1. Explain Switch

Ans:: A switch is a component that controls the flow of electrical current in a circuit by either connecting or disconnecting it. It can be toggled between different positions to turn devices on or off or select between different settings.

1. Explain Three Methods to access Switch Command Line Interface

Ans::

1. **Telnet**:
   * **Description**: Use the Telnet protocol to access the switch remotely over a network.
   * **Procedure**: Ensure that Telnet is enabled on the switch and that you have the switch’s IP address. Use a Telnet client (such as PuTTY or a command-line Telnet client) to connect to the switch by entering its IP address. Log in with your credentials to access the CLI.
2. **SSH (Secure Shell)**:
   * **Description**: Use SSH for secure remote access to the switch’s CLI over a network.
   * **Procedure**: Ensure SSH is enabled on the switch and that you have its IP address. Use an SSH client (such as PuTTY or OpenSSH) to connect to the switch by entering its IP address. Authenticate with your credentials to securely access the CLI.
3. Explain and Configuring the Cisco Internet Operating System

Ans::

**Set Hostname:**

Set a hostname for the device:  
#hostname varun

**Set Interfaces:**

Configure interface IP addresses:  
  
interface GigabitEthernet0/0

ip address 192.168.1.1 255.255.255.0

no shutdown

**Configure VLANs (Switches):**

Create and assign VLANs:  
vlan 10

name Sales

exit

interface VLAN 10

ip address 192.168.10.1 255.255.255.0

no shutdown

1. Explain Switch Port

Ans:: A switch port is a physical connection on a network switch where devices are plugged in. It can be configured as an access port for single VLANs or a trunk port for multiple VLANs. Switch ports handle network traffic and can be managed for speed, duplex mode, and security.

1. R1, R2, R3, and R4 have their Fast Ethernet 0/0 interfaces attached to the same VLAN. A network engineer has typed a configuration for each router by using a word processor. He will later copy and paste the configuration into the routers. Examine the following exhibit, which lists configuration for the four routers, as typed by the network engineer. Assuming that all four routers can ping each other’s LAN IP addresses after the configuration has been applied, choose the routers that will be able to form a neighbor relationship with the other routers on the LAN. (You can assume that, if not shown in the exhibit, all other related parameters are still set to their defaults.) (Choose two)

Ans:: A.R1 and B. R2

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: Router 2.2.2.2 is a backup designated router

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

Ans: netsh interface ipv6 show neighbor

1. What type of variable is being shown?

Ans: List

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

Ans: B. Time to Live C. Source address D. Destination address