Practice Exam Questions for: Nokia Virtual Private LAN Services (exam number: 4A0-105)

The following questions will test your knowledge and prepare you for the Nokia Virtual Private LAN Services exam. Compare your responses with the Answer Key at the end of the document.

1. Which of the following statements about a Management VPLS is FALSE?
   a. Operates in transparent mode.
   b. Carries RSTP BPDUs only.
   c. Assigns RSTP state to other VPLS services.
   d. Allows load balancing of traffic from multiple user VPLS services.

2. Which of the following statements about G.8032 is TRUE?
   a. Only the head-end of the ring needs to be configured.
   b. All ring nodes and service interfaces must support G.8032.
   c. G.8032 utilizes RSTP as its messaging protocol for CCM messages.
   d. Each node in the ring must be in a separate MD.

3. Which of the following statements about a SAP is TRUE?
   a. A SAP can be configured to support null, dot1q, and q-in-q traffic on a network port.
   b. A SAP can be used by multiple services belonging to a single customer.
   c. The SAP-ID is used by T-LDP to signal the VC-Label.
   d. A SAP is specific to a single service.

4. When binding an SDP to a service, which of the following statements about SDP signaling is TRUE?
   a. SDP uses a signaling session to a peer to exchange VC-labels.
   b. Each SDP signals a VC-label representing that specific SDP.
   c. Link LDP is used to carry the VC-label.
   d. SDP signaling uses RSVP-TE.

5. Which of the following statements about a VPLS service is FALSE?
   a. It allows point-to-point connection between two sites with no mac learning.
   b. It allows the connection of multiple sites in a bridged domain.
   c. BUM traffic is flooded within a service domain.
   d. It allows MAC learning.

6. Which of the following statements is TRUE for the use of MP-BGP signaling?
   a. Used to signal the transport labels for the VPLS.
   b. Used to exchange IP routing information for the VPLS.
   c. CUsed to signal the service labels for the VPLS.
   d. Used to auto-bind the VPLS to an IES.

7. Which of the following is a characteristic of a BGP-VPLS?
   a. Uses a single service label.
   b. Requires a full mesh of signaling sessions.
   c. Uses t-ldp for signaling service labels.
   d. Uses a VE-ID.

8. PE20 (VE-ID 20) receives an update with a label base of 131117, and a VBO of 8. What is the value of the service label?
   a. 131129
   b. 131105
   c. 131145
   d. 131089

9. In an LDP VPLS with BGP auto-discovery enabled, which of the following parameters is typically used to define the VSI-ID?
   a. <AS>:<System-Address>
   b. <AS>:<Service-ID>
   c. <System-Address>:<Service-ID>
   d. <System-Address>:<VPLS-ID>

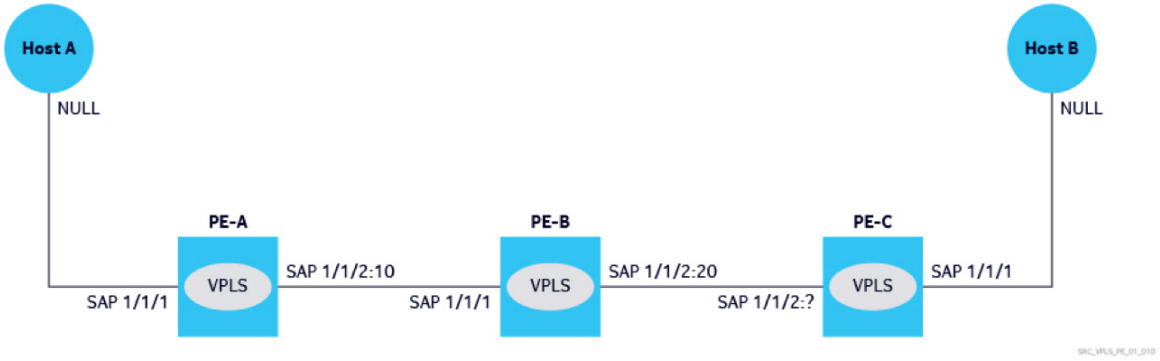
10. An Ethernet frame arrives with an outer tag of 100 and an inner tag of 10. Which of the following SAPs will accept the frame?
   a. 1/1/1:100.100
   b. 1/1/1:10.100
   c. 1/1/1
   d. 1/1/1:*.100

