

Nokia.4A0-112.v2025-04-02.q14

Exam Code:	4A0-112
Exam Name:	Nokia IS-IS Routing Protocol
Certification Provider:	Nokia
Free Question Number:	14
Version:	v2025-04-02
# of views:	602
# of Questions views:	140
https://www.freepdfdumps.com/Nokia.4A0-112.v2025-04-02.q14.html	

NEW QUESTION: 1

Which of the following is NOT a required configuration step to successfully run IS-IS on a router?

- A. The router needs to be associated with an IS-IS area ID.
- B. Layer-3 interfaces that will participate in IS-IS need to be identified.
- C. A reference bandwidth needs to be configured to calculate link costs.
- D. The IS-IS context needs to be enabled.

Answer: (SHOW ANSWER)

While configuring a reference bandwidth (which is used to calculate link costs) can be useful, it is not strictly required for IS-IS to run. IS-IS uses default bandwidth values to calculate costs, and it can function without explicitly configuring a reference bandwidth.

NEW QUESTION: 2

A series of actions are triggered on a router as a result of enabling both loopfree-alternate for a link-state routing protocol and ip-fast-reroute. Which of the following is NOT one of those actions?

- A. Installing two entries in the FIB for IP prefixes, one active and one in standby mode.
- B. Calculating the shortest-path next hop for each known IP prefix.
- C. Calculating a backup next hop for each known IP prefix, if it exists, that would not create a routing loop if used without informing other routers.
- D. Enabling the router to locally repair the active path to an IP prefix in case of failure.

Answer: (SHOW ANSWER)

NEW QUESTION: 3

Refer to the exhibit.



```
(ex)[configure router "Base" static-routes]
A:admin@R1# info
route 139.120.121.0/24 route-type unicast {
  next-hop "139.120.121.1" {
    admin-state enable
  }
}

(ex)[configure router "Base" static-routes]
A:admin@R1# ping 139.120.121.2 source-address 172.31.1.1 count 1
PING 139.120.121.2 56 data bytes
No route to destination. Address: 139.120.121.2, Router Instance: "Base"

--- 139.120.121.2 PING Statistics ---
1 packet transmitted, 0 packets received, 100% packet loss
```

A static route has been configured on router R1 to reach the PC at 139.120.121.2.

What might be causing the ping to fail?

- A. Router R2 needs a static route to the PC.
- B. Router R1 needs a static route to router R2.
- C. The configured next hop does not belong to a subnet adjacent to R1.
- D. The configured static route needs to be a default route.

Answer: C (LEAVE A REPLY)

In the configuration on router R1, the static route is defined with the next-hop IP address of 139.120.121.1.

However, the next-hop IP address 139.120.121.1 does not belong to the same subnet as the directly connected interface on R1, which is 172.31.1.1/30. For the static route to work properly, the next-hop IP address must be reachable via a directly connected interface, meaning it must be within the same subnet.

Therefore, this mismatch in subnet adjacency is likely causing the failure to reach the destination (139.120.121.2).

NEW QUESTION: 4

A router running a link-state routing protocol detects that one of its neighbors is no longer connected to it. The router generates a new link-state advertisement to inform other routers of the topology change. Which of the following is NOT an action that is triggered by this event?

- A. If a router receives the new link-state advertisement, it acknowledges it, stores it, and forwards it to its own neighbors.
- B. If a router receives multiple copies of the new link-state advertisement, it will simply ignore all copies received after the first one.
- C. Every router that receives the new link-state advertisement updates its age field before forwarding it.
- D. Every router that receives the new link-state advertisement runs the SPF algorithm to recalculate its shortest-path tree and its forwarding database.

Answer: C (LEAVE A REPLY)

When a router receives a link-state advertisement (LSA), it does not update the age field before forwarding it. The age field in an LSA is typically updated by the originating router or during the process of forwarding the LSA within the network. Routers do not modify the age field upon receiving and forwarding an LSA.

NEW QUESTION: 5

Consider the exhibit.

