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 CE1and CE2
E. The service provider must provide a Draft Rosen solution to enable a GRE tunnel between nodesPE1 and PE2

Answer: B

NEW QUESTION 2
An enterprise network has two core routers that connect to 200 distribution routers and uses fullmesh
IBGP peering between these routers as its routing method. The distribution routers are experiencing high CPU utilization due to the BGP process. Which design
solution is the most cost effective?

A. Implement route reflectors on the two core routers
B. Increase the memory on the core routers
C. Implement e BGP between the core and distribution routers
D. Increase the memory on the distribution routers
E. Increase bandwidth between the core routers

Answer: A

NEW QUESTION 3
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 4
Which purpose of a dynamically created tunnel interface on the design of IPv6 multicast services Is
true?

A. first-hop router registration to the RP
B. multicast client registration to the RP
C. multicast source registration to the RP
D. transport of all IPv6 multicast traffic

Answer: D

NEW QUESTION 5
Which two advantages of using DWDM over traditional optical networks are true? (Choose two.)

A. inherent topology flexibility and service protection provided without penalty through intelligent oversubscription of bandwidth reservation
B. ability to expand bandwidth over existing optical Infrastructure
C. inherent topology flexibility with built-in service protection
D. inherent topology flexibility with intelligent chromatic dispersion
E. inherent topology flexibility with a service protection provided through a direct integration with an upper layer protocol

Answer: BC

NEW QUESTION 6
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 7
Company XYZ is designing the network for IPv6 security and they have these design
requirements:
- A switch or router must deny access to traffic from sources with addresses that are correct, but
are topologically incorrect
- Devices must block Neighbor Discovery Protocol resolution for destination addresses that are
not found in the binding table.
Which two IPv4 security features are recommended for this company? (Choose two)

A. IPv6 DHCP Guard
B. IPv6 Source Guard
C. IPv6 Destination Guard
D. IPv6 Prefix Guard
E. IPv6 RA Guard

Answer: CD

NEW QUESTION 8
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 9
Company XYZ asks for design recommendations for Layer 2 redundancy. The company wants to
prioritize fast convergence and resiliency elements in the design.
Which two technologies are recommended? (Choose two.)

A. Design MLAG/MC-LAG into the network wherever possible.
B. Configure DHCP snooping on the switches.
C. Use root guard.
D. Use BPDU guard.
E. Use UniDirectional Link Detection.

Answer: AE

NEW QUESTION 10
Which two control plane policer designs must be considered to achieve high availability? (Choose
two.)

A. Control plane policers are enforced in hardware to protect the software path, but they arehardware platform dependent in terms of classification ability.
B. Control plane policers are really needed only on externally facing devices.
C. Control plane policers can cause the network management systems to create false alarms.
D. Control plane policers must be processed before a forwarding decision is made.
E. Control plane policers require that adequate protocols overhead are factored in to allow protocolconvergence.

Answer: AD

NEW QUESTION 10
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 13
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 16
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 17
Refer to the exhibit.

An engineer is designing the network for a multihomed customer running in AS 111 does not have any other Ass connected to it.
Which technology is more comprehensive to use in the design to make sure that the AS is not being used as a transit AS?

A. Configure the AS-set attribute to allow only routes from AS 111 to be propagated to the neighborASs.
B. Use the local preference attribute to configure your AS as a non-transit" AS.
C. include an AS path access list to send routes to the neighboring ASs that only have AS 111 in theAS path field.
D. Include a prefix list to only receive routes from neighboring ASs.

Answer: C

NEW QUESTION 21
Organizations that embrace Zero Trust initiatives ranging from business policies to technology infrastructure can reap business and security benefits.
Which two domains should be covered under Zero Trust initiatives? (Choose two)

A. workload
B. work domain
C. workplace
D. workgroup
E. workspace

Answer: AC

NEW QUESTION 24
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 27
Which two features control multicast traffic in a VLAN environment? (Choose two)

A. IGMP snooping
B. MLD snooping
C. RGMP
D. PIM snooping
E. pruning

Answer: AB

NEW QUESTION 32
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 35

An architect receives a business requirement from a CTO that states the RTO and RPO for a new system should be as close as possible to zero.
Which replication method and data center technology should be used?

