

# **Cisco**

## **Exam 200-301**

**Cisco Certified Network Associate**

**Version: 44.0**

**[ Total Questions: 609 ]**

**Topic break down**

<b>Topic</b>	<b>No. of Questions</b>
<b>Topic 1: Exam Pool A</b>	<b>244</b>
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**Topic 1, Exam Pool A**

**Question No : 1 - (Topic 1)**

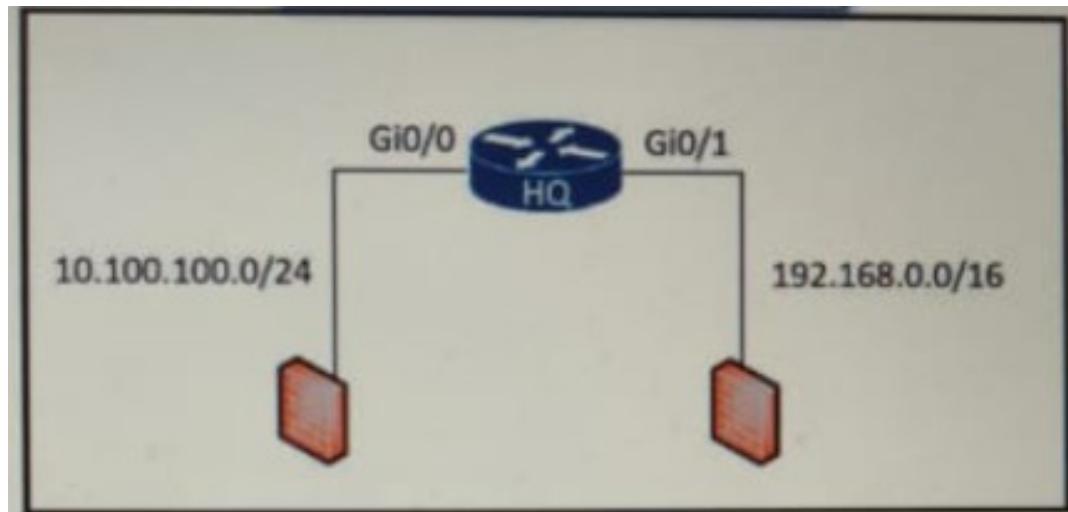
Several new coverage cells are required to improve the Wi-Fi network of an organization. Which two standard designs are recommended? (choose two.)

- A. 5GHz provides increased network capacity with up to 23 nonoverlapping channels.
- B. For maximum throughput, the WLC is configured to dynamically set adjacent access points to the same channel.
- C. 5GHz channel selection requires an autonomous access point.
- D. Adjacent cells with overlapping channels use a repeater access point.
- E. Cells that overlap one another are configured to use nonoverlapping channels.

**Answer: B,E**

**Question No : 2 - (Topic 1)**

Refer to the exhibit.



An access list is required to permit traffic from any host on interface G0/0 and deny traffic from interface G0/1. Which access list must be applied?

```

 A ip access-list standard 99
    permit 10.100.100.0 0.0.0.255
    deny 192.168.0.0 0.0.255.255

 B ip access-list standard 99
    permit 10.100.100.0 0.0.0.255
    deny 192.168.0.0 0.255.255.255

 C ip access-list standard 199
    permit 10.100.100.0 0.0.0.255
    deny 192.168.0.0 0.255.255.255

 D ip access-list standard 199
    permit 10.100.100.0 0.0.0.255
    deny 192.168.0.0 0.0.255.255

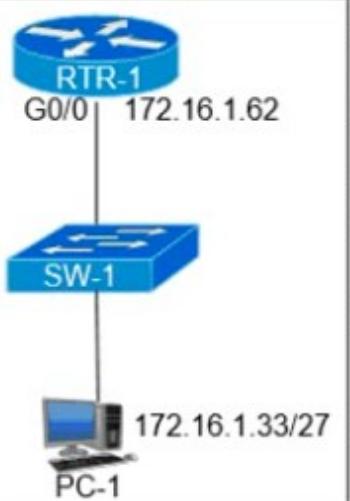
```

- A. Option A  
 B. Option B  
 C. Option C  
 D. Option D

**Answer: A**

**Question No : 3 - (Topic 1)**

Refer to the exhibit.

	<pre> RTR-1 interface Loopback1 ip address 192.168.1.1 255.255.255.0 ! interface Loopback2 ip address 192.168.2.1 255.255.255.0 ! interface Loopback3 ip address 192.168.3.1 255.255.255.0 ! interface GigabitEthernet0/0 ip address 172.16.1.62 255.255.255.224 </pre>
---	---

Which configuration on RTR-1 denies SSH access from PC-1 to any RTR-1 interface and allows all other traffic?

- A. access-list 100 deny tcp host 172.16.1.33 any eq 22 access-list 100 permit ip any any interface GigabitEthernet0/0 ip access-group 100 in
- B. access-list 100 deny tcp host 172.16.1.33 any eq 22 access-list 100 permit ip any any line vty 0 15 ip access-group 100 in
- C. access-list 100 deny tcp host 172.16.1.33 any eq 23 access-list 100 permit ip any any interface GigabitEthernet0/0 ip access-group 100 in
- D. access-list 100 deny tcp host 172.16.1.33 any eq 23 access-list 100 permit ip any any line vty 0 15 ip access-group 100 in

**Answer: B**

**Question No : 4 - (Topic 1)**

What software defined architecture plane assists network devices with making packet-forwarding decisions by providing Layer 2 reachability and Layer 3 routing information?

- A. data plane
- B. control plane
- C. policy plane
- D. management plane

**Answer: B**

**Question No : 5 - (Topic 1)**

What are two similarities between UTP Cat 5e and Cat 6a cabling? (Choose two.)

- A. Both operate at a frequency of 500 MHz.
- B. Both support runs of up to 55 meters.
- C. Both support runs of up to 100 meters.
- D. Both support speeds of at least 1 Gigabit.
- E. Both support speeds up to 10 Gigabit.

**Answer: C,D**

**Question No : 6 DRAG DROP - (Topic 1)**

Drag and drop the WLAN components from the left onto the correct descriptions on the

right.

access point	device that manages access points
virtual interface	device that provides Wi-Fi devices with a connection to a wired network
dynamic interface	used for out of band management of a WLC
service port	used to support mobility management of the WLC
wireless LAN controller	applied to the WLAN for wireless client communication

**Answer:**

access point	wireless LAN controller
virtual interface	access point
dynamic interface	service port
service port	virtual interface
wireless LAN controller	dynamic interface

**Question No : 7 - (Topic 1)**

An engineer must configure Interswitch VLAN communication between a Cisco switch and a third-party switch. Which action should be taken?

- A. configure IEEE 802.1p
- B. configure IEEE 802.1q
- C. configure ISL
- D. configure DSCP

**Answer: B**

**Question No : 8 - (Topic 1)**

Which statement identifies the functionality of virtual machines?

- A. Virtualized servers run most efficiently when they are physically connected to a switch that is separate from the hypervisor
- B. The hypervisor can virtualize physical components including CPU, memory, and storage
- C. Each hypervisor can support a single virtual machine and a single software switch
- D. The hypervisor communicates on Layer 3 without the need for additional resources

**Answer: B**

**Question No : 9 - (Topic 1)**

Aside from discarding, which two states does the switch port transition through while using RSTP (802.1w)? (Choose two)

- A. listening
- B. blocking
- C. forwarding
- D. learning
- E. speaking

**Answer: C,D**

**Question No : 10 - (Topic 1)**

Refer to the exhibit.

```
cisco_ospf_vrf {"R1 default":  
    ensure => 'present',  
    auto_cost => '100',  
}
```

Which type of configuration is represented in the output?

- A. Ansible
- B. JSON
- C. Chef
- D. Puppet

**Answer: D**

**Question No : 11 - (Topic 1)**

What are two benefits of controller-based networking compared to traditional networking?

- A. controller-based increases network bandwidth usage, while traditional lightens the load on the network.
- B. controller-based inflates software costs, while traditional decreases individual licensing costs
- C. Controller-based reduces network configuration complexity, while traditional increases the potential for errors
- D. Controller-based provides centralization of key IT functions. While traditional requires distributes management function
- E. controller-based allows for fewer network failure, while traditional increases failure rates.

**Answer: C,D**

**Explanation:**

**Cisco DNA Center Device Management**

- 3. Monitor the cloud for software update**
- 5. Uses CLI templates to apply a consistent configuration to multiple devices at an individual location**
- 6. Uses NetFlow to analyse potential security threats throughout the network and take appropriate action on that traffic**

**Traditional device management**

- 2. Manages device configuration on a per-device basis**
- 4. Security is managed near the perimeter of the network with firewalls, VPNs, and IPS**

Implements changes via an SSH terminal

**Question No : 12 - (Topic 1)**

Which two WAN architecture options help a business improve scalability and reliability for the network? (Choose two.)

- A. asynchronous routing
- B. single-homed branches
- C. dual-homed branches
- D. static routing
- E. dynamic routing

**Answer: A,C**

**Question No : 13 - (Topic 1)**

A manager asks a network engineer to advise which cloud service models are used so employees do not have to waste their time installing, managing, and updating software which is only used occasionally Which cloud service model does the engineer recommend?

- A. infrastructure-as-a-service
- B. platform-as-a-service
- C. business process as service to support different types of service
- D. software-as-a-service

**Answer: D**

**Question No : 14 - (Topic 1)**

Which command enables a router to become a DHCP client?

- A. ip address dhcp
- B. ip helper-address
- C. ip dhcp pool
- D. ip dhcp client

**Answer: A**

Reference: <https://www.cisco.com/c/en/us/td/docs/ios>-

If we want to get an IP address from the DHCP server on a Cisco device, we can use the command “ip address dhcp”.

Note: The command “ip helper-address” enables a router to become a DHCP Relay Agent.

### **Question No : 15 - (Topic 1)**

Which protocol does an IPv4 host use to obtain a dynamically assigned IP address?

- A. ARP
- B. DHCP
- C. CDP
- D. DNS

**Answer: B**

**Explanation:**

<https://www.geeksforgeeks.org/how-dhcp-server-dynamically-assigns-ip-address-to-a-host/#:~:text=DHCP%20is%20an%20abbreviation%20for,subnet%20mask%20and%20gateway%20address>.

### **Question No : 16 - (Topic 1)**

What is the purpose of a southbound API in a control based networking architecture?

- A. Facilities communication between the controller and the applications
- B. Facilities communication between the controller and the networking hardware
- C. allows application developers to interact with the network
- D. integrates a controller with other automation and orchestration tools.

**Answer: B**

**Explanation:**

<https://www.ciscopress.com/articles/article.asp?p=2995354&seqNum=2#:~:text=The%20Southbound%20API%20is%20a%20communication>

outhbound%20Interface,communicate%20to%20the%20networking%20devices.&text=The%20overall%20goal%20is%20network,from%20being%20only%20a%20protocol.

### The Southbound Interface

In a controller-based network architecture, the controller needs to communicate to the networking devices.

#### Question No : 17 - (Topic 1)

What is a function of a remote access VPN?

- A. used cryptographic tunneling to protect the privacy of data for multiple users simultaneously
- B. used exclusively when a user is connected to a company's internal network
- C. establishes a secure tunnel between two branch sites
- D. allows the users to access company internal network resources through a secure tunnel

Answer: D

#### Question No : 18 - (Topic 1)

Refer to the exhibit.

```
R1# show ip route
Codes: C = connected, S = static, I = IGRP, R = RIP, M = mobile, B = BGP
      D = EIGRP, E = EIGRP external, O = OSPF, IA = OSPF inter area
      N1 = OSPF NSSA external type 1, N2 = OSPF NSSA external type 2
      E1 = OSPF external type 1, E2 = OSPF external type 2, E = EGP
      i = IS-IS, L1 = IS-IS level-1, L2 = IS-IS level-2, * = candidate default
      U = per-user static route, o = ODR
Gateway of last resort is not set
C   1.0.0.0/8 is directly connected, Loopback0
    10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
O     10.0.1.3/32 [110/100] via 10.0.1.3, 00:39:08, Serial0
C     10.0.1.0/24 is directly connected, Serial0
O     10.0.1.5/32 [110/5] via 10.0.1.50, 00:39:08, Serial0
O     10.0.1.4/32 [110/10] via 10.0.1.4, 00:39:08, Serial0
```

What is the next hop address for traffic that is destined to host 10.0.1.5?

- A. 10.0.1.3
- B. 10.0.1.50
- C. 10.0.1.4

D. Loopback D

**Answer: B**

**Question No : 19 - (Topic 1)**

What is a function of the Cisco DNA Center Overall Health Dashboard?

- A. It provides a summary of the top 10 global issues.
- B. It provides detailed activity logging for the 10 devices and users on the network.
- C. It summarizes the operational status of each wireless device on the network.
- D. It summarizes daily and weekly CPU usage for servers and workstations in the network.

**Answer: A**

**Question No : 20 - (Topic 1)**

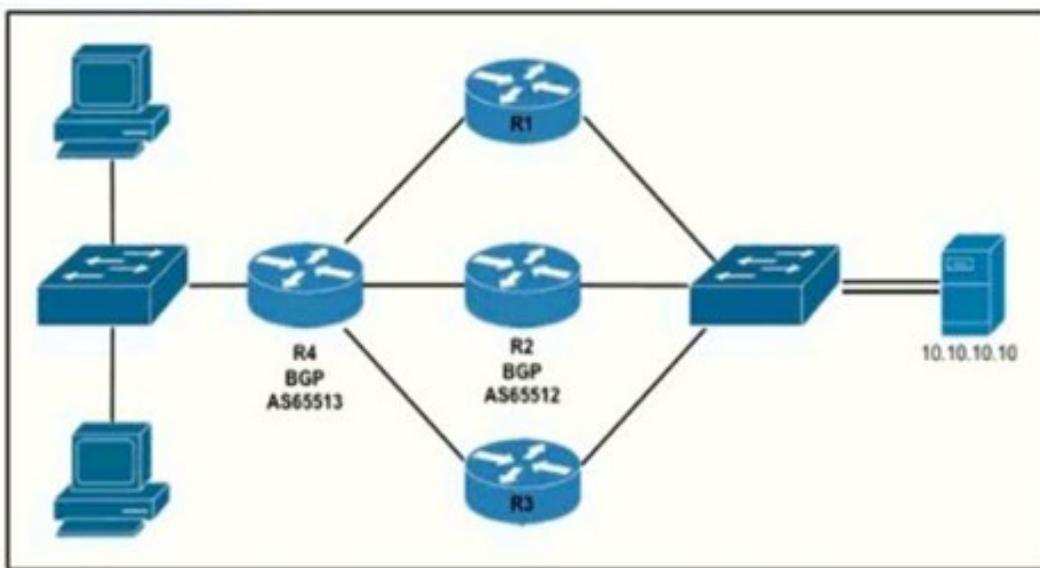
Which action does the router take as it forwards a packet through the network?

- A. The router replaces the original source and destination MAC addresses with the sending router MAC address as the source and neighbor MAC address as the destination
- B. The router encapsulates the original packet and then includes a tag that identifies the source router MAC address and transmits it transparently to the destination
- C. The router encapsulates the source and destination IP addresses with the sending router IP address as the source and the neighbor IP address as the destination
- D. The router replaces the source and destination labels with the sending router interface label as a source and the next hop router label as a destination

**Answer: A**

**Question No : 21 - (Topic 1)**

Refer to the exhibit.



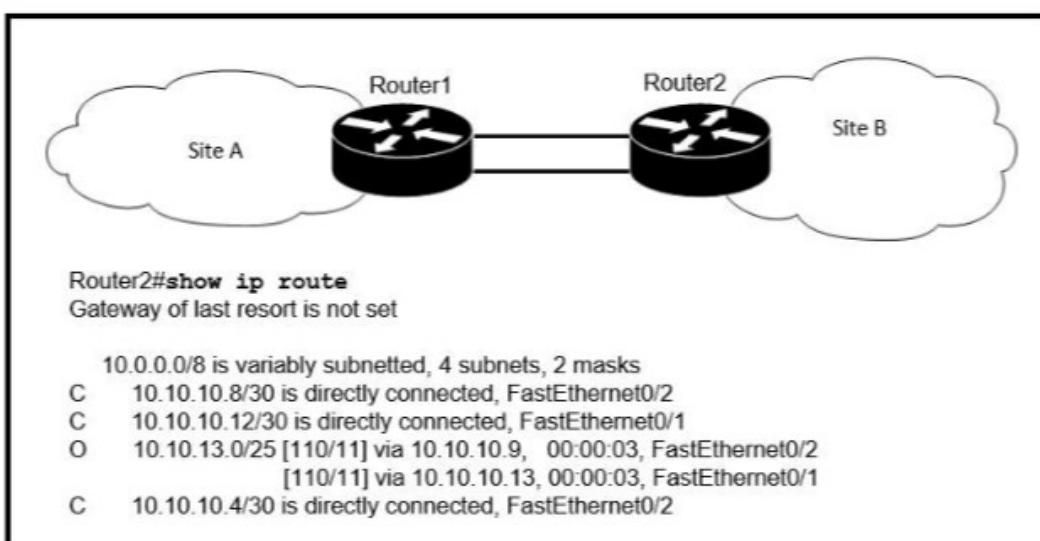
Router R4 is dynamically learning the path to the server. If R4 is connected to R1 via OSPF Area 20, to R2 v2ia R2 BGP, and to R3 via EIGRP 777, which path is installed in the routing table of R4?

- A. the path through R1, because the OSPF administrative distance is 110
- B. the path through R2, because the IBGP administrative distance is 200
- C. the path through R2 because the EBGP administrative distance is 20
- D. the path through R3, because the EIGRP administrative distance is lower than OSPF and BGP

**Answer: C**

### Question No : 22 - (Topic 1)

Refer to the exhibit.



If OSPF is running on this network, how does Router 2 handle traffic from Site B to 10.10.13/25 at Site A?

- A. It sends packets out of interface Fa0/2 only.
- B. It sends packets out of interface Fa0/1 only.
- C. It cannot send packets to 10.10.13 128/25
- D. It load-balances traffic out of Fa0/1 and Fa0/2

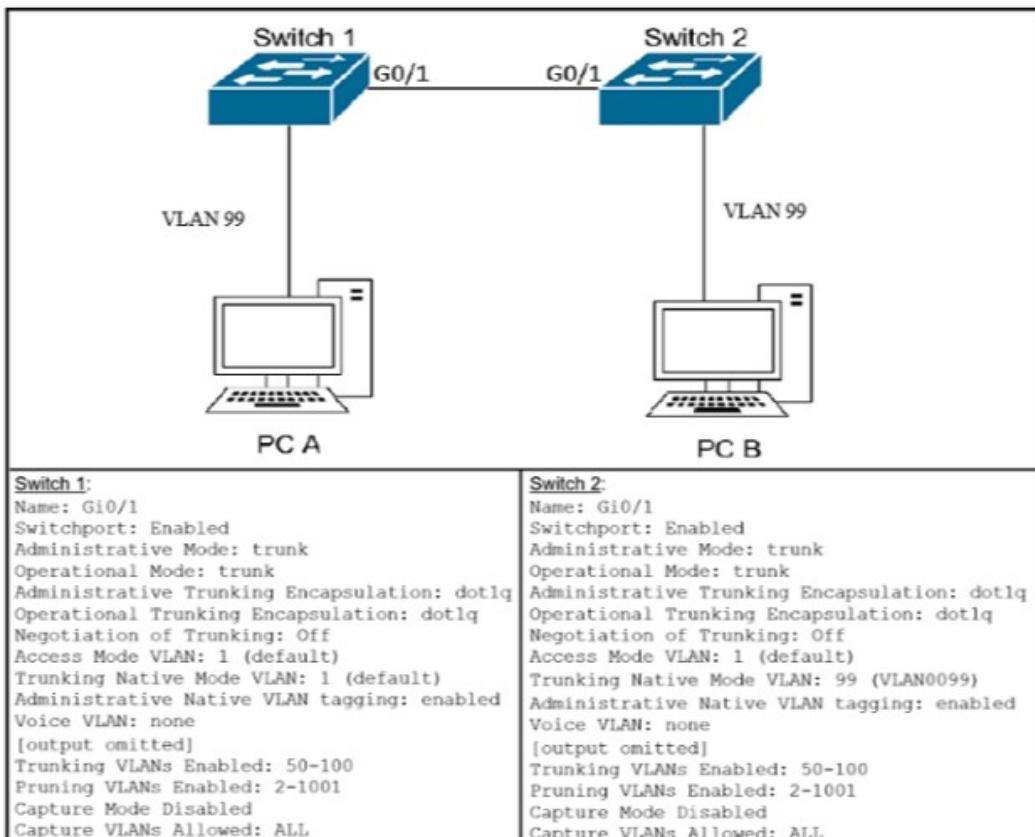
**Answer: C**

**Explanation:** Router2 does not have an entry for the subnet 10.10.13.128/25. It only has an entry for 10.10.13.0/25, which ranges from 10.10.13.0 to 10.10.13.127.

