

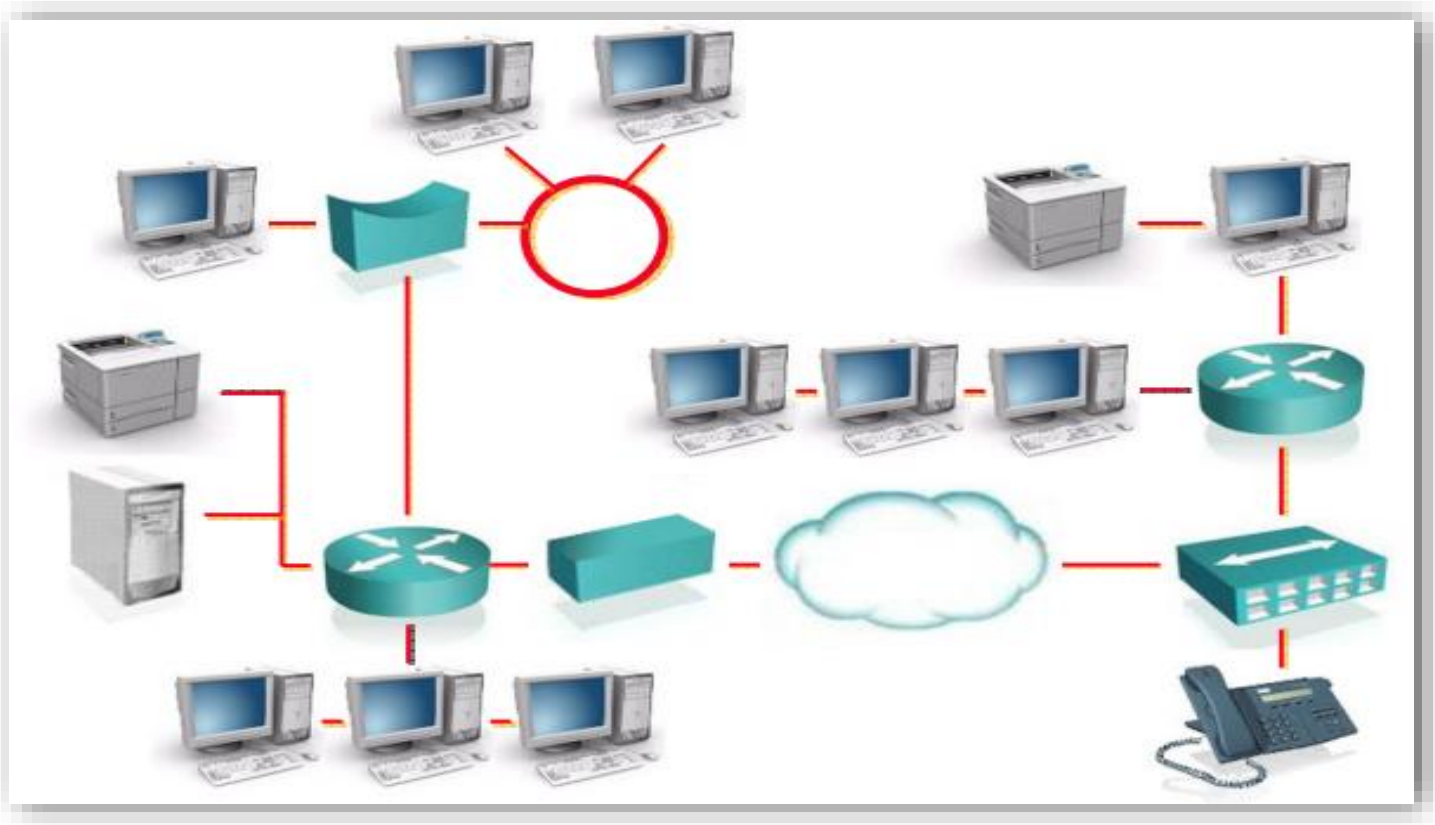
Al-Ma'moun University College  
Department of Engineering of Medical instrumentation Techniques  
Second Class

