**Chapter 1**

**Introduction to Computers**

**What Is a Computer?**

A computer is an electronic device, operating under the control of instructions stored in its own memory, that can accept data, process the data according to specified rules, produce results, and store the results for future use.

 **Hardware**

Computer Hardware is the physical parts or components of a computer.

These are computer components that one can see, touch and feel.

 Hardware: The term hardware refers to the physical components of your computer such as mouse, keyboard, monitor, CPU(system case), RAM

**Software**

 Computer Software is a part of a computer system that consists of data or computer instructions that consist of data or computer instructions.

 Computer software is a collection of instructions that enable the user to interact with the computer, its hardware, or perform tasks.

 **Data**

Unprocessed information which is not meaningful

 **Information**

* Is processed data which has become meaningful and useful to the user.

 **Peripheral Devices**: A peripheral device is a piece of equipment that can be connected to a computer for the purpose of data input, output or both.

 Peripheral devices are used by human beings to communicate with the Central Processing Unit (CPU) of the computer. Examples are keyboard, joystick, external CD, Monitor, printer, internet modem, Scanner, speakers, mouse, Handheld etc.

 P.D.A (Personal Digital Assistant): It is a handheld personal computer like a mobile handheld device that provides computing and information storage and retrieval capabilities for personal or business use, calendars etc.

 **BIT** is binary digits that are 0 or 1. The smallest unit of storage.

 **BYTE**: is the unit of storage capacity which is equivalent to 8 bits.

 **KB (Kilobytes):** which is equivalent to 1000 bits.

**MB (Megabytes):** It is a measurement of storage capacity equivalent to 0ne million bits.

 **GB Gigabytes:** It a measurement of storage capacity of the unit bit equivalent to 1000, 000, 000 bits viii) MHz (Megahertz): This is a measurement of frequency equivalent to one million per second.

 **GHz (Gigahertz)** is a measurement of frequency equivalent to one thousand million per cycle

**Information Processing Cycle**

 Computers process data (input) into information (output). Computers carry out processes using instructions, which are the steps that tell the computer how to perform a particular task. A collection of related instructions organized for a common purpose is referred to as software. A computer often holds data, information, and instructions in storage for future use. Some people refer to the series of input, process, output, and storage activities as the information processing cycle. Most computers today communicate with other computers. As a result, communications also has become an essential element of the information processing cycle

**Types of computers Question**

1. List the most common types of computers:

 • Desktop computer/personal computer (PC)

 • Laptop computer (portable computer)

 • Personal Digital Assistant (PDA)

 • Mainframe computer

1. State the characteristics of the above computers

Personal computer (PC)

• Fast, less expensive and getting cheaper by the day

• Typical users: Home user, Doctors, Education

 **Laptop computer**

• Laptop as PC in capacity

• It is portable computer

• Expensive than PC

• Typical Users: Business users

 **Personal digital assistant (PDA)**

• Much smaller storage capacity compared to a PC

• Small enough to held in the palm of hand

• Typical users: Business user

• Example: Mobile phone.

**Mainframe computer**

• Very powerful computer and it often connected to many individual PCs over network

• Faster than PCs, used for processing large amounts of data as salaries

• Very expensive

• Typical Users: Banks and Building societies, Insurance

**Main parts of a Computer**

Questions

 (a) List the main parts of a computer

(b) Define the main parts of a computer

(c) List down the most commonly used computer hardware

 (d) State the two types of computer software.

(a)

 (i) Hardware

 (ii) Software

 (b) Hardware: The term hardware refers to the physical components of your computer such as mouse, keyboard, monitor, CPU (system case), RAM Software: Computer software is simply the instructions given to the hardware to carry out the actual work. In other words, software is a general term for all computer programs.

(c) The most commonly used computer hardware are: Keyboard, Mouse, Central Processing Unit, Monitor, Sound card, Mother board, Printer, Scanner, Uninterrupted Power Supply. Microphone Digital camera, Speakers Hardware Software

(d) State and explain the two types of software:

- The two main types of software are systems software and the applications software.

e) What is systems software?

 - This is the type of software used by the computer to accomplish tasks of general nature. These tasks are often contrasted from those performed by the person using the computer. Therefore, systems software is the software which operates the hardware system of the computer. It is the one which really makes a computer to be an automatic machine. It is also called the operating system.

(f) What are the Functions of systems software?

 ¬ Controlling the internal function of the computer

¬ Controlling devices connected to the CPU

¬ Acting as a platform for applications software.

(g) Give examples of operating system software:

Mac, iOS, ANDROID, DOS, Windows 95, 98, 2000, XP, vista, windows 7, windows 8, LINUX, UNIX, Ubuntu, Macintosh etc.

(h) What is application software?

This is the software in a computer used by people to accomplish specific tasks. Whereas systems software is directed towards the computer hardware in general, applications software is directed towards the user.

(i) Give examples of application software. Word processors (Ms word), Open Office Writer, Spreadsheet (Ms Excel), Open Office Presentation, database, Publisher, games etc.