CCNA: Introduction to Networks

**Module 1: Networking Today**

*I. Introduction to Networks:*

- Networks: Interconnected devices that enable communication and resource sharing.

- Module 1 Focus: Understanding network fundamentals, components, types, and the impact of networks on modern life.

*II. Neworks affect our lives:*

- **Global connectivity:** Networks connect people worldwide, facilitating, communication, collaboration, and access to information.

- **Business Operations:** Networks are crucial for businesses to operate efficiently, connect with customers, and compete globally.

- **Industry Impact:** Networks support various industries, from healthcare and education to entertainment and finance.

*III. Nework Components:*

- **Host**: is any device that connects to a network and can communicate with other devices on that network (e.g, computers, smartphones, servers).

- **End Devices**: Devices that connect to access resources or services (e.g laptops, printers, IoT devices).

- **Intermediary devices:** Devices that connect multiple networks or devices within a network (e.g., switches, routers, hubs).

*IV. Common Types of Networks*

**- Local Area Network (LAN):** Connects devices within a limited area (e.g., home, office).

**- Wide Area Network (WAN):** Connects devices over a large geographical area (e.g., city, country).

**- The Internet:** A global network of interconnected networks.

*V. Internet Connections*

**- Home and SOHO Networks:** Common network types for homes and small offices.

**- Business Networks:** Larger, more complex networks used by organizations.

**- Internet Connection Types:** Technologies used to connect to the internet (e.g., DSL, cable, fiber optic).

*VI: Reliable Networks*

**- Fault Tolerance (khả năng chịu lỗi):** Ability of a network to function despite component failures.

**- Network Security:** Measures to protect networks from unauthorized access, use, disclosure, disruption, modification, or destruction.

*VII. Network Trends*

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

**- Online Collaboration:** Working together remotely using technology.

**- Video Communication:** Using video conferencing for communication and collaboration.

**- Cloud Computing:** Using remote servers and storage for data management.

*VIII. The IT Professional*

**- Networking Career Paths:** Various roles in network design, implementation, and maintenance.

**- Importance of Networking Knowledge:** Essential for IT professionals in various fields.

*IX. Network Security*

**- Threats:** Viruses, malware, hacking, unauthorized access, data breaches.

**- Security Measures:** Firewalls, intrusion detection systems, encryption, access control.

*X. Module Practice and Quiz*

**- Review:** Reinforce learning through practice exercises and quizzes.

- **Prepare for Future Modules:** Build a strong foundation for subsequent learning in the CCNA curriculum.