# **COMPUTER APPLICATION**

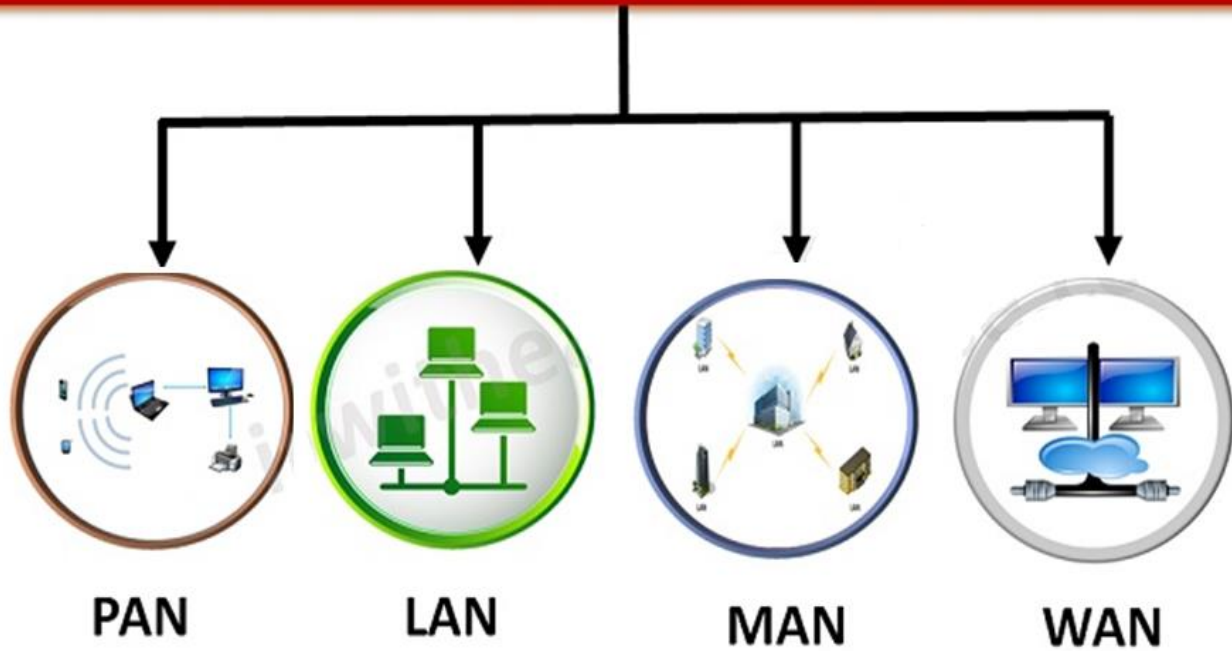
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# Computer network

- **Computer network** can be defined as a set of two or more computers having interconnection to the same resources, such as exchange files, printers, CDs.
- The **networks** in a computer are built with a great combination of software and hardware.
- The main purpose of the **networks** is to facilitate communication through video conferencing, email, instant messaging.
- Additionally, the multiple users are enabled to share a single hardware device, such as a scanner or printer .



# TYPES OF COMPUTER NETWORK



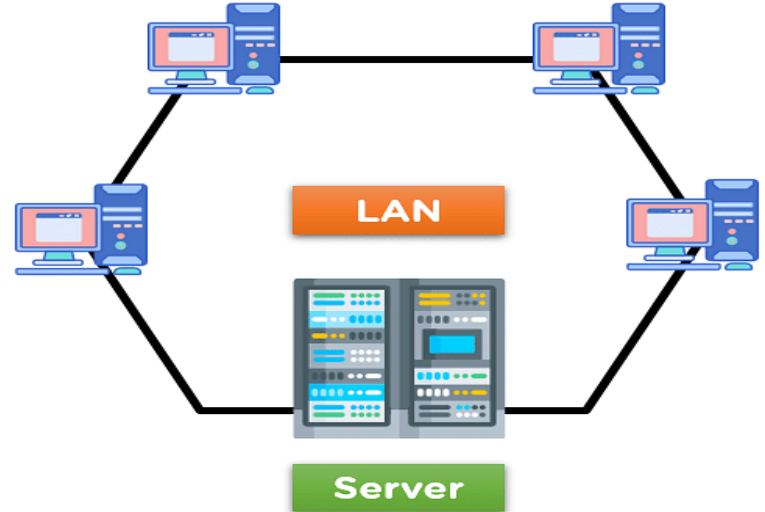
# 1. Personal Area Network (PAN)

