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## Question: 1

Which statements about the edge access layer is true?

- A. Using the packet technology it provides a comprehensive transport platform that boasts high reliability, quality of service (QoS) assurance, and large capacity.
- B. It implement call control. With the software technology as the core, it completes basic real-time call control and connection control.
- C. It connections users to the network by providing various access means, and converts the format of information can be transmitted on the network.
- D. It process additional value-added service and operation support for established callas.

**Answer: B**

## Question: 2

Which statement describes the delay variation requirement of the voice service for the IP bearer network?

- A. No strict requirement
- B. Bearer network delay variation + 1s
- C. Bearer network delay variation +100 ms, allowed maximum delay variation +200 ms
- D. Bearer network delay variation = 10 ms. Allowed maximum delay variation =20ms

**Answer: D**

## Question: 3

Which statement describes the packet loss ratio requirement of the voice service for the IP bearer network?

- A. Allowed maximum packet loss =10-6
- B. Allowed maximum packet loss =1%
- C. No strict requirement
- D. Allowed maximum packet loss =1%

**Answer: B**

## Question: 4

Which of the following can be implemented in an IP backbone network?

- A. RIP
- B. BGP
- C. ISIS
- D. MPLS

**Answer: B, C, D**

**Question: 5**

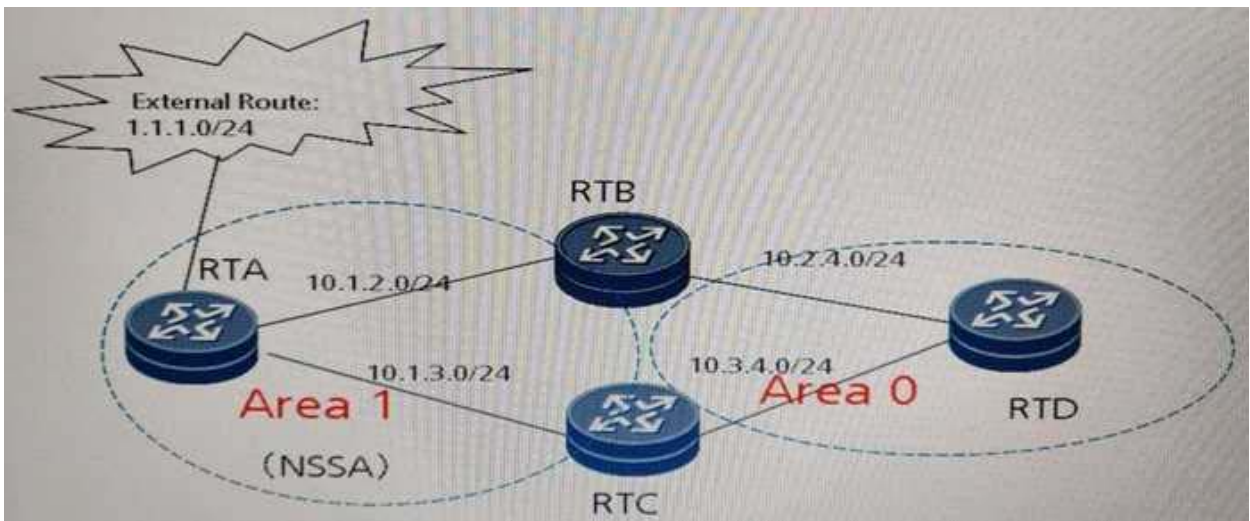
RTA is a provider edge (PE) router. OSPF is deployed between RTA and a customer edge (CE). Which of the following can be used to avoid routing loops when RTA generate an autonomy system-external (ASE) link-state advertisement (LSA) and sends it to the CE?

- A. Configuring the same VPN route tag on the PE
- B. Configuring Shame Link among PEs
- C. Setting DN-bit in the ASE LSA
- D. Configuring the same domain ID on the PE

**Answer: C, D**

**Question: 6**

Exhibit:



As shown in the figure, external route 1.1.1.0/24 is imported to RTA that is located in the NSSA area. RTD is a backbone area router. RTB and RTC are both area border routers (ABRs). OSPF configuration is as follows.

```

RTB:
#
ospf 1 router-id 2.2.2.2
area 0.0.0.0
network 10.2.4.0 0.0.0.255
network 2.2.2.2 0.0.0.0
area 0.0.0.1
network 10.1.2.0 0.0.0.255
nssa
#
return
RTC:
#
ospf 1 router-id 3.3.3.3
area 0.0.0.0
network 10.3.4.0 0.0.0.255
network 3.3.3.3 0.0.0.0
area 0.0.0.1
network 10.1.3.0 0.0.0.255
nssa
#
return

```

Which statement is true?

