



Vendor: Huawei

Exam Code: H12-821_V1.0

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

Version: DEMO

QUESTION 1

The following is part of configuration on the router. Which of the following statements regarding the configuration is true?

```
[HUAWEI]ip ip-prefix p1 permit 10.0.192.0 8 greater-equal 17 less-equal 18
```

- A. In the 10.0.192.0/8 network segment, a route with a mask length of 18 matches the prefix list, and behavior for the matching routes is permit.
- B. In the 10.0.192.0/8 network segment, a route with a mask length of 20 matches the prefix list, and behavior for the matching routes is permit.
- C. In the 10.0.192.0/8 network segment, a route with a mask length of 19 matches the prefix list, and behavior for the matching routes is permit.
- D. In the 10.0.192.0/8 network segment, a route with a mask length of 21 matches the prefix list, and behavior for the matching routes is permit.

Answer: A

Explanation:

The prefix must be in the 10.0.192.0/8 network.

The prefix length (subnet mask) must be greater than or equal to 17 and less than or equal to 18.

The action for matching routes is permit.

QUESTION 2

The Rapid Spanning Tree Protocol (RSTP) defines four port roles. The Flags fields indicating the alternative and backup port roles in RST BPDUs are the same, that is, 01.

- A. TRUE
- B. FALSE

Answer: A

Explanation:

In Rapid Spanning Tree Protocol (RSTP), the Flags field in RST BPDUs is used to encode port roles and states. Both the alternative port and backup port roles are indicated with the same value, 01, in the Flags field of RST BPDUs. This is because:

Alternative Port: A port that provides an alternate path to the root bridge but is blocked to prevent loops.

Backup Port: A port that provides a redundant path to the same segment as another designated port but is also blocked.

Since both roles involve blocking the port to prevent loops, they are encoded similarly in the RST BPDU Flags field. Thus, the statement is true.

QUESTION 3

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When configuring an IPv4 multicast routing protocol, you need to run the '_____ routing-enable' command first, and then perform PIM-related configurations. (Enter the full command in lower case. Command abbreviation is prohibited.)

Answer: multicast

Explanation:

The multicast routing-enable command is required because it enables multicast routing functionality on the device. Without this command, the device cannot process or forward multicast traffic, as multicast routing is disabled by default on most network devices for performance and security reasons.

1. Global Multicast Routing Activation:

The multicast routing-enable command globally activates multicast routing on the device. It is a prerequisite for any multicast protocol configuration (e.g., PIM, IGMP).

2. Dependency for Protocol Configuration:

Protocol Independent Multicast (PIM) and other multicast protocols rely on the multicast routing engine to operate. Without enabling multicast routing, the router will not be able to process PIM join/prune messages, manage multicast group memberships, or build multicast distribution trees.

3. Foundation for Multicast Forwarding:

Multicast routing requires specific mechanisms like Reverse Path Forwarding (RPF) checks and multicast forwarding tables. These mechanisms are initialized only after the multicast routing-enable command is issued.

QUESTION 4

A source tree is the shortest path from a multicast source to receiver hosts, it is also called a shortest path tree (SPT).

- A. TRUE
- B. FALSE

Answer: A

Explanation:

A source tree, also known as a shortest path tree (SPT), is indeed the shortest path from a multicast source to receiver hosts. This type of tree is built with the source at the root and branches extending to all multicast receivers.

Characteristics of a Source Tree (SPT):

Each branch represents the optimal path between the source and a receiver.

It is constructed using unicast routing information to determine the shortest path.

In multicast routing protocols like PIM-SM (Protocol Independent Multicast Sparse Mode), an SPT is often built when switching from a shared tree to a source-specific tree for more efficient delivery.

QUESTION 5

This is part of output information on router Huawei. Which of the following statements regarding the output information is false?

```
<HUAWEI>display pim rp-info
VPN-Instance: public net
PIM-SM BSR RP Number:1
Group/MaskLen: 224.0.0.0/4
  RP: 2.2.2.2(local)
  Priority: 0
  Uptime: 03:01:36
  Expires: 00:02:29
```

- A. The group address is 225.0.0.0.
- B. The display pim rp-info command displays RP information for a multicast group.
- C. The RP address is 2.2.2.2.
- D. The RP priority is 0.

Answer: A

Explanation:

The output shows Group/MaskLen: 224.0.0.0/4, which means it covers the multicast group range from 224.0.0.0 to 239.255.255.255. This is the entire IPv4 multicast address range.

