**Warm Greetings!**

Dear Students,

In this note, we are going to discuss Network Hardware, Types of Networks.

## Chapter 1: Introduction to Computers: Networking

**NETWORK HARDWARE:**

Network hardware includes the physical components that work together to create a network. All computer network require at least the following hardware:

Computer:

The most important job of a network need not to be of the same type. Many networks contain different types oof computers, such as **IBM-Compatible and Macintosh**.

### Cables:

➢ Cables are the wires that connect computers and resources on a network.

➢ Different kinds of cables can be used, depending on the type and size of the network

➢ The type of a cable used often determines the speed of the network, i.e. how quickly the information travels through the network to reach its destination

➢ For some networks, several miles of cables may be required.

### Connectors:

➢ A connector is a device that joins two computers or networks together.

### Network Interface card:

➢ A Network Interface Card(NIC) is a device that joins a cable to a computer.

➢ Most Network Interface Card are installed inside a computer.

➢ The edge of the card can be seen at the back of the computer.

➢ A NIC has a port where the network cable plugs in

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## TYPES OF NETWORKS:

There are various types of compute networks.Generally, the following types of networks are used:

1.Personal Area Network (PAN)

2.Local Area Network(LAN)

3.Campus Area Network(CAN)

4.Metropolitan Area Network(MAN)

5.Wide Area Network(WAN)

## Personal Area Network(PAN)

A Personal Area Network is a computer network used for communication among varius electronic devices such as personl computers and mobile phones in a close proximity.

The area of a PAN is typically a few maters. PANs can be used for communication among the devices or for connecting to the internet.
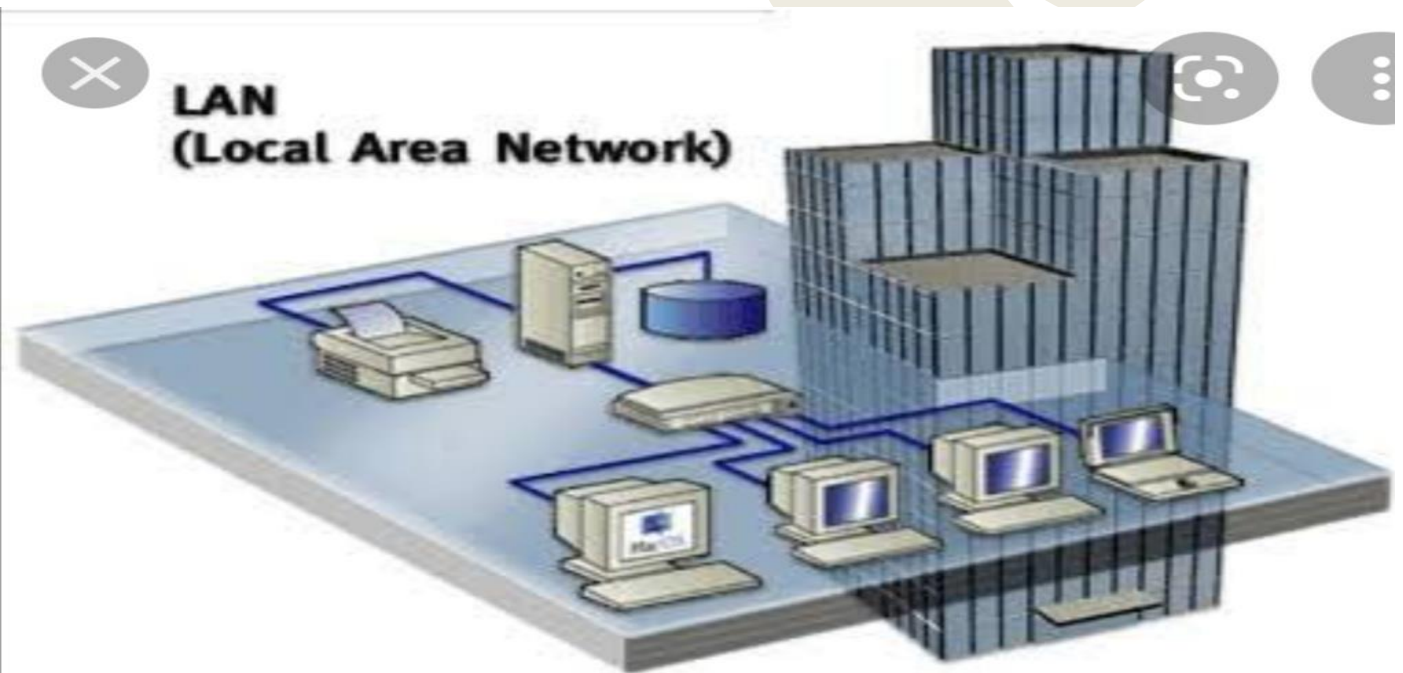
A PAN may use wireless connection as well.



