Chauhan Abhishek

**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?
   1. Assigning IP addresses to devices
   2. Providing wireless connectivity to devices
   3. Forwarding data packets between networks
   4. Managing user authentication and access control

**Answer:- c) Forwarding data packets between networks**

1. What is the purpose of DHCP (Dynamic Host Configuration Protocol) in a Computer network?
   1. Assigning static IP addresses to devices
   2. Resolving domain names to IP addresses
   3. Managing network traffic and congestion
   4. Dynamically assigning IP addresses to devices

**Answer:- d) Dynamically assigning IP addresses to devices**

1. Which network device operates at Layer 2 (Data Link Layer) of the OSI model And forwards data packets based on MAC addresses?
   1. Router
   2. Switch
   3. Hub
   4. Repeater

**Answer:- b) Switch**

1. Which network topology connects all devices in a linear fashion, with each Device connected to a central cable or backbone?
   1. Star
   2. Bus
   3. Ring
   4. Mesh

**Answer:-b) Bus**

**Section 2: True or**

True or False: 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.

**Answer:- True**

True or False: TCP (Transmission Control Protocol) is a connectionless protocol That provides reliable, ordered, and error-checked delivery of data packets over a Network.

**Answer:- False**

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.

**Answer:- True**

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

Answer:- Connected to a wired switch or network router, the wireless access point allows Wi-Fi-enabled devices to connect wirelessly to the network, which enables the coverage of the SoHo network. Each computer on your SOHO network will require a network adapter card to connect to the network.

**Section 4: Practical**

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

**Answer:**-To configure a router for internet access using DHCP, you can do the following:

1. Open a web browser on a device and log in to your router’s setup page.
2. Go to the Network Settings or LAN Setup section.
3. Locate the DHCP setting.
4. Check if it is enabled.
5. Click the Enable switch, checkbox, or button.
6. Save the changes.
7. Restart your router for the changes to take effect.

**Section 5:**

10. Discuss the importance of network documentation in the context of Building and managing

**Answer:-**Network documentation is crucial for building and managing networks, as it:

**Benefits**

1. \*Improves Troubleshooting\*: Quick issue resolution reduces downtime.

2. \*Enhances Collaboration\*: Clear documentation facilitates team understanding.

3. \*Simplifies Maintenance and Upgrades\*: Well-maintained documentation streamlines tasks.

4. \*Ensures Compliance and Auditing\*: Demonstrates regulatory compliance.

5. \*Preserves Knowledge\*: Retains expertise within the organization

**Essential Components**

1. \*Network Architecture\*: Topology diagrams and descriptions.

2. \*Device Configurations\*: Detailed device settings.

3. \*IP Addressing and Sub netting\*: IP assignments and routing tables.

4. \*Network Services and Applications\*: Information on services and dependencies.

5. \*Security Policies and Procedures\*: Security configurations and protocols.