# 200-101 Q&As

Interconnecting Cisco Networking Devices Part 2 (ICND2)

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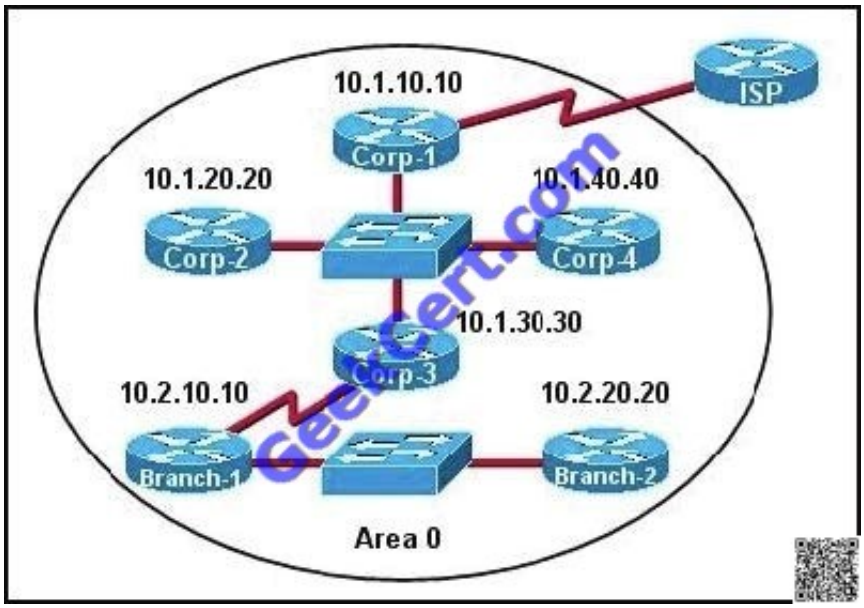
**QUESTION 1**

Refer to Exhibit: The internetwork infrastructure of company XYZ consists of a single OSPF area as shown in the graphic. There is concern that a lack of router resources is impeding internetwork performance. As part of examining the router resources, the OSPF DRs need to be known. All the router OSPF priorities are at the default and the router IDs are shown with each router. Which routers are likely to have been elected as DR? (Choose two.)




A. Corp-1

B. Corp-2

C. Corp-3

D. Corp-4

E. Branch-1

F. Branch-2

Correct Answer: DF

There are 2 segments on the topology above which are separated by Corp-3 router.

Each segment will have a DR so we have 2 DRs.

To select which router will become DR they will compare their router-IDs. The router with highest (best) router-ID will become DR. The router-ID is chosen in the order below:

The highest IP address assigned to a loopback (logical) interface.

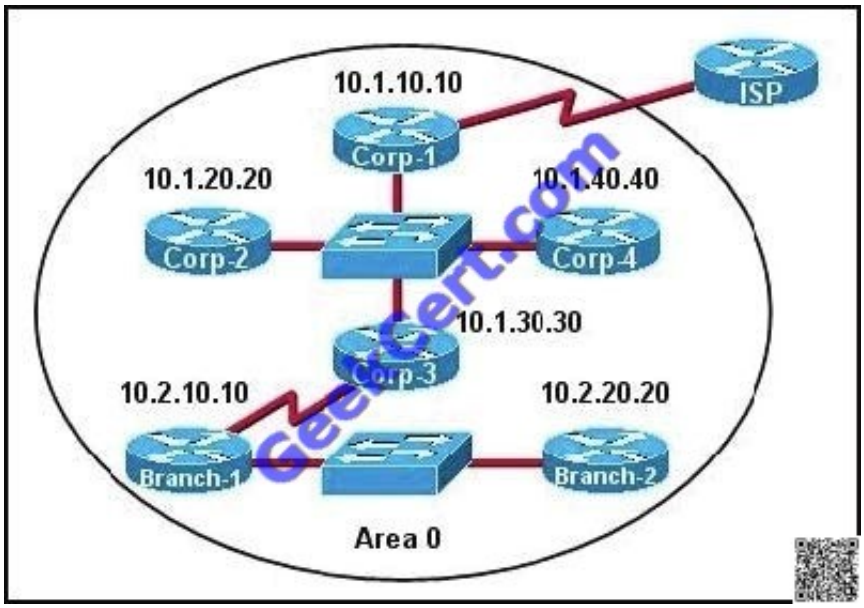
If a loopback interface is not defined, the highest IP address of all active router\\'s physical interfaces will be chosen.

