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300-320

Designing Cisco Network Service Architectures

Version 5.0

Exam A**QUESTION 1**

Which route summarization most efficiently reduces perceived network complexity that is composed of subnetworks ranging from 172.16.20.0/24 to 172.16.36.0/24?

- A. 172.16.8.0/21
- B. 172.16.8.0/19
- C. 172.16.20.0/20
- D. 172.16.0.0/18
- E. 172.16.20.0/19

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 2

What is the recommended subnet between two sites that have a point-to-point connection to conserve IP addresses?

- A. 255.255.255.0
- B. 255.255.252.0
- C. 255.255.255.252
- D. 255.255.255.240

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 3

In which OSI layer does IS-IS operate?

- A. Layer 1
- B. Layer 2
- C. Layer 3

D. Layer 4

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 4

Which algorithm does IS-IS use to determine the shortest path through a network?

- A. Bellman-Ford routing algorithm
- B. Johnson's algorithm
- C. Dijkstra's algorithm
- D. Floyd-Warshall algorithm

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 5

Which unique EIGRP feature allows for faster Layer 3 convergence?

- A. fast EIGRP timers
- B. feasible successors
- C. hybrid routing protocol
- D. Cisco proprietary protocol

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 6

EIGRP uses which algorithm to build a routing table?

- A. Dijkstra's algorithm
- B. Floyd-Warshall algorithm
- C. Diffusing Update Algorithm
- D. Johnson's algorithm

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 7

What is the maximum number of routers that each OSPF area (including the backbone) should contain?

- A. 30
- B. 10
- C. 50
- D. 100

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 8

What is the maximum number of neighbors that a router should have in an OSPF area?

- A. 5
- B. 30
- C. 60
- D. 99

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:**QUESTION 9**

```
R1(config)# router ospf 2

R1(config)# network 10.10.10.0 0.0.0.255 area 1

R1(config)# network 20.20.20.0 0.0.0.255 area 2

R1(config)# router-id 15.15.15.15

R2(config)# router ospf 10

R2(config)# network 10.10.10.0 0.0.0.255 area 1

R2(config)# network 20.20.20.0 0.0.0.255 area 2

R2(config)# router-id 16.16.16.16
```

Refer to the exhibit. Based on the configuration, why are routers R1 and R2 not exchanging OSPF routes?

- A. The OSPF process numbers are different.
- B. There is no backbone area configured.
- C. The router IDs are different.
- D. OSPF is not enabled on the interfaces.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 10

An engineer notices that many BGP peers utilize the same configuration parameters. What can the engineer configure to simplify BGP neighbor statements and generate more efficient BGP peer updates?

- A. peer groups
- B. policy templates
- C. session templates
- D. peer address families

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 11

What is the correct state between two BGP peers that are neighbors?

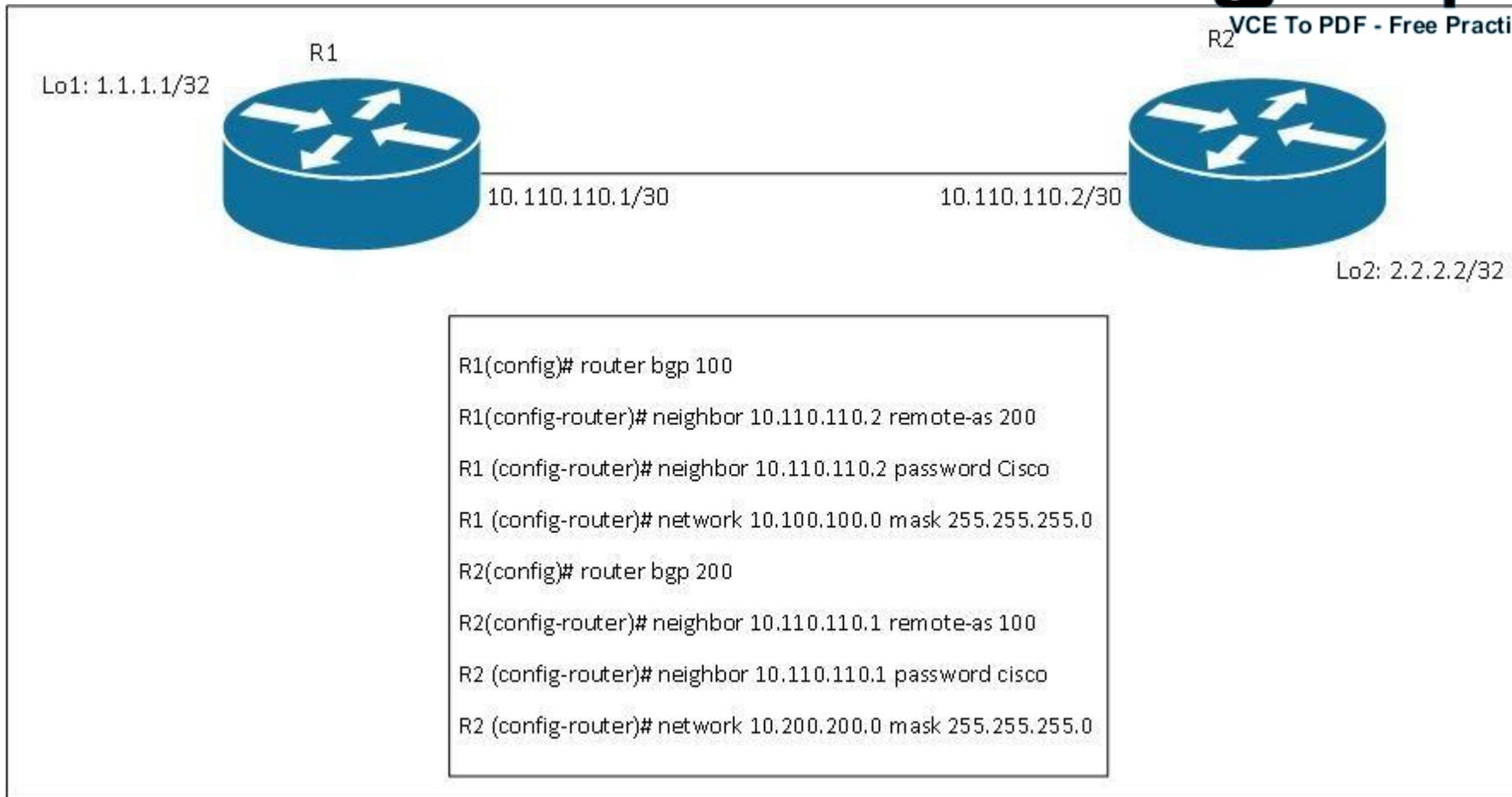
- A. active
- B. operational
- C. established
- D. up

