INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

INTRODUCTION TO MODERN ICT

Information and Communication Technology (ICT): ICT is the term used for gathering data, processing it to create information for modern day technology.

what is Data : can be defined as a representation of facts, concepts, or instructions in a formalized manner, which should be suitable for communication, interpretation, or processing by human or electronic machine.

What is information: is organized or classified data, which has some meaningful values for the receiver. Information is the processed data on which decisions and actions are based.

What is Data communication : The process of transferring/transmitting data from one location to another by using transmission medium.

Components of data communication:

Basics components or elements of data communication are as follows

- Messages
- Sender
- Receiver
- Transmission/communication media
- Protocol (encoder and decoder)

Message: The message is the information or data that is to be communicated. It may consist of text, numbers, pictures, sounds, videos or any combination of these.

Sender: A device that is used for sending messages (or data) is called sender. It is also called transmitter or source. The sender can be a computer, telephone, or a video camera etc. Usually, a computer is used as sender in data communication system

Receiver: A device that is used for receiving messages is called receiver. It is also known as sink. The receiver can be a computer, telephone set, printer, or a fax machine etc. Usually, a computer is also used as receiver in data communication system.

Transmission/communication media: The path through which data is transmitted (or sent) from one location to another is called transmission medium. It is also called communication channel. It may be a wire, or fiber optic cable, or telephone line etc. If the sender and receiver are within a building, a wire is used as the medium. If they are located at different locations, the medium may be telephone line, fiber optics, and microwave or satellite system.

Protocol (encoder and decoder): The Protocol is the final piece. These are the rules that govern the data communications and transfers. It represents an agreement between the communicating devices, i.e. the agreement to allow the sender access to deliver to the receiver unchallenged. Text messages transfer unchallenged, but a Bluetooth connection requires confirmation

Devices can be connected but not communicated if protocol is not confirmed. An example of this is connecting a USB device. Most devices now are Plug_and_play, meaning the computer confirms protocol and opens a gateway to the device in order to allow file transfer. However, in devices that aren't Plug and Play, these need software installed in order to install protocol and validate it upon connection.

In communication systems, computers are used for senders and receivers. A computer works with digital signals. The communication channels usually use analog signals. The encoder and decoder are used in communication systems to convert signals from one from to another.

Encoder: The encoder is an electronic device. It receives data from sender in the form of digital signals. It converts digital signals into a form that can be transmitted through transmission medium.

Decoder: The decoder is an electronic device. It receives data from transmission medium. It converts encoded signals (i.e. analog signals) into digital form

One cannot talk about ICT without computer.

So what is Computer?

A Computer is an electronic device that can perform activities that involve Mathematical, Logical and Graphical manipulations. Computers play an increasingly important and nearly indispensable role in everyday life. Computers are used all over the world and in all types of environment. They are used in businesses, manufacturing environment, homes, government offices and nonprofit organizations.

Computers can be defined as electronic devices that accept data as input store the data, process it, and display the results of the processing as an output which forms Information and stored for future use. They can store the results forever, for these reason computers have become part of our lives.

TYPE OF COMPUTERS

It is a difficult task today to give the Categories of Computers, due to rapidness in the growth of technology; however, the distinction among categories is not always clearly-cut. There for we give the basic according to size, speed, processing power, and price also determine the category it best fits to. Some of the categories mentioned include:

1. Mainframes
2. Servers
3. Micro Computer/ Personal computer (PC) and
4. Embedded /Handheld computers

Let's look at them one after the other.

1. Mainframes Computer

A **mainframe** is a large, expensive, powerful computer that can handle hundreds or thousands of connected users simultaneously. Mainframes store tremendous amounts of data, instructions, and information. Most major corporations use mainframes for business activities. Many people can use the power of a mainframe computer at the same time, using either a PC (personal computer) or a 'dumb terminal'.

Mainframes also can act as servers in a network environment. Servers and other mainframes can access data and information from a mainframe.

