Cisco

Exam Questions 400-007

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

NEW QUESTION 1
Refer to the table.

CONNECTIVITY	CAPEX	OPEX ANNUAL	INSTALLATION FEE	TERM
DWDM over dark fiber	$200,000	$100,000	$30,000	12 months
CWDM over dark fiber	$150,000	$100,000	$25,000	18 months
MPLS wires only	$50,000	$180,000	$5,000	12 months
Metro Ethernet	$65,000	$100,000	$5,000	36 months

A customer investigates connectivity options for a DCI between two production data centers to aid a
large-scale migration project. The migration is estimated to take 20 months to complete but might extend an additional 10 months if issues arise. All connectivity
options meet the requirements to migrate workloads. Which transport technology provides the best ROI based on cost and flexibility?

A. CWDM over dark fiber
B. MPLS
C. DWDM over dark fiber
D. Metro Ethernet

Answer: D

NEW QUESTION 2
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 3
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 4
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 5
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 6
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 7
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 8
A European government passport agency considers upgrading its IT systems to increase
performance and workload flexibility in response to constantly changing requirements. The
budget manager wants to reduce capital expenses and IT staff and must adopt the lowest-cost
technology. Which technology choice is suitable?

A. on premises
B. private cloud
C. public cloud
D. hybrid cloud

Answer: B

NEW QUESTION 9
Company XYZ needs advice in redesigning their legacy Layer 2 infrastructure.
Which technology should be included in the design to minimize or avoid convergence delays due to STP or FHRP and provide a loop-free topology?

A. Use switch clustering in the access layer.
B. Use switch clustering in the core/distribution layer.
C. Use spanning-tree PortFast.
D. Use BFD.

Answer: B

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
The Company XYZ network is experiencing attacks against their router.
Which type of Control Plane Protection must be used on the router to protect all control plane IP traffic that is destined directly for one of the router interfaces?

A. Control Plane Protection host subinterface
B. Control Plane Protection main interface
C. Control Plane Protection transit subinterface
D. Control Plane Protection CEF-exception subinterface

Answer: A

NEW QUESTION 13
An enterprise requires MPLS connected branches to access cloud-based Microsoft 365 services over an SD-WAN solution. Internet access Is available only at

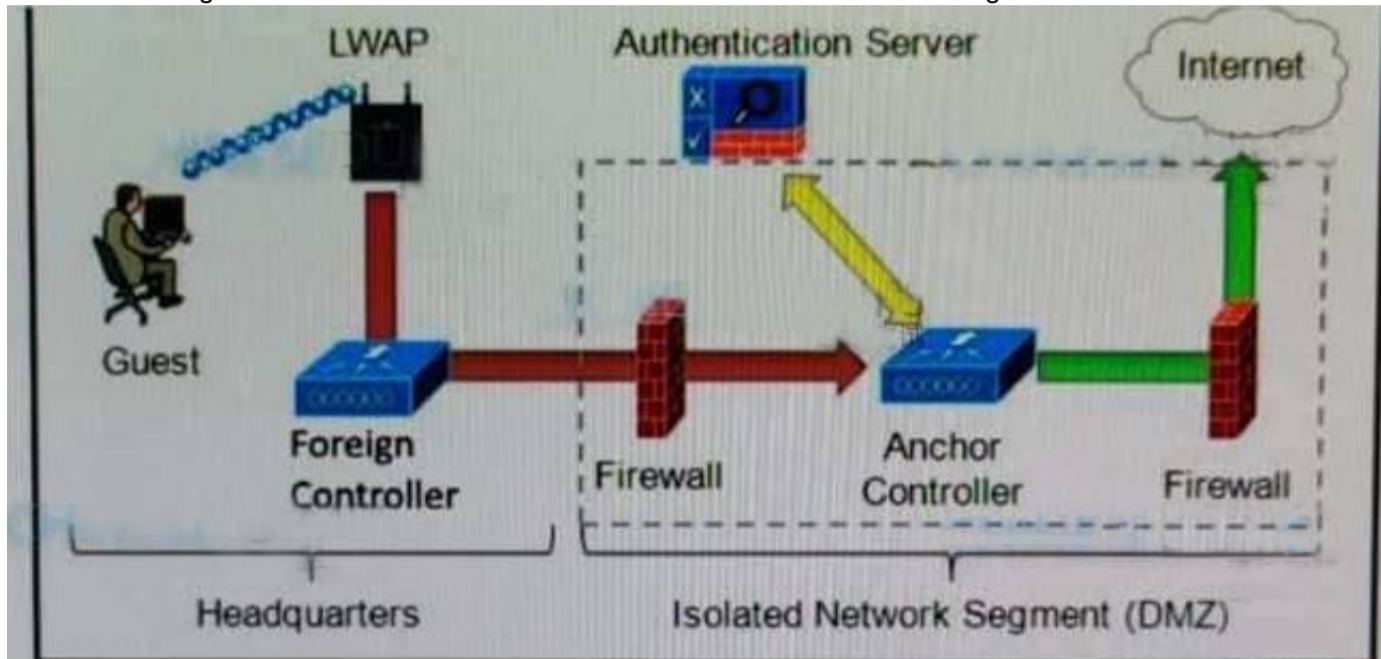dual regional hub sites that are connected to the MPLS network.
Which connectivity method provides an optimum access method to the cloud- based services If one ISP suffers loss or latency?