A. asynchronous replication over dual data centers via DWDM
B. synchronous replication over geographically dispersed dual data centers via MPLS
C. synchronous replication over dual data centers via Metro Ethernet
D. asynchronous replication over geographically dispersed dual data centers via CWDM

Answer: C

NEW QUESTION 38

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 40

Company XYZ has 30 sites running a legacy private WAN architecture that connects to the Internet via multiple highspeed connections.
The company is now redesigning their network and must comply with these design requirements:
- Use a private WAN strategy that allows the sites to connect to each other directly and caters for future expansion.
- Use the Internet as the underlay for the private WAN. Securely transfer the corporate data over the private WAN.
Which two technologies should be Incorporated into the design of this network? (Choose two.)

A. S-VTI
B. IPsec
C. DMVPN
D. GET VPN
E. PPTP

Answer: BC

NEW QUESTION 45

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 46

According to the CIA triad principles for network security design, which principle should be priority for a Zero Trust network?

A. requirement for data-in-motion encryption and 2FA authentication
B. requirement for data-at-rest encryption foe user identification within the VPN terminationhardware
C. categorization of systems, data, and enterprise BYOD assets that are connected to networkzones based on individual privacy needs
D. ensuring that authorized users have high-availability system access from defined zones todefined systems or zones

Answer: A

NEW QUESTION 50

Which two characteristics apply to firewall transparent mode operations in a firewall solution design? (Choose two.)

A. Changes in the existing IP addressing and subnets are required
B. The firewall can participate actively on spanning tree.
C. Multicast traffic can traverse the firewall.
D. OSPF adjacencies can be established through the firewall
E. The firewall acts like a router hop in the network.

Answer: CD

NEW QUESTION 53
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 58
Refer to the exhibit. Your company designed a network to allow server VLANs to span all access switches in a data center.
In the design, Layer 3 VLAN interfaces and HSRP are configured on the aggregation switches.
Which two features improve STP stability within the network design? (Choose two.)

A. BPDU guard on access ports
B. BPDU guard on the aggregation switch downlinks toward access switches
C. root guard on the aggregation switch downlinks toward access switches
D. root guard on access ports
E. edge port on access ports
F. access switch pairs explicitly determined to be root and backup root bridges

Answer: AE

NEW QUESTION 62
Refer to the exhibit. There are multiple trees in the Cisco FabricPath. All switches in the Layer 2 fabric share the same view of each tree.
Which two concepts describe how the multicast traffic is load-balanced across this topology? (Choose two)

A. A specific (S.G) traffic is not load-balanced
B. All trees are utilized at the same level of the traffic rate
C. Every leaf node assigns the specific (S.G) to the same tree.
D. A specific (S.G) multicast traffic is load-balanced across all trees due to better link utilization efficiency.
E. The multicast traffic is generally load-balanced across all trees

Answer: BD

NEW QUESTION 66
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 69

While reviewing an existing network design, you are discussing the characteristics of different STP versions.
Which protocol minimizes unicast flooding during a Topology Change Notification in a Layer 2 switched network with many VLANs?