11. An Ethernet frame arrives on port 1/1/1 with an outer tag of 300 and an inner tag of 100. Which service will the frame be forwarded to?

```
vpls 100 customer 1
  sap 1/1/1:*
vpls 200 customer 1
  sap 1/1/1:100
vpls 300 customer 1
  sap 1/1/1:300
vpls 400 customer 1
  sap 1/1/1:400
```

a. VPLS 100
b. VPLS 200
c. VPLS 300
d. VPLS 400
e. None, the frame will be discarded.

12. Which SAP configuration on port 1/1/2 on PE-C will allow Host A to communicate with Host B?



a. 1/1/2:10.20
b. 1/1/2:0
c. 1/1/2:*
d. 1/1/2:20.10

13. A 2000 byte Ethernet frame plus q-in-q encapsulation arrives at a VPLS service with a default SAP. What is the minimum service MTU required to pass the frame?
a. 1992 bytes
b. 2000 bytes
c. 2004 bytes
d. 2008 bytes

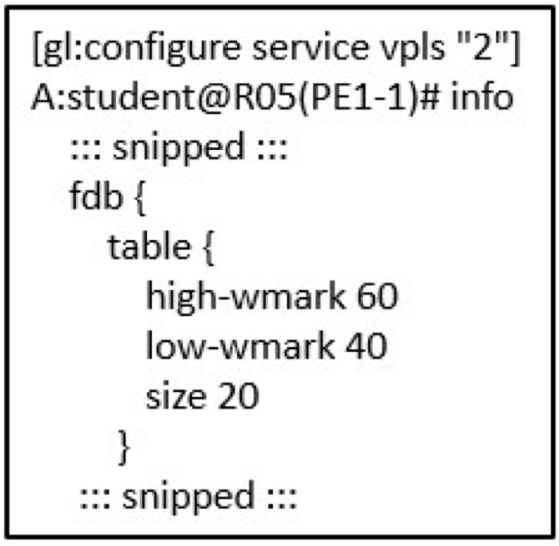
14. A network port with null encapsulation has an MTU of 9212. RSVP-TE MPLS is the transport, and it uses a fast reroute facility. What is the calculated SDP Path MTU?
    a. 9212
    b. 9198
    c. 9194
    d. 9190
    e. 9186

15. In a distributed VPLS service, which protocol signals an MTU value that is a result of the service-mtu minus the Ethernet encapsulation?
    a. T-LDP
    b. RSVP-TE
    c. Link-LDP
    d. MP-BGP

16. A VPLS has just learned its 20th MAC address, and the FDB size is set to 20. Which statement describes the action(s) to be taken when the next frame arrives with a new source MAC address?
    a. The frame will be forwarded, and the FDB size will automatically increase to allow space for the new MAC address to be added to the FDB.
    b. The frame will be forwarded, the oldest entry in the FDB will be removed and the new MAC address will be added to the FDB.
    c. The frame will be forwarded, but the new MAC address will not be added to the FDB.
    d. The frame will be discarded.

17. Which of the following statements correctly describes the use of age timers in a VPLS service?
    a. Local age timer is applied to SDPs and remote age timer is applied to SAPs, and both are configured at the VPLS FDB level.
    b. Local age timer is applied to SAPs and remote age timer is applied to SDPs, and both are configured at the VPLS FDB level.
    c. Local age timer is configured at the SAP level and remote age timer is configured at the SDP level.
    d. Local age timer is configured at the SDP level and remote age timer is configured at the SAP level.

18. An FDB occupancy alarm has been raised. Based on the configuration, what is the minimum number of MAC addresses that would cause the FDB alarm?



