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QUESTION NO: 1

Under the OSPF process of your router's configuration, you type in "redistribute igrp 25 metric 35 subnets" in order to redistribute your OSPF and IGRP routing information. What affect did the "subnets" keyword have in your configuration change?

- A. It resulted in OSPF recognizing non-classful networks.
- B. It had no effect since IGRP will summarize class boundaries by default.
- C. It forced IGRP into supporting VLSM information.
- D. It caused OSPF to accept networks with non-classful masks.

Answer: D

Explanation:

Whenever there is a major net that is subnetted, you need to use the keyword subnet to redistribute protocols into OSPF. Without this keyword, OSPF only redistributes major network boundaries. It is possible to run more than one OSPF process on the same router, but running more than one process of the same protocol is rarely needed, and it consumes the router's memory and CPU.

Incorrect Answers:

- A. OSPF already always recognizes non-classful networks and their VLSM information.
- B. Although IGRP does indeed summarize by class boundaries, OSPF does not by default. The "subnets" keyword enables OSPF to use VLSM information from the IGRP routes.
- C. IGRP does not support VLSM routing information.

QUESTION NO: 2

Which routing protocols do not need to have their router ID reachable by other routers within any given network in order to maintain proper network connectivity? (Choose all that apply)

- A. EIGRP
- B. OSPF
- C. BGP
- D. LDP
- E. TDP
- F. None of the above

Answer: A, B, C

Explanation:

The router ID of each router does not necessarily need to be reached by other routers in the network for EIGRP and OSPF. BGP uses TCP as the reliable exchange of information between routers, and BGP routers do not need to even be directly connected.

Incorrect Answers:

D, E. LDP and TDP are not routing protocols.

QUESTION NO: 3

Which of the following does On Demand Routing use to transport ODR information from router to router?

- A. RIP
- B. BGP
- C. CDP
- D. UDP
- E. LSP

Answer: C

Explanation:

ODR uses information from the Cisco Discovery Protocol (CDP).

Incorrect Answers:

A, B, D, E. ODR has nothing to do with RIP, BGP, UDP, or LSP.

QUESTION NO: 4

A router running multiple protocols learns how to reach a destination through numerous different methods. Which of the following information will the router use first to determine the best way to reach the given destination?

- A. The length of the network mask of a route.
- B. The administrative distance of a route.
- C. The metric of a route.
- D. None of the above.

Answer: A

Explanation:

Refer to the following example:

Let's look at three routes that have just been installed in the routing table, and see how they look on the router.

router# show ip route

....

D 192.168.32.0/26 [90/25789217] via 10.1.1.1

R 192.168.32.0/24 [120/4] via 10.1.1.2

O 192.168.32.0/19 [110/229840] via 10.1.1.3

....

If a packet arrives on a router interface destined for 192.168.32.1, which route would the router choose? It depends on the prefix length, or the number of bits set in the subnet mask. Longer prefixes are always preferred over shorter ones when forwarding a packet. In this case, a packet destined to 192.168.32.1 is directed toward 10.1.1.1, because

192.168.32.1 falls within the 192.168.32.0/26 network (192.168.32.0 to 192.168.32.63). It is chosen based on the longest match, not the fact that it has a lower AD. It also falls within the other two routes available, but the 192.168.32.0/26 has the longest prefix within the routing table (26 bits versus 24 or 19 bits).

Likewise, if a packet destined for 192.168.32.100 arrives on one of the router's interfaces, it's forwarded to 10.1.1.2, because 192.168.32.100 doesn't fall within 192.168.32.0/26 (192.168.32.0 through 192.168.32.63), but it does fall within the 192.168.32.0/24 destination (192.168.32.0 through 192.168.32.255). Again, it also falls into the range covered by 192.168.32.0/19, but 192.168.32.0/24 has a longer prefix length.

Incorrect Answers:

B, C: The administrative distance and metric is consulted only for routes with the same network mask length.

Reference:

www.cisco.com/en/US/tech/CK365/technologies_tech_note09186a0080094823.shtml

QUESTION NO: 5

Which of the following are key differences between RIP version 1 and RIP version 2?
(Choose all that apply)

- A. RIP version 1 supports authentication while RIP version 2 does not.
- B. RIP version 2 uses multicasts while RIP version 1 does not.
- C. RIP version 1 uses hop counts as the metric while RIP version 2 uses bandwidth information.
- D. RIP version 1 does not support VLSM while RIP version 2 does.
- E. RIP version 1 is distance vector while RIP version 2 is not.
- F. None of the above are true

Answer: B, D

Explanation:

Both Classless Routing and Multicast updates (224.0.0.9) were impossible with RIP v1 and are available with RIP version 2.