2. Servers

A **server** controls access to the hardware, software, and other resources on a network and provides a centralized storage area for programs, data, and information. Servers can support from two to several thousand connected computers at the same time. In many cases, one server accesses data, information,

and programs on another server. In other cases, people use personal computers or terminals to access data, information, and programs on a server. A terminal is a device with a monitor, keyboard, and memory.

3. Micro Computer /Personal Computer (PC)

A micro computer is the smallest general purpose processing system. Micro computers are also referred to as personal computers (PC). These are self contained units and usually developed for use by one person at a time but can be linked to very large systems. They are cheap, easy to use even at homes and can be read for variety of applications from small to medium range.

There are two types of personal computers:

a. Desktop and
b. Portable computers.

a. Desktop

Desktop computers are also called personal computers and sit on, beside, or under a desk. These process data quickly and are typically used in small businesses, schools, and homes. A **desktop computer** is designed so that the system unit, input devices, output devices, and any other devices fit entirely on or under a desk or table.

b. Portable computers.

A **mobile computer** is a personal computer you can carry from place to place.

The most popular type of mobile computer includes:

i. Laptop /Notebook and
ii. Tablet PC
iii. Cellular Phone
iv. PDA
v. EDA and so an

I Laptop /Notebook PC

A **laptop /notebook computer** is a portable, personal computer often designed to fit on your lap. Notebook computers are thin and lightweight, yet they can be as powerful as the average desktop computer. A *notebook* is similar to Laptop, but is smaller and less expensive. Notebooks are designed for people who want access to the Internet, but are not interested in using the computer CD/DVD ROM for storing data.

II Tablet PC

Tablet PCs look similar to a notebook but the screen can be swiveled or folded over so the user can write or select items using a specially designed pen.

All tablets have “touch screen” capability, which means you can touch with a pen or pointing device at an item on the screen to select it. You can also type information using the built-in keyboard.

III Cellular Telephones

Cellular phones are now very sophisticated. They are rarely used for telephone services only, and may include additional functionality such as:

- playing and listening to music
- taking pictures or video
- Text messaging
- E-mail
- accessing the Internet

Your account type determines the number of services you can select or the type of cellular phone you will use

VI .Personal Digital Assistants (PDAs)

Personal Digital Assistants (PDAs*)* have specific software to help you make appointments, keep contact lists, or write notes. PDAs are very popular for their portability and include software to create documents, organize calendars, take pictures or video, or access the Internet. PDAs can be used as the main computing device by individuals who do not need the full capabilities of a notebook or desktop computer.

All PDAs incorporate touch screen technology, where you can touch the screen with your finger or a pointing device to activate an option.

4 Embedded Computers

An **embedded computer** is a special-purpose computer that functions as a component in a larger product. Embedded computers are everywhere at home, in your car, and at work. These are computing device that fits within the palm of your hand and are portable. The following are some example of an embedded computing device

i. Intelligent credit cards

ii. sheep diesel engine controller

iii. GPS

iv. CCtv cameras

HARDWARE AND SOFTWARE TECHNOLOGIES

The Device called **Computer** consists of two parts, **Hardware** and **Software**.

What is this Hardware?

Hardware: Hardware is the physical parts of the computer which you can see and touch. We further divide hardware into four groups:

1. The System Unit (CPU)
2. Input devices,
3. Output devices,
4. Storage devices.

- **The system unit** contains the main components of the computer, such as the motherboard, CPU, RAM, video card, hard disk, disk drives, and the power supply. It can also contain optional components such as a sound card or a network card.
- **An input device is** any hardware component that allows you to enter data and instructions into a computer. **Five** widely used input devices are:

  The *keyboard (*A computer keyboard contains keys you press to enter data into the computer*),*

  *Mouse (*A mouse is a small handheld device. With the mouse, you control movement of a small symbol on the screen, called the pointer, and you make selections from the screen*), microphone*, *scanner,* and *Web cam*.
- **Output devices** An **output device** is any hardware component that conveys information to one or more people. **Three** commonly used output devices are a printer, a monitor, and speakers.

  A printer produces text and graphics on a physical medium such as paper.