A. PVRSTP
B. MST
C. STP
D. PVSTP+

Answer: A

NEW QUESTION 71

When designing a WAN that will be carrying real-time traffic, what are two important reasons to consider serialization delay? (Choose two)

A. Serialization delays are invariable because they depend only on the line rate of the interface
B. Serialization delays are variable because they depend on the line rate of the interface and on thetype of the packet being serialized.
C. Serialization delay is the time required to transmit the packet on the physical media.
D. Serialization delays are variable because they depend only on the size of the packet beingserialized
E. Serialization delay depends not only on the line rate of the interface but also on the size of thepacket

Answer: BD

NEW QUESTION 72

Which two foundational aspects of IoT are still evolving and being worked on by the industry at large? (Choose two)

A. WiFi protocols
B. Regulatory domains
C. Low energy Bluetooth sensors
D. IoT consortia
E. Standards

Answer: AC

NEW QUESTION 77

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 use queuing mechanisms such as LLQ, PQ and CQ.
B. IPv6 packet classification is only available with process switching, whereas IPv4 packetclassification is available with both process switching and CEF.
C. IPv6 and IB/4 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 82

A Tier-3 Service Provider is evolving into a Tier-2 Service Provider due to the amount of Enterprise business it is receiving.
The network engineers are re-evaluating their IP/MPLS design considerations in order to support duplicate/overlapping IP addressing from their Enterprise customers within each Layer3 VPN.
Which concept would need to be reviewed to ensure stability in their network?

A. Assigning unique Route Distinguishers
B. Assigning unique Route Target ID'S
C. Assigning unique IP address space for the Enterprise NAT/Firewalls
D. Assigning unique VRF ID's to each L3VPN

Answer: A

NEW QUESTION 85

What are two key design principles when using a hierarchical core-distribution-access network model? (Choose two)

A. A hierarchical network design model aids fault isolation
B. The core layer is designed first, followed by the distribution layer and then the access layer
C. The core layer provides server access in a small campus.
D. A hierarchical network design facilitates changes
E. The core layer controls access to resources for security

Answer: AD

NEW QUESTION 89

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 92
As part of a new network design documentation, you are required to explain the reason for choosing cisco FabricPath for Layer 2 loop avoidance.
Which two elements help Cisco FabricPath mitigate Layer 2 loops if they happen in the Layer 2 MP network? (Choose two)

A. MAC tunneling
B. IS-IS multipath
C. RPF check
D. TTL header

Answer: CD

NEW QUESTION 96
You are a network designer and you must ensure that the network you design is secure.
How do you plan to prevent infected devices on your network from sourcing random DDoS attacks using forged source address?

A. ACL based forwarding
B. unicast RPF loose mode
C. unicast RPF strict mode
D. ACL filtering by destination

Answer: C

NEW QUESTION 98
Which encoding format does cisco ios XE software support for NETCONF?

A. It supports HTML encoding for NETCONF
B. It supports YAML encoding for NETCONF
C. It supports XML encoding for NETCONF
D. It supports JSON encoding for NETCONF

Answer: C

NEW QUESTION 103
You want to split an Ethernet domain in two.
Which parameter must be unique in this design to keep the two domains separated?

A. VTP domain
B. VTP password
C. STP type
D. VLAN ID

Answer: D

NEW QUESTION 106
Drag and Drop Question
Drag and drop the design use cases from the left onto the correct uRPF techniques used to prevent spoofing attacks.
Not all options are used.

A. Mastered
B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 107
Drag and Drop Question
Drag and drop the FCAPS network management reference models from the left onto the correct definitions on the right.

A. Mastered
B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 110
How many fully established neighbour relationships exist on an Ethernet with five routers running OSPF as network type broadcast?

A. 5
B. 6
C. 7
D. 10
E. 20

Answer: C

NEW QUESTION 114
Which statement about hot-potato routing architecture design is true?

A. Hot-potato routing is the preferred architecture when connecting to content providers
B. Hop-potato keeps traffic under the control of the network administrator for longer
C. OSPF uses hot-potato routing if all ASBRs use the same value for the external metric
D. Hot-potato routing is prone to misconfiguration as well as poor coordination between twonetworks

Answer: A

NEW QUESTION 115
Which two statements about MLD snooping are true? (Choose two)

A. When MLD snooping is enabled, QoS is automatically enabled.
B. A VLAN can support multiple active MLD snooping queries, as long as each one is associated toa different multicast group.
C. AN MLD snooping querier election occurs when any MLD snooping querier goes down or if thereis an IP address change on the active querier.
D. When multiple MLD snooping queriers are enabled in a VLAN, the querier with the lowest IPaddress in the VLAN is elected as the active MLD snooping querier.

