Number: H12-821_V1.0
Passing Score: 800
Time Limit: 120
File Version: 2.3

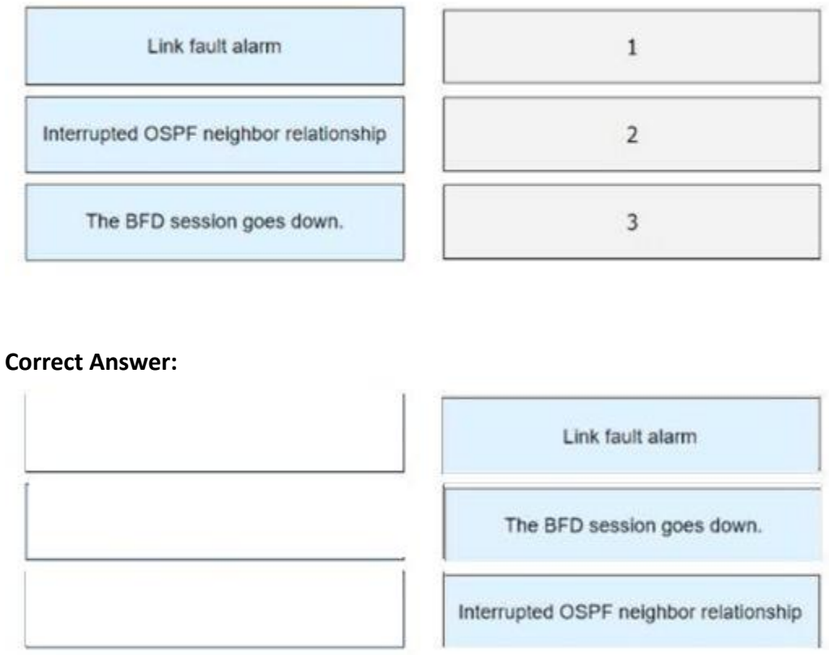
Exam Code: H12-821_V1.0

Exam Name: HCIP-Datacom-Core Technology V1.0

Exam A

QUESTION 1
DRAG DROP
BFD for OSPF is deployed on a directly connected link. If the physical link is disconnected, drag the following BFD processes to the corresponding sequence numbers.

Select and Place:



Correct Answer:

Section:
Explanation:

QUESTION 2
The VRID of the VRRP virtual router is 3 and the virtual IP address is 100.1.1.10. What is the virtual MAC address?

A. 01-00-5E-00-01-64
B. 01-00-5E-00-01-03
C. 00-00-5E-00-01-64
D. 00-00-5E-00-01-03

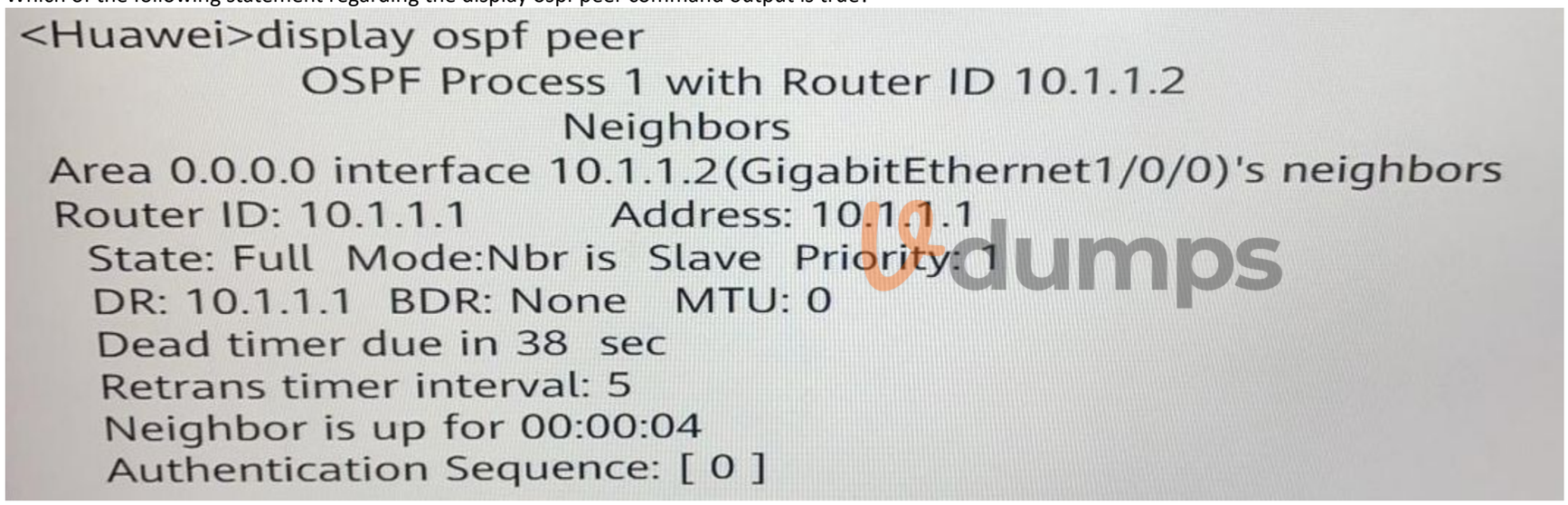
Correct Answer: D
Section:
Explanation:
The virtual MAC address for a VRRP virtual router is determined by the formula 00-00-5E-00-01-[VRID in hexadecimal]. For VRID 3, the hexadecimal equivalent is 03. Thus, the virtual MAC address is 00-00-5E-00-01-03 .

QUESTION 3
During the DHCP interaction process, the DHCP server and client exchange various types of packets. Which of the following packets is not sent from the client to the server?

A. DHCP Release
B. DHCPNAK
C. DHCP Request
D. DHCP Discover

Correct Answer: B
Section:
Explanation:
The DHCPNAK message is sent by the DHCP server to the client to indicate that the requested configuration is not valid. Messages like DHCPDiscover, DHCPRequest, and DHCPRelease are initiated by the client in the DHCP process .

QUESTION 4
Which of the following statement regarding the display ospf peer command output is true?



A. Address: 10.1,1.1 Indicates that the local interface address is 10.1.1.1.
B. Through negotiation during DD packet exchange, the local end becomes the slave.
C. Router ID indicates that the local router ID Is 10.1.1.1.
D. The DR address is 10.1.1.1

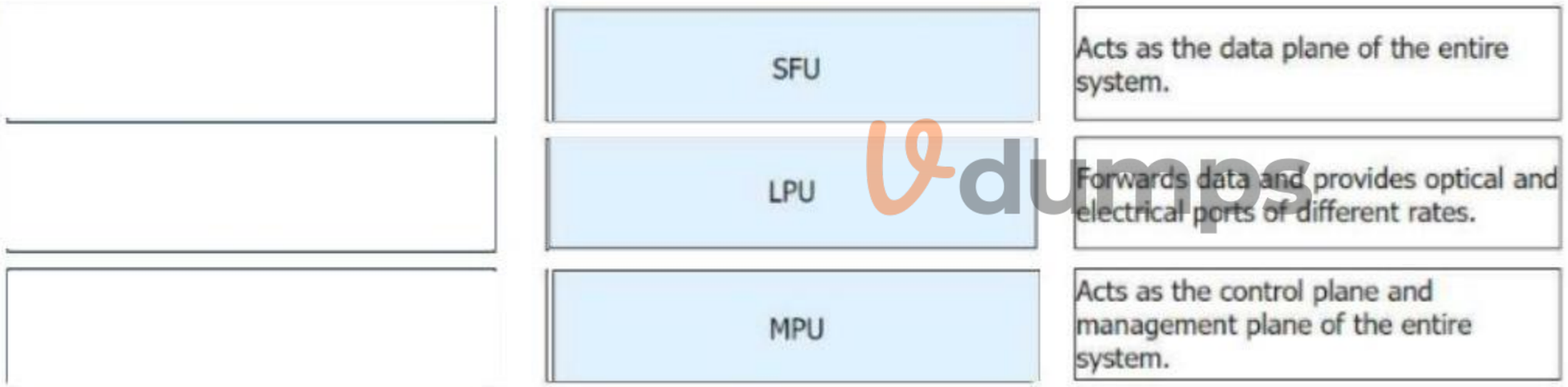
Correct Answer: B
Section:
Explanation:
The command output indicates that the OSPF neighbor state is Full and that the neighbor relationship has been established. The statement confirms that the negotiation process during the exchange of DD (Database Description) packets has determined the role of the router, with the local device becoming the slave in the Master-Slave relationship, which is critical for LSA synchronization. The other options do not align with the output or OSPF principles

QUESTION 5
DRAG DROP

Huawei modular devices have multiple hardware modules that provide different functions. Match the following hardware modules with their functions.

Select and Place:

Correct Answer:



Section:
Explanation:

QUESTION 6
A router performs a lookup in its FIB table for a packet. If the tunnel ID in the matching entry is 0, the packet needs to be forwarded through a tunnel, such as an MPLS tunnel.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
The question indicates that a router performs a lookup in its FIB table for a packet and determines that the tunnel ID in the matching entry is 0, suggesting that the packet needs to be forwarded through a tunnel such as an MPLS tunnel. However, this is a misunderstanding of the FIB functionality.
FIB Table Overview
The Forwarding Information Base (FIB) is used to make packet-forwarding decisions. Entries in the FIB include next-hop information, which can be directly linked to an interface or a tunnel.
If the Tunnel ID is 0, it indicates that the packet is forwarded via a normal routing path and not through a tunnel.

For MPLS or other tunnels, the Tunnel ID would have a non-zero value pointing to the associated tunnel.
MPLS Tunnel Operation
When a router forwards packets through an MPLS tunnel, a label-switched path (LSP) is set up. The FIB would reflect specific tunnel identifiers for packets that need such encapsulation.
HCIP-Datacom-Core Reference
Routing Principles and MPLSexplain the forwarding mechanisms clearly, stating that if a packet is routed normally, the tunnel ID remains 0.
The section on MPLSclarifies the encapsulation process and the role of tunnel identifiers.
Hence, the claim in the question is incorrect. A Tunnel ID of 0 implies no tunneling is required, and normal IP forwarding occurs

QUESTION 7
On an OSPF network, one router with P2P as the network type is directly connected to another router with P2MP as the network type. If the Hello intervals on the two routers are changed to be the same, neighbor relationship establishment and LSDB synchronization are not affected.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
The scenario describes a mismatch in OSPF network types between two connected routers: one set to Point-to-Point (P2P) and the other set to Point-to-Multipoint (P2MP). While aligning Hello intervals may seem sufficient for establishing an OSPF neighbor relationship, the fundamental mismatch in network types introduces issues.
OSPF Network Types
P2P: Assumes a direct connection with a single neighbor, uses faster convergence and simpler LSDB synchronization.
P2MP: Supports multiple neighbors on a single interface, requiring different handling for DR/BDR roles and LSDB updates.
Impact of Network Type Mismatch
If Hello intervals are aligned, adjacency establishment might occur. However, mismatched network types affect neighbor role assignment and LSDB synchronization.
P2P expects a direct link and would handle updates differently than P2MP, which assumes multiple neighbors. This leads to inconsistencies in route calculation and forwarding.
HCIP-Datacom-Core Reference
OSPF Basics and Configurationclearly outlines the criticality of consistent network type configuration for stable OSPF operation.
Lab examples in the HCIP Datacom Lab Guidefurther demonstrate the consequences of such mismatches, including unstable neighbor states and incomplete LSDB synchronization.
Hence, the statement that neighbor relationships and LSDB synchronization remain unaffected is incorrect. Proper OSPF operation requires matching network types in addition to aligned Hello intervals.

QUESTION 8
On an enterprise network, the directly connected interfaces of two OSPF routers are on different network segments and have different masks. To establish an OSPF neighbor relationship between the two interfaces, you can change their network types to which of the following?

