**LAKSHY JAIN**

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| **Assignment: module -5 Network Fundamentals and Building**  **Networks** | |  |
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| **Section 1: Multiple Choice** |  | |

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| 1. What is the primary function of a router in a computer network? | |
|  | **Ans: Forwarding data packets between networks** |
| **2. 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   **Ans: 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: switch** |
| 4. Which network topology connects all devices in a linear fashion, with each device connected to a central cable or backbone? | |
|  | **Ans: bus** |

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.

**Ans: 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.

**Ans: 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.

**Ans: True**

**Section 2: True or**

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

**Ans: Once you obtain the device, follow these steps to configure your network:**

**1. Enable guest WiFi: Most routers and soho network switches/access points allow you to enable a guest WiFi network. Follow the instructions.**

**2. Set a network name and password: Choose a name for your guest WiFi network and create a strong password.**

**3. Grant the access level. You can restrict their access to certain websites or services. Follow the instructions provided in the device documentation to configure these settings.**

**4. Make sure the Wi-Fi network is working properly. Test with a device connected to the Wi-Fi network to ensure you can successfully connect and transfer data.**

**Section 4: Practical**

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

**Ans: To configure a router for internet access using Dynamic Host Configuration Protocol (DHCP), you can:**

**Open a web browser on a device connected to the router**

**Log in to the router's setup page**

**Go to the network or LAN setup section**

**Locate the DHCP setting and check if it is enabled**

**Save the changes**

**Restart the router for the changes to take effect**

**DHCP is a protocol that automatically assigns IP addresses to devices on a network. A DHCP server can also inform clients of the default gateway IP and DNS server IP.**

**Section 5 Pratical**

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

**Ans: Network documentation is important for the following reasons: Proper documentation can save you from time-consuming research to fix recurring problems. When everything is in place and everybody follows the same processes and procedures, consistency across the network helps to reduce problems and errors.**