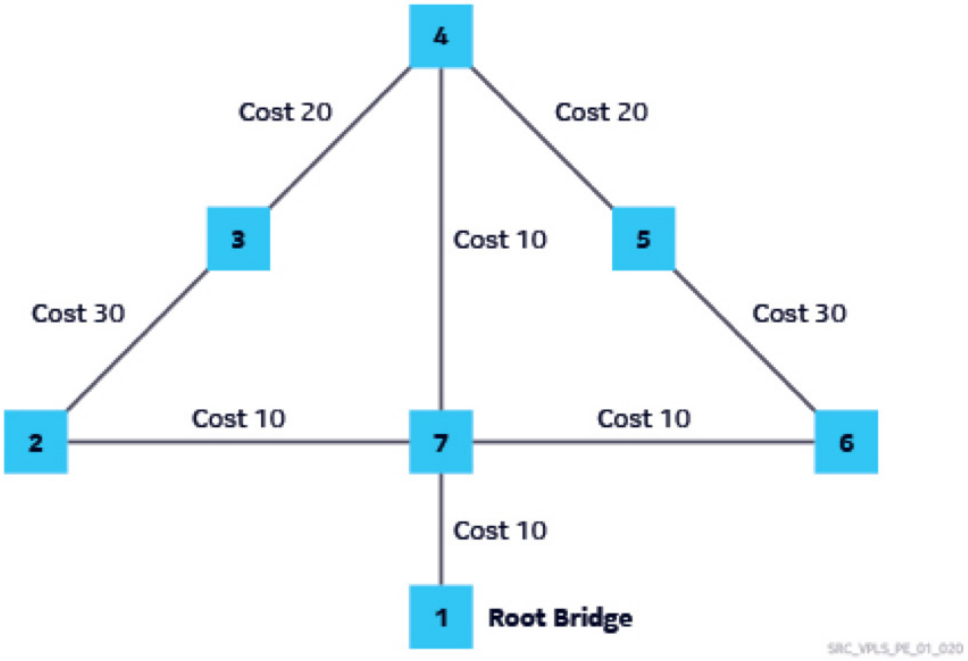
a. 6 MAC entries.
b. 8 MAC entries.
c. 4 MAC entries.
d. 12 MAC entries.

19. Which of the following statements describes the OAM MAC-Ping?
a. Used to detect if the remote customer device address has been learned within a service.
b. Used to determine the hop-by-hop route to a destination MAC.
c. Used to determine if there is an end-station in the VPLS assigned a specific IP address.
d. Used to populate a specific MAC address into the FDB of a service.

20. Which of the following statements describing an R-VPLS is TRUE?
a. An R-VPLS requires an external SAP to connect it to either a VPRN or IES interface.
b. An R-VPLS is created when a VPLS is connected to either a VPRN or IES interface through a VSM.
c. An R-VPLS is a hybrid service that incorporates the functions of both a VPRN and VPLS in a single service.
d. An R-VPLS is a VPLS service with a logical internal connection to either a VPRN or IES interface.

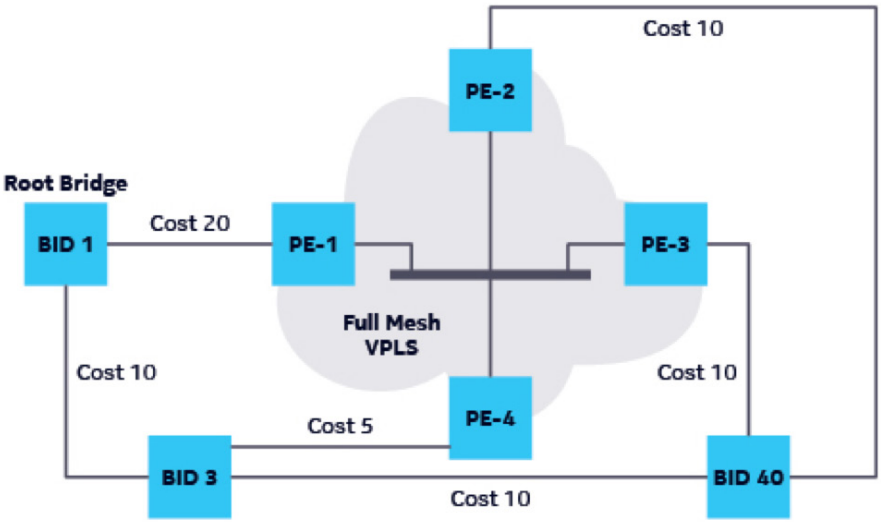
21. Which of the following statements about a network managed by spanning tree is TRUE?
a. All the switches in an L2 network managed by spanning tree have a single root port.
b. The root bridge is the switch with the highest priority.
c. The root bridge has only designated and backup ports.
d. All the switches in an L2 network managed by spanning tree have two root ports for redundancy.

