail merges: This is particularly useful for generating many files that have the same format but different data. Generating mailing labels is the classic. Example of using merges.
Spell checker: A features that allows you to check the spelling of words
Table of contents and indexes: Allows you to automatically create a table of content and index based on special codes that you insert in document.

WYSIWYG (What you see is what you get): With **WYSIWYG**, a document appears on the display screen exactly as it will look when printed.

OPEN A FILE WITH WINDOW XP

1) Open word 2007
2) Click the Microsoft button a menu will appear
3) Click open, the open dialog box will appear
4) Use the look in field to move to the folder in which you saved the file. The file is named lesson two docx
5) Click lesson Twodocx
6) Click open. The file you create during the previous lesson appears

ALTERNATE METHOD OPENING A FILE WITH KEYS

1) Open word 2007
2) Press Ctrl+O
3) Locate the folder in which you saved your file. The file is named lesson two docx.
4) Click lesson two docx.
5) Click open. The file you create during the previous lesson appear

DOCUMENT VIEWS

- Draft view
- Web layout
- Print layout
- Reading layout
- Outline view

ADVANTAGES OF WORD PROCESSOR PROGRAMS

1. Easier to use due to automated features such as word- wrap, auto correct and auto complete.
2. They have superior editing tools such as spelling checker etc. hence making editing easier.
3. Can store documents for future retrieval
4. They have superior formatting feature that make a document more appealing to the reader

- The user can produce multiple copies more easily
- Copy and move (cut) operating making it easier to manipulate documents.

CREATING A DOCUMENT USING MICROSOFT WORD

Microsoft word, commonly referred to as word, is the most common word processor. The five commonly used versions of word are word 97, 2000, 2002(XP), 2003 and 2007.

While word 97-2003 look alike and are compatible, word 2007 radically divorces from these version in the look and manually out, there is no file menu and once text is highlighted a floating formatting tool bar is displayed above the selected text. More over document saved in 2007 format cannot be opened in previous version unless you save the file in compatibility mode for consistency; we shall use word processing software called Microsoft word 2003.

Typing text

When typing, once the cursor reaches the end of the current line it automatically jumps to the next line. If one word does not fit in current line it automatically wraps at the beginning of next line. This is referred to as word wrap

Saving file

1. On the file menu, click the "save as" command.
2. Select the storage location from the "save in" list box
3. Type a name of the file in the "file name" box then click "Ok"

EDITING A DOCUMENT

Making changes or modifying an existing document is called editing, some editing operations includes:

Deleting text

To delete a character, a word or a block of text

- Highlight the text to be deleted
- Press the "delete" key or the "backspace" key.

Find and replace

Find and replace is used to locate a word or a phrase and replace it with another:

To" find and replace" a word of phrase.

- On the edit menu , click find or replace
- On the "find what" box , type the word or phrase to find
- Click the "replace" icon in the replace box, type the word or phrase to replace the target word or phrase.

Spelling and grammar checker

Spelling and grammar checker automatically locates misspelled words and grammatical mistakes.

To spell check a document

- On tools menu bar click spelling and grammar or press F7
- In the spelling and grammar dialog bar. Misspelled words are shown in red while grammatically incorrect phrases are in green.
- From the suggestion list, select the correct spelling and grammar.
- Click change (all) button. To ignore, click the ignore (all) button.

LIMITATION OF SPELL CHECKER

- Names of people and places are not usually included.
- The same two words in a row may not be detected
- If a word is spelt incorrectly but used in the wrong context it will not be detected
- Quality of dictionaries can vary

Thesaurus

The thesaurus allows the user to automatically find words or phrases with similar meaning (synonyms) or opposite meaning (antonyms) to the one selected.

To use the thesaurus

- Highlight text
- On tools menu, point language then click thesaurus.

- Select a synonym or an antonym

Autocorrect and auto text

Auto correct and auto text are used to automatically correct a commonly misspelled word and insert a predefined text when creating a document.

To create an autocorrect or auto text

- On the insert menu, point to Auto text, and then click auto text command.
- Click the autocorrect or auto text tab and type the autocorrect or auto text.
- Click to apply and close the dialog box.

Undo and redo

Undo reverses the most recently command while redo reverts back to the cancelled action.

- Click on the edit menu, click undo or redo. Alternatively, press ctrl + Z to undo or ctrl + y to redo.

FORMATING A DOCUMENT

Formatting refers to enhancing the appearance of a document. You format text, paragraphs, pages, or the entire document.

Text formatting

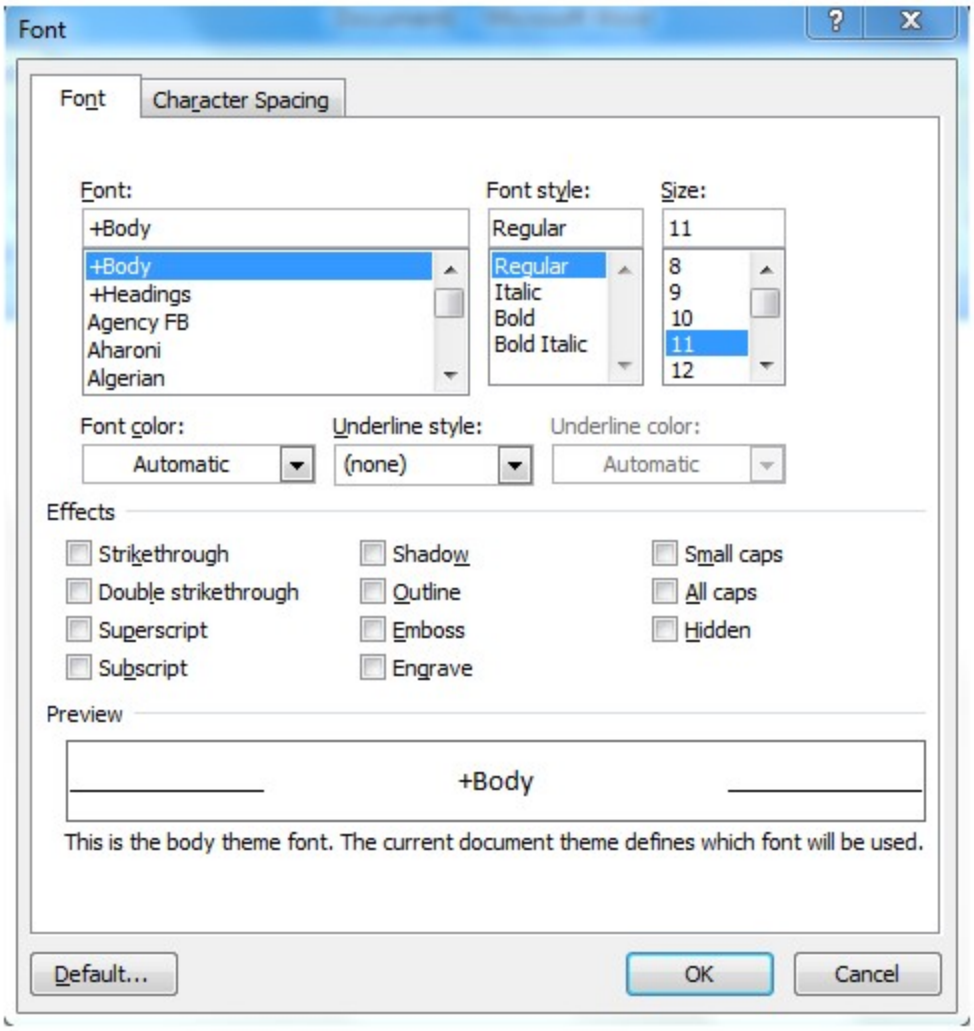
We format text by applying different font types, style, size, color and another attributes.

Text font

To format text font

- Highlight the text to be formatted
- On the format menu , click font
- In the font dialog box , select the font , style , size and color

- Apply other font attributes then click OK



Font dialog box

Note: A faster way of applying font formats is by using the formatting tool bar.

Case

The cases applied to text are: lower case, upper case, Sentence case, title case and toggle case. The use of case in these sentences is deliberate

To change case

- Highlight the text
- On the format menu , click change case

In the change case dialog box, select case then click Ok

Superscript and subscript

Superscript appears just above the rest of characters as in cm^2 superscript

Subscript appears just below other characters as in H^0_2 subscript

To make text superscript or subscript

- Highlight characters
- On the format menu click font
- On the font dialog box check superscript or subscript

Paragraph of formatting

A paragraph is a separate block of text dealing with a single theme and starting on a new line or what. Some of the formatting features you can apply into a paragraph Include alignment , setting tabs and indents , drop cap, bullets and numbering , line , spacing , inserting column and page breaks.

Alignment is the arrangement of text relative to the left margin, centre of the page or the right margin. The five major alignment options available are the left, center, right, justified and force justified.

To align text

- Highlight the text
- On the format menu click paragraph.
- In the dialog box, select the alignment option then click OK

Note: You can apply alignment by simply clicking any of the five alignment buttons on the formatting toolbar.

Line spacing

You can set the space between line, paragraphs or blocks of text

To space line

- Highlight the lines of text
- On the format menu, click paragraphs dialog box.

- In the paragraph dialog box, select the line spacing option from the line spacing list box then click the Ok button

Setting tabs and indents

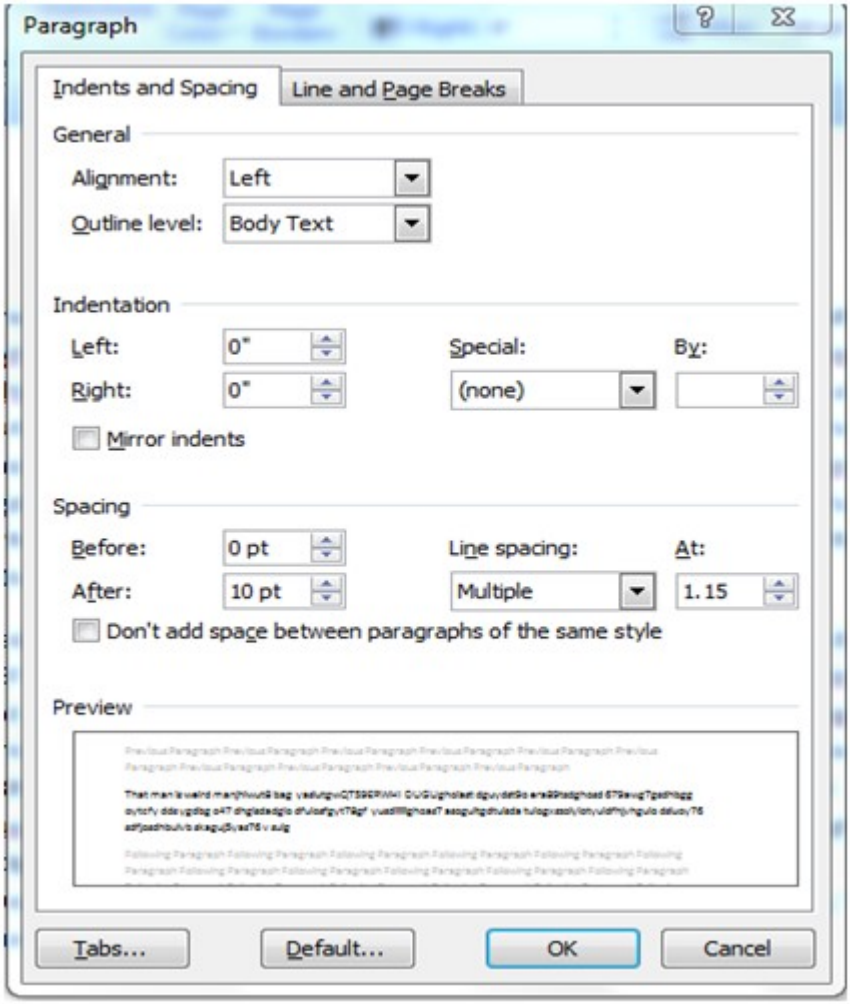
Tab refers to definite cursor stop when the tab key is pressed. Indenting is moving a sentences or block of text away from the margin using the tab key.

