

COMPUTER APPLICATION

Definition

COMPUTER: a computer is an electronic device that inputs and store data.

-is an electronic device which accepts data/ information, processes it, stores the result, an give the output as per the users instruction.

Meaning that the computer can not function unless it is commanded or instructed. (GIGO) garbage in garbage out.

The computer can be categorized in to two or four parts

- ❖ Hardware
- ❖ Software

If you are told to mention four then you add the following

- ❖ Input
- ❖ output
- ❖ processing
- ❖ storage

For hardware devices to function they require instructions meaning the hardware can not function without the software.

HOW THE COMPUTER WORKS; the computer work when given instructions from the user the instructions initiate four major operation of the computer which are input operation, processing operation, storage operation and output operation. Meaning that accepts the data, then it process it and saves it, then it stores it again.

PARTS OF THE COMPUTER

The computer is made of two major parts

- ❖ HARDWARE
- ❖ SOFTWARE

HARDWARE: this is the part of the computer which we can see and touch (tangible), the hardware parts of the computer are grouped into different categories or groups basing on the operations they perform, that is to say all the hardware which perform related or similar tasks are grouped into the same group.

FOUR DIFFERENT CATEGORIES

Input devices or input unit: this deals with entering information or data into the computer. They do convert data from the format that is understood by human beings to the format that is understood by the computer.

Example a

microphone what does it captures the voice that human beings, the computer captures electronic signals.

- ❖ Biometric device
- ❖ Keyboard
- ❖ Electronic drawing devices
- ❖ Joy stick; used for entertainment and navigation
- ❖ Bar code reader

OUTPUT DEVICES; these are devices that receive information from the computer and takes it out to the users. They usually convert data/ information from a format that is understood by the computer that is understood by human beings.

- ❖ Printer
- ❖ speaker
- ❖ projector
- ❖ Monitors

TYPES OF MONITORS MONITERS;

1. **-CRT Monitors** (Cathode ray Tube) the technology uses cathode rod to project the image to the screen, the images get projected to the screen with the help of Cathode rays.
2. **-LCD Monitors** it stands for Liquid Crystal Display, when you say flat screen you refer to any monitor, meaning that the LCD monitors we call them Flat Tv

SPEAKER: it is an electronic device because they receive electronic signals and convert into sounds

PRINTER

- **-Laser jet printers**, are printers that use laser beams to print characters on piece of papers on flat surface
- **-Dod Matrix printers**;
- **-Ink jet printer**; it uses ink to print characters on flat surface

PROCESSING DEVICES/ UNIT; this is the unit that controls all computer operations, it comprises of two major parts which are, control unit(CU) and arithmetic and logical unit.

-Control unit; it monitors all the computer operations meaning that is referred as the brain of the computer.

-this is a unit that deals with priority setting and scheduling, the computer being the multi tasking device requires to make decision on the order of the tasks execution. It can process many tasks, but what it does is that it chooses which of would be executed first and which one will be last.

-Arithmetic operators are – (-), (+), (/) (,)

-Logical operators- OR, AND, NOT(NEGATION), NOR< NAD, XOR

OR- this is used where two or more tasks of the same priority requires execution, it means the computer decides by using the OR operator meaning task A OR task B, meaning any of the two can be executed before the other.

AND- this means that task A and B are used simultaneously

NEGATION-this means opposite of this is used to reverse.

NOR-are used only when previous decisions were made with the help of not and and or

NAND; means NOT task A and Task B, meaning that the tasks will stop

XOR- meaning no right answers

STORAGE UNIT/STORAGE DEVICES

There are two storage devices primary and secondary devices

PRIMARY STORAGE: involves **RAM,ROM** and Hard disc drive.

SECONDARY STORAGE: involves memory sticks, compact disc, external hard drive and floppy disc

It include random access memory **RAM**, hard disc drive (**HDD**) and Read only memory(**ROM**) .

RANDOM ACCESS MEMORY(RAM): the ability to transfer information of Ram is faster then the hard disk drive. The term random refers to the frequently communication that is made between the memory and the processor (CPU). Ram stores data on temporary basis that is to say it is a temporary storage device. The information/data that is stored within RAM get lost when power goes off, thus it is referred as VOLATILE (means it is easily evaporates) memory

TYPES OF RAM

- ❖ SD RAM
- ❖ DD RAM

HARD DISC DRIVE:

This is the largest storage device within a computer, which also determines the speed of the computer. The hard disc is usually partition into different partitions (BLOCK) which use letters followed by colons to denote the names of the portions for eg, D:, C:,G:, etc. N.B the hard disc is a magnetic storage device in nature this means that it can be attracted by iron.