Personal Area Network

## Local Area Network(LAN)

A Local Area Network is the most common type of network.

A LAN connects computers and devices located close to one another, such as in onebuilding.
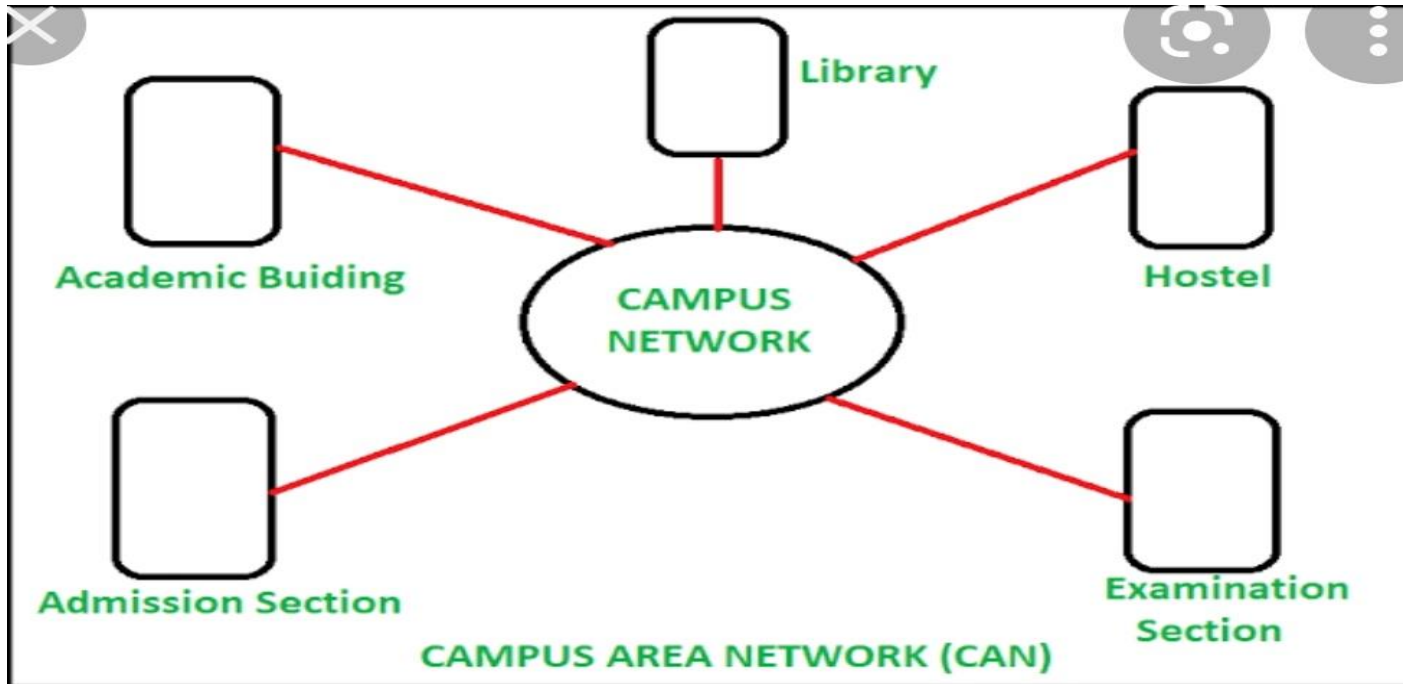
Usually, this type of network does not consist of more than 100 computers. For example, computers connected in an office.

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## Campus Area Network(PAN)

A **Campus Area Network** is a computer network made of an inter-connection of two or more Local Area Networks(LANs) within a limited  area.

This type of network is larger than a Local Area Network but smaller than Wide Area Network(WAN).