To set tabs and indents

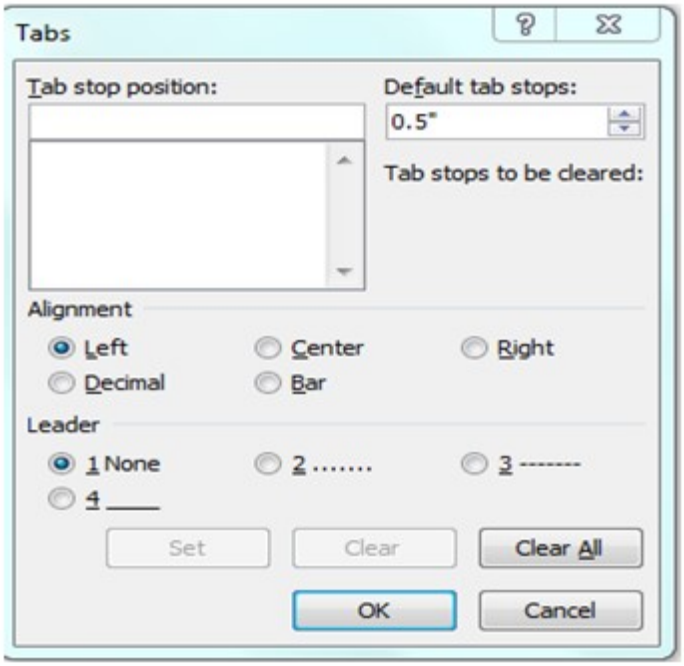
- On the format menu click tabs

- In the tab dialog box , set the tab stop, alignment and leading then click Ok

- Press the tab key to increase or the space bar to decrease the indent. Alternatively click the Increase/Decrease indent buttons on the formatting tool bar.



Paragraph dialog box



Tabs dialog box

DROP CAP

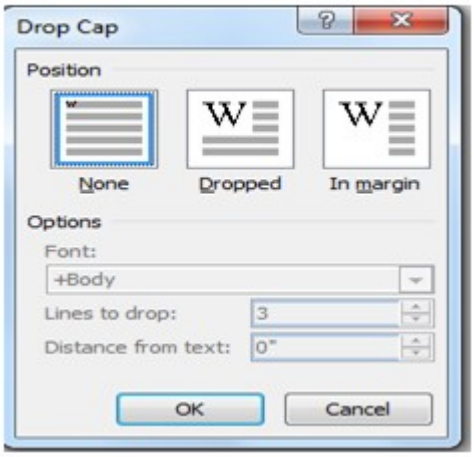
A drop cap is a large character in a paragraph that occupies more than one line down.

To create a dropped cap

- Highlight the paragraph you want to begin with drop cap
- On the format menu, click drop cap
- Click dropped or In margin

- Specify the number of lines & other options then click Ok

Drop Cap dialog box



BULLETS AND NUMBERING

Bullets and numbers are used to create ordered lists.

To add bullets or numbers.

1. Highlight the text.
2. On the format menu, click bullets and Numbering.
3. In the dialog box displayed, click Bullets or Numbered
4. Click bullet or numbering thumbnail you want to apply.

INSERTING COLUMNS

Columns subdivided a page into several vertical sections

To set columns

1. Highlight the text
2. On the format menu , click columns
3. In the columns dialog box enter the number of columns , set the column width then click Ok

PAGE AND COLUMN BREAKS

Page, section and column breaks are used to force the cursor to move to a new page section or Column even before the end of the current.

To insert a break.

1. Position the insertion pointer where you back want to create a break
2. On the Insert menu, click Break
3. In the Break dialog box ,set the break type the Ok

FORMATTING THE ENTIRE DOCUMENT

Page setup

Page setup options let you define the paper size, margins and operations.

To set up a page

1. On the file menu , click page setup
2. In the page setup dialog box

Click any of the following.

- Margins tab to set up page margins
- Paper tab to specify the paper type and orientation
- Layout tab to specify the page content layout relative to the margins

3. Click OK to apply the settings

PAGE NUMBERING

Page numbers are used to organize a large document for case of reference.

To insert page numbers

1. On the insert menu , click page numbers
2. In the position box, specify whether to place the page numbers at the top of page (header) or at the bottom of the page (footer)
3. In the alignment box – specify whether to align page numbers to the left, center or right of the page
4. If you don't want a number on the first page, clear the show number on the first page check the box then click Ok.

Note: click on the format button to specify other page number options such as numbering type and font.

HEADER AND FOOTER

Header are lines of text that appear at the top margin every page or selected pages while footer appear at the bottom margin

1. On the view menu, click Header and Footer
2. To create a header, enter text or graphical object in the header area.
3. To create footer , click inside the footer area and enter the text or graphical object
4. Click CLOSE on the Header and footer tool bar

FOOT NOTES AND END NOTES

Footnotes and endnotes are used in large documents to explain, comment or provide reference for text in a document. Footnotes appear at the bottom of the page while endnotes appear at the end of a section or a document.

To insert footnote or endnote.

1. On the insert menu, point to reference and then click Footnote. A dialog box is displayed.
2. In the location section , click footnotes or endnotes and specify the location of the footnote or endnote
3. In the format section, specify the number type start and continuity.
4. Click Insert.

CREATING AND MANIPULATING TABLES

A table is made up of rows and column of cells. It is used to organize and present information in rows and columns

Creating a table

To create a table

1. Click where you want to insert the table
2. From the table menu , point to Insert and then click table
3. In the dialog box , set the number of column and rows
4. Specify the auto format option if needed to be

EDITING AND FORMATING A TABLE

To delete rows or columns

1. Select the row
2. On the table menu, point to Delete then click Row/column

To insert rows or columns

1. Click the insertion pointer where you want to insert the rows/column
2. On the table menu , point to Insert then click Rows/ column

To merge cells

1. Highlight the cells
2. On the table menu, click Merge cells.

To split cells

1. Highlight the cells to split
2. On table menu, click split cell
3. Enter number of rows or columns

Performing calculations in a table

To calculate numerical values in a table, use cell references. A cell is a cross- section of rows and column. Column is represented by letter, A, B, C. While rows are represented by 1, 2, 3…… as shown below:

A1	B1	C1	D1	E1
A2	B2	C2	D2	E2
A3	B3	C3	D3	E3
A4	B4	C4	D4	E4

To perform calculations in a table

1. Place the insertion pointer to where you want the result to be displayed
2. On the table menu, click formula
3. Type a formula in the formula box e.g. = SUM (A1 . E1)
4. Click Ok

Note: You can select a formula from past function list and use ABOVE and LEFT instead of typing a formula and using cell references respectively

PRINTING A DOCUMENT

Word processing is not complete without producing a hard copy. To print a document

1. Preview it by clicking "print preview" on the file menu
2. Click print from the file menu
3. Select the printer range, number of copies and other options then the dialog box

Trouble shooting printing related problems

Some of the printing problems you may encounter are

- Lack of two- way communication due to pear installation of the printer software (drives) if the printer is off or not connected
- Paper jams due to use of poor quality of paper or paper folds
- Poor quality print due to poor quality ink or toner used.

Read the manual that comes with the printer to resolve printing problems\

DUPLEX PRINTING

- This is the process of printing on both sides of the paper.

TYPES OF DUPLEX PRINTING

1) AUTOMATIC DUPLEX PRINTING
2) MANUALLY DUPLEX PRINTING

AUTOMATIC DUPLEX PRINTING

This is the automatic printing on both side of the paper

- Click the Microsoft office button
- Click print properties and then
- Click duplex printing , or two – sided printing
- Click OK.

MANUAL DUPLEX PRINTING

Manually printing on both side of the paper

PROCEDURES

Odd and even pages

- Click the Microsoft office button and then click print
- On the option select odd page
- Click **ok**
- After the odd pages are printed , flip the stack of pages over and

Then in the print list, select even pages

- Click **ok**

Using advanced Features of a word processor

Inserting graphical objects

You can insert a graphical object such as a picture a clip art or drawing onto your document.

To insert an object

1. On the insert menu, point to picture
2. Click on the following options

- Click Art
- From file
- From scanner or camera
- Organization chart , Auto shape , WordArt or chart

3. Depending on the option selected insert or import the object

Using styles

A style is a predefined set of formats that can be applied to a block of text together at once.

To create a style

1. Highlight the text you want to see to create a style
2. Apply various formats to the text.
3. Click the style box in the formatting bar and type a name for the style
4. Press enter to apply the style name

Note: You can apply an existing style e.g. Headline1, to highlighted text

Generating a table of contents and indexes

A table of contents (TOC) is a list of topics in a document and the pages they appear. It is placed in the first pages of the document. On the other hand, an index is a list of term used in the document and the pages they appear. It is placed at the back pages.

In order to generate a TOC, you must first mark entries by defining style

To generate a table of content

1. Turn to the page you want to insert the table of contents
2. On the insert menu to reference and then click Index and tables
3. Click the table of contents tab
4. Set the TOC entriesthen click Ok

SORTING AND FILTERING

Sorting is a process of arranging items / data in a given order.

SORTING ORDER

a) Ascending order

- Is the process of arranging data / item from the lowest to the highest.

E.g. A-Z **OR** 0, 1, 2, 3……

b) Descending order

- Is the process of sorting data / items from the highest to the lowest.

E.g.: Z-A **OR** ……3, 2, 1, 0

SORT THE CONTENTS OF A TABLE

1) In print layout view (Print layout views a view of a document / other object as it will appear when you print it. For example: Items such as header, foot roles, columns and text boxes appear in their actual positions). Move the pointer over the table until the table move handle appear
2) Click the table move handle to select the table that you want to sort
3) Under table tools. On the layout tab , in the data group click sort
4) In t the sort dialog box select the option that you want

SORT A SINGLE COLUMN IN A TABLE

1) Select a column that you want to sort
2) Under table tools, on the layout tab, in the data group click sort,
3) Under my list has, click header row or no header row.
4) Click option
5) Under the sort option , select the sort column check box
6) Click OK

MS – WORD CHART

Define: Is a graphical representation of the table data / items

TYPES OF CHART

i) Bar chart

ii) Pie chart

iii) Line chart

iv) Column chart

v) Area chart

STEPS / PROCEDURES

i) Open Ms – word office

ii) Go to insert tab

iii) Select chart under illustrations group

iv) In a new dialog box type of chart

v) Then click OK

vi) Enter data from the imported Ms – excel window

vii) Then close Ms – excel window

To generate an index you mark the index entries by providing the name of the main entry and the cross – reference in your document**.**

To generate an index

1. Mark the index entries in your document a special XE tag is add to the text.
2. Turn to the page you want to insert the index
3. On insert menu , point to reference then click Index and Tables
4. Click the Index tab
5. Set the index properties then click Ok

Password protecting a document

To protect a document from unauthorized access or modification use a password. Since password is case sensitive avoid mixed case, preferably use lower case.

To create a password.

1. On the tools menu, click options and then click the security tab
2. Type in a password in the password to open box or the password to modify box
3. Set other security options then click Ok.

Generating merged documents

Mail merging is the process of generating personalized letters, labels or envelopes by merging two files, a main document e.g. Letter envelopes or mailing label with a data sources or addressing book. The three main steps of creating a merged document are:

1. Create a main document e.g. A formula letter
2. Create or get the data source i.e. the address book
3. Marge the two files to a new document , printer or e-mail

To create a merged documents

1. On the Tools menu , point to letters and mailings then click Mail merge Wizard
2. From the mail merge panel displayed , select the type of document to work on e.g. letters
3. Click Next at the bottom of the panel to proceed
4. The will take you through the six steps of creating a merged document

Note: To create a merged document using another revision of word, read it's on line help.

OPIC:2 SPREAD SHEET

Sheet is a piece of paper with vertical and horizontal line.

Spreadsheet allows the operator to enter and to store data in a computer, in a grid format. Calculations are made according to the formulate entered. The programme makes changes easily and quickly.

Any entry can be changed and the effect of the change calculated automatically. Entries can be numbers for calculation. Entries can be words to form headings or formulae.

The worksheet of a spreadsheet is divided into a number of sections.

i. **Column:** Line of cells down the worksheet. Each is identified by a letter. The identification letters starts with A, B, C.... They go through AA, AB, AC,.....,BA,BB,BC,..... and so on up to IV. This gives 256 columns.

ii. **Row:** Horizontal lines cross the worksheet. These are identified by numbers from 1 on wards up to 65536.

iii. **Row:** Horizontal lines cross each other they form a cell. Each cell is identified by a column letter followed by a row number. For example the first cell is A1. On the worksheet information is fed in cells. Moving about the on the spreadsheet is shown by a cell printer. Current cell is indicated highlighted rectangle. There are 256 x 65536 cell in a worksheet.

iv. **Label:** Text entries on the worksheet are called labels. These should be kept to minimum. They are normally limited to columns and rows headings only.

v. **Status area**: The area on the screen display which gives information about the current worksheet. The information includes content of the current cell, name of the worksheet formula and graphical actions.

vi. **Cell address:** The sell which is currently on use. The combination of row and column coordinates make up a cell address. Sometimes is known as **active cell** or **selected cell.**

vii**Range:** is the assortment of cells. Referring to all cells between and including the reference. It consists of two cell addresses separated by a colon. Eg. For A1:A3 this includes cells A1, A2 and A3.