Area 49.02

2001:DB8:1::6/128

L2 R6

L1/L2 L1/L2

R1 R2

Area 49.01

L1 L1

R3 R4

```

*A-R3# show router route-table ipv6
-----
IPv6 Route Table (Router: Base)
-----
Dest Prefix(Flags)
Next Hop(Interface Name)      Type      Proto  Age      Metric  Pref
-----
::0                             Remote   ISIS   00h18m06s 15
FE80::624F:1FF:FE01:3::toR1*   Local    Local  00h24m03s 0
2001:DB8:1::3/128              Remote   Local  00h24m03s 0
system
2001:DB8:1::4/128              Remote   ISIS   00h16m56s 15
FE80::6252:FFFF:FE00:141::toR4* 50
2001:DB8:1::5/128              Remote   ISIS   00h12m01s 15
FE80::624F:1FF:FE01:3::toR1*   200
-----
No. of Routes: 4

*A-R4# show router route-table ipv6
-----
IPv6 Route Table (Router: Base)
-----
Dest Prefix(Flags)
Next Hop(Interface Name)      Type      Proto  Age      Metric  Pref
-----
::0                             Remote   ISIS   00h17m12s 15
FE80::6250:1FF:FE01:3::toR2*   Remote   ISIS   00h17m03s 15
2001:DB8:1::3/128              Remote   ISIS   00h17m03s 15
FE80::6251:FFFF:FE00:141::toR3* 50
2001:DB8:1::4/128              Local    Local  00h23m44s 0
system
2001:DB8:1::5/128              Remote   ISIS   00h00m12s 15
FE80::6250:1FF:FE01:3::toR2*   200
-----
No. of Routes: 4

```

All routers are running IS-IS with IPv6 support enabled. Based on the topology shown, and the route tables of routers R3 and R4, which of the following statements is TRUE?

- A. There is no route leaking configured on router R1 or router R2.

- B. Route leaking is configured on router R1 but not on router R2.
- C. Route leaking is configured on router R2 but not on router R1.
- D. Route leaking is configured on both routers R1 and R2.

Answer: D (LEAVE A REPLY)

From the route tables of R3 and R4, we can see that remote routes are present, with R3 and R4 both having routes referencing routers in different areas (Area 49.01 and 49.02). These remote routes are characteristic of route leaking, which is the process of sharing routes between different IS-IS areas.

R3 has routes for R1, R2, and R4, which are in Area 49.01, suggesting that R1 and R2 have advertised their routes to R3, possibly due to route leaking.

R4 has similar routes for R2 and R3, indicating that R2 might have advertised its routes to R4. This sharing of routes between areas is indicative of route leaking being configured on both R1 and R2, allowing these routes to be shared across the areas.

NEW QUESTION: 6

An IS-IS router receives a CSNP that references an older LSP than the one in its local database. What action is taken?

- A. The router sends a copy of the referenced LSP from its database to its neighbor.
- B. The router sends a CSNP to its neighbor describing the newer LSPs in its database.
- C. The router updates its database with the new sequence number and floods a copy of the LSP to its other neighbors.
- D. The router sends a PSNP to its neighbor to request a copy of the LSP.

Answer: A (LEAVE A REPLY)

When a router receives a CSNP (Complete Sequence Number PDU) that references an older LSP (Link-State PDU) than the one in its local database, it indicates that the neighbor is missing newer information.

In response, the router sends back a PSNP (Partial Sequence Number PDU) to the neighbor, which includes a copy of the LSPs it has in its local database that the neighbor may not yet have. This helps to synchronize the link-state information between routers.

NEW QUESTION: 7

When multiple routing protocols offer a route for the same prefix, what part of the router is in charge of deciding which route to make active?

- A. The routing information base (RIB)
- B. The routing table manager (RTM)
- C. The equal cost multipath configuration
- D. The forwarding information base (FIB)

Answer: B (LEAVE A REPLY)

The routing table manager (RTM) is responsible for selecting the best route when multiple routing protocols provide a route for the same destination prefix. It makes the decision on which route to add to the routing table based on the administrative distance, metric, and other criteria.

NEW QUESTION: 8

Which of the following statements about IS-IS is FALSE?