  A monitor displays text, graphics, and videos on a screen.

  Speakers allow you to hear music, voice, and other audio (sounds).
- **Storage devices** Storage holds data, instructions, and information for future use. For example, computers can store hundreds or millions of customer names and addresses. Storage holds these items permanently.

  A computer keeps data, instructions, and information on **storage media**. Examples of storage media are *USB flash drives*, *hard disks*, *optical discs*,

and *memory cards*. A **storage device** records (writes) and/or retrieves (reads) items to and from storage media.

SOFTWARE TECHNOLOGY

Software is a program or set of instructions that causes the Hardware to function in a desired way. The relation between hardware and software is like the relation between our body and our spirit.

At this level we can categorize Software into two these include:

1. Operating systems (system software) and
2. Application software (application packages)

OPERATING SYSTEMS

Operating systems: An operating system is a piece of software that controls how hardware resources such as memory, the central processing unit (CPU), disk space, and other devices are used. Applications need the operating system because they need to use these hardware resources. Generally the OS acts as an interface between the user and the Hardware of the computer i.e. it is a bridge between the user and the Hardware.

The User interface provided by the OS can be Command Line based or graphical.

CLI -- Command line Interface, example MS-DOS, UNIX

GUI -- Graphical user Interface, example of this operating system include Windows XP, Windows Vista, Windows 7 and now Windows 8 Pro Version is available.

MOBILE DEVICE OPERATING SYSTEM

these are some example of operating system used in mobile devices.

i. Android ii. Bada (Samsung) iii Windows iv. iOS(iphone) v. Symbian

vi. palm Os. Vii Blackberry.

APPLICATION SOFTWARE

Application software: programs loaded on the computer to perform a specific function using the capabilities of the computer. This packages are loaded on the Operating System, An example of application software is a word processor, MS-Excel, a computer game etc.

LIBRARY DIGITIZATION /AUTOMATION

DIGITIZATION

Digitization can simply be define as the process of converting traditional library materials that are in form of books and papers and other library services, to electronic form where they can be stored and manipulated and retrieve by a computer.

LIBRARY AUTOMATION

Library automation is the application of ICTs tools to library operations and services.

Why Digitization and Automation?

Growing Information and Shrinking Space

The growth of information explosion of literature in each field and subject area both in number and size and the increasing specialization in every field of knowledge leads to the need for library digitization. Due to this information explosion, the quantity, variety and complexity of information are being increased rapidly in every field. Computer application can solve this problem, as it is capable of storing huge bulk of information on tiny storage mediums i.e. a CD-ROM can

store the text of a complete set of Encyclopedia Britannica. Serials, abstracts, indexing periodicals etc. are already available on CD-ROM.

E-Resources

E-Resources are those materials that require computer for it access.

E-Library

E-Library is an efficient system of archiving academic e-resources; books, journals, articles, software etc in our universities, schools, and colleges that can be access by both staff & students, organized in a sophisticated means of retrieving stored information. Such archive system to an Academic Institution.

Virtual Library:

Virtual Library is similar to e-Library even though it is more advanced than e-Library. The Virtual Library includes all form of e-Libraries that you can access it e-resources remotely or through the Internet.

Federal University Dutse Library has provided the following for it Patrons.

E-Granary

E-Granary Digital Library - also known as "Internet in a Box" - is a software system used by libraries to keep track of e-resources, such as e-journals, e-books, databases, and other Medias like Audios and Videos. E-Granary provides millions of digital educational resources to institution’s e-Libraries. It delivers millions of multimedia documents that can be instantly accessed by patrons over their local area networks at no cost. FUD staff and students

can get access to e-Granary resources by Installing the Client Software which is available at the University e-Library Division.

Science-Direct is a website with a platform for access to nearly 2,500 academic journals and over 26,000 e-books. The journals are grouped into four main sections: *Physical Sciences and Engineering*, *Life Sciences*, *Health Sciences*, and *Social Sciences and Humanities*. For most articles abstracts are freely available; access to the full text (in PDF and, for newer publications, also HTML) generally requires a subscription or pay-per-view purchase. Federal University Dutse is one of the Subscribers. You can visit *www.sciencedirect.com* for full access within FUD Network, but if you want access outside the Campus Network you need username and password from your Department.