A. Point-to-point
B. NBMA
C. P2MP
D. Broadcast

Correct Answer: A
Section:
Explanation:
When OSPF routers have interfaces on different network segments with different subnet masks, the network type can be adjusted to establish adjacency. A point-to-point (P2P) network type eliminates the requirement for matching subnet masks by treating the link as directly connected without intermediate devices.
P2P Network Characteristics
OSPF treats the link as a direct connection between two routers.
No DR/BDR election occurs, simplifying adjacency establishment.
Subnet mask differences do not hinder neighbor relationships as the link is viewed as a logical tunnel.

HCIP-Datacom-Core Reference
The OSPF configuration section explicitly mentions P2P as a suitable network type for resolving adjacency issues caused by mismatched subnet masks.

QUESTION 9
On an OSPF network, an algorithm is used to prevent loops within an area, but loops may occur between areas. Therefore, OSPF defines a loop prevention mechanism for inter-area routes. Which of the following statements are true about the loop prevention mechanism?

A. Inter-area routes cannot be directly transmitted between non-backbone areas.
B. All non-backbone areas must be directly connected to area 0.
C. Inter-area routes need to be forwarded through area 0.
D. An ABR cannot inject Type 3 LSAs that describe routes to a network segment in an area back to the same area.

Correct Answer: A, B, C, D
Section:
Explanation:
OSPF Area Design and Loop Prevention:
OSPF uses a hierarchical structure with areas to improve scalability and efficiency. Area 0, the backbone area, plays a crucial role in ensuring loop-free route distribution between areas. The following mechanisms are key to preventing routing loops:
Strict adherence to hierarchical area design.
Prohibition of direct inter-area route exchanges between non-backbone areas.
Analysis of Each Statement:
A . Inter-area routes cannot be directly transmitted between non-backbone areas.
This statement is TRUE. OSPF mandates that all inter-area routing must pass through Area 0. Direct inter-area route exchanges between two non-backbone areas are not allowed to prevent loops.
B . All non-backbone areas must be directly connected to area 0.
This statement is TRUE. OSPF requires every non-backbone area to connect directly to Area 0 to facilitate loop-free inter-area routing. Virtual links may be configured in exceptional cases where direct connection is not possible.
C . Inter-area routes need to be forwarded through area 0.
This statement is TRUE. All inter-area traffic must traverse Area 0 to ensure hierarchical routing and loop prevention. This rule is a core design principle of OSPF.
D . An ABR cannot inject Type 3 LSAs that describe routes to a network segment in an area back to the same area.
This statement is TRUE. OSPF explicitly prohibits an ABR from injecting Type 3 LSAs describing a route into the same area where the route originates. This mechanism prevents routing loops within an area.
Conclusion:
All options (A, B, C, D) are correct. OSPF enforces a robust loop prevention mechanism through hierarchical routing, mandatory traversal via Area 0, and strict rules on LSA propagation by ABRs. This ensures reliable and loop-free inter-area routing in OSPF networks.

QUESTION 10
OSPF has five types of packets, which have the same header format. If the Auth Type field in the packet header is 1, which of the following authentication modes is used?

A. Non-authentication
B. MD5 authentication
C. Plaintext authentication
D. Hash authentication

Correct Answer: C
Section:
Explanation:
OSPF Authentication Overview
The Auth Type field in the OSPF packet header determines the authentication mode. If the Auth Type is 1, plaintext authentication is used.
Plaintext authentication involves transmitting the password in an easily readable format, which is less secure compared to MD5.
HCIP-Datacom-Core Reference

Authentication mechanisms, including plaintext authentication, are detailed in the OSPF security configuration chapter, confirming that Auth Type = 1 corresponds to plaintext.

QUESTION 11
On an OSPF network, if a router receives an update of an LSA that exists in the local LSDB, the router updates the LSDB and floods the LSA.

A. TRUE
B. FALSE

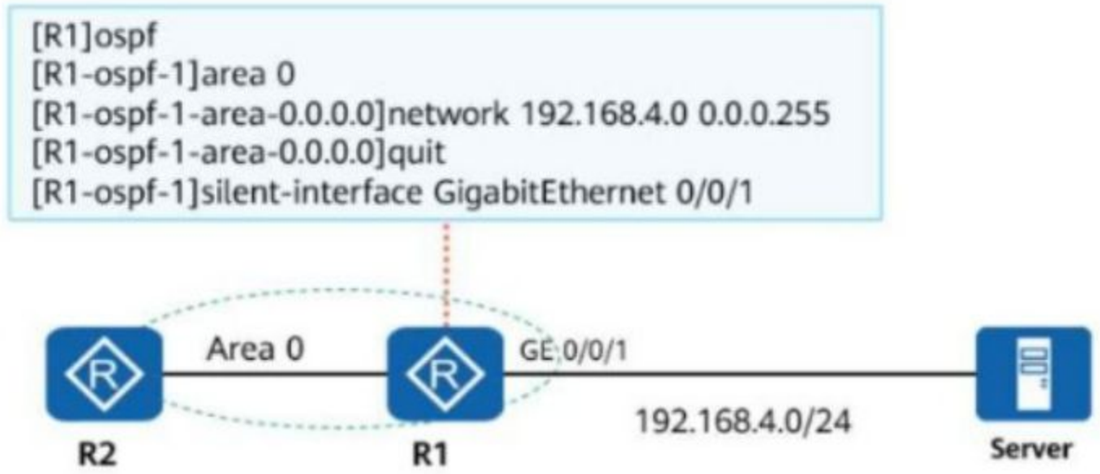
Correct Answer: B
Section:
Explanation:
OSPF LSA Flooding Mechanism
If a router receives an LSA identical to one already in its LSDB, it does not flood the LSA again unless the LSA has changed (i.e., the sequence number or content has been updated).
OSPF ensures efficient use of bandwidth by avoiding redundant flooding of unchanged LSAs.
HCIP-Datacom-Core Reference
The OSPF LSDB synchronization process explains that unchanged LSAs are not reflooded, ensuring stability and resource optimization.

QUESTION 12
An enterprise uses OSPF to implement network communication. To ensure data validity and security, all authentication modes supported by OSPF are enabled on routers. In this case, interface authentication is preferentially used by the routers.

A. TRUE
B. FALSE

Correct Answer: A
Section:
Explanation:
OSPF Authentication Overview
OSPF supports three authentication modes:
Null Authentication: No authentication (default).
Plaintext Authentication: Uses clear-text passwords.
MD5 Authentication: Secure cryptographic authentication.
Interface-Level Priority
When both interface-level and area-level authentication are configured, OSPF prioritizes interface-level authentication. This ensures that interface-specific security overrides area-wide configurations for greater granularity and security.
HCIP-Datacom-Core Reference
OSPF authentication hierarchy and configurations are detailed in the OSPF security configuration chapter.

QUESTION 13
The following figure shows the OSPF network of an enterprise and the OSPF configurations of R1. Which of the following statements is false about the network?



A. R2 can access the server.
B. GE 0/0/1 of R1 cannot send OSPF packets.
C. The network segment to which GE 0/0/1 of R1 belongs cannot be advertised.
D. GE 0/0/1 of R1 cannot accept OSPF packets.

Correct Answer: C
Section:
Explanation:
Silent Interface Explanation
The silent-interface command is used to prevent OSPF from sending or receiving OSPF packets on the specified interface (GE 0/0/1). This disables OSPF adjacency establishment and stops route advertisement for that interface.
Network Observations
Statement A: R2 can access the server.
This is correct, as the silent interface does not impact data traffic, only OSPF-related communication.
Statement B: GE 0/0/1 of R1 cannot send OSPF packets.
Correct due to the silent-interface configuration.
Statement C: The network segment to which GE 0/0/1 of R1 belongs cannot be advertised.
This is correct, as the silent interface prevents route advertisement.
Statement D: GE 0/0/1 of R1 cannot accept OSPF packets.
Correct, as the silent interface configuration blocks packet reception.
HCIP-Datacom-Core Reference
OSPF interface command behavior is outlined in the configuration and lab examples sections.

QUESTION 14
On an OSPF network, if two routers with the same router ID run in different areas and one of the routers is an ASBR, LSA flapping occurs.

A. TRUE
B. FALSE

Correct Answer: A
Section:

Explanation:
Understanding Router ID and Its Role in OSPF:
In OSPF, the Router ID uniquely identifies a router within the OSPF domain. If two routers are configured with the same Router ID, it can lead to issues such as LSA conflicts and flapping. This is because the Router ID is used as a key in OSPF operations, including LSA generation and database synchronization.
Scenario Details:
Different Areas: Even if the two routers belong to different areas, the Router ID remains globally significant in the OSPF domain. This means that any duplication of Router IDs will confuse OSPF mechanisms.
ASBR (Autonomous System Boundary Router): When one of the routers is an ASBR, it generates Type 4 and Type 5 LSAs to describe external routes. These LSAs use the Router ID as an identifier. If another router in the network has the same Router ID, conflicts occur during LSDB synchronization.
Impact of Router ID Duplication:
LSA Flapping: The OSPF process receives conflicting LSAs from routers with the same Router ID. This results in continuous updates and withdrawals of these LSAs, causing flapping.
Routing Instability: LSA flapping leads to frequent recalculations of the OSPF shortest path tree (SPT), affecting overall network stability.
Conclusion:
The statement is TRUE. LSA flapping occurs when two routers in an OSPF network have the same Router ID, even if they are in different areas and one is an ASBR. This is due to the global significance of Router IDs in OSPF and the role they play in LSA generation and propagation.

QUESTION 15
Similar to the OSPF DR, the IS-IS DIS needs to be elected on a broadcast network. However, the OSPF DR is preemptive by default, whereas the IS-IS DIS is not preemptive by default.

A. TRUE
B. FALSE

Correct Answer: A
Section:
Explanation:
DIS and DR Election
The IS-IS Designated Intermediate System (DIS) is responsible for generating and updating pseudonode LSPs on a broadcast network.
Unlike OSPF DR, the IS-IS DIS does not preempt by default. This behavior avoids unnecessary flapping in the network due to frequent DIS re-elections.
HCIP-Datacom-Core Reference
The characteristics of DIS and DR behavior are explained in IS-IS network operation chapters.

QUESTION 16
On an IS-IS network, routers send LSPs to exchange link state information. LSPs are classified into Level-1 LSPs and Level-2 LSPs and have the same format. Which of the following parts constitute the LSP ID in an LSP?

A. LSP Number
B. Pseudonode ID
C. System ID
D. IS Type

Correct Answer: A, B, C
Section:
Explanation:
IS-IS Overview: Intermediate System to Intermediate System (IS-IS) is a link-state routing protocol. Routers exchange Link State Packets (LSPs) to maintain a synchronized link-state database. These LSPs are categorized into Level-1 LSPs (intra-area routing) and Level-2 LSPs (inter-area routing). Both types share the same packet format.
LSP ID Format: The LSP ID uniquely identifies each LSP and ensures accurate routing information. It comprises the following components:
System ID (C): A 6-byte identifier assigned to each router, derived from the router's NET (Network Entity Title). This identifier ensures unique identification of routers within the IS-IS domain.
Pseudonode ID (B): Assigned when a router acts as a Designated Intermediate System (DIS) on a broadcast network. It differentiates LSPs generated by the DIS from other routers.
LSP Number (A): A 1-byte field indicating the sequence number of the LSP. It helps distinguish multiple LSPs generated by the same router for the same level.
IS Type Exclusion:
IS Type (D) is not part of the LSP ID itself. It is a field within the IS-IS PDU that indicates the type of Intermediate System (Level-1, Level-2, or both) but does not contribute to the composition of the LSP ID.

Conclusion: The LSP ID in IS-IS consists of System ID, Pseudonode ID, and LSP Number. These components uniquely identify each LSP within the IS-IS domain.

QUESTION 17
On an OSPF network, interfaces are classified into four types based on link layer protocols. Which of the following types can interfaces on an IS-IS network be classified into based on physical links?

A. P2P
B. Broadcast
C. P2MP
D. NBMA

Correct Answer: A, B
Section:
Explanation:
IS-IS Interface Types
IS-IS interfaces are categorized based on physical link characteristics:
Point-to-Point (P2P): Direct connections between two routers.
Broadcast: Shared medium networks where multiple routers communicate.
Incorrect Options
C . P2MP and D. NBMA are not standard interface classifications in IS-IS.
HCIP-Datacom-Core Reference
IS-IS physical link classifications are elaborated in IS-IS link configuration sections.

