Module 1: Networking Today - Study Summary

1. Networks Affect Our Lives

- Networks connect people worldwide, influencing communication, businesses, and society.
- Example: Global communities and human networks.

2. Network Components

- Hosts/End Devices: Computers that send or receive data (e.g., clients and servers).
- Intermediary Devices: Switches, routers, and access points that manage data between devices.
- Network Media: Cables (metal wires, fiber optic) and wireless transmission that carry signals.

3. Network Representations and Topologies

- Physical Topologies: Show physical location of devices and cables.
- Logical Topologies: Display devices, ports, and addresses in a network.

4. Common Types of Networks

- LAN: Connects devices in a small area (e.g., a building).
- WAN: Connects LANs over larger areas (e.g., cities, countries).
- Internet: The global network of LANs and WANs.

5. Internet Connections

- Home Users: Broadband, DSL, cellular, satellite.
- Businesses: Leased lines, Ethernet, business DSL, satellite.

6. Reliable Networks

- Fault Tolerance: Ensures network reliability even if some components fail.

- Scalability: Easy network expansion without performance loss.

- Quality of Service (QoS): Manages bandwidth for high-priority services like video and voice.

- Security: Protects the network and information from threats.

7. Network Trends

- BYOD (Bring Your Own Device): Employees use personal devices for work.

- Online Collaboration: Tools like Cisco WebEx allow teamwork across distances.

- Cloud Computing: Storing data and applications on remote servers (cloud).

8. Network Security

- Threats: Viruses, data theft, denial of service (DoS), identity theft.

- Security Solutions: Firewalls, antivirus, access control lists (ACLs), and VPNs.

9. The IT Professional

- Certifications: Cisco Certified Network Associate (CCNA) ensures relevant networking skills.

- Job Opportunities: Networking Academy offers tools like the Talent Bridge for finding jobs.