ADVANTAGES OF AUTOMATED/DIGITIZED LIBRARY WITH OPAC and e-RESOURCES

It's easy!

1. The Library can give you fast and current information
2. You can go on Virtual Library /Internet for research beyond the library wall
3. In automated Library it's easy to find a book in the Shelve than manual catalogue.
   All these help in saving your time

Automated Library

In an automated library all library operations and services are in a single Database of a computer. Libraries have different software for Automation, which

include: Koha, NewGenLib, CDS/ISIS etc. FUD library is currently running on **Koha** on the address: http://10.7.1.111 or *www.library.fud.edu.ng*

The functions that may be automated are any or all of the following: acquisition, cataloging, public access (OPAC and WebPAC), indexing and abstracting, circulation, serials management, and reference.

Catalogue Cards

Catalogues are automated and accessed through computer by typing your search word, phrase or statement. Usually there are two different interfaces for search and retrieval of the electronic catalog:

- The Online Public Access Catalog (OPAC) and
- The second interface for search and retrieval of the catalog which may or may not be present in some systems is the WebPAC (Web Public Access Catalog)

OPAC: is accessed within the Library only while

WebPAC: is on the Internet which can be accessed any where there is internet.

FUD Library collections are accessible on OPAC through the address: http://10.7.1.111

KEYBOARD

The keyboard is the most common way to enter information into a computer. Today, standard keyboards have 104 or 105 keys. An electronic circuit inside the Keyboard transmits the code of a pressed key to the CPU.

Most of the keys on a keyboard are used to enter numbers, letters, and punctuation marks. There are also function keys (used for special functions in applications), keys for working with text and documents (for example, the Page Up and Page Down keys), and other keys used to make special key combinations (Alt and Ctrl).

Function Keys

The function keys on a keyboard are labeled F1, F2, F3…F12. They are located across the top of the keyboard. Function keys are used in application programs or by the operating system as a faster way to access certain features of the software. For example, pressing F1 when an application is running often displays a help screen.

Enter Key

The Enter key (also called the Return key) is used to signal the end of an entered command or line of text, so that the computer can begin processing. In word processing programs, pressing the Enter key starts a new paragraph.

Ctrl Key

The control keys are inactive on their own; they are only used with other keys to access special software functions faster. For example, in some word processing applications, pressing the Ctrl with the C key copies a particular highlighted text.

Home Key

The Home key controls the position of the cursor. Pressing the Home key moves the cursor to a certain position, usually the start of a line, the start of a screen, or the start of a file, depending on the program you are working on.

End Key

The End key also controls the position of the cursors. Pressing the End key moves the cursor to a certain position, usually to the end of a line, the end of a screen, or the end of a file, depending on the program.

Caps Lock Key

The Caps Lock key changes the input from the keyboard letter keys between capital letters (A, B, C, etc.) and lower case letters (a, b, c, etc.). The Caps Lock key doesn't change the input of numbers, punctuation marks, or other symbols.

Shift Key

The Shift key also changes the input from other keys. For example, pressing Shift with the A key makes a capital 'A' instead of a lower case 'a'. Pressing Shift with other keys makes punctuation characters and sometimes performs special operations.

Backspace Key

Pressing the Backspace key moves the cursor to the left, one character at a time, usually erasing each character on the screen as it moves.

Delete Key

Pressing the Delete Key moves the cursor to the right, one character at a time, usually erasing each character on the screen as it moves.

Escape Key

In many applications, pressing the Escape key (labeled ESC or Esc) moves you back to a previous menu, or exits the application.

Num Lock Key

The Num Lock key is also called the Numeric Lock key. Pressing Num Lock activates the numeric keypad on the right side of the keyboard so that you can use the keypad like a calculator, for entering numbers and calculations.

