UNIT -2 NETWORKING AND INTRNET

A collection of interconnected nodes which communicate by means of some channel Form computer network. The communication taking place in a computer network can be categorized as simplex, half-duplex, and full-duplex. In simplex mode, information can be transferred only in one direction. This mode is termed unidirectional. In computer networks, the data transmitted using many fibre optics and satellites is simplex in nature. Half-duplex Mode is a bidirectional communication between the two nodes, however, only one node at a Time can transmit the data. This mode is generally used for transferring files between nodes in a low-bandwidth setting.

The interactive applications use this mode of communication, thus speeding up the data transfer. NIC (Network Interface Card) on the systems for networking supports full-duplex mode. Computer networks can be used as means of resource sharing and communication.

Resource Sharing: Connecting computers through networking allows us to share hardware and software resources. Examples of hardware resources include peripherals (for example, printers and scanners), CPU, and memory. Examples of software resources include system and application software, and files that may include text, audio, and video content. Communication: Connecting computers through network facilitates exchange of information amongst the nodes in the network. For example, any of the computer systems send data to any of the three computer systems or the printer, as it is connected to every node in the network.

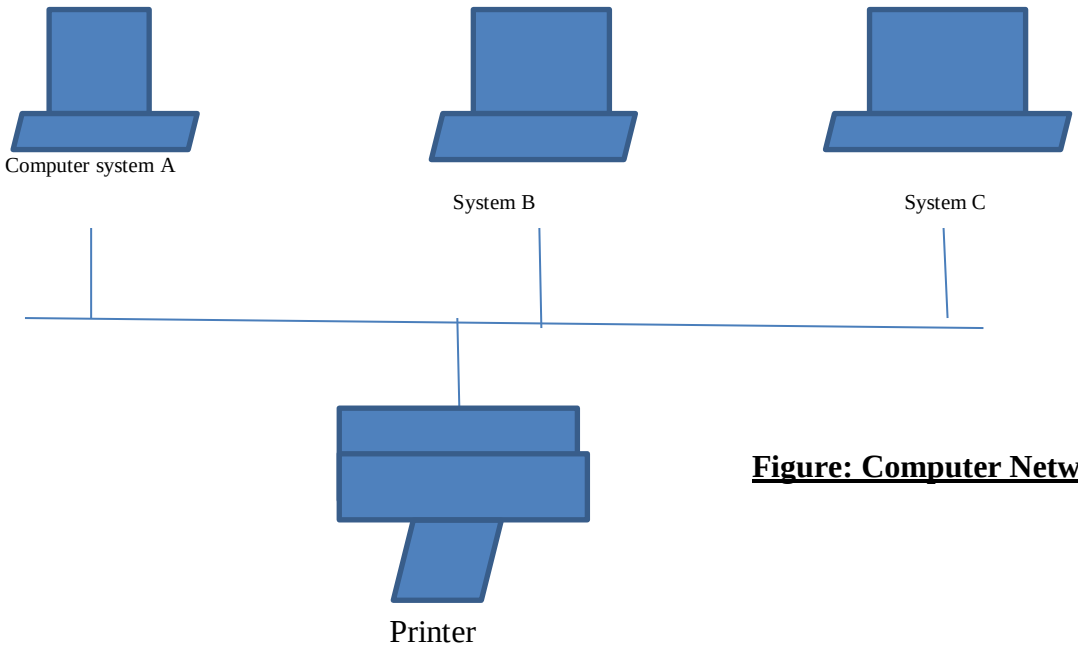

Figure: Computer Network

Transmission Medium:- A transmission medium refers to the channel of transmission through which data can be transmitted from one node to another in the form of signal. A signal encodes the data in a form suitable for transmission on the medium. A medium is characterized by its bandwidth defining the information carrying capacity of the medium. A transmission medium may belong to one of the following two categories:

Guided Medium: The term refers to physical conductor such as twisted pair, coaxial cable, and fibre optics. In twisted pair and coaxial cable, the signal travels as voltage and current signal whereas in optical fibre, the signal is in the form of light.

Unguided Medium: The unguided medium uses electro-magnetic waves that do not require a physical conductor. Examples of unguided medium include infrared, radio, and microwave.

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