Incorrect Answers:

- A. RIPv2 supports neighbor authentication. RIPv1 does not support this.
- C. Both RIP version use hop counts as the metric.
- E. Both RIP versions are distance vector routing protocols.

QUESTION NO: 6

You are deciding which routing protocol to implement on your network. When weighing the different options, which of the following are valid considerations?

- A. Distance vector protocols have a finite limit of hop counts whereas link state protocols place no limit on the number of hops.
- B. Distance vector protocols converge faster than link state protocols.
- C. RIP is a distance vector protocol. RIP v2 and OSPF are link state protocols.

- D. Distance vector protocols only send updates to neighboring routers. Link state protocols depend on flooding to update all routers in the within the same routing domain.
- E. None of the above

Answer: A

Explanation:

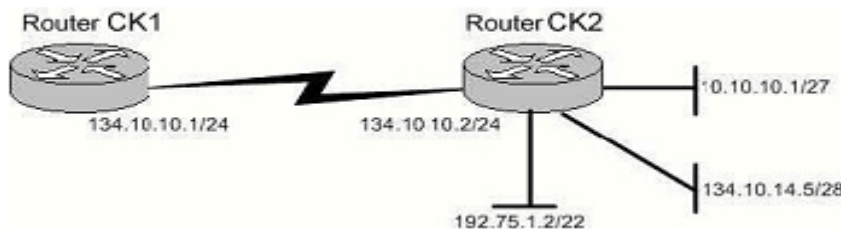
Only A is true.

Incorrect Answers:

- B. Link state protocols have the benefit of better convergence than distance vector protocols.
- C. RIPv2 is a distance vector protocol, just like RIP version 1.
- D. Link state protocols do not flood updates to every router within the same domain, just within their area.

QUESTION NO: 7

The Certifyme network contains two routers named Router CK1 and Router CK2 as shown in the following exhibit:



Both Router CK1 and Router CK2 are running RIPv1. Both routers are configured to advertise all of their attached networks via RIP. Which of the networks connected to Router CK2 will be advertised to Router CK1 ?

- A. 10.10.10.0/27 and 134.10.15.0/28
- B. 10.0.0.0/8 and 192.75.0.0/24
- C. 134.10.15.0/28 and 192.75.0.0/22
- D. Only 10.0.0.0/8
- E. Only 134.10.15.0/28
- F. Only 10.10.10.0/27
- G. None of the above

Answer: D

Explanation:

Only one subnet 10.0.0.0/8 will be advertised.

In this scenario we are being tested on the following concepts:

RIP V1 performs auto summarization at network boundaries by default. It treats the subnets to be advertised differently depending upon several attributes of the respective subnets.

Here is the process RIP v1 uses to advertise, assuming that there are no filters (such as distribute-lists, or route-maps) to block the packet:

Is the route to be advertised part of the major network of the interface?

If it is, then advertise. If it is not, then summarize the network to its classful boundary and send it out.

This is the fate of the 10.10.10.0/27 subnet, which will be summarized as 10.0.0.0/8 and sent out.

Incorrect Answers:

A, C, E. If the route is part of the major network, check to see if the subnet mask matches that of the outgoing interface. If the subnet mask does match then advertise the route out the interface. If the subnet mask of the route does not match the interface's subnet mask, then do not advertise the route out the interface unless the route is a host route (/32). This is the fate of the 134.10.15.0/28 subnet, which will not be sent out (advertised) at all.

B, C. Super net advertisement (advertising any network prefix less than its classful major network) is not allowed in RIP route summarization. This is the fate of the 192.75.1.2/22 subnet, which will not be sent out (advertised) at all.

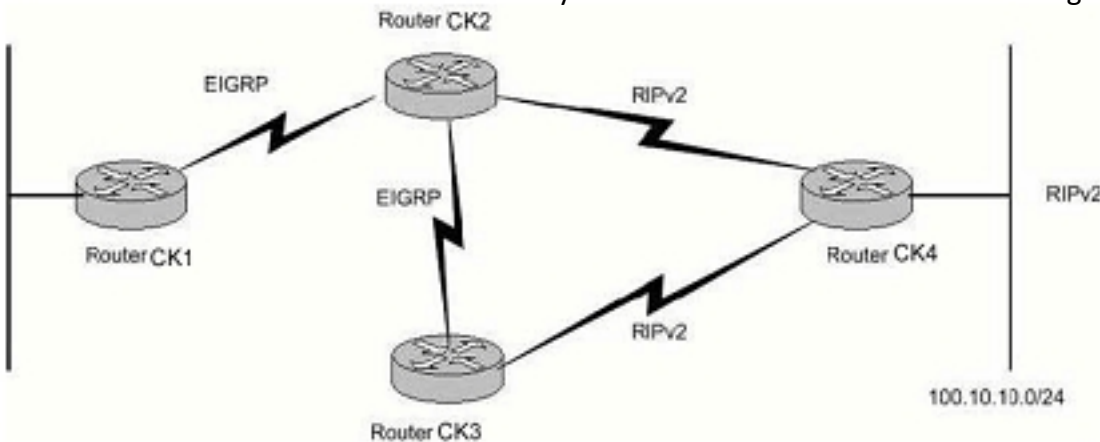
F. The 10.10.10.0/27 network will be summarized and sent as 10.0.0.0/8.