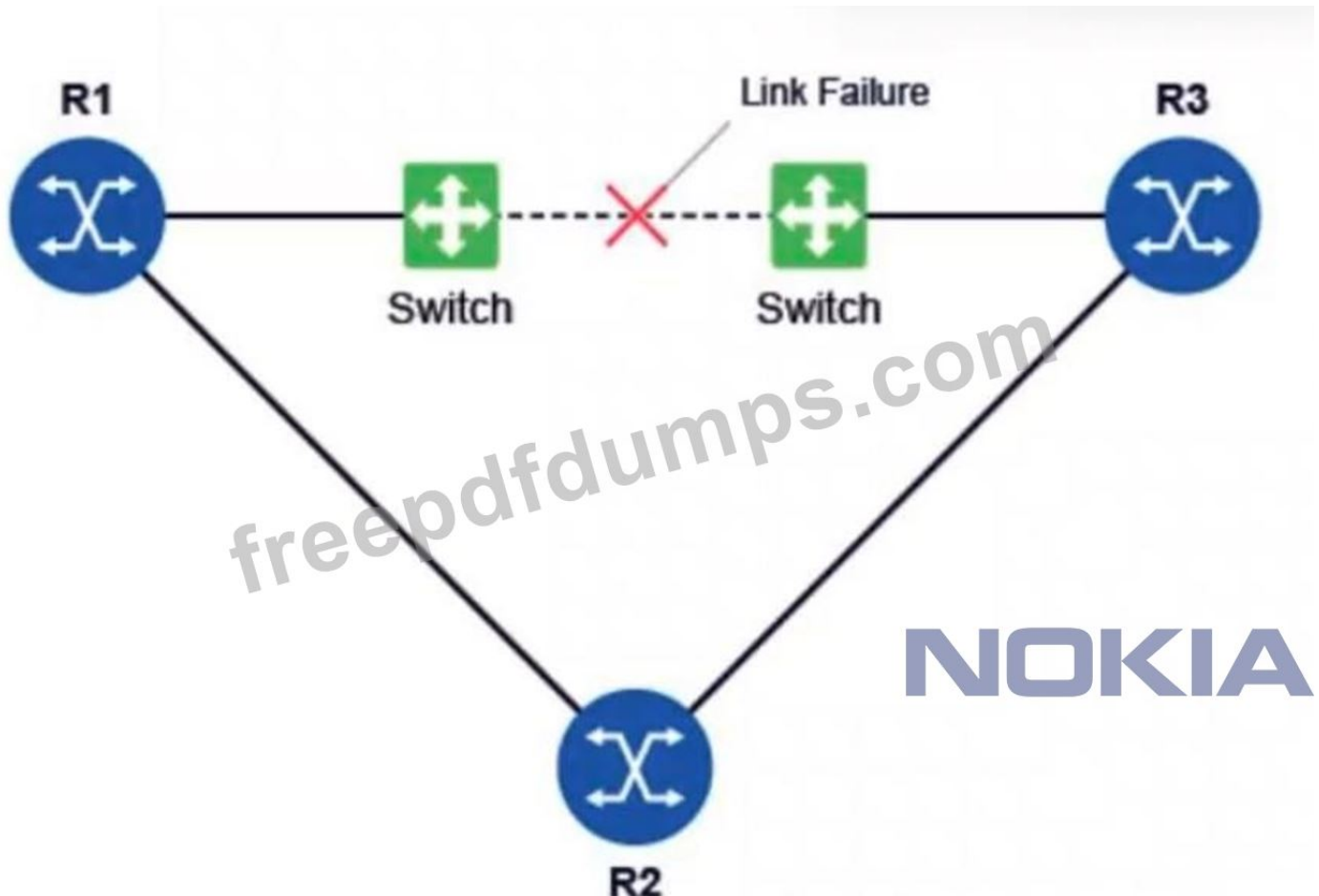
- A. IS-IS uses the concept of level-1 and level-2 routers to implement hierarchy.
- B. In IS-IS, routers are associated with an area, not the interfaces.
- C. A router becomes level-2 when it is associated with the backbone area.
- D. A level-1 router forwards traffic to other areas through the nearest level-1 or level-2 router.

Answer: (SHOW ANSWER)

In IS-IS, routers are actually associated with interfaces rather than the entire router being associated with a single area. A router can have interfaces in multiple areas, and it is the interface's configuration that determines which area it belongs to.

NEW QUESTION: 9

Refer to the exhibit.



All routers in the diagram are running a link-state routing protocol. Before the link failure, all routers have operational adjacencies with each other and there is a BFD session between routers R1 and R3. After the link failure, which of the following affects the routing protocol's convergence time?

