**Assignment 1:- Write all the network terminologies with example.**

1**.IP Address:**- are used to uniquely identify the connection of a network with that device taking part in a network.

Example:- 192.155.12.1.

2**.MAC Address**:- is used to ensure the physical address of a computer . It uniquely identifies the devices on a network.

Example: 00:1A:2B:3C:4D:5E

3.**Gateway**:- A node that is connected to two or more networks is commonly known as a gateway.

Example: 192.168.3.1

4.**DNS**:-Domain Name System

DNS is an internet which maps the domain names to their associated IP addresses.

Example: www.domain.com to 93.184.216.34

5.**DHCP**:- is the Dynamic Host Configuration Protocol. It is an application layer protocol used to auto-configure devices on IP networks enabling them to use the TCP and UDP-based protocol.

Example: A DHCP server assigning IP addresses dynamically to clients on a local network.

6.**Router** : A device that forwards data packets between computer networks.

Example: A home router from brands.

7.**Switch** :A networking device that connects devices together on a computer network by using packet switching to receive, process, and forward data to the destination device.

8.**Bandwidth**:-The maximum rate of data transfer across a given path.

Example: 50 Mbps (Megabits per second)

9.**Firewall**: A network security device that monitors and filters incoming and outgoing network traffic based on an organization's previously established security policies.

Example: A hardware firewall like Cisco ASA

10.**Packet**:- A small segment of a larger message that is transmitted over a network.

Example: Data packets being transmitted over the Internet.

11.**Protocol**: A set of rules governing the exchange or transmission of data between devices.

Example: HTTP (Hypertext Transfer Protocol), FTP (File Transfer Protocol)

12. **LAN** (Local Area Network)

A network that connects computers within a limited area such as a residence, school, or office building.

Example: A network within a home connecting multiple devices like laptops, printers, and smartphones.

13.**WAN** (Wide Area Network)

A telecommunications network that extends over a large geographical area for the primary purpose of computer networking.

Example: The Internet

14.**VPN** (Virtual Private Network)

A service that encrypts your Internet traffic and protects your online identity.

Example: Connecting securely to a corporate network from a remote location.

15.**MAN** (Metropolitan Area Network)

It is used to connect the devices which span to large cities like metropolitan cities over a wide a wide geographical area.

16. **Hub-** It is a networking device which is used to transmit the signal to each port to respond from which the signal was received. Hub is operated on a Physical layer.

17.**Node**- A network is a connection setup of two or more computers directly connected by some physical mediums like optical fiber or coaxial cable.This physical medium of connection is known as a link, and the computers that is connected to are known as nodes.