QUESTION 18
Which of the following attributes must be carried when BGP sends route update messages?

A. MED
B. Next_Hop
C. AS_Path
D. Local_Preference

Correct Answer: B, C
Section:
Explanation:
Mandatory BGP Attributes
Next_Hop: Specifies the next hop to reach the destination.
AS_Path: Lists the autonomous systems traversed, crucial for loop prevention and route selection.
Optional Attributes
MED (Multi-Exit Discriminator) and Local_Preference are optional attributes that aid in route preference but are not mandatory.
HCIP-Datacom-Core Reference
BGP attribute behavior and classifications are detailed in BGP path selection principles.

QUESTION 19
A non-client is an IBGP peer that functions as neither an RR nor a client. A non-client must establish fully meshed connections with the RR and all the other non-clients.

A. TRUE
B. FALSE

Correct Answer: A

Section:
Explanation:
Non-Client Definition in IBGP
In an IBGP setup with a Route Reflector (RR), a non-client is an IBGP peer that is neither the RR itself nor its client.
Non-clients must establish fully meshed IBGP connections with all other non-clients and the RR because IBGP rules prohibit route propagation between non-clients without a direct connection.
HCIP-Datacom-Core Reference
The behavior of non-clients in an RR topology is clearly outlined in the BGP implementation chapters.

QUESTION 20
In BGP, Keepalive messages are used to maintain BGP peer relationships. When a BGP router receives a Keepalive message from a peer, the BGP router sets the state of the peer to Established and periodically sends Keepalive messages to maintain the connection. By default, the device sends Keepalive messages every seconds.

A. 60

Correct Answer: A
Section:
Explanation:
BGP Keepalive Message Behavior
Keepalive messages are used to maintain the Established state of a BGP peer relationship.
The Keepalive timer determines the frequency of these messages and defaults to 60 seconds, as per the BGP specification.
HCIP-Datacom-Core Reference
The Keepalive timer default value is covered in the BGP configuration and operational principles.

QUESTION 21
Which of the following statements is true about BGP?

A. If the export routing policy applied to a BGP peer changes, manual intervention is required so that the device resends Update messages to the peer.
B. IGP routes can be converted into BGP routes only through the network command.
C. A router cannot be configured with multiple BGP processes.
D. Open messages carry only the BGP header.

Correct Answer: A
Section:
Explanation:
Export Routing Policy Changes
When an export routing policy is modified, BGP does not automatically resend affected routes. Manual intervention, such as a clear ip bgp command, is required to resend Update messages reflecting the new policy.
Incorrect Options
B . IGP routes can also be advertised into BGP using redistribution, not just the network command.
C . A router can be configured with multiple BGP processes using different AS numbers (multi-instance BGP).
D . Open messages carry additional parameters such as AS number, Hold Time, and Router ID, not just the header.
HCIP-Datacom-Core Reference
BGP policy and update behavior are detailed in the route control and redistribution chapters.

QUESTION 22
In BGP, Notification messages are used to request peers to resend routing information after routing policies are changed.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
Notification Message Purpose
BGP Notification messages are used to report errors or terminate a connection. They do not request peers to resend routing information after routing policies are changed.
Routing updates following policy changes require manual resynchronization, not Notification messages.
HCIP-Datacom-Core Reference
The purpose and usage of Notification messages are discussed in the BGP operation chapters.

QUESTION 23
When a BGP device sends an Open message to establish a peer connection, which of the following information is carried?

A. Local AS number
B. Router ID
C. NLRI
D. Hold time

Correct Answer: A, B, D
Section:
Explanation:
BGP Open Message Components
The Open message contains the following critical parameters:
Local AS Number: The autonomous system of the router.
Router ID: A unique identifier for the router.
Hold Time: The maximum time the router will wait for Keepalive or other messages from its peer.
Incorrect Option
C . NLRI: Network Layer Reachability Information is not included in Open messages; it is carried in Update messages.
HCIP-Datacom-Core Reference
The structure and contents of Open messages are explained in BGP protocol details.

QUESTION 24
During BGP route summarization configuration, the keyword can be used to suppress all specific routes so that only the summary route is advertised. The summary route carries the Atomic-aggregate attribute rather than the community attributes of specific routes.

A. suppressspecmap

Correct Answer: A
Section:
Explanation:
Understanding BGP Route Summarization:
In Border Gateway Protocol (BGP), route summarization is a technique used to aggregate multiple specific prefixes into a broader summary prefix. This reduces the size of routing tables and improves routing efficiency.
Summarization helps to hide unnecessary details from other parts of the network while still maintaining connectivity.
Suppressing Specific Routes:
When summarizing routes, the suppress-spec-map keyword is used to suppress specific prefixes so that only the summarized route is advertised.
The suppressed routes are not advertised to BGP peers; instead, only the summary route is propagated.
Atomic-Aggregate Attribute:
The summary route generated during BGP route summarization carries the Atomic-aggregate attribute. This attribute indicates that the summary route might not provide the exact path information available in the original specific routes.
Additionally, when using the suppress-spec-map option, the specific routes' attributes, such as community attributes, are not included in the summary route.

Conclusion:
The suppress-spec-map keyword is used to suppress specific routes when performing BGP summarization. The summarized route includes the Atomic-aggregate attribute but does not carry community attributes from the suppressed routes.

QUESTION 25
BGP is generally applied to complex networks where routes change frequently. Frequent route flapping consumes a large number of bandwidth and CPU resources, and even affects the normal operation of the network. This is an unavoidable problem that cannot be solved in BGP.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
BGP Route Flapping and Mitigation
While route flapping is a concern in large-scale networks, BGP employs mechanisms such as Route Dampening to mitigate its impact. Route dampening suppresses frequently flapping routes for a period of time to reduce resource consumption and network instability.
Therefore, it is incorrect to state that the issue cannot be resolved in BGP.
HCIP-Datacom-Core Reference
The mechanism of route dampening is detailed in the BGP optimization chapters.

QUESTION 26
The Next_Hop attribute in BGP records the next hop of a route. Similar to the next hop in an IGP, the Next_Hop attribute in BGP must be the IP address of a peer interface.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
BGP Next_Hop Attribute
Unlike IGP, the Next_Hop attribute in BGP does not necessarily have to be the IP address of a peer interface. For example, in multi-hop BGP configurations, the Next_Hop can point to a different router or interface within the network.
HCIP-Datacom-Core Reference
Details of the Next_Hop attribute and its behavior are outlined in BGP path selection principles.

QUESTION 27
A BGP device receives a route carrying an unknown attribute from a peer but does not know whether other devices need the attribute. In this case, the BGP device retains this attribute when advertising the route to other peers. Which of the following attributes is of this type?

A. Community
B. AS.Path
C. MED
D. OriginatorID

Correct Answer: A
Section:
Explanation:
Transitive vs. Non-Transitive Attributes

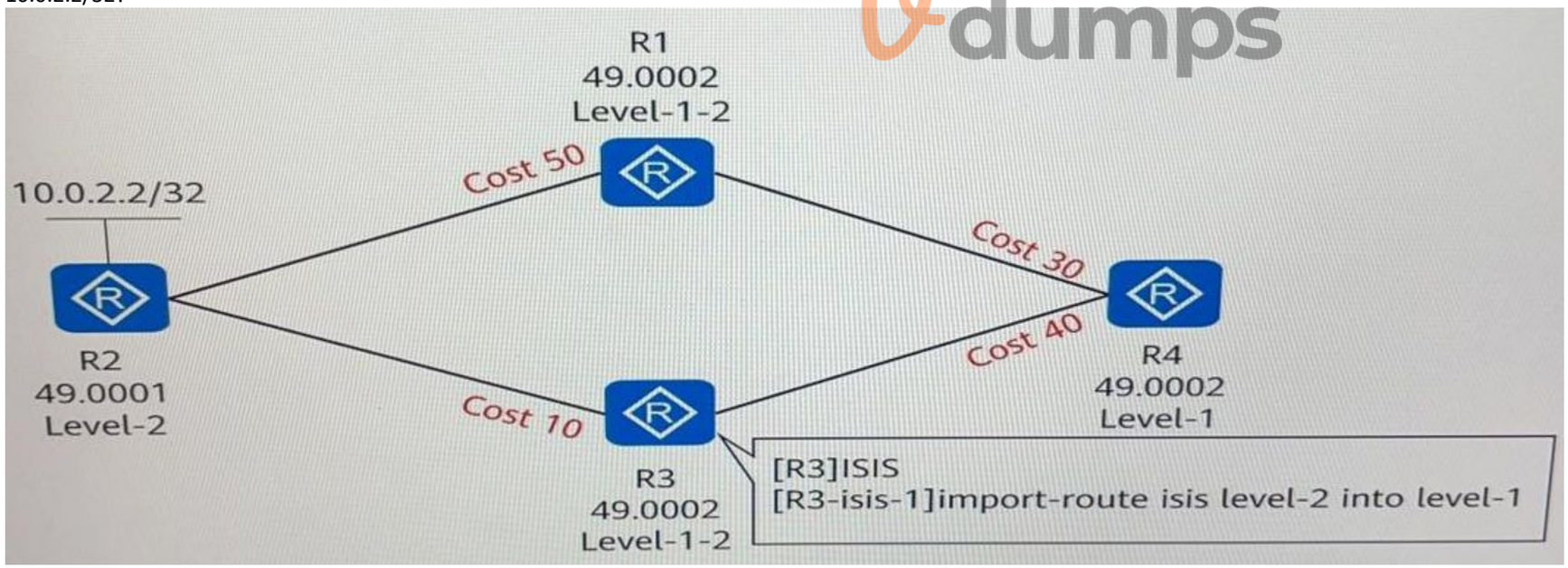
The Community attribute is a transitive optional attribute, meaning that if a router receives a route with this attribute and does not understand its purpose, the router retains and propagates it to other peers.
Other options, such as AS_Path and MED, are well-defined mandatory or optional attributes with specific purposes.
HCIP-Datacom-Core Reference
The behavior of optional transitive attributes is detailed in the BGP protocol and attribute chapters.

QUESTION 28
This configuration is part of RTA configuration. Which of the following statements regarding the configuration are true?
[RTA] ospf 100
[RTA-ospf-100]silent-interface GigabitEthernet 1/0/0

A. RTA cannot establish a neighbor relationship with the neighbor that this interface is directly connected to.
B. GigabitEthernet 1/0/0 is prohibited from sending OSPF packets.
C. Direct routes of GigabitEthernet 1/0/0 can still be advertised.
D. This interface cannot send Hello packets.

Correct Answer: A, B, D
Section:
Explanation:
The silent-interface command disables the sending of OSPF packets, including Hello packets, on the specified interface, which prevents the establishment of OSPF neighbor relationships. However, the interface can still advertise directly connected routes through other interfaces, making Option C incorrect .

QUESTION 29
Four routers run ISIS and have established adjacencies. The area IDs and router levels are marked in the following figure. If route leaking is configured on R3, which of the following is the cost of the route from R4 to 10.0.2.2/32?