READ ONLY MEMORY (ROM): means accessing information that are in the device. This memory does store the bootable files of the computer. The said files are entered into the memory during the manufacturing of the computer once the files have been entered the memory will not allow more files to be entered even if space does prevail (exist) so it is referred as “Write Once Read Many Times” kinds of memory (WORM) this describes the nature of the device, once the info is entered you can not add more or delete the entered info.

SECONDARY MEMORY: the secondary memory is there to assist the primary memory, the computer can function without the presence of secondary memory

CHARACTERISTICS OF SECONDARY MEMORY DEVICES

- a. they are portable
- b. they are connected externally

EXAMPLES OF SECONDARY STORAGE DEVICES

- ❖ Flash disk or USB drive or Pen drive or memory stick
- ❖ Optical disc like CDs
- ❖ External hard disc
- ❖ Floppy disc

(2)There are two types of Compact disc

- CD-R you can read only once
 - ❖ -CD RW; you can write and read many times (MP3 or MP4 these are formats that motion picture project 3 and 4), DVD it stands for digital versatile disc
- go and and search for 10 secondary devices and which are magnetic and optical?
FLOPPY DISC;

CAPACITY OF STORAGE DEVICES

- The ctual figure is 1024 but we approximate to 1000
- 8bits – 1byte
- 1000bytes-1kb (kilobytes)
- 1000kb-1mb(Megabytes)
- 1000mb-1gb (Gigabytes)
- 1000gb-1tb(Terabytes)

MALICIOUS SOFTWARE

This is the combination of two words which are malware and software.

Malware are programs which are made with the purpose of destructing the normal computer operation

the very first malware was developed by the Pakistan brothers, these brothers went to china to sell their software in an inetrational exbition , they sold the product and in two

weeks the Chinese made another software and sold it cheaper, so the 2 brothers went back to Pakistan and came up with an idea.

COMPUTER VIRUSES

Refers to the program which enters to the computer with or without the knowledge of the user and destruct the normal computer operation

CHARACTERISTICS

- Virus spread by attaching themselves to a host file
- They replicate, this is their mode of reproduction.

TYPES OF COMPUTER VIRUS

- **Companion virus:** this is a kind virus that attaches itself to each and every program of the computer, and initiate their operations from time to time. The tendency continues until the computer memory is saturated thus the computer comes to a halt.
- **Directory virus:** is the kind of virus that enters to a computer and goes on the logbook and it changes the location addresses within the hard disk, this virus changes the address of the different programs located within the hard disk, when the computer tries to locate the program in the hard disk fails because the wrong address of the program location has been put, it also creates its own directories.
- **Macro virus:** these are viruses which automate repeated tasks.
- **Logic bomb:** this is a computer virus which enters into the computer and remains inert until certain conditions are met.

TYPES OF MALICIOUS SOFTWARE VIRUS

WORM: these are like computer virus except that they do not depend on a host so as to spread. They hop from one computer to the other. They mostly attack the communication channel of the computer network thus causing traffic jam, these are programs which attack the ports of communication.

CHARACTERISTICS OF WORM

- ❖ They replicate like computer virus
- ❖ They hop from one computer to another

TROJAN HORSE: these are safe in nature but they carry dangerous harmful programs in them, they easily bypass computer security check points.

COMPUTER NETWORKS

A computer that receive information must send a feedback to a copter where the information originated from

Communication channel: this is a media through which data passes, they could be physical or non physical. A physical communication channel involves wires/cables. A non physical communication channel involves waves for data transmission(Radio waves)

PHYSICAL COMMUNICATION CHANNEL: there are 3 different types of cables which are used to transmit data from the source to the destination, they all differ in ters of efficiency and reliability

TWISTED PAIR CABLE: (telephone line) they are best at carrying audio signals

CO-AXIAL CABLE: mostly used to carry television signals. There efficiency is better then the twisted pair cable.

FIBER OPTIC CABLE: these are cables which are the most efficient of the other 2 cables. They allow light beam to pass through the glass tubes which are found in them, this glass tubes are half the diameter of the human hair

NON PHYSICAL MEDIA: wireless communication channels uses radio waves for data transmission. When the radio waves are of higher concentration they are called micro waves

DATA AND PROTOCOLS: Data are all materials being sent from one device to another. Data abides to different rules and principals which are known as Protocols.