Please note:

If the route is a host route then advertise it out.

QUESTION NO: 8

You are the network administrator at Certifyme . The Routing protocols which run between the different routers in the Certifyme network are shown in the following exhibit:



On Router CK3 RIPv2 is being redistributed into EIGRP. No other redistribution is done to the network.

With regard to this scenario, who owns the route for subnet 100.10.1.0/24 in the routing table of Router CK1 ?

- A. Nobody, because the route is neither in the routing table of Router CK1 , nor EIGRP topology table.
- B. External EIGRP.
- C. The route is only in the EIGRP topology table only and not in the routing table of Router CK1 .
- D. Internal EIGRP.

E. The route is only but is in the EIGRP topology table as an active route and not in the routing table of Router CK1 .

Answer: B

Explanation:

External EIGRP will own the route, because the route is from outside the AS. Routes that are redistributed into EIGRP are automatically considered external EIGRP routes.

Incorrect Answers:

A. Since RIPv2 allows for VLSM information to be carried in the route, there are no concerns about the route not being advertised due to summarization. Since RIPv2 is being redistributed into EIGRP, CK1 will learn about the route via CK2 and CK3 .

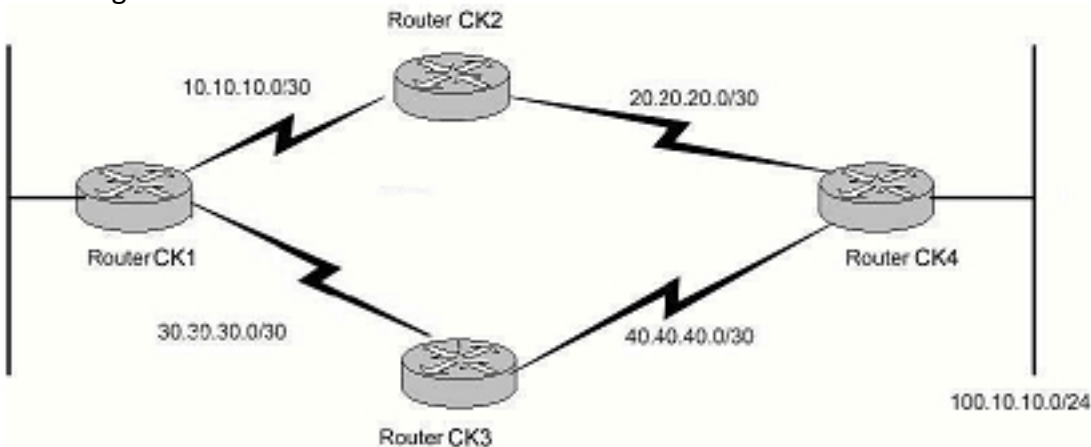
C, E. This route will be in both the EIGRP table, as well as the IP routing table.

D. Redistributed routes always show up as External routes.

Note: From the perspective of router CK1 , all routes are EIGRP learned, since that is the only protocol running on this router. Although the AD of RIP is lower than external EIGRP routes, RIP is not being configured on CK1 so it will not learn this route via RIP.

QUESTION NO: 9

The router topology for the multi-protocol Certifyme network is shown in the following exhibit:



The current configuration for Router CK1 , Router CK2 , Router CK3 , and Router CK4 are as follows:

Router CK1 :

```
interface loopback0
ip address 1.1.1.1 255.255.255.255
router eigrp 10
network 1.0.0.0
network 10.0.0.0
interface loopback1
ip address 4.4.4.4 255.255.255.255
```

Router CK2

```
router eigrp 10
```



```
network 10.0.0.0
network 20.0.0.0
no auto-summary
Router CK3
router ospf 10
network 30.30.30.0 0.0.0.255 area 0
network 40.40.40.0 0.0.0.255 area 0
Router CK4
router eigrp 10
redistribute connected metric 1400 230 1 255 1500
network 20.0.0.0
no auto-summary
router ospf 10
redistribute connected metric 100 subnets
network 40.40.40.0 0.0.0.255 area 0
router bgp 10
network 100.10.1.0 mask 255.255.255.0
neighbor 1.1.1.1 remote-as 10
neighbor update-source loopback
no auto-summary
```

Your newly appointed Certifyme trainee wants to know who owns the subnet 100.10.1.0/24 in the routing table of Router CK1 . What would your reply be?