A. Cloud onRamp gateway site
B. Cloud onRamp SWG
C. Cloud onRamp
D. Cloud onRamp SaaS

Answer: D

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 20
Which two types of planning approaches are used to develop business-driven network designs and to facilitate the design decisions? (Choose two)

A. cost optimization approach
B. strategic planning approach
C. modular approach
D. tactical planning approach
E. business optimization approach

Answer: BD

NEW QUESTION 23
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 27
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 31
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.)
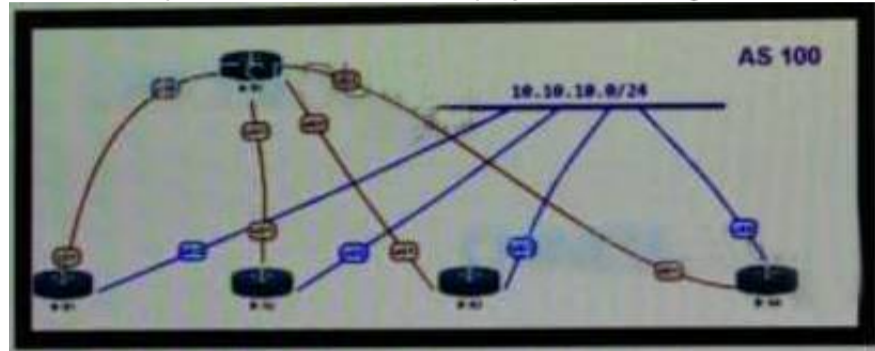
A. S-VTI
B. IPsec
C. DMVPN
D. GET VPN
E. PPTP

Answer: BC

NEW QUESTION 36
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 Areal. 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 beredistributed at R1 and R2 into OSPF.
B. Configuration should be set up with R1 and R2, and R3 in one sub AS, with and 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 atR1 and R2.
D. R1, R2, R3 and R4 must be set up with a neighbor relationship with R5 only must not be a routereflector.

