

# Cisco

## Exam Questions 400-007

Cisco Certified Design Expert (CCDE v3.0) Written Exam



#### NEW QUESTION 1

Refer to the exhibit.

The enterprise customer wants to stream one-way video from their head office to eight branch offices using multicast. Their current service provider provides a Layer3 VPN solution and manages the CE routers, but they do not currently support multicast. Which solution quickly allows this multicast traffic to go through while allowing for future scalability?

- A. Enable a GRE tunnel between nodes CE1 and CE2
- B. Enable a GRE tunnel between nodes C2 and C4
- C. Enable a GRE tunnel between nodes C1 and C4
- D. Implement hub and spoke MPLS VPN over DMVPN (also known as 2547o DMVPN) between CE1 and CE2
- E. The service provider must provide a Draft Rosen solution to enable a GRE tunnel between nodes PE1 and PE2

**Answer: B**

#### NEW QUESTION 2

You want to mitigate failures that are caused by STP loops that occur before UDLD detects the failure or that are caused by a device that is no longer sending BPDUs. Which mechanism do you use along with UDLD?

- A. Root guard
- B. BPDU guard
- C. Loop guard
- D. BPDU filtering

**Answer: C**

#### NEW QUESTION 3

A multicast network is using Bidirectional PIM. Which two combined actions achieve high availability so that two RPs within the same network can act in a redundant manner? (Choose two)

- A. Use two phantom RP addresses
- B. Manipulate the administrative distance of the unicast routes to the two RPs
- C. Manipulate the multicast routing table by creating static mroutes to the two RPs
- D. Advertise the two RP addresses in the routing protocol
- E. Use anycast RP based on MSDP peering between the two RPs
- F. Control routing to the two RPs through a longest match prefix

**Answer: AF**

#### NEW QUESTION 4

Which effect of using ingress filtering to prevent spoofed addresses on a network design is true?

- A. It reduces the effectiveness of DDoS attacks when associated with DSCP remarking to Scavenger.
- B. It protects the network Infrastructure against spoofed DDoS attacks.
- C. It Classifies bogon traffic and remarks it with DSCP bulk.
- D. It filters RFC 1918 IP addresses.

Answer: B

**NEW QUESTION 5**

Which BGP feature provides fast convergence?

- A. BGP PIC |
- B. BGP-EVPN
- C. BGP FlowSpec
- D. BGP-LS

Answer: A

**NEW QUESTION 6**

Which mechanism provides Layer 2 fault isolation between data centers?

- A. fabric path
- B. OTL
- C. advanced VPLS
- D. LISP
- E. TRILL

Answer: D

**NEW QUESTION 7**

Which two data plane hardening techniques are true? (Choose two)

- A. warning banners
- B. redundant AAA servers
- C. Control Plane Policing
- D. SNMPv3
- E. routing protocol authentication

Answer: EF

**NEW QUESTION 8**

You are tasked with the design of a high available network. Which two features provide fail closed environments? (Choose two.)

- A. EIGRP
- B. RPVST+
- C. MST
- D. L2MP

Answer: AB

**NEW QUESTION 9**

In an OSPF network with routers connected together with Ethernet cabling, which topology typically takes the longest to converge?

- A. partial mesh
- B. full mesh
- C. ring
- D. squared
- E. triangulated

Answer: B

**NEW QUESTION 10**

Which two impacts of adding the IP event dampening feature to a network design are true? (Choose two.)

- A. It protects against routing loops.
- B. It switches traffic immediately after a link failure.
- C. It speeds up link failure detection.
- D. It reduces the utilization of system processing resources.
- E. It improves overall network stability.

Answer: DE

**NEW QUESTION 10**

A small organization of 20 employees is looking to deliver a network design service for modernizing customer networks to support advanced solutions:

- Project scope and weekly progress should be visualized by the management.
- Always consider feedback and make changes accordingly during the project.
- Should consider flexibility to change scope at the point of time.

