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Nokia OSPF Routing Protocol 2025

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Question: 764

In an OSPF network, if an ABR is configured to summarize routes using the command `area <area-id> range <summary-address> <subnet-mask>`, what is the expected behavior of this configuration?

- A. It aggregates multiple routes into a single summary route to reduce the size of OSPF routing updates
- B. It restricts all routes from the specified area to be filtered out
- C. It allows all routes from the specified area to be sent to the backbone area
- D. It configures the area as a Totally Stubby area automatically

Answer: A

Explanation: The command `area <area-id> range <summary-address> <subnet-mask>` aggregates multiple routes into a single summary route, helping to minimize the size of OSPF routing updates and improve efficiency.

Question: 765

Which mechanism does OSPF use to maintain loop-free routing in its topology?

- A. Split horizon
- B. Route poisoning
- C. Dijkstra's algorithm
- D. Distance vector routing

Answer: C

Explanation: OSPF uses Dijkstra's algorithm, also known as the shortest path first (SPF) algorithm, to ensure loop-free routing within its topology by calculating the most efficient path to each destination.

Question: 766

In the context of OSPF, what does the term "synchronized" refer to regarding the link-state databases of neighboring routers?

- A. Both routers have identical routing tables.
- B. Both routers have exchanged hello packets successfully.
- C. Both routers have matching LSDB entries and sequence numbers.
- D. Both routers have established a full adjacency state.

Answer: C

Explanation: "Synchronized" in OSPF refers to both routers having matching link-state database entries and sequence numbers, ensuring they have the same view of the network topology.

Question: 767

In OSPF, which of the following best describes the purpose of the OSPF Type 3 LSA, known as the Network LSA?

- A. To summarize routes from one area to another.
- B. To provide information about the routes learned from external sources.
- C. To advertise the presence of a multi-access network and its attached routers.
- D. To indicate the routing state of a specific link.

Answer: C

Explanation: The OSPF Type 3 LSA (Network LSA) is used to advertise the presence of a multi-access network and the routers attached to it. This LSA is crucial for establishing the topology of the network and ensuring proper routing decisions.

Question: 768

Which command would you use to display the OSPF neighbor table along with the state of each neighbor on a Nokia router?

- A. show ip ospf neighbor
- B. display ip ospf neighbor
- C. show ospf database
- D. display ospf neighbors

Answer: B

Explanation: The command display ip ospf neighbor provides a detailed view of the OSPF neighbor table, including the state of each neighbor, which is crucial for troubleshooting OSPF adjacency issues.

Question: 769

Which OSPF feature allows routers to maintain a logical connection between two areas to facilitate communication across disjoint networks?

- A. OSPF route redistribution
- B. OSPF area summarization
- C. OSPF virtual link
- D. OSPF stub area configuration

Answer: C

Explanation: OSPF virtual links allow routers to maintain a logical connection between two areas, enabling communication across disjoint networks while ensuring proper routing continuity.

Question: 770

In OSPF, what is the primary function of the "Link State Request" (LSR) message during the database synchronization process?

- A. To acknowledge the receipt of LSAs from neighboring routers.
- B. To advertise the router's current link state to all neighbors.
- C. To request specific LSAs that the router does not currently have.
- D. To initiate the OSPF adjacency formation process.

Answer: C

Explanation: The Link State Request (LSR) message is used by OSPF routers to request specific LSAs from their neighbors that they do not currently possess, facilitating database synchronization.

Question: 771

What is the primary purpose of Link-local interface addresses in OSPFv3?

- A. They provide a globally unique address for routing.
- B. They enable routers to communicate via a non-routable address locally.
- C. They facilitate the exchange of routing information across multiple hops.
- D. They are used to identify network segments in a multi-access network.

Answer: B

Explanation: Link-local interface addresses are used for local communication between nodes on the same link and are not routable beyond that link, making them suitable for OSPFv3 operations.

Question: 772

What is the expected behavior of OSPF when a new router joins an established OSPF area?

- A. The new router will automatically become the Designated Router.
- B. It will send a full database request to all existing routers.
- C. It will start sending hello packets to establish adjacency.
- D. The existing routers will ignore the new router until it is configured.

Answer: C

Explanation: When a new router joins an established OSPF area, it begins by sending hello packets to establish neighbor adjacencies with existing routers.

Question: 773

When OSPF is configured on a router, which of the following tasks is performed during the initial OSPF neighbor adjacency establishment process?

