Assignment module 3 Peripherals And Power Supply

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Section 1: Multiple Choice

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

c) Forwarding data packets between networks

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

c) Converting domain names to IP addresses

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

a) Star

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

b) FTP

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Section 2: True or False

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.

✅ **True**

6. DHCP (Dynamic Host Configuration Protocol) assigns static IP addresses to network devices automatically.

❌ **False**

(DHCP assigns **dynamic IP addresses**, not static.)

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

✅ **True**

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Section 3: Short Answer

8. Difference between a Hub and a Switch

Hub	Switch
A hub is a basic networking device that connects multiple computers in a network.	A switch is a more advanced networking device that connects multiple devices in a network.
It sends data to **all devices** connected to it (broadcasts).	It sends data only to the **specific device** for which the data is intended.
Works at the **Physical Layer (Layer 1)** of the OSI model.	Works at the **Data Link Layer (Layer 2)** of the OSI model.
Slower and less secure.	Faster and more secure.

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Hub	Switch
Creates more network traffic (collisions).	Reduces network traffic and collisions.

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Section 4: Practical Application

10. How to Configure a Wireless Router's Security Settings to Enhance Network Security

1. Connect your computer to the router (Wi-Fi or LAN cable).
2. Open a web browser.
3. Enter the router's IP address (usually **192.168.1.1** or **192.168.0.1**).
4. Login using the admin username and password.

Step 2: Change Default Login Credentials

- Go to **Administration / System Settings**.
- Change the default **admin username and password**.

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- Use a strong password (mix of letters, numbers, symbols).

Step 3: Enable Strong Wi-Fi Encryption

- Go to **Wireless Settings → Security**.
- Select **WPA3** (recommended) or **WPA2-PSK (AES)**.
- Avoid WEP (not secure).
- Set a strong Wi-Fi password (at least 12–16 characters).

Step 4: Change Default SSID

- Modify the default network name (SSID).
- Avoid using personal information (like your name or address).

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Step 5: Disable WPS (Wi-Fi Protected Setup)

- Turn off WPS because it can be vulnerable to attacks.

Step 6: Enable Firewall

- Ensure the router's **built-in firewall** is enabled.

Step 7: Enable MAC Address Filtering (Optional)

- Allow only specific devices to connect using their MAC addresses.

Step 8: Update Router Firmware

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- Check for firmware updates.
- Install the latest update for security patches.

Step 9: Disable Remote Management

- Turn off remote access unless absolutely necessary.

Step 10: Save and Restart

- Save all settings.
- Restart the router.

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Section 5: Essay

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

Network documentation is the process of recording all important details about a computer network. It is essential for proper management, troubleshooting, security, and future upgrades.

Importance of Network Documentation

1. **Easy Troubleshooting**
    - Helps quickly identify network problems.
    - Saves time during fault detection and repair.
2. **Better Network Management**

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- Makes it easier to monitor and maintain devices.
- Ensures smooth daily operations.

3. **Improved Security**
   - Keeps track of firewalls, passwords, and access controls.
   - Helps prevent unauthorized access.
4. **Faster Disaster Recovery**
   - Helps restore the network quickly after failure or cyberattack.
5. **Planning and Upgrades**
   - Assists in future expansion or upgrading hardware/software.
6. **Knowledge Transfer**

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- Useful when new IT staff join the organization.
- Reduces dependency on a single network administrator.

📄 Examples of Information That Should Be Documented

1. **Network Topology Diagram**
   - Layout of routers, switches, servers, and connections.
2. **IP Addressing Scheme**
   - IP addresses, subnet masks, gateways, VLAN details.
3. **Device Inventory**

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- List of routers, switches, firewalls, servers, and PCs.
- Model numbers and serial numbers.

4. **Configuration Settings**
   - Router and switch configurations.
   - Firewall rules and security policies.
5. **Login Credentials (Stored Securely)**
   - Admin usernames and encrypted passwords.
6. **Cabling Information**
   - Cable types, port numbers, patch panel details.
7. **ISP Details**

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- Internet service provider information and contact numbers.

8. **Backup and Recovery Procedures**

- Backup schedules and restoration steps.