

1. Small business and home routers typically have two primary ports. What are they?

- A. Ethernet and Internet
- B. Internet and router
- C. Router and Ethernet
- D. Ethernet and IP configuration

2. A home network is a small LAN with devices that connect to an integrated network device. What is that network device?

- A. Smartphone
- B. Network router
- C. Wireless switching
- D. Workstation

3. Which Statement Defines a protocol that provides a secure (encrypted) management connection to a remote device?

- A. TCP
- B. UDP
- C. SCP
- D. SSH

4. Which criterion can be used to select the appropriate type of network hardening for a hardening?

- A. Explain how physical security measures are implemented to protect network equipment
- B. Explain how to implement security measures to protect network devices.
- C. Explain how to protect servers on a network.
- D. Explain how cybersecurity domains are used within the CIA triad

5. Which Type Of Address used in the preferred method of assignment for a large network?

- A. Static IPv4 Address
- B. Mac Address
- C. Dynamic IPv4 Address
- D. Source Mac Address

6. Which class of IP address is used for multicasting?

- A. Class A
- B. Class B
- C. Class C
- D. Class D

7. Which classes of IP address are used for unicast communication?

- A. Class A
- B. Class B
- C. Class C
- D. All three classes mentioned above

8. The NAT(Network Address Translation) is a Private IP address or local address that is translated into the public IP address.

- A. False
- B. True

9. As the Internet grew, classful addressing led to significant IP wastage and routing inefficiencies. What actions can be taken?

- A. Simplified IP allocation
- B. Faster routing
- C. Both A and B
- D. Only A

10. What determines the optimal path for packets to travel across multiple networks using routing algorithms and protocols?

- A. Forwarding
- B. Routing
- C. Switching
- D. Subnetting

11. In the following protocols, which is not a routing protocol?

- A. RIP (Routing Information Protocol)
- B. RARP (Reverse Address Resolution Protocol)
- C. OSPF (Open Shortest Path First)
- D. **BGP (Border Gateway Protocol)**

12. The Network Layer is the third layer from the bottom (Layer 5) and the third layer from the top in the OSI (Open Systems Interconnection) Model.

- A. **False**
- B. True

13. What is the size of a host ID used in the class A IP address?

- A. **24 bits**
- B. 8 bits
- C. 16 bits
- D. 28 bits

14. Network devices are fundamental hardware components in computer networking that operate across different layers of the OSI and TCP/IP models.

- A. False
- B. **True**

15. Find the components of the encryption.

- A. **Plaintext**: The original, unencrypted message that is sent by the sender.
- B. **Encryption Algorithm**: The process used to transform plaintext into ciphertext, enhancing the security and reliability of the data.
- C. **Encryption Key**: The key used during the encryption process to convert plaintext into ciphertext.
- D. **Ciphertext**: The encrypted version of the plaintext, which can only be decrypted back to its original form with the appropriate key.
- E. **All above**

16. Why is it important for the router to maintain an accurate routing table?

- A. to identify all of the routers in a large network
- B. to provide Layer 2 addressing information for the next hop
- C. **to determine the best path to reach the destination network**
- D. to prevent broadcasts from occurring on the LAN

17. Encryption is a cryptographic process that transforms readable data (plain text) into an unreadable format (ciphertext) using an algorithm called a cipher.

- A. **True**

B. False

18. The term Intranet refers to a private LAN that belongs to an organization, and is accessible only by the organization's members, employees, or others with authorization.

A. True

B. False

19. Asymmetric algorithms include AES (Advanced Encryption Standard), Triple DES, Twofish, and Blowfish, while common symmetric algorithms include RSA and Elliptic Curve Cryptography (ECC).

A. True

B. False

20. In Wireless networks, which wireless security initiative helps to secure sensitive information during data transit?

A. Authentication

B. Encryption

C. IP Address filtering

D. MAC Address filtering

21. Which types of cable carry vast amounts of data with a very high bandwidth in backbone networks, large enterprise environments, and large data Centres?

A. Twisted-pair

B. Shielded twisted-pair

C. Fiber-optic

D. Coaxial

22. What are the benefits of using Cloud security (Choose one)?

A. Centralized security results in centralizing protection.

B. Investing in cloud computing and cloud security results in less expenditure in hardware and also less manpower in administration

C. It makes it easier to administer the organization and does not have manual security configuration and constant security updates.

D. These are very reliable and the cloud can be accessed from anywhere with any device with proper authorization.

E. All above

23. Select the correct meaning of a cyber-attack where hackers trick users into revealing sensitive data like passwords, banking details, or session tokens through fake emails, messages, or websites.

