



# VIDYA BHAWAN BALIKA VIDYAPITH

SHAKTI UTTAN ASHRAM, LAKHISARAI

INFORMATION TECHNOLOGY FOR CLASS 9

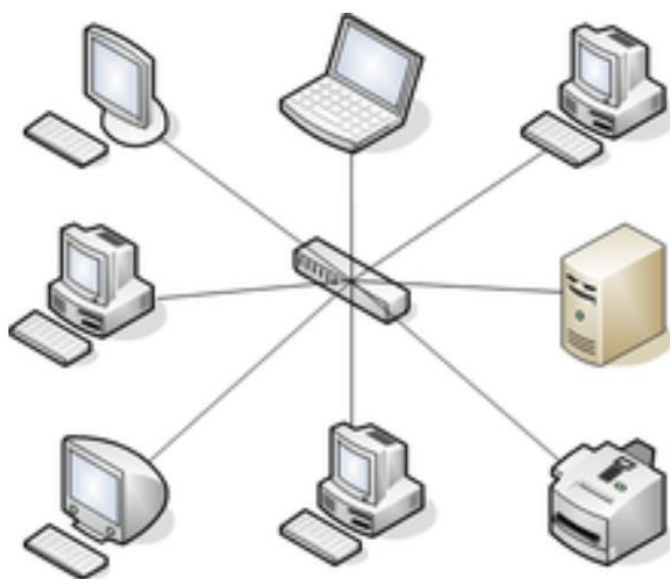
(Study material Based on N.C.E.R.T HANDBOOK)

RAUSHAN DEEP

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## Star topology

A star topology is a topology for a Local Area Network ([LAN](#)) in which all nodes are individually connected to a central connection point, like a hub or a switch. A star takes more cable than e.g. a bus, but the benefit is that if a cable fails, only one node will be brought down.



Star topology in use in a network

The star topology reduces the impact of a transmission line failure by independently connecting each host to the hub. Each host may thus communicate with all others by transmitting to, and receiving from, the hub. The failure of a transmission line linking any host to the hub will result in the isolation of that host from all others, but the rest of the network will be unaffected.[\[2\]](#)

The star configuration is commonly used with [twisted pair cable](#) and [optical fiber](#) cable. However, it can also be used with [coaxial cable](#) as in, for example, a [video router](#).

### Advantages

- If one node or its connection breaks, it does not affect the other computers nor their connections[\[3\]](#)
- Devices can be added or removed without disturbing the network

- Works well under heavy load
- Appropriate for a large network

**Disadvantages**

- Expensive due to the number and length of cables needed to wire each host to the central hub<sup>[3]</sup>
- The central hub is a [single point of failure](#) for the network