

module-3

Assignment: Understanding and Maintenance of Networks Section 1: Multiple Choice

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

- a) Assigning IP addresses to devices
- b) Providing wireless connectivity to devices
- c) Forwarding data packets between networks
- d) Managing user authentication and access control

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

- a) Encrypting data transmissions for security
- b) Assigning IP addresses to devices dynamically
- c) Converting domain names to IP addresses
- d) Routing data packets between network segments

Section 2: True or False

Section 3: Short Answer

Section 4: Practical Application

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

- a) Star
- b) Bus
- c) Ring
- d) Mesh

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

- a) HTTP
- b) FTP
- c) SMTP
- d) POP3

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

Ans: true

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

Ans: A hub broadcasts data to all devices on a network segment, leading to potential collisions and inefficiency. A switch, on the other hand, intelligently forwards data to the specific device based on its MAC address, reducing collisions and improving network efficiency.

9. Describe the process of troubleshooting network connectivity issues.

Ans: troubleshoot network connectivity issues:

1. Verify physical connections
2. Check device configurations
3. Use diagnostic tools
4. Examine network settings
5. Review logs for error messages.
6. Restart networking equipment if necessary.

Section 5: Essay

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

- Change the default administrator password.
- Enable WPA3 or WPA2 encryption.
- Disable WPS (Wi-Fi Protected Setup).
- Configure a strong, unique SSID.
- Enable MAC address filtering.
- Disable remote management.
- Regularly update firmware.

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

Ans: Network documentation is crucial for troubleshooting, maintenance, and scalability. It ensures consistency and aids in the quick resolution of issues. Examples of information to document