## Chirag Panchal Module 6.

## Network security, Maintenance and Troubles hooting procedures

### **Topic: A SOHO Networks**

#### \* Beginner Question \*

**1.What is SOHO network**?

ANS: **A SOHO (Small Office/Home Office) network is a small-scale, typically local area network (LAN) designed for use in a home office or a small business**

**2.What does SOHO mean networking?**

ANS: **SOHO in networking stands for Small Office/Home Office, referring to a network designed for use in a small business or home office setting**

#### \* Intermediate Question \*

1. **How does a SOHO network work?**

ANS: **SOHO networks can be a small wired Ethernet LAN or a combination of wired and wireless computers.**

1. **Issues with Soho Networking**?

ANS **Common issues with SOHO networking include security vulnerabilities, limited scalability, and potential performance challenges due to the use of consumer-grade equipment**

#### \* Advance Question \*

1. **How Small is the “S” in SOHO**?

ANS**: in soho network s is smaller then 10 people**.

1. **SOHO Routers vs. Home Routers**?

ANS: **SOHO routers require almost the same functions as home broadband routers like**

### **Topic: NAT & PAT**

#### \* Beginner Question \*

1. **What is NAT**?

ANS: **NAT (Network Address Translation) is a process that enables multiple devices in a private network to share a single public IP address when connecting to the internet.**

1. **What is PAT?**

ANS**: PAT (Port Address Translation) is a type of Network Address Translation (NAT) that uses unique port numbers to map multiple private IP addresses to a single public IP address, allowing multiple devices to share a single public IP simultaneously.**

1. **Different between NAT & PAT?**

ANS: **NAT (Network Address Translation) maps multiple private IP addresses to a single public IP, while PAT (Port Address Translation) uses different ports to uniquely identify each connection within a private network sharing a single public IP address**

#### \* Intermediate Question

1. **However, Will Nat work?**

ANS: **NAT works by having a firewall act as an intermediary for traffic entering and leaving the protected network.**

1. **Explain NAT?**

ANS**: NAT (Network Address Translation) is a technique that enables multiple devices in a private network to share a single public IP address, facilitating communication with external networks, such as the internet**.

#### \*Advance Question

1. **What is different between Static & Dynamic NAT?**

ANS: **The main difference between dynamic NAT and static NAT is that static NAT allows a remote host to initiate a connection to a translated host if an access list exists that allows it, while dynamic NAT does not.**

1. **NAT stand for?**

ANS**: network address translation**.

1. **PAT stand for?**

ANS **port address transalation**

## Topic: Authentication and AccesControl

### \*Beginner Question ?

### **1.What Is ACL**

ANS **ACL (Access Control List) is a set of rules or configurations that define what actions are allowed or denied for a network device or system,.**

**2.What Are Different Types of ACL?**

ANS: **Rule-based access control .Standard access control list. Extended access list.**

### \*Intermediate Question

1. **Explain Standard Access List?**

ANS: **A Standard Access List is a type of Access Control List (ACL) in networking that filters traffic based on source IP addresses, allowing or denying access to specific network resources.**

1. **Explain Extended Access List?**

ANS**: An extended access control list can determine what traffic is allowed or denied access, acting as a gatekeeper for your network. It can give the system administrator setting up the network a higher degree of flexibility and control.**

### \*Advance Question

1. **What Is Wildcard Mask**?

ANS: **A wildcard mask is a mask of bits that indicates which parts of an IP address are available for examination. In the Cisco**

1. **In Which Directions We Can Apply an Access List**?

ANS**: An access control list is we can apply in inbound or outbound directions**.

### **Topic: WAN Technologies**

#### \*Beginner Question

1. **Fiber-optic communication?**

ANS: **Fiber-optic communication is a method of transmitting information using pulses of light sent through optical fibers, providing high-speed and high-bandwidth data transmission**

1. **What is Leased Line?**

ANS: **A leased line is an allocated circuit between two points of communication**.

1. **Explain Circuit switching**?

Ans: **Circuit switching is a type of network configuration in which a physical path is obtained and dedicated to a single connection between two endpoints in the network for the duration of a dedicated connection.**

#### \* Intermediate Question

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1. **Explain Packet Switching?**

ANS: **Packet switching is a means of organizing and sharing data into bits called packets which are then transmitted across a digital network.**

1. **What is difference between leased line and broadband**?

