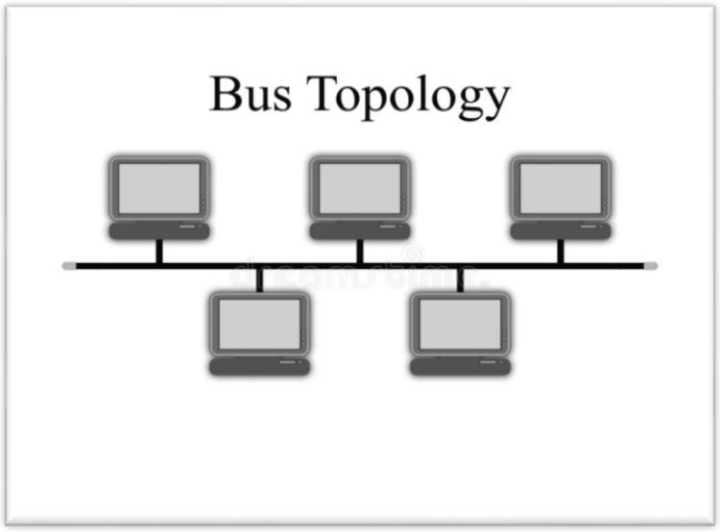
UNIT -2 NETWORKING AND INTRNET

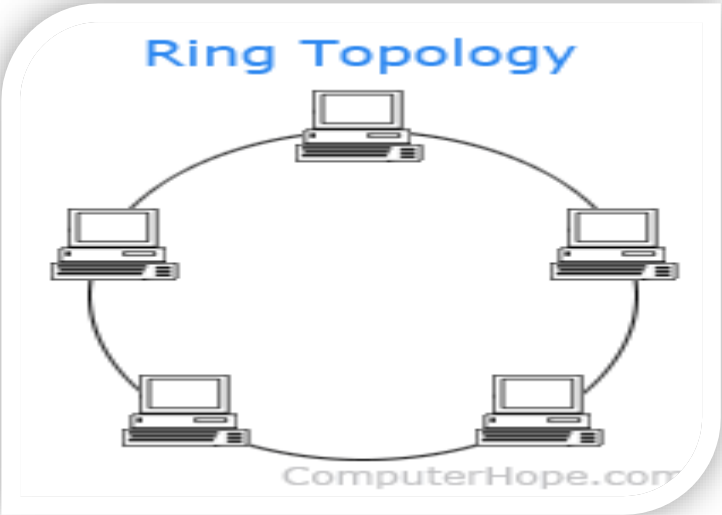
Topology:

The arrangement (also called layout) of nodes in a network is called network topology. There are two types of topologies – Broadcast and point to point. In broadcast topology, all nodes share the same physical link. When one nodes transmits, all nodes receive. Broadcast topology are mainly bus and ring. In point to point topology, every pair of nodes has a dedicated link. Popular point to point topologies are star and mesh.

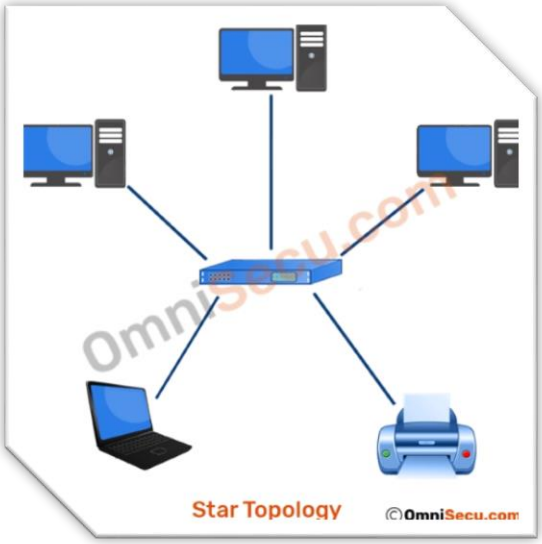
- **Bus Topology:** In bus topology, there is a long cable, called backbone cable(or simply backbone), that connects various nodes through connector called tap . In this a message sent by one is received by all devices connected to backbone cable. This topology requires less cabling and is easy to install and extend the network laid using it. However fault detection and isolation is difficult.



- **Ring Topology:** In ring topology, all the devices are attached through a cable in the form of ring. 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. Sending a message from one node to another node may take more time (four steps while sending message from device A to E)



- **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. Also, hub failure will lead to network failure.



RAUSHAN DEEP
PGT (IT)
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