Answer: CD

NEW QUESTION 116
Company A has a hub-and spoke topology over an SP-managed infrastructure. To measure traffic performance metrics. IP SLA senders on all spoke CE routers and an IP SLA responder on the hub CE router.
What must they monitor to have visibility on the potential performance impact due to the constantly increasing number of spoke sites?

A. memory usage on the hub router
B. interface buffers on the hub and spoke routers
C. CPU and memory usage on the spoke routers
D. CPU usage on the hub router

Answer: D

NEW QUESTION 118
Which two descriptions of CWDM are true? (Choose two)

A. typically used over long distances, but requires optical amplification
B. uses the 850nm band
C. allows up to 32 optical earners to be multiplexed onto a single fiber
D. shares the same transmission window as DWDM
E. Passive CWDM devices require no electrical power

Answer: DE

NEW QUESTION 120
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 123
SD-WAN can be used to provide secure connectivity to remote offices, branch offices, campus networks, data centers, and the cloud over any type of IP-based underlay transport network. Which two statements describe SD WAN solutions? (Choose two.)

A. SD-WAN networks are inherently protected against slow performance.
B. Control and data forwarding planes are kept separate.
C. Improved operational efficiencies result In cost savings.
D. Solutions include centralized orchestration, control, and zero-touch provisioning.
E. Solutions allow for variations of commodity and specialized switching hardware.

Answer: BD

NEW QUESTION 125
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 stale consistency
C. control path reliability
D. controller clustering

Answer: B

NEW QUESTION 126

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 thedistance 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 theprimary site.
E. VSANs must be extended from the primary to the secondary site to improve performance andavailability.

Answer: BD

NEW QUESTION 131
Which undesired effect of increasing the jitter compensation buffer is true?

A. The overall transport jitter decreases and quality improves.
B. The overall transport jitter increases and quality issues can occur.
C. The overall transport delay increases and quality issues can occur.
D. The overall transport delay decreases and quality improves.

Answer: C

NEW QUESTION 135
Which three tools are used for ongoing monitoring and maintenance of a voice and video environment? (Choose three.)

A. flow-based analysis to measure bandwidth mix of applications and their flows
B. call management analysis to identify network convergence-related failures
C. call management analysis to identify CAC failures and call quality issues
D. active monitoring via synthetic probes to measure loss, latency, and jitter
E. passive monitoring via synthetic probes to measure loss, latency, and jitter
F. flow-based analysis with PTP time-stamping to measure loss, latency, and jitter

Answer: ACD

NEW QUESTION 136
Retef to the exhibit. This network is running OSPF and EIGRP as the routing protocols. Mutual redistribution of the routing protocols has been contoured 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 141
Company XYZ is running OSPF in their network. They have merged with another company that is running EIGRP as the routing protocol. Company XYZ now needs the two domains to talk to each other with redundancy, while maintaining a loop free environment.
The solution must scale when new networks are added into the network in the near future.
Which technology can be used to meet these requirements?

A. multipoint route-redistribution with route filtering using ACLs

B. DUMP multipoint route-redistribution with route filtering using route tags
C. DUMPS single point route-redistribution with route filtering using route tags
D. DUMPS single point route-redistribution with route filtering using ACLs

Answer: B

NEW QUESTION 145
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 capacityand application requirements.
D. MPLS TE requires Layer 3 VPN full-mesh topology deployment

Answer: C

NEW QUESTION 149
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 152
Drag and Drop Question
Drag and drop the multicast protocols from the left onto the current design situation on the right.

A. Mastered
B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 157
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