Chapter-05

1. **Write the name some common network Connectivity Devices.**

Ans:

1. Hub.
2. Network Interface Card (NIC)
3. Bridge
4. Basic switch
5. Basic router
6. Basic firewall
7. Dynamic Host Configuration Protocol (DHCP) server
8. Other specialized devices
9. **Write a short note about Hub .**

Ans:A Hub is a hardware device that relays communication data. A hub sends data packets (frames) to all devices on a network, regardless of any MAC addresses contained in the data packet. It keeps a record of all MAC addresses of all connected devices. Common types of hubs used in networking are network hubs, passive hubs, intelligent and switching hubs.

1. **What is Network Interface Card?**

Ans: A network interface card (NIC) is a circuit board or card that is installed in a computer so that it can be connected to a network. A network interface card provides the computer with a dedicated, full-time connection to a network. Personal computers and workstations on a local area network (LAN) typically contain a network interface card specifically designed for the LAN transmission technology

1. **What is Bridge?**

Ans:Bridge is a device that connects two local-area networks (LANs), or two segments of the same LAN that use the same protocol, such as Ethernet or Token-Ring.

1. **What is Switch?**

Ans: A switch is a small hardware device that centralizes communications among multiple connected devices within one local area network (LAN). Several kinds of networks including ATM and Token Ring, Ethernet switches are the most common type. High-performance switches in data centers generally support 10 Gbps per link.

1. **Write a short note about Router**.

Ans: A router is hardware device designed to receive, analyze and move incoming packets to another network. It may also be used to convert the packets to another network interface and perform other actions relating to a network.

1. **Write a short note about Firewall.**

Ans: A firewall is a network security system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both. Common Firewall Techniques are Packet Filter, Application Gateway, Circuit-level Gateway, Proxy Server.

1. **What is Dynamic Host Configuration protocol server ?**

Ans. DHCP servers assign IP addresses to hosts. This protocol gives us a much

easier way to administrate—by automatically providing IP information.

1. **How Works DHCP ?**

Ans. A DHCP server receives a request for IP information from a DHCP

client using a broadcast.

1. **Write some specialize Devices ?**

**Ans.**

* Multilayer switch
* Load balancer
* DNS server
* Proxy server

1. **What is multilayer switch?**

Ans. A multilayer switch (MLS) is a computer networking device that switches on Open Systems Interconnection (OSI) Layer 2 like an ordinary network switch but provides routing. A 24 port MLS gives you the best of both worlds. It operates at Layer 3 (routing) while still providing 24 collision domains which a router could not do.

1. ***What is load balancer?***

A load balancer can actually send incoming packets to multiple machines

Hidden behind one IP address .

1. ***What is the Domain name service (DNS ) Server?***

Ans. A DNS server provide a reliable name or Domain name against a IP Address . DNS translating human name to Ip address and routing the packet through the internet or local net to work servers.

1. ***What is a proxy server?***

Ans. A proxy server is a type of server that handle its client machine request by forwarding them onto other server while allowing control over the traffic between the local LAN and internet.

A client connect to the proxy by requesting for same service such as file ,connection, webpage and other service from deferent server.

1. ***What is dynamic DNS?***

Dynamic DNS refers that it’s not working manually but Dynamcally in concert with the DHCP function. But it’s also able to work manually. Its included MX and CNAME.

1. ***What is Proxy Server***?

A proxy server is basically a type of server that handles its client-machine requests by

forwarding them on to other servers while allowing granular control over the traffic

Between the local LAN and the Internet. When it receives a request, the proxy will then

Connect to the specific server that can fulfill the request for the client that wants it.

There are two main types of proxy servers you’ll typically find working in present-day

networks:

**Caching proxy server**

A caching proxy server speeds up the network’s service requests by

Recovering information from a client’s or clients’ earlier request. Caching proxies keep local

copies of the resources requested often, which really helps minimize the upstream use of

Bandwidth. These servers can greatly enhance network performance.

**Web proxy server**

A web proxy server is usually used to create a web cache. You experience

this when you Google a site you’ve visited before. The web proxy “remembers” you, and the

site not only loads faster, but sometimes even recalls your personal information by automatically

filling in your username—or even your billing/shipping information when you place

Another order.

1. ***Write the Determining Requirements for SOHO networks?***

When implementing a SOHO network, the first thing to be done is to identify the requirements

of the network and the constraints around which you must operate.

An example set of requirements and constraints might be as follows:

1. Small number of computers
2. No need for Internet access
3. Need to share resources
4. ***What are the Envermental considerations?***

Environmental concerns can be categorized thusly:

**Temperature**

Like any device with a CPU, infrastructure devices such as routers,

Switches and specialty appliances must have a cool area to operate. When temperatures

Rise, servers start rebooting and appliance CPUs start overworking as well. The room(s)

Where these devices are located should be provided with heavy duty HVAC systems and

Ample ventilation. It may even be advisable to dedicate a suite for this purpose and put

the entire system on a UPS with a backup generator in the case of a loss of power.

**Humidity**

The air around these systems can be neither too damp, nor too dry; it must be

“just right.” If it is too dry static electricity will build up in the air making the situation ripe

for damaging a system. Its take very little static electricity to fry some electrical components.

If it is too damp, connections start corroding and shorts being to occur. A humidifying system

should be used to maintain the level above 50 percent. The air conditioning should keep