

642-901: CCNP BSCI (Building Scalable Cisco Internetworks)

1.

Which three statements are true about the Internet Group Management Protocol (IGMP)? (Choose three.)

- A. IGMP is a multicast routing protocol that makes packet-forwarding decisions independent of other routing protocols such as EIGRP.
- B. IGMP is used to register individual hosts with a multicast group.
- C. IGMP messages are IP datagrams with a protocol value of 2, destination address of 224.0.0.2, and a TTL value of 1.
- D. IGMP snooping runs on Layer 3 routers.
- E. IGMP version 3 enables a multicast receiving host to specify to the router which sources it should forward traffic from.
- F. There are three IGMP modes: dense mode, sparse mode, and sparse-dense mode.

2.

Which three IP multicast group concepts are true? (Choose three.)

- A. If a packet is sent to a multicast group address, all members of the multicast group will receive it.
- B. If a packet is sent to a multicast group address, the multicast frame contains the source multicast address.
- C. A router does not have to be a member of a multicast group to receive multicast data.
- D. A router does not have to be a member of a multicast group to send to the group.
- E. A router must be a member of a multicast group to receive multicast data.
- F. A router must be a member of a multicast group to send to the group.

3.

What are three methods that may be used to allow a switch to determine which ports to forward IP multicast messages to? (Choose three.)

- A. IGMP
- B. IGMP snooping
- C. PIM
- D. CGMP
- E. static assignment
- F. CDP

4.

What two situations could require the use of multiple routing protocols? (Choose two)

- A. when using UNIX host-based routers
- B. when smaller broadcast domains are desired
- C. because having multiple routing protocols confuses hackers
- D. when migrating from an older Interior Gateway Protocol (IGP) to a new IGP
- E. when all equipment is manufactured by Cisco
- F. when there are multiple paths to destination networks

5.

Which two statements are true regarding EIGRP neighbor router authentication? (Choose two.)

- A. Simple password or MD5 authentication may be used.
- B. With MD5 authentication, the key is sent across, but it is encrypted.
- C. MD5 authentication is required.
- D. With authentication configured, the router authenticates the source of each routing update packet that it receives from a neighboring router.
- E. With authentication configured, the router authenticates the source of only the first routing update packet that it receives from a neighboring router.
- F. With authentication configured, the router authenticates the source of every data packet that it receives from neighboring routers.

6.

How is the designated querier elected in IGMPv2?

- A. The first router to appear on a subnet is designated.
- B. The host that responds first to the election query is designated.
- C. The router with the lowest IP address on a subnet is designated.
- D. The host with the lowest MAC address on a segment is designated.

7.

Which statement is true about EBGP?

- A. An internal routing protocol can be used to reach an EBGP neighbor.
- B. The next hop does not change when BGP updates are exchanged between EBGP neighbors.
- C. A static route can be used to form an adjacency between neighbors.
- D. EBGP requires a full mesh.

8.

Which two statements are true about IBGP neighbor relationships? (Choose two.)

- A. An EGP or static routing is required between IBGP neighbors.
- B. A full-mesh IBGP requires that neighbor relationships be established between all BGP enabled routers in the autonomous system.
- C. IBGP neighbors must be in different autonomous systems.
- D. The BGP split-horizon rule specifies that routes learned via EBGP are never propagated to other IBGP peers.
- E. The BGP split horizon rule specifies that routes learned via IBGP are never propagated to other IBGP peers.

9.

Which code from the show ip eigrp topology command output indicates a convergence problem for the associated network?

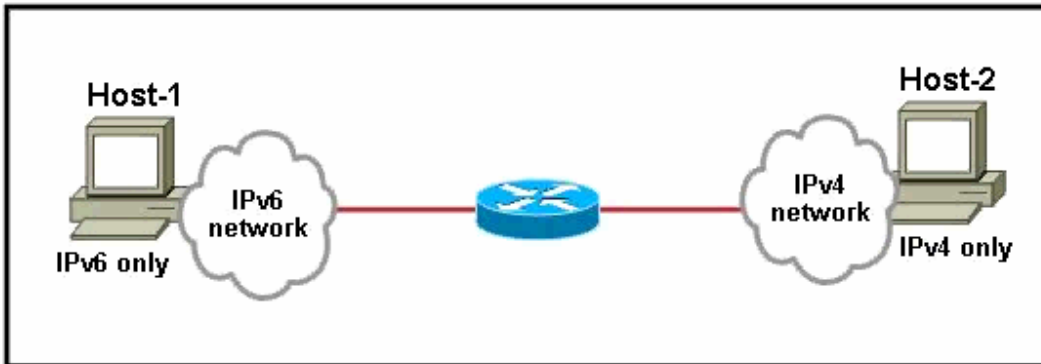
- A. *
- B. SIA
- C. Query
- D. Active
- E. Update
- F. Passive

10.

In IPv6, the interfaces running OSPF can be configured with multiple address prefixes. Which statement is true about the IPv6 addresses that can be included into the OSPF process?

