**Assignment No. 3**

**Question:** write the network terminologies with example

* **Node:**

**Definition:** Any physical or virtual devices in a network that can send, receive, or forward information.

**Example:** A computer, printer, router, switch, or within a network..

* **IP Address:**

**Definition:** A unique string of numbers separated by period (IPv4) or colons(IPv6) that identifies each computer using the internet protocol to communicate over a network.

**Example:** 192.168.1.1(IPv4), 2001: Odb8 : 85a3 : 0000: 0000 : 8a2e : 0370 : 7334(IPv6).

* **Subnet Mask:**

**Definition:** A 32-bit number that divides the IP address into network and host portion, helping in routing in routing traffic within the network.

**Example:** 255.255.255.0.

* **Default Gateway:**

**Definition:** A node that routes traffic from a local network to devices on another network typically used to connect a local network to internet.

**Example:** 192.168.1.254.

* **DNS(Domain Name System):**

**Definition:** A hierarchical and decentralized naming system for computers, services, or other resources connected to the internet or a private network. It translates domain names to IP addresses.

**Example:** Translating [www.example.com](http://www.example.com) to 93.184.216.34.

* **Router:**

**Definition:** A networking device that forwards data packets between computer networks, creating an overlay internetwork.

**Example:** A home wireless router that connects multiple devices to the internet.

* **Switch:**

**Definition:** A devices that connects devices within a network and uses packet switching to forward data to the destination device.

**Example:** An Ethernet switch used to connect computers within a local area network (LAN).

* **Firewall:**

**Definition:** A network security device that monitors and controls incoming and outgoing network traffic based on predetermined security rules.

**Example:** A corporate firewall that blocks unauthorized access to the internal network.