

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: Forwarding data packets between networks.

2. What is the purpose of DNS in a computer network?

Answer: Converting domain names to IP addresses.

3. Which network topology uses a centralized hub or switch?

Answer: Star topology.

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

Answer: FTP.

Section 2: True or False

5. A firewall controls incoming and outgoing network traffic based on security rules.

Answer: True.

6. DHCP assigns static IP addresses automatically.

Answer: False.

7. VLANs divide a physical network into multiple logical networks.

Answer: True.

Section 3: Short Answer

8. Explain the difference between a hub and a switch.

A hub sends data to all connected devices, while a switch sends data only to the intended device using MAC addresses.

9. Describe the process of troubleshooting network connectivity issues.

- Check physical connections.
- Verify IP configuration.
- Use ping or ipconfig commands.
- Restart devices.
- Check firewall or antivirus settings.

Section 4: Practical Application

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

- Log in to the router admin panel.
- Change default credentials.
- Enable WPA2/WPA3 encryption.
- Set a strong Wi-Fi password.
- Disable WPS.
- Save and reboot.

Section 5: Essay

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

Network documentation plays an important role in the effective management and maintenance of a network. It provides clear details about the network structure, devices, and configurations, which helps administrators understand the system easily. Proper documentation reduces troubleshooting time and minimizes network downtime. It also improves network security by keeping records of devices, IP addresses, and access details. Documentation helps during upgrades, expansion, and staff handover. Common examples of network documentation include network diagrams, IP address assignments, device configurations, cabling layouts, and maintenance logs. Keeping documentation updated ensures smooth network operation and better long-term management.