<https://study-ccna.com/administrative-distance-metric/>

**Question No : 23 - (Topic 1)**

Refer to the Exhibit.



After the switch configuration the ping test fails between PC A and PC B Based on the output for switch 1. which error must be corrected?

- A. There is a native VLAN mismatch
- B. Access mode is configured on the switch ports.
- C. The PCs are in the incorrect VLAN
- D. All VLANs are not enabled on the trunk

**Answer: A**

**Explanation:** From the output we see the native VLAN of Switch1 on Gi0/1 interface is VLAN 1 while that of Switch2 is VLAN 99 so there would be a native VLAN mismatch.

**Question No : 24 - (Topic 1)**

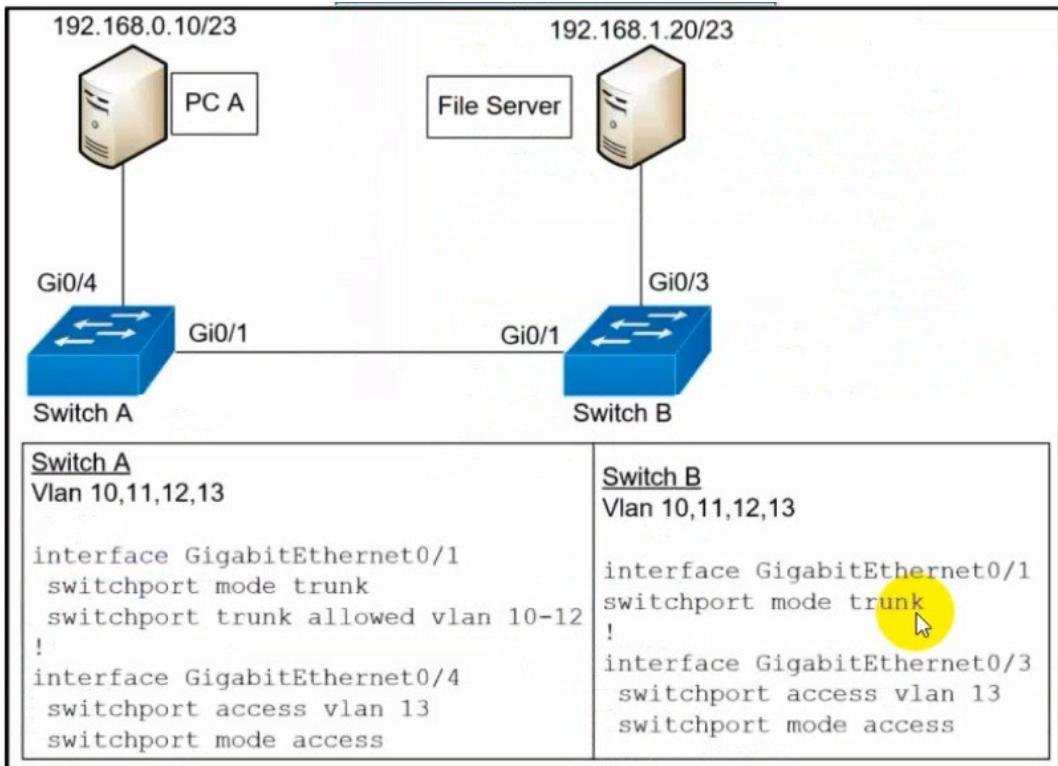
Which technology allows for multiple operating systems to be run on a single host computer?

- A. virtual routing and forwarding
- B. network port ID visualization
- C. virtual device contexts
- D. server visualization

**Answer: D**

**Question No : 25 - (Topic 1)**

Refer to the exhibit.



A network engineer must configure communication between PC A and the File Server. To prevent interruption for any other communications, which command must be configured?

- A. Switch trunk allowed vlan 12
- B. Switchport trunk allowed vlan none
- C. Switchport trunk allowed vlan add 13
- D. Switchport trunk allowed vlan remove 10-11

**Answer: C**

#### Question No : 26 - (Topic 1)

Which command on a port enters the forwarding state immediately when a PC is connected to it?

- A. switch(config)#spanning-tree portfast default
- B. switch(config)#spanning-tree portfast bpduguard default
- C. switch(config-if)#spanning-tree portfast trunk
- D. switch(config-if)#no spanning-tree portfast

**Answer: C**

**Question No : 27 - (Topic 1)**

Which QoS Profile is selected in the GUI when configuring a voice over WLAN deployment?

- A. Bronze
- B. Platinum
- C. Silver
- D. Gold

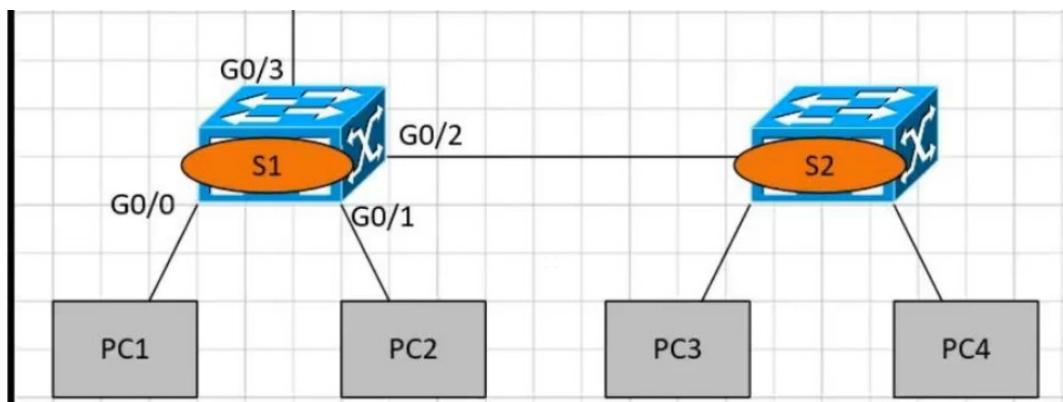
**Answer: B**

Reference: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/81831-qos-wlc-lap.html>

Cisco Unified Wireless Network solution WLANs support four levels of QoS: Platinum/Voice, Gold/Video, Silver/Best Effort (default), and Bronze/Background.

**Question No : 28 - (Topic 1)**

Refer to the exhibit.



PC1 is trying to ping PC3 for the first time and sends out an ARP to S1. Which action is taken by S1?

- A. It forwards it out G0/3 only
- B. It is flooded out every port except G0/0.
- C. It drops the frame.
- D. It forwards it out interface G0/2 only.

**Answer: B**

**Question No : 29 - (Topic 1)**

Which WAN topology provides a combination of simplicity quality, and availability?

- A. partial mesh
- B. full mesh
- C. point-to-point
- D. hub-and-spoke

**Answer: C**

**Question No : 30 - (Topic 1)**

Which resource is able to be shared among virtual machines deployed on the same physical server?

- A. disk
- B. applications
- C. VM configuration file
- D. operating system

**Answer: C**

**Question No : 31 - (Topic 1)**

Which CRUD operation modifies an existing table or view?

- A. read
- B. create
- C. replace
- D. update

**Answer: D**

**Question No : 32 - (Topic 1)**

What criteria is used first during me root port selection process?

- A. local port ID
- B. lowest path cost to the root bridge
- C. lowest neighbor's bridge ID
- D. lowest neighbor's port ID

**Answer: B**

**Question No : 33 - (Topic 1)**

Which 802.11 management frame type is sent when a client roams between access points on the same SSID?

- A. Reassociation Request
- B. Probe Request
- C. Authentication Request
- D. Association Request

**Answer: A**

**Question No : 34 - (Topic 1)**

Refer to exhibit.

```
Router(config)#interface GigabitEthernet 1/0/1
Router(config-if)#ip address 192.168.16.143 255.255.255.240
Bad mask /28 for address 192.168.16.143
```

Which statement explains the configuration error message that is received?

- A. It is a broadcast IP address
- B. The router does not support /28 mask.
- C. It belongs to a private IP address range.
- D. IT is a network IP address.

**Answer: A**

**Question No : 35 - (Topic 1)**

Which level of severity must be set to get informational syslogs?

- A. alert
- B. critical
- C. notice
- D. debug

**Answer: C**

**Question No : 36 - (Topic 1)**

When a site-to-site VPN is configured, which IPsec mode provides encapsulation and encryption of the entire original P packet?

- A. IPsec tunnel mode with AH
- B. IPsec transport mode with AH
- C. IPsec tunnel mode with ESP
- D. IPsec transport mode with ESP

**Answer: C**

**Explanation:** “Encapsulating Security Payload...Unlike Authentication Header (AH), ESP in transport mode does not provide integrity and authentication for the entire IP packet. However, in Tunnel Mode, where the entire original IP packet is encapsulated with a new packet header added, ESP protection is afforded to the whole inner IP packet (including the inner header) while the outer header (including any outer IPv4 options or IPv6 extension headers) remains unprotected.

**Question No : 37 - (Topic 1)**

Which technology is used to improve web traffic performance by proxy caching?

- A. WSA
- B. Firepower
- C. ASA

**D. FireSIGHT**

**Answer: A**

**Question No : 38 - (Topic 1)**

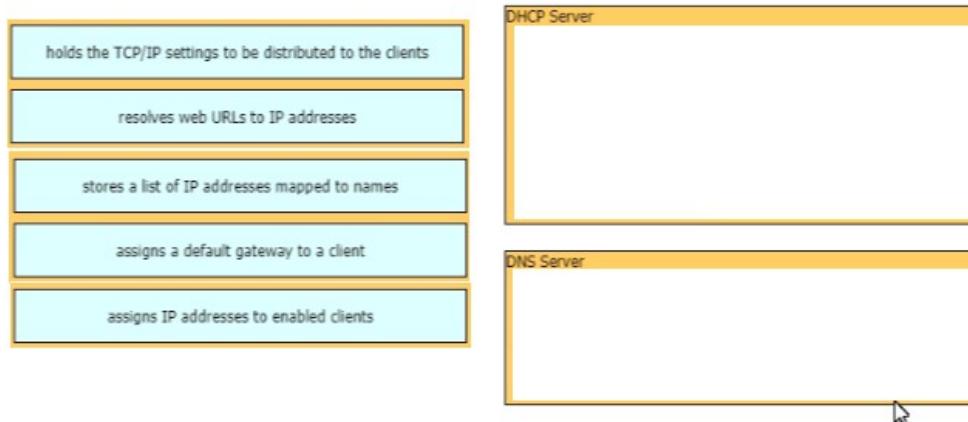
Which type of security program is violated when a group of employees enters a building using the ID badge of only one person?

- A. intrusion detection
- B. user awareness
- C. physical access control
- D. network authorization

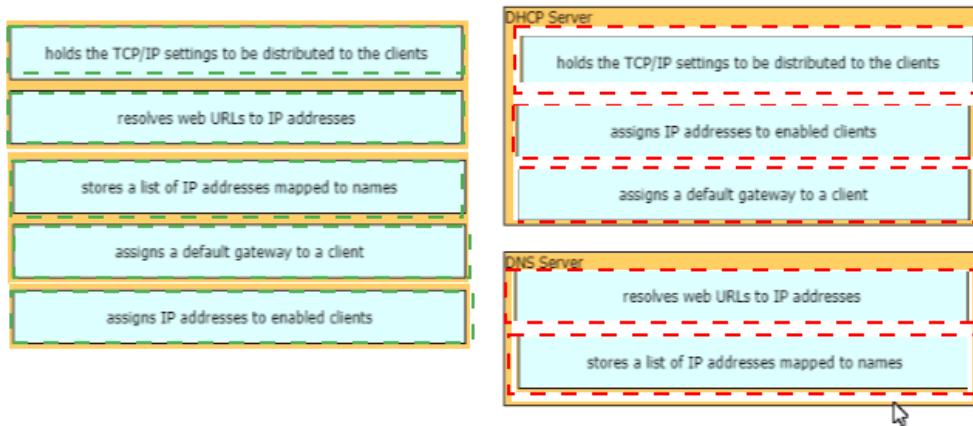
**Answer: C**

**Question No : 39 DRAG DROP - (Topic 1)**

Drag and drop the functions from the left onto the correct network components on the right

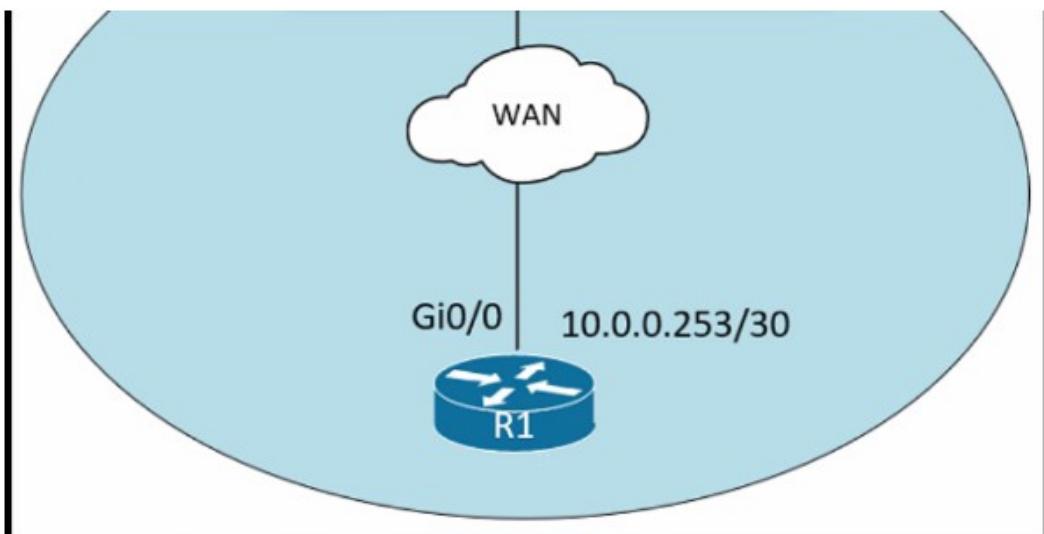


**Answer:**



**Question No : 40 - (Topic 1)**

Refer to the exhibit.



An administrator must turn off the Cisco Discovery Protocol on the port configured with address last usable address in the 10.0.0.0/30 subnet. Which command set meets the requirement?

- A.** interface gi0/1  
no cdp enable
- B.** interface gi0/1  
clear cdp table
- C.** interface gi0/0  
no cdp advertise-v2
- D.** interface gi0/0  
no cdp run

**Answer: D**

**Question No : 41 - (Topic 1)**

Which two outcomes are predictable behaviors for HSRP? (Choose two )

- A. The two routers synchronize configurations to provide consistent packet forwarding
- B. The two routers negotiate one router as the active router and the other as the standby router
- C. Each router has a different IP address, both routers act as the default gateway on the LAN, and traffic is load-balanced between them
- D. The two routers share a virtual IP address that is used as the default gateway for devices on the LAN
- E. The two routers share the same interface IP address and default gateway traffic is load-balanced between them

**Answer: B,D**

**Question No : 42 - (Topic 1)**

Which WLC port connects to a switch to pass normal access-point traffic?

- A. redundancy
- B. console
- C. distribution system
- D. service

**Answer: C**

**Question No : 43 DRAG DROP - (Topic 1)**

Drag and drop the SNMP manager and agent identifier commands from the left onto the functions on the right

## Cisco 200-301 : Practice Test

show snmp chassis	displays information about the SNMP recipient
show snmp community	displays the IP address of the remote SNMP device
show snmp engineID	displays the SNMP security model in use
show snmp group	displays the SNMP access string
show snmp host	displays the SNMP server serial number

### Answer:

show snmp chassis	show snmp host
show snmp community	show snmp engineID
show snmp engineID	show snmp group
show snmp group	show snmp community
show snmp host	show snmp chassis

### Question No : 44 - (Topic 1)

Refer to the exhibit.

```
ip arp inspection vlan 2-10
interface fastethernet 0/1
    ip arp inspection trust
```

If the network environment is operating normally, which type of device must be connected to interface FastEthernet 0/1?

- A. DHCP client
- B. access point
- C. router
- D. PC

**Answer: C**

**Question No : 45 DRAG DROP - (Topic 1)**

Drag and drop the IPv6 address type characteristics from the left to the right.

attached to a single subnet
addresses with prefix FC00::/7
configured only once per interface
addressing for exclusive use internally without Internet routing

Link-Local Address
Unique Local Address

**Answer:**

attached to a single subnet
addresses with prefix FC00::/7
configured only once per interface
addressing for exclusive use internally without Internet routing

Link-Local Address
Unique Local Address

**Explanation:**

Link-Local Address

addresses with prefix FC00::/7

addressing for exclusive use internally without Internet routing

Unique Local Address

configured only once per interface

attached to a single subnet

Graphical user interface, application

Description automatically generated

**Question No : 46 - (Topic 1)**

What is the maximum bandwidth of a T1 point-to-point connection?

- A. 1.544 Mbps
- B. 2.048 Mbps
- C. 34.368 Mbps
- D. 43.7 Mbps

**Answer: A**

**Explanation:**

[https://www.bsimplify.com/what-is-point-to-point-t1/#:~:text=A%20Point%20to%20Point%20T1,data%20speeds%20\(1.54Mbps\).](https://www.bsimplify.com/what-is-point-to-point-t1/#:~:text=A%20Point%20to%20Point%20T1,data%20speeds%20(1.54Mbps).)

**Point to Point T1**

A Point to Point T1 service is a private data connection securely connecting two or more locations with T1 data speeds (1.54Mbps).

### Question No : 47 - (Topic 1)

Which 802.11 frame type is association response?

- A. management
- B. protected frame
- C. control
- D. action

**Answer: A**

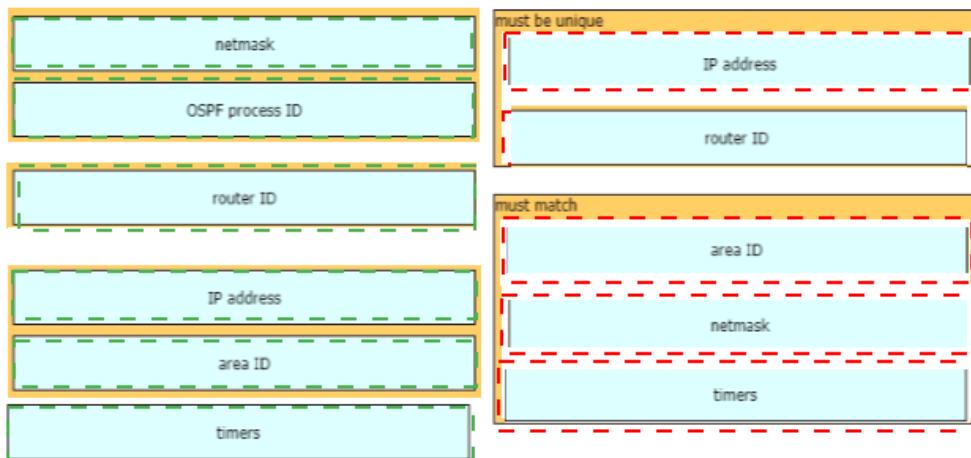
Reference: [https://en.wikipedia.org/wiki/802.11\\_Frame\\_Types](https://en.wikipedia.org/wiki/802.11_Frame_Types)

### Question No : 48 DRAG DROP - (Topic 1)

A network engineer is configuring an OSPFv2 neighbor adjacency Drag and drop the parameters from the left onto their required categories on the right. Not all parameters are used



**Answer:**



**Question No : 49 - (Topic 1)**

How do TCP and UDP differ in the way they guarantee packet delivery?