- A. The value of the Ethernet hello timers on the switches.
- B. The value of the routing protocol hello timers on routers R1 and R3.

C. The value of the BFD transmit interval, receive interval and multiplier settings on routers R1 and R3.

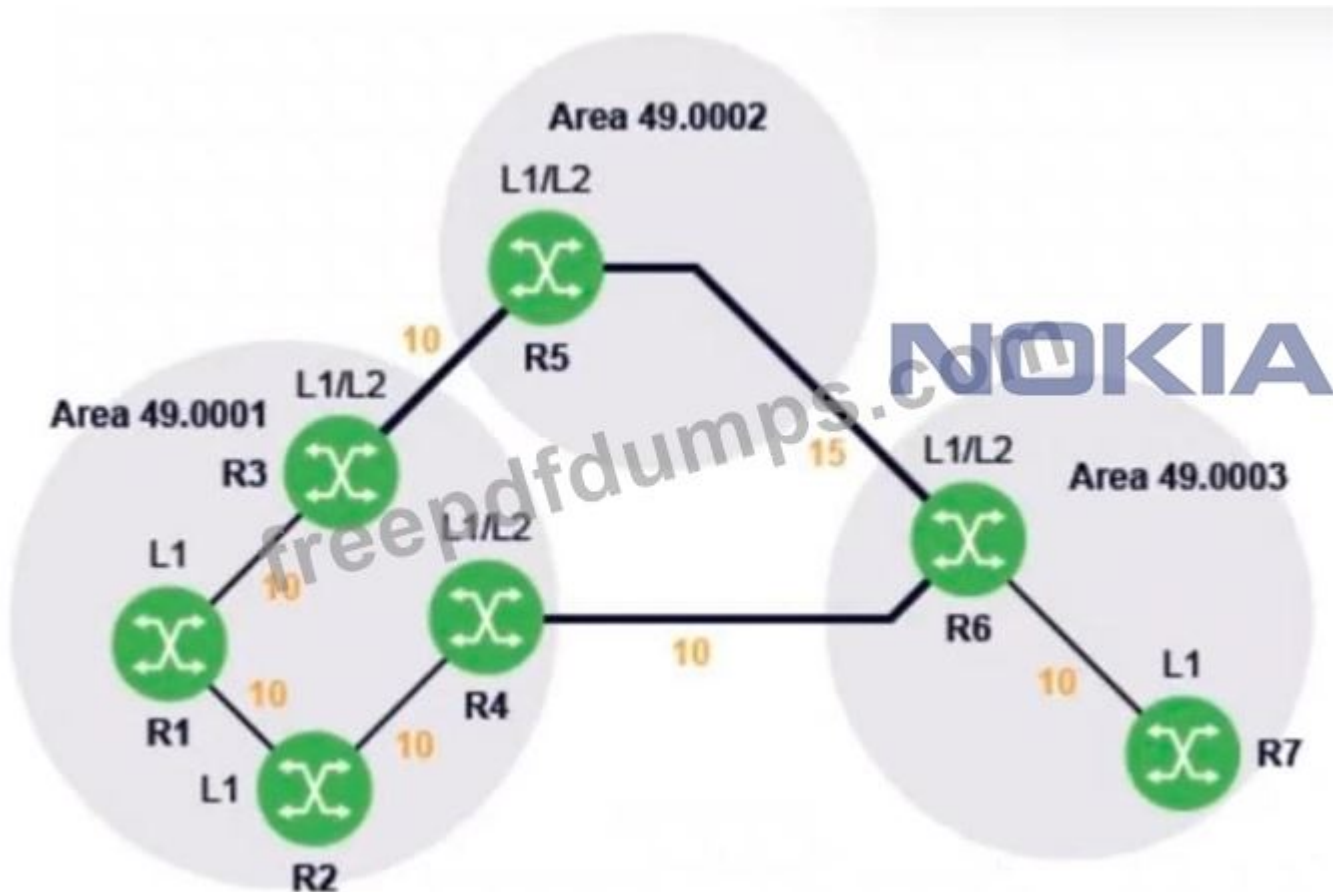
D. The time taken by the switches to detect that the physical ports are down.