Academic Buiding

Library

Hostel

CAMPUS NETWORK

Admission Section

Examination Section
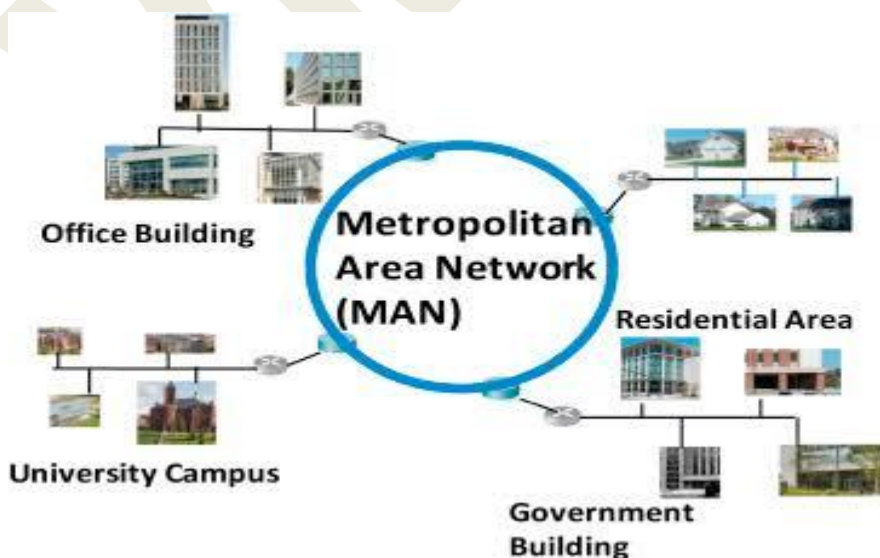
**CAMPUS AREA NETWORK (CAN)**

### Metropolitan Area Network(MAN)

A **Metropolitan Area Network** is also a collection of Local Area Networks.

Metropolitan Area Network connects computers located in the same geographical area such as a city or a town.

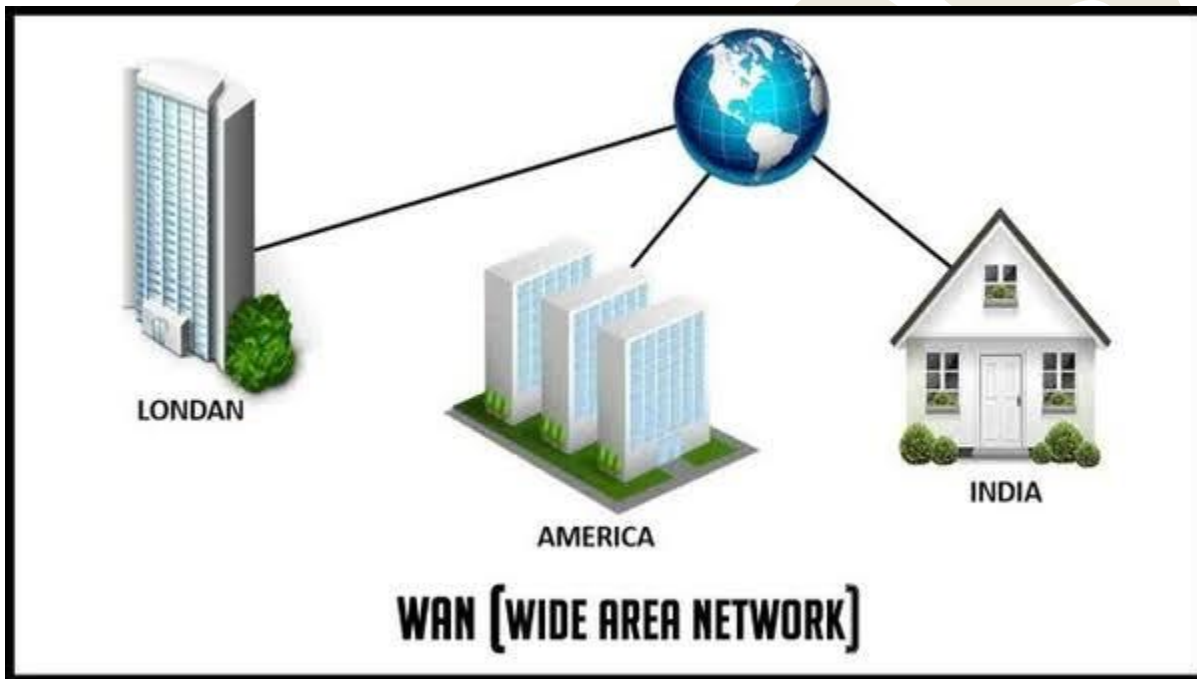For Example, branches of a local bank in a city.



Office Building

Metropolitan Area Network (MAN)

Residential Area

University Campus

Government Building

Wide Area Network(WAN)

A **Wide Area Network** connects LAN and MAN together.

The networks that make up a Wide Area Network, may be located throughout a ountry or even around the world.

For Example: Internet and ATM facility.

When single company owns and controls a Wide Area Network, it is often calledas an enterprise network.

LONDAN

AMERICA

INDIA

WAN (WIDE AREA NETWORK)

NEXT NOTE WE SHALL DISCUSS NATURE OF COMPUTER NETWORK