1. Explain Switch

ANS-A network switch is a device that connects multiple devices within a local area network (LAN).
It uses MAC addresses to forward data frames only to the intended device, improving efficiency and reducing collisions.
Switches operate mainly at Layer 2 (Data Link) but can also support Layer 3 (routing).

2. Explain Switch Boot Sequence

ANS-A switch boot sequence begins with POST (Power-On Self Test) to check hardware. Next,
It loads the boot loader from ROM. The switch then locates and loads the IOS image into RAM. Finally,
It applies the startup configuration from NVRAM (if available), making the switch ready for operation.

3. Explain Three Methods to access Switch Command Line Interface

ANS-A switch's CLI can be accessed in three main ways:

(a)Console Port – Direct physical connection via console cable, used for initial configuration.

(b)Telnet – Remote text-based access over IP, less secure since data is unencrypted.

(c)SSH (Secure Shell) – Encrypted remote access providing secure authentication and data transfer,
Preferred over Telnet for management.

4. Explain and Configuring the Cisco Internet Operating System

ANS-Here's a basic configuration of Cisco IOS using only commands:

```
enable
configure terminal
hostname Switch1
no ip domain-lookup
enable secret cisco123
line console 0
 password console123
 login
exit
line vty 0 4
```

```
 password telnet123
 login
 transport input ssh telnet
exit
service password-encryption
banner motd # Unauthorized access prohibited #
copy running-config startup-config
```

5. Explain Switch Port

ANS-A switch port is a physical interface on a network switch that connects end devices like PCs, servers, or printers.
 It forwards frames based on MAC addresses.
 Ports can be configured as access ports (single VLAN) or trunk ports (multiple VLANs),
 Enabling efficient data transfer and network segmentation

6- Which command is used to view the neighbor discovery table on a PC?
A. show ipv6 neighbor
B. show ipv6 neighbors
C. netsh interface ipv6 show neighbor
D. netsh interface ipv6 show neighbors

ANS-C. netsh interface ipv6 show neighbor

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

ANS-A. List

8- Identify the fields in an IPv4 header. (Choose three)
A. Host component
B. Time to Live
C. Source address
D. Destination address

ANS-B. Time to Live
    C. Source address
    D. Destination address