DIFFERENT TYPES OF CABLES.

isted pair cable : used in Ethernet networks, consists of pairs of wires twisted together to reduce interference.

oaxial cable : Used in cable television and older networking systems with a central conductor with shielding.

bre optic cable : uses light signals for high speed data transmission and for long distance communication.

HDMI cable : Transfers high definition audio and video signals between devices like TVs and computers.

USB cable : used for connecting peripherals like keyboards, mice and storage devices to computers.

Power cable : Supplies electrical power to devices.

CONNECTION BETWEEN SIMILAR SYSTEMS

ross over Ethernet cable : Directly connects two computers without switch of router.

Vi-fi (Ad-hoc mode) : Enable wireless communication between similar devices without a router.

luetooth and Infrared : used for short-range wireless data transfer.

ect Serial / allel cable connection : older method for connecting two computers.

Peer-to-Peer (P2P) Network: A direct connection allowing resource sharing between two computers.

CONNECTION BETWEEN DIFFERENT SYSTEMS

Router and Gateway: Connects to different networks (e.g: LAN to WLAN, IPV4 to IPV6).

Ethernet with media converters: Converts signal between fibre cables and copper ethernet.

USB to Ethernet Adapter: Connects an USB device to a wired ethernet network.

Virtual Machines (VMs) and Emulators: Allow different operating systems to communicate on the same hardware.

Cloud-Based API's: Enable interaction between different forms via the internet.

Switch:

A network device that connects multiple devices within LAN and forwards data based on MAC addresses.

Its primary function is to improve network efficiency by directing data directly to the intended devices, reducing congestion.

Types:

a) Unmanaged switch: plug-and-play no configuration required.

b) Managed switch: Allows configuration, monitoring and VLAN support.

i) Layer 2 switch: works at the Data link layer, forwards data based on MAC address.

ii) Layer 3 switch: Has routing capabilities work with IP addresses.

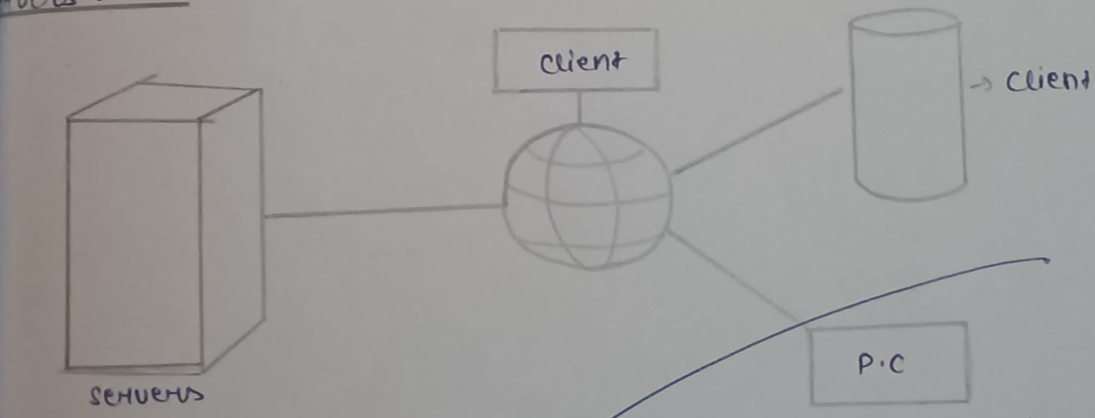
- come with multiple Ethernet ports. (eg. 8, 16, 24, 48 ports).

VLAN supports: Can create virtual LAN's to segment network, for security and efficiency.

Full-Duplex Communication: Supports simultaneous data transmission and reception.

Usage: Commonly used in offices, data centers and enterprise networks for structured communication.

Servers:



Generally, a computer or system that provides service data, or resources to other devices (clients) over a network.

It's function is to manage processes and store data, handling requests from clients.

Types of Servers

Web server: Hosts and serves web pages to clients via the internet and intranet.

Email server: It handles email transmission, receiving incoming mails and forwarding outgoing mails.

Application server: Provides the business logic for an application program in a distributed work.

Database server: manages and store