*Assignment*

*Module 3: Understanding and maintenance 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. Which network protocol is commonly used for securely accessing and*

*transferring files over a network?*

*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* |
| *Hub is operated on Physical layer of OSI model* | *switch is operated on Data link layer of OSI Model* |
| *Hub have 4/12 ports.* | *switch have 24 to 48 ports.* |
| *Hub is a broadcast type transmission.* | *switch is a Unicast, multicast and broadcast type transmission.* |
| *Cheaper as compared to switch.* | *Expensive as compared to HUB.* |

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

*Ans:*

*• Check Physical Connections: make sure cables are securely connected and lights on network devices (routers, switches, etc.) are lit up.*

* *Verify IP Settings: Confirm that the device has a valid IP address or subnet mask, gateway, and DNS server settings configured.*
* *Router/Modem Reset: Restart the router or modem to refresh network connections.*
* *Network Diagnostic Tools: Utilize network diagnostic tools to analyze network traffic for abnormalities.*

*Section 4: Practical Application*

*10. Demonstrate how to configure a wireless router's security settings to*

*enhance network security.*

*Ans.*

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