- A. RTD receive two external LSAs whose LS\_ID is 1.1.1.0
- B. RTD receive an external LSAs whose LS\_ID is 1.1.1.0 and advRouter is 2.2.2.2.
- C. RTD receive an external LSAs whose LS\_ID is 1.1.1.0 and advRouter is 3.3.3.3.
- D. RTD receive an external LSAs whose LS\_ID is 1.1.10/24 based on category 7 LSAs sent by RTA

**Answer: C**

## Question: 7

1. On the backbone network , if a PE is connect to a CE, VPN instances need to b reconfigured on the PE, and interface on the PE for connecting to the CE must be bound to a VPN instance. After binding an interface to a VPN instance, you must configure the IP address of the interface between PEs, IS-IS configured for PE interworking. PLSA basic capabilities and MPLS LSP are configured for LSP establishment, and MP\_IBGP is configured for VPN route exchange VPN routes exchange , LDAP is short for Label Distribution Protocol, and IBGP is short for interior Border gateway protocol.
2. A CE exchange route exchange routers with a PE over External Border gateway Protocol (EBGP). Configure interior gateway protocol (IGP) on the IS-IS+MPLS backbone networking to achieve the interworking between PEs and IP routers.

```

# Configure PE 1 as follows:
[PE 1] isis 100
[PE 1-isis-100] is-level level-2
[PE 1-isis-100] network-entity 10.1234.1234.1234.00
[PE 1] interface loopback1
[PE 1-LoopBack1] ip address 1.1.1.9 32
[PE 1-LoopBack1] isis enable
[PE 1-LoopBack1] quit
[PE 1] interface pos3/0/0
[PE 1-Pos3/0/0] ip address 172.1.1.1 24
[PE 1-Pos3/0/0] isis enable
[PE 1-Pos3/0/0] quit
(2) Configure MPLS basic capabilities and MPLS LDP for setting up LDP LSPs on the IS-IS+MPLS backbone network
# Configure PE 1 as follows:
[PE 1] mpls lsr-id 1.1.1.9
[PE 1] mpls
[PE 1-mpls] lsp-trigger all
[PE 1-mpls] quit
[PE 1] mpls ldp
[PE 1-mpls-ldp] quit
[PE 1] interface pos 3/0/0
[PE 1-Pos3/0/0] mpls
[PE 1-Pos3/0/0] mpls ldp
[PE 1-Pos3/0/0] quit
(3) Configure VPN instances on a PE for connecting CEs to the PE.
# Configure PE 1 as follows:
[PE 1] ip vpn-instance vpna
[PE 1-vpn-instance-vpna] route-distinguisher 100:1
[PE 1-vpn-instance-vpna] vpn-target 111:1 both
[PE 1-vpn-instance-vpna] quit
[PE 1] ip vpn-instance vpb
[PE 1-vpn-instance-vpb] route-distinguisher 100:2
[PE 1-vpn-instance-vpb] vpn-target 222:2 both
[PE 1-vpn-instance-vpb] quit
[PE 1] interface gigabitethernet 1/0/0
[PE 1-GigabitEthernet1/0/0] ip binding vpn-instance vpna
[PE 1-GigabitEthernet1/0/0] ip address 10.1.1.2 24
[PE 1-GigabitEthernet1/0/0] quit
[PE 1] interface gigabitethernet 2/0/0
[PE 1-GigabitEthernet2/0/0] ip binding vpn-instance vpb
[PE 1-GigabitEthernet2/0/0] ip address 10.2.1.2 24
[PE 1-GigabitEthernet2/0/0] quit
(4) Set up an EBGP peer relationship between a PE and a CE and import VPN routes.
# Configure PE 1 as follows:
[PE 1] bgp 100
[PE 1-bgp] ipv4-family vpn-instance vpna
[PE 1-bgp-vpna] peer 10.1.1.1 as-number 65410
[PE 1-bgp-vpna] import-route direct
[PE 1-bgp-vpna] quit
[PE 1-bgp] ipv4-family vpn-instance vpb
[PE 1-bgp-vpb] peer 10.2.1.1 as-number 65420
[PE 1-bgp-vpb] import-route direct
[PE 1-bgp-vpb] quit
(5) Set up an MP-IBGP peer relationship between PEs.
# Configure PE 1 as follows:
[PE 1] bgp 100
[PE 1-bgp] peer 3.3.3.9 as-number 100
[PE 1-bgp] peer 3.3.3.9 connect-interface loopback 1
[PE 1-bgp] ipv4-family vpnv4
[PE 1-bgp-af-vpnv4] peer 3.3.3.9 enable
[PE 1-bgp-af-vpnv4] quit