- A. Router CK1 does not have this subnet in its routing table.
- B. EIGRP
- C. OSPF
- D. BGP
- E. RIP
- F. It is there as a static route.

Answer: B

Explanation:

Routers CK1 , CK2 , and CK4 are all EIGRP neighbors with all relevant subnets advertised, so this route will show up as an EIGRP route.

Incorrect Answers:

C, D, E. Router CK1 is only running the EIGRP protocol, so the other routing protocols are completely ruled out.

QUESTION NO: 10

Which of the following are Distance Vector routing protocols? (Choose all that apply)

- A. OSPF
- B. BGP

- C. RIP version 1
- D. ISIS
- E. EIGRP
- F. RIP version 2

Answer: C, E, F

Explanation:

Both RIP version 1 and RIP version 2 are distance vector protocols. EIGRP is an enhanced distance vector protocol, relying on the Diffused Update Algorithm (DUAL) to calculate the shortest path to a destination within a network

Incorrect Answers:

A, D. OSPF and ISIS are link state routing protocols.

B. BGP is a path vector protocol, which is similar to a distance vector protocol, but with a key difference. A distance vector protocol chooses routes based on hop count, where BGP chooses routes that traverse the least number of Autonomous Systems, among other things.

QUESTION NO: 11

As the administrator of the Certifyme network, you are planning to implement a dynamic routing protocol to replace the static routes. When comparing link state and distance vector routing protocols, what set of characteristics best describe Link-State routing protocols?

- A. Fast convergence and lower CPU utilization
- B. High CPU utilization and prone to routing loops
- C. Slower convergence time and average CPU utilization
- D. Fast convergence and greater CPU utilization
- E. None of the above

Answer: D

Explanation:

Link State protocols, such as IS-IS and OSPF, converge more quickly than their distance vector counterparts, through the use of flooding and triggered updates. In link state protocols, changes are flooded immediately and computed in parallel.

Triggered updates improve convergence time by requiring routers to send an update message immediately upon learning of a route change. These updates are triggered by some event, such as a new link becoming available or an existing link failing.

The main drawbacks to Link State protocols are the amount of CPU overhead involved in calculating route changes and memory resources that are required to store neighbor tables, route tables, and a complete topology map.

QUESTION NO: 12

A customer has a router with an interface connected to an OSPF network, and an

interface connected to an EIGRP network. Both OSPF and EIGRP have been configured on the router. However, routers in the OSPF network do not have route entries in the route table for all of the routers from the EIGRP network. The default-metric under OSPF is currently set to 16. Based on this information, what is the most likely cause of this problem?

- A. The 'subnets' keyword was not used under the OSPF process when redistributing EIGRP into OSPF.
- B. EIGRP is configured as a Stub area, and therefore routes will not be redistributed unless a route-map is used to individually select the routes for redistribution.
- C. The 'subnets' keyword was not used the EIGRP process when redistributing between OSPF into EIGRP.
- D. The default metric for OSPF is set to 16, and therefore all EIGRP routes that are redistributed are assigned this metric, and are automatically considered unreachable by EIGRP.
- E. A metric was not assigned as part of the redistribution command for EIGRP routes redistributing into OSPF, and the default behavior is to assign a metric of 255, which is considered unreachable by OSPF.

Answer: A

Explanation:

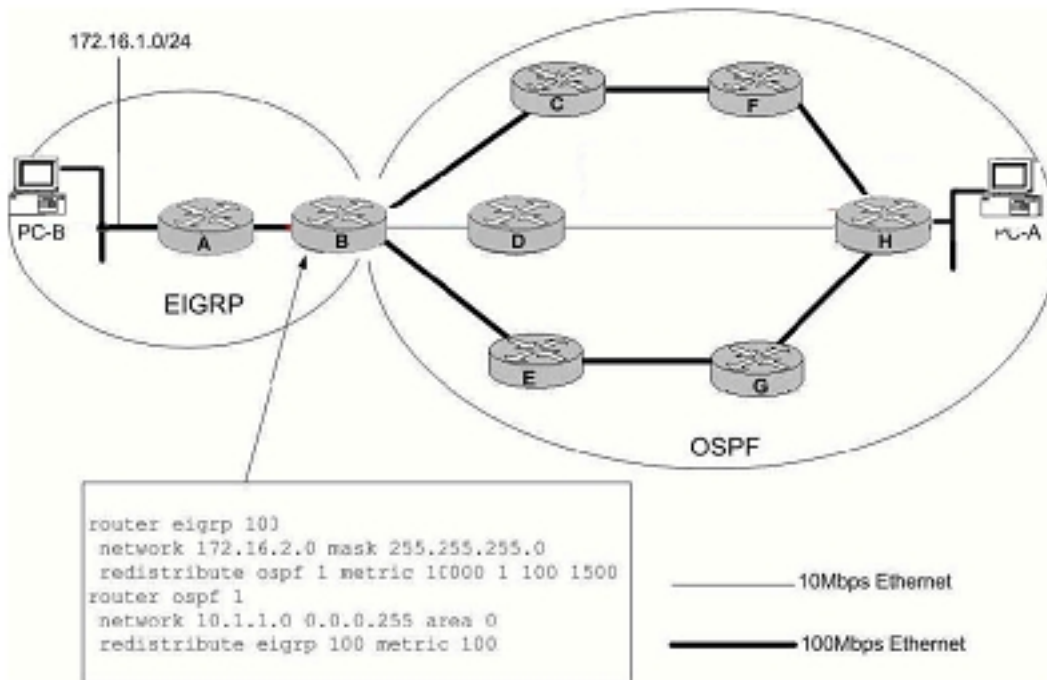
When routes are redistributed into OSPF, only routes that are not subnetted are redistributed if the subnets keyword is not specified. It is generally a good idea to include the "subnets" keyword at all times when redistributing routes from other protocols into OSPF.

Incorrect Answers:

- B. There is nothing in this QUESTION NO: to lead us to believe that stub networks are being used at all. Even if they were, route maps would not be needed to redistribute the EIGRP and OSPF routes.
- C. The "subnets" keyword needs to be placed under the OSPF process, not the EIGRP process.
- D. EIGRP routes with a metric of 16 are acceptable, and not considered unreachable. If the routing protocol used was RIP instead of EIGRP then this would be true.
- E. When redistributing from one OSPF process to another OSPF process on the same router, the metric will be carried through from one process to the other if no metric value is specified. When redistributing other processes to an OSPF process, the default metric is 20 when no metric value is specified.

QUESTION NO: 13

The Certifyme WAN consists of an OSPF network portion and an EIGRP routed portion as shown in the display below:



Given the network and OSPF configuration shown in the exhibit, what statement is true regarding traffic flowing from PC-A to PC-B?

- A. Traffic will only flow on the shortest, low-speed path, PC-A-H-D-B-A-PC-B.
- B. Traffic will flow on both of the high speed paths (PC-A-H-F-C-B-A-PC-B and PC-A-H-G-E-B-A-PC-B) but not the slow-speed path.
- C. Traffic will flow on all three of the paths.
- D. Traffic will flow uni-directionally on one of the high-speed paths from PC-A to PC-B, and uni-directionally on the other high-speed path from PC-B to PC-A.
- E. Traffic will flow bi-directionally on only one of the high-speed paths, and the path selected will be based on the OSPF process IDs.

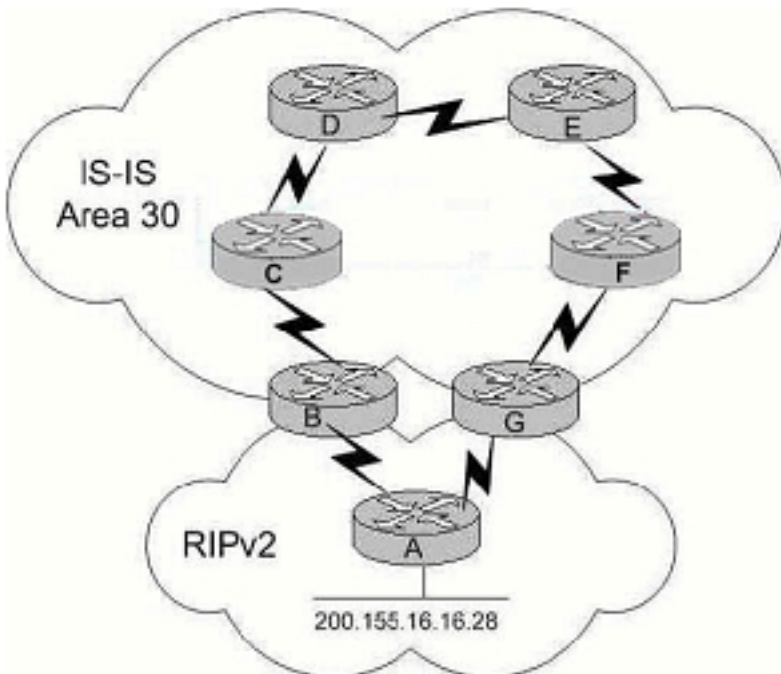
Answer: B

Explanation:

The default metric for OSPF is 100,000,000 divided by the bandwidth. For each 100 Mbps fast Ethernet link, the OSPF cost will be 1. For the slower, 10 Mbps Ethernet link, the OSPF cost will be 10, so the traffic will be routed around the slower link to the high speed links even though more hops are involved, because each high speed link across the entire OSPF cloud will have a total cost of 3 (1+1+1). This is true even though the redistributed routes are external type-2 routes. By default, OSPF will load balance traffic across up to four equal cost paths. Therefore, choice B is correct in that traffic will utilize both high speed links.