- A. TCP uses checksum, acknowledgement, and retransmissions, and UDP uses checksums only.
- B. TCP uses two-dimensional parity checks, checksums, and cyclic redundancy checks and UDP uses retransmissions only.
- C. TCP uses checksum, parity checks, and retransmissions, and UDP uses acknowledgements only.
- D. TCP uses retransmissions, acknowledgement and parity checks and UDP uses cyclic redundancy checks only.

**Answer: A**

**Question No : 50 - (Topic 1)**

What is a similarity between OM3 and OM4 fiber optic cable?

- A. Both have a 50 micron core diameter
- B. Both have a 9 micron core diameter
- C. Both have a 62.5 micron core diameter
- D. Both have a 100 micron core diameter

**Answer: A**

**Question No : 51 - (Topic 1)**

in Which way does a spine and-leaf architecture allow for scalability in a network when additional access ports are required?

- A. A spine switch and a leaf switch can be added with redundant connections between them
- B. A spine switch can be added with at least 40 GB uplinks
- C. A leaf switch can be added with a single connection to a core spine switch.
- D. A leaf switch can be added with connections to every spine switch

**Answer: D**

**Explanation:** Spine-leaf architecture is typically deployed as two layers: spines (such as an aggregation layer), and leaves (such as an access layer). Spine-leaf topologies provide high-bandwidth, low-latency, nonblocking server-to-server connectivity.

Leaf (aggregation) switches are what provide devices access to the fabric (the network of spine and leaf switches) and are typically deployed at the top of the rack. Generally, devices connect to the leaf switches.

Devices can include servers, Layer 4-7 services (firewalls and load balancers), and WAN or Internet routers. Leaf switches do not connect to other leaf switches. In spine-and-leaf architecture, every leaf should connect to every spine in a full mesh.

Spine (aggregation) switches are used to connect to all leaf switches and are typically deployed at the end or middle of the row. Spine switches do not connect to other spine switches.

**Question No : 52 - (Topic 1)**

What are two roles of the Dynamic Host Configuration Protocol (DHCP)? (Choose two)

- A. The DHCP server offers the ability to exclude specific IP addresses from a pool of IP addresses
- B. The DHCP client can request up to four DNS server addresses
- C. The DHCP server assigns IP addresses without requiring the client to renew them
- D. The DHCP server leases client IP addresses dynamically.
- E. The DHCP client maintains a pool of IP addresses it can assign.

**Answer: A,D**

**Question No : 53 - (Topic 1)**

When implementing a router as a DHCP server, which two features must be configured'? (Choose two)

- A. relay agent information
- B. database agent
- C. address pool
- D. smart-relay
- E. manual bindings

**Answer: C,E**

**Question No : 54 - (Topic 1)**

Which type of information resides on a DHCP server?

- A. a list of the available IP addresses in a pool
- B. a list of public IP addresses and their corresponding names
- C. usernames and passwords for the end users in a domain
- D. a list of statically assigned MAC addresses

**Answer: A**

**Question No : 55 - (Topic 1)**

Where is the interface between the control plane and data plane within the software-defined architecture?

- A. control layer and the infrastructure layer
- B. application layer and the infrastructure layer
- C. control layer and the application layer
- D. application layer and the management layer

**Answer: A**

**Question No : 56 - (Topic 1)**

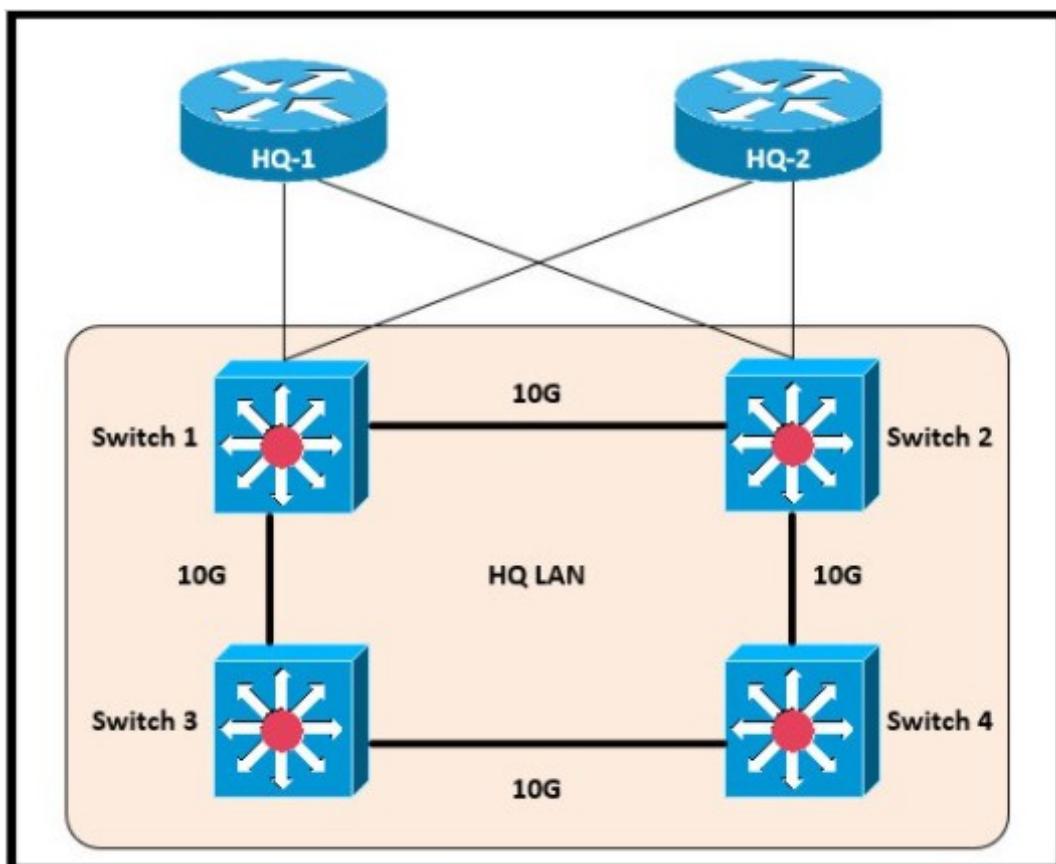
Which two WAN architecture options help a business scalability and reliability for the network? (Choose two)

- A. asynchronous routing
- B. single-homed branches
- C. dual-homed branches
- D. static routing
- E. dynamic routing

**Answer: A,C**

**Question No : 57 - (Topic 1)**

Refer to the exhibit.



Which switch becomes the root of the spanning tree for VLAN 110?

Switch 1  
VLAN 110 - 32778 0018.184e.3c00  
Switch 2  
VLAN 110 - 24586 001a.e3ff.a680  
Switch 3  
VLAN 110 - 28682 0022.55cf.cc00  
Switch 4  
VLAN 110 - 64000 0e38.7363.657f

- A. Switch 1
- B. Switch 2
- C. Switch 3
- D. Switch 4

**Answer: B**

**Question No : 58 - (Topic 1)**

Which output displays a JSON data representation?

- A. {  
  "response": {  
    "taskId": {},  
    "url": "string"  
  },  
  "version": "string"  
}
- B. {  
  "response": {  
    "taskId": {},  
    "url": "string"  
  },  
  "version": "string"  
}
- C. {  
  "response": {  
    "taskId": {},  
    "url": "string"  
  },  
  "version": "string"  
}
- D. {  
  "response": {  
    "taskId": {},  
    "url": "string"  
  },  
  "version": "string"  
}

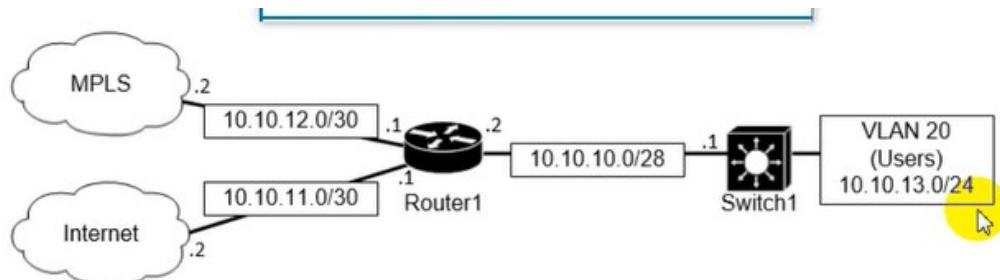
- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Explanation:** JSON data is written as name/value pairs. A name/value pair consists of a field name (in double quotes), followed by a colon, followed by a value: "name": "Mark" JSON can use arrays. Array values must be of type string, number, object, array, boolean or null. For example: {"name": "John", "age": 30, "cars": [ "Ford", "BMW", "Fiat" ]} JSON can have empty object like "taskId": {}

**Question No : 59 - (Topic 1)**

Refer to the exhibit.



```

Router1#show ip route
Gateway of last resort is 10.10.11.2 to network 0.0.0.0
  209.165.200.0/27 is subnetted, 1 subnets
    B    209.165.200.224 [20/0] via 10.10.12.2, 00:09:57
        10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
    C    10.10.10.0/28 is directly connected, GigabitEthernet0/0
    C    10.10.11.0/30 is directly connected, FastEthernet2/0
    O    10.10.13.0/24 [110/2] via 10.10.10.1, 00:08:34, GigabitEthernet0/0
    C    10.10.12.0/30 is directly connected, GigabitEthernet0/1
  S*   0.0.0.0/0 [1/0] via 10.10.11.2

Switch1#show ip route
Gateway of last resort is not set
  10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
    C    10.10.10.0/28 is directly connected, FastEthernet0/1
    C    10.10.13.0/24 is directly connected, VLAN20
  
```

which path is used by the router for internet traffic ?

- A. 209.165.200.0/27

- B. 10.10.10.0/28
- C. 0.0.0.0/0
- D. 10.10.13.0/24

**Answer: C**

**Question No : 60 - (Topic 1)**

Refer to the exhibit.

```
Atlanta#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Atlanta(config)#aaa new-model
Atlanta(config)#aaa authentication login default local
Atlanta(config)#line vty 0 4
Atlanta(config-line)#login authentication default
Atlanta(config-line)#exit
Atlanta(config)#username ciscoadmin password adminadmin123
Atlanta(config)#username ciscoadmin privilege 15
Atlanta(config)#enable password cisco123
Atlanta(config)#enable secret testing1234
Atlanta(config)#end
```

Which password must an engineer use to enter the enable mode?

- A. adminadmin123
- B. default
- C. testing 1234
- D. cisco123

**Answer: C**

**Explanation:** If neither the enable password command nor the enable secret command is configured, and if there is a line password configured for the console, the console line password serves as the enable password for all VTY sessions -> The “enable secret” will be used first if available, then “enable password” and line password.

**Question No : 61 - (Topic 1)**

How do TCP and UDP differ in the way they provide reliability for delivery of packets?

- A. TCP is a connectionless protocol that does not provide reliable delivery of data, UDP is a connection-oriented protocol that uses sequencing to provide reliable delivery.
- B. TCP does not guarantee delivery or error checking to ensure that there is no corruption of data UDP provides message acknowledgement and retransmits data if lost.
- C. TCP provides flow control to avoid overwhelming a receiver by sending too many packets at once, UDP sends packets to the receiver in a continuous stream without checking for sequencing
- D. TCP uses windowing to deliver packets reliably; UDP provides reliable message transfer between hosts by establishing a three-way handshake

**Answer: C**

**Question No : 62 - (Topic 1)**

How does a switch process a frame received on Fa0/1 with the destination MAC address of 0e38.7363.657b when the table is missing the address?

- A. It drops the frame immediately.
- B. It forwards the frame back out of interface Fa0/1.
- C. It floods the frame to all interfaces except Fa0/1.
- D. It holds the frame until the MAC address timer expires and then drops the frame.

**Answer: C**

**Question No : 63 - (Topic 1)**

Which command is used to specify the delay time in seconds for LLDP to initialize on any interface?

- A. llldp timer
- B. llldp holdtimt
- C. llldp reinit
- D. llldp tlv-select

**Answer: C**

Reference:

[https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960/software/release/12-2\\_37\\_ey/configuration/guide/scg/swlldp.pdf](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960/software/release/12-2_37_ey/configuration/guide/scg/swlldp.pdf)

+ llldp holdtime seconds: Specify the amount of time a receiving device should hold the

information from your device before discarding it+ lldp reinit delay: Specify the delay time in seconds for LLDP to initialize on an interface+ lldp timer rate: Set the sending frequency of LLDP updates in seconds

### Question No : 64 - (Topic 1)

Which two protocols are supported on service-port interfaces? (Choose two.)

- A. RADIUS
- B. TACACS+
- C. SCP
- D. Telnet
- E. SSH

**Answer:** D,E

**Explanation:** [https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-5/configuration-guide/b\\_cg75/b\\_cg75\\_chapter\\_011110.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-5/configuration-guide/b_cg75/b_cg75_chapter_011110.html)

### Question No : 65 - (Topic 1)

Which command automatically generates an IPv6 address from a specified IPv6 prefix and MAC address of an interface?

- A. ipv6 address dhcp
- B. ipv6 address 2001:DB8:5:112::/64 eui-64
- C. ipv6 address autoconfig
- D. ipv6 address 2001:DB8:5:112::2/64 link-local

**Answer:** C

**Explanation:** The “ipv6 address autoconfig” command causes the device to perform IPv6 stateless address autoconfiguration to discover prefixes on the link and then to add the EUI-64 based addresses to the interface. Addresses are configured depending on the prefixes received in Router Advertisement (RA) messages. The device will listen for RA messages which are transmitted periodically from the router (DHCP Server). This RA

message allows a host to create a global IPv6 address from:  
+ Its interface identifier (EUI-64 address)  
+ Link Prefix (obtained via RA)  
Note: Global address is the combination of Link Prefix and EUI-64 address

**Question No : 66 - (Topic 1)**

What is the default behavior of a Layer 2 switch when a frame with an unknown destination MAC address is received?

- A. The Layer 2 switch drops the received frame
- B. The Layer 2 switch floods packets to all ports except the receiving port in the given VLAN.
- C. The Layer 2 switch sends a copy of a packet to CPU for destination MAC address learning.
- D. The Layer 2 switch forwards the packet and adds the destination MAC address to its MAC address table

**Answer: B**

**Explanation:** If the destination MAC address is not in the CAM table (unknown destination MAC address), the switch sends the frame out all other ports that are in the same VLAN as the received frame. This is called flooding. It does not flood the frame out the same port on which the frame was received.

**Question No : 67 - (Topic 1)**

A network engineer must back up 20 network router configurations globally within a customer environment. Which protocol allows the engineer to perform this function using the Cisco IOS MIB?

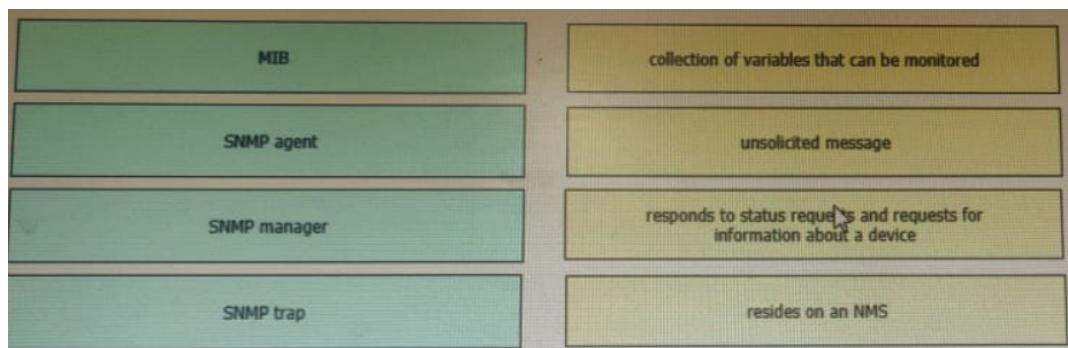
- A. CDP
- B. SNMP
- C. SMTP
- D. ARP

**Answer: B**

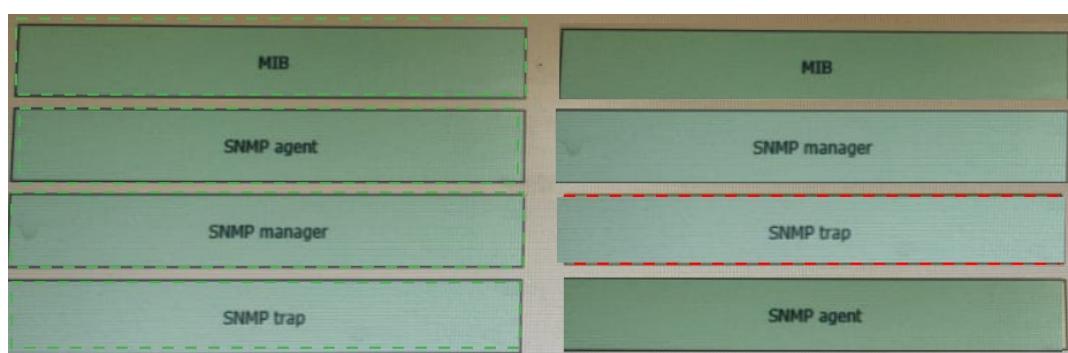
**Explanation:** SNMP is an application-layer protocol that provides a message format for communication between SNMP managers and agents. SNMP provides a standardized framework and a common language used for the monitoring and management of devices in a network. The SNMP framework has three parts:  
+ An SNMP manager  
+ An SNMP agent  
+ A Management Information Base (MIB)  
The Management Information Base (MIB) is a virtual information storage area for network management information, which consists of collections of managed objects. With SNMP, the network administrator can send commands to multiple routers to do the backup

**Question No : 68 DRAG DROP - (Topic 1)**

Drag and drop the SNMP components from the left onto the descriptions on the right.

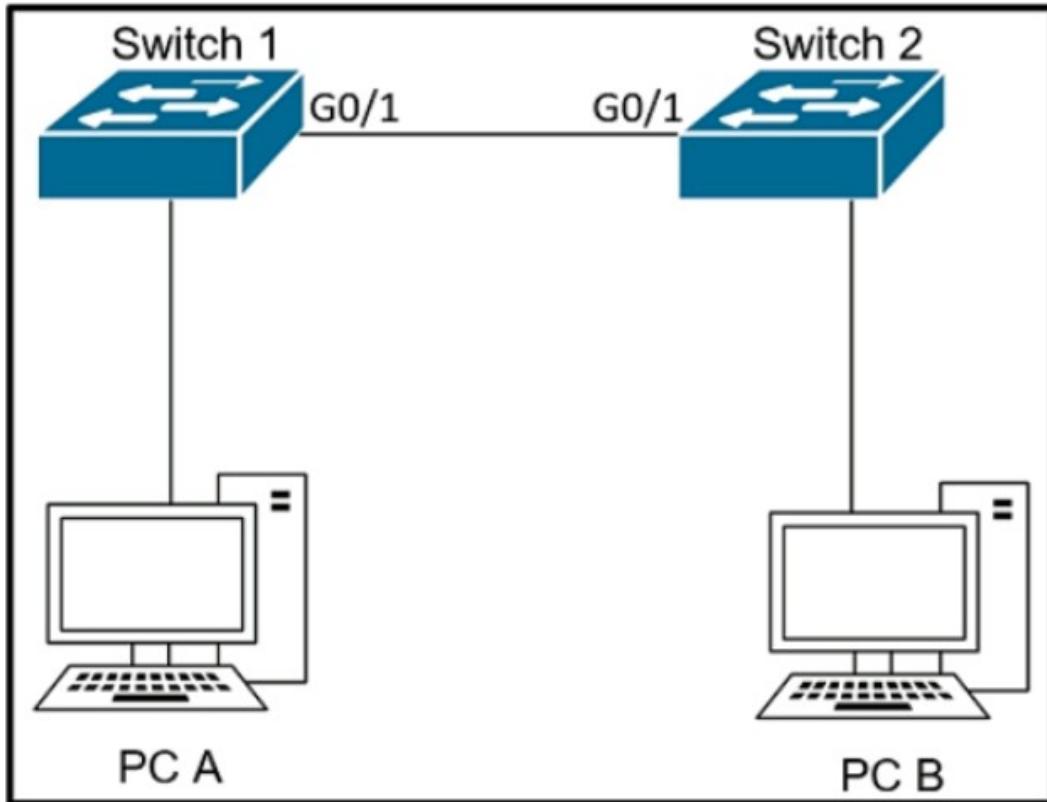


**Answer:**



**Question No : 69 - (Topic 1)**

Refer to the exhibit.