A. 80
B. 50
C. 40
D. 30

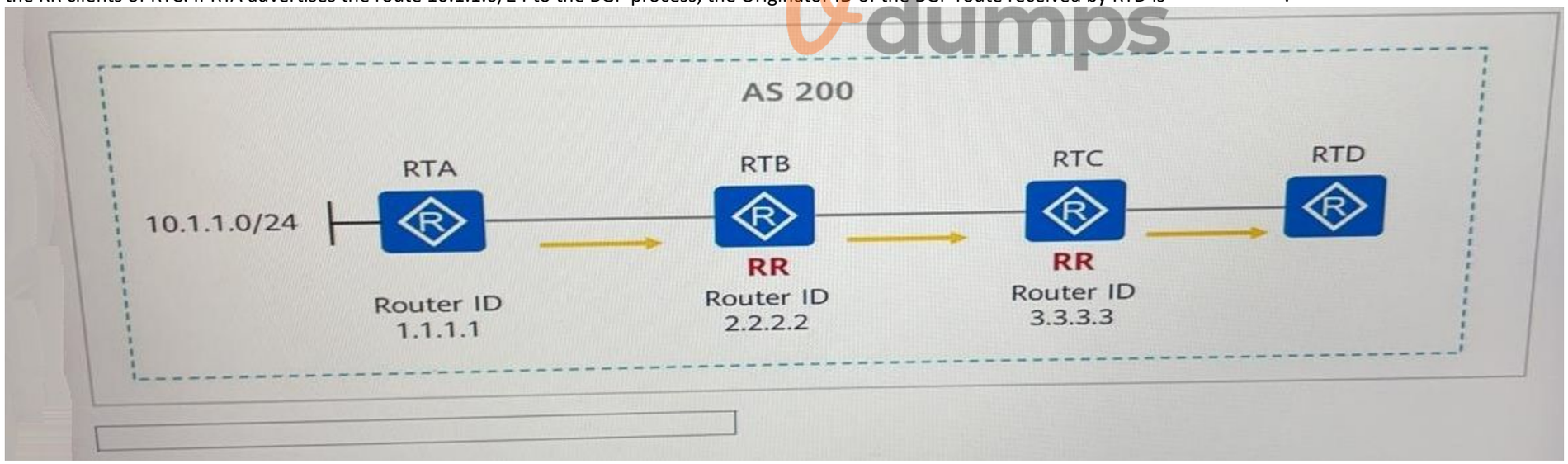
Correct Answer: A
Section:
Explanation:
In the given topology, the route from R4 to 10.0.2.2/32 traverses R3, which performs route leaking from Level-2 to Level-1. The cost is calculated as follows: R4 to R3 (40) + R3 to R2 (10) + R2 to the destination (30), resulting in a total cost of 80 .

QUESTION 30
Which of the following is the default interval at which the DIS on a broadcast IS_IS network sends CSNPs.

A. 30
B. 3.3
C. 10
D. 40

Correct Answer: A
Section:
Explanation:
The Designated Intermediate System (DIS) in an IS-IS broadcast network sends Complete Sequence Number PDUs (CSNPs) at a default interval of 30 seconds. This interval ensures periodic synchronization of the Link State Database (LSDB) among IS-IS neighbors .

QUESTION 31
Fill in the blanks
See the following figure. RTA, RTB, RTC, and RTD are in the same AS and establish IBGP peer relationships through direct links. RTB an RTC are route reflectors (RRs), RTA and RTC are the RR clients of RTB, and RTB and RTD are the RR clients of RTC. If RTA advertises the route 10.1.1.0/24 to the BGP process, the Originator ID of the BGP route received by RTD is----------.



A. 1.1.1.1

Correct Answer: A
Section:
Explanation:
The Originator ID in a BGP route represents the Router ID of the device that originally advertised the route into the BGP domain. Since RTA originates the route 10.1.1.0/24 into the BGP process, the Originator ID in the route received by RTD will be set to 1.1.1.1 .

QUESTION 32
After which of the following parameters are modified does an IS-IS neighbor relationship need to re-established?

A. The cost of an IS-IS interface is changed.
B. The IP address of an ISIS interface is changed.
C. The level of an ISIS interface is changed.
D. The interval at which an IS-IS interface sends IIH packets is changed.

Correct Answer: C
Section:
Explanation:
When the level of an IS-IS interface is changed, the adjacency must be re-established because IS-IS adjacencies are formed based on matching levels (Level-1, Level-2, or both). Other changes, such as cost or hello intervals, do not disrupt the existing adjacency but might impact routing metrics or timing .

QUESTION 33
To inject IGP routes into BGP routes, you can only use the network command.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
IGP routes can be injected into BGP using multiple methods, not just the network command. The import-route command can also be used to redistribute IGP routes into BGP. The network command requires the route to exist in the routing table, while import-route allows direct redistribution .

QUESTION 34
In the OSPF protocol, intra-area route calculation involves only Router LSA, Network LSA, and Summary LSA.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
Intra-area route calculation in OSPF involves only Router LSAs (Type 1) and Network LSAs (Type 2). Summary LSAs (Type 3) are used for inter-area routes and do not participate in intra-area route calculation. Therefore, the statement is false .

QUESTION 35
Which of the following statements regarding OSPF multi-instance is false?

A. Route exchange between different OSPF processes is similar to route exchange between different routing protocols.
B. An interface of a router belongs to only a certain OSPF process.
C. The OSPF process IDs must be the same when OSPF neighbor relationships are established between different routers.
D. Multiple OSPF processes can run on the same router, and they are independent of each other.

Correct Answer: C
Section:

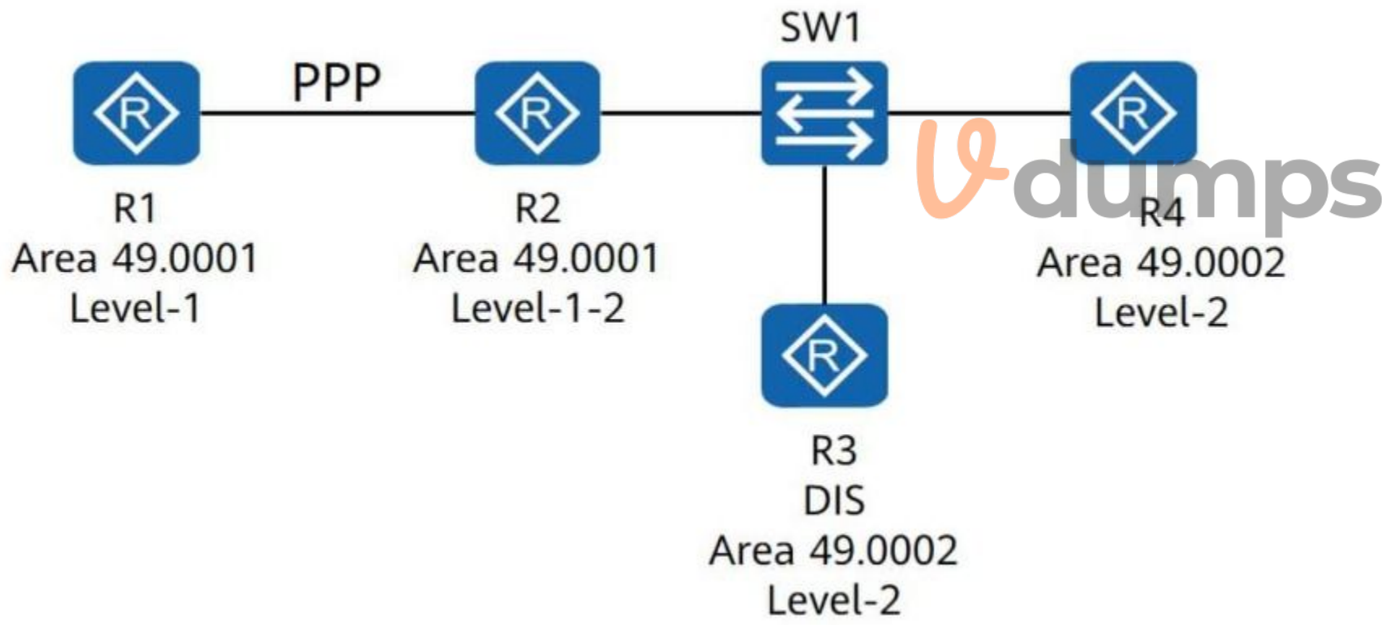
Explanation:
OSPF process IDs are locally significant and do not need to match between routers to form neighbor relationships. The other statements correctly describe the behavior of OSPF multi-instances, making Option C false .

QUESTION 36
In an OSPF routing domain, two routers must be specified as one DR and one BDR in a broadcast or NBMA network with at least two routers.

A. TRUE
B. FALSE

Correct Answer: A
Section:
Explanation:
In an OSPF broadcast or NBMA network with at least two routers, one router must act as the DR (Designated Router), and another as the BDR (Backup Designated Router) to ensure efficient communication and reduce the number of adjacencies. This is a requirement for OSPF operation in such network types .

QUESTION 37
Four routers run IS-IS and have established adjacencies. The area IDs and router levels are marked in the following figure. R1 and R2 are connected through a PPP link, and R3 is the DIS. Which of the following statements are true?

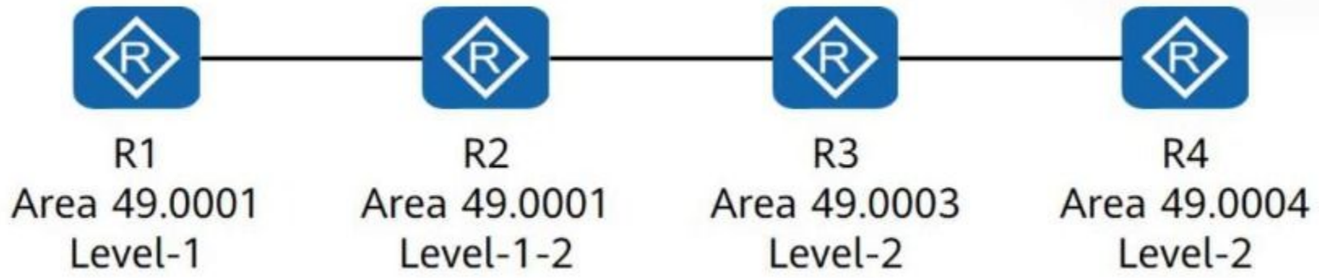


A. If R2 sends a Level-2 LSP, R3 needs to send a PSNP for acknowledgment.
B. R3 periodically sends CSNPs to implement Level-2 LSDB synchronization.
C. R2 sends an LSP to R3 and R4 in unicast mode.
D. If R1 sends an LSP, R2 needs to send a PSNP for acknowledgment.

Correct Answer: B, D
Section:
Explanation:

R3, as the DIS in the Level-2 domain, periodically sends Complete Sequence Number Protocol Data Units (CSNPs) to ensure LSDB synchronization among Level-2 routers.
R1 and R2 are in a Level-1 domain, and IS-IS requires the receiving router (R2) to acknowledge an LSP from R1 by sending a Partial Sequence Number Protocol Data Unit (PSNP).
IS-IS LSPs in a broadcast network are sent using multicast, not unicast, making option C incorrect.
For Level-2 LSPs, acknowledgments are not provided using PSNP by R3; CSNPs are sufficient for synchronization .

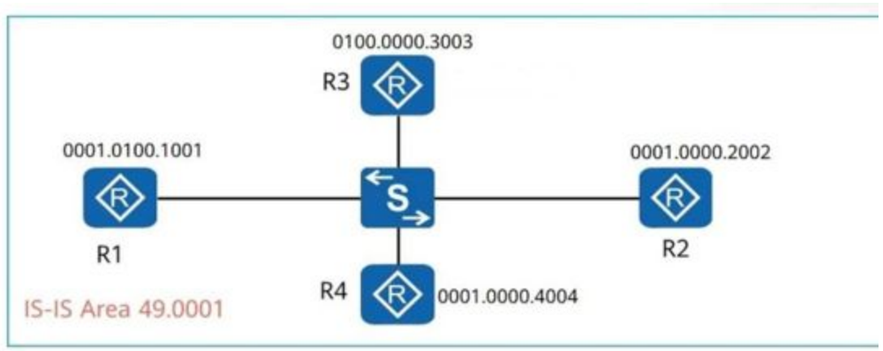
QUESTION 38
Four routers run IS-IS and have established adjacencies. The area IDs and router levels are marked in the following figure. Which of the following statements is true?



A. The LSDB of R2 does not contain the LSP of R4.
B. The LSDB of R1 does not contain the LSP of R4.
C. The LSDB of R2 does not contain the LSP of R3.
D. The LSDB of R3 does not contain the LSP of R4.

Correct Answer: B
Section:
Explanation:
R1 is a Level-1 router in Area 49.0001, while R4 is in Area 49.0004. Level-1 routers only maintain LSDBs for their own area and do not contain LSPs from other areas, such as R4's LSP.
R2 is a Level-1-2 router, so it maintains LSDBs for both Area 49.0001 (Level-1) and Level-2 domains, which include LSPs from R4.
R3 and R4, as Level-2 routers, exchange LSPs with each other within the Level-2 domain.
Thus, the LSDB of R1 does not include R4's LSP .