ANS: **A leased line is a dedicated, symmetrical, and high-capacity data connection with a fixed monthly cost, while broadband is a shared, asymmetrical connection with varying speeds, typically delivered over existing telephone or cable lines.**

1. **How much is a 100mb Leased Line**?

ANS **- 580000 around.**

#### \* Advance Question

1. **Difference between a POTS line and a leased line?**

ANS **- POTS line is voice-grade, dial up, while leased line is better quality, always on. POTS line is voice - grade , dial up , while leased line is better quality , always on**

1. **What is the process of packet switching**?

ANS - **Packet switching is the transfer of small pieces of data across various networks**.

**3.Difference between circuit switching and**

**packet switching?**

ANS - **In circuit switching, users are charged based on time and the basis of distance. In packet switching, users are charged based on time and number of bytes carried & not based on distance.**

**4.Practice on printer sharing ?**

ANS - **done**

**5.Use of IIS [ Via "add and remove" feature from control panel.**

ANS - **done**

## Topic: Communication technologies Cloud and Virtualization

### \* Beginner Question

1. **What is virtualization?**

ANS - **Virtualization is technology that you can use to create virtual representations of servers, storage, networks, and other physical machines.**

1. **What are two types of virtualization in cloud?**

ANS - **internal and external virtulization.**

### \* Intermediate Question

**1.What are the two types of virtualization?**

ANS - **operating system virtualization and full virualization.**

**2.What is VMware virtualization technology?**

ANS - **Virtualization is software it is to simulate hardware functionality and create a virtual computer system.**

### \* Advance Question

1. **What is the difference between cloud and virtualization?**

ANS - **virtualization creates simulated versions of a machine's software or hardware components, while cloud computing is a model that enables users to access a shared pool of resources conveniently.**

1. **What are the benefits of implementing virtualization in cloud computing?**

ANS - **virtualization in cloud computing is If you store data on virtual servers or clouds, you won't have to buy physical hardware or systems. You can therefore reduce your waste, electricity, and maintenance costs.**

### **Topic: Monitoring Tools**

#### \*Intermediate Question

1. **Explain core switches ?**

ANS - **A core switch establishes connections between different segments and subnets within a network, enabling seamless communication and data transfer.**

1. **Explain client systems?**

ANS - **Client Systems means the Client's information technology infrastructure, including computers, software, hardware, databases**

#### \* Advance Question

1. **What is network management?**

ANS - **Network management is the sum total of applications, tools and processes used to provision, operate, maintain, administer and secure network infrastructure.**

1. **Explain Event Viewer**?

ANS - **Event Viewer is a tool in the Microsoft Windows operating system that provides a comprehensive log of system events to offer administrators the information required for system upkeep, security, and accountability.**

1. **Practice "parental control" or "family safety" option in control panel**

ANS **- done**

### **Topic: Network Security, Network vulnerabilities**

#### \*Beginner Question

1. **What are network vulnerabilities**?

ANS - **A network vulnerability is a weakness or flaw in software, hardware, or organizational processes, which when compromised by a threat, can result in a security breach.**

1. **What are the types of network security attacks?**

ANS - **Malware Attack. Phishing Attack.Password Attack. Man-in-the-Middle Attack. SQL Injection Attack.**

#### \* Intermediate Question

1. **What is virus in network security**?

ANS - **A virus in network security is a type of malicious software designed to infect computer systems, replicate itself, and often cause harm by damaging files, stealing information, or disrupting normal operations.**

1. **What is the difference between virus and antivirus**?

ANS - **A virus is malicious software that infects computer systems, while antivirus is protective software designed to detect, prevent, and remove viruses from a computer or network**

#### \* Advance Question

1. **Who is vulnerable in network security**?

ANS - **Individuals, organizations, and systems connected to a network are vulnerable to network security threats**

1. **How do you assess vulnerability**?

ANS **– Vulnerability assessment involves identifying, analyzing, and prioritizing potential security weaknesses in a system or network to mitigate risks effectively**

1. **What are the principles of network security**?

ANS – **confidentiality integrity availability**

1. **What is a firewall to use for?**

ANS - **A Firewall is software firewalls like Windows Defender for individual users or hardware firewalls like Cisco ASA for robust network protection in enterprises**

5.**configure advanced firewall setting**?

ANS **- done**

**6.configure "date and time" opti?**

ANS **- done**