Assignment: CCNA

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**Module -8:** **Network Access Basic Routing And Advanced Routing Concepts,Switching concepts**

Beginner Question

**1. Explain Switch**

A switch is a hardware component in network infrastructure that performs the switching process. The switch connects network devices, such as computers and servers, to one another. A switch enables multiple devices to share a network while preventing each device's traffic from interfering with other devices' traffic.

**2. Explain Switch Boot Sequence**

A switch's boot sequence includes the following steps:

Power-on self-test (POST)

The switch loads a POST program from ROM to check the CPU subsystem, DRAM, and flash file system. If there's an error, the system will beep.

Boot loader software

The switch loads the boot loader software, which provides access to the file systems before the operating system loads.

Operating system

The switch loads a default operating system software image into memory and boots up.

**3. Explain Three Methods to access Switch Command Line Interface:-**

There are a few ways to access a switch's command line interface (CLI), including:

Console port

A direct serial connection to the switch's console port is the simplest way to access the CLI. You can use a terminal application like HyperTerminal on a computer that's directly connected to the switch's console port.

Telnet

You can run a Telnet session from a command prompt on a computer that's connected to the switch over a network. However, Telnet sessions automatically disconnect after a configured idle time, which is usually 10 minutes by default. You must also enable the Telnet service on the switch before you can access it remotely.

SSH

You can use SSH to access the CLI remotely. You must also enable the SSH service on the switch before you can access it remotely.

**4. Explain and Configuring the Cisco Internet Operating System:-**

Cisco Internetwork Operating System (IOS) is the proprietary software that runs on Cisco routers and switches. It's a sophisticated operating system that provides a variety of features, including:

Management services

Configuration services, monitoring, and diagnostic services to help reduce the cost of installing, upgrading, and reconfiguring routers

Security features

A toolkit for partitioning resources, preventing access to sensitive information, and protecting against unauthorized access attempts

Command-line interface (CLI)

A simple interface that accepts user commands and displays router output

Dynamic upgrades

The ability to adapt to changing technologies as they evolve within a networking infrastructure

Here are some things to consider when configuring Cisco IOS:

Hardware support

When choosing an IOS image for your router, you should consider the hardware support it offers

Feature support

Consider the feature support offered by the IOS image you choose

Release version

The release version of the IOS image is another important factor to consider

Commands

Some tasks you can perform using Cisco IOS commands include assigning a host name, entering an enable secret and password, and assigning addresses to interfaces\

**5. Explain Switch Port:-**

A switch port is a physical or virtual connection point on a network switch that allows devices to communicate with each other. Switch ports are an essential part of networking hardware, and they can be found on both residential and commercial network switches.

Here are some things to know about switch ports:

Types of switch ports

There are different types of switch ports, including access ports and trunk ports. Access ports connect end devices like computers and servers to the network, while trunk ports connect switches to other switches, servers, and routers.

Configuration options

Switch ports can have configuration options such as VLAN assignment, speed and duplex settings, and security features.

How data is managed

When a device is connected to a port, the switch manages the flow of data between the device and other devices, applications, and the internet.

Number of ports

The number of ports on a switch can vary depending on the model and settings.

**6. 3- R1, R2, R3, and R4 have their Fast Ethernet 0/0 interfaces attached to the sameVLAN. A network engineer has typed a configuration for each router by usingawordprocessor. He will later copy and paste the configuration into the routers. Examinethe following exhibit, which lists configuration for the four routers, as typedbythenetwork engineer. Assuming that all four routers can ping each other’s LANIPaddresses after the configuration has been applied, choose the routers that will beable to form a neighbor relationship with the other routers on the LAN. (Youcanassume that, if not shown in the exhibit, all other related parameters are still set totheir defaults.) (Choose two)**

A. R1

B. R2

**7- An engineer connects to Router R1 and issues a show ip ospf neighbor command. The status of neighbor 2.2.2.2 lists FULL/BDR. What does the BDR mean?**

D. Router 2.2.2.2 is a backup designated router.

**8- Which command is used to view the neighbor discovery table on a PC?**

C. netsh interface ipv6 show neighbour

**9- What type of variable is being shown? Routers = [R1,R2,R3] A. List B. Dictionary C. Simple D. Unsigned integers**

A. List

**10- Identify the fields in an IPv4 header. (Choose three)**

B. Time to Live

C. Source address

D. Destination address