QUESTION 39
See the following figure. All routers on the network run IS-IS and are in area 49.0001. By referring to the LSDB of R1, the Level-2 DIS is. (Enter the device name, for example, R1.)




```
<R1>display isis lsdb
                Database information for ISIS(1)
                --------------------------------
                 Level-1 Link State Database
LSPID                 Seq Num     Checksum    Holdtime    Length  ATT/P/OL
--------------------------------------------------------------------------------
0001.0000.4004.00-00  0x00000008  0xb701      1186        68      0/0/0
0001.0000.2002.00-00  0x00000008  0xb701      1186        68      0/0/0
0001.0100.1001.00-00* 0x00000005  0x2f9d      1187        68      0/0/0
0001.0100.1001.01-00* 0x00000001  0xa79e      1110        55      0/0/0
```

```
<R1>display isis lsdb
                Database information for ISIS(1)
                --------------------------------
                 Level-1 Link State Database
LSPID                 Seq Num     Checksum    Holdtime    Length  ATT/P/OL
--------------------------------------------------------------------------------
0001.0000.4004.00-00  0x00000008  0xb701      1186        68      0/0/0
0001.0000.2002.00-00  0x00000008  0xb701      1186        68      0/0/0
0001.0100.1001.00-00* 0x00000005  0x2f9d      1187        68      0/0/0
0001.0100.1001.01-00* 0x00000001  0xa79e      1110        55      0/0/0

                 Level-2 Link State Database
LSPID                 Seq Num     Checksum    Holdtime    Length  ATT/P/OL
--------------------------------------------------------------------------------
0001.0000.2002.00-00  0x00000008  0xb701      1188        68      0/0/0
0001.0100.1001.00-00* 0x00000006  0x2d9e      1187        68      0/0/0
0001.0100.1001.01-00* 0x00000005  0xd0b0      1191        66      0/0/0
0100.0000.3003.00-00  0x00000005  0xfe53      1185        56      0/0/0
```

A. R3

Correct Answer: A
Section:
Explanation:
Understanding the LSDB and Level-2 DIS Election in IS-IS:
In IS-IS, the Designated Intermediate System (DIS) is elected for both Level-1 and Level-2 on broadcast networks to manage the link-state database (LSDB) and reduce the number of LSAs exchanged.
The election of the DIS is based on the highest priority. If the priority is the same, the router with the highest System ID becomes the DIS.
Analyzing the LSDB:
From the LSDB of R1, the Level-2 link-state database includes the following entries:
LSPID 0100.0000.3003.00-00: This is R3, and it is present in the Level-2 LSDB with the sequence number and checksum details.
Other routers (R1, R2, R4) are present but do not have the characteristics of the Level-2 DIS in this topology.

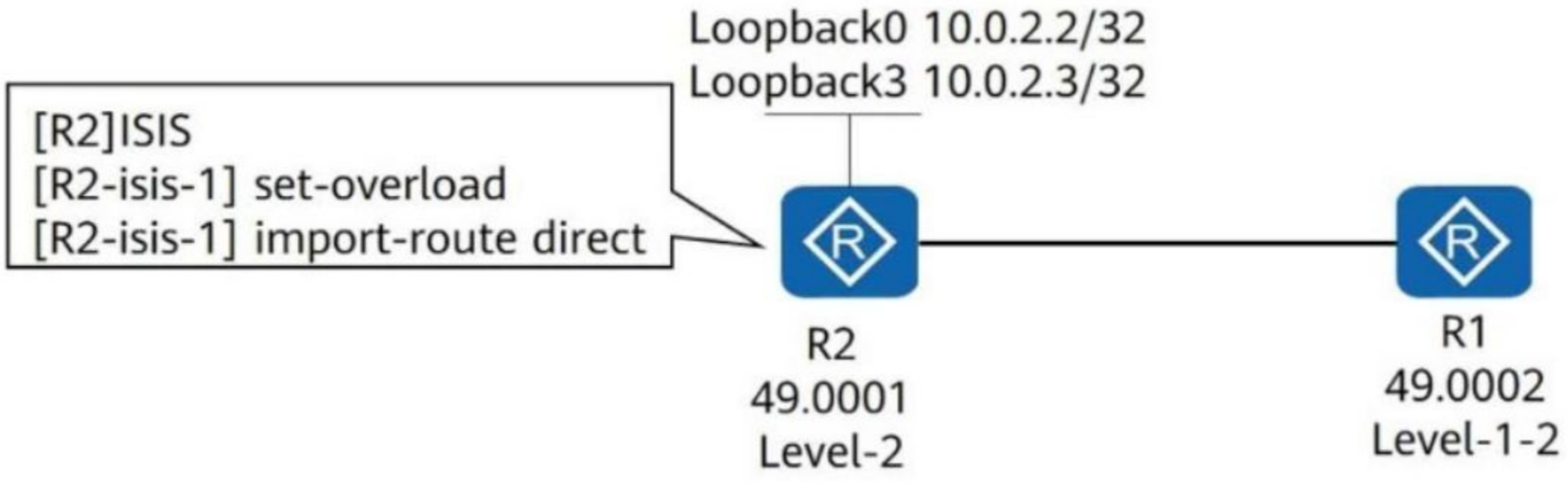
Based on the System IDs, R3 (0100.0000.3003) has the highest System ID, making it the Level-2 DIS.
Conclusion:
The Level-2 DIS on the network is R3, based on the election rules and the LSDB information shown in the figure.

QUESTION 40
R1, R2, R3, and R4 run IS-IS, and the DIS priorities of their interfaces are shown in the following figure. If all these devices are started simultaneously, will be elected as the DIS. (Enter the device name, for example, R1.)

A. R4

Correct Answer: A
Section:
Explanation:
DIS Election in IS-IS:
In IS-IS, the Designated Intermediate System (DIS) is elected on broadcast networks to reduce the number of LSAs exchanged and maintain the LSDB.
The DIS is elected based on priority:
The router with the highest priority is elected as the DIS.
If priorities are equal, the System ID is used as a tie-breaker, and the router with the highest System ID becomes the DIS.
Given DIS Priorities:
R1: Priority = 10
R2: Priority = 20
R3: Priority = 30
R4: Priority = 40
R4 has the highest DIS priority of 40, which makes it the clear choice for DIS election.
Scenario Details:
Since all devices are started simultaneously, the DIS election process will follow the priorities without requiring a tie-breaker (System ID).
Conclusion:
The device with the highest DIS priority is R4, and it will be elected as the DIS.

QUESTION 41
See the network shown in the following figure.



R1 and R2 run IS-IS and establish an adjacency. IS-IS is enabled on Loopback0 of R2 but disabled on Loopback3 of R2. The configurations shown in the figure are performed in the IS-IS process of R2. Which of the following statements are true?

A. The routing table of R1 contains the route 10.0.2.3/32.
B. The routing table of R1 does not contain the route 10.0.2.3/32.
C. The routing table of R1 does not contain the routes 10.0.2.2/32 and 10.0.2.3/32.
D. The routing table of R1 contains the route 10.0.2.2/32.

Correct Answer: B, D
Section:
Explanation:
In the provided configuration, IS-IS is enabled on Loopback0 but not on Loopback3 of R2. As a result, R2 will advertise the route 10.0.2.2/32 (from Loopback0) to R1 through IS-IS. However, the route 10.0.2.3/32 will not be advertised because IS-IS is not enabled on that loopback interface. The import-route direct command does not override this behavior .

QUESTION 42
Which of the following statements regarding the BGP error display of a router is false?

A. The error occurred at 11:40:39 on March 22, 2010.
B. The neighbor address of this router is 10.1.1.2.
C. The error may be caused by the incorrect peer AS number.
D. Error Type indicates that the BGP error is caused by the neighbor relationship error.

Correct Answer: A
Section:
Explanation:
The provided BGP error display shows the error timestamp as 12:40:39 on March 22, 2010. The error message confirms a mismatch in the peer AS number, as indicated in the 'Incorrect remote AS' error info. This eliminates options related to other causes, and the timestamp in Option A is incorrect .

QUESTION 43
Which of the following statements regarding the display bgp routing-table command output is true?

```
<HUAWEI>display bgp routing-table

 BGP Local router ID is 192.168.2.1
 Status codes: * - valid, > - best, d - damped,
               h - history,  i - internal, s - suppressed, S - Stale
               Origin : i - IGP, e - EGP, ? - incomplete

Network            NextHop      MED        LocPrf    PrefVal Path/Ogn

*> 192.168.1.0/24  10.1.1.1     0                    0       100i
```

A. The route to the destination address 192.168.1.0 is learned through AS 200.
B. The MED value of the route to the destination address 192.168.1.0 is 100.
C. The route to the destination address 192.168.1.0 is not the optimal route in the BGP routing table.
D. The route to the destination address 192.168.1.0 is injected into the BGP routing table using the network command.

Correct Answer: D
Section:
Explanation:
The Origin attribute in the display bgp routing-table output is marked as i, indicating that the route was injected into the BGP routing table using the network command. The other options are incorrect because the AS path is not displayed, the MED is 0, and the route is marked as the best (>), meaning it is the optimal route .

QUESTION 44
Multiple BGP processes cannot be configured on the same router.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
On Huawei devices, multiple BGP processes can be configured on the same router, but they are typically used for specific use cases such as multi-instance deployments or virtual routers. This flexibility is supported by Huawei's routing protocols .

QUESTION 45
Which of the following parameters are not mandatory during the configuration of a BGP peer?

A. password
B. Peer IP address
C. as-number
D. description

Correct Answer: A, D
Section:
Explanation:
The mandatory parameters for BGP peer configuration are the peer IP address (peer ip-address) and AS number (as-number). A password is optional for MD5 authentication, and a description is an optional comment for reference. These are not required for establishing the peer relationship .

QUESTION 46
Which of the following statements regarding the MED value in BGP are true?

A. According to BGP route selection rules, the MED value has a lower priority than AS_Path, Preferred-Value, Local-Preference, and Origin.
B. The default MED value of BGP routes is 0.
C. By default, BGP can compare the MED values of routes from different ASs.
D. By default, if there is no MED value in routes, the value 0 is used. If the bestroute med-none-as-maximum command is configured, the maximum MED value 4294967295 is used.

Correct Answer: A, D
Section:

Explanation:
The MED (Multi-Exit Discriminator) is an optional, non-transitive attribute used to influence the exit path. MED is considered after attributes such as Local-Preference, AS-Path, and Origin during route selection. By default, if a MED value is missing, it is treated as 0 unless the bestroute med-none-as-maximum command is configured to treat it as 4294967295 .

QUESTION 47
When two BGP peers support different Hold Time, they will negotiate to support the shortest Hold Time interval they can support.

A. TRUE
B. FALSE

Correct Answer: A
Section:
Explanation:
When two BGP peers negotiate the Hold Time, the shorter value between the two configured Hold Time values is selected. This ensures compatibility and maintains the stability of the BGP session .

QUESTION 48
In the VRP, by default, the routes imported by BGP will be automatically summarized.

A. TRUE
B. FALSE

Correct Answer: B
Section:
Explanation:
By default, BGP does not automatically summarize imported routes. Route summarization must be explicitly configured using the summary or similar commands .

QUESTION 49
Which of the following statements regarding Local-Preference in BGP is true?

A. Local-Preference affects traffic that enters an AS.
B. Local-Preference can be transmitted between ASs.
C. The default Local-Preference value is 100.
D. Local-Preference is a well-known mandatory attribute.

Correct Answer: C
Section:
Explanation:
The Local-Preference attribute is used within an AS to influence outbound traffic paths. The default value is 100, and it is a well-known discretionary attribute, meaning it is not mandatory and does not travel across AS boundaries .

QUESTION 50
Which of the following scenarios is not suitable for deploying interface PBR?

A. A core switch needs to forward traffic between the intranet and extranet to an AC device that connects to the core switch in off-path mode.
B. A core switch needs to forward the traffic between the intranet and extranet to a security detection device that connects to the core switch in off-path mode.
C. A device needs to modify the next-hop IP address for locally originated traffic.
D. On an enterprise network with multiple ISP outbound interfaces, each internal network segment accesses the Internet through a particular ISP outbound interface.