QUESTION NO: 14

The Certifyme network is redistributing IS-IS and RIP version 2 routes as shown in the diagram below:



Routers B and G both advertise RIP learned routes into IS-IS. Network is added to Router A via an Ethernet port and Router B is the First router to learn about this new network. After the network has converged, what path will Router G take to reach network 200.155.16.16?

- A. Router G takes the direct path through router A.
- B. Router G takes the path through routers, F, E, D, C, B, A.
- C. Router G will oscillate between the path through router A and the path through router F.
- D. Router G and router B will both think the other router is the best path to network 200.155.16.16, causing a routing loop.
- E. The answer can not be determined unless the default-metric used in the redistribution is known.

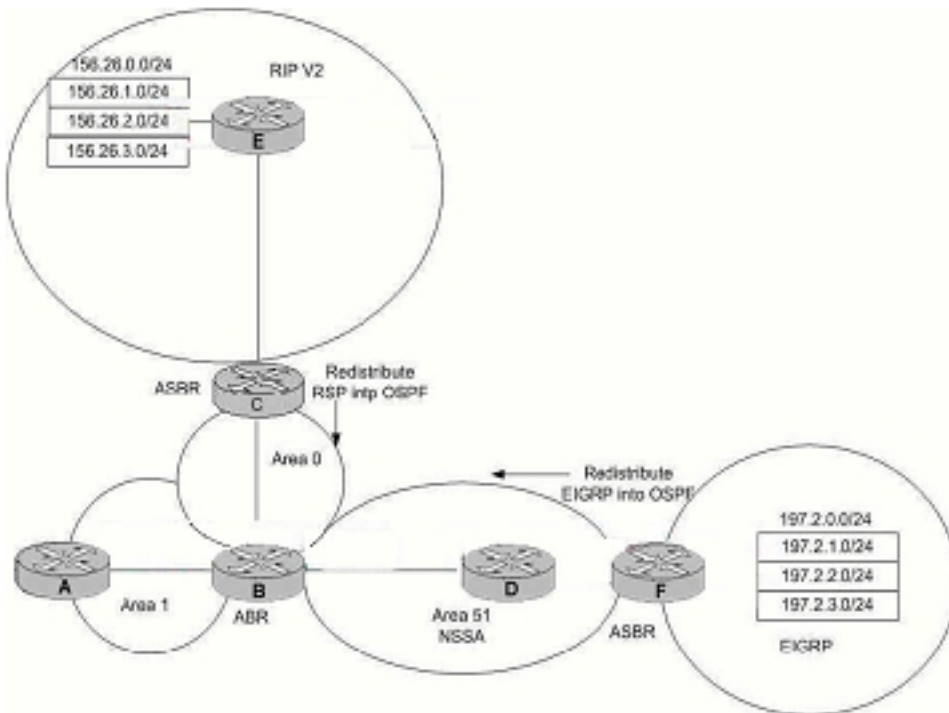
Answer: B

Explanation:

When a router receives identical route and subnet mask information for a given network from two different routing protocols, the route with the lowest administrative distance is chosen. IS-IS has a lower administrative Distance than RIP, so this route is installed in the routing table and used, even though it is obviously not the optimal route in this specific example.

QUESTION NO: 15

The Certifyme network uses multiple IP routing protocols with redistribution, as shown in the diagram below:



Area 51 is configured as a NSSA Totally Stub, using the "area 51 stub no-summary" command. Which routers are in the routing table of Router D?

- A. Redistributed EIGRP and RIP routes, one OSPF default route, OSPF inter and intra-area routes
- B. Redistributed EIGRP routes and OSPF intra-area routes
- C. Redistributed EIGRP routes and OSPF inter and intra-area routes
- D. Redistributed EIGRP routes, an OSPF default route and OSPF intra-area routes
- E. Redistributed EIGRP and RIP routes and an OSPF default route

Answer: D

Explanation:

In the network diagram above, Area 51 is defined as a totally NSSA stub area. EIGRP routes cannot be propagated into the OSPF domain because redistribution is not allowed in the stub area. However, if we define area 51 as NSSA, we can inject EIGRP routes into the OSPF NSSA domain by creating type 7 LSAs. Redistributed RIP routes will not be allowed in area 51 because NSSA is an extension to the stub area. The stub area characteristics still exist, including no type 5 LSAs allowed.