The network administrator wants VLAN 67 traffic to be untagged between Switch 1 and Switch 2 while all other VLANs are to remain tagged.

Which command accomplishes this task?

- A. switchport access vlan 67
- B. switchport trunk allowed vlan 67
- C. switchport private-vlan association host 67
- D. switchport trunk native vlan 67

**Answer: D**

**Question No : 70 - (Topic 1)**

In software defined architectures, which plane is distributed and responsible for traffic forwarding?

- A. management plane
- B. control plane
- C. policy plane

D. data plane

**Answer: D**

**Question No : 71 - (Topic 1)**

What is a DHCP client?

- A. a workstation that requests a domain name associated with its IP address
- B. a host that is configured to request an IP address automatically
- C. a server that dynamically assigns IP addresses to hosts.
- D. a router that statically assigns IP addresses to hosts.

**Answer: B**

**Question No : 72 - (Topic 1)**

What are two functions of a Layer 2 switch? (Choose two)

- A. acts as a central point for association and authentication servers
- B. selects the best route between networks on a WAN
- C. moves packets within a VLAN
- D. moves packets between different VLANs
- E. makes forwarding decisions based on the MAC address of a packet

**Answer: A,E**

**Question No : 73 - (Topic 1)**

What is the function of a controller in controller-based networking?

- A. It serves as the centralized management point of an SDN architecture.
- B. It centralizes the data plane for the network.
- C. It is the card on a core router that maintains all routing decisions for a campus.
- D. It is a pair of core routers that maintain all routing decisions for a campus

**Answer: A**

**Question No : 74 - (Topic 1)**

Which technology is appropriate for communication between an SDN controller and applications running over the network?

- A. OpenFlow
- B. REST API
- C. NETCONF
- D. Southbound API

**Answer: B**

**Question No : 75 - (Topic 1)**

Which type of address is the public IP address of a NAT device?

- A. outside global
- B. outsdwde local
- C. inside global
- D. insride local
- E. outside public
- F. inside public

**Answer: C**

**Explanation:** NAT use four types of addresses:  
\* Inside local address – The IP address assigned to a host on the inside network. The address is usually not an IP address assigned by the Internet Network Information Center (InterNIC) or service provider. This address is likely to be an RFC 1918 private address.  
\* Inside global address – A legitimate IP address assigned by the InterNIC or service provider that represents one or more inside local IP addresses to the outside world.  
\* Outside local address – The IP address of an outside host as it is known to the hosts on the inside network.  
\* Outside global address – The IP address assigned to a host on the outside network. The owner of the host assigns this address.

**Question No : 76 - (Topic 1)**

Which state does the switch port move to when PortFast is enabled?

- A. learning
- B. forwarding
- C. blocking
- D. listening

**Answer: B**

**Question No : 77 - (Topic 1)**

Which configuration ensures that the switch is always the root for VLAN 750?

- A. Switch(config)#spanning-tree vlan 750 priority 38003685
- B. Switch(config)#spanning-tree vlan 750 root primary
- C. Switch(config)#spanning-tree vlan 750 priority 614440
- D. Switch(config)#spanning-tree vlan 750 priority 0

**Answer: D**

**Explanation:** Although the spanning-tree vlan 10 root primary command will ensure a switch will have a bridge priority value lower than other bridges introduced to the network, the spanning-tree vlan 10 priority 0 command ensures the bridge priority takes precedence over all other priorities.

**Question No : 78 - (Topic 1)**

When configuring a WLAN with WPA2 PSK in the Cisco Wireless LAN Controller GUI, which two formats are available to select? (Choose two)

- A. ASCII
- B. base64
- C. binary
- D. decimal
- E. hexadecimal

**Answer: A,E**

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b\\_cg74\\_CONSOLIDATED/b\\_cg74\\_CONSOLIDATED\\_chapter\\_01010001.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_01010001.html)

**Question No : 79 - (Topic 1)**

What is an appropriate use for private IPv4 addressing?

- A. on the public-facing interface of a firewall
- B. to allow hosts inside to communicate in both directions with hosts outside the organization
- C. on internal hosts that stream data solely to external resources
- D. on hosts that communicates only with other internal hosts

**Answer: D**

**Question No : 80 - (Topic 1)**

What are two functions of a server on a network? (Choose two)

- A. achieves redundancy by exclusively using virtual server clustering
- B. runs applications that send and retrieve data for workstations that make requests
- C. handles requests from multiple workstations at the same time
- D. runs the same operating system in order to communicate with other servers
- E. housed solely in a data center that is dedicated to a single client

**Answer: B,C**

**Question No : 81 - (Topic 1)**

How will Link Aggregation be Implemented on a Cisco Wireless LAN Controller?

- A. One functional physical port is needed to pass client traffic.
- B. The EthernetChannel must be configured in "mode active".
- C. When enabled, the WLC bandwidth drops to 500 Mbps.
- D. To pass client traffic, two or more ports must be configured.

**Answer: A**

**Explanation:** [https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-5/configuration-guide/b\\_cg75/b\\_cg75\\_chapter\\_0100010.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-5/configuration-guide/b_cg75/b_cg75_chapter_0100010.html)

**Question No : 82 - (Topic 1)**

If a notice-level messaging is sent to a syslog server, which event has occurred?

- A. A network device has restarted
- B. An ARP inspection has failed
- C. A routing instance has flapped
- D. A debug operation is running

**Answer: C**

**Explanation:** Usually no action is required when a route flaps so it generates the notification syslog level message (level 5).

**Question No : 83 - (Topic 1)**

In QoS, which prioritization method is appropriate for interactive voice and video?

- A. expedited forwarding
- B. traffic policing
- C. round-robin scheduling
- D. low-latency queuing

**Answer: D**

**Question No : 84 - (Topic 1)**

What facilitates a Telnet connection between devices by entering the device name?

- A. SNMP
- B. DNS lookup
- C. syslog
- D. NTP

**Answer: B**

**Question No : 85 - (Topic 1)**

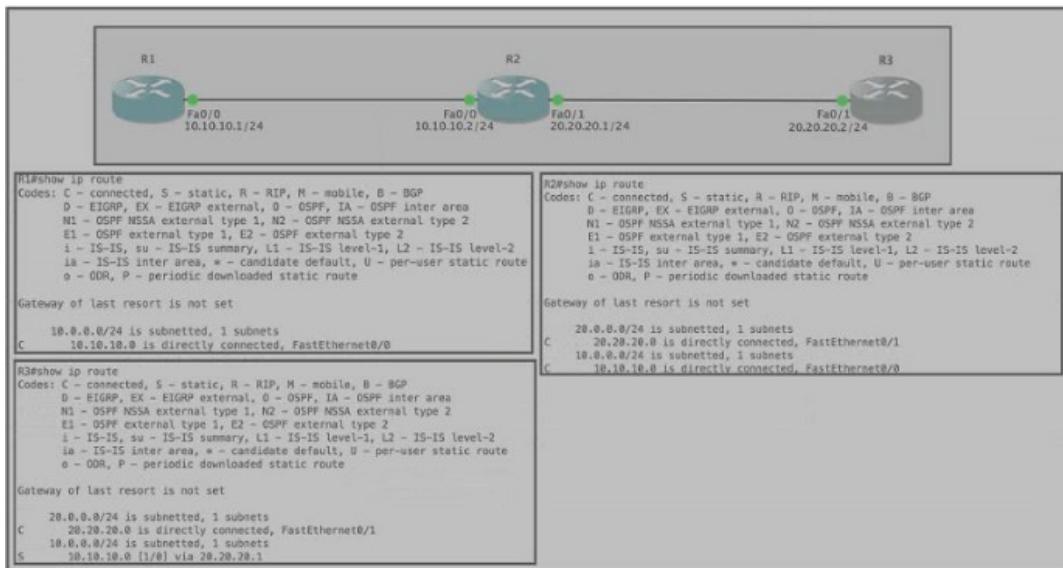
A port security violation has occurred on a switch port due to the maximum MAC address count being exceeded. Which command must be configured to increment the security-violation count and forward an SNMP trap?

- A. switchport port-security violation access
- B. switchport port-security violation protect
- C. switchport port-security violation restrict
- D. switchport port-security violation shutdown

**Answer: C**

**Explanation:** [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/25ew/configuration/guide/conf/port\\_sec.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/25ew/configuration/guide/conf/port_sec.html)

**Question No : 86 - (Topic 1)**



Refer to the exhibit Router R1 Fa0/0 is unable to ping router R3 Fa0'1. Which action must be taken in router R1 to help resolve the configuration issue?

- A. set the default network as 20.20.20.0/24
- B. set the default gateway as 20.20.20.2
- C. configure a static route with Fa0/1 as the egress interface to reach the 20.20.20.0/24 network
- D. configure a static route with 10.10.10.2 as the next hop to reach the 20.20.20.0/24 network

**Answer: D**

### Question No : 87 - (Topic 1)

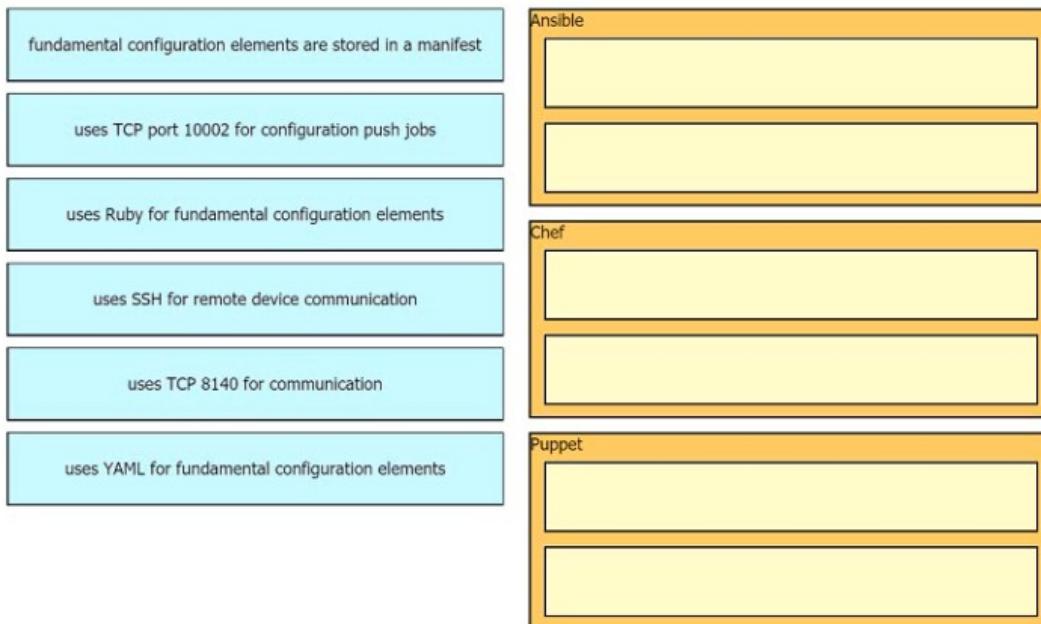
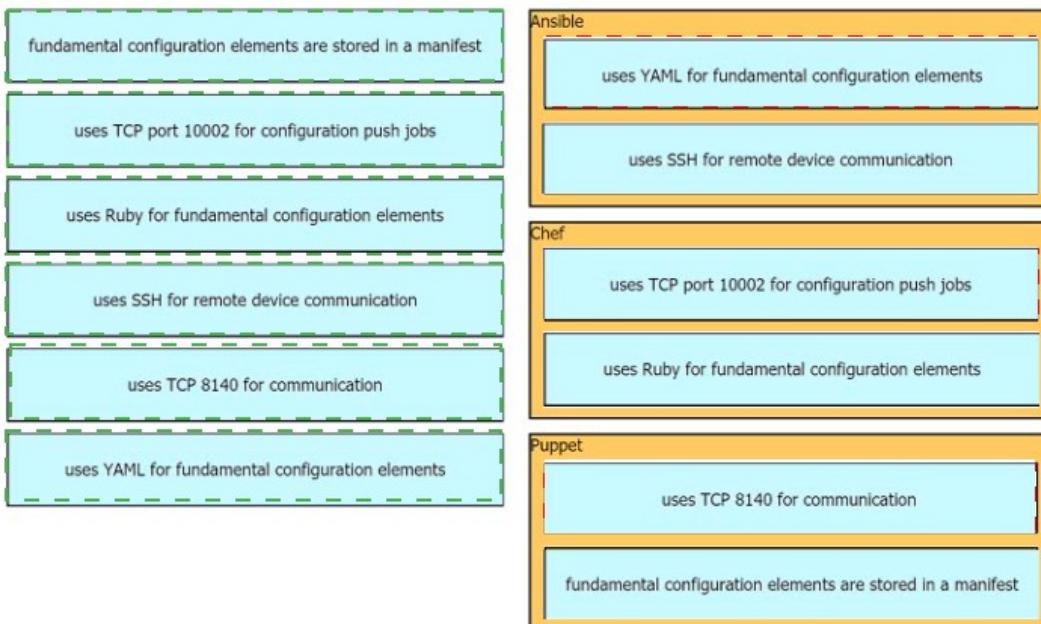
What are two improvements provided by automation for network management in an SDN environment? (Choose two)

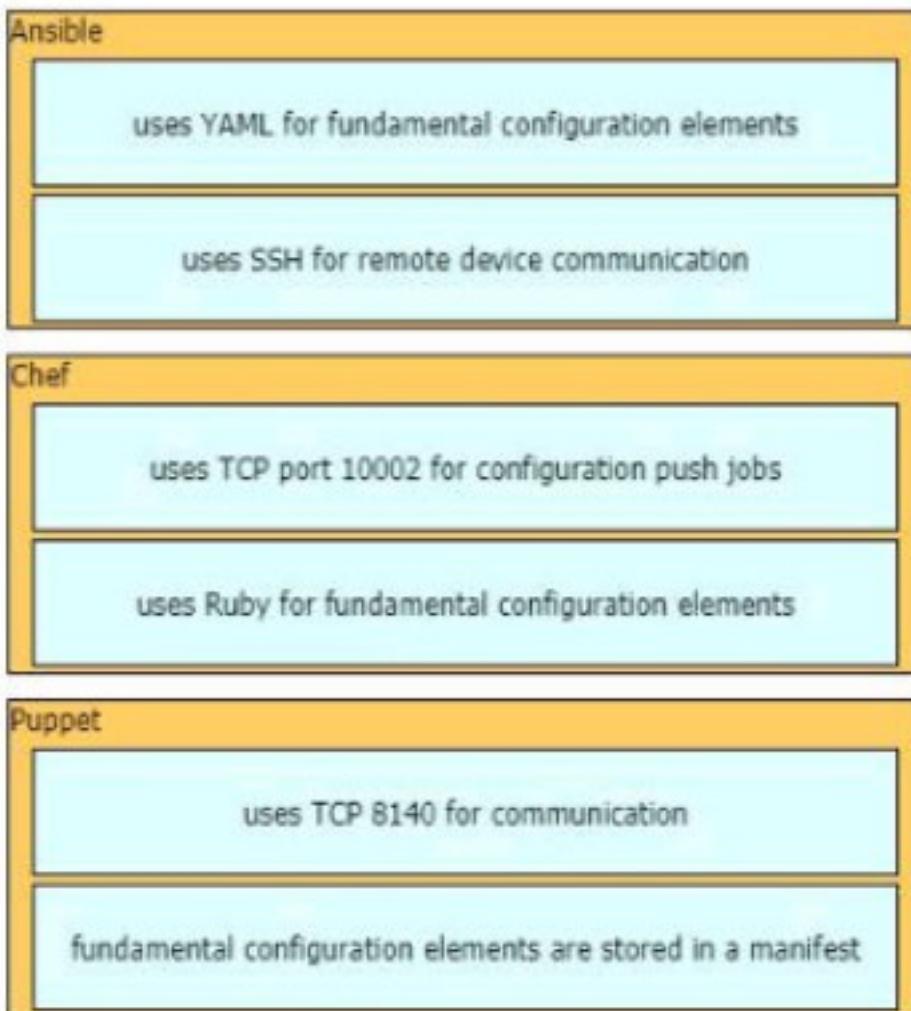
- A. Data collection and analysis tools establish a baseline for the network
- B. Artificial intelligence identifies and prevents potential design failures.
- C. Machine learning minimizes the overall error rate when automating troubleshooting processes
- D. New devices are onboarded with minimal effort
- E. Proprietary Cisco APIs leverage multiple network management tools.

**Answer: B,E**

**Question No : 88 DRAG DROP - (Topic 1)**

Drag drop the descriptions from the left onto the correct configuration-management technologies on the right.

**Answer:****Explanation:**



The focus of Ansible is to be streamlined and fast, and to require no node agent installation.

Thus, Ansible performs all functions over SSH. Ansible is built on Python, in contrast to the Ruby foundation of Puppet and Chef.

TCP port 10002 is the command port. It may be configured in the Chef Push Jobs configuration file .

This port allows Chef Push Jobs clients to communicate with the Chef Push Jobs server.

Puppet is an open-source configuration management solution, which is built with Ruby and offers custom Domain Specific Language (DSL) and Embedded Ruby (ERB) templates to create custom Puppet language files, offering a declarative-paradigm programming approach.

A Puppet piece of code is called a manifest, and is a file with .pp extension.

What is an advantage of Cisco DNA Center versus traditional campus device management?

- A. It supports numerous extensibility options including cross-domain adapters and third-party SDKs.
- B. It supports high availability for management functions when operating in cluster mode.
- C. It enables easy autodiscovery of network elements in a brownfield deployment.
- D. It is designed primarily to provide network assurance.

**Answer: A**

**Question No : 90 - (Topic 1)**

Which two encoding methods are supported by REST APIs? (Choose two)

- A. YAML
- B. JSON
- C. EBCDIC
- D. SGML
- E. XML

**Answer: B,E**

**Explanation:** [https://www.cisco.com/c/en/us/td/docs/switches/datacenter/aci/apic/sw/2-x/rest\\_cfg/2\\_1\\_x/b\\_Cisco\\_APIC\\_REST\\_API\\_Configuration\\_Guide/b\\_Cisco\\_APIC\\_REST\\_API\\_Configuration\\_Guide\\_chapter\\_01.html](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/aci/apic/sw/2-x/rest_cfg/2_1_x/b_Cisco_APIC_REST_API_Configuration_Guide/b_Cisco_APIC_REST_API_Configuration_Guide_chapter_01.html)

**Reference:**

[https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus1000/sw/5\\_x/rest\\_api\\_config/b\\_Cisco\\_N1KV\\_VMware\\_REST\\_API\\_Config\\_5x/b\\_Cisco\\_N1KV\\_VMware\\_REST\\_API\\_Config\\_5x\\_chapter\\_010.pdf](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus1000/sw/5_x/rest_api_config/b_Cisco_N1KV_VMware_REST_API_Config_5x/b_Cisco_N1KV_VMware_REST_API_Config_5x_chapter_010.pdf)

The Application Policy Infrastructure Controller (APIC) REST API is a programmatic interface that uses REST architecture. The API accepts and returns HTTP (not enabled by default) or HTTPS messages that contain JavaScript Object Notation (JSON) or Extensible Markup Language (XML) documents.

