**PRANAV SANDEEP RAIKAR**

**D10A 43**

**EXPT 1:**

**AIM: To understand various Networking Devices**

**STUDY OF NETWORK DEVICES**

**> Network Devices**

Networking hardware, also referred to as network equipment or computer networking devices, are electronic devices that allow important network devices on a computer network to communicate with one another.

**> Important Network Devices :**

1. **Hub**

Connecting network cables to a connectivity device creates a network segment. A Hub is a name for this type of communication equipment. In most cases, hubs do not filter data; instead, they route incoming data frames or packets to any or all of the constituents. Nowadays, all-important network devices connected to PCs need a central switch or hub.

1. **Repeater**

The physical layer could be used to operate a repeater. This device’s primary purpose is to duplicate the signal on a similar network before it becomes weak or broken. The critical thing to remember about these gadgets is that they don’t boost the signal. They recreate the signal at its actual power whenever it becomes weak. A repeater is a gadget with two ports.

1. **Bridge**

In a computer network, a bridge connects two or more network segments. A bridge’s primary function in network design is storing and distributing frames between different components. Transport frames are connected using (Media Access Control) technology.

These can be used to link two physical local area networks together to form a bigger logical local area network. Bridges act on the OSI model’s data connection and physical layers to divide large and tiny networks by managing data flow between networks. Bridges have now been substituted with switches in recent years to provide more functionality.

1. **NAS (Network-attached storage)**

A network-attached storage (NAS) server is a server specialized in filing storage. A NAS provides a central storage point for a LAN that can be utilized for shared file access and storing user data backups. NAS devices are a cost-effective and straightforward approach to delivering network storage. As NASes begin to offer more advanced functionality suitable for small and mid-sized workplaces, the distinctions between a NAS device and a general-purpose server have been even more blurred in recent times.

1. **Network Switch**

A switch and a hub generally operate at the same LAN layer, but a switch is more intelligent than a hub. The hub transmits data, but the switch filters and forwards it. As a result, this is the most creative data packet handling method. When something is received from the switch’s interface, a data packet can be filtered and forwarded to the indicated receiver’s interface. As a result, a switch keeps track of system settings in a content addressable memory table, including memory. The FIB or the forwarding table are other names for this table.

1. **Brouter**

The Brouter is also known as a bridging router, and its primary function is to combine the functions of both a router and just a bridge. It can operate at either the network or data link layer. When it functions as a router, it routes packets across networks, and then when it functions as a bridge, it filters LAN traffic.

1. **Gateway**

A gateway works at the OSI model’s session and transport layers. TCP/IP and other networking protocols are transformed through gateways. They’re connected to two or more independent networks, each with its domain name service, routing algorithm, topology, and network administration, including policy procedures. Gateways execute all of the functions that routers do. A gateway is a router that also has the capability of converting traffic. As a result, a protocol converter is used to switch between network technologies.

**> Conclusion :**

A network device, such as a fax machine or printer, is a type of equipment that connects devices or computers to transfer resources or files. A network consists of two or more computer systems connected by a telecommunications system to talk and share resources. Companies would not be able to share resources and enhance efficiency as effectively if they did not have a network. I hope now you got all the necessary information about network devices meaning. For better understanding, you must read this topic thoroughly to know some of the important network devices.