Viii.**Union:** A union reference includes two or more references. It includes two or more cell addresses separated by a comma. E.g. A7, B8, C9 this refers to cells A7, B8 and C9

ix. **Status area:** the area on the screen display which gives information about the current worksheet. The information includes the content of the current cell, name of the worksheet formula and graphical actions

Applications of the spreadsheet:

i. Spreadsheet is used in decision making. This is because it presents the convenient method of quick investigation of data.

ii. Spreadsheet is also used for records keeping. Eg. Student's records

iii. Prepare budgets

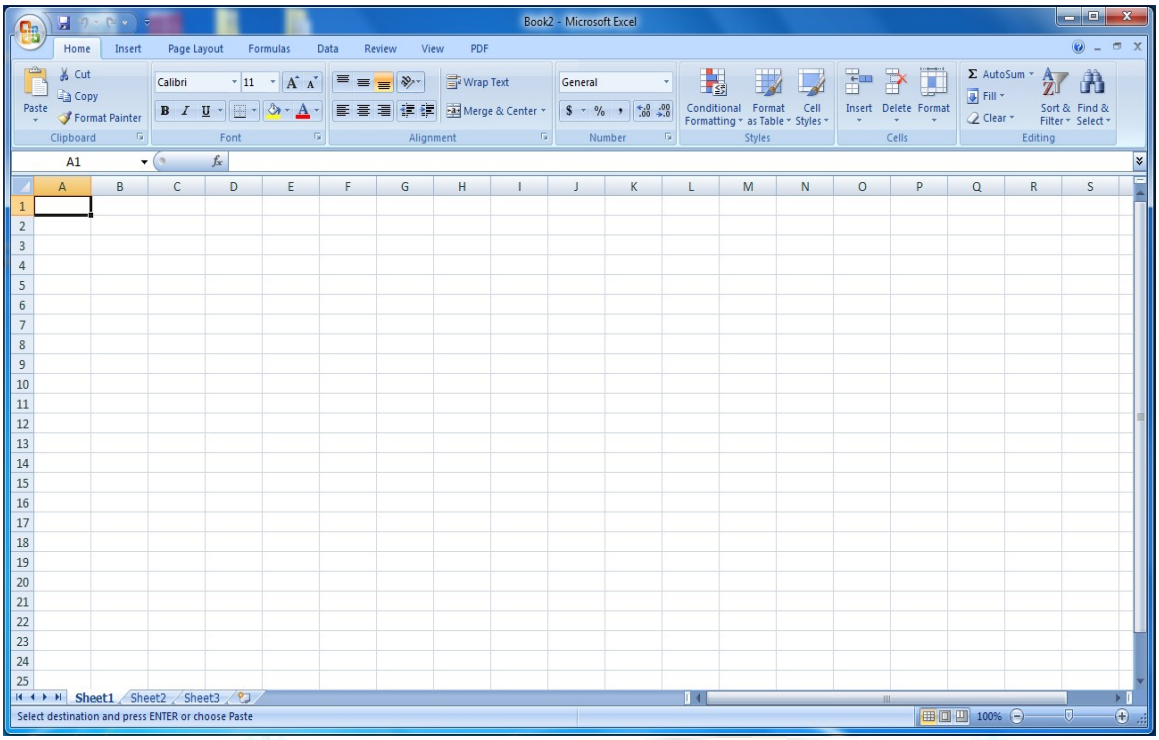
iv. Plan different activities

v. Create charts for data presentation

vi. Prepare financial statements

vii. Prepare statical data.

1. Click start
2. Go to all programs
3. Go to Microsoft office
4. Click Microsoft excel



Close spreadsheet

Go to the right corner of the bar click close

4. **Entering data**

Data is entered into the worksheet by moving the cursor to the appropriate position on the screen, clicking the left mouse button to select that cell, and then typing the information required. The characters you type will appear in the active cell and on the formula bar.

When you have finished typing data into a cell you should signal the end of that data in one of the following ways:

- Press the **Enter** key (the cell below becomes the active cell)
- Press one of the arrow keys (the active cell move one place in the direction of the arrow
- Click on the **Enter** box (marked by a green tick) on the formula bar (the original cell is still the active cell).

The are two basic types of information that can be entered into a worksheet: **Constants** and **formulae.**

The constants are of three types: **numeric values, text values**, and **date and time value.** Two special types of constants, called **logical values** and **error values,** are also recognized by Excel but are not discussed in this document.

Numeric value include only the digits 0-9 and some special characters such as **+ - E e () . , % /**

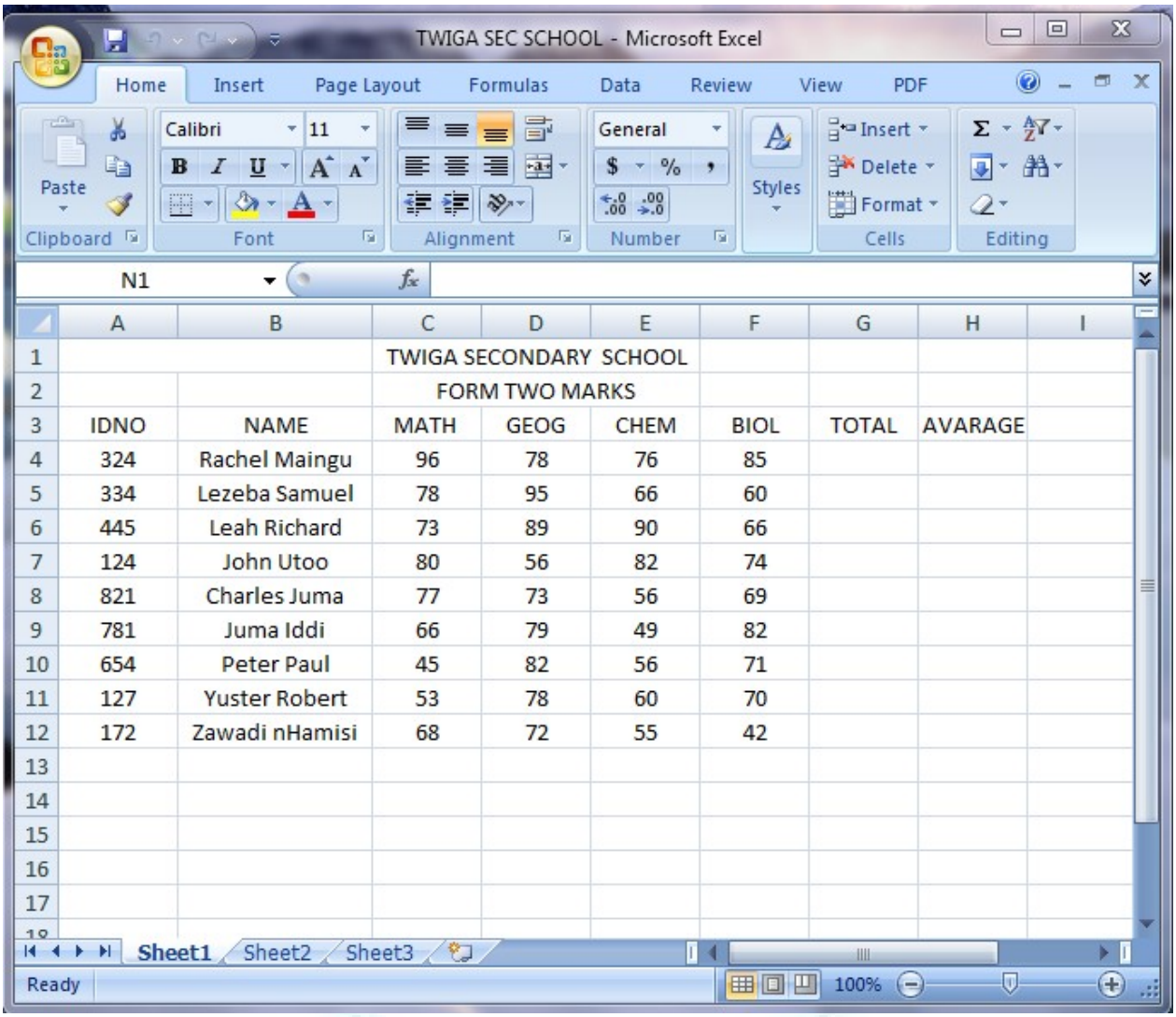
A numeric cell entry can maintain precision up to 15 digits. If you enter a number that is too long, Excel converts it to scientific notation. For example, if you type 12345678901234567, it will be stored as 12345678901234500, and displayed as 1.23457E16. sometimes, although the number is stored correctly in the cell, the cell is not wide enough to display it properly. In those cases, Excel might show a rounded number or even a string of # signs –just increase the width of the column

A text entry can contain up to 32,767 characters (only 1024 will display in the cell but all will shown on the formula bar). If the text you enter will not fit in the particular width of your cell, Excel lets it overlap the adjacent cell unless that cell already contains an entry, in which case the extra text can be thought of as being tucked behind the adjacent cell.

5. **Creating a simple worksheet**

Instructions are given for creating the worksheet shown below. The first stage is to get the correct values in the cells. Later you can make the worksheet more attractive by the use of bold text, different alignment and color.

QUALITY EDUCATION
FOR
FUTURE GENERATION



	A	B	C	D	E	F	G	H	I
1			TWIGA SECONDARY SCHOOL						
2			FORM TWO MARKS						
3	IDNO	NAME	MATH	GEOG	CHEM	BIOL	TOTAL	AVARAGE	
4	324	Rachel Maingu	96	78	76	85			
5	334	Lezeba Samuel	78	95	66	60			
6	445	Leah Richard	73	89	90	66			
7	124	John Utoo	80	56	82	74			
8	821	Charles Juma	77	73	56	69			
9	781	Juma Iddi	66	79	49	82			
10	654	Peter Paul	45	82	56	71			
11	127	Yuster Robert	53	78	60	70			
12	172	Zawadi nHamisi	68	72	55	42			
13									
14									
15									
16									
17									

5.1. Entering the data

1. Click in cell B2 and type

Twiga secondary school

2. Press the Enter key (or one of the arrow key).
3. Click in cell B4 and type

ID NO.

4. Press the down-arrow key to move to cell B5
5. Type

6. Press the down-arrow key and then complete column B as shown above.
7. Enter the data in columns D, E, F and G (but not H and I)

5.2. Amending data

If you are in the process of entering data in a cell and you notice that you have made a mistake, it is easy to correct it. Press the **Backspace** ( ) key to delete a character to the left of the cursor or the **Delete** key to delete a character to the right of the cursor.

If you want to edit the contents of a cell you dealt with earlier, you should double-click in that cell and make the alternations either in the cell itself or on the formula bar.

If you want to clear a cell of its contents (formula and data), formats, comments or all three you can selects that cell with a single click of the left mouse button, select **clear** from the **Edit** menu and then click on **contents Fformats,Co comments,** or **All.**

There are a couple of quick ways of clearing the contents of a cell. The first is to use the right mouse button to click in the cell and then select **clear contents** from the menu that appears. The second is to select the cell by clicking the left mouse button and the press the **Delete** key on the keyboard.

Do not confuse using the **Delete** key with selecting **Delete** from the **Edit** menu. That command carries out the more drastic action of removing the entire cell from the worksheet and shifting the surrounding cell to fill in the resulting space.

5.3. Ranges

In Excel, any rectangular area of cells is known as a range. The range is defined by the top-left and bottom –right corner cell references separated by a colon(:).

So, **B4:D7** represents the range of cells cornered by **B4** and **D7.**

5.4. Copying and pasting

The text in cell **E5:E8**(in other words E5, E6 and E8) is the same as in the range **B5:B8** so you can copy that.

1. Point to cell **B5** and hold down the mouse button

2. Keeping the button held down, drag the pointer to **B8** and then release the mouse button. The range **B5:B8** will be highlighted.
3. Click on the **copy** button on the toolbar (or selected **Copy** from the **Edit** menu).
4. Click in **E5** (where you want the **copy** to be place).
5. Click the **Paste** button on he toolbar (or select **Paste** from the **Edit** menu).

In addition, there is a smart tag(the **Past Options** one) near the bottom right-hand corner of the pasted data.

A **smart tag** can be:

- Ignored –it will disappear when you carry out some other action
- Removed –by pressing the **Esc** key
- Used – point to it and click on the down arrow to display several options; select one and press the **Enter** key

For now, just ignore the **Paste Options** smart tag and finish the process of entering the data.

1. Click in any cell to remove the highlighting
2. Press the **Esc** key to remove the flashing dotted line (marquee) round the cells you copied.