22. The L2 network below is running Rapid spanning tree for loop prevention. How many Alternate Ports (AP) are there in the network?



a. 1
b. 2
c. 3
d. 4

23. In the L2 network and the VPLS service below, PE-1, PE-2, PE-3 and PE-4 are Nokia 7750-SRs and are operating in default STP mode. Which PE will become the primary bridge?



a. PE-1
b. PE-2
c. PE-3
d. PE-4
e. None

24. Which of the following statements about a Management VPLS is TRUE?
a. M-VPLS is required to be configured on mesh-sdps to remove loops.
b. SAPs and SDPs mimic the user's VPLS where loops may occur.
c. M-VPLS operates in Transparent mode.
d. M-VPLS carries customer traffic.

25. Which of the following utilizes a L3 heartbeat message for failure detection?
a. Ethernet Connectivity Fault Management
b. Bidirectional Forwarding Detection
c. Rapid Spanning Tree Protocol
d. Ethernet OAM

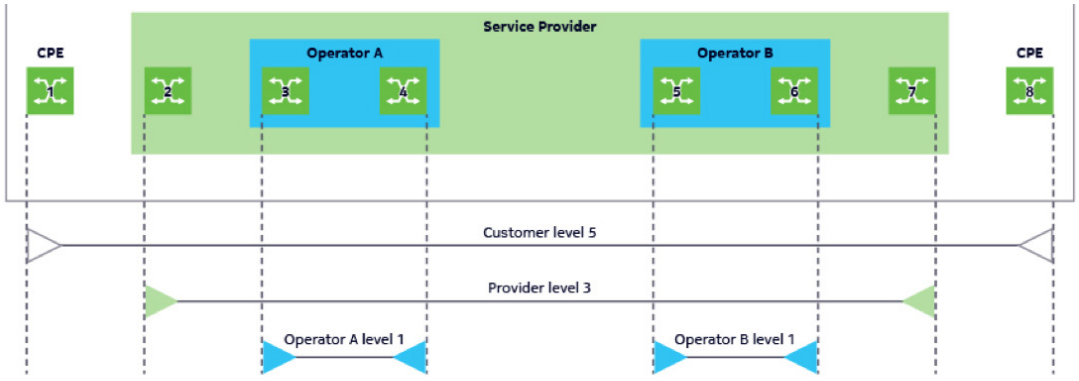
26. Which of the following statements about a LAG is TRUE?
a. When using different port speeds in a LAG, auto-negotiation will reduce all ports to the lowest speed.
b. When LACP is set to passive, the LAG group will initiate LACP packets to the far-end.
c. Once the LAG port threshold is reached, the LAG action will take affect.
d. LAG communication is vendor specific.

27. Which of the following statements about LAG sub-groups is TRUE?
    a. Each link of a sub-group must be on the same MDA.
    b. Each link of a sub-group must be on the same IOM.
    c. Each LAG link is assigned a sub-group and priority.
    d. Sub-groups must be defined, there is no default sub-group.

28. Which of the following statements about Active/Standby pseudowires is TRUE?
    a. An endpoint can support a maximum of three different spoke-sdps.
    b. A maximum of two spoke-sdps can be active in an endpoint for load balancing.
    c. T-LDP signals pseudowire status to aid in the selection of the active pseudowire.
    d. MAC learning is still enabled on the standby pseudowires to aid in rapid switch over.

29. Which statement about the MAC-Flush message "Flush-all-but-me" is FALSE?
    a. A PE receiving the message flushes only the FDB entries learned from the PE originating the message.
    b. Enabled by default when using T-LDP signaling.
    c. Indicates a new active forwarding path through the core.
    d. Is an industry standard.

