# Free Cisco 300-440 ENCC Practice Questions

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## Question 1

Question Type: MultipleChoice

An engineer is implementing a highly secure multitier application in AWS that includes S3. RDS, and some additional private links. What is critical to keep the traffic safe?

### Options:

A- VPC peering and bucket policies
B- specific routing and bucket policies
C- EC2 super policies and specific routing policies
D- gateway load balancers and specific routing policies

### Answer:

B

### Explanation:

A highly secure multitier application in AWS that includes S3, RDS, and some additional private links requires specific routing and bucket policies to keep the traffic safe. The reasons are as follows:

Specific routing policies are needed to ensure that the traffic between the tiers is routed through the private links, which provide secure and low-latency connectivity between AWS services and on-premises resources12.The private links can also prevent the exposure of the data and the application logic to the public internet12.

Bucket policies are needed to control the access to the S3 buckets that store the application data34.Bucket policies can specify the conditions under which the requests are allowed or denied, such as the source IP address, the encryption status, the request time, etc.34.Bucket policies can also enforce encryption in transit and at rest for the data in S334.

1: AWS PrivateLink

2: AWS PrivateLink FAQs

3: Using Bucket Policies and User Policies

4: Bucket Policy Examples

## Question 2

Question Type: MultipleChoice

Refer to the exhibit.

```
vEdge# show crypto isakmp sa

IPv4 Crypto ISAKMP SA
dst                  src                  state          conn-id    status
203.0.113.1          203.0.113.2          MM_KEY_EXCH    14526      Active
```

While troubleshooting an IPsec connection between a Cisco WAN edge router and an Amazon Web Services (AWS) endpoint, a network engineer observes that the security association status is active, but no traffic flows between the devices What is the problem?

### Options:

A- wrong ISAKMP policy
B- identity mismatch
C- wrong encryption
D- IKE version mismatch

### Answer:

B

### Explanation:

An identity mismatch occurs when the local and remote identities configured on the IPsec peers do not match. This can prevent the establishment of an IPsec tunnel or cause traffic to be dropped by the IPsec policy. In this case, the network engineer should verify that the local and remote identities configured on the Cisco WAN edge router and the AWS endpoint match the values expected by each peer. The identities can be an IP address, a fully qualified domain name (FQDN), or a distinguished name (DN). The identities are exchanged during the IKE phase 1 negotiation and are used to authenticate the peers. If the identities do not match, the peers will reject the IKE proposal and the IPsec tunnel will not be established or will be torn down.Reference:=

Configure IOS-XE Site-to-Site VPN Connection to Amazon Web Services, Topic: Troubleshooting

Designing and Implementing Cloud Connectivity (ENCC) v1.0, Module 3: Implementing Cloud Connectivity, Lesson 2: Implementing Cisco SD-WAN Cloud OnRamp for IaaS, Topic: Troubleshooting Cisco SD-WAN Cloud OnRamp for IaaS

Cisco IOS Security Configuration Guide, Release 15M&T, Chapter: Configuring IPsec Network Security, Topic: Configuring IPsec Identity and Peer Addressing

## Question 3

Question Type: MultipleChoice

Which feature is unique to Cisco SD-WAN IPsec tunnels compared to native IPsec VPN tunnels?

### Options:

A- real-time dynamic path selection
B- tunneling protocols
C- end-to-end encryption
D- authentication mechanisms

### Answer:

A

### Explanation:

Cisco SD-WAN IPsec tunnels are different from native IPsec VPN tunnels in several ways. One of the unique features of Cisco SD-WAN IPsec tunnels is that they support real-time dynamic path selection, which means that they can automatically choose the best path for each application based on the network conditions and policies. This feature improves the performance, reliability, and efficiency of the network traffic. Native IPsec VPN tunnels, on the other hand, do not have this capability and rely on static routing or manual configuration to select the path for each tunnel. This can result in suboptimal performance, increased latency, and higher costs.Reference:=Traditional IPsec Versus Cisco SD-WAN IPsec,SD-WAN vs IPsec VPN's - What's the difference?,SD-WAN vs. VPN: How Do They Compare?,Traditional IPSEC Versus SD-WAN IPSEC