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 12

Refer to the exhibit. A network engineer manually reconfigures the BGP configuration on newly upgraded router R1. However, the BGP neighbor relationship does not come up with the directly connected neighbor router. What is causing the failure of the BGP neighbor relationship between routers R1 and R2?



- A. An incorrect neighbor IP address for router R2 is configured on router R1.
- B. An incorrect neighbor AS number is configured on router R1 for router R2.
- C. The wrong BGP authentication password is configured on router R1.
- D. Router R1 must configure the R2 loopback address as the neighbor IP address.

Correct Answer: C

Section: (none)
Explanation

Explanation/Reference:

QUESTION 13

Which option is a primary requirement for the deployment of an IPv6-enabled network via the native method (dual-stack model) within the enterprise campus environment?

- A. hardware-based switching support for IPv6 forwarding on all campus switches
- B. restriction of IPv6-enabled devices to the core layer
- C. manual implementation of tunneling between IPv6-incompatible devices in an IPv4-over-IPv6 tunnel
- D. disabling of multicast in the distribution layer prior to implementation of IPv6

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 14

Which multicast address must be available for FHRP advertisements in a multivendor environment?

- A. 224.0.0.9
- B. 224.0.0.18
- C. 224.0.0.102
- D. 224.0.0.2

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 15

Which feature must be configured for the VRRP-enabled router to regain the master VRRP status upon recovery from a failure?

- A. priority

- B. authentication
- C. pre-emption
- D. Stateful Switchover

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 16

Which protocol should be configured if a network administrator wants to configure multiple physical gateways to participate simultaneously in packet forwarding?

- A. HSRP
- B. VRRP
- C. GLBP
- D. VTP

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 17

Which Nexus feature enables you to support server connectivity with one topology and address requirement for both high availability and high bandwidth?

- A. vPC
- B. vPC+
- C. Stackwise
- D. EvPC

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 18

Which technology can block interfaces and provide a loop-free topology?

- A. STP
- B. VSS
- C. VLAN
- D. vPC

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 19

Which technology allows network managers to centrally manage the VLAN database?

- A. VTP
- B. VLAN
- C. VSS
- D. vPC

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 20

Which technology allows multiple instances of a routing table to coexist on the same router simultaneously?

- A. VRF
- B. Cisco virtual router
- C. instanced virtual router
- D. IS-IS

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 21

Which first-hop redundancy protocol that was designed by Cisco allows packet load sharing among groups of redundant routers?

- A. GLBP
- B. HSRP
- C. VRRP
- D. VSS

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 22

Which routing protocol provides the fastest convergence and greatest flexibility within a campus environment?

- A. OSPF
- B. IS-IS
- C. BGP
- D. EIGRP

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 23

A network engineer wants to connect two sites via a WAN technology and to securely pass multicast traffic over this WAN technology. Which WAN technology should be configured?

- A. IPsec
- B. GRE
- C. pure MPLS
- D. GRE over IPsec

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 24

A network manager wants to securely connect a new remote site to the existing headquarters site using a VPN technology that meets security requirements. Which VPN technology should be used?

- A. GRE
- B. IPsec
- C. remote-access VPN
- D. L2TP VPN

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 25

Which VPN technology is tunnel-less?

- A. GET VPN
- B. DMVPN
- C. MPLS
- D. IPsec VPN

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:**QUESTION 26**

Which type of connectivity is required for VPLS?

- A. full mesh
- B. partial mesh
- C. star
- D. bus
- E. ring

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:**QUESTION 27**

Which protocol should be run on the LAN side of two edge routers (that are terminating primary and backup WAN circuits) to provide quick failover in case of primary WAN circuit failure?

- A. VTP
- B. STP
- C. VRRP
- D. RIP

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:**QUESTION 28**

Which Cisco feature can be run on a Cisco router that terminates a WAN connection, to gather and provide WAN circuit information that helps switchover to dynamically back up the WAN circuit?

- A. Cisco Express Forwarding

- B. IP SLA
- C. passive interface
- D. traffic shaping

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 29

Which protocol is best when there are circuit connections with two different ISPs in a multihoming scenario?

- A. VRRP
- B. BGP
- C. IPsec
- D. SSL

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 30

Private lines make use of which connection type based on cell switching?

- A. ATM
- B. ISP MPLS VPN
- C. VTI
- D. VPLS

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference: