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CCNA 200-301 Exam Questions – Part 2

Continue your CCNA preparation with 20 more exam-style questions covering TCP/UDP, IPv6 compression, wireless, virtualization, and switching concepts. Each question includes detailed explanations to reinforce your understanding.

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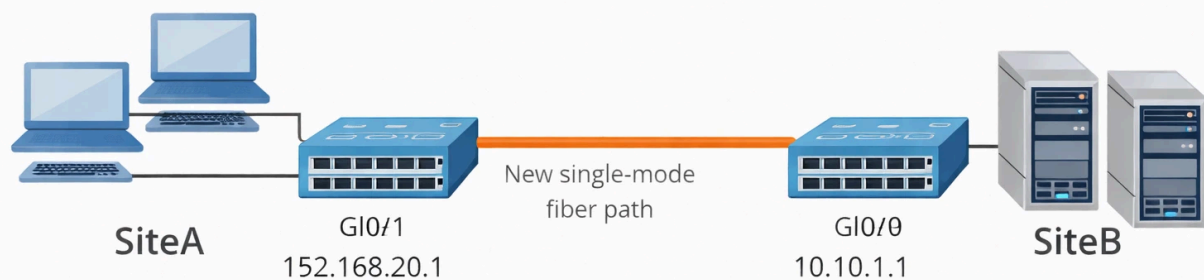
21. Under what condition is TCP preferable to UDP?

- ☐ A. UDP is used when low latency is not optimal, and TCP is used when latency is tolerable.
- ☐ B. TCP is used when dropped data is more acceptable and UDP is used when data is considered irregular.
- ☒ C. TCP is used when data reliability is critical and UDP is used when missing packets are acceptable.
- ☐ D. UDP is used when data is highly interactive and TCP is used when data is time sensitive.

✓ Correct !

Data reliability is critical for TCP; UDP is used when missing packets are acceptable (e.g., VoIP can tolerate some loss but TCP retransmissions would cause delay).

22. Look at the picture. Shortly after SiteA connects to SiteB over a new single-mode fiber path, users at SiteA report intermittent connectivity issues when connecting to applications running on servers located at SiteB. What is the cause of the intermittent connection issue?



- ☒ A. Interface errors are incrementing.
- ☐ B. High usage is causing high latency.
- ☐ C. An incorrect SFP media type was used at SiteA.
- ☐ D. The sites were connected with the wrong cable type.

✓ **Correct !**

Interface errors incrementing affect reliability counter. High input/output errors indicate packet delivery issues, causing intermittent connectivity.

23. A network engineer must compress the address 2001:0da8:0000:0000:0600:000a:300F:453B. What command should be given in the interface?

- ☐ A. ipv6 address 2001::da8:0000::600:a:300F:453B

☐ B. ipv6 address 2001:da8:0::600:a:3F:453B

☒ C. ipv6 address 2001:da8::600:a:300F:453B

☐ D. ipv6 address 2001:0da8::6:a:3F:453B

✓ **Correct !**

According to IPv6 notation, leading zeros can be omitted and consecutive zeros can be replaced with :: once. Correct compressed address: 2001:da8::600:a:300F:453B.

24. What is the network device that checks the status of the packet to determine if the packet is legitimate?

☐ A. Layer 2 switch

☐ B. LAN controller

☐ C. load balancer

☒ D. firewall

✓ **Correct !**

A firewall inspects packets and determines if they are legitimate based on a rule set, controlling incoming/outgoing traffic from a security standpoint.

25. What is the role of access points in a network?

☐ A. Integrate with SNMP to prevent DDoS attacks

☐ B. to serve as the first line of defense in a corporate network

☒ C. connect wireless devices to a wired network

☐ D. Supports secure user logins to devices on the network

✔ **Correct !**

An Access Point (AP) connects wireless devices to a wired network, acting as an intermediate device.

26. Preparing to create virtual machines on a host. What is required to enable communication between hardware and virtual machines?

