

Course Name: O Level (2nd Sem)

Subject: ICT

Topic: Computer Ports

Date: 19-03-20

A Computer Port is an interface or a point of connection between the computer and its peripheral devices. Some of the common peripherals are mouse, keyboard, monitor or display unit, printer, speaker, flash drive etc. The main function of a computer port is to act as a point of attachment, where the cable from the peripheral can be plugged in and allows data to flow from and to the device.

In Computers, communication ports can be divided into two types based on the type or protocol used for communication. They are Serial Ports and Parallel Ports.

Serial Ports:-A serial port is an interface through which peripherals can be connected using a serial protocol which involves the transmission of data one bit at a time over a single communication line.

Parallel Ports:-A parallel port, on the other hand, is an interface through which the communication between a computer and its peripheral device is in a parallel manner i.e. data is transferred in or out in parallel using more than one communication line or wire. Printer port is an example of parallel port.

VGA Port:-VGA port is found in many computers, projectors, video cards and High Definition TVs. It is a D-sub connector consisting of 15 pins in 3 rows. The connector is called as DE-15. VGA port is the main interface between computers and older CRT monitors. Even the modern LCD and LED monitors support VGA ports but the picture quality is reduced. VGA carries analogue video signals up to a resolution of 648X480.



Display Port

Display Port is a digital display interface with optional multiple channel audio and other forms of data. Display Port is developed with an aim of replacing VGA and DVI ports as the main interface between a computer and monitor.



HDMI:-HDMI is an abbreviation of High Definition Media Interface. HDMI is a digital interface to connect High Definition and Ultra High Definition devices like Computer monitors, HDTVs, Blu-Ray players, gaming consoles, High Definition Cameras etc. HDMI can be used to carry uncompressed video and compressed or uncompressed audio signals. The HDMI port of type A is shown below.

USB:-Universal Serial Bus (USB) replaced serial ports, parallel ports, PS/2 connectors, game ports and power chargers for portable devices.

USB port can be used to transfer data, act as an interface for peripherals and even act as power supply for devices connected to it. There are three kinds of USB ports: Type A, Type B or mini USB and Micro USB.

USB Type A:-USB Type-A port is a 4 pin connector. There are different versions of Type – A USB ports: USB 1.1, USB 2.0 and USB 3.0. USB 3.0 is the common standard and supports a data rate of 400MBps.

USB 3.1 is also released and supports a data rate up to 10Gbps. The USB 2.0 is Black color coded and USB 3.0 is Blue. The following image shows USB 2.0 and USB 3.0 ports.

USB Type C:-USB Type – C is the latest specification of the USB and is a reversible connector.

This feature of handling high current is used in the latest Fast Charging Technology where a Smart Phone's battery will reach its full charge in very less time.



RJ-45

Ethernet is a networking technology that is used to connect your computer to Internet and communicate with other computers or networking devices. The interface that is used for computer networking and telecommunications is known as Registered Jack (RJ) and RJ – 45 port in particular is used for Ethernet over cable. RJ-45 connector is an 8 pin – 8 contact (8P – 8C) type modular connector. The latest Ethernet technology is called Gigabit Ethernet and supports a data transfer rate of over 10Gigabits per second. The Ethernet or a LAN port with 8P – 8C type connector along with the male RJ-45 cable is shown below.



Exercise :-

- 1- Discuss different types of computer ports.
- 2- Difference between serial and parallel ports.