

ICT/BUSINESS INFORMATICS
INTRODUCTION TO COMPUTER
TO ALL DIPLOMA II

What is computer?

A **computer** is an electronic machine, operating under the control of instructions stored in its own memory, that can accept data, manipulate the data according to specified rules, produce results, and store the results for future use. Computers process data to create information. **Data** is a collection of raw unprocessed facts, figures, and symbols. **Information** is data that is organized, meaningful, and useful. To process data into information, a computer uses hardware and software. **Hardware** is the physical equipment that makes up a computer. **Software** is the series of instructions that tells the hardware how to perform tasks.

FUNCTIONS OF COMPUTER

The computer are used today for an almost unlimited range of applications. However, irrespective of the application for which a computer is used ,All the computer applications are make use of these basic function of computers in different ways and combinations. There are basically four basic functions of computers - input, storage, processing and output. These are described below:

1. **Input:** Receiving or accepting information from outside sources. The most common way of performing this function is through the information entered through the keyboard and the click of mouse. Of course there are many other type of devices for receiving such information - for example, the web cam. Computers are also able to receive information stored in other devices like DVD disks and pen drives. Computers are also able to receive information from other computers and similar devices.

2. **Storage:** Store information in the computer. The memory is stored in computer in several different ways depending on how the information is used. For simplicity we will classify in two broad categories. First is the memory in the central processing unit of the computer, and second is the auxiliary memory. The auxiliary memory includes devices such as fixed hard drives.
3. **Processing:** This is really the core of computer operation. The computer processes the data that is fed to the computer by various means and the data already contained in internal memory to produce the results that is the core of all computer application.
4. **Output:** The results of the processing are made available for use by any user or other devices. The most common ways of producing such outputs are through computer monitor, speakers, and printers.

CHARACTERISTICS OF COMPUTERS

Basic characteristics about computer are:

1. **Speed:** - computer can work very fast. It takes only few for computer to perform millions (1,000,000) of instructions and even more per second.
2. **Storage:** - The Computer has an in-built memory where it can store a large amount of data. You can also store data in secondary storage devices such as floppies, which can be kept outside your computer and can be carried to other computers.
3. **Diligence:** - A computer is free from tiredness, lack of concentration, fatigue, etc. It can work for hours without creating any error. If millions of calculations are to be performed, a computer will perform every calculation with the same accuracy. Due to this capability it overpowers human being in routine type of work.

4. Versatility: - It means the capacity to perform completely different type of work. You may use your computer to prepare payroll slips. Next moment you may use it for inventory management or to prepare electric bills.

5. Power of Remembering: - Computer has the power of storing any amount of information or data. Any information can be stored and recalled as long as you require it, for any numbers of years. It depends entirely upon you how much data you want to store in a computer and when to lose or retrieve these data.

6. No IQ: - Computer is a dumb machine and it cannot do any work without instruction from the user. It performs the instructions at tremendous speed and with accuracy. It is you to decide what you want to do and in what sequence. So a computer cannot take its own decision as you can.

7. No Feeling: - It does not have feelings or emotion, taste, knowledge and experience. Thus it does not get tired even after long hours of work. It does not distinguish between users.

CATEGORIES OF COMPUTER

A **supercomputer** is the fastest, most powerful, and most expensive computer used for applications that require complex and sophisticated mathematical calculations. Supercomputers are used for highly calculation-intensive tasks such as problems including quantum physics, weather forecasting, climate research, oil and gas exploration, molecular modeling (computing the structures and properties of chemical compounds, biological macromolecules, polymers, and crystals), and physical simulations (such as simulation of airplanes in wind tunnels, simulation of the detonation of nuclear weapons, and research into nuclear fusion).

A **mainframe** is a large, expensive, but powerful computer that can handle hundreds or thousands of connected users at the same time. In main frame the data processing system is employed mainly in large organizations for various applications, including bulkdata processing, process control, industry and consumerstatistics, enterprise resource planning, and financial transactionprocessing uses mainframe computer.

A **minicomputer** is a computer of a size intermediate between a microcomputer and a mainframe. Typically, minicomputers have been stand-alone computers (computer systems with attached terminals and other devices) sold to small and mid-size businesses for general business applications and to large enterprises for department-level operations.

A workstation is a computer intended for individual use that is faster and more capable than a personal computer. It's intended for business or professional use (rather than home or recreational use). Workstations and applications designed for them are used by small engineering companies, architects, graphic designers, and any organization, department, or individual that requires a faster microprocessor, a large amount of random access memory (RAM), and special features such as high-speed graphics adapters.

Microcomputer

A **microcomputer** is a small, relatively inexpensive computer with a microprocessor as its central processing unit (CPU). It includes a microprocessor, memory, and input/output (I/O) facilities.

COMPUTER HARDWARE

Computer hardware refers to the physical parts or components of a computer such as monitor, keyboard, Computer data storage, hard drive disk, mouse, printers, CPU (graphic cards, sound cards, memory, motherboard and chips), etc all of which are physical objects that you can actually touch.

CATEGORIES OF COMPUTER HARDWARE ACCORDING TO ITS FUNCTIONS.

INPUT DEVICE

In computing, an **input device** is any peripheral (piece of computer hardware equipment) used to provide data and control signals to an information processing system such as a computer or other information appliance. Examples of input devices include keyboards, mice, scanners, digital cameras and joysticks.

PROCESSING DEVICE

A processing device relates to the CPU of a computer, or any device which processes information on its system.

STORAGE DEVICES

Storage Devices are the data storage devices that are used in the computers to store the data. The computer has many types of data storage devices. Some of them can be classified as the removable data Storage Devices and the others as the non removable data Storage Devices.

The memory is of **two types**; one is the **primary memory** and the other one is the **secondary memory**.

The primary memory is the volatile memory and the secondary memory is the non volatile memory. The volatile memory is the kind of the memory that is erasable and the non volatile memory is the one where in the contents cannot be erased. Basically when we talk about the data storage devices it is generally assumed to be the secondary memory.

The secondary memory is used to store the data permanently in the computer. The secondary storage devices are usually as follows: hard disk drives – this is the most common type of storage device that is used in almost all the computer systems. The other ones include the floppy disk drives, the CD ROM, and the DVD ROM. The flash memory, the USB data card etc.

OUTPUT DEVICES

The results of the processing are made available for use by any user or other devices. The most common ways of producing such outputs are through computer monitor, speakers, and printers.

DATA PROCESSING

Computer data processing is any process that uses a computer program to enter data and summarise, analyse or otherwise convert data into usable information. It involves recording, analysing, sorting, summarising, calculating, disseminating and storing data. Because data are most useful when well-presented and actually *informative*, data-processing systems are often referred to as information systems