Which project methodology meets the requirements and have the least impact on the outcome?

- A. Scrum
- B. LEAN
- C. Kanban
- D. Six-Sigma

**Answer: C**

**NEW QUESTION 13**

Company XYZ network runs IPv4 and IPv6 and they want to Introduce a multidomain, multicastbased network. The new design should use a flavor of PIM that forwards traffic using SPT. Which technology meets this requirement?

- A. PIM-DM
- B. PIM-SM
- C. PIM-SSM
- D. BIDIR-PIM

**Answer: C**

**NEW QUESTION 15**

Which three elements help network designers to construct secure systems that protect information and resources (such as devices, communication, and data) from unauthorized access, modification, inspection, or destruction? (Choose three.)

- A. confidential
- B. serviceability
- C. reliability
- D. availability
- E. integrity
- F. scalability

**Answer: ADE**

**NEW QUESTION 18**

Refer to the diagram. Which solution must be used to send traffic from the foreign wireless LAN controller to the anchor wireless LAN controller?

- A. Send packets from the foreign controller to the anchor controller via Layer 3 MPLS VPN or VRFLite
- B. Send packets without encapsulation to the anchor controller over the routed network.
- C. Encapsulate packets into an EoIP tunnel and send them to the anchor controller.
- D. Send packets from the foreign controller to the anchor controller via IPinIP or IPsec tunnel.

**Answer: C**

**NEW QUESTION 19**

An enterprise that runs numerous proprietary applications has major issues with its on-premises server estate hardware, to the point where business-critical functions are compromised. The enterprise accelerates plans to migrate services to the cloud. Which cloud service should be used if the enterprise wants to avoid hardware issues yet have control of its applications and operating system?

- A. SaaS
- B. PaaS
- C. IaaS
- D. hybrid cloud

**Answer: C**

**NEW QUESTION 20**

Company XYZ has a new network based on IPv6. Some of the subnets that they are planning to use will be confidential and need an addressing scheme that confines them to the local campus network. Which type of IPv6 addresses can be used for these networks in the IPv6 addressing design?

- A. local addresses
- B. private addresses
- C. link-local addresses
- D. unique local addresses

**Answer: D**

**NEW QUESTION 23**

A European national bank considers migrating its on-premises systems to a private cloud offering in a non-European location to significantly reduce IT costs. What is a primary factor prior to migration?

- A. data governance
- B. additional latency
- C. security

D. cloud connectivity

**Answer:** A

**NEW QUESTION 26**

Company XYZ wants to improve the security design of their network to include protection from reconnaissance and DoS attacks on their sub interfaces destined toward next hop routers.

Which technology can be used to prevent these types of attacks?

- A. MPP
- B. CPPr
- C. CoPP
- D. DPP

**Answer:** B

**NEW QUESTION 28**

Refer to the exhibit. OSPF is running as the IGP to provide reachability to all AS100 networks. R3 and R4 are the current ABRs at the boundary of OSPF Area0 and Area1. Now BGP must be deployed within AS 100 because it will be receiving. Internet routes from its eBGP peers (the service provider) connected to R1 and R2.

What is an optimal solution for this deployment to configure BGP relationships and redistribute BGP learned routes into OSPF?

- A. R5 should be configured as a route reflector for R1, R2, R3 and R4. BGP routes must be redistributed at R1 and R2 into OSPF.
- B. Configuration should be set up with R1 and R2, and R3 in one sub AS, with R4 in another, and redistribution at R1 and R2.
- C. A full mesh should be deployed between all the routers with mutual redistribution to take place at R1 and R2.
- D. R1, R2, R3 and R4 must be set up with a neighbor relationship with R5 only must not be a route reflector.

**Answer:** C

**NEW QUESTION 30**

Your company wants to deploy a new data center infrastructure.

Based on the requirements you have chosen VXLAN as encapsulation technology.

The customer is concerned about miss-configuration of Layer 2 devices and DC wide outages caused by Layer 2 loops.

