

# Computer Network

Lesson 5

# This chapter will cover the following;

- What is the Computer Network
- Advantages of Computer Network
- Types of network connection
- Basic Devices in a Computer Network
- Communication in Computer Networks
- How Computers Share Resources
- Benefits of Computer Networks

# Computer Network

- A computer network is a group of computers connected together to share information and resources.
- Networks can be small (like in homes) or large (like the internet)
- Two main types:
  - LAN (Local Area Network)
  - WAN (Wide Area Network)

# Advantages of Computer Network

- Ability to communicate with network users, using e-mail, short messaging services, etc.
- Advantages of networking Common use of documents, images, photos, songs, video, etc.
- Sharing software such as computer games
- Ease of taking back ups since the data files are saved in a server computer in the network
- Facility to save important information in a network storage device

# Types of network connection

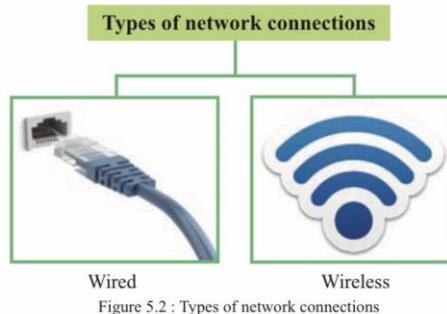


Figure 5.2 : Types of network connections

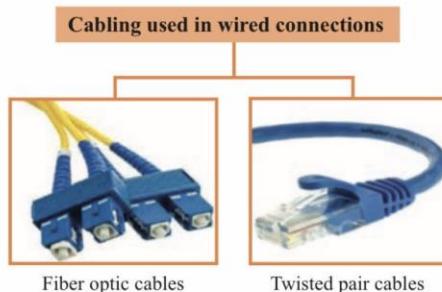
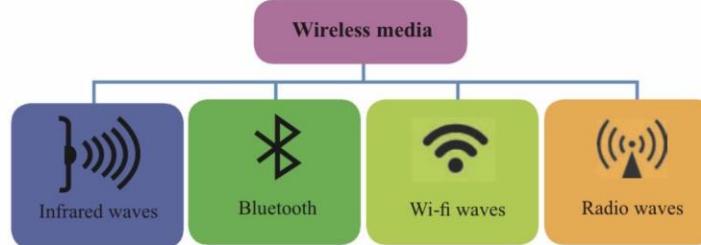


Figure 5.3 : Cabling examples



# Basic Devices in a Computer Network

## 1. Router

Connects different networks together (e.g., home to internet)

## 2. switch

Connects devices within a LAN

## 3. Modem

Connects the network to the internet

## 4. Access Point

Provides wireless access (Wi-Fi)

## 5. Network Interface Card (NIC)

Hardware inside a computer to connect to a network

# Communication in Computer Networks

- Devices communicate by \*sending and receiving data\*.
- Communication follows specific \*protocols\* (rules), like:

TCP/IP – for internet communication

HTTP – for web browsing

SMTP – for sending emails

Data is broken into small pieces called \*packets\* and sent over the network.

# How Computers Share Resources

Computer networks allow sharing of:

## 1. Files and Folders

Users can access files stored on other computers or servers.

## 2. Printer

One printer can be used by many computers.

## 3. Internet Connection

Multiple devices can connect to the internet using one connection.

## 4. Application

Shared apps and databases in organizations.

# Benefits of Computer Networks

- \* Easier communication (email, chat, video calls)
- \* Cost-saving through resource sharing
- \* Centralized data management
- \* Remote access to information

# Summary

- \* Computer networks connect devices for communication and sharing.
- \* Key devices: router, switch, modem, etc.
- \* Networks support data communication and resource sharing.
- \* They are essential in homes, schools, and businesses.

# THANK YOU!