There are two ways to have a default route in an NSS

- A. When you configure an area as NSSA, by default the NSSA ABR does not generate a default summary route. In the case of a stub area or an NSSA totally stub area, the NSSA ABR does generate a default summary route. In addition, all OSPF intra-area routes are allowed in a totally NSSA area.

Incorrect Answers:

A, E. The RIP will become external OSPF routes after the redistribution takes place.

Since External OSPF routes from a different area are not injected into NSSA areas, no RIP routes will be seen on router D.

B. By making the not-so-stubby area a totally not-so-stubby area, a default route is injected, so D is the preferred choice over B.

C. Inter-area routes are not seen on routers within a totally NSSA.

QUESTION NO: 16

Four Certifyme routers are connected together as shown below:



Please study the exhibit above carefully. The Certifyme network is using a classful routing protocol. Subnet 10.1.1.0/24 is sourced by Router Certifyme 1 and Advertised to Router Certifyme 2. Router Certifyme 2 the sends updates to Router Certifyme 3, who forwards updates to Router Certifyme 4, which propagates routing information beyond. With regards to only the 10.1.1.0/24 subnet, what does Router Certifyme 4 advertise out for its 10.1.4.0/24 interface?

- A. 10.0.0.0/8
- B. 10.0.0.0
- C. No update is sent regarding the 10.1.1.0/24 subnet
- D. 10.1.1.0
- E. 10.1.1.0/24
- F. None of the above

Answer: C

Explanation:

Cisco routers running a classful routing protocol will automatically summarize at network boundaries. In this case, Certifyme 2 will advertise the summarized 10.0.0.0/8 network to Certifyme 3. Since Certifyme 3 will have a more specific route to the 10/0.0.0/8 network, he will not advertise this route to Certifyme 4, so Certifyme 4 will not receive either the 10.1.1.0/24 or the 10.0.0.0/8 route.

QUESTION NO: 17

You want to improve the performance of the routers in the Certifyme network. Which of the following could you use to minimize router resource requirements and improves manageability? (Select two)

- A. Resource Reservation Protocol
- B. CPU optimization
- C. Simple Network Management Protocol (SNMP)

- D. Auto-summarization
- E. Prefix Aggregation

Answer: D, E

Explanation:

Automatic route summarization and prefix aggregation is always a recommended best design practice whenever possible, as it means less routing table entries for the router to store. For example, many subnets can be hidden behind a single routing table entry, making these entries smaller, and routing more efficient).

QUESTION NO: 18

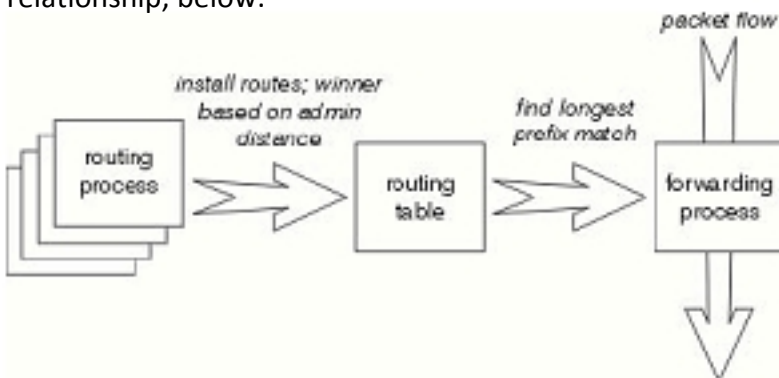
When a router within the Certifyme network comes to make a forwarding decision, the _____ always wins among the routes installed in the routing table.

- A. Administrative Distance
- B. Router ID
- C. Longest prefix match
- D. Routing process ID
- E. Peer ID
- F. None of the above

Answer: C

Explanation:

Making a forwarding decision actually consists of three sets of processes: the routing protocols, the routing table, and the actual process which makes a forwarding decision and switches packets. These three sets of processes are illustrated, along with their relationship, below:



The longest prefix match always wins among the routes actually installed in the routing table, while the routing protocol with the lowest administrative distance always wins when installing routes into the routing table.