What do you answer?

- A. VXLAN offers native loop avoidance mechanism
- B. Storm Control should be enabled on all ports
- C. VPC+ could prevent L2 loop on access ports
- D. BPDU Guard should be enabled on all VTEP access ports

**Answer:** D

**NEW QUESTION 32**

Which two statements describe the usage of the IS-IS overload bit technique? (Choose two )

- A. If overload-bit is set on a Level 2 intermediate system, the other Level 2 intermediate systems in the topology will stop using the overloaded IS to forward Level 2 traffic. However, the intermediate system can still forward Level 1 traffic.
- B. It can be set in intermediate systems (IS-IS routers) to prioritize control plane CSNP packets.
- C. It can be used to automatically synchronize the link-state database between Level 1 intermediate systems.
- D. It can be set in intermediate systems (IS-IS routers) to avoid traffic black holes until routing protocols are fully converged after a reload operation.
- E. It can be set in intermediate systems (IS-IS routers) to attract transit traffic from other intermediate systems.

**Answer:** AD

**NEW QUESTION 34**

You have been tasked with designing a data center interconnect to provide business continuity.

You want to encrypt the traffic over the DCI using IEEE 802.1AE MACsec to prevent the deployment of any firewall or IPS.

Which two interconnect technologies support MACsec? (Choose two.)

- A. EoMPLS
- B. MPLS Layer 3 VPN
- C. DMVPN
- D. GET VPN
- E. KVPLS

Answer: AE

#### NEW QUESTION 35

Which two possible drawbacks should you consider when introducing Network Functions Virtualization in a network design? (Choose two)

- A. Bandwidth utilization increases
- B. Traffic flows are suboptimal
- C. High-end routers are required to support NFV
- D. OpenFlow must be supported in the network
- E. An SDN orchestration layer is required to support NFV

Answer: CE

#### NEW QUESTION 37

Your network operations team is deploying Access Control Lists (ACLs) across your Internet gateways.

They wish to place an ACL inbound on the Internet gateway interface facing the core network (the "trusted" interface).

Which IP address would the ACL need for traffic sourced from the inside interface, to match the source address of the traffic?

- A. inside global
- B. outside global
- C. inside local
- D. outside local

Answer: C

#### NEW QUESTION 39

You were tasked to enhance the security of a network with these characteristics:

- A pool of servers is accessed by numerous data centers and remote sites
- The servers are accessed via a cluster of firewalls
- The firewalls are configured properly and are not dropping traffic
- The firewalls occasionally cause asymmetric routing of traffic within the server data center.

Which technology should you recommend to enhance security by limiting traffic that could originate from a hacker compromising a workstation and redirecting flows at the servers?

- A. Poison certain subnets by adding static routes to Null0 on the core switches connected to the pool of servers.
- B. Deploy uRPF strict mode.
- C. Limit sources of traffic that exit the server-facing interface of the firewall cluster with ACLs.
- D. Deploy uRPF loose mode

Answer: C

#### NEW QUESTION 44

You are designing a network running both IPv4 and IPv6 to deploy QoS.

Which consideration is correct about the QoS for IPv4 and IPv6?

- A. IPv4 and IPv6 traffic types can use queuing mechanisms such as LLQ, PQ and CQ.
- B. IPv6 packet classification is only available with process switching, whereas IPv4 packet classification is available with both process switching and CEF.
- C. IPv6 and IPv4 traffic types can use a single QoS policy to match both protocols
- D. Different congestion management mechanisms need to be used for IPv4 and IPv6 traffic types

Answer: C

#### NEW QUESTION 48

A company plans to use BFD between its routers to detect a connectivity problem inside the switched network.

An IPS is transparently installed between the switches.

Which packets should the IPS forward for BFD to work under all circumstances?