☐ A. Router

☒ B. Hypervisor

☐ C. Switch

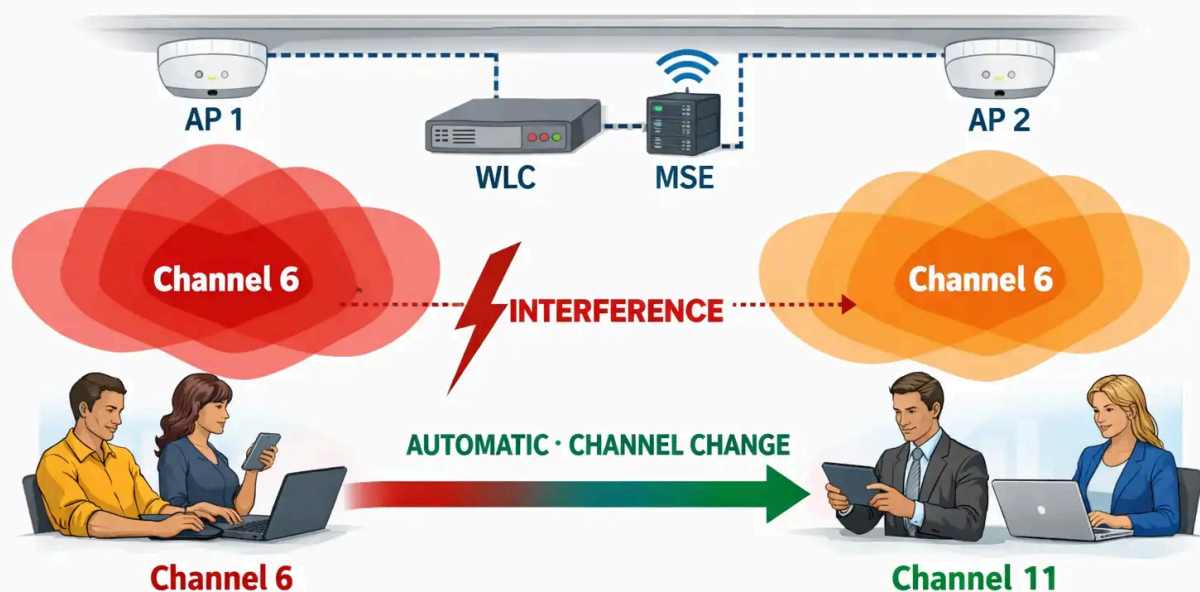
☐ D. Straight cable

✔ **Correct !**

A hypervisor emulates hardware resources, allowing multiple virtual machines to run on a single physical host.

27. How does a Cisco Unified Wireless Network respond to a Wi-Fi channel conflict?

Cisco Unified Wireless Network Responds to a Wi-Fi Channel Conflict



- ☐ A. It allows the administrator to assign the channels on a per-device or per interface basis.
- ☐ B. It segregates devices from different manufacturers onto different channels.
- ☒ C. It analyzes client load and background noise and dynamically assigns a channel.
- ☐ D. It alternates automatically between 2.4 GHz and 5 GHz on adjacent access points.

✓ **Correct !**

DCA (Dynamic Channel Assignment) in Cisco Unified Wireless Network analyzes client load and background noise to dynamically assign channels, avoiding conflicts.

28. In which of the following situations is private IPv4 addressing appropriate for a new subnet in an organization's network?

- ☐ A. The network has multiple endpoint listeners, and it is desired to limit the number of broadcasts.

☐ B. The ISP requires the new subnet to be advertised to the Internet for web services.

☒ C. There is limited unique address space, and traffic on the new subnet will stay local within the organization.

☐ D. Traffic on the subnet must traverse a site-to-site VPN to an outside organization.

✔ **Correct !**

Private IP addresses are used internally when traffic stays within the organization and public address space is limited. They are not routable on the Internet.

29. What 802.11 frame type is indicated by a probe response after a wireless client sends a probe request?

☐ A. data

☒ B. management

☐ C. control

☐ D. action

✔ **Correct !**

Management frames handle BSS management: probing, association, roaming, and disconnecting. Probe response is a management frame.

30. What is the difference between data transmission delivery and reliability in TCP and UDP protocols?

☐ A. TCP transmits data at a higher rate and ensures packet delivery. UDP retransmits lost data to ensure applications receive the data on the remote end.



B. TCP requires the connection to be established before transmitting data. UDP transmits data at a higher rate without ensuring packet delivery.



C. UDP sets up a connection between both devices before transmitting data. TCP uses the three-way handshake to transmit data with a reliable connection.