KINDS OF PROTOCOLS

❖ **FILE TRANSFER PROTOCOL (FTP):**

The file is being transmitted from the source to the destination without being broken down into smaller packets. For example using whatsapp. Protocol is a software that establishes a link. It simplifies communication.

❖ **TCP / IP TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL:** transmission control protocol it deals with:

Ensuring that data is broken down into packets.

Every packet is given 2 addresses sender's and receiver's address. The internet protocol deals with establishing of the communication network (route) NOTE: upon reaching the destination packets are rearranged in a correct order and during transmission the packets are encrypted (coded). IP brakes down the the packets.

❖ **-SIMPLE MAIL TRANSFER PROTOCOL SMTP:** it deals with transmission of electronic mail.

❖ **-HYPER TEXT TRANSFER PROTOCOL (HTTP):** the function of this is to deal with the transmission of web content which we refer to whatever content that come up on the page of the website or browser, it arranges those contents that you see. If it fails then contents will be dis organized.

CONNECTING DEVICES: these are devices which help to connect one communication channel and the other, a communication channel to the Pc e.t.c

TYPES OF CONNECTING DEVICES

-HUB: was the 1st connecting device to be developed, it can connect up to 8 computers only.

HOW DOES THE HUB WORK?

A hub works by broadcasting meaning that it works when 2 computers wishes to communicate information from the sender is duplicated depending on the number of computers that are connected to the hub. Upon completion the duplicated copies are sent out to all the computers that are connected to the hub. After receiving the information, the

receiver will accept the information if the address on the information packet matches its own address otherwise the information is rejected and discarded.
Read about switch repeater and router

DRAWING OF HUB

ADVANTAGES OF HAVING COMPUTER NETWORKS

- Sharing of the resources
- facilitates communication through network (internet) makes it possible for video calls and audio calls famously known as voice over internet. Example skype.
- it saves time example emails
-

DISADVANTAGE OF HAVING COMPUTER NETWORKS

- Cost full or expensive, you must have a good quality phone and have internet.
- You must be skilled
- Requires efficient handling
- You must have Source of power
- Addictive (time consuming)
- When misused can lead to crimes for example cyber crime.
- Causes moral decay

CYBER CRIME : are crimes committed with the help of electronic means , the crime might be done with the help of the assistant of an electronic device

EXAMPLE OF CYBER CRIME:

- 1) Illegal remaining: meaning when you access the network of an organization beyond the working hours .
- 2) Impersonation: the use of ones user's id and password to access the system without his or her awareness.
- 3) Intervention: it occurs when someone intervenes data under transmission (using antennas).
- 4) Phishing: this is a technique of stealing one's credentials online with the help of special software. Preventing yourself from phishing you must have a strong anti virus

software and updated one avoid responding to popups or ads. Frequently change your password.

- 5) Malware: this is a computer virus meaning it is also a crime. The creation and usage of malicious software to cause any illegal action such as sabotage it's a crime.
- 6) Internet fraud; this is the same like a computer fraud where by it intends to help execute an illegal scheme with the intent to damage it.

Stealing identities;
Cyberstalking

A Router: this is the most intelligent connecting device its main function is to connect a computer to the internet by identifying and establishing the path/ route from the source to the destination. It does so by using two algorithms

Shortest time first:

Shortest path first:

There is a drawing here, make sure to check it out on Harry's note book.

In that drawing the lines represents channels of communication

The dots represents Nodes

There are four possible routes

Working time: this is the time the information takes to get there

MODERN: modulator and demodulator gives us modern. its function is to convert analog signal to digital signal and vice versa.

Round angels represent analog signals

Square angels represent digital signals

The information that comes from the Vsat is in analog then it gets converted into digital and when it is getting out from the modern to the VSAT it becomes analog again.

VSAT: this is like a dish that catches wave and sends them

SWITCH, ROUTER AND PC: are digital devices meaning that it does not work with analog

REPEATER: the main functions is to rejuvenate the signals under transmission. BRIDGE: this is used to break down larger networks into smaller sub divisions.