Note: selecting non-contiguous ranges

If you need to select cell that are not contiguous, (ie, ranges that are not necessarily next to each other), proceed as follows.

1. Select the first area of cells
2. Hold down the **Ctrl** key while selecting the other areas.

5.5. Adjusting the width of columns

If the Twiga secondary school text is too wide for columns **B** try widening those column.

1. Move the cursor to the division between the areas containing the column names. Note how the shape of the cursor has changed to a vertical black line with arrows pointing right and left.
2. Double –click the left mouse button.

The column will be widened (if necessary) automatically.

If you wish to have control over the sizing of the column, it can be done manually.

1. Move the cursor to the division between the areas containing the column names

2. Hold down the left-hand mouse button and drag that column divider the required distance to the right
3. Release the mouse button.
4. Repeat the process if you want to make fine adjustments.

5.6. Entering currency values

If you have column containing amounts of money. You do not have to type the **â,¤** sign, instead you can enter the numbers and format the cells as currency later.

Formatting the cells

1. Highlight the cells ie**F5** to **F7** (Point to **F5,** press the mouse button; while keeping the button held down, drag the pointer to **F7;** release the button.)
2. Point to the highlighted area and click the right mouse button.
3. Choose **Format Cells** window, click on the Number tab (unless it is already selected.)
4. In the **Format cells** window, click on the **Number** tab (unless it already selected).
5. In the **category:** box select **Currency** by clicking on it.
6. Make sure that **Decimal places:** is set to 2; **symbol:** show **â,¤** and that the first option in the **Negative numbers:** box is highlighted. **Sample:** shows you what the result of the formatting will be (â,¤0.50).
7. Click on **Ok.**

Alternatively, you could have formatted the cell first and then entered the values.

If you begin a numerical entry with a â,¤ sign, Excel assigns currency format to that cell. Similarly. If you end a numerical entry with a % sign, Excel assigns Percentage format to that cell.

Note: Excel 2003 includes the Euro symbol € for currency.

5.7. Formatting a cell before entering a value

Now try formatting a cell before entering its value.

1. Click in **F4**
2. Click on the **Bold** and **Align Right** buttons. The cell will not look any different until you enter a value
3. Type

Costs

And press the **Enter** key.

The text should be in a bold front and right-aligned in the cell.

5.8. Formatting text

You have entered all the data you need but you might like to make the worksheet easier to read by formatting some of the text.

First make the word **Allocation** bold.

1. Click in **B4.**
2. Click on the **Bold** button on the toolbar.

Next apply a bold font to **Adult** in **C4** and **child** in **D4** and center the text in the cells as follows:

1. Highlight cells **C4:D4**
2. On the toolbar, click on the **Bold, italic** and **Center** button. If you can't remember which those are, try pointing to each button in turn –a small pointer message will appear showing its name.

Next apply a bold italic font to Adult in C4 and Child in D4 and center the text in the cells as follows

1. Highlight cells **C4:D4**
2. On the toolbar, click on the Bold, Italic and Center buttons. If you can't remember which those are, try pointing to each button in turn

--a small pointer message will appear showing its name.

5.9. Using different sizes and colors

The charity Barbecue heading of this worksheet can be made more interesting by changing its size and colour.

1. Click in **B2.**
2. Click on the down-arrow of the **Font Size** button
3. Select another size, for example, **12.**

Your text in **B2** will increase in size.

4. Click on the down-arrow of the **Font color** button.
5. Select a suitable colour for your text.

It is possible to colour the background of cells and to centre a heading across a range of cells.

1. Highlight the cells **B2:F2**
2. Click on the down-arrow of the **Fill color** button.

3. Select a suitable colour for your background. Be sure to make it different from the colour of your text or you will not be able to see the heading!
4. Make sure that the range **B2:F2** is still selected and click on the **Merge and center** button. Your heading will be centered in that range of cells.
5. Click in any cell away from the heading.

5.10 Naming a sheet

The information on **sheet 1** might refer toTwiga Secondary School to be held in Term II. It would make sense to name the sheet accordingly.

1. Right –click on the tab **sheet 1**
2. Select **Rename** from the menu that appears
3. Type

Term II

And press the **Enter** key (or click in a cell).

Adding a border

Sometimes a worksheet can be made more attractive by adding borders around cells.

1. Select the rectangle of cells starting with **B2** in the top left-hand corner across to **F7** in the bottom right-hand corner.
2. Click on the down-arrow to the right of the **Borders** button on the toolbar
3. Click on the second example in the third row (**All Borders).** This shows borders around all the cells.
4. Click on a cell not currently selected (to remove the highlighting).

Another way of adding borders is to select **Cells** from the **Format** menu and click on the **Border** tab. First select a style for a line, then apply it by clicking the presets, preview diagram or buttons on that **Border** tab in the **Format cells** window. This approach gives you more options.

If you would prefer to draw the border around cells yourself, click on the down-arrow to the right of the **Borders** button on the toolbar and select **Draw Borders.** On the **Borders** toolbar that appears, select a colour and style for the line, and choose to draw either a grid or just a border. Then, just draw on your

worksheet. An eraser is also available.

Inserting and deleting rows and columns

Extra rows and columns can be inserted whenever you wish. As an example, insert a row between rows **4** and **5.**

1. Click, with the right mouse button, on the row name **5.**
2. Select **Insert** (and ignore the **Insert Options** smart tag).

Try inserting an extra column before column **A**

1. Click, with the right mouse button, on the column name **A.**
2. Select **Insert**

To delete a row or column, right-click on its name and select **Delete** from the menu which appears.

Spell-checking

Excel allows to check the spelling of your work. You have probably already used this technique in word.

1. Select a cell near the top of your worksheet
2. Click on the **spelling** button on the toolbar (or select **Spelling** from the **Tools** menu)

If a spelling mistake is found (or something that Excel thinks is a mistake but isn't), you will be given the opportunity to correct or ignore it.

Excel will object to **Twiga Secondary School.** If you wish, change it to **Twiga Secondary School** by editing the text in the Not in Dictionary: box and clicking on the **change**All button.

When the end of the sheets is reached, the checking can be continued from the beginning of the sheet down to the cell you selected.

Saving your workbook

Your workbook can now be stored in a file on a floppy disk (the **A:** drive)flash, CD or on the Networked PC service (the **J:** drive).

1. From the **File** menu select **Save As** (or **Save**)

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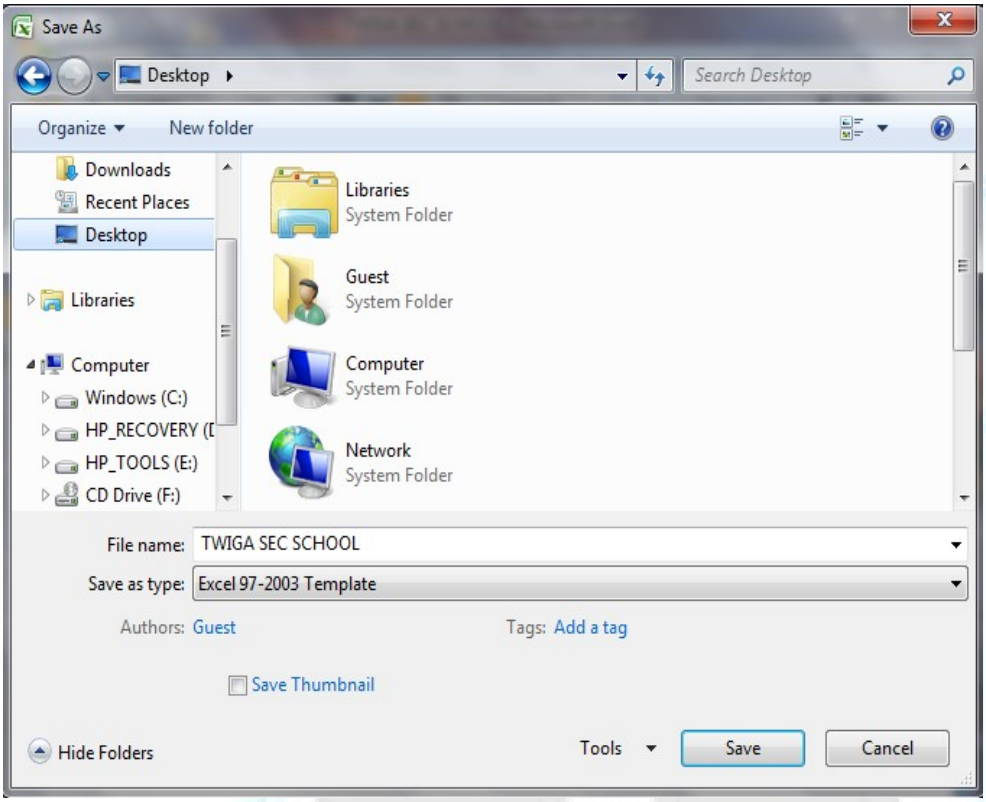
A **Save As** window appears.



Choose a name for your file

1. In the **file name:** box, type a suitable name (such as **Twiga Secondary School)** for your file.Later, Excel will add the **.xis** extension automatically.

Excel file names can have up to 218 characters including alphanumeric characters, spaces and the special characters except for⁄, \ , > ,< ,* , ? ," ,â”,, ; and : Remember that Excel does not distinguish between upper and lower case letters.

Decide which drive to use

If you are using the Networked PC service, Excel will offer to save your file one your **J:** drive

If you want to save the file to another drive (such as **A:)**

1. Click on the down arrow to the right of the **Save in:** box.
2. Select the drive of your choice **Flash disk (F)**

Note: On the Networked PC service, a quicker way of selecting the A: drive is to click the **Flash Disk**icon at the left –hand edge of the **Save As** window.

Decide which folder to use

If you want to choose a folder in which to save your file.

1. Double-click on a folder already displayed in the list box or click the **Up One Level** button (to move up one folder level) and navigate until you can select the folder you want.

On your own PC, you can click on the **History** button (at the left-hand edge of the **Save As** window) to see documents and folders you have worked with recently.

Different file format

It is possible to save the file in a different file format by changing the setting in the Save as type: box.

Finally

1. Click on the **Save** button

After you save the file, the workbook window remains open and Excel displays the new name in the title bar.

Note: Once a file has been saved for the first time, subsequent changes can be saved by selecting **Save** from the **File** menu, or by clicking the **Save** button on the standard toolbar.

Closing your workbook

You can close you workbook at any time

1. From the **File** menu, select **Close**

If you have made any changes to the workbook since it was last saved, you will be asked whether you wish to save those changes.

2. Click **Yes** to keep the changes or **No** to discard them (and leave the workbook as it was when you last saved it).

Note: To open the workbook later, select **Open** from the **File** menu, navigate to the location of the file, select it and click **OK**. You can have several workbooks open at the same time.

Calculations

You can now try doing some simple calculations using a worksheet that was prepared earlier.

If you are not using the ITS Networked PC service, you may like to get a copy of this file from the ITS Web pages before working through the rest of the document.

- The file is called **Twiga Secondary School**.xls and can be found in the information /Guides section of the ITS website.

http://www.dur.ac.uk./its/info/guides/files/excell/).

Opening a worksheet

1. From the **File** menu select **Open**
2. Change the **Look in:** setting to **work file on 'Dudley'(T:).**
3. In the box of folders, double-click on its, and then on **Excel.**
4. Click on **Twiga Secondary.xls.**
5. Click on **Open**

Entering formulae

All formulae begin with an equals (=) sign. If you forget to type the =, the rest of the line could be entered into the cell as a piece of text. Formula can contain values, cell addresses, mathematical operators and functions.

Some of the mathematical operator that can be used are:

%	Percent
^	Exponentiation
*and /	Multiplication and division
+and -	Addition and subtractions
&	Text joining
=,<,>,<=, >=, <>	Comparison

They are listed here in decreasing order of priority starting with Percent, which has the highest priority (done first), and ending with comparison, which has the lowest (done last). If a formula contains operators with the same priority, they are evaluated form left to right.

If you want to alter the order of evaluation, use parentheses (brackets) to group expressions. Any parts of a formula that are in parentheses are done first. For example:

7 + 3/2 will be evaluated as **8.5** (not **5.0**)

(7 + 3)/2 will be evaluated as **5.0**

Entering a formula for total per person

In this case is the marks of maths, Geog, Chem and Biology

1. Click in G5
2. Type = C5 + D5 + E5 + F5 or = SUM (C5:F5)

Note that you have entered the cell references in the formula, not the values in the cells since those particular values might be changed later.