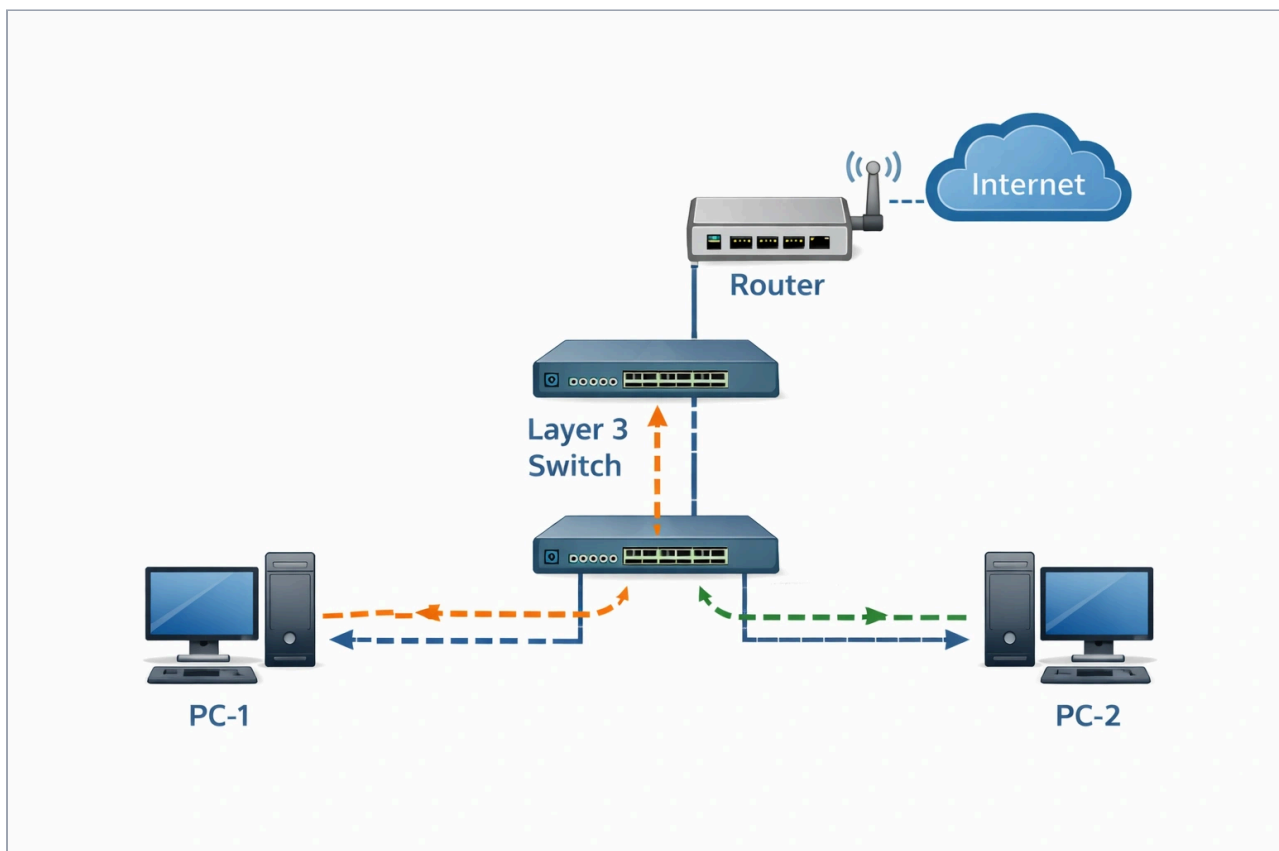


D. UDP is used for multicast and broadcast communication. TCP is used for unicast communication and transmits data at a higher rate with error checking.

✔ **Correct !**

TCP requires connection establishment (3-way handshake) and ensures reliable delivery; UDP is connectionless and sends without guaranteeing delivery.

31. According to the network design below, when PC-1 sends traffic to PC-2, which network component is responsible for receiving the packet from PC-1, verifying the IP addresses, and forwarding the packet to PC-2?



A. router

☐ B. Layer 2 switch

☐ C. Load balancer

☐ D. firewall

✔ **Correct !**

PC-1 and PC-2 are in different subnets; a router is required to verify IP addresses and forward packets between networks.