Correct Answer: C
Section:
Explanation:
Policy-Based Routing (PBR) on interfaces is used to forward traffic based on specific policies rather than the routing table. However, PBR is not suitable for modifying the next-hop of locally originated traffic. Other scenarios listed are typical use cases for interface PBR .

QUESTION 51
Which of the following attributes cannot be directly referenced in an apply clause of a route-policy?

A. community
B. IP-prefix
C. tag
D. origin

Correct Answer: B
Section:
Explanation:
Attributes such as community, tag, and origin can be directly referenced in the apply clause of a route-policy. However, IP-prefix is not an attribute but a prefix list used for matching, and it cannot be directly applied .

QUESTION 52
A route-policy can have multiple nodes, and each node can have multiple if-match and apply clauses. Which of the following statements are false?

A. The operator between if-match clauses under a node is AND.
B. The operator between nodes is AND.
C. The operator between if-match clauses under a node is OR.
D. The operator between nodes is OR.

Correct Answer: B, C
Section:
Explanation:
The operator between if-match clauses under a node is AND, meaning all conditions must be satisfied. However, the operator between nodes is OR, meaning a route matching any node will pass the route-policy .

QUESTION 53
Which of the following statements regarding routing policy and policy-based routing are true?

A. A routing policy is used to control import, advertisement, and receiving of routing information.
B. Policy-based routing is used to control import, advertisement, and receiving of routing information.
C. Policy-based routing is used to control packet forwarding without following routes in the routing table.
D. A routing policy is used to control packet forwarding without following routes in the routing table.

Correct Answer: A, C
Section:
Explanation:
Routing policies are used to control how routes are imported, advertised, or received. Policy-Based Routing (PBR) is used to forward packets based on policies, bypassing the routing table. Routing policies are not used for packet forwarding .

QUESTION 54
Access control lists can be classified into which types as follows?

A. Basic ACL
B. User-defined ACL
C. Advanced ACL
D. Layer 2 ACL

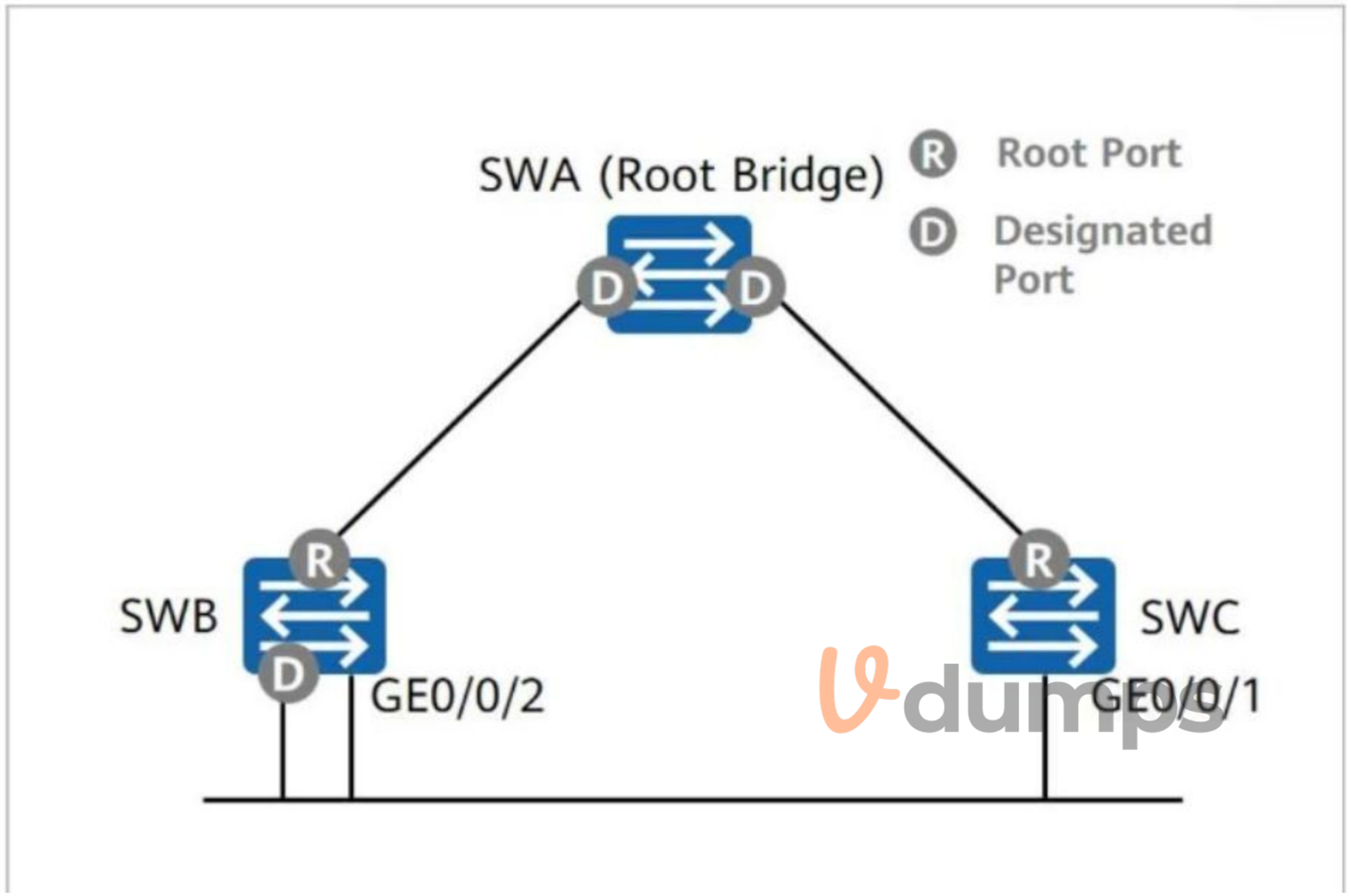
Correct Answer: A, C, D
Section:
Explanation:
Access Control Lists (ACLs) can be classified into several types, including Basic ACL (filters based on source IP), Advanced ACL (filters based on multiple parameters like source and destination IP, protocol, and ports), and Layer 2 ACL (filters based on MAC addresses). User-defined ACLs are not a standard classification .

QUESTION 55
STP ensures a loop-free network but has a slow network topology convergence speed, affecting communication quality. RSTP has made some improvements based on STP. Which of the following improvements is not included?

A. If a port does not receive configuration BPDUs from the upstream device within four Hello intervals, the switch considers that the negotiation with the neighbor fails.
B. The non-root switch running RSTP sends configuration BPDUs at the interval specified by the Hello timer, which is performed independently by each device.
C. RSTP reduces five port states to three port states based on user traffic forwarding and MAC address learning.
D. RSTP deletes three port states and adds two port roles.

Correct Answer: A
Section:
Explanation:
RSTP improves convergence by introducing changes to the BPDU handling mechanism and port roles. However, RSTP does not rely on a fixed timeout of four Hello intervals for negotiation failure. Instead, RSTP uses a more dynamic mechanism to detect topology changes. The other options describe valid RSTP improvements .

QUESTION 56
As shown in the figure, SWA, SWB, and SWC run the Rapid Spanning Tree Protocol (RSTP). What are the roles of SWB's GE0/0/2 and SWC's GE0/0/1?



A. Backup port, alternative port
B. Alternative port, backup port
C. Backup port, root port
D. Root port, designated port

Correct Answer: D
Section:
Explanation:
In the topology, SWB's GE0/0/2 is the Root Port because it has the least cost path to the Root Bridge (SWA). SWC's GE0/0/1 is the Designated Port because it forwards traffic to SWA while maintaining the shortest path to the Root Bridge. This setup ensures efficient traffic flow in the spanning tree topology .

QUESTION 57
On a network, some switches are enabled with RSTP and some switches are enabled with STP. What will happen?

A. A Huawei switch changes from RSTP to STP. After the STP-enabled switch is removed from the network, the RSTP-enabled switch can be moved back to the RSTP mode.
B. A Huawei switch changes its mode from STP to RSTP. After the RSTP-enabled switch is removed from the network, the STP-enabled switch can be moved back to the RSTP mode.

C. STP and RSTP are compatible with each other, but the rapid convergence of RSTP is unavailable.
D. STP and RSTP calculation are performed independently.

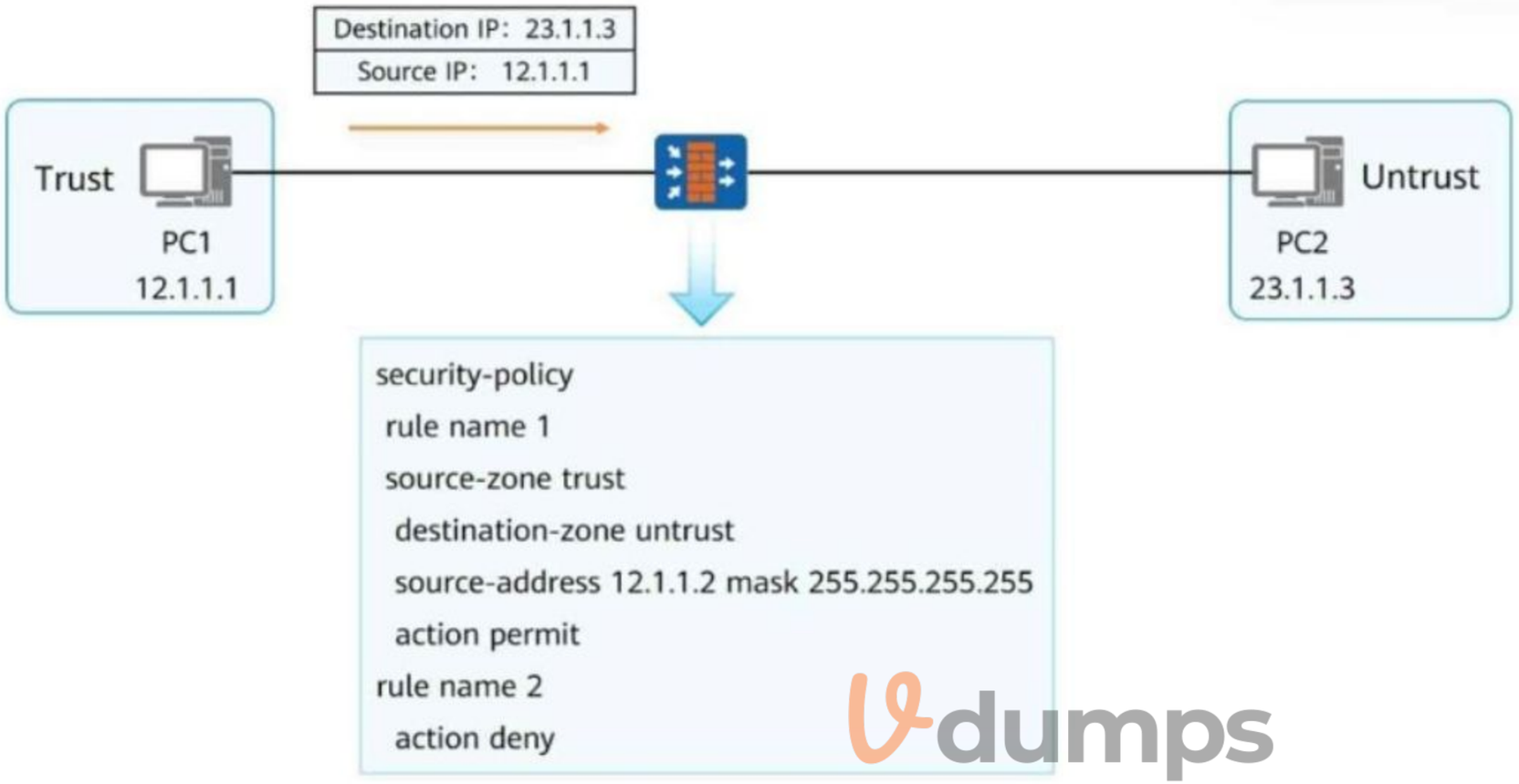
Correct Answer: A, C
Section:
Explanation:
When STP and RSTP coexist in a network, RSTP switches will downgrade their operation to STP to ensure compatibility. However, this disables RSTP's rapid convergence features, as the protocol behaves like STP to maintain interoperability .