- A. Specific addresses cannot be selected for importation into the OSPF process.
- B. Specific addresses can be selected using an ACL.
- C. Specific addresses can be selected using a route map.
- D. Specific addresses can be selected using a prefix list.

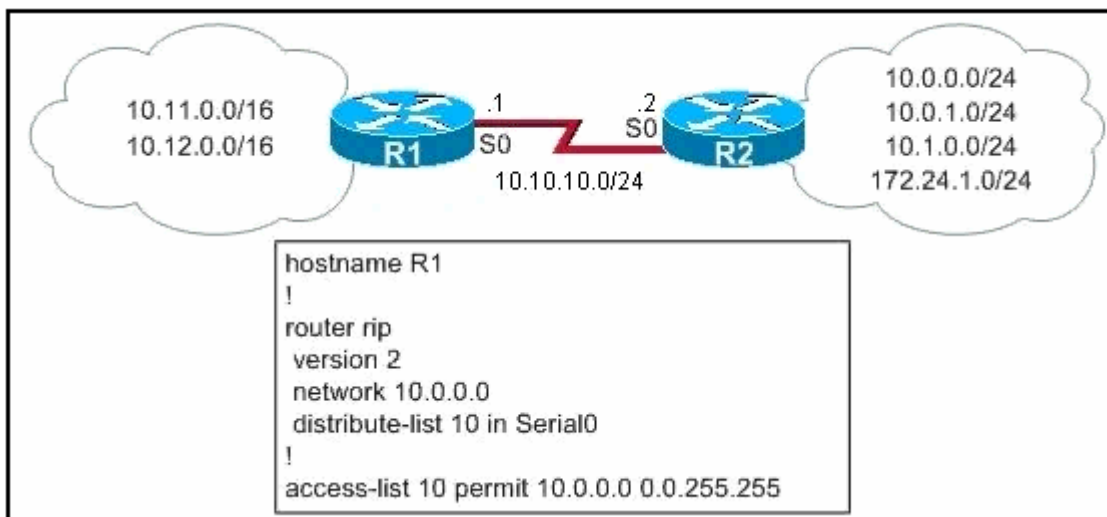
11.



Refer to the exhibit. Which interoperability technique implemented on the router would allow Host-1 to communicate with Host-2?

- A. Dual Stack
- B. NAT-PT
- C. 6to4 tunnel
- D. GRE tunnel
- E. ISATAP tunnel

12.



Refer to the exhibit. What is the effect of the distribute-list command in the R1 configuration?

- A. R1 will filter only the 172.24.1.0/24 route from the R2 RIP updates.
- B. R1 will permit only the 10.0.0.0/24 route in the R2 RIP updates.
- C. R1 will filter the 10.1.0.0/24 and the 172.24.1.0/24 routes from the R2 RIP updates.
- D. R1 will not filter any routes because there is no exact prefix match.

13.

```
Router# debug ip mrouting 224.2.0.1
MRT: Create (*, 224.2.0.1), if_input NULL
MRT: Create (224.69.15.0/24, 225.2.2.4), if_input Ethernet0, RPF nbr 224.69.61.15
MRT: Create (224.69.39.0/24, 225.2.2.4), if_input Ethernet1, RPF nbr 224.0.0.0
MRT: Create (10.9.0.0/16, 224.2.0.1), if_input Ethernet1, RPF nbr 0.0.0.0
MRT: Create (10.16.0.0/16, 224.2.0.1), if_input Ethernet1, RPF nbr 0.0.0.0
```

Refer to the exhibit. Given the output of a debug ip mrouting command, which two statements are true? (Choose two.)

- A. This router received an IGMP host report from a group member or a PIM join message.
- B. The reverse path forwarding (RPF) for the route 224.2.0.1 failed to find the interface on which the multicast packet was received.
- C. Multicast route to 10.16.0.0/16 was added to the mroute table and created by a source directly connected to the router.
- D. Multicast route to 224.69.15.0/24 was added to the mroute table and created by a source directly connected to the router.
- E. The route to 224.69.15.0/24 will be out Ethernet 0.

14.

```
NA-1#sh ip mroute
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry,
       X - Proxy Join Timer Running, A - Advertised via MSDP, U - URD,
       I - Received Source Specific Host Report
Outgoing interface flags: H - Hardware switched
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(*, 224.1.1.1), 00:07:54/00:02:59, RP 10.127.0.7, flags: S
  Incoming interface: Null, RPF nbr 0.0.0.0
  Outgoing interface list:
    Serial1/3, Forward/Sparse, 00:07:54/00:02:32

(172.16.8.1, 224.1.1.1), 00:01:29/00:02:08, flags: TA
  Incoming interface: Serial1/4, RPF nbr 10.139.16.130
  Outgoing interface list:
    Serial1/3, Forward/Sparse, 00:00:57/00:02:02
```

Refer to the exhibit. Based upon the information provided, which two statements are correct regarding the PIM sparse mode network? (Choose two.)

- A. The RP for this network is 172.16.8.1.
- B. The RP for this network is this router.
- C. The multicast source is connected to the serial 1/4 interface.
- D. The multicast source is directly connected to this router.
- E. The multicast receiver is directly connected to this router.