3. Press the **Enter** key.

Have a critical look at the value now displayed in **G5**. Make sure that it is correct. If it isn't click in **G5** and look at the formula displayed on the formula bar. If you find an error in your typing, correct it.
Next copy the formula to cells G6-G13,This will display the total marks for each student of form 1 in Tanga secondary for the four (4) subjects

Entering a formula for Average now calculate the average marks for each student in form 1 for the four subject

1. Click in**H5**
2. Type = (C5 + D5 + E5)/4 or type = G5/4 or

   Type = AVERAGE (C5:F5)

3. Press the Enter key. The average marks will be displayed.

Copying a formula to another cell

A formula can be copied to another cell in the same way as text or numbers.In this case from h5-h13

Sorting

If you have a rectangular block of data surrounded by blank cells, then Excel recognizes this as a **list.** Data in a list can be sorted alphabetically numerically or chronologically. Excel rearranges the rows according to the contents of one or more columns.

If you select a single cell in the list, Excel will automatically select the whole list for you. If there are labels in the first now, excel excludes them from the sort. Alternatively, you can select the

area of data that is to be sorted. Be careful though, sorting data selected by you does not move any non selected data in adjacent columns or rows.

On the **summer** worksheet of the **Charity_Barbecue** workbook, you have a list in cells **B13:E19.** (If you added extra people, the range will be different) it can easily be sorted by surname.

1. Click on the **summer** tab.
2. Click on any name in the **Party** column
3. Click the **sort Ascending** button on the toolbar.

The list will be sorted in ascending order by name.

4. Immediately click the **Undo** button if you want to restore the list to its original order.

The **sort Descending** button can be used to sort a list in descending order.

If you wish to sort by more than one column, select **Sort** from the **Data** menu.

For further information about lists, including sorting, see Guide 36: Lists and data management in Microsoft Excel 2003.

Printing

There are various stages to getting your information printed

Page Setup

1. From the File menu, select Page Setup.

By changing the options in the Page Setup window, you can control the appearance of your printed sheets. This includes choice of margins, headers/footers, page orientation (portrait/landscape), scaling, and precisely what will be printed (grid lines for example).

2. Click on OK in the Page Setup window.

Print preview

1. From the File menu, select Print Preview (or click on the Print Preview button on the toolbar)

In this mode you can, if you wish, view the next/previous page, zoom, use a magnifying glass, adjust margins, and change the page breaks.

2. Click the close button to return to your worksheet.

Dotted lines will now be displayed on your worksheet indicating page boundaries.

Selecting a printer and printing your work

1. From the File menu, select Print.
2. If you are working on the Networked PC service, by default, the printout should be directed to the printer in the room in which you are working. Check that this is the case.

If you want a different printer.

3. Click on the beside the Printer Name: box
4. Select the printer you want to use.

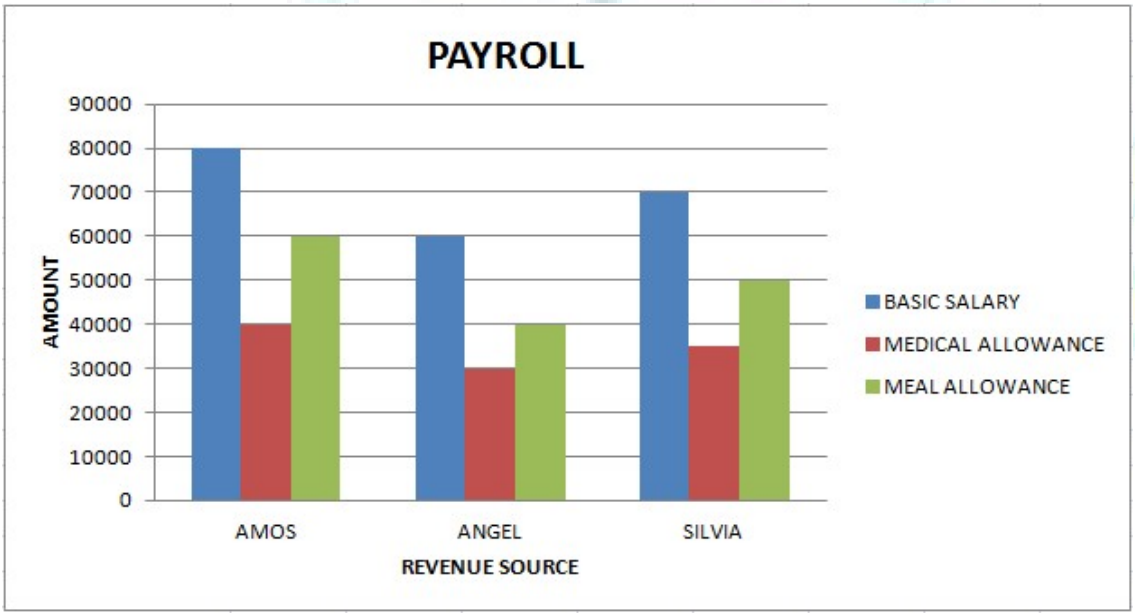
You can specify what is to be printed, which pages are to be printed and (To print your work, click on OK)

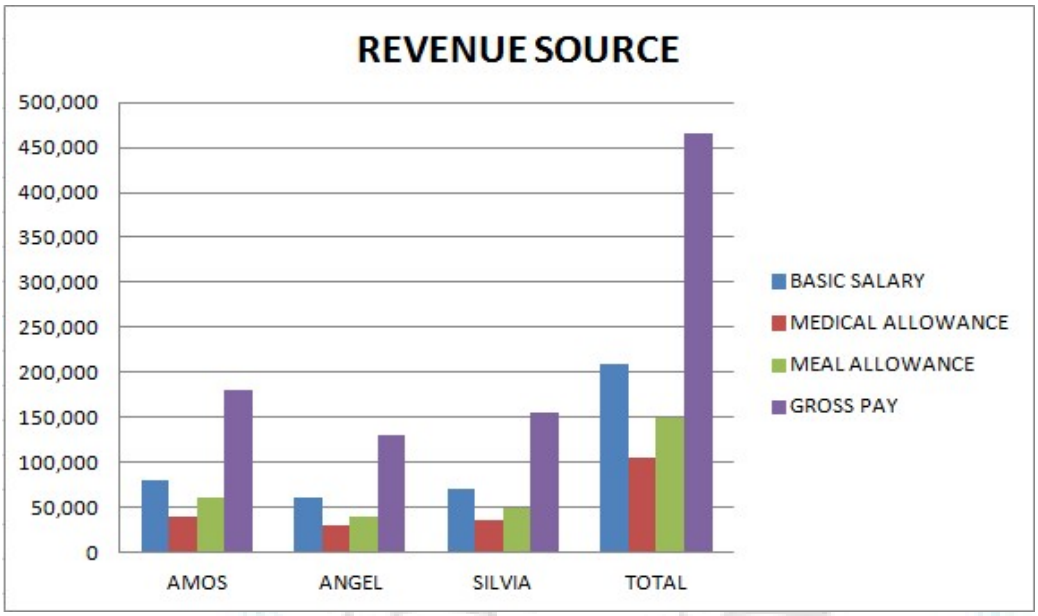
GRAPHS AND CHARTS

Data may be presented in graph or charts as well.

From the table below

EMPLOYEES	BASIC SALARY	MEDICAL ALLOWANCE	MEAL ALLOWANCE	GROSS PAY	TAX 15%
AMOS	80,000	40,000	60,000	180,000	27,000
ANGEL	60,000	30,000	40,000	130,000	19,500
SILVIA	70,000	35,000	50,000	155,000	23,250
TOTAL	210,000	105,000	150,000	465,000	69,750





To change the colour, click on the bar you want to change the colour.
If you want to change that chart type,click on the on the chart and insert,select the type of chart.

PAGE PROPERTIES AND PRINTING

Includes:-

1) PAGE SETUP

It may include

a) Header footer setup

b) Selecting a printer

c) Paper layout (page layout)

Procedures

From the menu bar, click file then select page set up.

i. Page tab

- On the page tab you may choose either portrait or landscape for the page layout.
- Select the page size as A4

ii. Header/footer

- Click header/footer tab
- Click custom header
- There are three sections here, you, may type your header in any section depending on what type of the paper do you want your footer/header to appear. But in most cases the left section is prefered for header.
- After typing your header click OK.
- Then click on custom footer.

The footer may be either in the center section or right section

- Click on the center section
- Click the button shown as # the word and page will disappear in the centre section also, data and time may be set in the footer right section. After completion of footer and header setup click OK>

PAGE PREVIEW.

From the Menu bar click File.

Then select print preview.

Note: Your page may default to two pages while the document is for one page only.

Procedures:

Click page break preview

Click OK to the window appearing.

If the document is making up two pages, there must be dotted separating those pages. Place your cursor on the dotted line and drug it to the right until you meet the solid line

WORKING WITH MS EXCEL WHILE YOU ARE IN MS WORK

Select ms excel form tools bar , work with your data

THE FOLLOWING IS SUMMARY OF PROCUREMENT

To shift/Return to Ms Excel Double click the Table.

EMPLOYEES	BASIC SALARY	MEDICAL ALLOWANCE	MEAL ALLOWANCE	GROSS PAY	TAX 15%
AMOS	80,000	40,000	60,000	180,000	27,000
ANGEL	60,000	30,000	40,000	130,000	19,500
SILVIA	70,000	35,000	50,000	155,000	23,250
TOTAL	210,000	105,000	150,000	465,000	69,750

EXERCISE

From the given data below,

1. Find, total, Average, and Grades
2. Draw bar graph, pie chart
3. Save file name with your name
4. Put the file in folder, save in desk top an my document

Formulating the formula

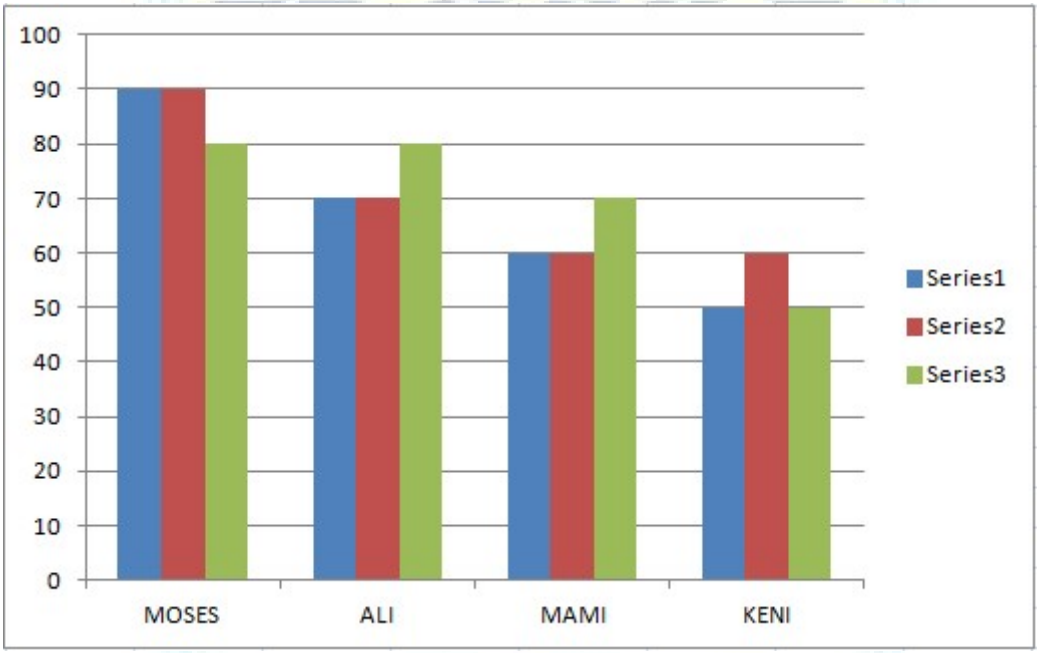
Note =, the number of opening brackets must be the same as closing brackets

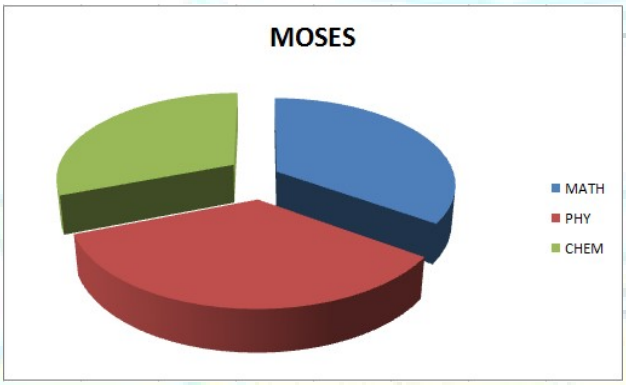
Example, a student whose average is equal, or greater than 80, is placed in A grade, average equal or greater than 70 is grade B, average equal or greater than 50 is in C grade, otherwise F grade.