Reference:

www.cisco.com/en/US/tech/CK365/technologies_tech_note09186a0080094823.shtml

QUESTION NO: 19

Refer to the following exhibits:

```
! Certkiller4 Partial Running-Config
!
interface Serial2/0.101 point-to-point
 ip address 150.1.11.17 255.255.255.240
 ip summary-address rip 192.168.1.80 255.255.255.252
 frame-relay interface-dlci 101
!
router rip
 version 2
 network 150.1.0.0
 network 192.168.1.0
 no auto-summary
!
! Output Omitted
```

Certkiller4 #show ip route connected

```
      192.168.1.0/32 is subnetted, 5 subnets
C       192.168.1.81 is directly connected, Loopback2
C       192.168.1.80 is directly connected, Loopback1
C       192.168.1.83 is directly connected, Loopback3
C       192.168.1.82 is directly connected, Loopback6
C       192.168.1.84 is directly connected, Loopback4
      150.1.0.0/28 is subnetted, 2 subnets
C       150.1.11.16 is directly connected, Serial2/0.101
```

Based upon the partial Certifyme router configuration and the "show ip route connected" output shown in the exhibits above, which RIPv2 updates will be sent out of the Serial2/0.101 sub-interface from router Certifyme 4? (Select all that apply)

- A. 192.168.1.83/32
- B. 192.168.1.84/30
- C. 192.168.1.0/24
- D. 192.168.1.80/30
- E. 192.168.1.84/32
- F. 192.168.1.82/32
- G. 192.168.1.80/32
- H. 192.168.1.81/32
- I. None of the above

Answer: D, E

Explanation:

By default, RIP version 2 summarizes networks automatically. In the configuration example above, automatic summarization has been disabled. However, the "IP summary address" configuration statement takes precedence over automatic network summary, so the individual host loopback addresses will be summarized into one 192.168.1.80/30 network route. This will summarize the 192.168.1.80, 192.168.1.81, 192.168.1.82, and 192.168.1.83 networks into one route, leaving only the 192.168.1.84 network. This single host route will then also be advertised, since the automatic summarization feature was disabled.

QUESTION NO: 20

What option is the best way to apply Classless Inter-Domain Routing (CIDR) if Certifyme, Inc wants to summarize the following addresses: 200.1.0.0/16, 200.2.0.0/16, 200.3.0.0/16, 200.5.0.0/16, 200.6.0.0/16, 200.7.0.0/16?

- A. 200.0.0.0/14, 200.4.0.0/15, 200.6.0.0/16, 200.7.0.0/16
- B. 200.0.0.0/16
- C. 200.4.0.0/14, 200.2.0.0/15, 200.2.0.0/16, 200.1.0.0/16
- D. 200.4.0.0/14, 200.2.0.0/15, 200.1.0.0/16
- E. 200.0.0.0/18
- F. None of the above

Answer: D

Explanation:

The Network 200.4.0.0/14 will encompass the 200.5.0.0, 200.6.0.0 and 200.7.0.0 networks. The second summarization, 200.2.0.0/15 will take care of both the 200.2.0.0 and 200.3.0.0 networks. Finally, the last network is needed in order to include the only remaining network, which is 200.1.0.0/16. This will summarize all 6 networks using only 3 statements.

Incorrect Answers:

- A. Although this answer will also fulfill the needs of summarizing all 6 networks, it is not the most efficient way as 4 network entries are needed here, instead of only 3 in answer choice D.
- B. This will mean that only the 200.0.0.0/16 network is advertised, which is not even one of the networks that need to be summarized.
- C. This is also not the most efficient choice, as the third statement (200.2.0.0/16) is redundant, since this network is already included in the 200.2.0.0/15 summarized route.
- E. This network mask would not include all of the needed networks.

QUESTION NO: 21

Certifyme has a frame-relay network with 2 sites; a headquarters site and a remote site, each with a PVC connecting the 2 sites. The network is running RIPv2.

Certifyme is now expanding and adding another remote site in the frame relay network and has ordered a second PVC between the new remote site and the headquarters site. All frame-relay interface IP addresses are in a single subnet.

Certifyme has configured frame-relay DLCI mappings and can successfully ping from the new remote to the headquarters site as well as the other remote site.

However, the new router does not have a route in its route table to the other remote site's LAN, and cannot ping the LAN interface or any hosts on that LAN. What is most likely causing the problem?

- A. Neighbor statements are not configured on the two remote sites, pointing to all other sites.

- B. The headquarters site router has split-horizon enabled on the frame-relay interface.
- C. The frame-relay IP to DLCI mappings are incorrectly configured.
- D. RIP cannot propagate routing updates over a partial mesh frame-relay configuration, so another routing protocol should be selected.
- E. Triggered updates should be configured on the headquarters router, to directly forward routing updates between the two remote sites.
- F. None of the above

Answer: B

Explanation:

RIP version 2 is a distance vector routing protocols, and by default all distance vector routing protocols utilize the split horizon rule to avoid routing loops. The split horizon rule blocks routing updates to be sent over the same interface that the route was learned from. In this case, the routes from the remote frame relay sites will not be sent to the other remote locations. In a hub and spoke topology such as this, the only way to ensure full connectivity between all locations using RIPv2 is to use sub-interfaces, or to disable the use of split horizons on the physical serial interface.