## Question 4

Question Type: MultipleChoice

Refer to the exhibit.

```
vedge1# show policy from-vsmart
apply-policy
 site-list site1
  control-policy prefer_local out
 !
 policy
  lists
   site-list site1
    site-id 100
   tloc-list prefer_site1
     tloc 10.1.1.1 color mpls encap ipsec preference 100
   control-policy prefer_local
    sequence 10
     match route
      site-list site1
    !
    action accept
     set
       tloc-list prefer_site1
```

A network engineer discovers that the policy that is configured on an on-premises Cisco WAN edge router affects only the route tables of the specific devices that are listed in the site list. What is the problem?

## Options:

A- An inbound policy must be applied.
B- The action must be set to deny
C- A localized data policy must be configured.
D- A centralized data policy must be configured

## Answer:

D

## Explanation:

A centralized data policy is a policy that is applied to all devices in the overlay network, regardless of the site list. A localized data policy is a policy that is applied only to the devices that are listed in the site list. In this case, the network engineer wants to apply the policy to all devices in the overlay network, not just the specific devices in the site list. Therefore, a centralized data policy must be configured on the on-premises Cisco WAN edge router.Reference:=

Designing and Implementing Cloud Connectivity (ENCC) v1.0, Module 3: Implementing Cloud

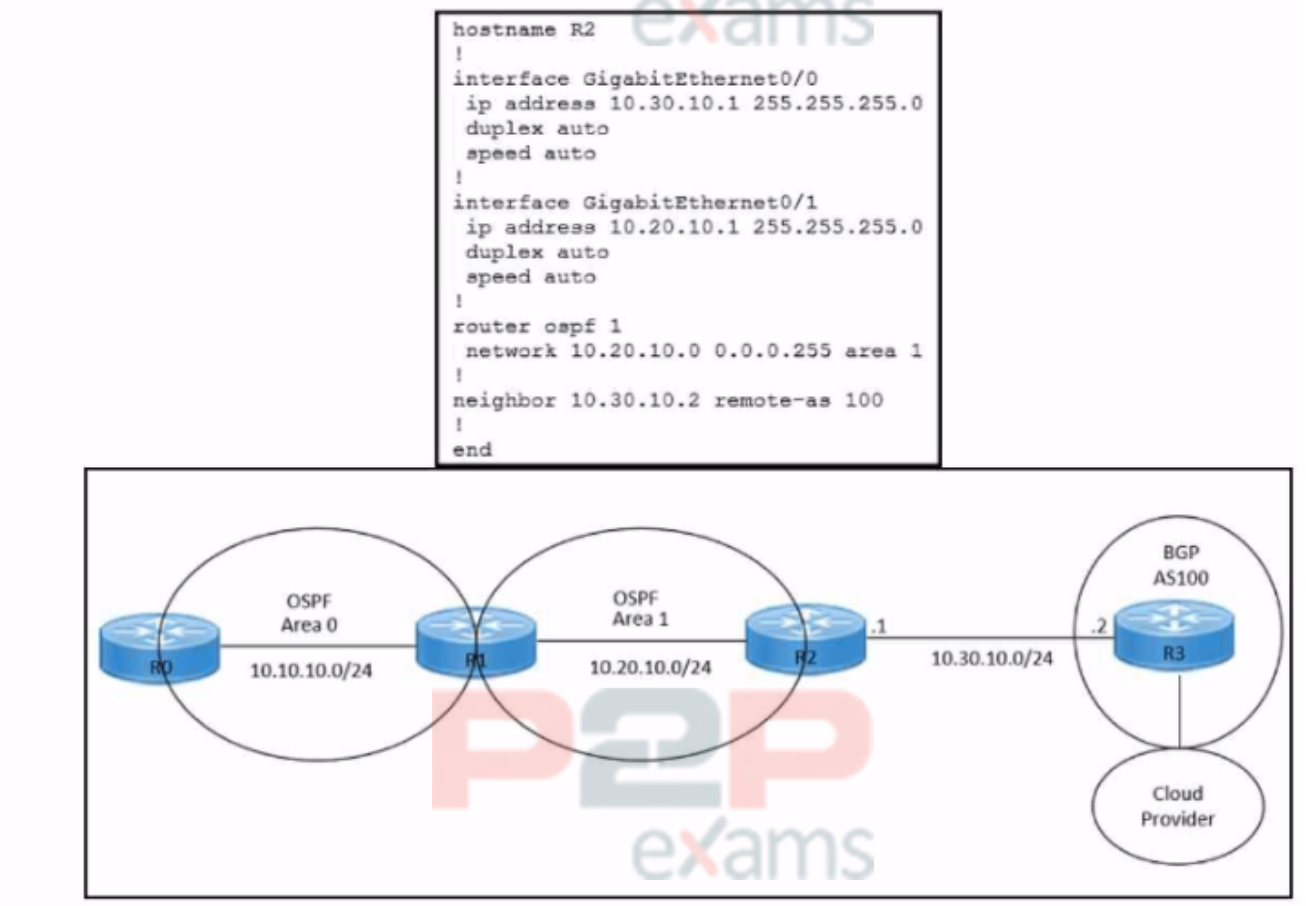
Connectivity, Lesson 3: Implementing Cisco SD-WAN Cloud OnRamp for Colocation, Topic: Centralized Data Policy