2nd SEMESTER

topics:

Microsoft office word 2007

Microsoft office excel 2007

Microsoft office power point 2007

Microsoft office access

Introduction to windows 10 (this is for people who will sign for it only)
meaning it aint in the syllabus

MICROSOFT OFFICE PACKAGE 2007

The Microsoft office package does contain a list of application programs which are meant to perform office operation.

MICROSOFT OFFICE WORD 2007:

This is sometimes referred to as a text editor meaning it deals with text formatting that is changing font size, font color, font style etc.

NB; a rich text refers to images and normal text is a simple text meaning black and white text.

ADVANTAGES OF MICROSOFT WORD

- Correction can be done easily,
- Print as many copies,
- storage for future use,
- images can be attached.

MICROSOFT OFFICE EXCEL 2007/ SPREAD SHEET

This is an application program which is used to perform accounting activities such as preparing financial statements such as balance sheets and ledgers.

Accounting means a systematic way of record keeping.

Record keeping means putting records and manipulate them in anyway such as rearranging them and sorting data.

MICROSOFT OFFICE POWER POINT:

This is an application program used / enables the user to make an audivisual presentation. Meaning that a visual can be attached to it.

-AUDIVISUAL PRESENTATION: this is a kind of presentation that involves a text, image and sound

MICROSOFT OFFICE ACCESS:

This is an application program which is used to create a data base management system.

DATA BASE MANAGEMENT SYSTEM: different organs that work together to manage data. Meaning

- creating of data,
- data amendments,
- storage of data,
- data retrieval

DATA BASE: this is a compilation of data which has special software so as to create data, editing of existing data and retrieving data.

SYSTEM: is a combination of different organs working together for the same aim

MICROSOFT OFFICE PROJECT:

This is an application program that helps in project management.

PROJECT MANAGEMENT: this refers to project initiation then project planning.

PROJECT INITIATION: different ideas that a person gives so as to start a project. There is brainstorming of the idea.

PROJECT PLANNING: involves

Capital

Labor force

Time

SCHEDULING: planning on how to use the capital.

TASK SCHEDULING: assigning different tasks to the people.

It assists individual to do scheduling of capital
Scheduling of labor force
Scheduling on the time

MICROSOFT WORD OFFICE 2007

FEATURES OF SCREEN

Title bar (shows the name of document)

It has the function to display the title of the document by default the computer gives "Document 1".

Office button: it has the function display shortcuts to different operations example New, Print etc.

Quick access tool bar: the function of the quick access tool bar is to display shortcuts or icons of frequently repeated tasks, it can be displayed and hidden as well as change the icons that are within they can be added or removed.

NB: the icons of the operations within the quick access tool bar can be added or removed by clicking on the down ward pointing arrow within the access tool bar

There is a drawing here::

*Ribbon: this is a collection of tabs
Home (home tab)*

Tab: is a collection of different groups. Group(s) is a collection of icons leading to related tasks (these are used interchangeably)

Horizontal ruler: a ruler is used for scaling factors (it is not visible) if you want to make it visible you go to view tab and click ruler.

Vertical Ruler: this is find on the left side of the Microsoft word screen and it is also for scaling purposes (you go to page layout and page setup click the arrow going down)

NB: the measurements are in inches so you should put them in centimeters (office button you go to word options then advance settings then display and click)

Scroll Bar (vertical and horizontal): the horizontal scroll bar rarely appears on its own meaning that there must be a reason. A scroll bar is used for navigational purposes that is using the text area upward or downward or leftward and rightward. Its function is to navigate

Status Bar: the function is to display the different properties of the document example number of pages, language used, and active page as well as words and columns. An active page is the page that is currently being viewed.

) Text Area: this is an area where text and images are inserted

I beam; is the pointer of a text and its function is to located the position of the cursor.

Cursor: is the blinking thing. Its function is to determine or indicate an insertion point where by it is a point where you can start typing or insert an image.

OPERATIONS:

TEXT EDITING: these are operations that change the texts color, text size and orientation if vertical or slant etc.

STEPS CHANGE TEXT COLOUR

Select the text(highlight)

Go to (home) tab

Select the icon A (changing font colour icon)

STEPS OF CHANGING TEXT SIZE

Highlight the text

Go to "home" tab

Select the second little box which has numbers and on the right side there is a little arrow pointing downwards you click on that box. On the left part where the box is longer its called font style

STEPS FOR CHANGING FONT STYLE:

Same as above

Same as above

Select font style on the icon

You click on on the little arrow pointing downwards

Example Times New Roman or Impact, cosmic and Arial

STEPS FOR CHANGING FONT ORIENTATION

Same as above

Same as above

Select /click orientation icon for italicizing texts /

PARAGRAPH FORMATING: these are different formats that are performed in the entire paragraph on its totality and not individual texts within the paragraph

Paragraph alignment: this refers to arrangements of lines within the paragraph.