QUESTION 58
Which of the following statements about stack split is false?

A. After a stack splits, the MAC addresses of the two stacks change immediately.
B. If the master and standby switches are still in the same stack after the stack splits, the slave switches separated from the original master and standby switches re-elect the master and standby switches due to protocol packet timeout.
C. If the master and standby switches are in two stacks after the split, the stack where the original master switch resides updates the topology and selects a new standby switch. The original standby switch becomes the master switch in the new stack and a new standby switch is elected.
D. After a stack splits, multiple stacks have the same IP address and MAC address. To prevent network faults, the stacks perform MAD detection. The stack that fails the MAD detection shuts down all physical ports except reserved ports.

Correct Answer: A
Section:
Explanation:
When a stack splits, the MAC addresses of the newly formed stacks do not change immediately. Instead, they retain their original MAC addresses until new ones are reassigned during topology updates. This delayed update prevents immediate conflicts and allows MAD (Multiple Active Detection) to handle any resulting issues .

QUESTION 59
A firewall receives a packet that PC1 sends to PC2. Which of the following statements are true?



A. The packet does not match any security policy.
B. The packet matches security policy rule 1, and the firewall forwards the packet.
C. No source or destination security zone is specified in security policy rule 2, indicating that any security zone is a match.
D. The packet matches security policy rule 1, and the firewall discards the packet.

Correct Answer: B
Section:
Explanation:
The security policy specifies that traffic originating from 12.1.1.2 and destined for the untrust zone is permitted. Since the source address of the packet (12.1.1.1) does not match this rule, the packet matches the default implicit deny rule. However, rule 1 does not deny all other traffic explicitly, so the packet is forwarded based on further configurations .

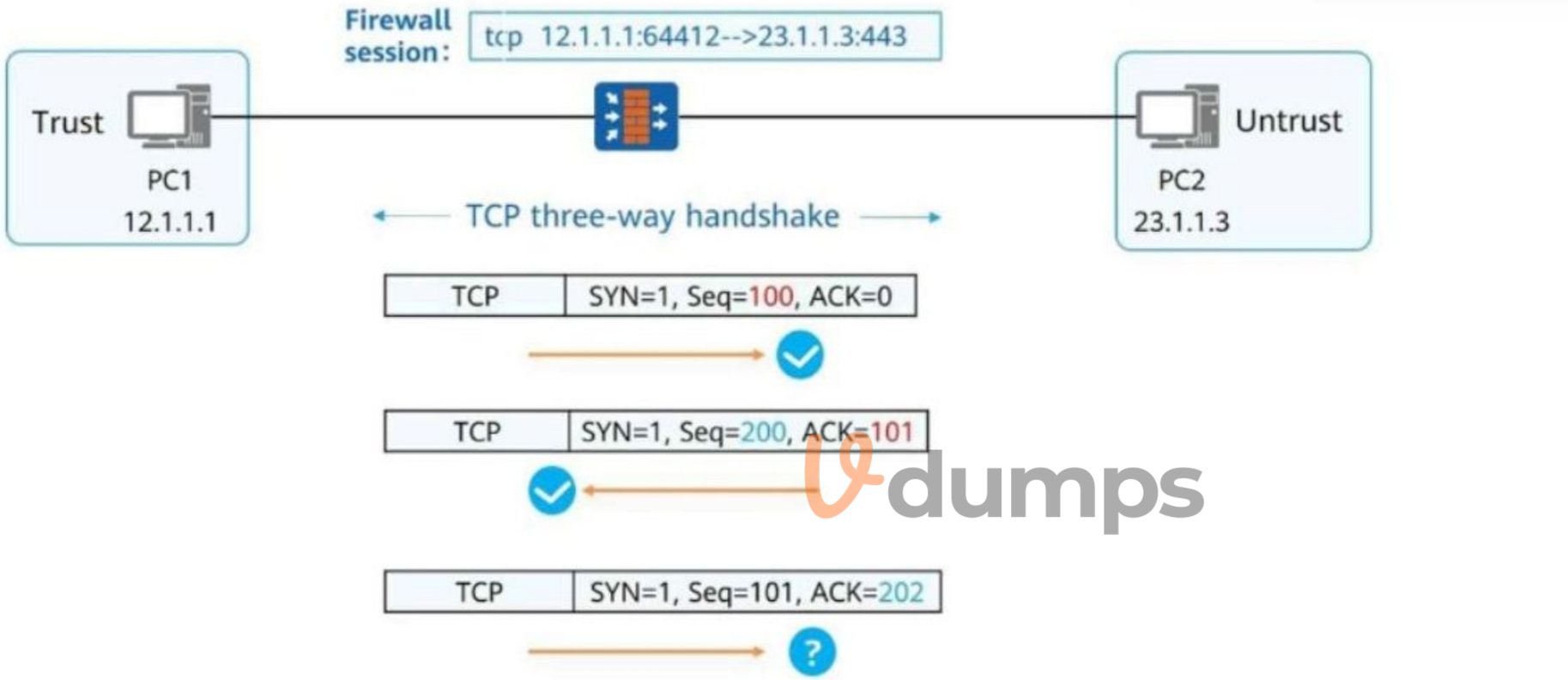
QUESTION 60
Which of the following protocols are multi-channel protocols?

A. H.323
B. FTP
C. Telnet
D. SMTP

Correct Answer: A, B

Section:
Explanation:
Multi-channel protocols such as H.323 and FTP use separate control and data channels. H.323 uses different channels for call signaling and media streaming, while FTP uses a control channel for commands and a data channel for file transfers. Telnet and SMTP are single-channel protocols .

QUESTION 61
As shown in the figure, the stateful inspection firewall forwards the packet because the packet matches the session status of the firewall.



A. TRUE
B. FALSE

Correct Answer: A
Section:
Explanation:
A stateful inspection firewall tracks the state of active connections. If a packet matches an existing session in the firewall's state table, it is allowed to pass. The diagram indicates that the TCP packet matches the session state, so the firewall forwards it .

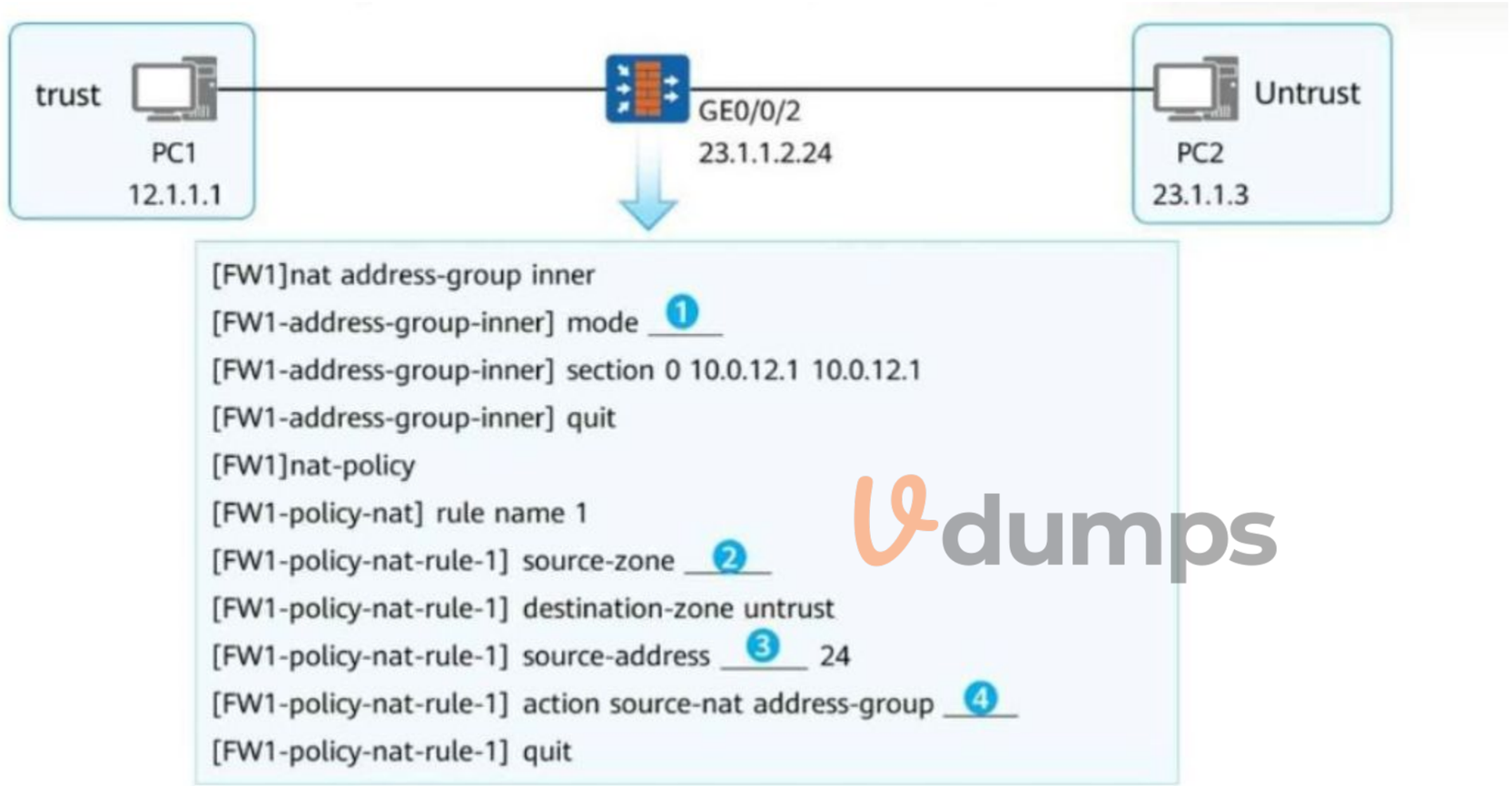
QUESTION 62
ASPF enables the firewall to support multi-channel protocols such as FTP and to define security policies for complex applications.

A. TRUE
B. FALSE

Correct Answer: A

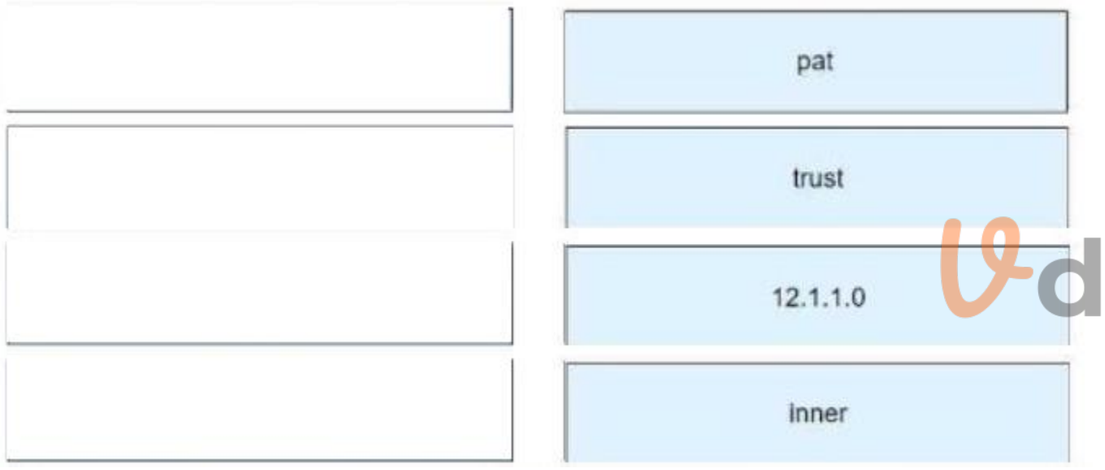
Section:
Explanation:
Application Specific Packet Filtering (ASPF) is a feature that allows the firewall to understand and handle multi-channel protocols such as FTP, H.323, and SIP. ASPF inspects the control channel to dynamically create temporary rules for the data channels, enabling the firewall to secure and manage complex application protocols. This feature ensures that appropriate security policies are applied to these multi-channel applications .