```

- A. -4
- B. -3
- C. -2
- D. -5
- E. -1

**Answer: D**

## Question: 8

As shown in the figure. CE 1 and CE 3 belong to VPN-A, and CE 2 CE 2 4 belong to VPN-B VPN-target VPN-A is 111:1 and that of VPN-B is 222:2 users on different VPNs are not allowed to access each other. Configuration principles are as follows:

On the backbone network VPNs are not connected to a CE, VPN instance need to be configured on the PE, and an interface on the PE for connecting to the CE must be bounded to a VPN instance. After binding an interface to a VPN instance, you must configure the IP address of the interface Between PEs, IS-IS is configured for PE interworking. MPLS basic capabilities and MPLS LDP are configured for MPLS LSP establishment, and MP-IBGP is configured for VPN route exchange.

```
2. A CE exchanges VPN routes with a PE over IS-IS.
IS-IS configurations of PE 1
Configure IGP on the IS-IS+MPLS backbone network to achieve the interworking between PEs and P routers.
# Configure PE 1 as follows:
[PE 1] isis 100
[PE 1-isis-100] is-level level-2
[PE 1-isis-100] network-entity 10.1234.1234.1234.00
[PE 1] interface loopback1
[PE 1-LoopBack1] ip address 1.1.1.9 32
[PE 1-LoopBack1] isis enable 100
[PE 1-LoopBack1] quit
[PE 1] interface pos3/0/0
[PE 1-Pos3/0/0] ip address 172.1.1.1 24
[PE 1-Pos3/0/0] isis enable 100
[PE 1-Pos3/0/0] quit
Use IS-IS to exchange VPN routes between a PE and a CE
[PE 1] isis 200 vpn-instance VPN-A
[PE 1-isis-200] is-level level-2
[PE 1-isis-200] network-entity 10.1234.1234.1230.00
[PE 1] interface GigabitEthernet1/0/0
[PE 1-GigabitEthernet1/0/0] ip address 10.1.1.2 24
[PE 1-GigabitEthernet1/0/0] isis enable 200
[PE 1-GigabitEthernet1/0/0] quit
```

How to enable CE 1 to learn routes from AS 64430?

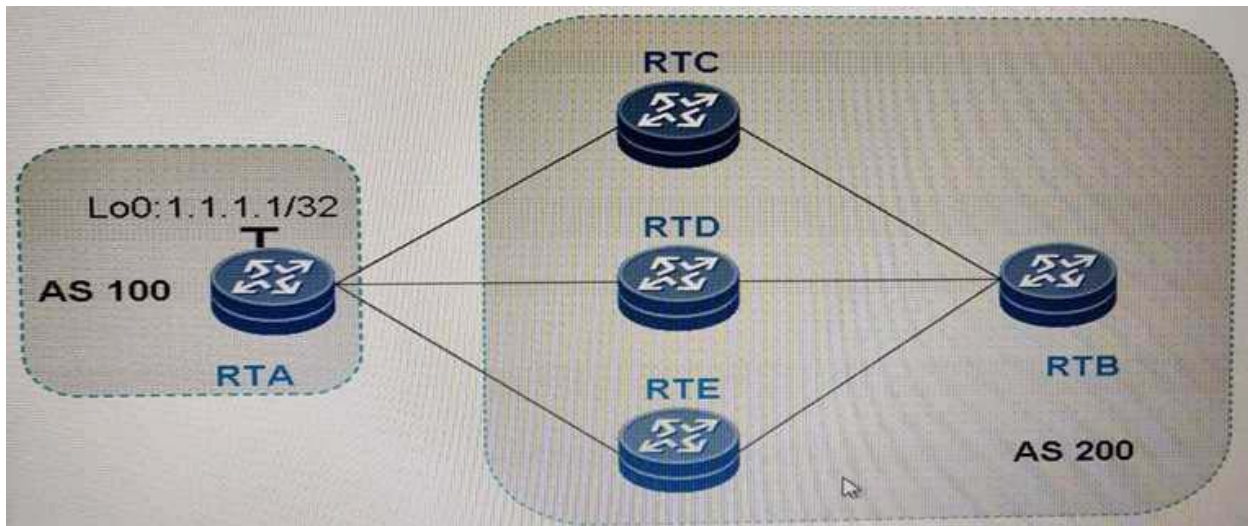
- A. Import IS-IS 200 routes in IS-IS process 100
- B. Import IS-IS 100 routes in IS-IS process 100
- C. Import BGP routes in IS-IS process 100
- D. Import BGP routes in IS-IS process 200