- PAN (Personal Area Networks) **let devices communicate over the range of a person.**
- Made use of to **connect personal computer devices that are connected via the Bluetooth wireless network.**
- Personal computer devices that are used to **develop** the personal area network are the laptop, mobile phones, media player and play stations.



## 2. Local Area Network (LAN)

- It is a **group of computers connected to each other in a small area such as building, office.**
- **Used for connecting two or more personal computers through a communication medium such as twisted pair, coaxial cable.**
- **Less expensive since it is made with low-cost hardware.**
- **Data is transferred at an extremely faster rate.**
- **provides higher security.**
- **Example: A computer lab in a school.**



# 3. Metropolitan Area Network (MAN)

- Design to extend over a **large area**.
- **Connecting number of LAN's** to form larger network, so that resources can be shared.
- It is bigger than a LAN and covers an area that can range from **many miles to ten miles**.
- The major use of the MAN is to **connect many LANs together for forming a larger network**.
- **Example: Organization with different branches located in the city.**



## 4. WAN (Wide Area Network)

- A WAN is a **complex type of computer network that connects the computer together over larger distances such as states or countries.**
- Contains **multiple LAN's and MAN's.**
- Connect through a **telephone line, fiber optic, cable or satellite links.**
- It is widely used in the field of Business, government, and education.
- **Example : Internet.**





# Advantages of Computer Networks

## 1. More Convenient Resource Sharing:

- large companies can share lots of resources to all the staff through it.

## 2. Instant and Multiple Accesses :

- multiple users to access the same data from a remote location at the same time.

## 3. Low cost and high flexibility :

- low cost involved in installing the networking software on the computers or any other device.

# Disadvantages of Computer Networks

## 1. Dangers of Security Issues:

**-security can be at risk because a larger size of people uses a computer network and share files.**

## 2. Increase Dependence on Computers :

**-great involvement of computers in this technology and it makes the people get relied on them instead if making some physical effort.**

# Uses Of Computer Networks

## 1. Business Applications:

To distribute information throughout the company (resource sharing). Sharing physical resources such as printers.



## 2. Home Applications

- Access to remote information.
- Person-to-person communication.
- Interactive entertainment.
- E-commerce (**Electronic commerce**).



### 3.Mobile Users:

- Text messaging .
- Smart phones.
- GPS (**Global Positioning System**)
- m-commerce (**mobile commerce**)
- NFC (**Near Field Communication**)



# 4.Social Issues

The advent of **social networking services** has led to many issues spanning from **misinformation** and **disinformation** to **privacy concerns** related to **public** and **private personal data**.

# Introduction to Internet

The Internet is a collection of computers around the world connected to each other via a high speed series of networks. The Internet becomes the main method in exchanging cultures and transferring knowledge between people.

It allows exchange of information between two or more computers on a network. Thus internet helps in transfer of messages through mail, chat, video & audio conference. It is now required for daily tasks including browsing and shopping online, tutoring, working.



- **HTTP** : **H**ypertext **T**ransfer **P**rotocol
- **WWW**: **W**orld **W**ide **W**eb
- **URL** : **U**niform **R**esource **L**ocator



# Advantages And Disadvantages Of Internet

Advantages		Disadvantages	
Flawless communication	1	Internet Addiction	
Online Education	2	Access to Wrong Information	
E-commerce & Online Services	3	Theft of Personal Information	
Abundant of Information	4	Spams	
Entertainment	5	Virus Threat	
Social Networks	6	Sensitive Information	
Online Banking	7	Wastage of Time	
Video Calls & Web Conferencing	8	Obesity and Other Health Issues	