**Question No : 91 - (Topic 1)**

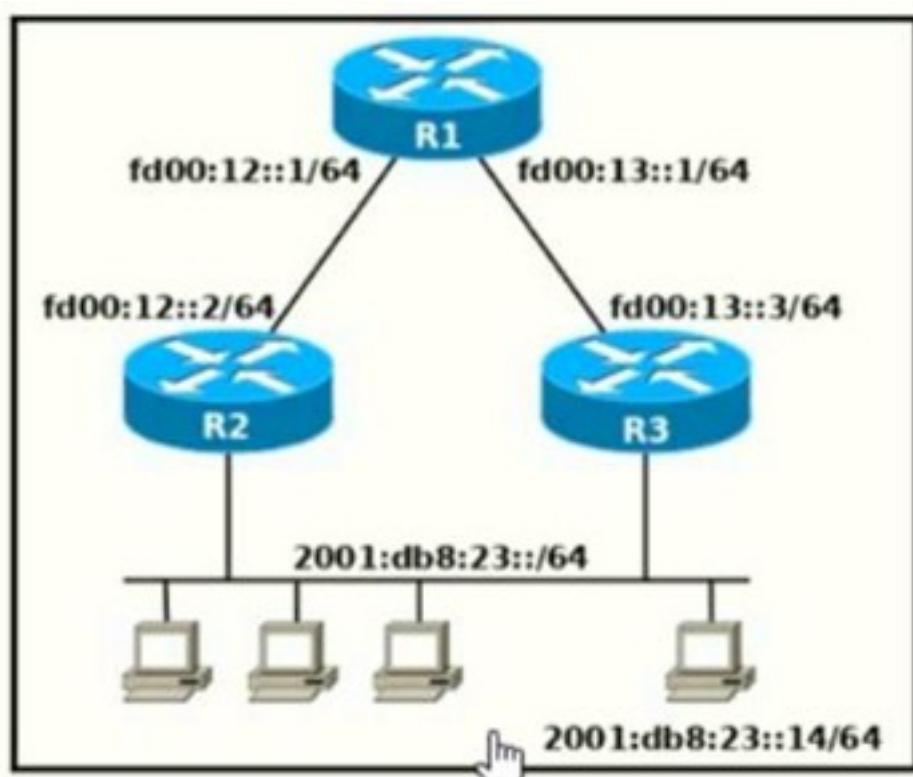
what occurs to frames during the process of frame flooding?

- A. Frames are sent to every port on the switch in the same VLAN except from the originating port
- B. Frames are sent to every port on the switch that has a matching entry in the MAC address table.
- C. Frames are sent to all ports, including those that are assigned to other VLANs.
- D. Frames are sent to every port on the switch in the same VLAN.

**Answer: A**

**Question No : 92 - (Topic 1)**

Refer to the exhibit.



Which two commands, when configured on router R1, fulfill these requirements? (Choose two.)

Packets towards the entire network 2001:db8:2::/64 must be forwarded through router R2.

Packets toward host 2001:db8:23::14 preferably must be forwarded through R3.

- A. Ipv6 route 2001:db8:23::/128 fd00:12::2
- B. Ipv6 route 2001:db8:23::14/128 fd00:13::3

- C. Ipv6 route 2001:db8:23::14/64 fd00:12::2
- D. Ipv6 route 2001:db8:23::/64 fd00:12::2
- E. Ipv6 route 2001:db8:23::14/64 fd00:12::2 200

**Answer: D,E**

**Question No : 93 - (Topic 1)**

Which WAN access technology is preferred for a small office / home office architecture?

- A. broadband cable access
- B. frame-relay packet switching
- C. dedicated point-to-point leased line
- D. Integrated Services Digital Network switching.

**Answer: A**

**Question No : 94 - (Topic 1)**

What causes a port to be placed in the err-disabled state?

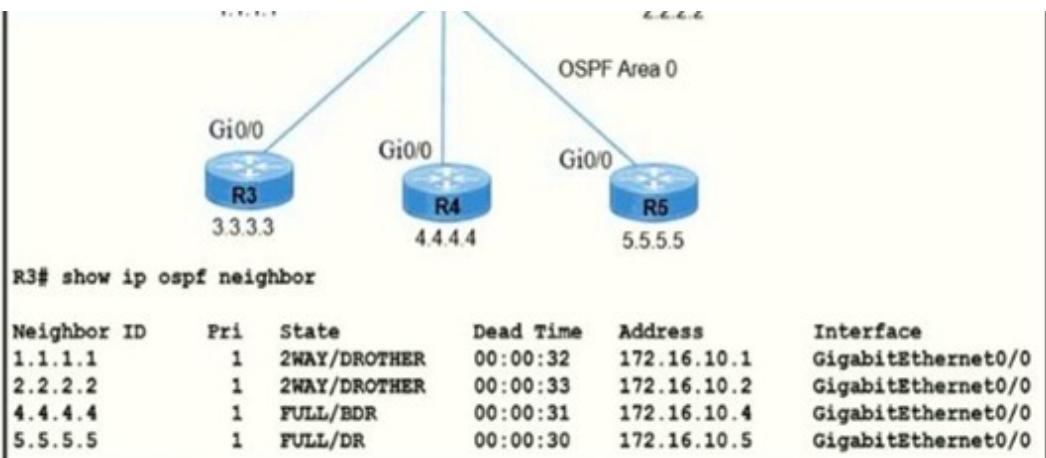
- A. latency
- B. port security violation
- C. shutdown command issued on the port
- D. nothing plugged into the port

**Answer: B**

**Explanation:** This mode is the default violation mode; when in this mode, the switch will automatically force the switchport into an error disabled (err-disable) state when a violation occurs. While in this state, the switchport forwards no traffic. The switchport can be brought out of this error disabled state by issuing the errdisable recovery cause CLI command or by disabling and reenabling the switchport.

**Question No : 95 - (Topic 1)**

Refer to the exhibit.



R5 is the current DR on the network, and R4 is the BDR. Their interfaces are flapping, so a network engineer wants the OSPF network to elect a different DR and BDR. Which set of configurations must the engineer implement?

A)

```

R4(config)#interface gi0/0
R4(config-if)#ip ospf priority 20
R5(config)#interface gi0/0
R5(config-if)#ip ospf priority 10

```

B)

```

R2(config)#interface gi0/0
R2(config-if)#ip ospf priority 259
R3(config)#interface gi0/0
R3(config-if)#ip ospf priority 256

```

C)

```

R5(config)#interface gi0/0
R5(config-if)#ip ospf priority 120
R4(config)#interface gi0/0
R4(config-if)#ip ospf priority 110

```

D)

```

R3(config)#interface gi0/0
R3(config-if)#ip ospf priority 255
R2(config)#interface gi0/0
R2(config-if)#ip ospf priority 240

```

- A. Option  
B. Option

- C. Option
- D. Option

**Answer: D**

**Question No : 96 - (Topic 1)**

An organization has decided to start using cloud-provided services. Which cloud service allows the organization to install its own operating system on a virtual machine?

- A. platform-as-a-service
- B. software-as-a-service
- C. network-as-a-service
- D. infrastructure-as-a-service

**Answer: B**

**Explanation:** Below are the 3 cloud supporting services cloud providers provide to customer:

- + SaaS (Software as a Service): SaaS uses the web to deliver applications that are managed by a thirdparty vendor and whose interface is accessed on the clients' side. Most SaaS applications can be run directly from a web browser without any downloads or installations required, although some require plugins.
  - + PaaS (Platform as a Service): are used for applications, and other development, while providing cloud components to software. What developers gain with PaaS is a framework they can build upon to develop or customize applications. PaaS makes the development, testing, and deployment of applications quick, simple, and cost-effective. With this technology, enterprise operations, or a thirdparty provider, can manage OSes, virtualization, servers, storage, networking, and the PaaS software itself. Developers, however, manage the applications.
  - + IaaS (Infrastructure as a Service): self-service models for accessing, monitoring, and managing remote datacenter infrastructures, such as compute (virtualized or bare metal), storage, networking, and networking services (e.g. firewalls). Instead of having to purchase hardware outright, users can purchase IaaS based on consumption, similar to electricity or other utility billing.
- In general, IaaS provides hardware so that an organization can install their own operating system.

**Question No : 97 - (Topic 1)**

When configuring IPv6 on an interface, which two IPv6 multicast groups are joined?  
(Choose two)

- A. 2000::/3
- B. 2002::5
- C. FC00::/7
- D. FF02::1
- E. FF02::2

**Answer: D,E**

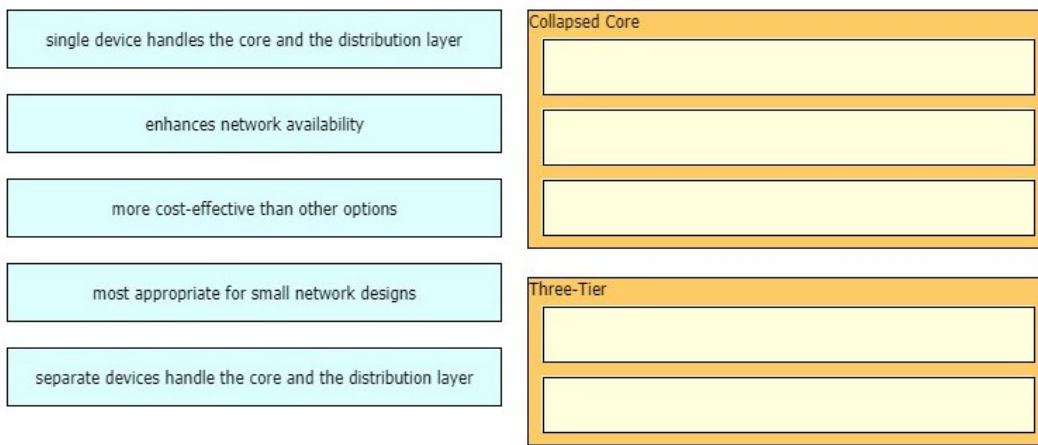
Reference:

<https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipv6/configuration/xe-3s/ipv6-xe-36s-book/ip6-multicast.html>

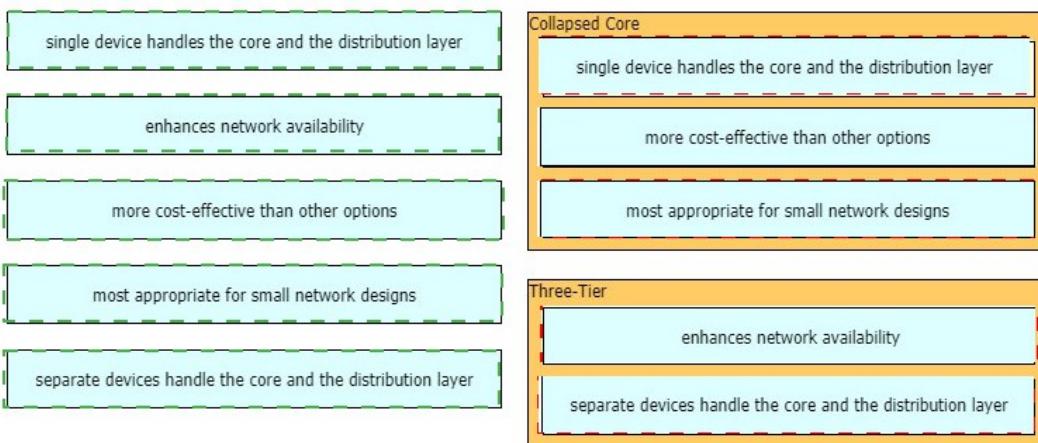
When an interface is configured with IPv6 address, it automatically joins the all nodes (FF02::1) and solicited-node (FF02::1:FFxx:xxxx) multicast groups. The all-node group is used to communicate with all interfaces on the local link, and the solicited-nodes multicast group is required for link-layer address resolution. Routers also join a third multicast group, the all-routers group (FF02::2).

**Question No : 98 DRAG DROP - (Topic 1)**

Drag and drop the characteristics of network architectures from the left onto the type of architecture on the right.



**Answer:**



**Question No : 99 - (Topic 1)**

What is recommended for the wireless infrastructure design of an organization?

- A. group access points together to increase throughput on a given channel
- B. configure the first three access points are configured to use Channels 1, 6, and 11
- C. include at least two access points on nonoverlapping channels to support load balancing
- D. assign physically adjacent access points to the same Wi-Fi channel

**Answer: B**

**Question No : 100 - (Topic 1)**

What is a benefit of VRRP?

- A. It provides traffic load balancing to destinations that are more than two hops from the source.
- B. It provides the default gateway redundancy on a LAN using two or more routers.
- C. It allows neighbors to share routing table information between each other.
- D. It prevents loops in a Layer 2 LAN by forwarding all traffic to a root bridge, which then makes the final forwarding decision.

**Answer: B**

**Question No : 101 - (Topic 1)**

Which state does the switch port move to when PortFast is enabled?

- A. forwarding
- B. listening
- C. blocking
- D. learning

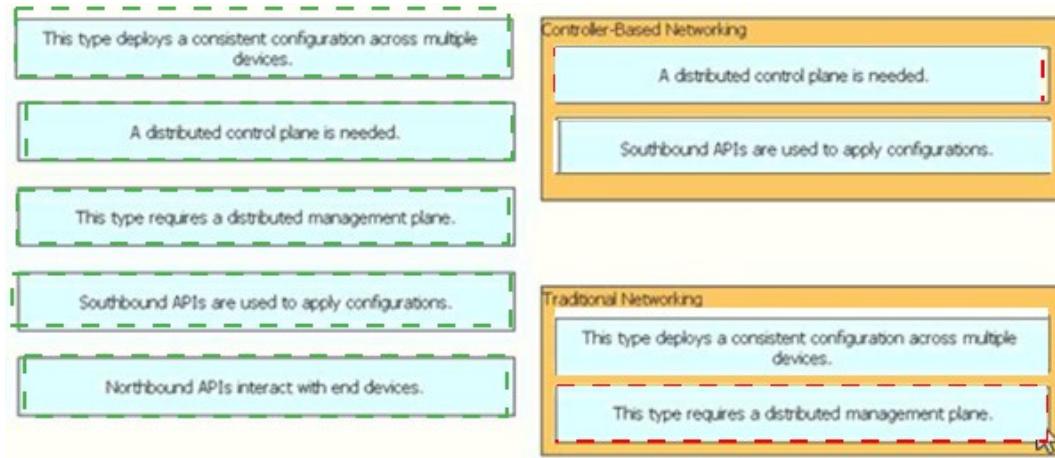
**Answer: A**

**Question No : 102 DRAG DROP - (Topic 1)**

Drag and drop the statement about networking from the left into the Corresponding networking types on the right. Not all statements are used.



**Answer:**



**Question No : 103 - (Topic 1)**

What are two fundamentals of virtualization? (choose two)

- A. The environment must be configured with one hypervisor that serves solely as a network manager to monitor SNMP traffic
- B. It allows logical network devices to move traffic between virtual machines and the rest of the physical network
- C. It allows multiple operating systems and applications to run independently on one physical server.
- D. It allows a physical router to directly connect NICs from each virtual machine into the network
- E. It requires that some servers, virtual machines and network gear reside on the Internet

**Answer: B,C**

**Question No : 104 - (Topic 1)**

How are VLAN hopping attacks mitigated?

- A. enable dynamic ARP inspection
- B. manually implement trunk ports and disable DTP
- C. activate all ports and place in the default VLAN
- D. configure extended VLANs

**Answer: B**

**Question No : 105 - (Topic 1)**

A network administrator is asked to configure VLANS 2, 3 and 4 for a new implementation. Some ports must be assigned to the new VLANS with unused remaining. Which action should be taken for the unused ports?

- A. configure port in the native VLAN
- B. configure ports in a black hole VLAN
- C. configure in a nondefault native VLAN
- D. configure ports as access ports

**Answer: B**

**Question No : 106 - (Topic 1)**

Which HTTP status code is returned after a successful REST API request?

- A. 200
- B. 301
- C. 404
- D. 500

**Answer: A**

**Question No : 107 DRAG DROP - (Topic 1)**

Drag and drop the IPv4 network subnets from the left onto the correct usable host ranges on the right

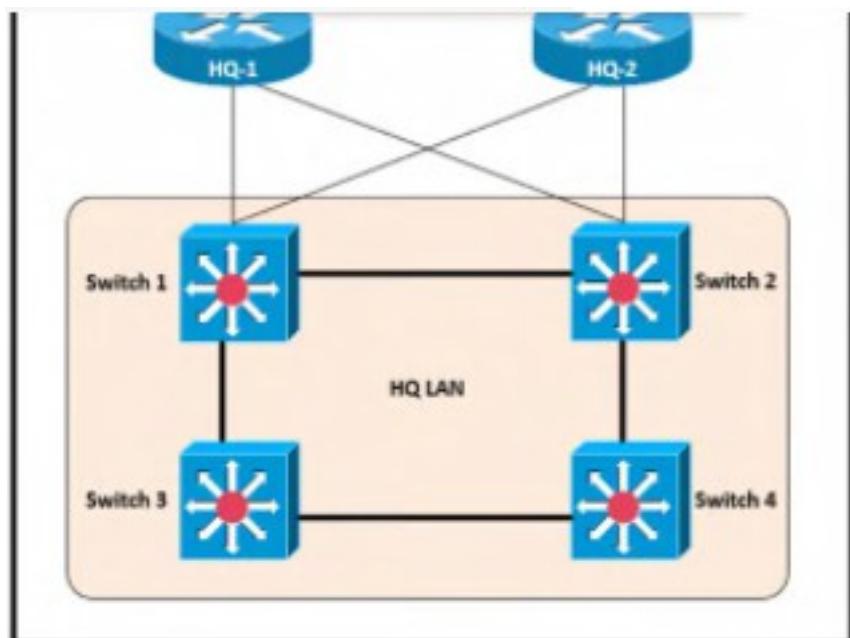
172.28.228.144/18	172.28.228.1 - 172.28.229.254
172.28.228.144/21	172.28.224.1 - 172.28.231.254
172.28.228.144/23	172.28.228.129 - 172.28.228.254
172.28.228.144/25	172.28.228.145 - 172.28.228.150
172.28.228.144/29	172.28.192.1 - 172.28.255.254

Answer:

172.28.228.144/18	172.28.228.144/23
172.28.228.144/21	172.28.228.144/21
172.28.228.144/23	172.28.228.144/25
172.28.228.144/25	172.28.228.144/29
172.28.228.144/29	172.28.228.144/18

**Question No : 108 - (Topic 1)**

Refer to the exhibit.



After the election process what is the root bridge in the HQ LAN?

- Switch 1: 0C:E0:38:58:15:77
- Switch 2: 0C:0E:15:22:1A:61
- Switch 3: 0C:0E:15:1D:3C:9A
- Switch 4: 0C:E0:19:A1:4D:16

A. Switch 1

- B. Switch 2
- C. Switch 3
- D. Switch 4

**Answer: C**

**Explanation:** The root bridge is determined by the lowest bridge ID, which consists of the priority value and the MAC address. Because the priority values of all of the switches are not available, the MAC address is used to determine the root bridge. Because S3 has the lowest MAC address, S3 becomes the root bridge.

**Question No : 109 - (Topic 1)**

Which virtual MAC address is used by VRRP group 1?

- A. 0050.0c05.ad81
- B. 0007.c061.bc01
- C. 0000.5E00.0101
- D. 0500.3976.6401

**Answer: C**

**Explanation:** The virtual router MAC address associated with a virtual router is an IEEE 802 MAC Address in the following format:

00-00-5E-00-01-{VRID} (in hex in internet standard bit-order)

**Question No : 110 - (Topic 1)**

An engineer must configure a/30 subnet between two routers. Which usable IP address and subnet mask combination meets this criteria?

```
interface e0/0
description to HQ-A371:19452
ip address 209.165.201.2 255.255.255.252
```

```
interface e0/0
description to HQ-A371:19452
ip address 10.2.1.3 255.255.255.252
```

```
interface e0/0
description to HQ-A371:19452
ip address 172.16.1.4 255.255.255.248
```

```
interface e0/0
description to HQ-A371:19452
ip address 192.168.1.1 255.255.255.248
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: A**

**Question No : 111 - (Topic 1)**

What does a router do when configured with the default DNS lookup settings, and a URL is entered on the CLI?

- A. initiates a ping request to the URL
- B. prompts the user to specify the desired IP address
- C. continuously attempts to resolve the URL until the command is cancelled
- D. sends a broadcast message in an attempt to resolve the URL

**Answer: D**

**Question No : 112 - (Topic 1)**

What mechanism carries multicast traffic between remote sites and supports encryption?

- A. ISATAP
- B. GRE over IPsec
- C. IPsec over ISATAP
- D. GRE

**Answer: B**

**Question No : 113 - (Topic 1)**

Refer to the exhibit.

