# CCNA - Routing and Switching

## 1. Explain Switch

A switch is a network device that connects devices together on a computer network by using packet switching to receive, process, and forward data to the destination device. It operates at the data link layer (Layer 2) of the OSI model.

## 2. Explain Switch Boot Sequence

The switch boot sequence includes:
1. POST (Power-On Self Test)
2. Load Boot Loader
3. Load IOS from flash
4. Load configuration file from NVRAM
5. Display command prompt.

## 3. Explain Three Methods to access Switch Command Line Interface

The three methods to access the CLI are:
1. Console Port (direct connection)
2. Telnet (remote access via IP)
3. SSH (secure remote access).

## 4. Explain and Configuring the Cisco Internet Operating System

Cisco IOS is the operating system used on Cisco devices. Configuration involves accessing the CLI and entering commands to set up interfaces, routing protocols, passwords, and other parameters.

## 5. Explain Switch Port

A switch port is a physical interface on a network switch that allows network devices to connect and communicate. It can be configured for access or trunk mode.

## 6. Routers R1, R2, R3, and R4 VLAN Neighbor Relationship

Assuming configurations allow for OSPF adjacency and all IP addresses are reachable:
Answer: A. R1 and D. R4.
These routers likely have compatible OSPF settings to form neighbor relationships.

## 7. Enable secret [password] is hashed using the algorithm.

Answer: A. MD5

## 8. Meaning of FULL/BDR in show ip ospf neighbor output

Answer: D. Router 2.2.2.2 is a backup designated router.

### 9. Command to view the neighbor discovery table on a PC

Answer: C. netsh interface ipv6 show neighbor

### 10. Type of variable shown: Routers = [R1,R2,R3]

Answer: A. List

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

Answer: B. Time to Live, C. Source address, D. Destination address