

# Assignment module 6: Network Security, Maintenance, and Troubleshooting

## Procedures

### Section 1: Multiple Choice

1. What is the primary purpose of a firewall in a network security infrastructure?

- a) Encrypting network traffic
- b) Filtering and controlling network traffic
- c) Assigning IP addresses to devices
- d) Authenticating users for network access

Ans: b) Filtering and controlling network traffic

2. What type of attack involves flooding a network with excessive traffic to disrupt normal operation?

- a) Denial of Service (DoS)
- b) Phishing
- c) Spoofing
- d) Man-in-the-Middle (MitM)d)

Ans: d) Man-in-the-Middle (MitM)

3. Which encryption protocol is commonly used to secure wireless network communications?

a) WEP (Wired Equivalent Privacy)

b) WPA (Wi-Fi Protected Access)

c) SSL/TLS (Secure Sockets Layer/  
Transport Layer Security)

d) AES (Advanced Encryption Standard)

Ans: b) WPA (Wi-Fi Protected Access)

4. What is the purpose of a VPN (Virtual Private Network) in a network security context?

Ans : The purpose of a VPN (Virtual Private Network) in a network security context is to create a secure and encrypted connection over a public or untrusted network (such as the internet). This ensures that data remains private and

protected from eavesdropping, interception, or cyber threats.

## Key Functions of a VPN:

**Encryption:** Protects data by encrypting it, making it unreadable to unauthorized parties.

**Anonymity & Privacy:** Hides the user's IP address, making online activities more private.

**Secure Remote Access:** Allows users to securely access a private network (e.g., a company's internal network) from remote locations.

**Bypassing Geo-Restrictions & Censorship:** Enables access to restricted content by masking the user's location.

VPNs are widely used by businesses, remote workers, and individuals seeking enhanced online security and privacy.

## Section 2: True or false

True or False: Patch management is the process of regularly updating software

Ans :True

and firmware to address security vulnerabilities and improve system performance.

Ans:True

True or False: A network administrator should perform regular backups of

critical data to prevent data loss in the event of hardware failures, disasters, or security breaches.

Ans: True

True or False: Traceroute is a network diagnostic tool used to identify the route and measure the latency of data packets between a source and destination device.

Ans: True

### Section 3: Short

8. Describe the steps involved in conducting a network vulnerability Assignment.

Ans: topic is remaining

### Section 4: Practical Application

9. . Demonstrate how to troubleshoot network connectivity issues using the ping command.

Ans:topic is remaining

Section 5:

10. Discuss the importance of regular network maintenance and the key tasks involved in maintaining network infrastructure.

Ans:topic is remaining

1. Which of the following best describes the purpose of a VPN (Virtual Private Network)?

a) Encrypting network traffic to prevent eavesdropping

b) Connecting multiple LANs (Local Area Networks) over a wide area

network (WAN)

c) Authenticating users and controlling access to network resources

d) Reducing latency and improving network performance

Ans: topic is remaining



