**COMPUTER HARDWARE**

**Hardware***Everything that you can see and touch in the Personal Computer is hardware*. A Computer comprise of hardware and software. The computer has a large number of components, each of these parts is essential to the functioning of the Personal Computer. The Input, Output, Storage, Processing, Communication and Infrastructure are the different parts of the PC.

**Input Devices**Input devices are used to enter data or instruction in the computer. Input devices are used to enter data so that computer can process it and give the output.  
**Keyboard**: - Used to enter information that can be processed and stored in the computer.  
**Mouse**: - Allows the user to select and point information in the computer.  
**Scanner**: - Allows the user to make soft copy of a particulars document.  
**Digital Camera**: - Capture images and enables the user to store them in the computer.

**Output Devices**Any devices that give the output form a computer is called the output devices. Output devices are used to display or produced the process data.  
**Monitor**: - The monitor is used as the display system of the PC. The monitor screen is the projection surface, where images are projected.  
**Printer**: - Allows the user to make hard copy of a document.  
**Sound Card**: - Used to generate sound effects in a computer. The sound card is a component that is responsible for the sound effects of a computer. We can connect speakers and a microphone to the sound card.  
**Video Card**: - The display card takes the data from different parts of the computer and takes it to the monitor in a format that the monitor can use.

**Processing Devices**Main function of a computer is to process data. CPU is the processing device of the computer, various types of processing devices are as follows: -  
**Microprocessor**: - Controls the flow of data in the system. The most important electronics component on the motherboard is the microprocessor. The power of a computer how fast it can accomplish a given job, depend on the microprocessor in the computer.  
**BIOS**: - Instructs the computer what to do before loading any software. This program is called the Basic Input Output System. It is mounted in the ROM (Read Only Memory) of the computer.  
**Chipset**: - Provides vital support functions to its microprocessor. In addition, it links the microprocessor to the rest of the computer, both the memory and external functions, through I/O ports.

**Communication Devices**Communication can be established between computer using different cables, interfaces and wireless devices. Interfaces are used to connect the device with appropriate communication medium. Even the peripheral inside the computer are attached together using various ports and cables called as Bus. Various types of communication devices are listed as fallows:  
**I/O Ports and Cables**: - Connects Input and output devices to the PC. It means to establish connections to external devices. The different types of I/O ports are:  
 *Serial* – They transmit data in a serial fashion. Serial ports enable data flow in both directions. Connects to devices such as modems, mouse etc.  
 *Parallel* – Parallel ports are much faster than serial ports. These ports transmit data in a parallel manner. Connect to scanners, CD burners, hard drives and printers.  
 *USB* – USB stands for Universal Serial Bus. USB is becoming a popular replacement for serial and parallel ports. This is because USB is highly advanced, fast and simple to use.  
**LAN Card**: - Connects the PC to a network. The LAN card enables connections to other computers. We exchange data and resources across a network.  
**Internet**: - Links different computers to form a network of computers. The Internet is properly described as a “network of networks”. In concept, it links all the computers in the world together so that they can share information. *The World Wide Web is essentially the commercial side of the Internet.***Network Cables**: - Connects the PC to Internet or any other network. There are different types of network cables are:  
 *UTP (Unshielded Twisted Pair)* – Consists of several pairs of twisted pairs inside a covering sheath. *UTP is a very popular type of network cable*. It is widely used in small network. The UTP consists of four pair of wire inside a covering jacket. The pairs of wire are twisted. The twisting protects the wires from interference effects.  
 *STP (Shielded Twisted Pair)* – Uses a shielding to protect cable from external Interference and crosstalk. STP cable is a shielded version of the UTP cable. The interference can be radio or electrical interference. STP is heavier and larger than UTP.  
 *Coaxial Cables* – Provides high degree of protection from external interference. The coaxial cable consists of a copper rod in the center. The copper rod is covered by a plastic layer. A metal shield covers the plastic layer. The plastic layer provides insulation between the copper rod and the metal shield. The metal shield provides protection against interference from other devices.  
 *Fiber Optic Cable* – Provides total immunity to electrical interference. This is because it consists of a glass core. A protective layer of plastic covers it. Metal wires cover the plastic. Fiber optic cable emits light and not electrical signals. Fiber optic cable has high speeds of data transmission. It can transmit information over long distances.  
**Telecommunication**: - Extends the reach of your computer beyond your home of office, you usually must rely on the telephone system to provide the connection.  
 *Modem* – Modem is an abbreviation for *modulator/demodulator*. It receives digital signal from the computer and converts it to analog form before sending over a telephone network. At the receiving end, it converts analog signals back into digital form and delivers it to the computer.

**Infrastructure Devices**Infrastructure in terms of a PC refers to the main components and the foundation or base on which the computer functions. Various types of components are listed below:  
**System Case**: - Made up of plastic and metal, on which all the peripheral devices of the computer are attached. It provides a cover for the main components of the computer. It prevents dust and foreign particles from entering into the internal components of the computer. It protect from RF (Radio frequency) Interference. Organize the components of a PC in a structured manner. Protect internal components of a PC from adverse effects of heat.  
**Motherboard**: - Motherboard on which the whole system is dependant is the main component of infrastructure. It is the main circuit board of a PC. It contains the interfaces for the CPU, BIOS, Memory and storage devices. The collection of chips and sockets that reside on the motherboard are known as its chipset.  
**Power Supply**: - Converts the standard household power supply to a form that is usable by the PC. It supplies power to every component of the PC.