In this question, the IP addresses of loopback interfaces are not mentioned so we will consider IP addresses of all active router\\'s physical interfaces. Router Corp- 4 (10.1.40.40) and Branch-2 (10.2.20.20) have highest "active" IP addresses so

they will become DRs.

**QUESTION 2**

The internetwork infrastructure of company XYZ consists of a single OSPF area as shown in the graphic. There is concern that a lack of router resources is impeding internetwork performance. As part of examining the router resources, the OSPF DRs need to be known. All the router OSPF priorities are at the default and the router IDs are shown with each router.

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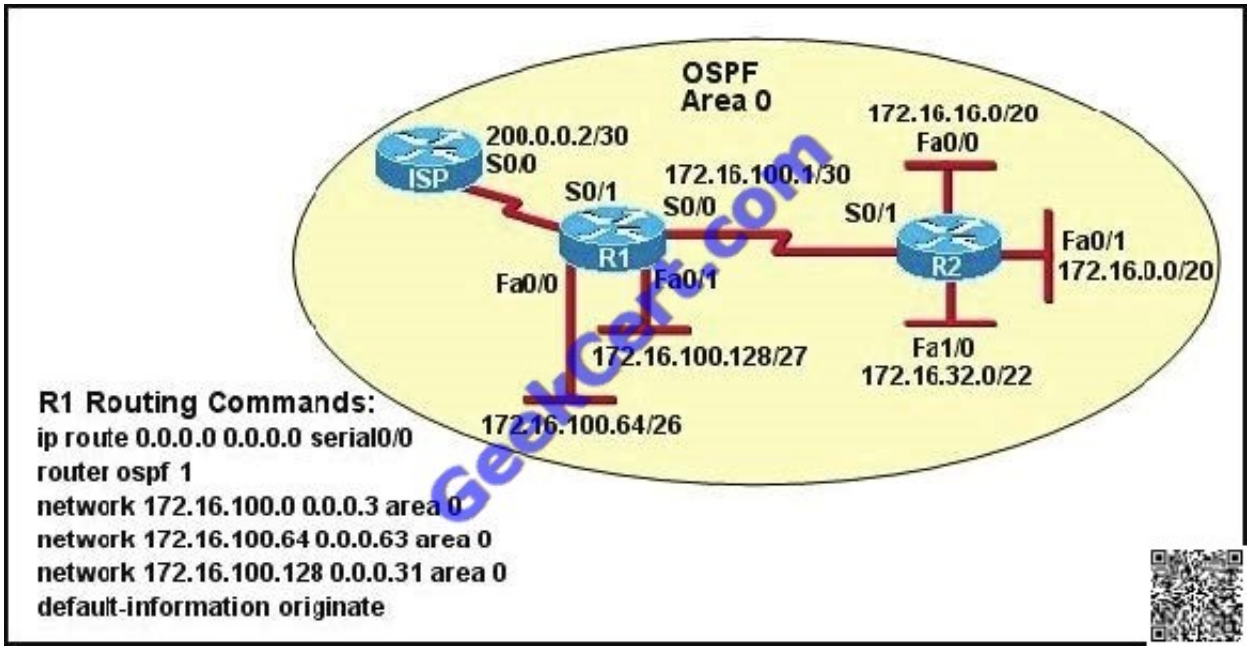
**QUESTION 3**

Refer to the exhibit.




Assume that all router interfaces are operational and correctly configured. In addition, assume that OSPF has been correctly configured on router R2. How will the default route configured on R1 affect the operation of R2?

A. Any packet destined for a network that is not directly connected to router R1 will be dropped.

B. Any packet destined for a network that is not directly connected to router R2 will be dropped immediately.

C. Any packet destined for a network that is not directly connected to router R2 will be dropped immediately because of the lack of a gateway on R1.

D. The networks directly connected to router R2 will not be able to communicate with the 172.16.100.0, 172.16.100.128, and 172.16.100.64 subnetworks.

E. Any packet destined for a network that is not referenced in the routing table of router R2 will be directed to R1. R1 will then send that packet back to R2 and a routing loop will occur.