The claim in option A that the group address is 225.0.0.0 is incorrect because 225.0.0.0 is just one of many multicast addresses within the specified range, and the output does not limit the group address specifically to this address.

QUESTION 6

The following is part of output information on router Huawei. Which of the following statements regarding the output information is false?

```
<HUAWEI>display pim interface GigabitEthernet 1/0/0 verbose
VPN-Instance: public net
Interface: GigabitEthernet1/0/0, 10.1.1.1
  PIM version: 2
  PIM mode: Sparse
  PIM state: up
  PIM DR: 10.1.1.2
  PIM DR Priority (configured): 1
  PIM neighbor count: 1
  PIM hello interval: 30 s
```

- A. The DR address on the interface is 10.1.1.1.
- B. GigabitEthernet 1/0/0 of the router runs PIM-SM.
- C. The PIM status on GigabitEthernet 1/0/0 of the router is Up.
- D. GigabitEthernet 1/0/0 of the router runs PIMv2.

Answer: A

Explanation:

PIM DR: The DR (Designated Router) address is explicitly stated as 10.1.1.2, not 10.1.1.1.

QUESTION 7

When OSPFv3 runs on a Huawei router, the router automatically selects an interface address as

the Router ID of the OSPFv3 process.

- A. TRUE
- B. FALSE

Answer: B

Explanation:

In OSPFv3, a Router ID (RID) is a 32-bit value that uniquely identifies the router in the OSPF process. However, unlike OSPFv2, OSPFv3 does not use IPv6 interface addresses to select the Router ID automatically because the RID must be in IPv4 format.

If a Router ID is not manually configured using the router-id command, OSPFv3 will try to select the RID automatically from the highest IPv4 address of the router's loopback interfaces. If no loopback interface is configured, it will use the highest IPv4 address among active physical interfaces.

If no IPv4 address is available on the router, OSPFv3 cannot start, and an error will be generated.

Thus, the statement is false because OSPFv3 does not automatically select an interface address unless it is explicitly in IPv4 format or manually assigned.

QUESTION 8

FILL BLANK

After a stack splits, the member switch that fails in MAD competition enters the _____ state. (Capitalize the initial letter.)

Answer: Recovery

Explanation:

When a stack splits and a member switch fails in MAD (Multiple Active Detection) competition, it enters the Recovery state. This is a protective state to prevent dual-active scenarios and avoid network loops or conflicts.

QUESTION 9

At which layer does a packet filtering firewall check data packets?

- A. Data link layer
- B. Network layer
- C. Application layer
- D. Physical layer

Answer: B

Explanation:

A packet filtering firewall operates at the network layer (Layer 3) of the OSI model. At this layer, it inspects data packets and makes filtering decisions based on attributes such as:

Source and destination IP addresses

Protocols (e.g., TCP, UDP, ICMP)

Source and destination port numbers

Packet filtering firewalls do not examine data beyond the network layer, such as application-level data. Their primary purpose is to allow or deny packets based on the defined filtering rules.

QUESTION 10

Which of the following statements regarding Network Address and Port Translation (NAPT) and No Port Translation (No-PAT) is true?

- A. In NAPT mode, only the network layer protocol address can be converted.
- B. After NAPT translation, all packets are from the same IP address for external users.
- C. In No-PAT mode, only the transport layer protocol port number can be converted.
- D. In No-PAT mode, the network layer protocol address can be converted.

Answer: BD

Explanation:

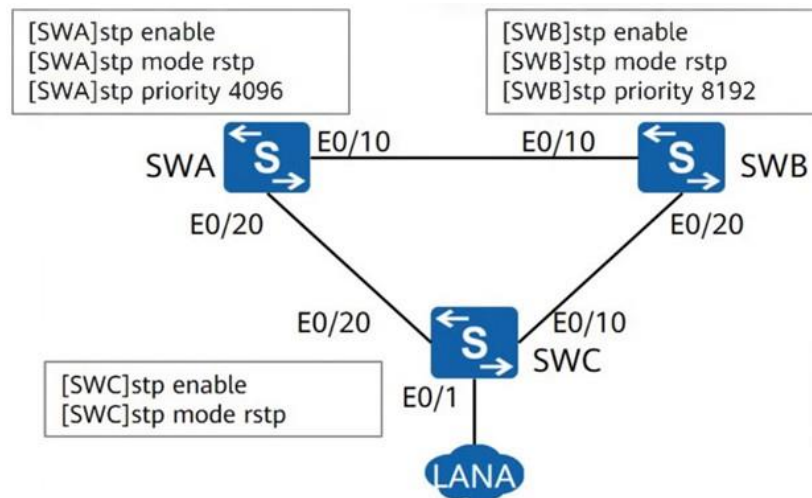
After NAPT translation, all packets are from the same IP address for external users
In NAPT (Network Address and Port Translation), multiple internal private IP addresses are mapped to a single public IP address by differentiating traffic using port numbers.
For external users, all packets appear to originate from the same public IP address.