30. Based on the nested maintenance domains in the exhibit, which of the following statements is TRUE?



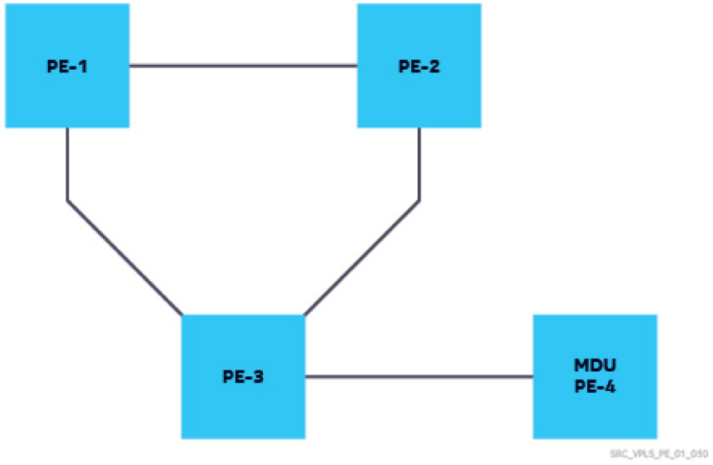
    a. Operator B is able to send CFM messages to CPE 8.
    b. CPE 1 is able to send CFM messages to CPE 8.
    c. Operator A is able to send CFM messages to CPE 8.
    d. Devices on the Provider level are able to send CFM messages to CPE 8.

31. Which of the following statements about the RPL link is TRUE?
    a. The RPL neighbor controls the RPL link.
    b. Under normal conditions, the RPL is the primary link for data.
    c. The RPL neighbor is responsible for blocking traffic over the RPL.
    d. If an RPL is not configured, the last link to become active will be blocked.

32. PE-1, 2, 3 and 4 are connected using a full mesh of RSVP-TE LSPs. One-to-one FRR is used for protection. How many LSPs will terminate on PE-4?
    a. 3
    b. 4
    c. 5
    d. 6

33. Which of the following statements regarding the use of spoke-sdp in H-VPLS is FALSE?
    a. Spoke-sdps simplify signaling.
    b. Spoke-sdps simplify MDU configuration
    c. Spoke-sdps are used to connect two or more P routers.
    d. Spoke-sdps may be used to connect between two or more fully meshed VPLS services.

34. PEs 1, 2 and 3 are configured with a VPLS service using a full mesh of RSVP-TE LSPs. The MDU PE4 is connected to that same service forming an H-VPLS network. Which of the following statements is TRUE?



    a. PE-4 originates mpls tunnels to each of the other PEs.
    b. PE-1 has spoke-sdps connecting to all the other PEs.
    c. PE-3 has spoke-sdps connecting to PE-1,2 and a mesh-sdp to PE-4.
    d. PE-2 has no direct connection to PE-4.

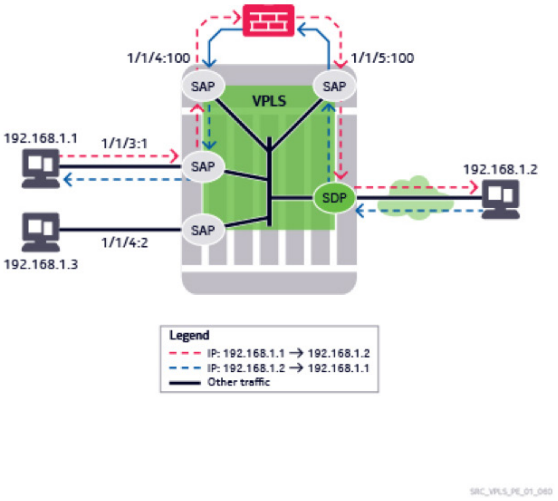
35. Which of the following network issues is resolved by the use of PBB?
    a. MAC re-learning after a topology change
    b. Frame replication of BUM traffic
    c. Reducing the amount of signaling sessions
    d. Reducing the number of required LSPs

36. Which of the following statements about PBB is TRUE?
    a. Each SDP is configured with a B-MAC address to hide the customer's MAC in the core.
    b. PBB supports the mapping of multiple standard VPLS services to a B-VPLS.
    c. PBB supports the mapping of multiple B-VPLS services to an I-VPLS.
    d. PBB is also referred to as MAC-in-MAC.

