Chapter 7: Quiz – EIGRP (Answers) CCNPv8 ENCOR

itexamanswers.net/chapter-7-quiz-eigrp-answers-ccnpv8-encor.html

January 11, 2021

13. Which table is used by EIGRP to store all routes that are learned from EIGRP neighbors?

- the routing table
- the neighbor table
- **the topology table**
- the adjacency table

Explanation: EIGRP routers maintain a topology table that includes entries for every destination that the router learns from directly connected EIGRP neighbors.

14. Which multicast address does an EIGRP-enabled router use to send query packets?

- **224.0.0.10**
- 224.0.0.9
- 224.0.0.12
- 224.0.0.5

Explanation: 224.0.0.10 is the reserved IPv4 multicast address that is used by EIGRP.

15. Which three metric weights are set to zero by default when costs in EIGRP are being calculated? (Choose three.)

- k1
- **k2**
- k3
- **k4**
- **k5**
- k6

Explanation: By default, k1 and k3 are set to one and k2, k4, and k5 are set to zero during cost calculation by the EIGRP process. There is no k6 value.

16. Where should EIGRP summarization be applied?

- on the router interface that connects to the internet
- on the area border router
- on any interface where end-user devices attach

- **on any router interface participating in the EIGRP process**

Explanation: In summarizing routes within EIGRP, the command is applied to an interface. Summarization reduces the routing table and the time for convergence.

17. When are EIGRP update packets sent?

- **only when necessary**
- when learned routes age out
- every 5 seconds via multicast
- every 30 seconds via broadcast

Explanation: EIGRP does not send update packets periodically. It only sends them when necessary. Route entries in EIGRP routing table do not age out.

18. How is bandwidth to a destination network calculated by EIGRP?

- **the lowest configured bandwidth of any interface along the route**
- the sum of the configured bandwidths of all interfaces along the path
- the highest configured bandwidth of any interface along the path
- the bandwidth of the ingress interface of the last hop router

Explanation: By default, EIGRP uses bandwidth and delay to calculate a metric to a destination network. The bandwidth calculation is made by using the lowest configured bandwidth of any interface along the route.

19. Refer to the exhibit. What does the value 2816 represent in the output display?

```
R1# show ip eigrp topology
IP-EIGRP Topology Table for AS 64515

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - Reply status

P 192.168.1.4/30, 1 successors, FD is 2169856
         via Connected, Serial0/0/1
P 172.16.0.64/26, 1 successors, FD is 2170112
         via 192.168.1.6 (2170112/2816), Serial0/0/1
R1#
```

- feasible distance
- shortest distance
- **reported distance**
- administrative distance

Explanation: The value 2816 in (2170112/**2816**) is the "reported distance," the metric of the neighbor router (192.168.1.6) to reach the destination network. The value 2170112 is the feasible metric cost to reach the destination network.

20. Which algorithm does the EIGRP routing protocol use?

- Bellman-Ford
- RSA
- Dijkstra
- **DUAL**

Explanation: Routing protocol algorithms include Bellman-Ford used with RIP, Dijkstra used with OSPF, and DUAL used with EIGRP. Rivest-Shamir-Adleman (RSA) is an algorithm used with encryption.

21. Which two factors does an EIGRP router use to determine that a route to a remote network meets the feasible condition and is therefore loop-free? (Choose two.)

- the successor route on a neighbor router
- the feasible successor route on the remote router
- **the reported distance on a neighbor router**
- the administrative distance on the remote router
- **the feasible distance on the local router**

Explanation: The EIGRP feasible condition (FC) is met when the reported distance (RD) on a neighbor router to a network is less than the local router feasible distance (FD) to the same destination network.

22. When will a router that is running EIGRP put a destination network in the active state?

- when the EIGRP domain is converged
- when there is outgoing traffic toward the destination network
- when there is an EIGRP message from the successor of the destination network
- **when the connection to the successor of the destination network fails and there is no feasible successor available**

Explanation: If the connection to the successor of a network is lost and there is no feasible successor in the topology database, DUAL will put the network into the active state and actively query the neighbors for a new successor. In a normal circumstance when the network is reachable and traffic is normal, the network will be put in the passive mode.

23. Refer to the exhibit. R2 has two possible paths to the 192.168.10.4 network. What would make the alternate route meet the feasibility condition?

```
R2# show ip eigrp topology
EIGRP-IPv4 Topology Table for AS(1)/ID(2.2.2.2)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

<output omitted>

P 192.168.10.4/30, 1 successors, FD is 3523840
        via 192.168.10.10 (3523840/2169856), Serial0/0/1
        via 172.16.3.1 (41024000/2169856), Serial0/0/0

<output omitted>
```

- **a reported distance less than 3523840**
- a reported distance greater than 41024000
- a feasible distance greater than 41024000
- an administrative distance less than 170

Explanation: To meet the feasibility condition, the reported distance (RD) to a network must be less than the current feasible distance to the same destination network. In this example the current feasible distance is 3523840. This means that to be a feasible successor, a route would need a reported distance less than 3523840.

24. What is a characteristic of manual route summarization?

- requires high bandwidth utilization for the routing updates
- **reduces total number of routes in routing tables**
- cannot include supernet routes
- has to be configured globally on the router

Explanation: Manual route summarization reduces the total number of routes in routing tables. It also requires less bandwidth utilization for the routing updates because a single route can be sent instead of multiple individual routes. It can include supernet routes and is configured on a specified EIGRP interface.