SUMIT PATEL

Assignment module 3

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

   ANS: c) Forwarding data packets between network
   - Routers are primarily used to connect multiple networks and direct data packets between them, ensuring data gets to its intended destination.

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 addressesRouting data
   d) packets between network segments

   ANS: c) Converting domain names to IP addresses
   - DNS translates human-readable domain names into IP addresses that computers use to identify each other on the network.

3. What type of network topology uses a centralized hub or switch to connect all devices?
   a) Star
   b) Bus
   c) Ring
   d) Mesh

   ANS: a) Star
   - In a star topology, all devices are connected to a central hub or switch, making it easy to manage and isolate problems.

4. Which network protocol is commonly used for securely accessing and transferring files over a network?
   a) HTTP
   b) FTP
   c) SMTP
   d) POP3

   ANS: b) FTP
   - However, FTP by itself is not secure. The secure version is called SFTP (SSH File Transfer Protocol) or FTPS (FTP Secure).

Section 2: True or False

5. True or False: 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. True or False: DHCP (Dynamic Host Configuration Protocol) assigns static IP addresses to network devices automatically.
   ANS: False
   - **DHCP assigns dynamic IP addresses automatically. Static IP addresses are manually configured and do not change.**

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

Section 3: Short Answer

8. Explain the difference between a hub and a switch in a computer network.
   ANS:
   - Hub: Like a group message — when one computer sends something, everyone gets it, even if it's not for them.
   - Switch: Like a private message — it sends the data only to the right computer.
   - a switch is smarter and faster than a hub.

9. Describe the process of troubleshooting network connectivity issues.
   ANS:
   1. Check cables and Wi-Fi
   2. Restart device
   3. Check other devices
   4. Run a network troubleshooter
   5. Check IP settings
   6. Restart router
   7. Call your internet provider

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

Ans:

1. Go to your browser (like Chrome).
2. Type: 192.168.1.1 and press Enter.
3. Login: Use username = EX. admin, password = EX. admin (or check your router).
4. Change the router password: Make a new one you'll remember . EX. (AAAAaaaa@1111)
5. Change your Wi-Fi name: Make a new one you'll remember
6. Turn off WPS: It's a button that can make your Wi-Fi unsafe.
7. Turn on the firewall: This helps keep bad guys out.
8. Check for updates: Update your router if it says so.

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

Network documentation means writing down important info about your Wi-Fi or network so you don't forget it later

<u>Why it's useful:</u>

- Helps you fix problems faster
- Saves time when something breaks
- Easy for others to understand your setup

<u>What to write down:</u>

- Wi-Fi name and password
- IP addresses
- A simple drawing of how things are connected
- Who is allowed to use
- Steps to back up or fix things if needed

EXAMPLE:

- What devices are connected
- How to fix or restart things

It’s like making a “cheat sheet” for your network — so you’re not lost when something goes wrong.