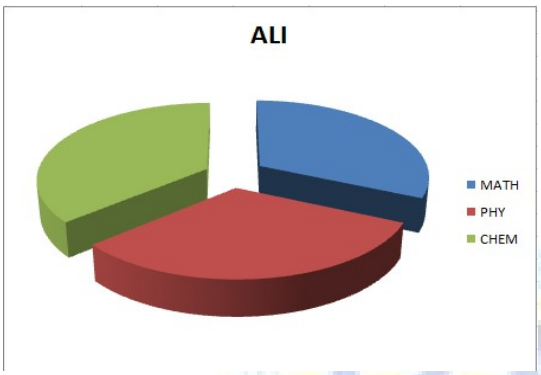
FORMULA

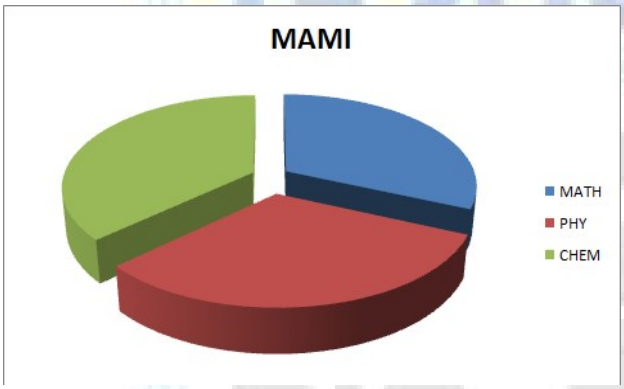
=IF(F2>=80,"A",IF(F2>=60,"B",IF(F2>=50,"C","F")))

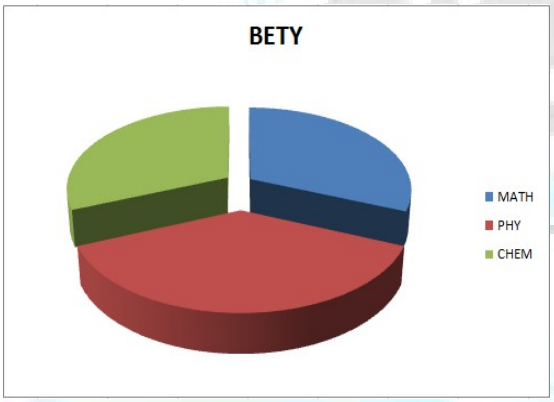
MATH	PHY	CHEM	TOTAL	AVARAGE	GRADES
90	90	80	260	86.67	A
70	70	80	220	73.33	B
60	60	70	190	63.33	B
50	60	50	160	53.33	C
50	30	40	120	40	F
50	30	40	120	40	F











EXERCISE

Banda Enterprises had the following data.

PRODUCT NAME	BASIC PRICE$	DISCOUNT 10%	SALE PRICE	VAT 20%	SELLING PRICE
Chair	50.00	5.00	45.00	9.00	54.00
Desk	250.00	25.00	225.0	45.00	270.00
Table	130.00	13.00	117.00	23.00	140.00

FORMULA:

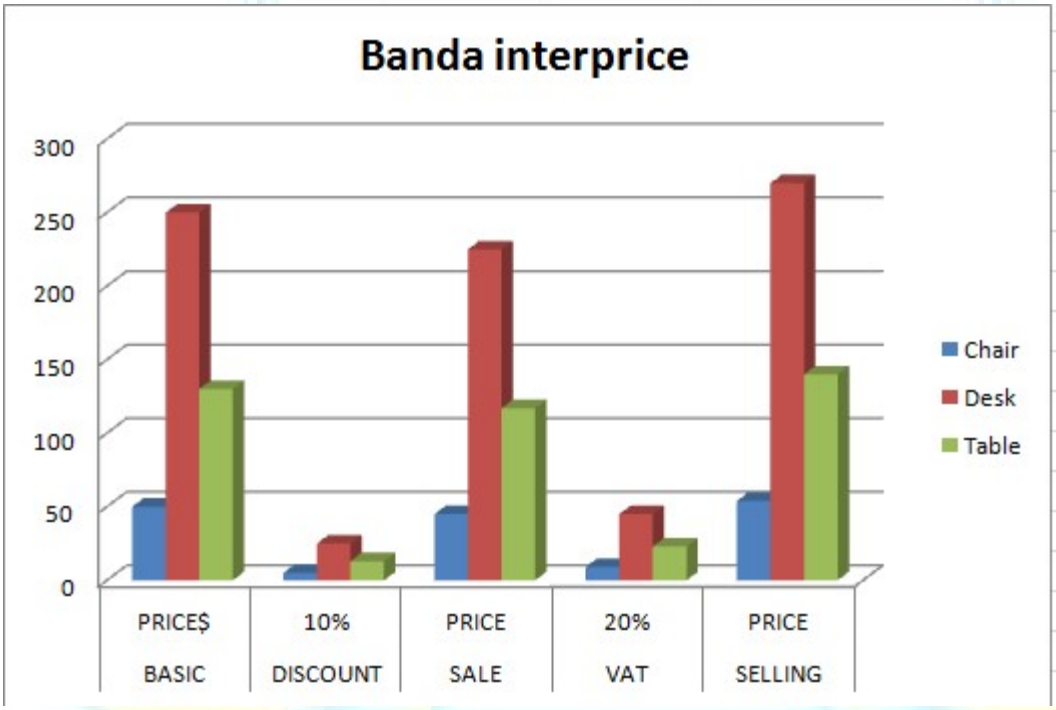
Discount=Basic price * Discount

Basic Price

VAT=Sale Price* VAT
Selling price*VAT
Selling Price = Sale Price + VAT

Question
1.Present your information in Chart form (column chart)
2.Cut the graph and copy it on the separate worksheet and rename worksheet as chart
3.Create header and footer
4."Excel test"as header (left section)
5."You name,Data and time as footer(left section)
6.Save the work in your name and put it in the folder "on the desktop (My work)

1CHART
Answer 2



Practical work:

Manipulation:

This includes
I. Mathematical operation (+, -, x, and ÷)
II. Sum
III.Average
IV.Count
V. Minimum

VI.Maximum
VIII.Logical formulae etc

When using function, remember the following

- Use an equal sign to begin a formula
- Specify the faction name
- Enclose arguments within parentheses
- Use a comma to separate the arguments

SUM

The sum function is used to calculate the sums. For example

=SUM(2, 13, 10, 65)

In this function:

The equal sign begins the function

SUM is the name of the function

2, 3, 10 and 65 are the arguments

Parentheses enclose the arguments

Comma separates each of the arguments

The other way of using sum function:

=SUM (A1:A5)

AVERAGE

Average function is used to calculate an average from a series of numbers.

Min(Minimum)

You can use Min function to find the lowest number in a series of numbers

Max (Maximum)

You can use Min function to find the highest number in a series of numbers

Count

The count function is used to get the number of entries in a number field that's in a range.

If (logical functions)

This is conditional formula in a logical manner (true or false). You can use "if" function to group or grade the marks/scores/data in a series of numbers.

Example 1

S/No	NAME	PHYSICS	CHEMISTRY	MATHEMATICS	SUM	AVARAGE	GRADE	REMA
1	JOHN METHEW	70	62	54				
2	MARY ENDREW	88	54	47				
3	MOSES PATER	57	68	52				
4	SARAH MALULI	25	21	15				
5	NOEL MOSHI	98	88	72				
6	DAUD MOSES	12	20	18				
7	ESNAHT MOSHI	76	43	56				

Example 1

The following are the form three students score in monthly test.

S/No	NAME	PHYSICS	CHEMISTRY	MATHEMATICS
1	JOHN MATHEW	70	62	54
2	MARY ENDREW	88	54	47
3	MOSES PATER	57	68	52
4	SARAH MALULI	53	35	41
5	NOELI MOSHI	98	88	72

Represent these marks using:

a) Column –chart

b) Line chart

c) Pie chart

Column chart

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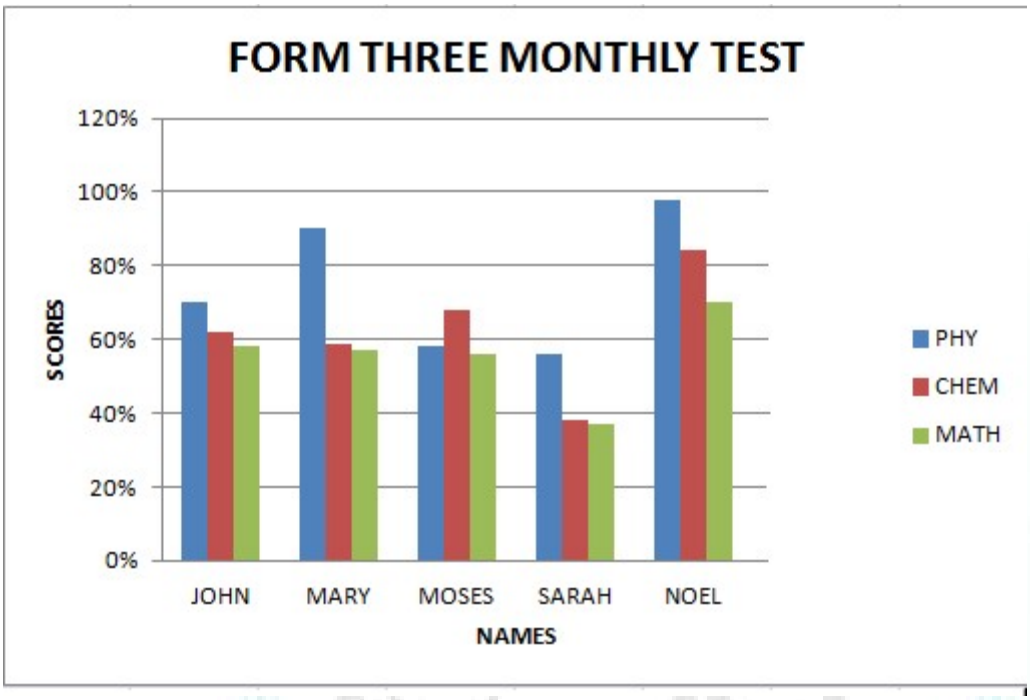
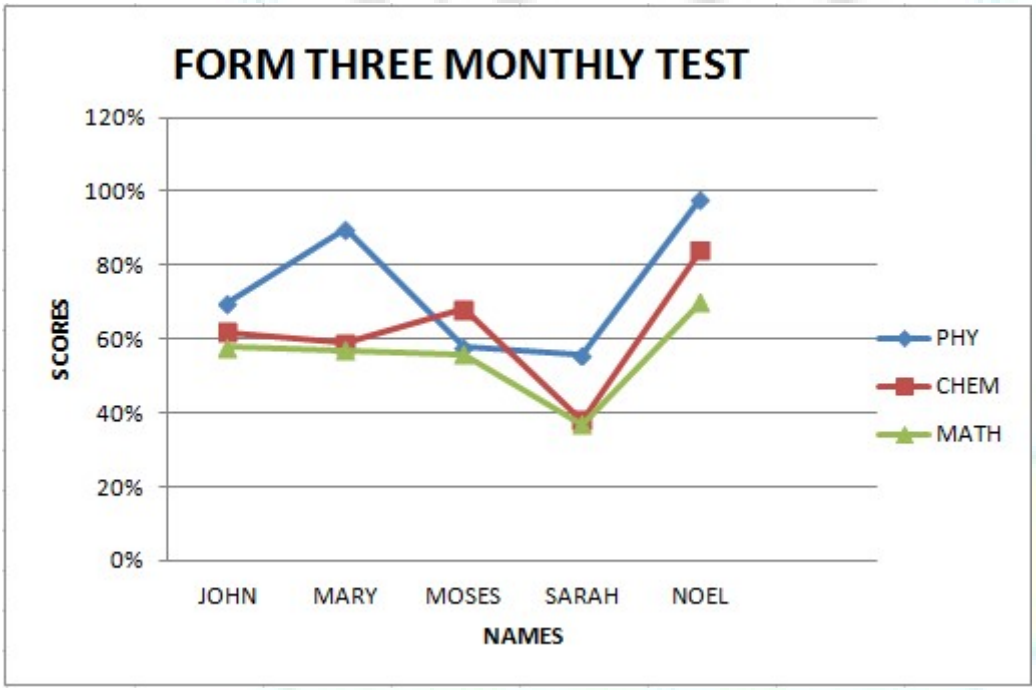
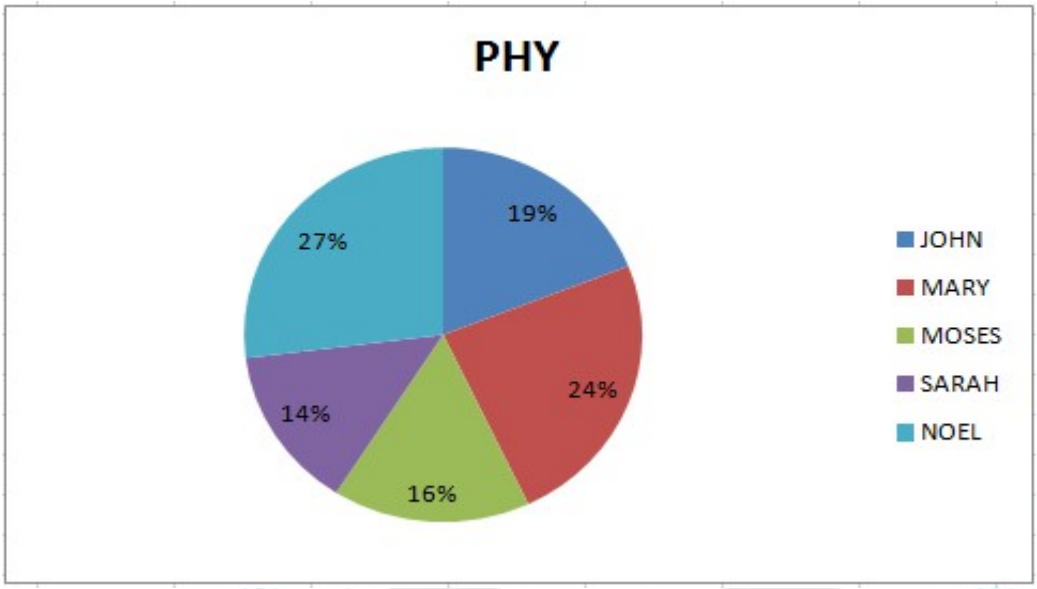