A. Phishing

B. Vishing

C. DDoS

D. Brute force

24. What Is The order of Throughput Measurement From Smallest To Largest?

- A. Kbps, Mbps, Gbps, Tbps
- B. Tbps, Mbps, Kbps, Gbps
- C. Kbps, Tbps, Mbps, Gbps
- D. Gbps, Tbps, Mbps, Kbps

25. What is one factor increasing the adoption of IPv6 network addresses?

- A. Devices communicate faster using IPv6 addresses than when using IPv4.
- B. IPv4 addresses cannot coexist with IPv6 addresses on the internet.
- C. IoT adds millions of network-ready sensors that need IP addresses.
- D. IPv4 will no longer be supported on mobile devices.

26. What Two Characteristics Describe the message format of the protocol? (Choose Two.)

- A. When a message is sent, it must use a specific format or structure.
- B. The rules that govern the size of the pieces communicated across the network are very strict.
- C. They can also be different, depending on the channel used.
- D. When a long message is sent from one host to another over a network, it may be necessary to break the message into smaller pieces in order to ensure that the message can be delivered reliably.
- E. Message formats depend on the type of message and the channel that is used to deliver the message.

27. In the DHCP components, what is the role of the DHCP server?

- A. Stores IP addresses and configuration details. Allocates addresses dynamically to clients.
- B. Acts as a bridge between clients and servers when they are not on the same subnet.
- C. A device (PC, phone, printer, etc.) that requests and receives network configuration from the DHCP server.
- D. IP Address Pool: A predefined range of IP addresses that the DHCP server can lease to devices.

28. Which of the layers is not used in the TCP/IP model?

- A. Application
- B. Internet
- C. Transport
- D. Data link
- E. Network

29. What are data masking techniques that can ensure that data remains meaningful but changed enough to protect it?

- A. Shuffling and Phishing
- B. Integrity and Shuffling
- C. Shuffling and Substitution
- D. Substitution and authenticating

30. Which Acronyms/Initialisms represent the Standards Organisation for security development? (Choose two.)

- A. NIST
- B. OSI
- C. IEEE
- D. IANA
- E. ISO27001
- F. IETF

31. The definitions and words that follow illustrate the kind of assurances that digital signatures offer

- A. **Complexity:** Setting up and using digital signatures can be challenging, especially for those who are unfamiliar with the technology.
- B. **Dependency on technology:** Because digital signatures rely on technology, they are susceptible to crimes, including hacking.
- C. **Health data:** In the healthcare industry, privacy is paramount for both patient records and research data.
- D. **Integration:** Since the content was digitally signed, it hasn't been altered or interfered with.

32. A network technician is statically assigning an IP address of 112.16.20.10 and a Subnet Mask of 255.0.0.0. What is the class of IP address in this configuration?

- A. It is a class D and its Subnet Mask should be 255.255.0.0
- B. It is a class C and its Subnet Mask should be 255.255.255.255
- C. It is a class B and its Subnet Mask should be 255.255.255.0
- D. It is a class A and its Subnet Mask should be 255.0.0.0

33. Find the correct category of integrity that contains a set of rules defined by a user.

- A. Domain Integrity
- B. User-defined Integrity
- C. Referential Integrity
- D. Entity Integrity

34. What are the three ranges of IP addresses that are reserved for internal private use? (Choose three.)

A. 192.31.7.0/24

B. 192.168.0.0/16

C. 64.100.0.0/14

D. 10.0.0.0/8

E. 172.16.0.0/12

F. 127.16.0.0/12

35. What are two reasons a network administrator might want to create subnets? (Choose two.)

A. reduction in number of switches needed

B. improves network performance

C. simplifies network design

D. easier to implement security policies

E. reduction in number of routers needed

36. When a LAN is connected to the internet using a wireless router, how do devices on the LAN communicate on the internet using NAT?

A. Only a small group of high priority client devices can be chosen by the wireless router to communicate to the internet using NAT.

B. Each device must wait to receive a token from the wireless router in order to communicate to the internet via NAT.

C. All devices must share the single public IPv4 address assigned to the wireless router in order to communicate to the internet via NAT.

D. Each LAN must select a single client device from the wireless router settings that can communicate to the internet via NAT.

37. What is the result if the default gateway address is misconfigured on a PC?

A. The PC cannot communicate with any devices.

B. The PC can communicate with devices in the same network but not with those in remote networks.

C. The PC can communicate with devices both in remote networks and in the same network.

D. The PC can communicate with devices in remote networks but not with those in the same network.

38. What are two functions of a router? (Choose two.)

A. A router connects multiple IP networks.

B. It builds a routing table based on ARP requests.

C. It controls the flow of data via the use of Layer 2 addresses.

D. It provides segmentation at Layer 2.

E. It determines the best path to send packets.

39. When a router receives a packet, what information must be examined in order for the packet to be forwarded to a remote destination?

A. source IP address

B. destination MAC address

C. destination IP address

D. source MAC address

40. A network design engineer has been asked to design the IP addressing scheme for a customer network which requires 255 hosts. The network design engineer decides to use IP addresses from the 192.168.20.0/24 network. Will this IP addressing scheme accommodate all the hosts in the customer network?

A. Yes, the network is having the required usable hosts

B. No, the network is not having required usable hosts