- A. Fragmented packet with the do-not-fragment bit set
- B. IP packets with broadcast IP source addresses
- C. IP packets with the multicast IP source address
- D. IP packet with the multicast IP destination address
- E. IP packets with identical source and destination IP addresses
- F. IP packets with the destination IP address 0.0.0.0.

Answer: E

#### NEW QUESTION 53

A Service Provider is designing a solution for a managed CE service to a number of local customers using a single CE platform and wants to have logical separation on the CE platform using Virtual Routing and Forwarding (VRF) based on IP address ranges or packet length.

Which is the most scalable solution to provide this type of VRF Selection process on the CE edge device?

- A. Static Routes for Route Leaking
- B. Policy Based Routing
- C. OSPF per VRF Instance
- D. Multi-Protocol BGP

Answer: B

#### NEW QUESTION 54

What best describes the difference between Automation and Orchestration?

- A. Automation refers to an automatic process for completing a single task and Orchestration refers to assembling and coordinating a set of tasks and conditions.
- B. Automation describes a hands-off configuration process while Orchestration refers to sets of automation tasks that require the network administrator to coordinate
- C. Automation refers to an automatic process for completing multiple tasks with conditions and Orchestration refers to executing tasks in parallel.
- D. Automation refers to scripting languages (Python, Ansible etc.) and Orchestration refers to commercial products that control configuration deployment

Answer: A

#### NEW QUESTION 59

Which design benefit of PortFast is true?

- A. PortFast does not generate a spanning tree topology change when a station on a port is connected or disconnected
- B. PortFast disables spanning tree on the port, which puts the port into the forwarding state immediately after it is connected
- C. PortFast allows small, unmanaged switches to be plugged into ports of access switches without risking switch loops
- D. PortFast detects one-way communications on the physical port, which prevents switch loops
- E. PortFast prevents switch loops that are caused by a unidirectional point-to-point link condition on Rapid PVST+ and MST
- F. PortFast prevents switched traffic from traversing suboptimal paths on the network

Answer: A

#### NEW QUESTION 61

Which two design solutions ensure sub 50 msec of the convergence time after a link failure in the network? (Choose two)

- A. BFD
- B. TI-LFA
- C. minimal BGP scan time
- D. MPLS-FRR
- E. IGP fast hello

Answer: BD

#### NEW QUESTION 63

An existing wireless network was designed to support data traffic only.

You must now install context-aware services for location tracking changes must be applied to the existing wireless network to increase the location accuracy? (Choose two)

- A. Add access points along the perimeter of the coverage area.
- B. Increase the access point density to create an average inter-access point distance of less than 40 feet or 12.2 meters
- C. Use directional antennas to provide more cell overlapping
- D. Install additional access points in monitor mode where the co-channel interference would otherwise be affected
- E. Fine-tune the radio configuration of the access point to have a higher average transmission power to achieve better coverage

Answer: BE

#### NEW QUESTION 65

You are designing a new Ethernet-based metro-area network for an enterprise customer to connect 50 sites within the same city. OSPF will be the routing protocol used. The customer is primarily concerned with IPv4 address conservation and convergence time.

Which two combined actions do you recommend? (Choose two)

- A. Use a multipoint Metro-E service for router connections
- B. Use a single address per router for all P2P links
- C. Use P2P links between routers in a hub-and-spoke design
- D. Configure address aggregation at each site router
- E. Determine which OSPF routers will be DR/BDR

Answer: AC

#### NEW QUESTION 69

Which two design options are available to dynamically discover the RP in an IPv6 multicast network? (Choose two)

- A. embedded RP
- B. MSDP
- C. BSR
- D. Auto-RP
- E. MLD

Answer: AC

#### NEW QUESTION 73

SDWAN networks capitalize the usage of broadband Internet links over traditional MPLS links to offer more cost benefits to enterprise customers. However, due to the insecure nature of the public Internet, it is mandatory to use encryption of traffic between any two SDWAN edge devices installed behind NAT gateways.

Which overlay method can provide optimal transport over unreliable underlay networks that are behind NAT gateways?

