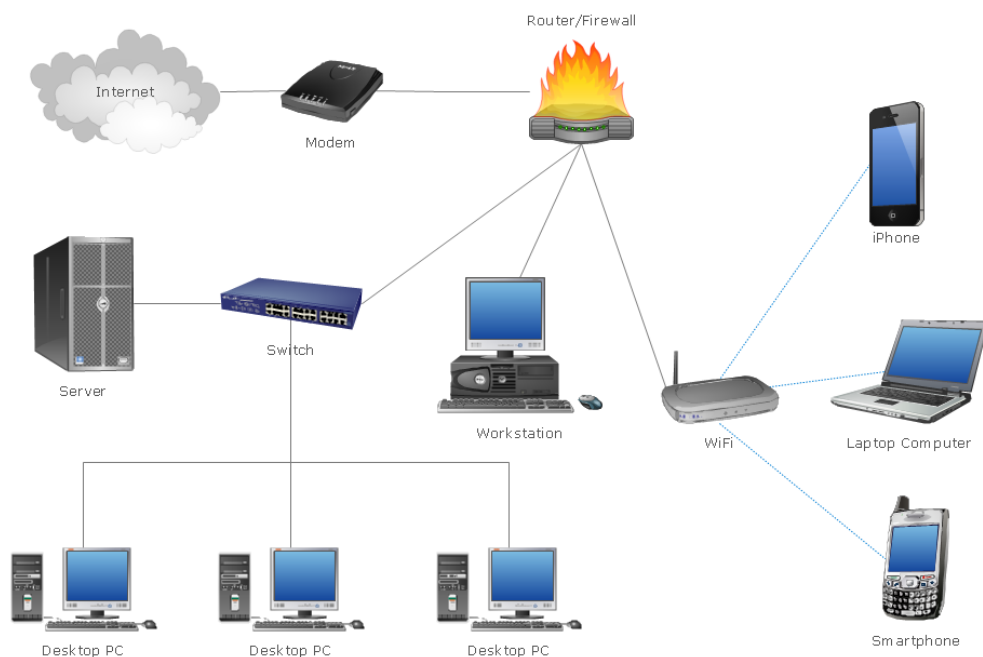Date: **20 / 08 / 24**

Lab Practical #13:

Study & Survey of Institute organization network infrastructure.

Practical Assignment #13:

1. **Identify type of network in your institute. Draw a design of network in your institute (Any Lab/Floor/Building).**

Network Diagram

Date: 20 / 08 / 24

2. List how many network devices and types of cable used and give its details.

Network Devices:

1. **Router/Firewall** - Manages the traffic between the internal network and the internet, providing security by filtering incoming and outgoing traffic.

2. **Modem** - Connects the local network to the internet by converting digital data from a computer to analog signals and vice versa.

3. **Switch** - Connects multiple devices within the same network, allowing them to communicate with each other.

4. **Server** - A powerful computer that provides services, data, and resources to other computers within the network.

5. **Workstation** - A computer connected to the network, typically used for business or professional work.

6. **Desktop PCs** (3 in the diagram) - Personal computers connected to the network, typically used for everyday tasks like browsing the internet, creating documents, etc.

7. **Laptop Computer** - A portable computer connected to the network, typically used for mobile work.

8. **WiFi Access Point** - Provides wireless connectivity to devices like laptops, smartphones, and tablets.

9. **Smartphone and iPhone** (2 in the diagram) - Mobile devices that connect to the network via WiFi.

Types of Cables:

1. **Ethernet Cables** - Used to connect the server, desktop PCs, workstation, switch, and router/firewall. These are usually CAT5 or CAT6 cables, which support high-speed data transfer.

2. **Coaxial Cable** - Likely used to connect the modem to the internet service provider (ISP).

3. **Wireless (WiFi)** - Though not a physical cable, wireless signals connect the laptop, smartphone, and iPhone to the network.

Details:

- **Ethernet Cable**: Commonly used for wired connections in local area networks (LANs), providing reliable and fast data transfer. Ethernet cables often come in different categories (e.g., CAT5, CAT6), which indicate the maximum speed and bandwidth they can handle.

- **Coaxial Cable**: Typically used for connecting modems to the ISP. Coaxial cables can carry high-frequency signals with minimal interference, making them suitable for internet connections.

- **WiFi (Wireless)**: Used for devices that require mobility or where cabling is impractical. WiFi provides flexibility but can be subject to interference and generally offers lower speeds compared to wired connections.