Answer: C (LEAVE A REPLY)

BFD (Bidirectional Forwarding Detection) is used to detect link failures quickly and helps improve convergence time in link-state routing protocols. The BFD session between routers R1 and R3 allows them to detect the failure of the link between them more quickly than the regular routing protocol hello timers. The transmit interval, receive interval, and multiplier settings determine how fast BFD detects a failure and triggers the routing protocol to converge, which directly impacts the convergence time.

NEW QUESTION: 10

Refer to the exhibit.



In the diagram, all routers are using IS-IS as their routing protocol. The number next to each link is its metric value.

What path will traffic follow from router R1 to router R7, and from router R7 to router R1?

- A. Router R1 to router R7 will follow (R1-R2-R4-R6-R7). Router R7 to router R1 will follow (R7-R6-R4-R2-R1).
- B. Router R1 to router R7 will follow (R1-R2-R4-R6-R7). Router R7 to router R1 will follow (R7-R6-R5-R3-R1).
- C. Router R1 to router R7 will follow (R1-R3-R5-R6-R7). Router R7 to router R1 will follow (R7-R6-R4-R2-R1).

D. Router R1 to router R7 will follow (R1-R3-R5-R6-R7). Router R7 to router R1 will follow (R7-R6-R5-R3-R1).

Answer: A (LEAVE A REPLY)

From R1 to R7: The path will be R1 → R2 → R4 → R6 → R7 because this path has the least cumulative metric of $10 + 10 + 10 + 10 = 40$.

From R7 to R1: The reverse path will follow R7 → R6 → R4 → R2 → R1 because it is the shortest return path with the same metrics.

NEW QUESTION: 11

Which component of the Nokia 7750 SR is in charge of performing the longest prefix match lookup on packets that arrive on the physical interfaces?

- A. Control Processing Module (CMP)
- B. Switch Fabric (SF)
- C. Input/Output Module (IOM)
- D. Media Dependent Adapter (MDA)

Answer: C (LEAVE A REPLY)

The Input/Output Module (IOM) is responsible for performing the longest prefix match (LPM) lookup on packets that arrive at the physical interfaces. The IOM performs this function by examining the destination IP address of incoming packets and using the routing table to determine the best match.

NEW QUESTION: 12

Which of the following is a valid alternative representation of the IPv6 address 2001:0da8:0000:0000:0024:0000:4ab9:0300?

- A. 2001:0da8::0024:0000:4ab9:03
- B. 2001:da8::0:24::4ab9:300
- C. 2001:da8::24::4ab9:300
- D. 2001:da8::24:0:4ab9:300

Answer: A (LEAVE A REPLY)

In IPv6, consecutive sections of zeros can be abbreviated with a double colon (::) once in an address. Also, leading zeros in each hextet (group of four hexadecimal digits) can be removed. The original address is 2001:0da8:0000:0000:0024:0000:4ab9:0300.

Removing leading zeros and applying the abbreviation:

NEW QUESTION: 13

For a link-state routing protocol, which of the following statements about link-state updates is FALSE?

A. When a link-state update reaches its maximum age on a router, the router will flood that update to its neighbors.

B. When a router detects that a link-state update has reached its maximum age, it will request a new update from the source router.

C. Aging helps ensure that routers that are no longer part of the topology will eventually get removed from the link-state database.