Line chart



Pie-chart



TOPIC 3: COMPUTER NETWORKS AND COMMUNICATIONS

A network:

Is a group of two or more devices or people connected to each other so that they can exchange information, such as e - mail messages or documents or share resources such disk storage or printers.

Computer network:

Refers to collections of computing devices that are connected in various ways in order to communicate and share resources, usually the connections between computers in a network are made using physical wires or cables. However, some connections are wireless using radio waves or infrared signals.Networks are systems that are formed by links.The computers may be linked or connected to each other in the same building or different buildings. In most cases this connection is made via electrical cables that carry the information in the form of electrical signals. The cables transmitting the information are commonly known as **transmissionMedias** or **Networkingmedia.**Networking media is the means by which signals or data are sent from one computer to another. The transmissions media are unshared Twisted Pair (UTP), coaxial cable and fiber optic cable. Whereas Wireless transmission media include radio waves, in folded and Bluetooth.When a computer is turned on and can be visible by all other computers then the computer is said to be **online.** If a computer is not turned on and it is not visible by other networked computers, it is then said to be **offline.**

Advantage of computer networks and communications

1. Networks are all about sharing three things; Information , resources and applications

- **Sharing information**

Allow users to share information in several different ways. The most common way of sharing information is to share individual files. For example two or more people can work together on a word processing document

- **Sharing resources**

Certain computer resources such as printers or hard drives can be set up so that network users can share them .sharing these resources can result in significant cost savings.

For example: it is cheaper to buy a single high – speed printer with advanced features that can be shared by an entire work group than to buy separate printers for each user in the group.

- **Sharing applications:**

Several users can work together on a single business application. For example an accounting department may have accounting software that can be used from several computers at the same time (Database services)

2. **High reliability** - All data can be copied on two or three machines so if one of them is unavailable then the other two copies could be used
3. **Speed** – Network provides a very rapid method for sharing and transferring files. Without a network files are shared by coping them to flop disks, then carrying or sending the disk from one computer to another.

4. **Reduced cost**: Net workable versions of many popular software programs are available at considerable savings when compared to buying individual licensed copies. Bodies monetary saving, sharing a program on a network allows for easier upgrading of the program.

5. **Sending messages such electronic mail (E- mail).** The presence of a network provides the hardware necessary to install an E- mail system. E- Mail aids in personal and professional communication for all school personnel, and it facilitates the dissemination of general information to the entire school staff. Electronic mail on a LAN can enable students to communicate with teachers and peers at their own school. If the LAN is connected to the internet, students can communicate with others throughout the world.

6. **Flexible access**: School network for example: allows students to access their files from computer

throughout the school. Students can
begin an assignment in their classroom, save part of it on a public access area of the network, and then go to the media center after school to
finish their work. Students can also work cooperating through the network.

7. **Communication** : A computer network can provide a powerful communication medium a long widely separated employees or individual (increase communication capabilities)

Disadvantages of installing a Network

1. **Expensive to install**: Although a network will generally save money, our time , the initial cost of installation can be prohibitive ; cable , network cards and software are expensive and the installation may require the services of a technician.
2. **Requires administrative time**. Proper maintained of a network requires considerable time and expertise. Many schools have installed a network, only to find that they did not budget for the necessary administrative support.
3. **File server may fail**: Although a file server is no more susceptible to failure than any other computer, when the files server "goes down" the entire network may come more to a halt. When this happens , the entire school or company may lose access to necessary programs and file
4. **Cables may break:** Some of the configurations are designed to minimize the inconvenience of a Brocken cable, with other configurations; one Brocken cable can stop the entire network.

What is Networkinterface card?

- A network interface card (NIC) is a device that plugs into a mother board and provides ports for the network media connections.
- It is the component that interface with the local – area network (LAN)

Example of NETWORK DEVICE

1) Switch
2) Bridge
3) Server
4) Fiber optic cable
5) Hub
6) Router
7) Twisted cable
8) Coaxial cable

9) Repeater

IMPORTANCE OF NETWORK

Network enable

1) Sharing of device ***E.g.:*** Network printer

2) Sharing of information

3) Easy communication

4) Online shopping

5) Sim banking

6) Easy transfer of data through network device

TYPES OF NETWORK

1) LAN

2) WAN

3) MAN

4) INTERNET

5) INTRANET

HOME WORK

Mention and explain network device according to their respective types of network

i) **Switch** is a computer networking device that links network to the respective type of network used is LAN

ii) **Bridge** is a network device that connects multiple network devices (LAN).

iii) **Fiber optic cable** is a cable containing one or more optic fibers to their respective network (internet).

iv) **Server** is large computer that stores websites on internet

v) **Hub** is a device for connecting multiple Ethernet devices together and making them acts as a single network segment + (LAN).

vi) **Router**is a device that is connected to two or more data for different network. (WAN)

vii) **Twisted cable:** is a type of wiring in which two conductors of a single circuit are together (LAN, MAN, WAN internet , intranet)

viii) **Coaxial cable** is a type of cable that has an inner conductor surrounding by a tubular insulating layer, network. (LAN, WAN, MAN, Internet, Intranet)

ix) **Repeater** is a network device to regenerate or replicated a signal network used as (LAN, WAN, MAN, Internet, Intranet)

Explain 5 types of network

1) LAN - local – area network

2) WAN – Wide area network

3) MAN – Metropolitan area network

4) Internet – inter connected network world wide

5) Intranet - is the internal network of an organization which allows access to specific authorized users.

NETWORK TOPOLOGY

Is how device are connected in a given Network.

TYPES

1) Logical

2) Physical

THE ADVANTAGES OF NETWORKING

- Sharing of data
- Sharing of hardware e.g.; printer
- Easy transferring of data
- Easy communication
- Enable e- learning
- Enables e- commerce
- Exchange of information

DISADVANTAGES OF NETWORKING

- Security of data
- Cost of installing nodes is very high
- If server fails all the nodes will be affected
- Virus attack

TYPES OF NETWORK

- LAN - Local Area Network
- WAN - Wide Area Network
- MAN – Metropolitan Area Network

  Area Network or sometimes Small Area Network

- Intranet
- Internet

LAN-(Local Area Network)

A LAN connects network device over a relatively short distance. A network office building, school, or home usually contains a few small LANS (perhaps one per room) and occasionally a ***LAN*** will span a group of nearly building. TCP/ IP net working LAN is often but not always implemented as a single IP sub-net.

MAN – (Metropolitan Area Network)

A large computer network which extends to a city or to large university campus is termed as metropolitan area network or MAN.

The purpose of MAN is to provide the link to the internet in the long run. A MAN usually in corporate a number of LANS to form a network. This large MANS backbone comprises of an optical fiber set up.

What is WAN?

As the name symbolizes Wide Area Network is a broad network whose communication is wider than the LAN, MAN, and CAN.

The application of WAN (*Wide Area Network*) is not limited to a room, building of specific vicinity. The basic purpose of WAN is to maintain a number of LAN network in order to increase the efficiency of the network.

Different LAN network are connected to establish a network which will enable the user of one location to communicate with the users present in the other location. Internet service provides usually help and guide to establish WAN (*Wide Area Network)* networks. However many large organizations develop their own private WANs

INTRANET

Is the internal network of an organization which allows access to specific authorized users

ADVANTAGES

1) Intranet is free because it does not involve phone links

2) Easier updating

DISADVANTAGE

1) Information cannot be shared outsides the local network

EXTRANET

Is a private network that extended to users outside the company usually via internet.

ADVANTAGES

1) Share of information between companies.

2) Collaboration with other companies

3) Communication between companies

4) Jointly develop and use training programs with other companies

DISADVANTAGES

1) Expensive to implement

2) Requires network security

INTERNET

Is an interconnected network worldwide.

ADVANTAGES

1) Sharing of information

2) Data can easily update

DISADVANTAGE

1) Security of data

2) Virus attack

THE NETWORK TOPOLOGY

The network topology defined as layout of the network.

Is the way in which nodes are connected in a network.

NODES: are the network devices e.g.: Computer, switch, hub, server or router

NODES can be connected physically or logically

PHYSICAL TOPOLOGY

Refers to the actual physical layout of the device in a network or the way in which in nodes are connected physically.

LOGICAL TOPOLOGY

Refers to the paths that signal from one point to the network to another.

TYPES OF PHYSICAL TOPOLOGY

- BUS TOPOLOGY
- STAR TOPOLOGY
- RING TOPOLOGY
- HYBRID TOPOLOGY

BUS TOPOLOGY

Commonly referred to as linear bus all the device on a bus topology is connected by one single cable which from one computer to the next.

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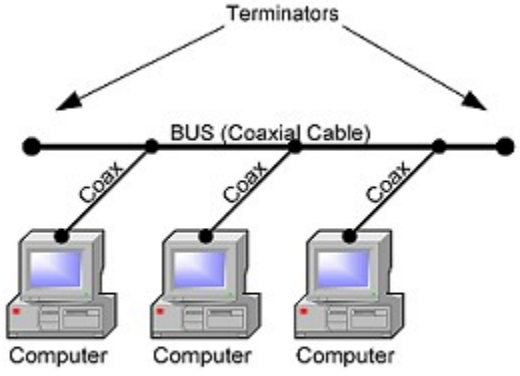
This topology is rarely used and would only be suitable for a home office or small business with few hosts.



BUS TOPOLOGY

ADVANTAGES

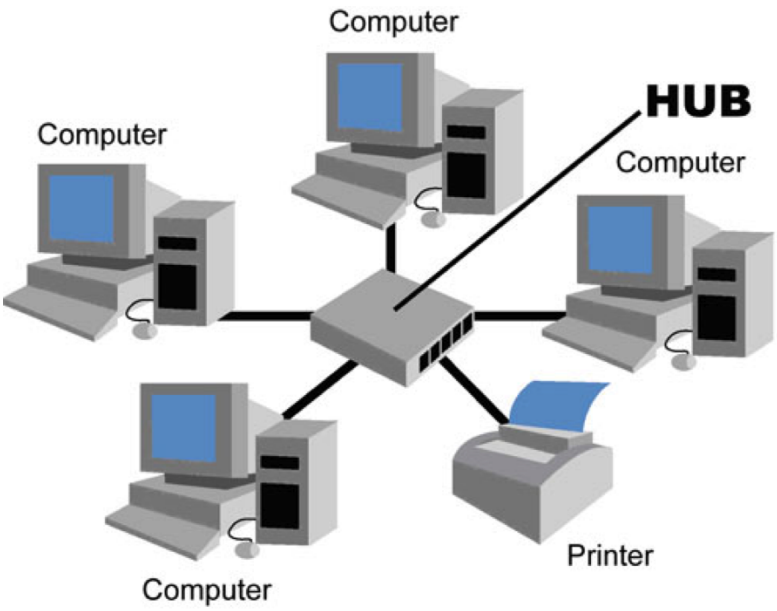
- The thin net cabling it uses is quite inexpensive
- It uses less cable compared to other physical topologies like star or extended star
- It work well for small network
- It doesn't need a central device such as hub , switch or route

DISADVANTAGES

- It results in slower access to the network and less bandwidth due to the sharing of the some cable by all devices.
- It is challenging to identify and isolate problems
- A break at any point in the bus can disable the entire bus network
- It needs termination.