- A. TLS
- B. DTLS
- C. IPsec
- D. GRE

**Answer: C**

#### NEW QUESTION 75

Company XYZ runs OSPF in their network. A design engineer decides to implement hot-potato routing architecture. How can this implementation be achieved?

- A. Enable iBGP and apply prepend to ensure all prefixes will have the same length of the AS path attribute value.
- B. Redistribute the external prefixes onto OSPF and ensure the total metric calculation includes only the ext value and the value is the same in all ASBRs.
- C. Enable OSPF load-balancing over unequal cost path.
- D. Redistribute the external prefixes onto OSPF and ensure that the total metric calculation includes external internal values.

**Answer: D**

#### NEW QUESTION 76

What are two primary design constraints when a robust infrastructure solution is created? (Choose two.)

- A. monitoring capabilities
- B. project time frame
- C. staff experience
- D. component availability
- E. total cost

**Answer: BE**

#### NEW QUESTION 80

An architect designs a multi-controller network architecture with these requirements:

- Achieve fast failover to control traffic when controllers fail.
- Yield a short distance and high resiliency in the connection between the switches and the controller.
- Reduce connectivity loss and enable smart recovery to improve the SDN survivability.
- Improve connectivity by adding path diversity and capacity awareness for controllers.

Which control plane component of the multi-controller must be built to meet the requirements?

- A. control node reliability
- B. controller state consistency
- C. control path reliability
- D. controller clustering

**Answer: B**

#### NEW QUESTION 83

Company XYZ is planning to deploy primary and secondary (disaster recovery) data center sites. Each of these sites will have redundant SAN fabrics and data protection is expected between the data center sites. The sites are 100 miles (160 km) apart and target RPO/RTO are 3 hrs and 24 hrs, respectively. Which two considerations must Company XYZ bear in mind when deploying replication in their scenario? (Choose two.)

- A. Target RPO/RTO requirements cannot be met due to the one-way delay introduced by the distance between sites.
- B. VSANs must be routed between sites to isolate fault domains and increase overall availability.
- C. Synchronous data replication must be used to meet the business requirements
- D. Asynchronous data replication should be used in this scenario to avoid performance impact in the primary site.
- E. VSANs must be extended from the primary to the secondary site to improve performance and availability.

**Answer: BD**

#### NEW QUESTION 87

Refer to the exhibit. This network is running OSPF and EIGRP as the routing protocols. Mutual redistribution of the routing protocols has been configured on the appropriate ASBRs. The OSPF network must be designed so that flapping routes in EIGRP domains do not affect the SPF runs within OSPF. The design solution must not affect the way EIGRP routes are propagated into the EIGRP domains.

Which technique accomplishes the requirement?

- A. route summarization the ASBR interfaces facing the OSPF domain
- B. route summarization on the appropriate ASBRS.
- C. route summarization on the appropriate ABRS.
- D. route summarization on EIDRP routers connecting toward the ASBR

**Answer: B**

**NEW QUESTION 90**

Which MPLS TE design consideration is true?

- A. MPLS TE replaces LDP and the dependency of the IGP to identify the best path.
- B. MPLS TE provides link and node protection
- C. MPLS TE optimizes the routing of IP traffic, given the constraints imposed by backbone capacity and application requirements.
- D. MPLS TE requires Layer 3 VPN full-mesh topology deployment

**Answer: C**

**NEW QUESTION 91**

The network designer needs to use GLOP IP address in order make them unique within their ASN, which multicast address range will be considered?

- A. 239.0.0.0 to 239.255.255.255
- B. 224.0.0.0 to 224.0.0.255
- C. 233.0.0.0 to 233.255.255.255
- D. 232.0.0.0 to 232.255.255.255

**Answer: C**

**NEW QUESTION 95**

Drag and Drop Question

Drag and drop the end-to-end network virtualization elements from the left onto the correct network areas on the right.

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

**NEW QUESTION 98**

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