[Cisco SD-WAN Cloud OnRamp for Colocation Deployment Guide], Chapter: Configuring Centralized Data Policy

## Question 5

Question Type: MultipleChoice

Refer to the exhibit.




Refer to the exhibits. An engineer must redistribute IBGP routes into OSPF to connect an on-premises network to a cloud provider. Which command must be configured on router R2?

### Options:

A- redistribute ospf 1
B- redistribute bgp 100 ospf 1
C- redistribute bgp 100 subnets
D- bgp redistrlbute-lnternal

## Answer:

B

## Explanation:

This command redistributes the routes learned from BGP AS100 into OSPF Area 1, which allows router R2 to advertise those routes to router R1 and connect the on-premises network to the cloud provider.The other options are incorrect because they either redistribute the wrong routes or use the wrong syntax5.

I hope this helps you understand the question and the answer. If you have any other questions or requests, please let me know. I am always happy to help.

# Question 6

Question Type: MultipleChoice

An engineer must configure an IPsec tunnel to the cloud VPN gateway. Which Two actions send traffic into the tunnel? (Choose two.)

## Options:

A- Configure access lists that match the interesting user traffic.
B- Configure a static route.
C- Configure a local policy in Cisco vManage.
D- Configure an IPsec profile and match the remote peer IP address.
E- Configure policy-based routing.

## Answer:

A, E

## Explanation:

To send traffic into an IPsec tunnel to the cloud VPN gateway, the engineer must configure two actions:

Configure access lists that match the interesting user traffic. This is the traffic that needs to be encrypted and sent over the IPsec tunnel. The access lists are applied to the crypto map that defines the IPsec parameters for the tunnel.

Configure policy-based routing (PBR). This is a technique that allows the engineer to override the routing table and forward packets based on a defined policy. PBR can be used to send specific traffic to the IPsec tunnel interface, regardless of the destination IP address. This is useful when the cloud VPN gateway has a dynamic IP address or when multiple cloud VPN gateways are available for load balancing or redundancy.Reference:

Designing and Implementing Cloud Connectivity (ENCC) v1.0, Module 3: Implementing Cloud Connectivity, Lesson 3: Implementing IPsec VPNs to the Cloud, Topic: Configuring IPsec VPNs on Cisco IOS XE Routers

Security for VPNs with IPsec Configuration Guide, Cisco IOS XE, Chapter: Configuring IPsec VPNs, Topic: Configuring Crypto Maps

[Cisco IOS XE Gibraltar 16.12.x Feature Guide], Chapter: Policy-Based Routing, Topic: Policy-Based Routing Overview

## Question 7

Question Type: MultipleChoice

A company with multiple branch offices wants a connectivity model to meet its network architecture requirements. The company focuses on ensuring low latency and efficient routing for its critical business applications. Which connectivity model meets these requirements?