Correct Answer: E

First, notice that the more-specific routes will always be favored over less-specific routes regardless of the administrative distance set for a protocol. In this case, because we use OSPF for three networks (172.16.100.0 0.0.0.3, 172.16.100.64 0.0.0.63, 172.16.100.128 0.0.0.31) so the packets destined for these networks will not be affected by the default route. The default route configured on R1 "ip route 0.0.0.0 0.0.0.0 serial0/0 will send any packet whose destination network is not referenced in the routing table of router R1 to R2, it doesn\\'t drop anything so answers A, B and C are not correct. D is not correct too because these routes are declared in R1 and the question says that "OSPF has been correctly configured on router R2, so network directly connected to router R2 can communicate with those three subnetworks. As said above, the default route configured on R1 will send any packet destined for a network that is

not referenced in its routing table to R2; R2 in turn sends it to R1 because it is the only way and a routing loop will occur.

**QUESTION 4**

Which port state is introduced by Rapid-PVST?

A. learning

B. listening

C. discarding

D. forwarding

Correct Answer: C

Spanning Tree from PVST+ to Rapid-PVST Migration Configuration Example Reference 1: http://www.cisco.com/en/US/products/hw/switches/ps708/products_configuration_example09186a00807 b0670.shtml

Reference 2: http://www.cisco.com/en/US/tech/tk389/tk621/technologies_white_paper09186a0080094cfa.shtml

PVST+ is based on IEEE802.1D Spanning Tree Protocol (STP). But PVST+ has only 3 port states (discarding, learning and forwarding) while STP has 5 port states (blocking, listening, learning, forwarding and disabled). So discarding is a new port state in PVST+.

| STP (802.1D) Port State | RSTP (802.1w) Port State | Is Port Included in Active Topology? | Is Port Learning MAC Addresses? |
|---|---|---|---|
| Disabled | Discarding | No | No |
| Blocking | Discarding | No | No |
| Listening | Discarding | Yes | No |
| Learning | Learning | Yes | Yes |
| Forwarding | Forwarding | Yes | Yes |



Background Information

802.1D Spanning Tree Protocol (STP) has a drawback of slow convergence. Cisco Catalyst switches support three types of STPs, which are PVST+, rapid-PVST+ and MST. PVST+ is based on IEEE802.1D standard and includes Cisco

proprietary extensions such as BackboneFast, UplinkFast, and PortFast. Rapid-PVST+ is based on IEEE 802.1w standard and has a faster convergence than 802.1D. RSTP (IEEE 802.1w) natively includes most of the Cisco proprietary

enhancements to the 802.1D Spanning Tree, such as BackboneFast and UplinkFast. Rapid- PVST+ has these unique features:

Uses Bridge Protocol Data Unit (BPDU) version 2 which is backward compatible with the 802.1D STP, which uses

BPDU version 0. All the switches generate BPDUs and send out on all the ports every 2 seconds, whereas in 802.1D STP only

the root bridge sends the configuration BPDUs. Port Roles--Root port, designated port, alternate port and backup port.

Port States--Discarding, Learning, and Forwarding.

Port Types--Edge Port (PortFast), Point-to-Point and Shared port. Rapid-PVST uses RSTP to provide faster convergence. When any RSTP port receives legacy 802.1D BPDU, it falls back to legacy STP and the inherent fast convergence

benefits of 802.1w are lost when it interacts with legacy bridges.

**QUESTION 5**

The output of the show frame-relay pvc command shows "PVC STATUS = INACTIVE". What does this mean?

A. The PVC is configured correctly and is operating normally, but no data packets have been detected for more than five minutes.

B. The PVC is configured correctly, is operating normally, and is no longer actively seeking the address of the remote router.

C. The PVC is configured correctly, is operating normally, and is waiting for interesting traffic to trigger a call to the remote router.

D. The PVC is configured correctly on the local switch, but there is a problem on the remote end of the PVC.

E. The PVC is not configured on the local switch.

Correct Answer: D

The PVC STATUS displays the status of the PVC. The DCE device creates and sends the report to the DTE devices. There are 4 statuses:

ACTIVE: the PVC is operational and can transmit data INACTIVE: the connection from the local router to the switch is working, but the connection to the remote router is not available DELETED: the PVC is not present and no LMI information is being received from the Frame Relay switch STATIC: the Local Management Interface (LMI) mechanism on the interface is disabled (by using the "no keepalive" command). This status is rarely seen.