- A. The router sends a Database Description (DBD) packet to its neighbors to summarize the LSAs it holds.
- B. The router immediately updates its routing table upon receiving Hello packets from neighbors.
- C. The router begins to flood its LSAs to all other routers in the OSPF area without establishing adjacencies.
- D. The router generates a Link-State Update (LSU) packet to advertise its routing table to all OSPF neighbors.

Answer: A

Explanation: During the initial neighbor adjacency establishment, the router sends a Database Description (DBD) packet to summarize its LSAs, facilitating the synchronization of the OSPF databases.

Question: 774

In OSPF, which type of LSA is generated by routers to describe their directly connected networks?

- A. Network LSA
- B. Summary LSA
- C. Router LSA
- D. ASBR Summary LSA

Answer: C

Explanation: A Router LSA (Type 1 LSA) is generated by routers to advertise their directly connected networks and their associated metrics.

Question: 775

When redistributing routes, which command can be used to set a specific metric for the redistributed routes in OSPF?

- A. redistribute ospf 1 metric 20
- B. route-map set-metric
- C. default-metric 20
- D. redistribute connected metric-type 2

Answer: C

Explanation: The default-metric command is used to set a specific metric for redistributed routes, ensuring consistency in route selection criteria across different routing protocols.

Question: 776

To configure a static route to reach the network 203.0.113.0/24 via a next-hop of 198.51.100.1, which command is appropriate on a Nokia 7750 SR?

- A. ip route 203.0.113.0 255.255.255.0 198.51.100.1
- B. static-route 203.0.113.0/24 next-hop 198.51.100.1
- C. route 203.0.113.0/24 via 198.51.100.1
- D. static-route 203.0.113.0 255.255.255.0 next-hop 198.51.100.1

Answer: B

Explanation: The command "static-route 203.0.113.0/24 next-hop 198.51.100.1" correctly establishes a static route to the specified network with the appropriate next-hop address.

Question: 777

What does the OSPF command ip ospf cost achieve in terms of route selection?

- A. It changes the route preference based on interface bandwidth.
- B. It defines the maximum hop count for OSPF routes.
- C. It adjusts the OSPF hello interval for the interface.
- D. It modifies the default cost assigned to all OSPF interfaces.

Answer: A

Explanation: The `ip ospf cost` command adjusts the cost assigned to an interface, influencing OSPF's route selection process based on bandwidth.

Question: 778

How does OSPF ensure reliable delivery of routing updates in a link-state environment?

- A. By using TCP for transmission of all OSPF messages.
- B. OSPF does not guarantee reliable delivery; it is a best-effort protocol.
- C. By periodically sending hello messages to maintain connectivity.
- D. Through the acknowledgment of link-state updates by all routers.

Answer: B

Explanation: OSPF operates as a best-effort protocol and does not guarantee reliable delivery of routing updates, unlike TCP.

Question: 779

Which of the following is TRUE regarding OSPF's handling of route summarization?

- A. OSPF performs automatic route summarization by default at area boundaries.
- B. Route summarization in OSPF can lead to a reduction in the size of the routing table and minimize the number of LSAs propagated.
- C. OSPF allows for summarization of inter-area routes but not external routes.
- D. Manual route summarization can only be configured on ABRs (Area Border Routers) and not on internal routers.

Answer: B

Explanation: Route summarization in OSPF can significantly reduce the routing table size and minimize LSA propagation, enhancing overall network efficiency.

Question: 780

In an OSPF network, what does the term "LSA flooding" refer to?

- A. The process of sending LSAs to all routers in the local area.
- B. The method used to prevent routing loops in OSPF.
- C. The periodic update of router configurations across the network.
- D. The automatic adjustment of OSPF costs based on link usage.

Answer: A

Explanation: LSA flooding refers to the process of sending Link-State Advertisements (LSAs) to all routers in the local area to ensure they have the latest topology information.

Question: 781

What is the primary difference between OSPFv2 and OSPFv3 regarding network layer integration?

- A. OSPFv3 supports only IPv4, while OSPFv2 supports both IPv4 and IPv6.
- B. OSPFv2 uses link-local addresses for neighbor discovery, while OSPFv3 uses global addresses.
- C. OSPFv3 is designed for IPv6 only and employs the use of link-local addresses for neighbor discovery and communication.
- D. OSPFv2 allows for more area types compared to OSPFv3.

Answer: C

Explanation: OSPFv3 is specifically designed for IPv6 networks and utilizes link-local addresses for neighbor discovery, differentiating it from OSPFv2, which is limited to IPv4.



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