**TERM-1 N+ Assignment**

**Module 6**

**[**Network Security, Maintenance, and Troubleshooting Procedures**]**

BHARGAV DARJI

Section 1: Multiple Choice

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

b) Filtering and controlling network traffic

1. What type of attack involves flooding a network with excessive traffic to disrupt normal operation?
   1. Denial of Service (DoS)
2. Which encryption protocol is commonly used to secure wireless network communications?

b) WPA (Wi-Fi Protected Access)

1. What is the purpose of a VPN (Virtual Private Network) in a network security context?
   1. Encrypting network traffic to prevent eavesdropping

Section 2: True or False

1. Patch management is the process of regularly updating software and firmware to address security vulnerabilities and improve system performance.

-True updates on a regular basis fix security holes and improve

1. A network administrator should perform regular backups of critical data to prevent data loss in the event of hardware failures, disasters, or security breaches.

-True regular backups protect against data loss from failures or breaches

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

-True traceroute shows the path and measures latency of data packets

Section 3: Short Answer

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

* Plan: Specify parameters and goals.
* List: List the systems and devices.
* Threats: Recognize potential risk
* Scan: Look for vulnerabilities with tools.
* Examine the scan findings to make sure.
* Test: If available, try to take advantage of flaws.
* Report: Describe your findings in writing.
* Fix: Make the necessary corrections.
* Verify: Make sure the fixes are effective.
* Note: Take thorough notes on everything.

Section 4: Practical Application

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

- Click “Command Prompt Open”

- Use `ping 127.0.0.1} to “Ping Self”

- Use `ping [router IP]} to “Ping Router”

- `ping google.com} is the “Ping Website”

- “verify Outcomes”

- Computer problem: {127.0.0.1} is not responding.

- Network issue: No response from the router.

- No response from the website: Error on the internet or downtime.

Section 5: Essay

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

* importance of Regular Network Maintenance

Prevent Downtime

improve Security

Boost Performance

Avoid costly repairs

Ensure Compliance

* Key task of Maintenance infrastructure.

Software Update

Install Security Patches

Data Backup

Monitor Network

Verify Logs

Inspect Hardware

Manage User Access

Document Everything

Test Performance