```
import ncclient

with ncclient.manager.connect(host='192.168.1.1', port=830, username='root',
                               password='teset123!', allow_agent=False) as m:
    print(m.get_config('running').data_xml)
```

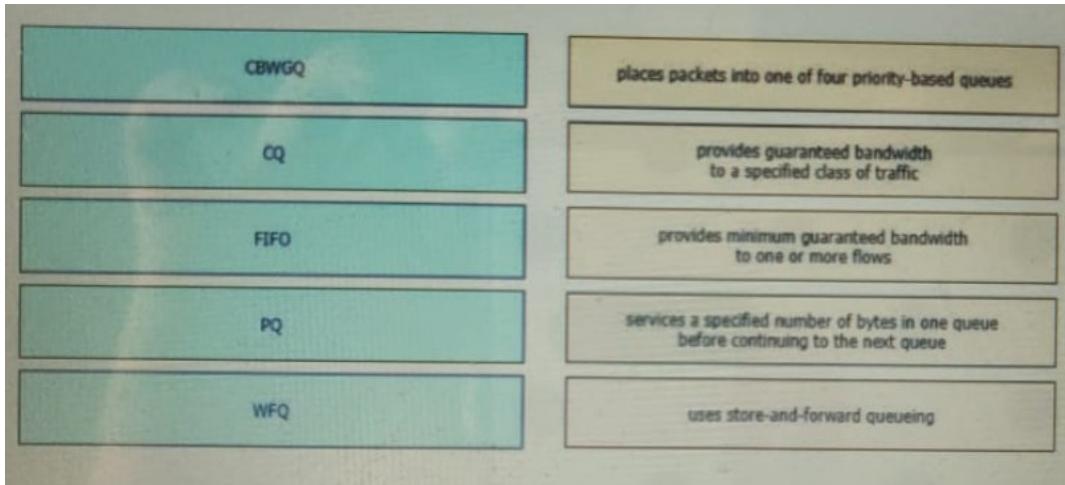
After running the code in the exhibit, which step reduces the amount of data that the NETCONF server returns to the NETCONF client, to only the interface's configuration?

- A. Use the lxml library to parse the data returned by the NETCONF server for the interface's configuration.
- B. Create an XML filter as a string and pass it to get\_config() method as an argument.
- C. Create a JSON filter as a string and pass it to the get\_config() method as an argument.
- D. Use the JSON library to parse the data returned by the NETCONF server for the interface's configuration.

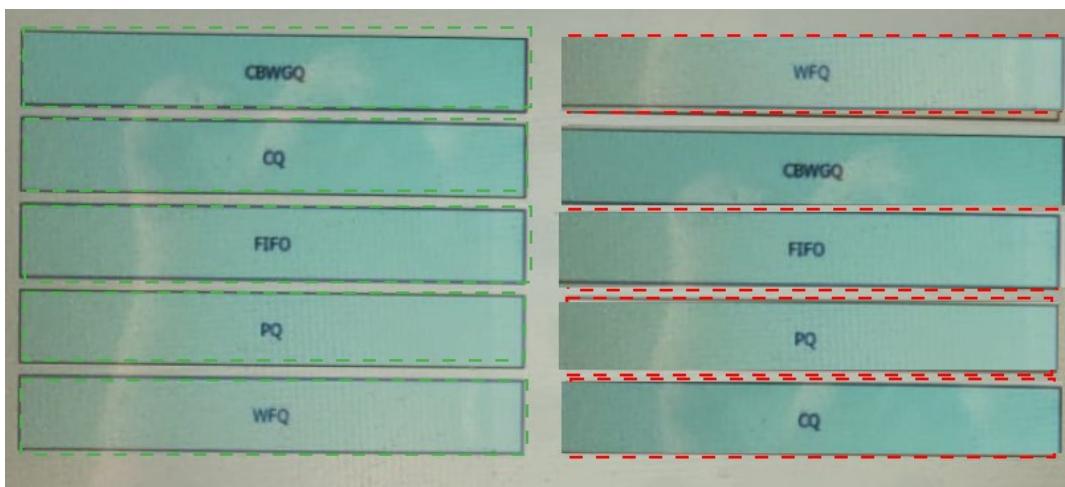
**Answer: D**

**Question No : 114 DRAG DROP - (Topic 1)**

Drag and drop the QoS congestion management terms from the left onto the description on the right.

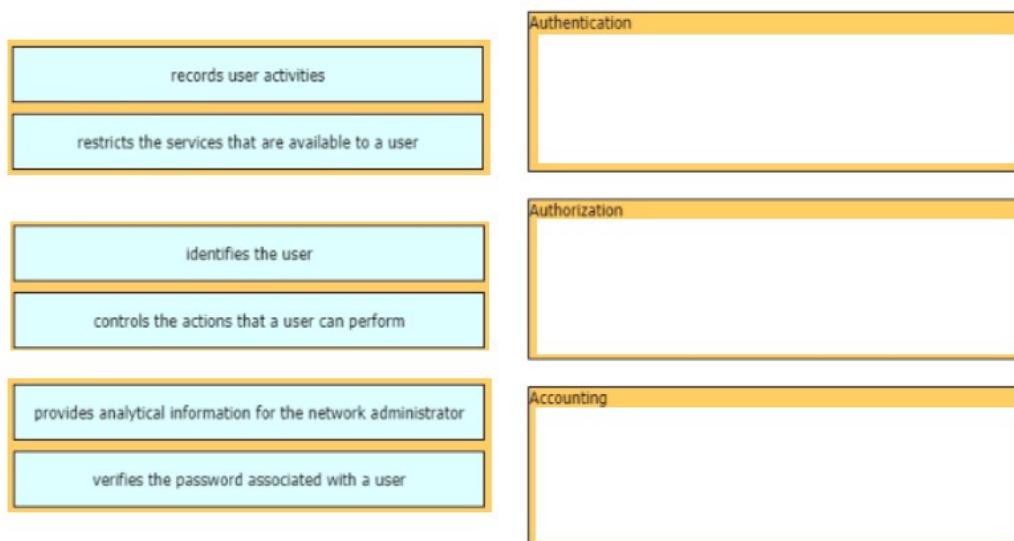


**Answer:**

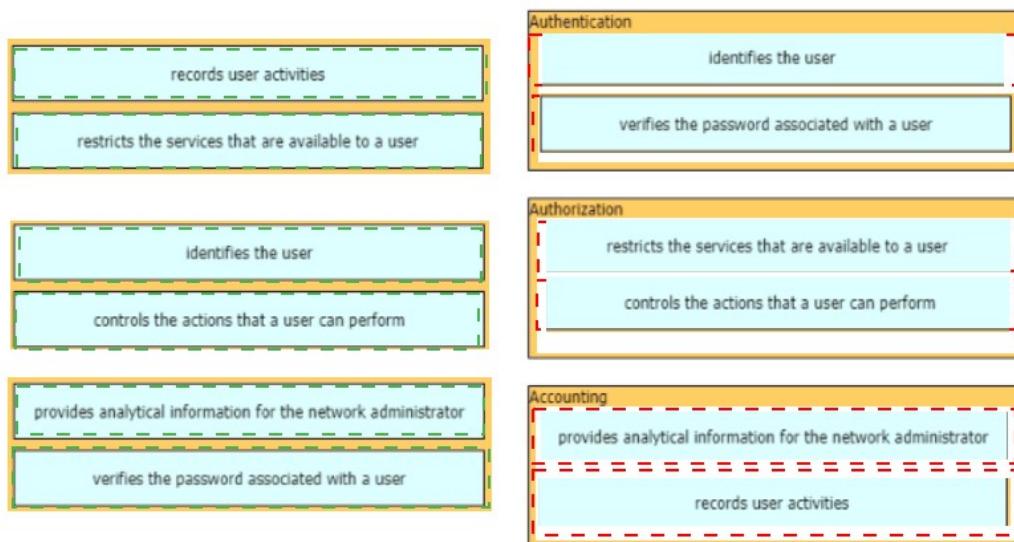


**Question No : 115 DRAG DROP - (Topic 1)**

Drag and drop the AAA functions from the left onto the correct AAA services on the right



**Answer:**



**Question No : 116 - (Topic 1)**

What is the function of a hub-and-spoke WAN topology?

- A. allows access restrictions to be implemented between subscriber sites.
- B. provides direct connections between subscribers
- C. supports Layer 2 VPNs
- D. supports application optimization

**Answer: B**

**Question No : 117 - (Topic 1)**

Which two command sequences must you configure on switch to establish a Layer 3 EtherChannel with an open-standard protocol? (Choose two )

- A. **interface GigabitEthernet0/0/1**  
**channel-group 10 mode on**
- B. **interface GigabitEthernet0/0/1**  
**channel-group 10 mode active**
- C. **interface GigabitEthernet0/0/1**  
**channel-group 10 mode auto**
- D. **interface port-channel 10**  
**switchport**  
**switchport mode trunk**
- E. **interface port-channel 10**  
**no switchport**  
**ip address 172.16.0.1.255.255.255.0**

**Answer: B,E**

**Question No : 118 - (Topic 1)**

What is a role of wireless controllers in an enterprise network?

- A. centralize the management of access points in an enterprise network
- B. support standalone or controller-based architectures
- C. serve as the first line of defense in an enterprise network
- D. provide secure user logins to devices on the network.

**Answer: A**

**Question No : 119 - (Topic 1)**

What is the difference regarding reliability and communication type between TCP and UDP?

- A. TCP is reliable and is a connection-oriented protocol UDP is not reliable and is a

connectionless protocol

- B. TCP is not reliable and is a connection-oriented protocol; UDP is reliable and is a connectionless protocol
- C. TCP is not reliable and is a connectionless protocol; UDP is reliable and is a connection-oriented protocol
- D. TCP is reliable and is a connectionless protocol; UDP is not reliable and is a connection-oriented protocol

**Answer: A**

**Question No : 120 - (Topic 1)**

What protocol allows an engineer to back up 20 network router configurations globally while using the copy function?

- A. SMTP
- B. SNMP
- C. TCP
- D. FTP

**Answer: B**

**Question No : 121 - (Topic 1)**

An engineer is asked to protect unused ports that are configured in the default VLAN on a switch.

Which two steps will fulfill the request? (Choose two)

- A. Configure the ports in an EtherChannel.
- B. Administratively shut down the ports
- C. Configure the port type as access and place in VLAN 99
- D. Configure the ports as trunk ports
- E. Enable the Cisco Discovery Protocol

**Answer: B,C**

**Question No : 122 - (Topic 1)**

Refer to the exhibit.

R1:	SW1:	SW2:
<pre>interface Ethernet0/0 no ip address !</pre>	<pre>interface Ethernet0/0 switchport trunk encapsulation dot1q switchport mode trunk ! interface Ethernet0/1 switchport trunk allowed vlan 10 switchport trunk encapsulation dot1q switchport mode trunk</pre>	<pre>interface Ethernet0/1 switchport trunk encapsulation dot1q switchport mode trunk ! interface Ethernet0/2 switchport access vlan 20 switchport mode access</pre>

What commands are needed to add a subinterface to Ethernet0/0 on R1 to allow for VLAN 20, with IP address 10.20.20.1/24?

- A. R1(config)#interface ethernet0/0  
R1(config)#encapsulation dot1q 20  
R1(config)#ip address 10.20.20.1 255.255.255.0
- B. R1(config)#interface ethernet0/0.20  
R1(config)#encapsulation dot1q 20  
R1(config)#ip address 10.20.20.1 255.255.255.0
- C. R1(config)#interface ethernet0/0.20  
R1(config)#ip address 10.20.20.1 255.255.255.0
- D. R1(config)#interface ethernet0/0  
R1(config)#ip address 10.20.20.1 255.255.255.0

**Answer: B**

**Question No : 123 - (Topic 1)**

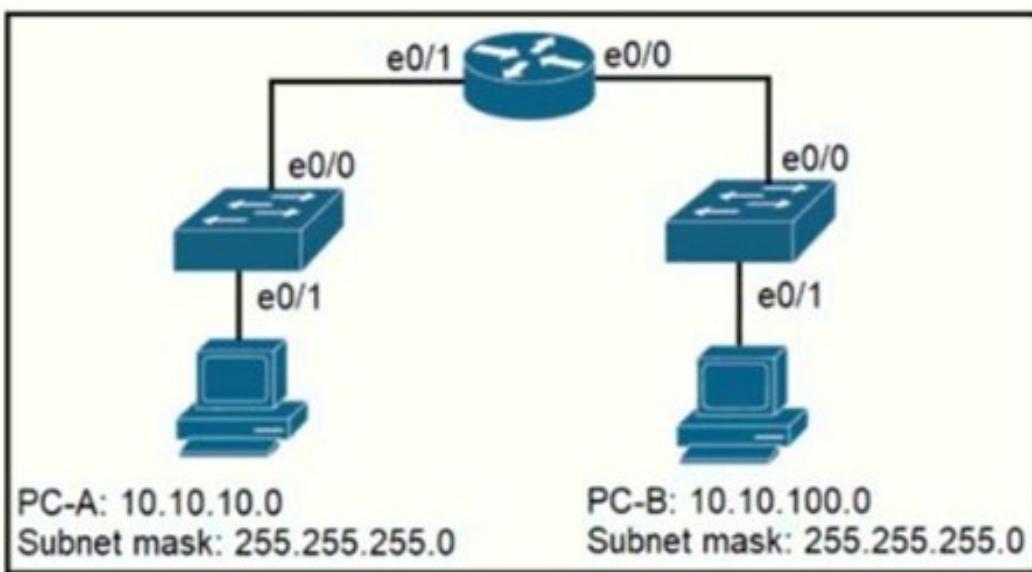
What is a DNS lookup operation?

- A. DNS server pings the destination to verify that it is available
- B. serves requests over destination port 53
- C. DNS server forwards the client to an alternate IP address when the primary IP is down
- D. responds to a request for IP address to domain name resolution to the DNS server

**Answer: D**

**Question No : 124 - (Topic 1)**

Refer to the exhibit.



When PC-A sends traffic to PC-B, which network component is in charge of receiving the packet from PC-A verifying the IP addresses, and forwarding the packet to PC-B?

- A. Layer 2 switch
- B. Router
- C. Load balancer
- D. firewall

**Answer: B**

**Explanation:** PC-A and PC-B are not in the same network. Switches send traffic in layer 2 and within the same VLA while routers route traffic to different subnet and at layer 3.

**Question No : 125 - (Topic 1)**

What is a benefit of using a Cisco Wireless LAN Controller?

- A. Central AP management requires more complex configurations
- B. Unique SSIDs cannot use the same authentication method
- C. It supports autonomous and lightweight APs
- D. It eliminates the need to configure each access point individually

**Answer: D**

**Question No : 126 - (Topic 1)**

What must be considered when using 802.11 ta?

- A. It is compatible with 802.11b- and 802.11-compliant wireless devices
- B. It is used in place of 802.11b/g when many nonoverlapping channels are required
- C. It is susceptible to interference from 2.4 GHz devices such as microwave ovens.
- D. It is chosen over 802.11b/g when a lower-cost solution is necessary

**Answer: A**

**Question No : 127 - (Topic 1)**

What is the primary purpose of a First Hop Redundancy Protocol?

- A. It allows directly connected neighbors to share configuration information.
- B. It allows a router to use bridge priorities to create multiple loop-free paths to a single destination.
- C. It reduces routing failures by allowing Layer 3 load balancing between OSPF neighbors that have the same link metric.
- D. It reduces routing failures by allowing more than one router to represent itself, as the default gateway of a network.

**Answer: D**

**Question No : 128 - (Topic 1)**

Which network action occurs within the data plane?

- A. compare the destination IP address to the IP routing table.
- B. run routing protocols (OSPF, EIGRP, RIP, BGP)
- C. make a configuration change from an incoming NETCONF RPC
- D. reply to an incoming ICMP echo request

**Answer: A**

**Question No : 129 - (Topic 1)**

Which two events occur automatically when a device is added to Cisco DNA Center?  
(Choose two.)

- A. The device is assigned to the Global site.
- B. The device is placed into the Unmanaged state.
- C. The device is placed into the Provisioned state.
- D. The device is placed into the Managed state.
- E. The device is assigned to the Local site.

**Answer: A,B**

**Question No : 130 - (Topic 1)**

When a switch receives a frame for a known destination MAC address, how is the frame handled?

- A. sent to the port identified for the known MAC address
- B. broadcast to all ports
- C. forwarded to the first available port
- D. flooded to all ports except the one from which it originated

**Answer: A**

**Question No : 131 - (Topic 1)**

What does physical access control regulate?

- A. access to specific networks based on business function
- B. access to servers to prevent malicious activity
- C. access to computer networks and file systems
- D. access to networking equipment and facilities

**Answer: D**

**Question No : 132 - (Topic 1)**

Router R1 must send all traffic without a matching routing-table entry to 192.168.1.1. Which

configuration accomplishes this task?

- R1#Config t  
R1(config)#ip routing  
R1(config)#ip route default-route 192.168.1.1
- R1#Config t  
R1(config)#ip routing  
R1(config)#ip route 192.168.1.1 0.0.0.0 0.0.0.0
- R1#Config t  
R1(config)#ip routing  
R1(config)#ip route 0.0.0.0 0.0.0.0 192.168.1.1
- R1#Config t  
R1(config)#ip routing  
R1(config)#ip default-gateway 192.168.1.1

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Question No : 133 - (Topic 1)**

What is a characteristic of cloud-based network topology?

- A. wireless connections provide the sole access method to services
- B. onsite network services are provided with physical Layer 2 and Layer 3 components
- C. services are provided by a public, private, or hybrid deployment
- D. physical workstations are configured to share resources

**Answer: A**

**Question No : 134 - (Topic 1)**

What is a characteristic of a SOHO network?

- A. connects each switch to every other switch in the network
- B. enables multiple users to share a single broadband connection
- C. provides high throughput access for 1000 or more users
- D. includes at least three tiers of devices to provide load balancing and redundancy

**Answer: B**

**Question No : 135 - (Topic 1)**

How do servers connect to the network in a virtual environment?

- A. wireless to an access point that is physically connected to the network
- B. a cable connected to a physical switch on the network
- C. a virtual switch that links to an access point that is physically connected to the network
- D. a software switch on a hypervisor that is physically connected to the network

**Answer: D**

**Question No : 136 - (Topic 1)**

How does Cisco DNA Center gather data from the network?

- A. Network devices use different services like SNMP, syslog, and streaming telemetry to send data to the controller
- B. Devices establish an iPsec tunnel to exchange data with the controller
- C. Devices use the call-home protocol to periodically send data to the controller.
- D. The Cisco CU Analyzer tool gathers data from each licensed network device and streams it to the controller.

**Answer: A**

**Question No : 137 DRAG DROP - (Topic 1)**

Drag the IPv6 DNS record types from the left onto the description on the right.

AAAA	aliases one name to another
CNAME	associates the domain serial number with its owner
NS	correlates a domain with its authoritative name servers
PTR	correlates a host name with an IP address
SOA	supports reverse name lookups

**Answer:**

AAAA	CNAME
CNAME	SOA
NS	NS
PTR	AAAA
SOA	PTR

**Explanation:**

CNAME
SOA
NS
AAAA
PTR

[https://ns1.com/resources/dns-types-records-servers-and-queries#:~:text=Address%20Mapping%20record%20\(A%20Record,a%20hostname%20to%20another%20hostname.](https://ns1.com/resources/dns-types-records-servers-and-queries#:~:text=Address%20Mapping%20record%20(A%20Record,a%20hostname%20to%20another%20hostname.)

**Question No : 138 DRAG DROP - (Topic 1)**

Drag and drop the functions of DHCP from the left onto any of the positions on the right Not all functions are used

- provides local control for network segments using a client-server scheme
- reduces the administrative burden for onboarding end users
- associates hostnames to IP addresses
- maintains an address pool
- assigns IP addresses to local hosts for a configurable lease time
- offers domain name server configuration
- uses authoritative servers for record keeping

- 1
- 2
- 3
- 4

**Answer:**

- provides local control for network segments using a client-server scheme
- reduces the administrative burden for onboarding end users
- associates hostnames to IP addresses
- maintains an address pool
- assigns IP addresses to local hosts for a configurable lease time
- offers domain name server configuration
- uses authoritative servers for record keeping

- maintains an address pool
- provides local control for network segments using a client-server scheme
- reduces the administrative burden for onboarding end users
- assigns IP addresses to local hosts for a configurable lease time

**Explanation:**

maintains an address pool

provides local control for network segments using a client-server scheme

reduces the administrative burden for onboarding end users

assigns IP addresses to local hosts  
for a configurable lease time

Graphical user interface, text, application, email

Description automatically generated

**Question No : 139 - (Topic 1)**

What occurs when overlapping Wi-Fi channels are implemented?

- A. The wireless network becomes vulnerable to unauthorized access.
- B. Wireless devices are unable to distinguish between different SSIDs
- C. Users experience poor wireless network performance.
- D. Network communications are open to eavesdropping.

**Answer: C**

**Question No : 140 - (Topic 1)**

Which device controls the forwarding of authentication requests for users when connecting to the network using a lightweight access point?

- A. TACACS server
- B. wireless access point
- C. RADIUS server
- D. wireless LAN controller

Answer: B

**Question No : 141 - (Topic 1)**

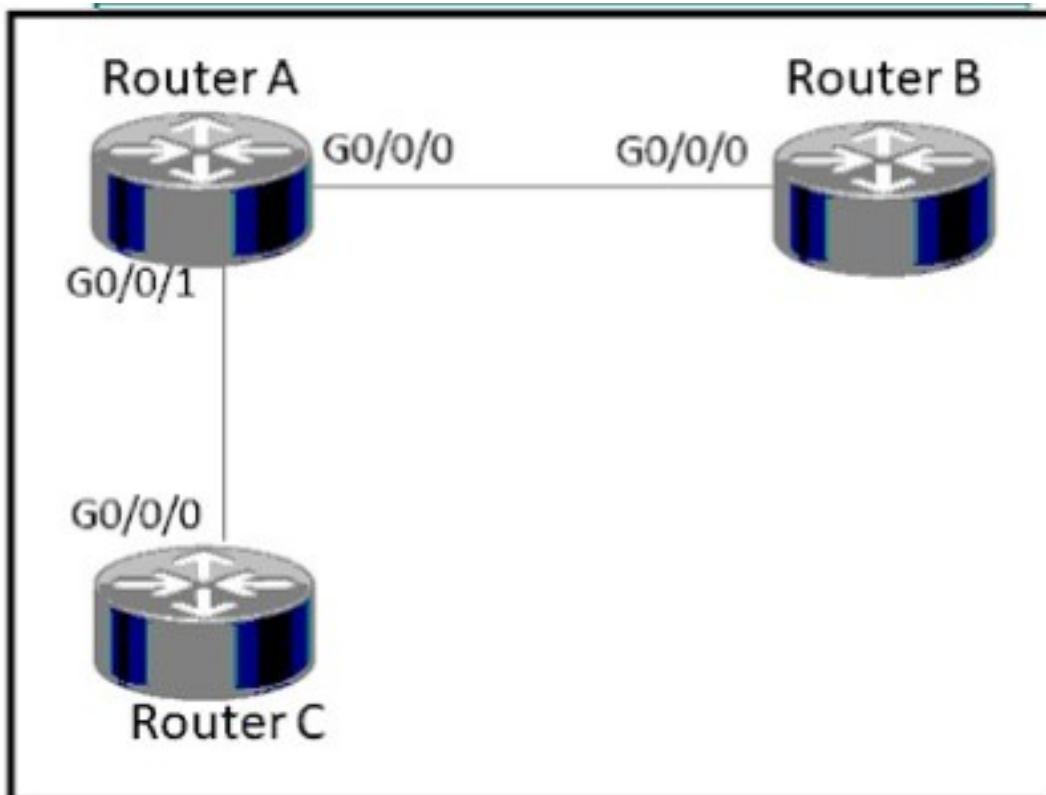
Which implementation provides the strongest encryption combination for the wireless environment?

- A. WPA2 + AES
- B. WPA + AES
- C. WEP
- D. WPA + TKIP

Answer: A

**Question No : 142 - (Topic 1)**

Refer to the exhibit.



How must router A be configured so that it only sends Cisco Discovery Protocol Information to router C?

- #config t  
Router A (config)#cdp run  
Router A (config)#interface gi0/0/0  
Router A (config-if)#no cdp enable
- #config t  
Router A (config)#cdp run  
Router A (config)#interface gi0/0/0  
Router A (config-if)#cdp enable
- #config t  
Router A (config)#cdp run  
Router A (config)#interface gi0/0/1  
Router A (config-if)#cdp enable
- #config t  
Router A (config)#no cdp run  
Router A (config)#interface gi0/0/1  
Router A (config-if)#cdp enable

- A. Option A  
B. Option B  
C. Option C  
D. Option D

**Answer: D**

**Question No : 143 - (Topic 1)**

Which feature on the Cisco Wireless LAN Controller when enabled restricts management access from specific networks?

- A. CPU ACL  
B. TACACS  
C. Flex ACL  
D. RADIUS

**Answer: A**

Reference: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wlan-security/71978-acl-wlc.html>

**Question No : 144 - (Topic 1)**

Refer to the exhibit.