Answer: C

NEW QUESTION 38
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
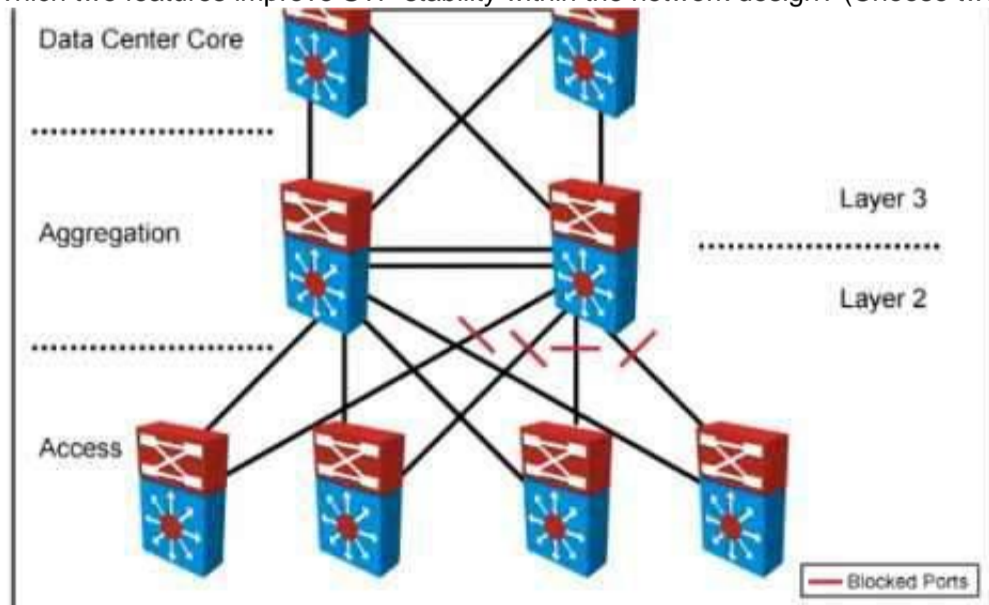D. BPDU Guard should be enabled on all VTEP access ports

Answer: D

NEW QUESTION 39
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 41
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 46
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 50
A network design includes a long signaling delay in notifying the Layer 3 control plane that an interface has failed.
Which two of these actions would reduce that delay? (Choose two.)

A. Increase network stability.
B. Reduce the time for the network to reconverge.
C. Increase the notification of interface flaps.
D. Enable lower data link layer recovery systems to have an opportunity to restore the interface

Answer: BD

NEW QUESTION 55
You are designing an Out of Band Cisco Network Admission Control. Layer 3 Real-IP Gateway deployment for a customer.
Which VLAN must be trunked back to the Clean Access Server from the access switch?

A. authentication VLAN
B. user VLAN
C. untrusted VLAN
D. management VLAN

Answer: D

NEW QUESTION 60
A service provider hires you to design its new managed CE offering to meet these requirements:
- The CEs cannot run a routing protocol with the PE
- Provide the ability for equal or unequal ingress load balancing in dual-homed CE scenarios.
- Provide support for IPv6 customer routes
- Scale up to 250.000 CE devices per customer.
- Provide low operational management to scale customer growth.
- Utilize low-end (inexpensive) routing platforms for CE functionality.
Which tunneling technology do you recommend?

A. FlexVPN
B. point-to-point GRE
C. DMVPN
D. LISP

Answer: D

NEW QUESTION 65
Which design principal improves network resiliency?

A. Added load-balancing
B. Added redundancy
C. Added confidentiality
D. Added reliability

Answer: B

NEW QUESTION 70
Which two aspects are considered when designing a dual hub dual DMVPN cloud topology? (Choose two)

A. will only work with single-tier headend architecture

B. hub sites must connect to both DMVPN clouds
C. recommended for high availability
D. spoke-to-spoke traffic will transit the hub unless spokes exchange dynamic routing directly
E. requires all sites to have dual Internet connections

Answer: AC

NEW QUESTION 74
A senior network designer suggests that you should improve network convergence times by reducing BGP timers between your CE router and the PE router of the service provider.
Which two factors should you consider to adjust the timer values? (Choose two.)

A. service provider agreement to support tuned timers
B. manual updates to the peer groups
C. service provider scheduling of changes to the PE
D. number of routes on the CE router
E. number of VRFs on the PE router

Answer: AD

NEW QUESTION 79
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 thepool 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 84
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 86
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 shold 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 90
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 93
An MPLS service provider is offering a standard EoMPLS-based VPLS service to CustomerA providing Layer 2 connectivity between a central site and approximately 100 remote sites.
CustomerA wants to use the VPLS network to carry its internal multicast video feeds which are sourced at the central site and consist of 20 groups at Mbps each.

Which service provider recommendation offers the most scalability?

A. EoMPLS-based VPLS can carry multicast traffic in a scalable manner
B. Use a mesh of GRE tunnels to carry the streams between sites
C. Enable snooping mechanisms on the provider PE routers.
D. Replace VPLS with a Layer 3 MVPN solution to carry the streams between sites

Answer: D

NEW QUESTION 94
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 95
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 98
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 100
VPLS is implemented in a Layer 2 network with 2000 VLANs.
What is the primary concern to ensure successful deployment of VPLS?

