Module 6. Network security, Maintenance and

Troubleshooting procedures

Topic: A SOHO Networks

 Beginner Question

1. What is SOHO network?

ANS: A SOHO network a type of local area or lan network connection designed for small businesses.

2. What does SOHO mean networking?

ANS: a small office home office

 Intermediate Question

1. How does a SOHO network work?

ANS: SOHO network can be a small wired ethernet lan or a combination of wired and wireless computers.

2. Issues with Soho Networking?

ANS: security threats come in a variety of froms for a soho lan these vary from simple unauthorized access on the pc hosts to virus and malevolent software attacks on pc hosts to spyware observing collecting and reporting on user activity and finally to direct attacks by hackers from the internet.

 Advance Question

1. How Small is the “S” in SOHO?

ANS: fewer than ten workers.

2. SOHO Routers vs. Home Routers?

ANS: modern SOHO routers require almost the same functions as home broadband routers.

Topic: NAT & PAT

 Beginner Question

1. What is NAT?

ANS: network address translation is a service that enables private ip network to use the internet and cloud nat translates private ip address in an internet network to a public ip address before packets are sent to an external network.

2. What is PAT?

ANS: a pat answer or remark has been previously prepared, so that it is said quickly and without any real thought.

3. Different between NAT & PAT?

ANS: PAT also known as port address translation, is an extension of network address translation NAT.

 Intermediate Question

1. However, Will Nat work?

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

2. Explain NAT?

ANS: A service that enables private ip network to use the internet and cloud.

 Advance Question

1. What is different between Static & Dynamic NAT?

ANS: static NAT is a one to one mapping between a local and external address, dynamic NAT translates from an internal unregistred address to an external registred address that is chose from a pool of address it can translate many one to one connections.

2. NAT stand for?

ANS: network address translation .

3. PAT stand for?

ANS: port address translation.

Topic: Authentication and Access Control

 Beginner Question

1. What Is Acl?

ANS: Acl injury is a tear or sprain of the anterioir cruciate (KROO-she-ate )ligament ACL one of the strong bands of tissue that help conect.

2. What Are Different Types of Acl?

ANS: two types : standard and extended.

 Intermediate Question

1. Explain Standard Access List?

ANS: access control lists that define which traffic is allowed to travel and cross a network.

2. Explain Extended Access List?

ANS: a type of access control list that provides detaild control over traffic flows on a network.

 Advance Question

1. What Is Wildcard Mask?

ANS: a wildcard mask is a 32 bit binary number that indicates which bits of an ip address are relevent for examination.

2. In Which Directions We Can Apply an Access List?

ANS: inbound packets recived on an interface, before routing or outbound packets leaving an interface after routing.

Topic: WAN Technologies

 Beginner Question

1. Fiber-optic communication

ANS: a methods of transmiting information from one place to another by sending pulses of infrared or visible light through an optical fiber.

2. What is Leased Line

ANS: a dedicated data connection with a fiber bandwidth

3. Explain Circuit switching

ANS: a type of network configurtion in which a physical path is obtaind and dedicated to a single connection between two end opointon in the network for the duration of a dedicated connection.

 Intermediate Question

1. Explain Packet Switching

ANS: the transfer of small pieces of data across various network.

2. What is difference between leased line and broadband?

ANS: a dedicated leased line offers higher reliability with its consitstent data connectivity broadband offers varyring connectios based on certain factors that may be prone to downtime.

3. How much is a 100mb Leased Line?

ANS: between 230 and 280 per month.

 Advance Question

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

ANS: there are many diffrence between an MPLS and a leased line, some are subtle and some are considredrable the main fundamental difference is a leased line is a dedicated point to point connection, while an MPlS is a complex private network built across a shared network infrastructre.

2. What is the process of packet switching?

ANS: the treansfer of small pieces of data across various network.

3. Difference between circuit switching and packet switching?

ANS: circuit switching is a connection oriented network teqhnique much like transmission control protocol or tcp while, packet switching is a connectionless network switching method.

4. Practice on printer sharing

ANS: DONE

5. Use of IIS [ Via "add and remove" feature from control panel. "appwiz.cpl" command]

ANS: DONE

Topic: Communication technologies Cloud and Virtualization

 Beginner Question

1. What is virtualization?

ANS: virtualization is a process that allows for more efficient use of physical computer hardware and is the foundation of cloud computing.

2. What are two types of virtualization in cloud?

ANS: server-based application virtualization.

 Intermediate Question

1. What are the two types of virtualization?

ANS: application virtulaiztion , network virtualization.

2. What is VMware virtualization technology?

ANS: a hypervisor is instlled on the physical server to allow for multiple virtual machines VMs to run on the same physical server.

 Advance Question

1. What is the difference between cloud and virtualization?

ANS: however virtualization is a technology that allows you to create multiple simulated environments or dedicated resources from a single, physical hardware system, and clouds are IT environments that abstract, pool, and share scalable resources across a network.

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

ANS: cost savings the most significant advantage of virtualiztion in cloud computing is cost saving, resource utilization, scalability, isolation, improved management, flexibilty, disaster recovery, performance overhead.

Topic: Monitoring Tools

 Beginner Question

1. Why are network monitoring tools used?

ANS: datadog, nagios, server monitoring , paessler PRTG, cisco discovery protocol, solar winds, performance monitoring.

2. Explain firewalls

ANS: a network security device that monitors and filters incoming and outgoing network traffic based on an organization previously established security policies.

 Intermediate Question

1. Explain core switches

ANS: an electromechanical device consisting of one or more sets of movable electrical contacts connected to external circuits.

2. Explain client systems

ANS: client system means client's information technology infrastructure,includig computer, software, hardware, databases, electronic system including database mangement system and network, whether opeated dirctly by client or through the use of third-party services.

 Advance Question

1. What is network management?

ANS: the process of administrering, managing, and operating a data network, using a network mangement system.

2. Explain Event Viewer

ANS: a tool in windows that displays detailed information about significant events on your computer.

3. 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 weakness or flawin software, hardware, or organiztional processes, which when compromised by a threat, can result in a security breach.

2. What are the types of network security attacks?

ANS: DoS and DDoS attacks, MITM attacks, phishing attacks, spear-phishing attacks, ransomware, password attacks, SQL injection attacks.

 Intermediate Question

1. What is virus in network security?

ANS: a type of malicious software, or malware, that spreads between computers and causes damage to data and software.

2. What is the difference between virus and antivirus?

ANS: \*\*virus\*\* designed to harm, steal data, or disrupt operations. \*\*antivirus\*\* designed to protect and secure system from threats.

 Advance Question

1. Who is vulnerable in network security?

ANS: any device connected to a network poses a hardware-based security risk if managed improperly.

2. How do you assess vulnerability?

ANS: automtically scan for new and existing that can target your application.

3. What are the principles of network security?

ANS: confidentiality, integrity and availablity.

4. What is a firewall to use for?

ANS: to secure the network from cyberattacks by shielding it from malicious network traffic and preventing mail-couse software from accessing it via the internet.

5. configure advanced firewall setting?

AND: DONE

6. configure "date and time" opti

ANS: DONE