

COMPUTER NETWORK SECURITY FROM SCRATCH TO ADVANCED.

Definition of a Computer Network:

A group of computers (hosts/nodes) and computer peripherals connected via a transmission media and connecting devices

COMPUTER TYPES

- * Personal Computers (PCs)
 - * Desktop Computer
- * Laptops
- * Tablets
- * Smart Mobile Phones
- * Embedded Systems in Machines
- * Internet of things (IoT)

COMPUTER PERIPHERALS

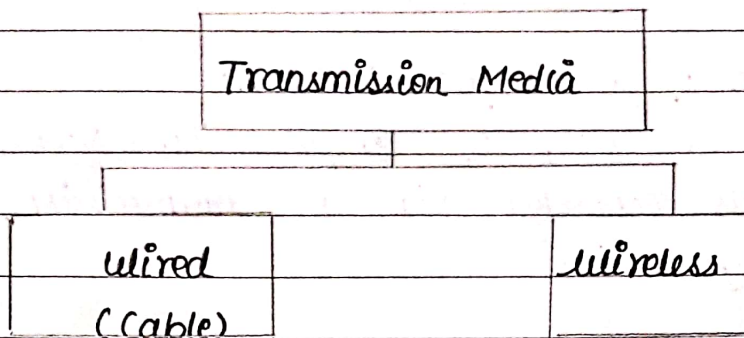
Hardware connected to Computer

- * Printers
- * Scanners
- * Storage Media

Cloud Computing and Data Center

- * Servers
- * Storage Devices
- * Managing Terminals

TRANSMISSION MEDIA



Wired (Cables)

1, Copper

Coaxial cables

Twisted Pair cables (shielded/unshielded)

2, Fiber Optic

Single mode

Multi mode

Wireless

1, Air as Transmission Media

2, Frequency Band

3, Area of Coverage

NETWORK BENEFITS AND SERVICES

⇒ Resources Sharing

* Hardware Resources

→ Computer Peripherals

→ Storage Media

→ Processors

* Software Resources

→ File Sharing

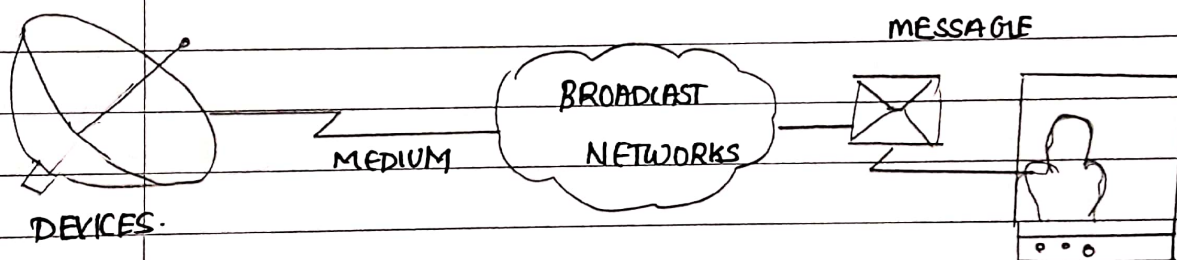
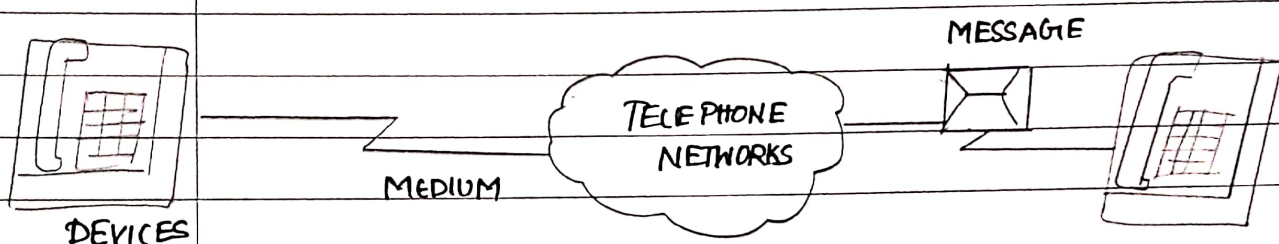
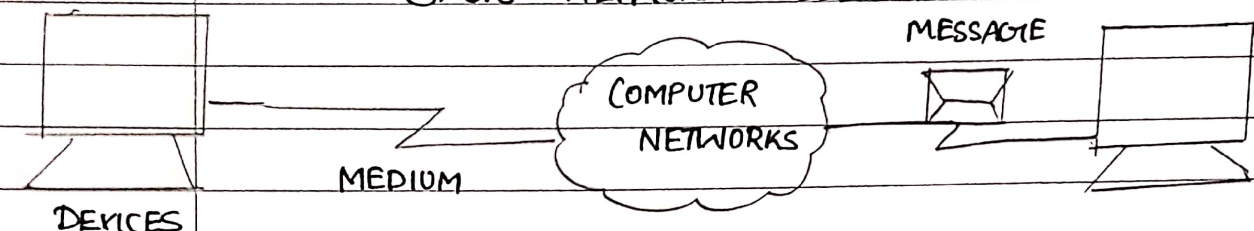
→ Databases

→ Applications

* Services.

- Browsing and E-mail
- Voice calls and Video Conferences.

BASIC NETWORK ELEMENTS.



End devices

Communicating with each other (Send / Receive)

Messages

Information travelling through

Connecting Devices

Switches, Routers, and Access Points

Protocols

Rules governing information transfer.

Medium

How devices connected?