### Options:

A- hub-and-spoke topology with SD-WAN technology, using dynamic routing and OSPF as the routing protocol
B- fully meshed topology with SD-WAN technology, using dynamic routing and BGP as the routing protocol
C- point-to-point topology using dedicated leased lines and static routing
D- star topology with internet-based VPN connections and static routing

### Answer:

B

### Explanation:

A fully meshed topology with SD-WAN technology, using dynamic routing and BGP as the routing protocol, meets the requirements of the company because it provides the following benefits:

It allows direct and secure connectivity between any two branch offices, without the need for a central hub or intermediary devices12. This reduces the latency and improves the performance of the critical business applications.

It leverages SD-WAN technology to optimize the traffic flow and application quality of service (QoS) across the WAN13.SD-WAN can dynamically select the best path for each application based on the network conditions and policies13.SD-WAN can also provide redundancy, security, and visibility for the WAN13.

It uses dynamic routing and BGP as the routing protocol to exchange routing information and establish connectivity between the branch offices14.BGP is a scalable and flexible protocol that can support multiple address families, such as IPv4 and IPv6, and multiple routing policies, such as local preference and route filtering14.BGP can also enable seamless integration with the cloud service providers (CSPs) and internet service providers (ISPs)14.

1: Designing and Implementing Cloud Connectivity (ENCC, Track 1 of 5) (Cisco U. login required)

2: Cisco SD-WAN Design Guide

## Question 8

Question Type: MultipleChoice

Which Microsoft Azure service enables a dedicated and secure connection between an on-premises infrastructure and Azure data centers through a colocation provider?

### Options:

A- Azure Private Link
B- Azure ExpressRoute
C- Azure Virtual Network
D- Azure Site-to-Site VPN

### Answer:

B

### Explanation:

Azure ExpressRoute is a service that enables a dedicated and secure connection between an on-premises infrastructure and Azure data centers through a colocation provider. A colocation

provider is a third-party data center that offers network connectivity services to multiple customers. Azure ExpressRoute allows customers to bypass the public internet and connect directly to Azure services, such as virtual machines, storage, databases, and more. This provides benefits such as lower latency, higher bandwidth, more reliability, and enhanced security. Azure ExpressRoute also supports hybrid scenarios, such as connecting to Office 365, Dynamics 365, and other SaaS applications hosted on Azure. Azure ExpressRoute requires a physical connection between the customer's network and the colocation provider's network, as well as a logical connection between the customer's network and the Azure virtual network. The logical connection is established using a Border Gateway Protocol (BGP) session, which exchanges routing information between the two networks. Azure ExpressRoute supports two models: standard and premium. The standard model offers connectivity to all Azure regions within the same geopolitical region, while the premium model offers connectivity to all Azure regions globally, as well as additional features such as increased route limits, global reach, and Microsoft peering.Reference:Designing and Implementing Cloud Connectivity (ENCC) v1.0,Learning Plan: Designing and Implementing Cloud Connectivity v1.0 (ENCC 300-440) Exam Prep,ENCC | Designing and Implementing Cloud Connectivity | Netec

## Question 9

Question Type: MultipleChoice

A company has multiple branch offices across different geographic locations and a centralized data center. The company plans to migrate Its critical business applications to the public cloud infrastructure that is hosted in Microsoft Azure. The company requires high availability, redundancy, and low latency for its business applications. Which connectivity model meets these requirements?

### Options:

A- ExpressRoute with private peering using SDCI
B- hybrid connectivity with SD-WAN
C- AWS Direct Connect with dedicated connections
D- site-to-site VPN with Azure VPN gateway

### Answer:

A

### Explanation:

The connectivity model that meets the requirements of high availability, redundancy, and low latency for the company's business applications isExpressRoute with private peering using SDCI.

