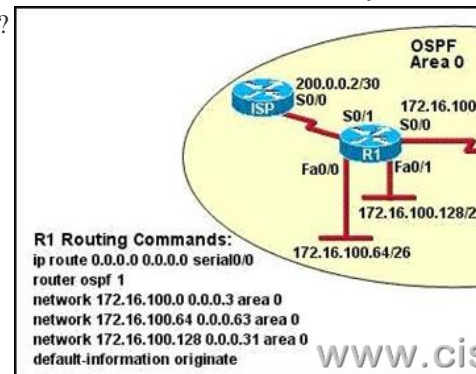


## CCNA 640-802 Bible - Configure, Verify and Troubleshoot OSPF(1)

1. The [OSPF](#) Hello protocol performs which of the following tasks? (Choose two.) A: It provides dynamic neighbor discovery. B: It detects unreachable neighbors in 90 second intervals. C: It maintains neighbor relationships. D: It negotiates correctness parameters between neighboring interfaces. E: It uses timers to elect the router with the fastest links as the designated router. F: It broadcasts hello packets throughout the internetwork to discover all routers that are running OSPF. **Correct Answers: A, C**

2. 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 Answers: E**

**Explanation:** This question is to examine the understanding of the knowledge points about the default routing and the routing loop. The default routing is a special static route, which means the selection of the router can make if there is no matching between the packets of destination addresses in the routing table. Otherwise, the packets of the destination address which has no matching in the routing table will be abandoned if there is no default route. When one learns to the default route of R2, the router entries which are not matched to the destination addresses in the routing table will be directly handed over to and be transmitted by the default route. If this routing address doesn't even exist, R1 will feedback a destination-inaccessible message to R2. In this way, R2 will transmit the data packet to the default route, and form a loop circuit.

3. On which types of network will OSPF elect a backup designated router? A: point-to-point and multiaccess B: point-to-multipoint and multiaccess C: point-to-point and point-to-multipoint D: nonbroadcast and broadcast multipoint E: nonbroadcast and broadcast multiaccess **Correct Answers: E**

**Explanation:** DR and BDR are elected on broadcast and nonbroadcast multi-access networks.

4. A network administrator is troubleshooting the OSPF configuration of routers R1 and R2. The routers cannot establish an adjacency relationship on their common Ethernet link. The graphic shows the output of the show ip ospf interface e0 command for routers R1 and R2. Based on the information in the graphic, what is the cause of this problem?

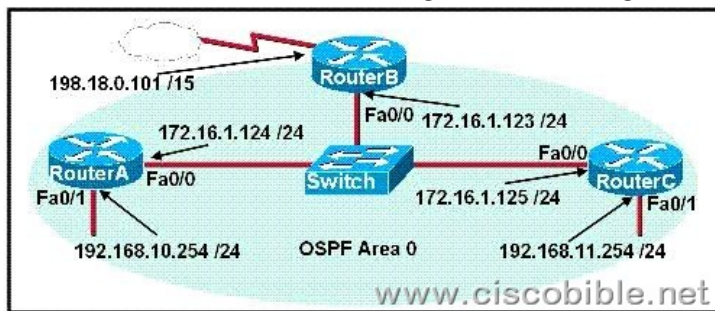
<b>R1:</b>	Ethernet0 Internet a Process 1 Transmit Designate No backu Timer inte
<b>R2:</b>	Ethernet0 Internet a Process 1 Transmit Designate No backu Timer inte

A: The OSPF area is not configured properly. B: The priority on R1 should be set higher. C: The cost on R1 should be set higher. D: The hello and dead timers are not configured properly. E: A backup designated router needs to be added to the network. F: The OSPF process ID numbers must match. **Correct Answers: D**

**Explanation:** As can be seen above, the hello interval for R1 has been set to 5 seconds, while it is set to 10 for R2. Also, the dead interval on R1 is set at 20 seconds while on router R2 it is set to 40 seconds. In order for two routers to establish an OSPF neigh adjacency, the hello and dead timers must match.

5. A network

administrator is configuring the routers in the graphic for OSPF. The OSPF process has been started and the networks have been configured for Area 0 as shown in the diagram. The network administrator has several options for configuring RouterB to ensure that it will be preferred as the designated router (DR) for the 172.16.1.0 /24 LAN segment. What configuration tasks could be used to establish this preference? (Choose three.)



A:Configure the priority value of the Fa0/0 interface of RouterB to a higher value than any other interface on the Ethernet network. B:Change the router id of Router B by assigning the IP address 172.16.1.130/24 to the Fa0/0 interface of RouterB. C:Configure a loopback interface on RouterB with an IP address higher than any IP address on the other routers. D:Change the priority value of the Fa0/0 interface of RouterB to zero. E:Change the priority values of the Fa0/0 interfaces of RouterA and RouterC to zero. F:No further configuration is necessary. **Correct Answers: A, C, E** Explanation: In order to ensure that a router will become the OSPF DR for any given segment, there are a number of options. One way is to manually configure the interface priority as described in option A above using the "ip ospf priority" interface configuration command. The second method is described in option C. OSPF routers will always use the loopback interface IP address as the router ID, when configured, and the router with the highest IP address will be chosen as the DR when the priorities are the same. The final method is to change the priority of the other routers in the segment to zero. When the OSPF priority is set to 0, the router is ineligible to become the DR or the BDR. Important Note: The OSPF DR/BDR election process is not pre-emptive, so any changes to the network regarding the [DR/BDR](#) election process will only occur when the routers are restarted. 6. Which of the following describe the process identifier that is used to run OSPF on a router? (Choose two.) A:It is locally significant. B:It is globally significant. C:It is needed to identify a unique instance of an OSPF database. D:It is an optional parameter required only if multiple OSPF processes are running on the router. E:All routers in the same OSPF area must have the same process ID if they are to exchange routing information. **Correct Answers: A, C** Explanation: The [OSPF](#) process ID is locally significant, and is only used by the local router to discriminate between multiple OSPF processes. In any given OSPF network, the process ID's do not need to match between neighboring routers. This is in contrast to other routing protocols, such as EIGRP. Additional info: **router ospf process-id no router ospf process-id process-id** Internally used identification parameter for an OSPF routing process. It is locally assigned and can be any positive integer. A unique value is assigned for each OSPF routing process.