STAR TOPOLOGY

All nodes are connected to a central device.



ADVANTAGES

- It is upgradable flexible and reliable

- It is easy to design and install

- This topology makes diagnosing problem relatively easy since the problem is localized to one computer or device.

- This topology allows for more throughout than any other topology.

DISADVANTAGES

- It requires a lot of cable to connect computer since a cable is required between each device and the central location.

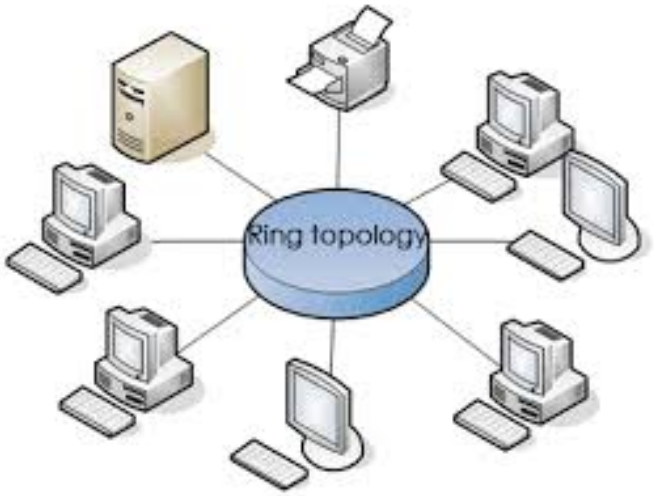
- It is more expensive to build because of the additional cost of cables and devices like hubs and switches that one needed to run between.

RING TOPOLOGY

Nodes are connected in a circle where by all device have equal importance.

- A frame called token, travels around the ring and stops at each node.
- If a node wants to transmit data , it adds that data and the addressing information to the frame.

- The frame continues around the ring until it finds the destination node which takes the data out of the frame.



Advantages of Ring topology
(i)Growth of system has minimal impact on performance
(ii)All stations have equal access
(iii)No one computer monopolize the network

Disadvantages of Ring topology
(i)Most expensive topology.
(ii)Failure of one computer may impact others.
(iii)Complex in configuration.
(iv)Difficult to troubleshoot a ring network.
(v)Adding or removing computer disrupts the network.

TYPES OF RING TOPOLOGY

1) Single ring topology

The entire device on the network shares a single cable, and the data travels in one direction only.

2) Dual ring topology

- Two rings allows data to be sent both directions
- This creates redundancy (fault tolerance) meaning that in the event of a failure of one ring, data will still be transmitted on the other ring.

ADVANTAGES OF RING TOPOLOGY

- Very fast because flow in one direction

- Less expensive than star topology

DISADVANTAGES

- If one node fail will affect whole network

MESH TOPOLOGY

- The mesh topology connects all devices (nodes) to each other for redundancy and fault tolerance.
- It used in WANs to interconnected LANs and critical Networks.
- The mesh topology is expensive and difficult to implement.

ADVANTAGES

- Redundancy
- Fault tolerance

DISADVANTAGES

- More cable needed
- It's very expensive
- Needs more skills
- Difficult to implement

HYBRID TOPOLOGY

Combines more than one type of topology.

ADVANTAGES

- Redundancy
- Fault tolerance
- Efficient
- High speed.

DISADVANTAGE

- More cable are needed
- More complicated
- It's very expensive
- Difficult to implement
- Hard to troubleshoot

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TOPIC:4 THE INTERNET

What is internet?

Internet is a wide world connection of computer which enables sharing of resources like files and folders, pictures and music, teaching materials like notes/ tutorials and computers.

Communication between networks is called inter networking. Therefore, internet comes from the word inter networking meaning a connection of data communication. The communication in which the end instruments are computers.

The internet is a worldwide public networks that interconnect thousands of smaller networks to form one large "web" of communication. Many private networks, some with thousands of users of their own connect to the internet by using the services of internet services providers (ISPs)

In simple words internet is a huge number of computers that are connected to each other throughout the world.

These computers are situated in many different countries and are connected through telephone lines, cables in the ground and even satellite in spaces.

DEVELOPMENT OF INTERNET

Internet involved from US Department of defense project called ARPANET (Advanced Research Project Agency Network) in 1969. The main reason was to exchange information between researchers in this project

Browses and World Wide Web (WWW) were introduced in early 1990's.

Using the internet:

(i)Why people use internet?

To find general information about the subject:

The web is like a huge encyclopedia of information, in some ways it's even better. The volume of information you will find on the web is amazing. For every topic that you've wondered about it. The web offers many different perspectives on a single topic

To find information not easily available elsewhere:

It put information into your hand s that you might otherwise have to pay for or find out by less convenient means.

To correspond with faraway friends:

Email offers a cheap and easy alternative to traditional methods of correspondence. Its faster and easier than writing snail mail and cheaper than using telephone.

To meet People:

People love getting e-mail from strangers and friendship are quick to from casual correspondence. Many people have even found love on the Net, and have gone on to marry their cyber-partner.

To Discus:

To discuss their interests with like-minded people

To have fun:
There's plenty to keep you occupied on a rainy day.

To learn:

Online distance education courses can give you an opportunity to gain a qualification over the internet.

To read the news:

People all over the world access news through internet. For example a Tanzania who is living in London can be able to read Tanzania news paper on the paper on internet and be updated with Tanzania every day.

To find Software:

The internet contains a wealth of useful downloadable shareware. Some pieces of shareware are limited versions of the full piece of software, other are limited trial (you should pay once the time limit is up).Other share ware is free for educational institutions or non-commercial purpose.

To buy things:

The securities online shopping is still questionable, but as well as you are dealing with a reputable company or web sites the risks are minimal.

(ii)Why do people put things on the web?

-To advertise a product

-To sell a product

-To make money
-To share their knowledge with world

The application of internet:

Electronic mail (e-mail or email) is a store and forward method of composing, sending, storing and receiving messages over electronic communication systems.

What makes internet different?

(i)This is an electronic communication

(ii)Its speed and broadcasting ability is fundamentally different from paper-based communication. This is because turnaround time can be so fast-mail is is more conversational than traditional paper-based media.

Computer on the internet may use the following internet services

- Electronic mail (e-mail) to send and receive mail
- Telnet or remote log in to log onto another computer and use it as if you were there
- File Transfer Protocol (FTP) to rapidly download complex files intact from a remote computer to local computer or upload from local computer to remote computer
- Web
- Social networks (face Book, twitter , linked in)
- Online shaping
- Search
- Resources distribution (hosting)
- Video conferencing
- Games

Terms used in internet

WWW (World Wide Web)

Web: Is the collection of websites on the internet

Website: Is collection of Web Pages linked to each other.

Web page: Is a single page on a website.

Homepage: The first page of a particular website.

Web browser: Software that enables user to retrieve and view HTML documents

E.g. Internet explorer, safari, Mosaic, Netscape navigator

Web Server: Large computer that stores websites on the internet.

Hyper text: The document that contain hyperlink

Hyperlink: The shortcut from one webpage to other web pages.

HTML (Hyper Text Markup Language): Computer language used to make web pages.

URL (Uniform Resources Locator): This is the address of website in the internet

On Line: Connected to the internet

Off Line: Not connected to internet; E.g. Http.www.Sir Patrick.com.

PARTS OF URL

1) Protocol

2) Web

3) Host

4) Domain

http://www.sirpatrick.com

1 2 3 4

HTTP-Hypertext transfer protocol

IP-Internet Protocol

POP-Pointing information Protocol

ISP-Internet Service Provider

PROTOCAL: Is a set of predetermined rules used to facilitate communication over data networks.

IMPORTANCE
i) Used to allow device to communicate successfully.
ii) Provide structure and format of the message
iii) To set up and terminate the data transfer session

SEARCH ENGINE

Is the website that helps user to find information/material on internet E.g. Google,Yahoo!, Go,Mamma,Metacrawler,Lycos etc.

TYPES

1.INDIVIDUAL

2.META

E-MAIL ADDRESS:

E-mail address is string that identifies a user so that a user can receive Internet e-mail.

They are composed of:

-User ID

-The Symbol@

-Domain name

The domain:

-It is located after @

-Tells the location and types of address

-Provides information about where the message should be delivered

Root Domain:

Describes the type of location; currently there six root domain

(i).com: commercial organization

(ii).edu: education /research organization

(iii).go: government organization

(iv).mil: military organization

(v).net: gateway host network

(vi).org: non profit or miscellaneous organization

Some domain name will also include the country name e.g.uk: England or tz: Tanzania

Examples of e-mailaddressare:

(a)janetjackson@yahoo.com

User ID: janetjackson

Domain name: yahoo.com

Domain (location): yahoo

(b)pavinistanley@udsm.edu.tz

User ID: pavinstanley

Domain name: udism.edu.tz

Domain (location): udsm

Root domain (domain type): edu

Country: tz

Advantages of E-mail

(i)Convenience: there are no trips to the post office, no needs to search for stationary and stamps. A message can be formal or informal. It makes very easily to publish and discuss.

(ii)Speed: e-mail is very fast.

(iii)In expensive: Once you are online the cost of sending a message is small

(iv)Printable: the hard copy is easily to obtain you may save on natural resources for your own records

(v)Reliable: although messages occasionally lost, these are rare. Many mail systems will notify the sender if an email message was undelivered.

(vi)Generality: it is not limited to texts; it allows the transfer of of graphics, programs and even sounds.

Electronic Learning (E-Learning)
E- Learning is the effective teaching and learning by using electronic media.

E – Learning can occur in or out of the classroom. E – Learning is suited to distance learning and flexible learning. But it can also be used in conjunction of face to face teaching.

Advantages of e- learning

- Reduce traveling costs and time to and from school

- Learners can study whenever they access computer and internet

- Self – paced learning models allows learners to work on their own paces

- Class work can be schedule around personal and professional work, resulting in flexibility learning.

Disadvantages of e – learning

-Students may feel isolated or miss social interaction.
- Un motivated learners or those with poor study habits many fall behind
-Istruction may not always be available on demand

- Slow or unreliable internet may be frustrating
-Slow or unreliable internet connections can be frustrating

- Some courses such as traditional hands – on curses can be difficult to stimulate

E – Commerce

The buying and selling of products and services by businessmen and consumers through an electronic medium without using any paper documents.

E – Commerce is widely considered the buying and selling of products over the internet, but any transaction that is completed solely through electronic measures can be consider e – commerce

Advantages of e- commerce

- Faster buying and selling procedures as well as easy to find products
- Buying / selling
- More reach to customers, there is no the retinal geographic limitation
- Lower operational costs and better equality of services
- No need of physical company set ups
- Easy to start and manage a business
- Customers can easily select products from different providers without moving around physically

Disadvantages
-Perishable goods:Goods bought and sold via the internet tend to be durable and non perishable.
-Lack of personal service:Although some human interaction can be facilitated via web e-commerce cannot provide the richness of interaction provided by personal service.
-Security:Security of data moved across some mobile and wireless network participants.

TYPES
-Business-to-Consumer (B2C)
-Consumer-to-Consumer(C2C)
-Business-to-Business (B2B)

Negative effects of internet
Cultural Issues
Information presented in the internet should careful consider the audience and not offended because of the cultural believes.Pornographic materials are offensive to most African cultures and other cultures distaste particular way of dressing which may potrey an image which is not necessarily what the dissemination of information had in mind.

Religious
In some religion rituals and symbols are serious matter to temper with.The information that involve those symbols or rituals must be careful treated to avoid disharmony in the concerned

audience. Other religions,their important consideration in disseminating information are dressing code and place of worship.But internet do not take care about the effect of audience.

Political

Politics issues can affect information from the internet is political affiliation can affect proper dissemination of information as the information being biased to favor certain political views.

Social

When information is corrupted from predators (internet),they mislead and bring confusion to the audience e.g. in a children social network,the appropriate information to the particular age is useful.Also other societies have certain agreed code of conduct which have a certain agreed code of conduct which have a particular information expectation so the internet information is advised to be highly important to ensure expected ethical code of conduct by the audience observation.

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