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INFORMATION TECHNOLOGY FOR CLASS 11

(Study material Based on N.C.E.R.T HANDBOOK)

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## Some Important Topic Regarding P.A.2 Examination

- ❖ **Topology:** - Topology is an arrangement (also called layout) of nodes in a network is called network topology. There are broadly two types of topologies – broadcast and point to point. In broadcast topology, all nodes share the same physical link. When one node transmits, all nodes receive. In point to point topology, every pair of nodes has a dedicated link. Popular point to point topologies are star and mesh.
- ❖ **Bus Topology:** - In bus topology, there is a long cable, called backbone cable (or simply backbone), that connects various nodes through connector called tap. This topology requires less cabling and is easy to install and extend the network.
- ❖ **Ring Topology:** - In ring topology, all the devices are attached through a cable in the form of ring. The message to be communicated is transmitted in one direction, thereby, relaying the message to the intended recipient. Addition and deletion of devices, and fault detection and isolation is easy. However, the topology suffers from the limitation of single point failure leading to disruption of entire network.
- ❖ **Star Topology:** - In star topology, all the devices are connected to the central controller called hub. Communication between any two devices takes place through the hub responsible for relaying messages. Star network can be easily installed and configured. Also, fault detection and isolation is easy. However, it requires more cabling as compared to bus and ring topology.
- ❖ **Mesh Topology:** - In mesh topology, every node is connected with every other node in the network. Because of dedicated point to point connection between every possible pair of nodes, the topology provides secure data transfer without any traffic problem. It requires a large number of connections establish the topology.
- ❖ **Tree Topology:** - Tree topology is a hybrid topology using combination of star and bus topology. Backbone cable in a bus topology acts like the stem of the tree, and star networks (and even individual nodes) are connected to the main backbone cable like the branches of tree.

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