A. Flooding is necessary to propagate MAC address reachability information
B. PE scalability
C. The underlying transport mechanism
D. VLAN scalability

Answer: B

NEW QUESTION 104
Which option is a fate-sharing characteristic in regards to network design?

A. A failure of a single element causes the entire service to fail
B. It protects the network against failures in the distribution layer
C. It acts as a stateful forwarding device
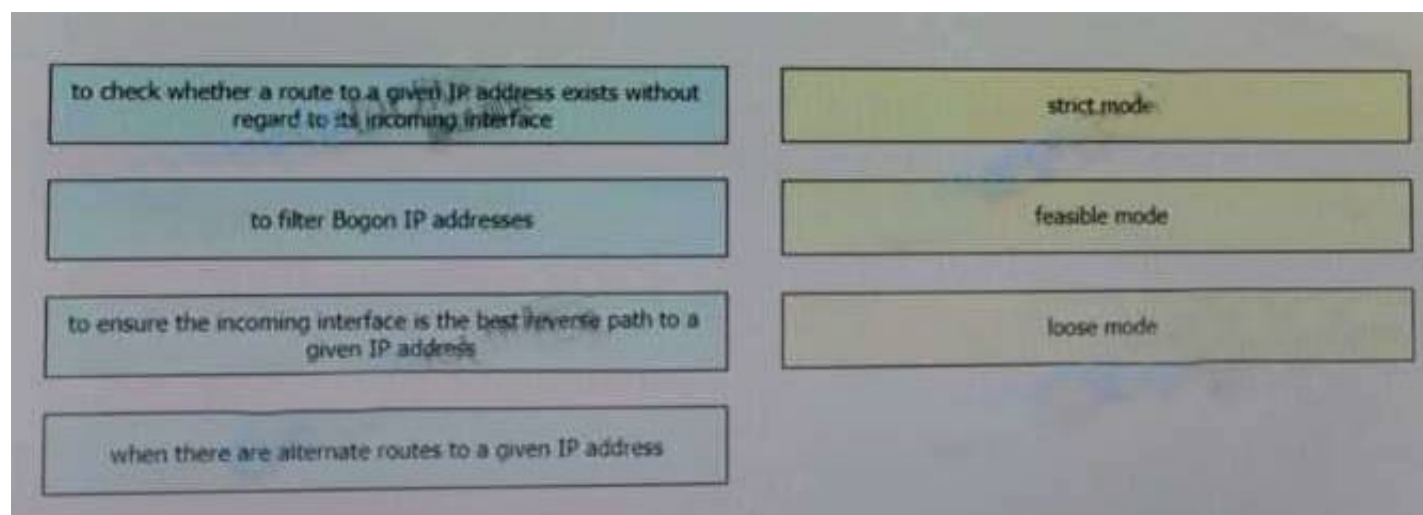D. It provides data sequencing and acknowledgment mechanisms

