Assignment
Module-5
Network Fundamentals and Building Networks

Section-1 : Multiple Choice

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

Ans: C) Forwarding data packets between networks.

2. What is the purpose of DHCP(Dynamic Host Configuration p-rotocol) in a computer network?

Ans: D) Dynamically assigning IP addresses to devices.

3. Which network device operates at Layer 2 (Data Link Layer) of the OSI Model and forwards data packets based on MAC Addresses?

Ans: B) Switch

4. Which network topology connects all devices in a linear fashion, with each device connected to a central cable or backbone?

Ans : B) Bus

Section-2: True or False

1. A VLAN (Virtual Local Area network) allows network administrators to logically segment a single physical network into multiple virtual networks, each with its OWN broadcast domain.

Ans : True

2. TCP (Transmission Control Protocol) is a connectionless protocol that provides reliable, ordered, and error-checked delivery of data packets over a network.

Ans : False

3. 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

Section-3: short answer

8. Describe the steps involved in setting up a wireless network for a small office or home office (SOHO) environment.

Ans :

Section-4: practical answer

9. Demonstrate how to configure a router for internet access using DHCP(Dynamic Host Configuration Protocol).

ans:DHCP Full name is Dynamic Host Configuration Protocol.

- It is provide automatic Ip address to network computer
- Port no: 67
- Work on DORA

➔ DHCP Discover

➔ DHCP Offer

➔ DHCP Request
➔ DHCP ACK

Here, we try these steps:

- Firstly we need to open a web browser on a computer then,
- log in to our router's setup page then,
- we go to the network or LAN setup section then,
- we find the DHCP setting and check if it's enabled then,
- we save our changes then,
- We restart our router for the changes to take effect

We can also do configure DHCP by :

- Firstly we create a pool of assignable IP addresses ; we can specify the default gateway, subnet mask, and domain name for the pool.
- We are specifying that the IP configuration will be obtained using DHCP on the client .
- We are verifying DHCP operation: "we can use the show Ip dhcp binding" command to see a list of all IP addresses to MAC address bindings.