Network devices –

Repeater –

- Repeater is a layer 1 device.

- It operates at Physical layer of the OSI Reference Model.

- Used to regenerate the amplified over a long distance over the same LAN and same protocol/ types of devices.

Hub –

- Hub is a layer 1 device.

- Used to broadcast the signals/data packets to the nodes in the same LAN.

Switch –

- Layer 2 device – data link layer.

- Use to send the data packets to the destination without broadcasting by default.

- can be used for unicasting, multicasting, broadcasting.

Bridge –

- Layer 2 device – Data link layer.

- Is a combination of Repeater + functionality of a MAC Address.

- processes by using the MAC address of the end devices/stations.

- Can communicate with different LANs with same protocol/types of devices.

Router –

- Layer 3 device – Network layer.

- Establishes connection with the help of IP address of the end nodes.

- Requires a default gateway for different LANs.

- Can share data packets between two or more different LANs with two or more protocols/ types of devices.

Multilayer Switch (Layer 3 switch) –

- Multilayer switch can work in Layer 2 as well as layer 3.

- It has functionalities of switch as well as a router at some extent.

Brouter –

- Combination of bridge and router.

- It can act as a layer 2 bridge if only MAC address is accessible or layer 3 router if IP address is accessible.

Modem –

- It is the short form of Modulator and Demodulator.

- It is used to convert the digital signals to analog signals and vice-versa.

Firewall (Security device)–

- If you don’t want any malicious thing that can cause errors to network communication, Firewalls are installed to keep the network secure.

- It filters the data packets bas on the IP address, port numbers, application data.

- It filters the incoming and outgoing traffic as well.