Numeric Keypad

The numeric keypad is a set of number and symbol keys, which is usually on the right side of a keyboard. When the Numeric Lock (Num Lock) is on, the numeric keypad keys produce numbers on the screen. When the Numeric

Lock is off, the numeric keypad keys move the cursor and the focus around the screen.

WINDOWS SCREEN

Desktop: The desktop is the on-screen work area on which Windows, Icons, menus & dialog boxes appear. The Desktop can have several components. Parts of the desktop include Icons & the taskbar.

Components of the Desktop:

- Icons
- Taskbar

Icons: Icon is a small image that represents a file, folder or program.

The text below each icon is the name of the Icon. When we rest the mouse pointer on an icon, a rectangular box appears. This is referred to as Tooltip. It gives a brief description of the Icon.

By default, there will be 4-5 icons on the desktop. These icons may be increased or customized by the user of the computer. The default icons include:

- My Computer
- My documents
- Internet Explorer
- Recycle bin
- Network Neighborhood

My Computer:

This is the icon which represents all the files & folders which can be used in the system. It is used to access the drives, folders & files on the computer. i.e Floppy drive(A), Local C, D, E, Printer, Control panel etc.

My Documents:

This is the default storage location for the files created in the windows. It stores videos, audios, Microsoft office documents both in files and folders.

Internet Explorer:

This is an application used to browse the internet.

Recycle bin:

This is a folder that stores all the files & folders deleted from windows temporarily, which can be restored again if needed.

Taskbar:

The rectangular bar that runs horizontally across the bottom of the screen is called Taskbar. The Taskbar has the START menu on the left & the Notification area on the right. We can start an application using the start menu. Notification area holds system icons that allow for functions such as changing the time & Volume of the Computer.

All the open applications are available on the Taskbar.

WORKING WITH FOLDERS:

Creating a Folder:

i. From a free space on the desktop, Right click using your mouse to display a dropdown menu.
ii. From the dropdown menu, locate “New” and point to display another dialog box. Locate “Folder” in the dialog box and click. A new folder will be automatically created for with a default name “New Folder”.
iii. Type in the new name of the Folder you have created and press ENTER.

You now have your new folder.

Creating files:

After creating a folder, we can move files into it or create new files within the folder.

Copying Files & Folders:

Once we select the files to be copied, the next step is to copy the files or folder and then you can paste it on the location you want it to be. A copy of the file still remains in the original location.

To move files or folders:

This requires cutting the content to your location of choice. In this aspect once you move the file or folder you don't have copy of that file left in the original location

Renaming files or folders:

This is the process of changing the name of a file or folder.

Deleting files or folders:

If you do not want certain files or folders, you can delete them. All the files & folders which are deleted are moved to the recycle bin.

Note: To delete a file permanently without moving it to the Recycle bin, select the file & then press Shift + Del.

WORD PROCESSING (MS-WORD)

Definition:

Word-processing is essentially typing, editing, and manipulation of a document in a desired form.

Starting MS-Word:

Start → All Programs → MS-office → MS-word

MS-word icon is **W.**

Features of Word-processing in MS-Word:

1. Word-wrap
2. Cursor control
3. Editing
4. Formatting
5. Spell-check

6. Thesaurus

8. Printing

9. File management

i. **Word-wrap**: In word-processing packages, the text can be continuously typed and the computer automatically starts a fresh line when a line is filled up. As soon as the length of a sentence exceeds the right margin, the corresponding word is automatically adjusted in the following line. This is called —word-wrap. A paragraph is created only when carriage control is externally given for a sentence.

ii. **Cursor Control**: The four directional keys of the keyboard ( ) helps in locating the text for editing in much the similar manner as that of a pointer or pencil.

iii. **Editing**: Words or lines can be entered (inserted) or deleted in any part of the text with proper alignment. Similarly, there is a facility to recover the text which is deleted by mistake or accidentally. Another important facility is that any word can be replaced by a new word throughout the file, wherever the old word appears. In addition to these, a block of text (which is frequently used) can be prepared and moved or copied wherever desired in the file.