QUESTION 63
DRAG DROP



Select and Place:

Correct Answer:



Section:
Explanation:

QUESTION 64
What is the default sending interval of BFD packets?

A. 10s
B. 5s
C. 100ms
D. 1000ms

Correct Answer: C
Section:
Explanation:
The default sending interval for BFD (Bidirectional Forwarding Detection) control packets is 100 milliseconds. This interval ensures rapid detection of link faults, providing fast failover and minimizing downtime in network operations .

QUESTION 65

Which of the following statements about BFD operating modes are true?

A. In demand mode, once a BFD session is set up, the system no longer periodically sends BFD Control packets.
B. Asynchronous mode does not support the Echo function.
C. In asynchronous mode, two systems periodically exchange BFD Control packets at the negotiated interval. If one system does not receive any BFD Control packets from the other within the detection time, the BFD session is declared down.
D. Asynchronous mode is the primary BFD operating mode.

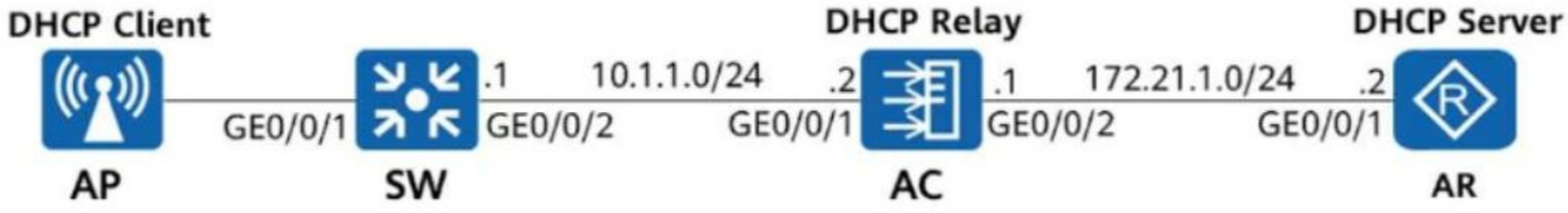
Correct Answer: A, C, D
Section:
Explanation:
In asynchronous mode, BFD control packets are exchanged periodically to detect faults.
In demand mode, once the session is established, BFD stops sending periodic control packets and relies on external mechanisms to verify connectivity.
Asynchronous mode is the most commonly used mode. However, the Echo function is supported in asynchronous mode, making Option B incorrect .

QUESTION 66
Which command is used to configure the VRRP preemption delay?

A. vrrp vrid 1 timer delay 20
B. vrrp vrid 1 preempt-delay 20
C. vrrp vrid 1 preempt-mode timer delay 20
D. vrrp vrid 1 preempt-timer 20

Correct Answer: B
Section:
Explanation:
The correct command for configuring the VRRP (Virtual Router Redundancy Protocol) preemption delay is vrrp vrid 1 preempt-delay 20. This command sets the delay before a higher-priority VRRP router preempts the master role, ensuring stable operation during network transitions .

QUESTION 67
On the network shown in the following figure, the management VLAN is VLAN 10, and the AP is configured to obtain an IP address on the network segment 10.1.1.0/24 through DHCP. The AP, AC, and AR function as the DHCP client, DHCP relay agent, and DHCP server, respectively. Which of the following configurations for the DHCP relay agent and DHCP server are correct?



A. [AC] dhcp server group AP [AC-dhcp-server-group-AP] dhcp-server 172.21.1.2 [AC-dhcp-server-group-AP] quit [AC] interface Vlanif 10 [AC-Vlanif 10] dhcp select relay [AC-Vlanif 10] dhcp relay server-select AP [AC-Vlanif 10] quit
B. [AR] ip pool AP [AR-ip-pool-AP] network 10.1.1.0 mask 24 [AR-ip-pool-AP] gateway-list 10.1.1.2 [AR-ip-pool-AP] excluded-ip-address 10.1.1.1 [AR-ip-pool-AP] quit [AR] interface GigabitEthernet 0/0/1 [AR-GigabitEthernetO/O/1] dhcp select global [AR-GigabitEthernet0/0/l] quit [AR] ip route-static 10.1.1.0 255.255.255.0 172.21.1.1

C. [AR] ip pool AP [AR-ip-pool-AP] network 172.21.1.0 mask 24 [AR-ip-pool-AP] gateway-list 172.21.1.2 [AR-ip-pool-AP] excluded-ip-address 172.21.1.1 [AR-ip-pool-AP] quit [AR] interface GigabitEthernet 0/0/1 [AR-GigabitEthernetO/0/1] dhcp select global [AR-GigabitEthernetO/0/1] quit [AR] ip route-static 10.1.1.0 255.255.255.0 172.21.1.1

D. [AC] dhcp server group AP [AC-dhcp-server-group-AP] dhcp-server 10.1.1.2 [AC-dhcp-server-group-AP] quit [AC] interface Vlanif 10 [AC-Vlanif 10] dhcp select relay [AC-Vlanif 10] dhcp relay server-select AP [AC-VlaniflO] quit

Correct Answer: A, B
Section:
Explanation:
Option A correctly configures the DHCP relay agent (AC) to forward requests to the DHCP server using VLAN 10. Option B correctly configures the DHCP server (AR) with the correct IP pool (10.1.1.0/24), gateway, and excluded IP addresses. The static route to 10.1.1.0 through 172.21.1.1 ensures proper routing .
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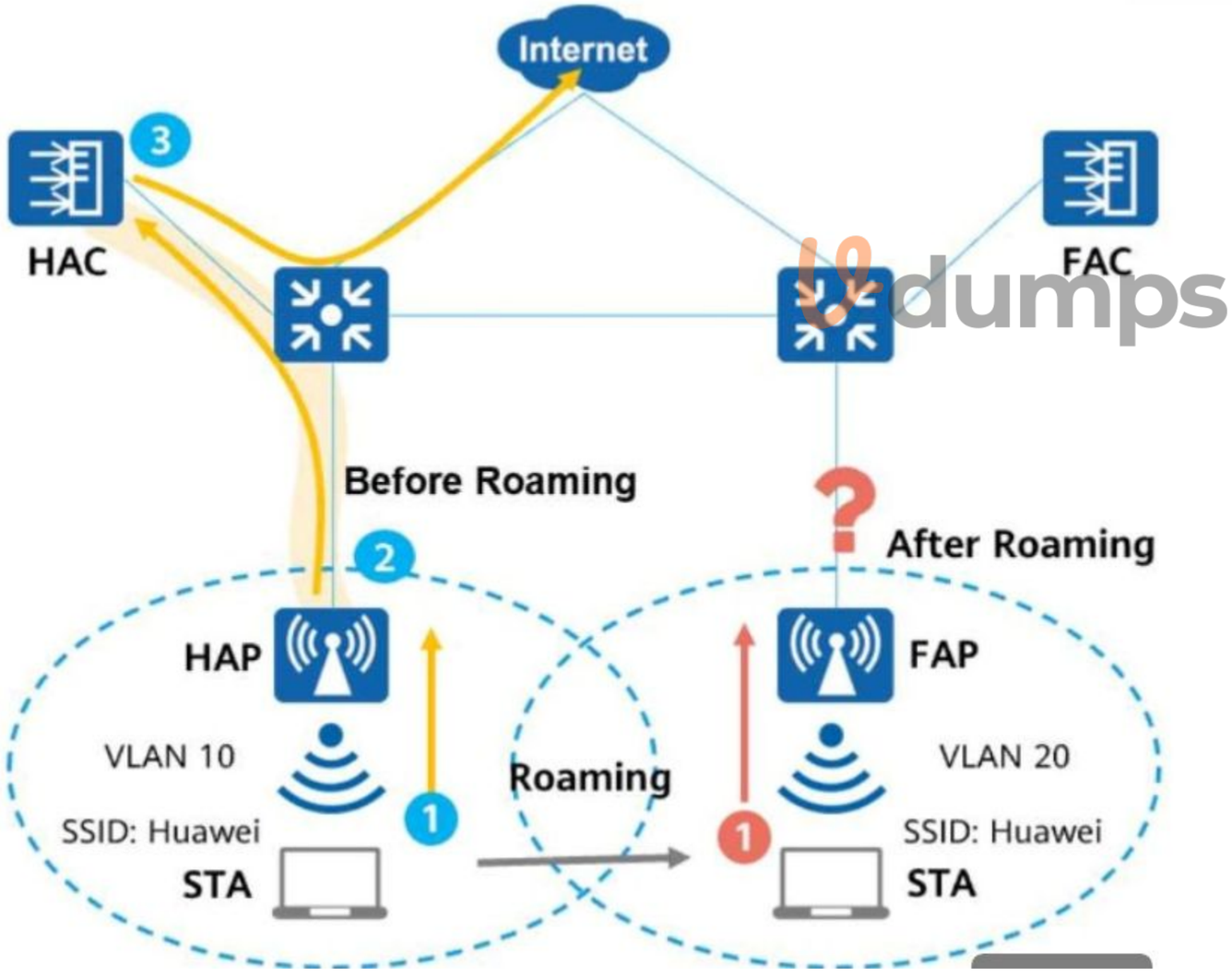
QUESTION 68
As shown in the figure, data traffic is forwarded in tunnel mode along the path of STA -> HAP -> HAC -> upper-layer network before roaming. What is the flow direction of data traffic after Layer 3 roaming?



A. STA -> FAP -> FAC -> HAC -> HAP -> HAC -> Upper-layer network
B. STA -> FAP -> FAC -> HAC -> Upper-layer network
C. STA -> FAP -> FAC -> Upper-layer network
D. STA -> FAP -> FAC -> HAC -> HAP -> Upper-layer network

Correct Answer: B
Section:
Explanation:
After Layer 3 roaming, the STA's traffic is forwarded from the Foreign AP (FAP) to the Foreign AC (FAC), and then to the Home AC (HAC) before reaching the upper-layer network. This ensures that the STA remains on the same subnet without breaking existing sessions .

QUESTION 69
On an OSPF network, routers learn routing information on the entire network by exchanging LSAs. Which of the following values is the LS Age in the LSA header when an LSA is deleted?

A. 1800s
B. 3600s
C. 1200s
D. 600s

Correct Answer: B
Section:
Explanation:
LSA Lifetime and Deletion
The LS Age field in the LSA header tracks the age of an LSA. When the LS Age reaches its maximum value (3600 seconds), the LSA is marked for deletion. This ensures old or stale LSAs are removed from the network to maintain accurate routing information.
HCIP-Datacom-Core Reference
Detailed explanation of LS Age behavior and LSA deletion processes can be found in the OSPF LSDB and LSA sections.

QUESTION 70
DRAG DROP
OSPF networks are classified into four types of networks by link layer protocol. Drag the following link layer protocols to the corresponding network types.(Token is reusable)

Select and Place:

Broadcast		Frame relay
P2P		Ethernet
P2MP		PPP
NBMA		HDLC

Correct Answer:

	NBMA	Frame relay
	Broadcast	Ethernet
	P2MP	PPP
	P2P	HDLC

Section:
Explanation:

QUESTION 71
On an IS-IS network, each router can generate LSPs. Which of the following events trigger the generation of a new LSP?

A. Related IS-IS interfaces go up or down.
B. Periodic updates occur.
C. Inter-area IP routes change.
D. The IS-IS interface cost is increased.

Correct Answer: A, B, D

Section:
Explanation:
LSP Generation in IS-IS
IS-IS routers generate new Link State Packets (LSPs) under the following conditions:
Interface Status Changes: When IS-IS interfaces go up or down, the link state changes, triggering LSP updates.
Periodic Updates: IS-IS periodically regenerates LSPs to ensure link-state information remains synchronized across the network.
Interface Metric Changes: Any modification to interface costs results in a new LSP to reflect the updated cost in the network.
Incorrect Option
C . Inter-area IP routes change is incorrect because IS-IS does not inherently differentiate between areas for LSP generation.
HCIP-Datacom-Core Reference
IS-IS LSP generation rules are detailed in the IS-IS configuration and implementation chapters.