```
R1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route
Gateway of last resort is 192.168.30.10 to network 0.0.0.0
  192.168.30.0/29 is subnetted, 2 subnets
C        192.168.30.0 is directly connected, FastEthernet0/0
C        192.168.30.8 is directly connected, Serial0/0.1
  192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
O  IA     192.168.10.32/28 [110/193] via 192.168.30.10, 00:18:49, Serial0/0.1
O  IA     192.168.10.0/27 [110/192] via 192.168.30.10, 00:18:49, Serial0/0.1
  192.168.20.0/30 is subnetted, 1 subnets
O  IA     192.168.20.0 [110/128] via 192.168.30.10, 00:18:49, Serial0/0.1
  192.168.50.0/32 is subnetted, 1 subnets
C        192.168.50.1 is directly connected, Loopback0
O*IA 0.0.0.0/0 [110/84] via 192.168.30.10, 00:10:36, Serial0/0.1
```

What is the metric of the route to the 192.168.10.33/28 subnet?

- A. 84
- B. 110
- C. 128
- D. 192
- E. 193

**Answer: E**

**Question No : 145 - (Topic 1)**

Which two minimum parameters must be configured on an active interface to enable OSPFv2 to operate? (Choose two)

- A. OSPF area
- B. OSPF MD5 authentication key
- C. IPv6 address
- D. OSPF process ID
- E. OSPF stub flag

**Answer: A,D**

**Question No : 146 DRAG DROP - (Topic 1)**

Drag and drop the DHCP snooping terms from the left onto the descriptions on the right.

DHCP server	list of hosts on the network that are unknown to the administrative domain
snooping binding database	network component that propagates IP addresses to hosts on the network
spurious DHCP server	internal device under the control of the network administrator
trusted	unknown DHCP server within an administrative domain
untrusted	default state of all interfaces

**Answer:**

DHCP server	snooping binding database
snooping binding database	spurious DHCP server
spurious DHCP server	trusted
trusted	DHCP server
untrusted	untrusted

**Question No : 147 - (Topic 1)**

In software-defined architecture, which place handles switching for traffic through a Cisco router?

- A. Control
- B. Management
- C. Data
- D. application

**Answer: C**

**Explanation:** Data plane—Handles all the data traffic. The basic functionality of a Cisco NX-OS device is to forward packets from one interface to another. The packets that are not meant for the switch itself are called the transit packets. These packets are handled by the data plane

**Question No : 148 - (Topic 1)**

A network analyst is tasked with configured the date and time on a router using EXEC mode. The date must be set to 12:00am. Which command should be used?

- A. Clock timezone
- B. Clock summer-time-recurring
- C. Clock summer-time date
- D. Clock set

**Answer: D**

**Question No : 149 - (Topic 1)**

Where does the configuration reside when a helper address is configured to support DHCP?

- A. on the router closest to the server
- B. on the router closest to the client
- C. on every router along the path
- D. on the switch trunk interface

**Answer: B**

**Question No : 150 - (Topic 1)**

Which global command encrypts all passwords in the running configuration?

- A. password-encrypt
- B. enable password-encryption

- C. enable secret
- D. service password-encryption

**Answer: B**

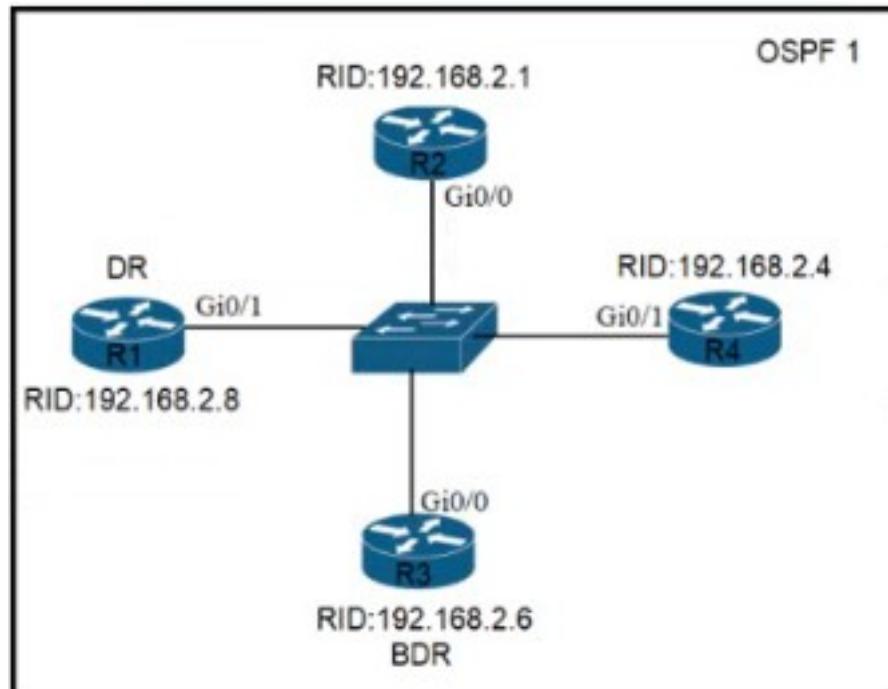
**Question No : 151 - (Topic 1)**

An engineer must configure the IPv6 address 2001:0db8:0000:0000:0700:0003:400F:572B on the serial0/0 interface of the HQ router and wants to compress it for easier configuration. Which command must be issued on the router interface?

- A. ipv6 address 2001:db8::700:3:400F:572B
- B. ipv6 address 2001:db8:0::700:3:4F:572B
- C. ipv6 address 2001:Odb8::7:3:4F:572B
- D. ipv6 address 2001::db8:0000::700:3:400F:572B

**Answer: A**

**Question No : 152 - (Topic 1)**



Refer to the exhibit. All routers in the network are configured R2 must be the DR. After the

engineer connected the devices, R1 was elected as the DR. Which command sequence must be configure on R2 to Be elected as the DR in the network?

- R2(config)#interface gi0/0  
R2(config-if)#ip ospf priority 1
- R2(config)#interface gi0/0  
R2(config-if)#ip ospf priority 100
- R2(config)#router ospf 1  
R2(config-router)#router-id 10.100.100.100
- R2(config)#router ospf 1  
R2(config-router)#router-id 192.168.2.7

- A. Option A  
B. Option B  
C. Option C  
D. Option D

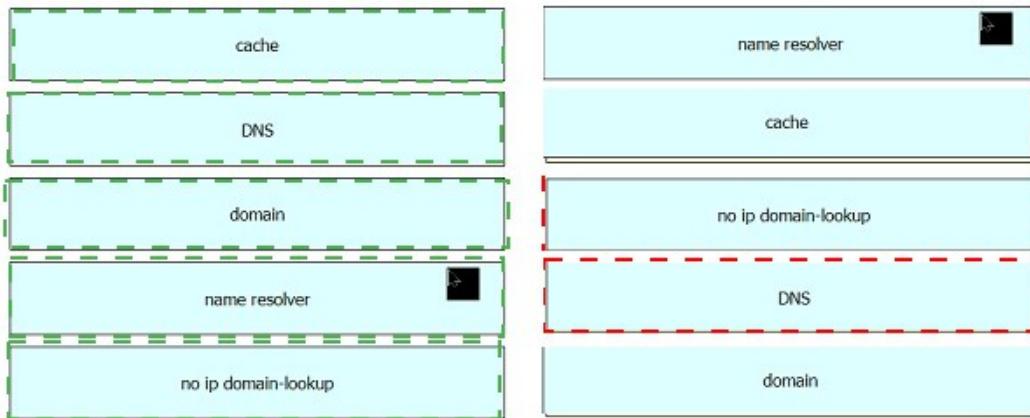
**Answer:** B

### Question No : 153 DRAG DROP - (Topic 1)

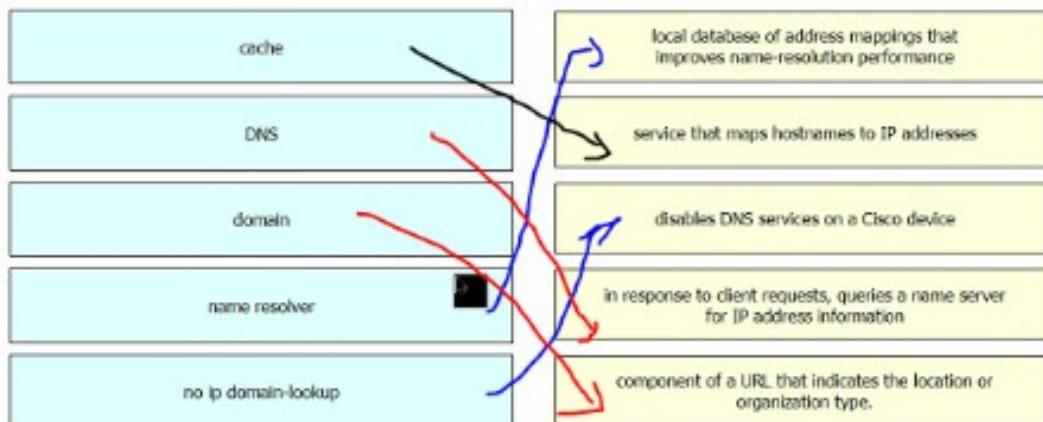
Drag and drop the DNS lookup components from the left onto the functions on the right.

cache	local database of address mappings that improves name-resolution performance
DNS	service that maps hostnames to IP addresses
domain	disables DNS services on a Cisco device
name resolver	in response to client requests, queries a name server for IP address information
no ip domain-lookup	component of a URL that indicates the location or organization type.

**Answer:**



**Explanation:**



Diagram

Description automatically generated

**Question No : 154 - (Topic 1)**

In which two ways does a password manager reduce the chance of a hacker stealing a users password? (Choose two.)

- A. It automatically provides a second authentication factor that is unknown to the original user.
- B. It uses an internal firewall to protect the password repository from unauthorized access.
- C. It protects against keystroke logging on a compromised device or web site.
- D. It stores the password repository on the local workstation with built-in antivirus and anti-malware functionality
- E. It encourages users to create stronger passwords.

**Answer: C,E**

**Question No : 155 DRAG DROP - (Topic 1)**

Drag and drop the 802.11 wireless standards from the left onto the matching statements on the right

802.11a	Operates in the 2.4 GHz and 5 GHz bands.
802.11ac	Operates in the 2.4 GHz band only and supports a maximum data rate of 54 Mbps.
802.11b	Operates in the 5 GHz band only and supports a maximum data rate that can exceed 100 Mbps.
802.11g	Supports a maximum data rate of 11 Mbps.
802.11n	Operates in the 5 GHz band only and supports a maximum data rate of 54 Mbps.

**Answer:**

802.11a	802.11n
802.11ac	802.11g
802.11b	802.11ac
802.11g	802.11b
802.11n	802.11a

**Question No : 156 - (Topic 1)**

Which command entered on a switch configured with Rapid PVST\* listens and learns for a specific time period?

- A. switch(config)#spanning-tree vlan 1 max-age 6
- B. switch(config)#spanning-tree vlan 1 hello-time 10
- C. switch(config)#spanning-tree vlan 1 priority 4096
- D. switch(config)#spanning-tree vlan 1 forward-time 20

**Answer: D**

**Explanation:** Forward time : Determines how long each of the listening and learning states last before the port begins forwarding.

**Switch(config)# [ no ] spanning-tree vlan vlan\_ID forward-time**

**forward\_time**Configures the forward time of a VLAN. The **forward\_time** value can be from 4 to 30 seconds.

<https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/15-02SG/configuration/guide/config/spantree.html#56177>

#### **Question No : 157 - (Topic 1)**

Which two components are needed to create an Ansible script that configures a VLAN on a switch? (Choose two.)

- A. cookbook
- B. task
- C. playbook
- D. model
- E. recipe

**Answer: C,D**

#### **Question No : 158 - (Topic 1)**

Refer to the exhibit.

IBGP route 10.0.0.0/30  
RIP route 10.0.0.0/30  
OSPF route 10.0.0.0/16  
OSPF route 10.0.0.0/30  
EIGRP route 10.0.0.1/32

A router reserved these five routes from different routing information sources.

Which two routes does the router install in its routing table? (Choose two)

- A. RIP route 10.0.0.0/30
- B. iBGP route 10.0.0.0/30
- C. OSPF route 10.0.0.0/30
- D. EIGRP route 10.0.0.1/32
- E. OSPF route 10.0.0.0/16

**Answer: C,D**

**Question No : 159 - (Topic 1)**

Which type of attack can be mitigated by dynamic ARP inspection?

- A. worm
- B. malware
- C. DDoS
- D. man-in-the-middle

**Answer: D**

**Question No : 160 - (Topic 1)**

On workstations running Microsoft Windows, which protocol provides the default gateway for the device?

- A. DHCP
- B. STP
- C. SNMP
- D. DNS

**Answer: A**

**Question No : 161 - (Topic 1)**

What criteria is used first during the root port selection process?

- A. local port ID
- B. lowest path cost to the root bridge
- C. lowest neighbor's bridge ID
- D. lowest neighbor's port ID

**Answer: B**

**Question No : 162 - (Topic 1)**

What is the benefit of using FHRP?

- A. reduced management overhead on network routers
- B. balancing traffic across multiple gateways in proportion to their loads
- C. higher degree of availability
- D. reduced ARP traffic on the network

**Answer: C**

**Question No : 163 - (Topic 1)**

Which MAC address is recognized as a VRRP virtual address?

- A. 0000.5E00.010a
- B. 0005.3711.0975
- C. 0000.0C07.AC99
- D. 0007.C070/AB01

**Answer: A**

**Explanation:** With VRRP, the virtual router's MAC address is 0000.5E00.01xx , in which xx is the VRRP group.

**Question No : 164 - (Topic 1)**

What are two functions of an SDN controller? (Choose two)

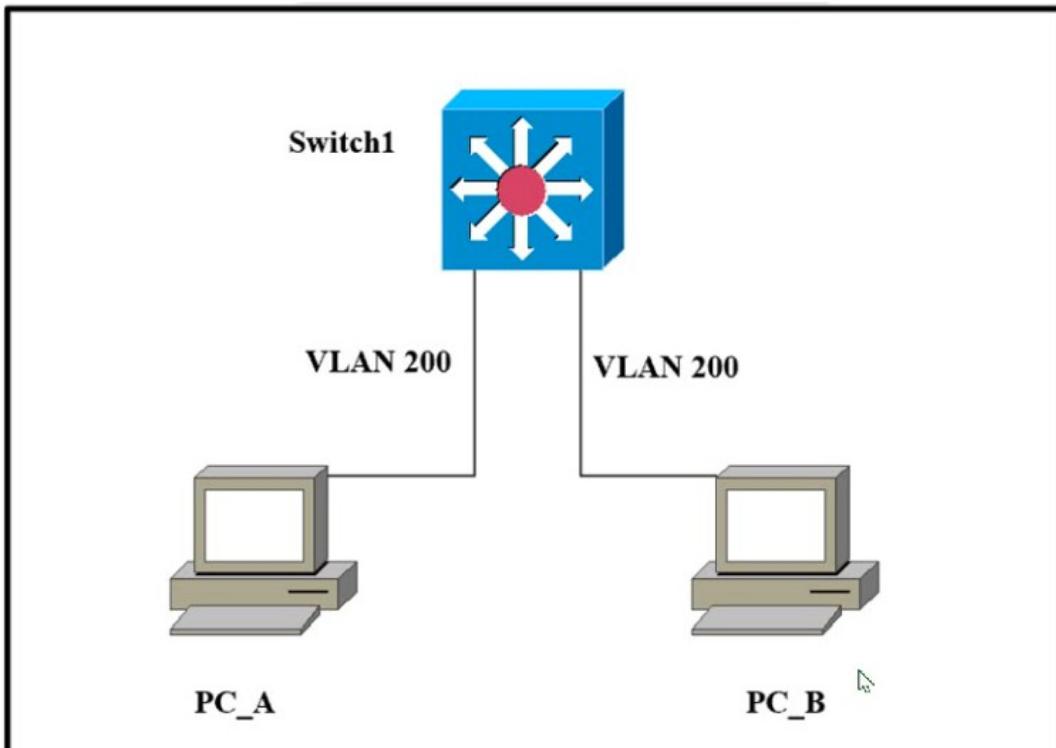
- A. Layer 2 forwarding

- B. coordinating VTNs
- C. tracking hosts
- D. managing the topology
- E. protecting against DDoS attacks

**Answer: B,D**

**Question No : 165 - (Topic 1)**

Refer to the exhibit.

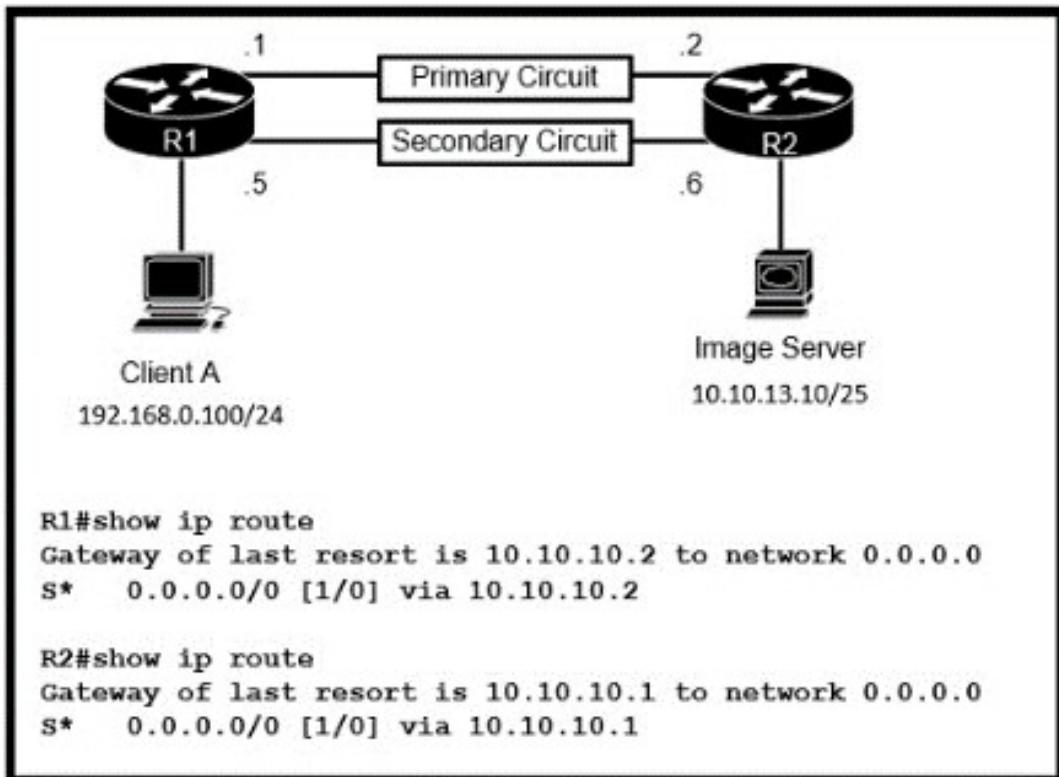


Which outcome is expected when PC\_A sends data to PC\_B?

- A. The switch rewrites the source and destination MAC addresses with its own.
- B. The source MAC address is changed.
- C. The source and destination MAC addresses remain the same.
- D. The destination MAC address is replaced with ffff.ffff.ffff.

**Answer: C**

**Question No : 166 - (Topic 1)**



Refer to the exhibit Routers R1 and R2 have been configured with their respective LAN interfaces The two circuits are operational and reachable across WAN Which command set establishes failover redundancy if the primary circuit goes down?

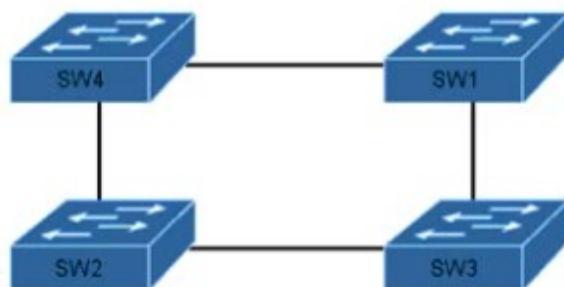
- R1(config)#ip route 10.10.13.10 255.255.255.255 10.10.10.2  
 R2(config)#ip route 192.168.0.100 255.255.255.255 10.10.10.1
- R1(config)#ip route 0.0.0.0 0.0.0.0 10.10.10.6 2  
 R2(config)#ip route 0.0.0.0 0.0.0.0 10.10.10.5 2
- R1(config)#ip route 10.10.13.10 255.255.255.255 10.10.10.6  
 R2(config)#ip route 192.168.0.100 255.255.255.255 10.10.10.5
- R1(config)#ip route 0.0.0.0 0.0.0.0 10.10.10.6  
 R2(config)#ip route 0.0.0.0 0.0.0.0 10.10.10.5

- A. Option A  
 B. Option B  
 C. Option C  
 D. Option D

**Answer: B**

**Question No : 167 - (Topic 1)**

Refer to the exhibit.



Which switch in this configuration will be elected as the root bridge?

- SW1: 0C:E0:38:00:94:04
- SW2: 0C:0E:15:22:05:97
- SW3: 0C:0E:15:1A:3C:9D
- SW4: 0C:E0:18:A1:B3:19

- A. SW1
- B. SW2
- C. SW3
- D. SW4

**Answer: C**

**Question No : 168 DRAG DROP - (Topic 1)**

Drag and drop the attack-mitigation techniques from the left onto the Types of attack that they mitigate on the right.

configure 802.1x authentication

802.1q double-tagging VLAN-hopping attack

configure DHCP snooping

MAC flooding attack

configure the native VLAN with a nondefault VLAN ID

man-in-the-middle spoofing attack

disable DTP

switch-spoofing VLAN-hopping attack

**Answer:**

configure 802.1x authentication	configure the native VLAN with a nondefault VLAN ID
configure DHCP snooping	configure 802.1x authentication
configure the native VLAN with a nondefault VLAN ID	configure DHCP snooping
disable DTP	disable DTP

**Question No : 169 - (Topic 1)**

Which two functions are performed by the core layer in a three-tier architecture? (Choose two)

- A. Provide uninterrupted forwarding service.
- B. Police traffic that is sent to the edge of the network.
- C. Provide direct connectivity for end user devices.
- D. Ensure timely data transfer between layers.
- E. Inspect packets for malicious activity.

**Answer: A,D**

**Explanation:** Cisco is very clear about the purpose of this layer. Its only role is to forward traffic, the fastest it can. Here you don't apply any policy, as you must try to reduce the load of the core so it can focus on routing.

<https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Campus/campover.html#wp708831>

**Question No : 170 - (Topic 1)**

What is the primary effect of the spanning-tree portfast command?

- A. it enables BPDU messages
- B. It minimizes spanning-tree convergence time
- C. It immediately puts the port into the forwarding state when the switch is reloaded
- D. It immediately enables the port in the listening state

**Answer: B**

Reference:

[https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2\\_55\\_se/configuration/guide/3560\\_scg/swstopt.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2_55_se/configuration/guide/3560_scg/swstopt.html)

**Question No : 171 - (Topic 1)**

How does HSRP provide first hop redundancy?

- A. It load-balances traffic by assigning the same metric value to more than one route to the same destination in the IP routing table.
- B. It load-balances Layer 2 traffic along the path by flooding traffic out all interfaces configured with the same VLAN.
- C. It forwards multiple packets to the same destination over different routed links in the data path
- D. It uses a shared virtual MAC and a virtual IP address to a group of routers that serve as the default gateway for hosts on a LAN

**Answer: D**

**Explanation:** [https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipapp\\_fhrp/configuration/xe-16/fhp-xe-16-book/fhp-hsrp-mgo.html](https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipapp_fhrp/configuration/xe-16/fhp-xe-16-book/fhp-hsrp-mgo.html)

**Question No : 172 - (Topic 1)**

What is a practice that protects a network from VLAN hopping attacks?

- A. Enable dynamic ARP inspection
- B. Configure an ACL to prevent traffic from changing VLANs
- C. Change native VLAN to an unused VLAN ID
- D. Implement port security on internet-facing VLANs

**Answer: C**

**Question No : 173 - (Topic 1)**

An engineer needs to add an old switch back into a network. To prevent the switch from corrupting the VLAN database which action must be taken?

- A. Add the switch in the VTP domain with a lower revision number
- B. Add the switch with DTP set to dynamic desirable
- C. Add the switch in the VTP domain with a higher revision number
- D. Add the switch with DTP set to desirable

**Answer: A**

**Question No : 174 - (Topic 1)**

Which device performs stateful inspection of traffic?

- A. firewall
- B. switch
- C. access point
- D. wireless controller

**Answer: A**

**Question No : 175 - (Topic 1)**

Which switch technology establishes a network connection immediately when it is plugged in?

- A. PortFast
- B. BPDU guard
- C. UplinkFast
- D. BackboneFast

**Answer: A**

**Explanation:** PortFast is useful to connect hosts and switches to a switch. Access layer switches are more frequently “plugged in” and “plugged out” than distribution or core layer switches. Also, this feature’s target is just to minimize STP convergence time.

**Question No : 176 - (Topic 1)**

Refer to the exhibit.