iv. **Formatting**: The text formatting refers to the way the text is desired to appear on a page. This includes following functions

- setting left and right margins
- Paragraph settings
- Line spacing
- selecting font specifications such as underline, **bold,** *italics,* superscripts^{2} and Subscripts$_{2}$
- setting foot-notes
- printing page numbers and headings for Header and Footer
- Table of contents

v. **Spell-check**: Word-processing packages provide checking of spellings facility
vi. **Thesaurus**: It provides synonyms (or words with similar meanings)
vii. **Printing:** It gives a _hard copy of the text. The printing can be controlled after printing a fixed number of pages or can be resumed from any specified page number.
viii. **File management**: This facility allows to create, delete, move & search for files.

The default Word document includes the following layout tools:

- **Title bar:** displays the document name and the application.
- **Menu bar:** Contains the list of menus available inside word, each menu contains a specific set of commands.
- **Standard toolbar:** provides shortcuts in the form of buttons for frequently performed tasks.
- **Formatting toolbar:** Contains a list of formatting options available inside the format menu.
- **Horizontal & Vertical rulers:** used for measurement purposes like any normal ruler; the default unit of measure is in inches.
- **White page area:** is the space area where you type, edit and format your document.
- **Insertion point:** is the blinking vertical line that indicates the position on the screen where text or graphics will be placed.
- **Task pane:** is a small window within the word window that provides shortcuts to commonly used tasks.
- **Scroll bars:** are used to move up and down or left and right in a document.
- **Status bar:** displays the details such as the page number the user is working on, section no., page no. out of the total pages found in the document, line number, column number etc.

- **Standard Toolbar:** This toolbar contains buttons to allow you to perform the basic operations such as opening and closing a document, moving and printing data.

Commonly used buttons and their Function

- **New:** Creates a new blank document based on the default template
- **Open:** Opens or finds an existing file
- **Save:** Saves the active file with its current file name, location and file format
- **Print:** Prints the active file - for more print options go to the File menu and select Print
- **Print preview:** Shows how the document will look when you print it.
- **Spelling & Grammar:** Spelling, grammar and writing style checker
- **Cut**: Removes the selection from the document and places it on the clipboard
- **Copy:** Copies the selected item(s) to the clipboard
- **Paste**: Places the content of the clipboard at the insertion point
- **Format painter:** Copies the format from a selected object or text and applies to other objects
- **Undo**: Reverses the last command, use pull-down menu to undo several steps
- **Redo**: Reverses the action of the Undo button, use the pull-down menu to redo several steps
- **Insert table:** Insert a table into the document, or make a table of selected text

Formatting Toolbar

The formatting Tool bar is the easiest way to change many attributes of a text. **Style menu**: Allows you to make your text **Bold**, *Italic*, <u>underlined</u>… depending on the style you choose.

- **Font**: Allows you to change the font by clicking on the drop-down arrow on the right of the font name box. You can view a list of fonts available; you

can scroll down to view more fonts and select the font name you wish to use by clicking on its name.

- **Font size**: Allows you to change the font size by clicking inside the Font size box and entering a value or by clicking on the drop-down arrow on the right of the box to view a list of sizes available. Select then a size by clicking on it.

  Note: A Font size of 11 or 12 is best for paragraphs of text.
- **Bold,** *Italic***,** Underline: Each button respectively allows you to make your text appear as **bold**, *italic* or underlined.
- **Alignment**: Each button respectively allows you to make your text aligned to the left, center or right side of the page. You can also justify the text across the page using the justify button.
- **Line spacing**: Allows you to set the amount of space that word puts when go to a new line.
- **Numbering, Bullets**: Allows you to make your text appear as a bullets list or as a numbering list.
- **Outside Border**: Allows you to add a border around a text selection.
- **Font color**: Allows you to change the color of the text.

