**MODULE 3 Understanding And Maintenance Of Networks**

**Section 1: Multiple Choice**

**1) What is the primary function of a router in a computer network?**

**ANS.** Forwarding data packets between networks

**2) What is the purpose of DNS (Domain Name System) in a computer network?**

**ANS.** Converting domain names to IP addresses

**3) What type of network topology uses a centralized hub or switch to connect all devices?**

**ANS.** Star

**4) What type of network topology uses a centralized hub or switch to connect all devices?**

**ANS.** FTP

**Section 2: True or False**

**5) A firewall is a hardware or software-based security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules.**

**ANS.** True

**6) DHCP (Dynamic Host Configuration Protocol) assigns static IP addresses to network devices automatically.**

**ANS.** False

**7) VLANs (Virtual Local Area Networks) enable network segmentation by dividing a single physical network into multiple logical networks.**

**ANS.** True

**Section 3: Short Answer**

**8) Explain the difference between a hub and a switch in a computer network.**

**ANS.**

|  |  |
| --- | --- |
| **HUB** | **SWITCH** |
| Broadcasts data to all ports | Sends data to only planned devices |
| Works at OSL 1 (Optimum Stimulation Level) | Works at OSL 2 |
| No use and learn of MAC address | Learns and uses MAC address |

**9) Describe the process of troubleshooting network connectivity issues.**

**ANS.** Process of troubleshooting network connectivity issues are as follows:

* Check physical ports like cables, and ports
* Use ping to test basic connectivity
* Use IP configuration
* Test DNS
* Restart network adapter
* Check router/ switch settings

**Section 5: Essay**

**11. Discuss the importance of network documentation and provide examples of information that should be documented.**

**ANS.** Network documentation mangages troubleshooting network. It includes topology diagrams, IP address, device configurations.

Examples are as follows:

* IP address work
* Physical/ logical network topology
* Switch / router configure backups
* VLAN structure
* Serial numbers and MAC addresses of inventory devices