32. What is the maximum bandwidth of a T1 point-to-point connection in Mbps?

☒ A. 1.544 Mbps

☐ B. 2.048 Mbps

☐ C. 34.368 Mbps

☐ D. 43.7 Mbps

✔ **Correct !**

A T1 link supports 1.544 Mbps, E1 is 2.048 Mbps, T3 is 43.7 Mbps.

33. What is the common feature between UTP Cat 5e and Cat 6a cabling? (Choose two.)

☐ A. Both support speeds up to 10 Gigabit.

☒ B. Both support speeds of at least 1 Gigabit.

☐ C. Both support runs of up to 55 meters.

☒ D. Both support runs of up to 100 meters.

☐ E. Both operate at a frequency of 500 MHz.

✔ Correct !

Both Cat5e and Cat6a support speeds up to 1 Gigabit and runs up to 100 meters. Cat6a also supports 10 Gigabit, but Cat5e does not.

34. Which of the following is a characteristic of cloud-based network topology?

☐ A. onsite network services are provided with physical Layer 2 and Layer 3 components

☐ B. wireless connections provide the sole access method to services

☐ C. physical workstations are configured to share resources

☒ D. services are provided by a public, private, or hybrid deployment

✔ Correct !

Cloud-based network topology provides services via public, private, or hybrid deployment models.

35. What frame type is the Association Response in 802.11 protocol?

☒ A. management

☐ B. Protected frame

☐ C. action

☐ D. control

✔ **Correct !**

Association Response is a management frame, used to respond to an association request from a client.

36. How does the backbone and leaf architecture allow for scalability when additional access ports are required in a network using a backbone and leaf architecture?

☐ A. A spine switch and a leaf switch can be added with redundant connections between them.

☐ B. A spine switch can be added with at least 40 GB uplinks.

☒ C. A leaf switch can be added with connections to every spine switch.

☐ D. A leaf switch can be added with a single connection to a core spine switch.

✔ **Correct !**

In spine-leaf architecture, every leaf switch connects to every spine switch, allowing scalability by adding leaf switches with connections to all spines.

37. Which of the following statements describes the functionality of virtual machines?

☐ A. The hypervisor communicates on Layer 3 without the need for additional resources.

☐ B. Each hypervisor can support a single virtual machine and a single software switch.

☒ C. The hypervisor can virtualize physical components including CPU, memory, and storage.

☐ D. Virtualized servers run most efficiently when they are physically connected to a switch that is separate from the hypervisor.

✓ **Correct !**

The hypervisor virtualizes physical components (CPU, memory, storage) and allocates them to virtual machines.

38. What command for IPv6 automatically generates an IPv6 address from a given IPv6 prefix and MAC address of an interface?

☐ A. ipv6 address dhcp

☐ B. ipv6 address 2001:D68:5:1 | 2::/64 eui-64

☒ C. ipv6 address autoconfig

☐ D. ipv6 address 2001:DB8:5:112::/64 link-local

✓ **Correct !**

The ipv6 address autoconfig command enables stateless autoconfiguration (SLAAC) to generate an IPv6 address from a prefix received in RA and the EUI-64 interface ID.

39. When configuring IPv6, which two IPv6 multicast groups are combined? (Choose two.)

☐ A. 2000::/3

☐ B. 2002::5

☐ C. FC00::/7☒ D. FF02::1☒ E. FF02::2

✔ **Correct !**

When an IPv6 address is configured, the interface joins all-nodes multicast group FF02::1 and solicited-node multicast group; routers also join all-routers multicast group FF02::2.

40. What is the default behavior of the Layer 2 switch when a frame with an unknown destination MAC address arrives at the Layer 2 switch?

☐ A. The Layer 2 switch forwards the packet and adds the destination MAC address to its MAC address table.☐ B. The Layer 2 switch sends a copy of a packet to the CPU for destination MAC address learning.☒ C. The Layer 2 switch floods packets to all ports except the receiving port in the given VLAN.☐ D. The Layer 2 switch drops the received frame.

✔ **Correct !**

If the destination MAC address is not in the CAM table, the switch floods the frame to all ports in the same VLAN except the receiving port.

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