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**Module 8 : CCNA :Network Access, Basic Routing And Advance Routing concept, Switching Concept.**

1. **Explanation of Switch.**

**Ans.** A network switch connects devices within a network (often a local area network, or LAN\*) and forwards data packets to and from those devices. Also it supports unicast, multicast and broadcast. Unlike a router, a switch only sends data to the single device. Switch operates at Layer 2 of OSI

1. **Explanation of switch boot sequence**

**Ans. The switch boot sequence involves the following steps:**

**1. Power-On Self-Test (POST):** The switch performs diagnostics to ensure all

hardware components are functioning.

**2. Loading the Boot Loader:** A small program initializes the CPU and other

hardware components.

**3. Loading the IOS (Internetwork Operating System):** The switch locates and

loads the Cisco IOS image from flash memory.

**4. Configuration Load:** The startup configuration is loaded from NVRAM. If no

configuration exists, the switch enters setup mode.

1. **Explain Three Methods to Access Switch Command Line Interface.**

**Ans. 1. Console Access:** Connect directly to the switch using a console cable and a

terminal emulator (e.g., PuTTY).

**2. Telnet Access:** Use the Telnet protocol to remotely access the switch CLI over

the network. Telnet requires the switch to have an IP address configured**.**

**3. SSH Access:** Secure Shell (SSH) provides a secure method to remotely access

the CLI. It encrypts all communications and is preferred over Telnet.

1. **Explain and Configuring the Cisco Internet Operating System.**

Ans:

Cisco IOS is the software used to manage Cisco devices. To configure a Cisco IOS

device:

1. Access the device using the console, Telnet, or SSH.

2. Enter privileged EXEC mode by typing enable.

3. Access global configuration mode by typing configure terminal.

4. Apply configurations (e.g., IP address, VLANs, security settings).

5. Save the configuration using the command write memory or copy running-

config startup-config.

1. **Explain Switch Port**

**Ans:** A switch port is a physical interface on a switch where devices such as computers

printers, or other network devices can connect. Switch ports can be configured as:

**Access Ports**: Used to connect end devices to a single VLAN.

**Trunk Ports**: Used to carry traffic for multiple VLANs between switches.

**Dynamic Ports**: Can automatically negotiate their mode (access or trunk).

1. **enable secret [password] is hashed using the algorithm.**

**Ans.**  MD5

1. **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?**

**Ans.** R1 is a backup designated router.

1. **Which command is used to view the neighbor discovery table on a PC?**

**Ans.** netsh interface ipv6 show neighbors

1. **What type of variable is being shown? Routers = [R1,R2,R3]**

**Ans.** List

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

**Ans.** Time to Live, Source address, Destination address