Answer: A

NEW QUESTION 108
Drag and Drop Question
Drag and drop the design use cases from the left onto the correct uRPF techniques used to prevent spoofing attacks.
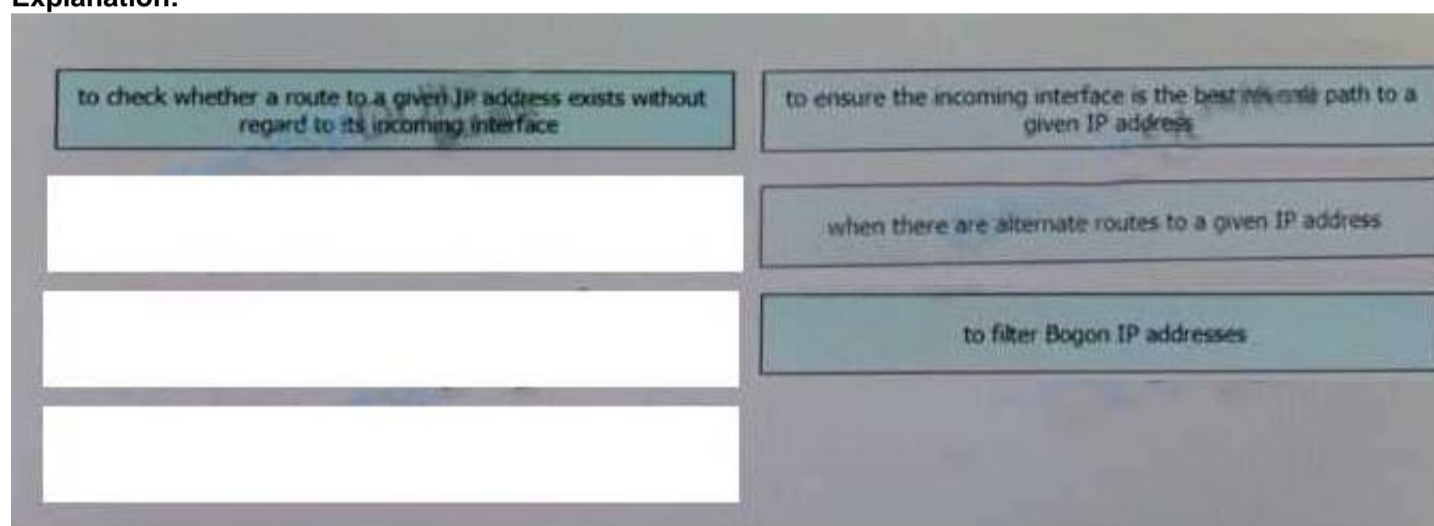Not all options are used.

to check whether a route to a given IP address exists without regard to its incoming interface	strict mode
to filter Bogon IP addresses	feasible mode
to ensure the incoming interface is the best reverse path to a given IP address	loose mode
when there are alternate routes to a given IP address	

A. Mastered
B. Not Mastered

Answer: A

Explanation:

to check whether a route to a given IP address exists without regard to its incoming interface	to ensure the incoming interface is the best reverse path to a given IP address
	when there are alternate routes to a given IP address
	to filter Bogon IP addresses

NEW QUESTION 109
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? (Chose 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 40feet 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 wouldotherwise be affected
E. Fine tune the radio configuration of the access point to have a higher average transmission powerto achieve better coverage

Answer: BE

NEW QUESTION 112
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
Two enterprise networks must be connected together. Both networks are using the same private IP addresses.
The client requests from both sides should be translated using hide NAT (dynamic NAT) with the overload feature to save IF addresses from the NAT pools.
Which design addresses this requirement using only one Cisco I OS NAT router for both directions?

A. This is not possible, because two Cisco IOS NAT routers are required to do dynamic NAT, withoverload in both directions.
B. The ip nat inside and ip nat outside commands must be configured at the interfaces with theoverload option in both directions.
C. The overload feature is the default and does not have to be configured.
D. Two different NAT pools must be used for the ip nat inside source and the ip nat outside sourcecommands for the overload feature in both directions.
E. The Nat Virtual interface must be used to achieve this requirement.

Answer: D

NEW QUESTION 117
Which two application requirements are mandatory tor traffic to receive proper treatment when placed in the priority queue? (Choose two.)

A. small transactions (HTTP-like behavior)
B. WRED drop treatment
C. tolerance to packet loss
D. intolerance to jitter
E. TCP-based application

Answer: AD

NEW QUESTION 118
Which two conditions must be met for EIGRP to maintain an alternate loop-free path to a remote network? (Choose two.)

A. The Reported Distance from a successor is lower than the local Feasible Distance.
B. The Reported Distance from a successor is higher than the local Feasible Distance.
C. The feasibility condition does not need to be met.
D. The Feasible Distance from a successor is lower than the local Reported Distance.
E. A feasible successor must be present.

Answer: AE

NEW QUESTION 122
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 127
Which two design option 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 131
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 133
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 137
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 pathattribute value.
B. Redistribute the external prefixes onto OSPF and ensure the total metric calculation includes onlythe 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 includesexternal internal values.

Answer: D

NEW QUESTION 142

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 145
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 146
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 151
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 155
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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