In No-PAT mode, the network layer protocol address can be converted

In No-PAT mode (also known as basic NAT), only the network layer IP address is translated, while the transport layer ports remain unchanged. This mode is useful when you have one-to-one IP address mapping between internal and external networks.

QUESTION 11

On the network shown in the figure, three switches run RSTP. The figure shows the configuration. Which is the root switch?



- A. Uncertain
- B. SWA
- C. SWB
- D. SWC

Answer: B

Explanation:

In Rapid Spanning Tree Protocol (RSTP), the root bridge is elected based on the lowest bridge ID (BID), which is a combination of priority and MAC address.

Analysis of the Figure and Configuration:

SWA: Priority: 4096 (lower priority is preferred).
SWB: Priority: 8192 (higher than SWA's priority).
SWC: Priority: Default (32,768, as not explicitly configured).

The root switch is the one with the lowest priority. If priorities are the same, the switch with the lowest MAC address is chosen. In this case SWA has the lowest priority (4096), so it becomes the root switch.

The root switch is SWA, as it has the lowest configured priority.

QUESTION 12

Which of the following statements is false, based on the following IGMP information on an interface of RTA?

```
<RTA>display igmp interface
Interface information of VPN-Instance: public net
GigabitEthernet0/0/1(192.168.1.1):
  IGMP is enabled
  Current IGMP version is 2
  IGMP state: up
  IGMP group policy: none
  IGMP limit: -
  Value of query interval for IGMP (negotiated): -
  Value of query interval for IGMP (configured): 60 s
  Value of other querier timeout for IGMP: 0 s
  Value of maximum query response time for IGMP: 10 s
  Querier for IGMP: 192.168.1.1 (this router)
```

- A. The IP address of the interface is 192.168.1.1.
- B. The interval for sending group-specific Query messages is 60s.
- C. The maximum time for response to Query messages is 10s.
- D. The IGMP version is IGMPv2.

Answer: B

Explanation:

The 60s interval in the output refers to the configured query interval for general Query messages, not group-specific queries. Group-specific queries are typically sent with shorter intervals, depending on the multicast configuration.

QUESTION 13

Which of the following values can be used to set security levels of user-defined zones of USG series firewalls? (Choose all that apply.)

- A. 40
- B. 80
- C. 100
- D. 150

Answer: ABC

Explanation:

The security level of zones on USG series firewalls determines the trustworthiness of traffic within

the zones. It can range from 1 to 100, where higher values indicate a higher level of trust. The default system-defined zones are as follows:
Untrust Zone: Security level 5 (least trusted).
DMZ Zone: Security level 50.
Trust Zone: Security level 85 (most trusted).

For user-defined zones, the security levels must also fall within the 1–100 range, and valid values include 40, 80, and 100.

100 should indeed be the maximum possible value.

QUESTION 14

Which of the following is correct procedure for a DHCP client to apply for an IP address from a DHCP server?

1. The host sends a DHCP Request message to request an IP address.
 2. The DHCP server responds with a DHCP Offer packet.
 3. The host sends a DHCP Discover packet to search for the DHCP server.
 4. After receiving the request, the server returns an ACK message.
- A. 1-4-3-2
B. 3-4-1-2
C. 1-2-3-4
D. 3-2-1-4

Answer: D

Explanation:

The correct DHCP client-server process for IP address allocation is as follows:

DHCP Discover (Step 3):

The DHCP client broadcasts a Discover message to locate available DHCP servers.

DHCP Offer (Step 2):

The DHCP server responds with an Offer message, proposing an available IP address and other configuration details.

DHCP Request (Step 1):

The client sends a Request message to indicate its acceptance of the offered IP address.

DHCP ACK (Step 4):

The server acknowledges the client's request with an ACK message, confirming the allocation of the IP address.

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