

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

Section 1: Multiple Choice – Answers

1. **What is the primary purpose of a firewall in a network security infrastructure?**
Answer: b) Filtering and controlling network traffic.
 2. **What type of attack involves flooding a network with excessive traffic to disrupt normal operation?**
Answer: a) Denial of Service (DoS).
 3. **Which encryption protocol is commonly used to secure wireless network communications?**
Answer: b) WPA (Wi-Fi Protected Access).
 4. **What is the purpose of a VPN (Virtual Private Network) in a network security context?**
Answer: a) Encrypting network traffic to prevent eavesdropping
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Section 2: True or False – Answers

1. **Patch management is the process of regularly updating software and firmware to address security vulnerabilities and improve system performance.**
Answer: True
threats.
 2. **A network administrator should perform regular backups of critical data to prevent data loss in the event of hardware failures, disasters, or security breaches.**
Answer: True
 3. **Traceroute is a network diagnostic tool used to identify the route and measure the latency of data packets between a source and destination device.**
Answer: True
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Section 3: Short Answer

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

1. List all devices on the network.
 2. Use a scanner tool like Nmap or Nessus.
 3. Scan for weak spots like open ports or outdated software.
 4. Review the results and find security issues.
 5. Fix the problems (update software, close ports, set strong passwords).
 6. Scan again to make sure everything is safe.
 7. Write a brief report of what you found and fixed.
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Section 4: Practical Application – Answers

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

Answer:

1. List all devices on the network.
 2. Use a vulnerability scanner tool (like Nessus, Nmap).
 3. Run a scan to find weak points or outdated software.
 4. Analyze the results.
 5. Fix issues (patch, update, reconfigure).
 6. Rescan to verify the fixes worked.
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Section 5: Essay – Answers (Simplified)

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

Answer:

1. Open Command Prompt or Terminal.
2. Type ping 8.8.8.8 (this tests internet connection to Google).
3. If you get replies, your internet works.
4. If no reply, type ping 192.168.1.1 to test the router.
5. Still no reply? Check cables or restart devices.

6. Try restarting the router or calling your I
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10. Discuss the importance of regular network maintenance and key tasks involved:

Answer:

- Keeps your network secure and running well.
 - Helps avoid downtime and problems.
 - Tasks include:
 - Updating software and firmware
 - Checking for viruses or attacks
 - Backing up important data
 - Monitoring traffic
 - Replacing old cables/devices
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