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## **QUESTION 1**

You are configuring an aggregate route. In this scenario, which two statements are correct? (Choose two.)

- A. Reject will silently drop the traffic.
- B. Discard will silently drop the traffic.
- C. Reject will send an ICMP Destination Unreachable message back to the sender.
- D. Discard will send an ICMP Destination Unreachable message back to the sender.

# Answer: BC

Explanation:

When configuring an aggregate route, you have options for how to handle traffic that matches the route but does not match any more specific route in the routing table. Two actions can be taken: discard and reject.

Discard:

The discard option will silently drop packets that match the aggregate route. No notification is sent to the sender, and the packet is simply dropped.

Reject:

The reject option will drop the packet and also send an ICMP Destination Unreachable message back to the sender. This informs the sender that the packet could not be delivered because there is no specific route available.

# **QUESTION 2**

What are two requirements for an IP fabric? (Choose two.)

- A. a Layer 3 routing protocol
- B. a single connection between each spine and leaf
- C. a single connection between each leaf
- D. a Layer 2 switching protocol

# Answer: AB

#### Explanation:

An IP fabric is a network architecture commonly used in data centers to provide scalable, highthroughput connectivity using a spine-leaf topology.

Layer 3 Routing Protocol:

An IP fabric relies on a Layer 3 routing protocol, typically BGP or OSPF, to provide routing between the leaf and spine switches. This ensures efficient traffic forwarding across the network. Single Connection Between Spine and Leaf:

In an IP fabric, each leaf switch connects to every spine switch with a single connection. This ensures that traffic between any two leaf switches can travel through the spine layer in just two hops.

# **QUESTION 3**

What is the main purpose of Bidirectional Forwarding Detection (BFD)?

- A. to detect network path failures
- B. to determine if the forwarding routes are correct
- C. to detect the forwarding protocol
- D. to determine packet round-trip latency

# Answer: A

#### Explanation:

Bidirectional Forwarding Detection (BFD) is a network protocol used to detect failures in the network path between two devices quickly.

Path Failure Detection:

BFD provides a low-overhead mechanism for detecting failures in forwarding paths across Layer 3 networks. It is much faster than traditional routing protocol timers and can detect failures within milliseconds.

## BFD in Routing:

BFD can be integrated with routing protocols like OSPF, BGP, or IS-IS to trigger a faster convergence when a network path goes down.

# **QUESTION 4**

Which statement is correct about per-flow load balancing?

- A. Packets associated with the same flow are sent through different egress ports.
- B. The packets are guaranteed to arrive at their destination in a different order in which they were sent.
- C. Packets associated with the same flow are sent through the same egress port.
- D. The packets are guaranteed to arrive at their destination in the same order in which they were sent.

# Answer: C

#### Explanation:

Per-flow load balancing ensures that packets within the same flow are always forwarded over the same path, ensuring that packet order is preserved.

#### Flow Definition:

A flow is typically defined by a combination of packet attributes like source/destination IP, source/destination port, and protocol type. Packets that belong to the same flow are routed over the same path to avoid reordering.

Per-Flow Behavior:

In per-flow load balancing, the hashing algorithm ensures that all packets in a particular flow use the same egress port, maintaining order across the network.

# **QUESTION 5**

You want to minimize topology disruptions in your network when the rpd process restarts on a device. Which service would accomplish this task?

- A. Bidirectional Forwarding Detection (BFD)
- B. link aggregation groups
- C. graceful restart (GR)
- D. Virtual Chassis

# Answer: C

#### Explanation:

Graceful Restart (GR) is a feature that allows a router to maintain forwarding even when the routing process (e.g., the rpd process in Junos) is restarting, minimizing disruption to the network.

#### Graceful Restart Function:

During a GR event, the forwarding plane continues to forward packets based on existing routes, while the control plane (rpd process) is restarting. This prevents traffic loss and maintains routing

stability.

Minimizing Disruptions:

GR is particularly useful in ensuring continuous packet forwarding during software upgrades or routing protocol process restarts.

#### QUESTION 6

Which two statements are true about how switches handle Layer 2 traffic? (Choose two.)

- A. The MAC address is learned based on the destination MAC address.
- B. The MAC address is learned based on the source MAC address.
- C. Traffic is forwarded based on the source MAC address.
- D. Traffic is forwarded based on the destination MAC address.

# Answer: BD

#### Explanation:

In Layer 2 switching, switches learn MAC addresses based on the source MAC address of incoming frames and forward frames based on the destination MAC address.

#### MAC Learning:

When a switch receives a frame, it records the source MAC address and the port on which it arrived. This allows the switch to know where to send traffic destined for that MAC address. Forwarding Based on Destination:

The switch then looks at the destination MAC address and forwards the frame out of the port associated with that MAC address. If the MAC is unknown, the switch floods the frame to all ports.