**Answer: C**

## Question: 9

Exhibit:





As shown in the figure, RTA belongs to AS 100 and has an EBGP neighbor relationship with RTC, RTD, and RTE, and the four routers all belong to AS 200.

(Note: The attributes not involved in the question use the default values)

1. Import route 1.1.1/32 from RTA and advertise this route to RTB by way of RTC, RTD, and RTE, respectively (suppose the three routers between is IGP, EGP, and INCOMPLETE, respectively). Which route will RTB prefer?
2. Suppose the preceding policy is retained. Apply inbound routing policies on RTC, RTD, and RTE so that the values of the MED attribute of route 1.1.1.32 learned by RTB are 40, and 20 respectively. Which route will RTB prefer?
3. Suppose the preceding policy is retained. Apply an inbound routing policy on RTB so that the values of the AS\_PATH attribute of route 1.1.1/32 learned from RTC, RTD, and RTE are 10 20 30, and 10 20, respectively. Which route will RTB prefer?
4. Suppose the preceding policy is retained. Apply an inbound routing policy on RTB so that the values of the local-preference attribute of route 1.1.1.32 learned from RTC and RTE are 30 and 120, respectively. Which route will RTB prefer?
5. Suppose the preceding policy is retained. Apply inbound policies on RTC, RTD and RTE so that the values of the preferred-value attribute of route 1.1.1.32 are 50.40 and 30 respectively. Which route will RTB prefer?

- A. RTC, RTC, RTE, RTC, RTE
- B. RTC, RTD, RTD, RTE, RTE
- C. RTC, RTC, RTD, RTC, RTE
- D. RTC, RTC, RTD, RTE, RTE

**Answer: A**

**Question: 10**

Exhibit:



As shown in the figure, RTA and have one BGP session. To detect fault fast, the BFD for BGP feature needs to be configured on RTA and RTB. BGP-related configurations are as follows:

```

BGP-related configurations on RTA:
#
bfd
#
bgp 100
router-id 1.1.1.1
peer 10.1.1.2 as-number 200
peer 10.1.1.2 bfd min-tx-interval 150 min-rx-interval 150 detect-multiplier 4
peer 10.1.1.2 bfd enable
#
ipv4-family unicast
undo synchronization
peer 10.1.1.2 enable
#
BGP-related configurations on RTB:
#
bfd
#
bgp 200
router-id 2.2.2.2
peer 10.1.1.1 as-number 100
peer 10.1.1.1 bfd enable
peer 10.1.1.1 bfd min-tx-interval 180 min-rx-interval 180 detect-multiplier 5
#
ipv4-family unicast
undo synchronization
peer 10.1.1.1 enable
#

```

The only Ethernet link between RTA and RTB becomes faulty when the BGP neighbor session is in ESTABLISHED state and the BFD session is in the UP state. Which statements is true? (Note: BFD works in asynchronous mode)

- A. RTA detect the fault faster than RTB.
- B. The BGP session between RTA and RTB is interrupted when the BGP hold time (time duration is 180s by default) express.
- C. RTB detect the fault faster than RTA.
- D. RTA and RTB detect the fault simultaneously.

**Answer: C**