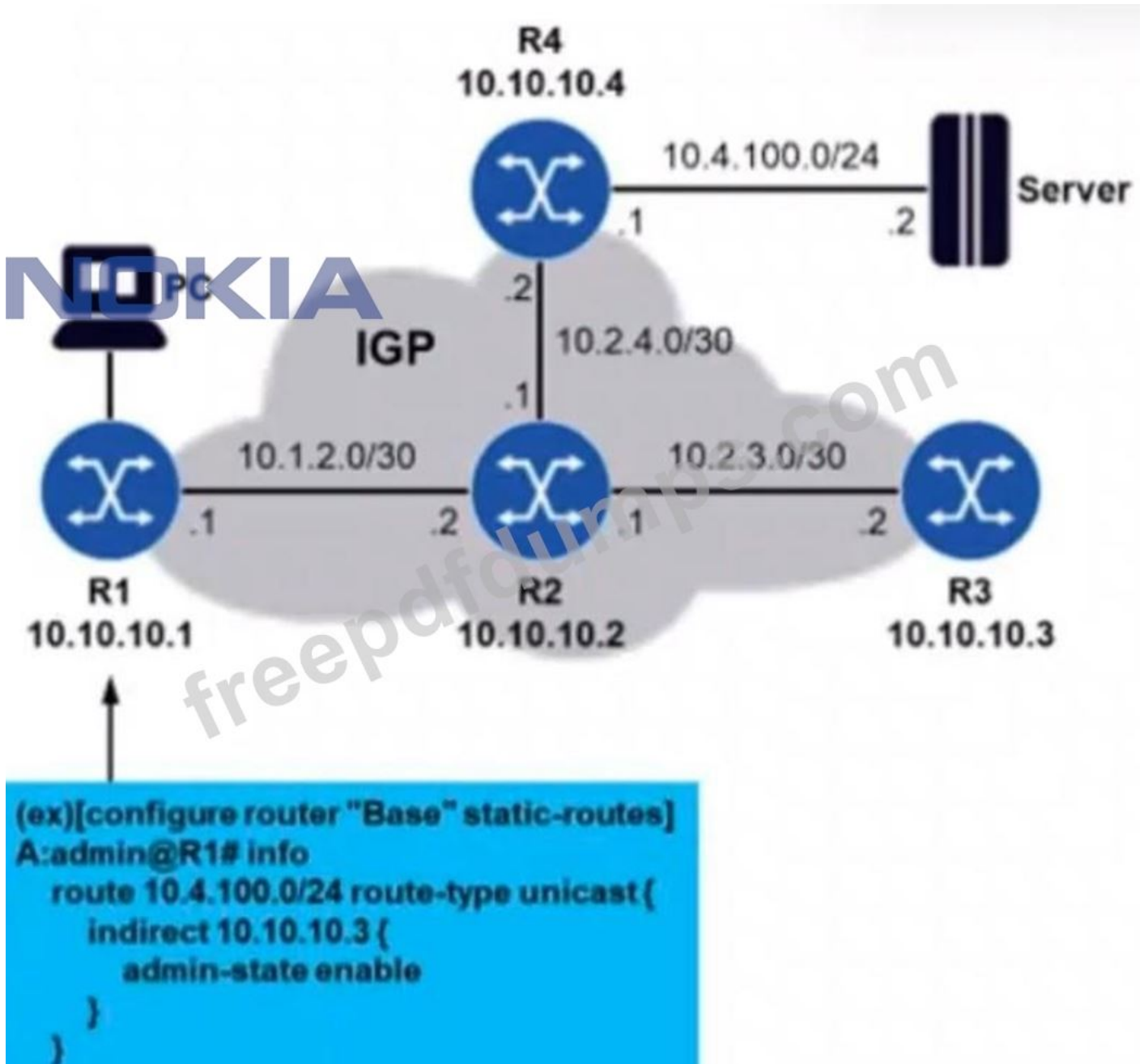
D. The age value is updated as the link-state update is flooded throughout the network and when it is in the link-state database

Answer: A (LEAVE A REPLY)

When a link-state update reaches its maximum age, it is removed from the router's link-state database, not flooded to its neighbors. This prevents outdated information from continuing to affect the routing decisions. The router does not flood the aged update; instead, it will typically request a new link-state advertisement from the original source router if the information is still needed.

NEW QUESTION: 14

Refer to the exhibit.



Routers R1 through R4 are running an IGP in such a way that they have each other's system IP addresses in their routing tables. A static route is configured on router R1 so that it can reach subnetwork 10.4.100.0/24. The network administrator decides to use an indirect static route, as shown in the diagram. However, pinging the server from router R1 fails. What may be the problem in this case?

- A. Router R1 drops the echo request because address 10.10.10.3 does not belong to an adjacent router.
- B. Router R2 drops the echo request because it does not have subnet 10.4.100.0/24 in its routing table.
- C. Router R3 drops the echo request because it does not have subnet 10.4.100.0/24 in its routing table.
- D. The echo request arrives at the server but there is no path for the echo response to return to router R1.

Answer: D (LEAVE A REPLY)

The static route configured on router R1 uses an indirect next-hop, which is 10.10.10.3 (R3).

While the echo request from R1 reaches the server through the IGP, the problem lies in the return path for the echo response.

The route 10.4.100.0/24 is reachable through R3, but there is no reciprocal route in R3's routing table that allows the response to flow back towards R1. This results in a failure to return the echo response to R1, causing the ping to fail.

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