#### **QUESTION 7**

What are two consequences of having all network devices in a single collision domain? (Choose two.)

- A. The amount of network resource consumption does not change.
- B. The chance of packet collision is decreased.
- C. The chance of packet collision is increased.
- D. The amount of network resource consumption is increased.

## Answer: CD

#### **Explanation:**

A collision domain is a network segment where data packets can "collide" with one another when being sent on the same network medium.

Increased Collision Probability:

If all devices are in a single collision domain, the likelihood of packet collisions increases as more devices attempt to send packets simultaneously, leading to network inefficiencies. Increased Resource Consumption:

More collisions result in increased network resource consumption as devices need to retransmit packets, causing higher utilization of bandwidth and slowing down network performance.

#### **QUESTION 8**

Which statement is correct about IBGP?

A. It requires a physical full mesh.

- B. It requires a logical full mesh.
- C. It ensures that the local and remote peers use different AS numbers.
- D. It ensures that duplicate AS numbers are not present in the AS path.

# Answer: B

#### Explanation:

In IBGP (Internal Border Gateway Protocol), all routers within the same AS (Autonomous System) must have a logical full-mesh topology. This means that every IBGP router must be able to communicate with every other IBGP router directly or indirectly to ensure proper route propagation.

Logical Full Mesh:

In an IBGP setup, routers do not re-advertise routes learned from one IBGP peer to another IBGP peer. This rule is in place to prevent routing loops within the AS. To ensure full route propagation, a logical full mesh is required, meaning every IBGP router must peer with every other IBGP router in the AS. This can be done either directly or via route reflection or confederation. Physical Full Mesh Not Required:

The physical topology does not need to be a full mesh, but the BGP peering relationships must form a logical full mesh. Techniques like route reflectors or BGP confederations can reduce the need for manual full-mesh peering.

#### **QUESTION 9**

Which three technologies improve high availability and convergence in a data center network? (Choose three.)

- A. graceful restart (GR)
- B. Bidirectional Forwarding Detection (BFD)
- C. link loss adjacency
- D. Failover Group (FG)
- E. link aggregation group (LAG)

# Answer: ABE

#### Explanation:

High availability and fast convergence are critical in data center networks to minimize downtime and maintain optimal performance.

The following technologies contribute to achieving these goals:

Graceful Restart (GR):

GR allows routers to maintain forwarding state during control plane restarts, ensuring continuous packet forwarding while minimizing network disruptions.

**Bidirectional Forwarding Detection (BFD):** 

BFD provides fast detection of path failures, allowing routing protocols to converge quickly by detecting link failures much faster than traditional timers.

Link Aggregation Group (LAG):

LAG increases both redundancy and bandwidth by combining multiple physical links into one logical link, providing load balancing and fault tolerance.

#### **QUESTION 10**

Which two statements are correct about rules for EBGP and IBGP? (Choose two.)

- A. EBGP peers have a TTL of 1, while IBGP peers have a TTL of 255.
- B. EBGP peers have a TTL of 255, while IBGP peers have a TTL of 1.

- C. EBGP routes are more preferred than IBGP routes.
- D. IBGP routes are more preferred than EBGP routes.

# Answer: AC

#### Explanation:

EBGP (External BGP) and IBGP (Internal BGP) operate with different rules due to the nature of their relationships.

#### TTL Differences:

EBGP: By default, EBGP peers have a TTL of 1, meaning they must be directly connected, or the TTL needs to be manually increased for multihop EBGP.

IBGP: IBGP peers within the same AS have a TTL of 255, as they are expected to communicate over multiple hops within the AS.

Preference for EBGP Routes:

Routes learned via EBGP are typically preferred over IBGP routes. This is because EBGP routes are considered more reliable since they originate outside the AS, while IBGP routes are internal.

# **QUESTION 11**

Which statement is correct about an IRB interface?

- A. An IRB interface switches traffic within the same VLAN.
- B. An IRB interface trunks together VLANs on different switches.
- C. An IRB interface is a physical Layer 3 interface that connects VLANs together.
- D. An IRB interface is a Layer 3 interface that can be used to route between VLANs.

#### Answer: D

#### Explanation:

An IRB (Integrated Routing and Bridging) interface provides routing functionality between VLANs at Layer 3, allowing devices in different VLANs to communicate with each other.

#### IRB Functionality:

The IRB interface enables routing between different VLANs by acting as a Layer 3 gateway. Traffic within the same VLAN is handled by Layer 2 switching, while traffic between VLANs is routed through the IRB interface.

Layer 3 Routing Between VLANs:

Each VLAN can be assigned an IP address on the IRB interface, which allows traffic to flow between VLANs based on Layer 3 IP routing.

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