ExpressRoute is a service that provides a dedicated, private, and high-bandwidth connection between the customer's on-premises network and Microsoft Azure cloud network1.

Private peering is a type of ExpressRoute circuit that allows the customer to access Azure services that are hosted in a virtual network, such as virtual machines, storage, and databases2.

SDCI (Secure Data Center Interconnect) is a Cisco solution that enables secure and scalable connectivity between multiple data centers and cloud providers, using technologies such as MPLS, IPsec, and SD-WAN3.

By using ExpressRoute with private peering and SDCI, the company can achieve the following benefits:

High availability: ExpressRoute circuits are redundant and resilient, and can be configured with multiple service providers and locations for failover and load balancing1.SDCI also provides high availability by using dynamic routing protocols and encryption mechanisms to ensure optimal and secure path selection3.

Redundancy: ExpressRoute circuits can be paired together to form a redundant connection between the customer's network and Azure4.SDCI also supports redundancy by allowing multiple connections between data centers and cloud providers, using different transport technologies and service levels3.

Low latency: ExpressRoute circuits offer lower latency than public internet connections, as they bypass the congestion and variability of the internet1.SDCI also reduces latency by using MPLS and SD-WAN to optimize the performance and quality of service for the traffic between data centers and cloud providers3.

What is Azure ExpressRoute?

Azure ExpressRoute peering

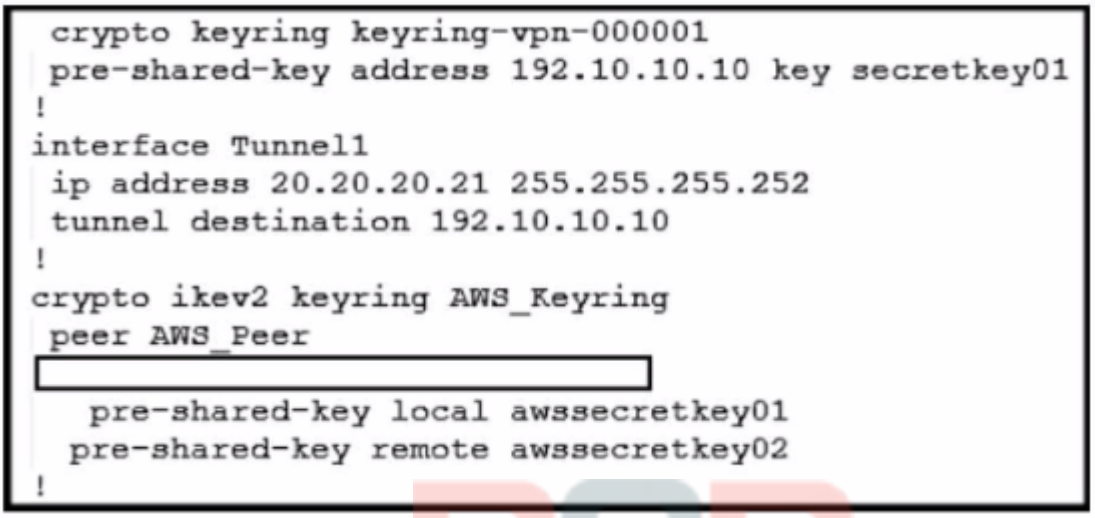
Cisco Secure Data Center Interconnect

ExpressRoute circuit and routing domain

## Question 10

Question Type: MultipleChoice

Refer to the exhibits.




Refer to the exhibit. An engineer needs to configure a site-to-site IPsec VPN connection between an on-premises Cisco IOS XE router and Amazon Web Services (AWS). Which configuration command must be placed in the blank in the code to complete the tunnel configuration?