37. Which of the following statements about the use of the I-SID on the Nokia 7750-SR is TRUE?
    a. The I-SID is always set to the value of the B-VPLS service-id.
    b. The I-SID has to be explicitly configured when building the B-VPLS.
    c. The I-SID is used by the destination PE to identify the local I-VPLS and forward the traffic.
    d. The PE uses the I-TAG in the I-SID to identify the local I-VPLS and forward the traffic.

38. Based on the exhibit, in order to prevent the forwarding of unwanted traffic to the firewall, where should the policy be applied?

```
[gl:configure filter ip-filter "DPI"]
A:student@R05 (PE1-1)# info
    default-action drop
    entry 10 {
        match {
            src-ip {
                address 192.168.1.2/32
            }
            dst-ip {
                address 192.168.1.1/32
            }
        }
        action {
            accept
        }
    }
    entry 20 {
        match {
            src-ip {
                address 192.168.1.1/32
            }
            dst-ip {
                address 192.168.1.2/32
            }
        }
        action {
            accept
```



    a. SAP 1/1/3:1 ingress
    b. SAP 1/1/3:1 egress
    c. SAP 1/1/4:100 ingress
    d. SAP 1/1/5:100 egress

39. Based on the exhibit, which of the following statements is TRUE?

```
[gl:configure service vpls "1" fdb mac-move]
A:student@R05(PE1-1)# info
    move-frequency 2
    primary-cumulative-factor 3
    secondary-cumulative-factor 2
    sap 1/1/3{
        level primary
    }
    spoke-sdp 2:1 {
        level secondary
    }
    sap 1/1/2{
        level secondary
    }
    sap 1/1/1{
    }
```

a. SAP 1/1/3 will be blocked after 10 or more relearns in a 5 second interval.
b. SAP 1/1/2 will be blocked after 20 or more relearns in a 10 second interval.
c. SPOKE-SDP 2 will be blocked after 20 or more relearns in a 15 second interval.
d. SAP 1/1/1 will be blocked after 20 or more relearns in a 10 second interval.

40. Consider the exhibit. Traffic is flowing between Host 1 and Host 2. Which of the following statements is TRUE?


```
[gl:configure service vpls "3"]
A:student@R04(PE1-1)# info
    admin-state enable
    customer "1"
    sap 1/1/1 {
    }
    sap 1/1/2 {
    }
```

```
[gl:configure service vpls "3"]
A:student@R05(PE2-1)# info
    admin-state enable
    customer "1"
    sap 1/1/1 {
        fdb {
            auto-learn-mac-protect true
            protected-src-mac-violation-action discard
        }
    }
    sap 1/1/2 {
        fdb {
            auto-learn-mac-protect true
            protected-src-mac-violation-action discard
        }
    }
```

```
[gl:configure service vpls "3"]
A:student@R06(PE3-1)# info
    admin-state enable
    customer "1"
    sap 1/1/1 {
    }
    sap 1/1/2 {
    }
```

a. PE1 will add Host 1 MAC to its mac-protect list on SAP 1/1/1.
b. PE2 will discard any frames arriving on SAP 1/1/2 sourced from Host 1 MAC.
c. PE3 will add Host 1 MAC to its mac-protect list on SAP 1/1/1.
d. PE2 will add Host 2 MAC to its mac-protect list on SAP 1/1/1.

Answer Key

1. A
2. B
3. D
4. A
5. A
6. C
7. D
8. A
9. A
10. C
11. C
12. D
13. D
14. E
15. A
16. C
17. B
18. D
19. A
20. D
21. C
22. B
23. E
24. B
25. B
26. C
27. C
28. C
29. A
30. B
31. D
32. D
33. C
34. D
35. A
36. D
37. C
38. D
39. B
40. D

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