FEATURES OF FILE MENU (ALT F)

i. **New** - Opens new Word file (Blank Document file)
ii. **Open** - Opens the existing files
iii. **Save** - Saves the file with one name
iv. **Save as** -Saves the file with more than one name (with different formats)
v. **Save as Web page** – This is used to save a document in a Web style. (With HTML extension)
vi. **Web Page Preview** – This shows the web page in printable form.
vii. **Page set up** - To set the margin, paper size, Orientation
viii. **Print** - To get the printout of a document. (Specified number of pages and number of copies).
ix. **Exit** - To close the Ms-word.

To insert a new page, press **Ctrl + Enter.**

NETWORKING AND INTERNET

There are many types of networks that provide us with different kinds of services. In the course of a day, a person might make a phone call, watch a television show, listen to the radio, look up something on the Internet, or even play a video game with someone in another country. All of these activities depend on robust, reliable networks. Networks provide the ability to connect people and equipment no matter where they are in the world.

A network is the connection that enables two or more computers to communicate (talk) to with each other.

TYPES OF NETWORKS

Networks can range from a small group of computers linked together in a class room to thousands of computers linked together across the globe. Depending on the geographical location, networks can be classified as

a) LAN (Local Area Network)

b) MAN (Metropolitan Area Network)

c) WAN (Wide Area Network)

Local Area Network:

If a network is confined to a single location, typically a building, it is called a LAN. For example: Set of interconnected computers within an office; e-Library, MIS office etc

Metropolitan Area Network:

A metropolitan area network is a network that is larger than a LAN; it connects the computers distributed across multiple LANs or buildings. For example: the computers in all branches of an office within a city.

Wide Area Network:

When a network is located over wide areas such as cities, states, countries or even continents, it is called a WAN. For example: Computers in different branches of a Globalised company; Internet

INTERNET

Every day millions of people exchange information through the Internet - but what exactly is the Internet? The Internet is a worldwide collection of computer networks, cooperating with each other to exchange information using common standards. Through telephone wires, fiber optic cables, wireless transmissions and satellite links, Internet users can exchange information in a variety of forms.

REQUIREMENTS FOR CONNECTING TO THE INTERNET:

i. **Modem:** A modem is a peripheral device that allows a computer to connect and communicate with other computers. Modem stands for ***Mo***dulator ***Dem***odulator.
ii. **Telephone line /Satellite:** A telephone line is required to transfer data from one computer to another. The computer is connected to a modem, which, in turn, connected to a telephone line.
iii. **Subscription with Internet service provider (ISP):** ISP‘s are companies that provide access to the internet. We need subscription with any ISP to get an Internet connection. Some of the ISPs are VSAT, GSM Lines (MTN, Airtel, Etisalat, Glo etc), Road runner, etc.
iv. **Web Browser:** A browser is a software program that is necessary in order to view web pages on the web. Ex: Internet Explorer, Netscape Navigator, Mozilla Firefox, Microsoft outlook express etc.

WORLD WIDE WEB (WWW):

The World Wide Web commonly called 'WWW' refers to the collection of information accessible on the internet. The web is similar to a library. It consists of millions of pages of text, pictures, sounds and animation on various topics. These pages, called web pages are stored on different computers that are connected to the internet. The web pages have links between them i.e. when we click a certain word or picture in a page, it will take us to another page. These words or pictures that help to move from one page to another are called hyperlinks.

A collection of related web pages is known as a web site. A web site can be accessed by means of a unique name assigned to it.

Uniform Resource Locator: (URL):

Each web site has a unique address commonly referred to as a URL. A URL specifies the exact location of the web page on the internet. A typical web address or URL looks as *http://www.fud.edu.ng*

E-Mail

E-mail or electronic mail is a service for sending or receiving messages electronically through a computer network. The electronic mail uses various technologies that support electronic transmission of text, data and graphics.

Search Engines:

Search engines are utilities used to search for information on the web. A user interface is provided where you can enter the word or phrase you are searching for. The search engine looks for the keywords we have entered and returns the results of the search, providing links to relevant Web sites for us to choose from. Some commonly used search engines are MSN, Alta Vista, Google, Yahoo! search and Infoseek etc.