

Assignment Module 3: Understanding and Maintenance of Networks

Section 1: Multiple Choice

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

Answer: c) Forwarding data packets between networks

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

Answer: c) Converting domain names to IP addresses

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

Answer: a) Star

4. Which network protocol is commonly used for securely accessing and transferring files over a network?

Answer: b) 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.

Answer: True

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

Answer: False

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

Answer: True

Section 3: Short Answer

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

Answer: A hub broadcasts data to all devices, while a switch sends data only to the specific destination device using MAC addresses.

9. Describe the process of troubleshooting network connectivity issues.

Answer:

- Check physical connections.
- Verify IP configuration.
- Use ping or ipconfig commands.
- Restart devices.
- Check firewall/antivirus.
- Test with another cable or device.

Section 4: Practical Application

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

Answer:

- Log into the router admin panel.
- Change default admin credentials.
- Set WPA2/WPA3 encryption.
- Use a strong Wi-Fi password.
- Disable WPS.
- Enable firewall and MAC filtering.
- Save and reboot the router.

Section 5: Essay

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

Answer:

Network documentation helps maintain and troubleshoot a network efficiently. It includes all network configurations and ensures smooth management.

Examples:

- Network diagrams
- IP address allocations
- Device configurations
- Cabling layouts
- Maintenance logs

Proper documentation minimizes downtime and improves security and network management.