TYPES OF PARAGRAPH ALIGNMENT

Alignments refer to the arrangements of lines in paragraph,

Left alignment: refers to the arrangement of paragraph lines such that all the lines of the paragraph touches the margin (left margin) but may not necessarily touch the right margin.it must touch the left margin.

Right alignment: all lines must touch the right margin but may not touch the left margin.

Center alignment: the lines of the paragraph are centered between the 2 margins.

Justify alignment: the lines of the paragraphs are stretched such that they touch both of the margins.

STEPS FOR APPLYING THE DIFERRENT MARGINS

1st highlight the item or paragraph

go to home tab

select the icon for

LINE SPACING: this is adjusting the space between lines of the paragraph

*highlight the paragraph
go to home tab
select line spacing icon*

BULLETS AND NUMBERING:

*highlight the paragraph
you go to home tab
then you select bullets
and the numbering is also the same*

INDENTATIONS: refers to the gap between the lines of the paragraphs and the margins

There are 4 different type

Left indentation: the gap is on the left of the paragraph.

Right indentation: the gap is on the right of the paragraph

First line indentation: the first line leaves a gap.

Hanging indentation: the lines start from the left to the right margin touches both margins and the rest of the lines touch only 1

STEPS TO GET FIRST LINE AND HANGING INDENTIFICATION

Expand the paragraph group by clicking on the corner arrow

Go to special

Select hanging / first line

ADJUSTMENT OF INDENT

Highlight

Go to home tab

Then select the increase or decrease indent icon

PAGE FORMATING:

PAGE BORDER:

STEPS HOW TO APPLY A PAGE ORDER:

Click or select page layout tab

Select page order icon

Select page order style (apply the different properties)

Click ok

Borders are applied to the content within the page and page orders are applied to an entire page .

ORDERS:

PAGE COLOR:

STEPS FOR APPLYING PAGE COLOR

Go to page layout tab

Select page color icon

*Then select the color you want *

WATER MARK:

Go to page layout tab

Select watermark icon

then you click on the mark you want or insert an image

HOW TO INSERT PAGE NUMBERS:

select insert tab

select page number icon

select number format

the first pages should be in roman numeros and the rest in normal numbers

APPLYING PAGE NUMBERS OF DIFFERENT FORMAT:

select the page where you will put the demarcation

insert page numbers on either sides of the demarcation

APPLYING SECTION BREAK:

This is a kind of separation that include

position the cursor where you want to put the demarcation
, section break. (on the last page that should be in roman numerals)

Select "page layout" tab

Select "breaks"

Select section break

Select next page option (the cursor will move from the page it was and be
position on the next page).

CHANGING PAGE NUMBER FORMAT:

This means you change from normal numbers to roman numbers or alphabets
and symbols

STEPS

Select insert tab

Select page number icon

Select "page number format"

Select number format (roman numbers, normal numbers alphabets etc.)

Select start at option

Then click ok

HOW TO APPLY THE AUTOMATIC TABLE OF CONTENT:

This has two major steps or groups which are

IDENTIFICATION OF TITLES: titles means the words that appear in the table of
content

STEP 1 IDENTIFICATION OF TITLES

Select the title

Select home tab

Select heading 1 / heading 2 / heading 3.

STEP 2: INSERTING TABLE OF CONTENT

Position the cursor where the table should appear (double click)

Select references tab

Select table of content icon.

Select sample of the table of content.

UPDATING TABLE OF CONTENT:

STEPS

Select references tab

Select update table option

Select entire table option

Click ok

REMOVING CONTENTS FROM THE TABLE OF CONTENT

STEPS

Go to the table of contents

Press control key and select the unwanted content within the table of content.

NB: The procedure above will lead you to where the paragraph is located within the document.

Highlight the content (paragraph)

Go to home tab and select "normal" option

FOOT NOTE:

Select the word that you want to make reference

Select references tab

Select insert foot note option

Click on it

ASSIGNMENT: Prepare an invitational card to invite the teacher in any event using Microsoft word.