## Options:

A- address 20.20.20.21
B- address 192.10.10.10
C- tunnel source 20.20.20.21
D- tunnel source 192.10.10.10

## Answer:

C

## Explanation:

In the given scenario, an engineer is configuring a site-to-site IPsec VPN connection between an on-premises Cisco IOS XE router and AWS. The correct command to complete the tunnel configuration is ''tunnel source 20.20.20.21''.This command specifies the source IP address for the tunnel, which is essential for establishing a secure connection between two endpoints over the internet or another network1.Reference:

Configure IOS-XE Site-to-Site VPN Connection to Amazon Web Services - Cisco Community

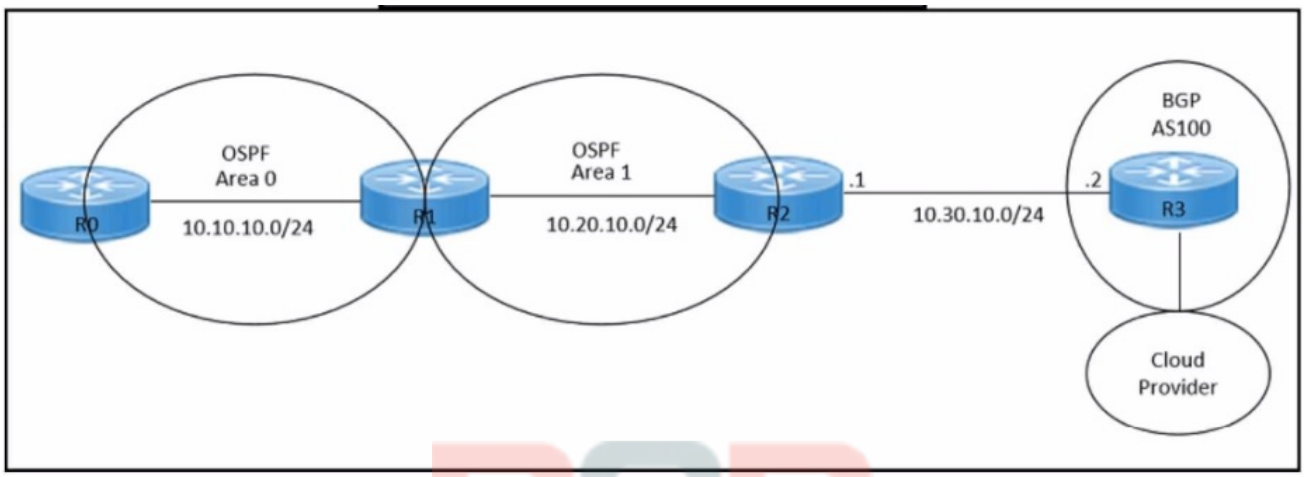
[Security for VPNs with IPsec Configuration Guide, Cisco IOS XE Release 3S - Config

# Question 11

Question Type: MultipleChoice

Refer to the exhibits.

```
hostname R2
!
interface GigabitEthernet0/0
 ip address 10.30.10.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 10.20.10.1 255.255.255.0
 duplex auto
 speed auto
!
router ospf 1
 network 10.20.10.0 0.0.0.255 area 1
!
neighbor 10.30.10.2 remote-as 100
!
end
```




Refer to the exhibits. An engineer must redistribute OSPF internal routes into BGP to connect an on-premises network to a cloud provider. Which two commands should the engineer run on router R2? (Select two.)

## Options:

A- router bgp 100
B- redistribute bgp 100
C- router ospf 1
D- redistribute ospf 1
E- redistribute ospf 100

## Answer:

A, D

## Explanation:

To redistribute OSPF internal routes into BGP for connecting an on-premises network to a cloud provider, the engineer should run the commands ''router bgp 100'' and ''redistribute ospf 1'' on router R2. The command ''router bgp 100'' is used to create a BGP routing process with AS number 100. The command ''redistribute ospf 1'' is used to redistribute OSPF routes from process ID 1 into BGP.Reference: = I need to access the specific content of Designing and Implementing Cloud Connectivity (ENCC) v1.0 from Cisco's official resources to provide exact references. However, I don't have direct access to external databases or resources, including the Cisco ENCC course materials. I recommend referring to the ENCC course materials for the most accurate and detailed information. Please note that this answer is based on general networking principles and may not reflect the specific content of the ENCC course. Always refer to the official course materials for the most accurate information.