Computer Networking: Concepts

(CSE 3751)

Experiment 3

Aim:

Implementation of Network Topologies using Cisco Packet Tracer

Objectives:

1. An overview on network topologies (i.e. Star, Bus, Ring, and Mesh).
2. Constructing and simulating a network based on star topology to analyse the performance, scalability and fault tolerance.
3. Constructing and simulating a network based on bus topology to analyse the performance, scalability and fault tolerance.
4. Constructing and simulating a network based on ring topology to analyse the performance, scalability and fault tolerance.
5. Constructing and simulating a network based on mesh topology to analyse the performance, scalability and fault tolerance.

Exercises:

1. Differentiate physical and logical topology.
2. State the advantages and disadvantages of bus, ring, star and mesh technologies.
3. Briefly explain various factors for selecting a proper network topology.
4. For five devices in a network, what is the number of cable links required in a mesh, ring, bus, and star topology?
5. How does bus arbitration work in network topology?