```
interface GigabitEthernet0/1
ip address 192.168.1.2 255.255.255.0
ip access-group 2699 in
!
access-list 2699 deny icmp any 10.10.1.0 0.0.0.255 echo
access-list 2699 deny ip any 10.20.1.0 0.0.0.255
access-list 2699 permit ip any 10.10.1.0 0.0.0.255
access-list 2699 permit tcp any 10.20.1.0 0.0.0.127 eq 22
```

A network administrator must permit SSH access to remotely manage routers in a network. The operations team resides on the 10.20.1.0/25 network. Which command will accomplish this task?

- A. access-list 2699 permit udp 10.20.1.0 0.0.0.255
- B. no access-list 2699 deny tcp any 10.20.1.0 0.0.0.127 eq 22
- C. access-list 2699 permit tcp any 10.20.1.0 0.0.0.255 eq 22
- D. no access-list 2699 deny ip any 10.20.1.0 0.0.0.255

**Answer: D**

**Explanation:** Note : Already a statement is there in last to allow SSH Traffic for network 10.20.1.0 0.0.0.127, but Second statement says deny ip any 10.20.1.0 0.0.0.255, so how it will work once it is denied. So the right answer is remove the --- no access-list 2699 deny ip any 10.20.1.0 0.0.0.255.

**Question No : 177 - (Topic 1)**

How does QoS optimize voice traffic?

- A. reducing bandwidth usage
- B. by reducing packet loss
- C. by differentiating voice and video traffic
- D. by increasing jitter

**Answer: C**

**Question No : 178 - (Topic 1)**

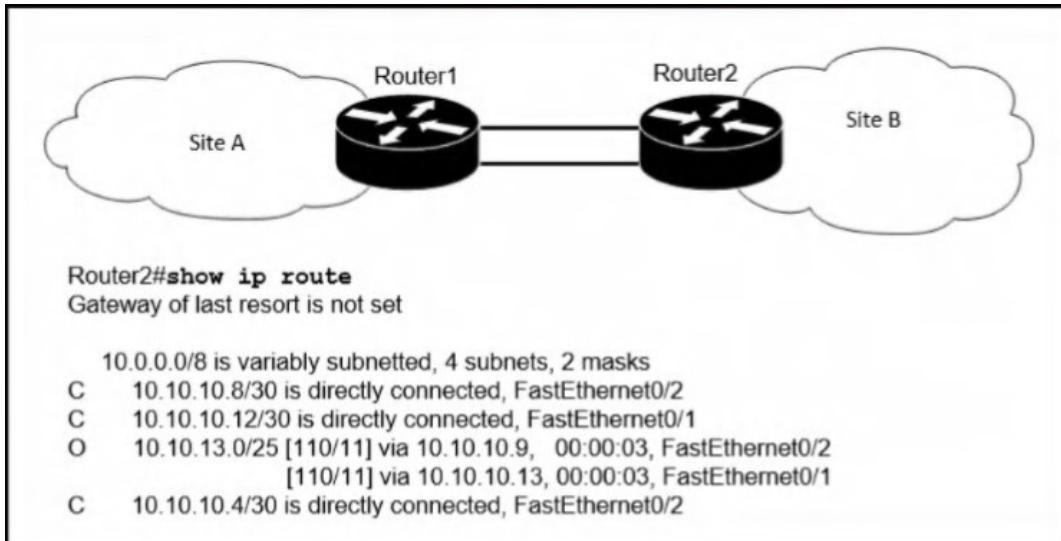
What uses HTTP messages to transfer data to applications residing on different hosts?

- A. OpenFlow
- B. OpenStack
- C. OpFlex
- D. REST

**Answer: D**

**Question No : 179 - (Topic 1)**

Refer to the exhibit.



If OSPF is running on this network, how does Router2 handle traffic from Site B to 10.10.13.128/25 at Site A?

- A. It load-balances traffic out of Fa0/1 and Fa0/2.
- B. It is unreachable and discards the traffic.
- C. It sends packets out of interface Fa0/2.
- D. It sends packets out of interface Fa0/1.

**Answer: B**

### Question No : 180 - (Topic 1)

Which network allows devices to communicate without the need to access the Internet?

- A. 1729.0.0/16
- B. 172.28.0.0/16
- C. 192.0.0.0/8
- D. 209.165.201.0/24

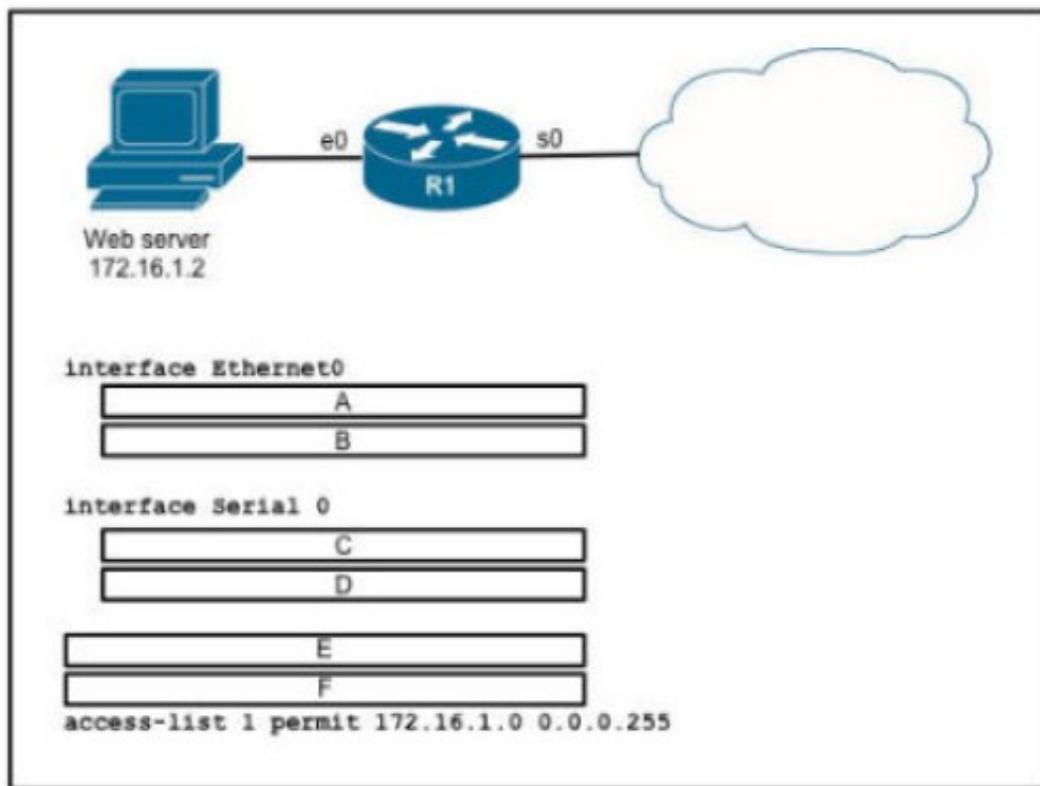
**Answer: B**

**Explanation:** The private ranges of each class of IPv4 are listed below:

Class A private IP address ranges from 10.0.0.0 to 10.255.255.255 Class B private IP address ranges from 172.16.0.0 to 172.31.255.255 Class C private IP address ranges from 192.168.0.0 to 192.168.255.255 Only the network 172.28.0.0/16 belongs to the private IP address (of class B).

**Question No : 181 DRAG DROP - (Topic 1)**

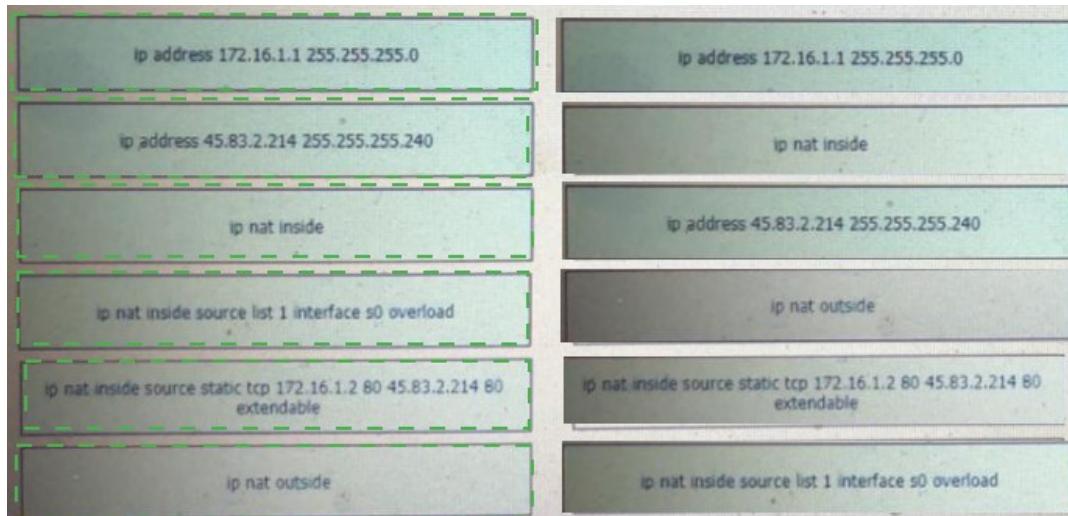
Refer to the exhibit.



An engineer is configuring the router to provide static NAT for the webserver Drag and drop the configuration commands from the left onto the letters that correspond to its position in the configuration on the right.

ip address 172.16.1.1 255.255.255.0	position A
ip address 45.83.2.214 255.255.255.240	position B
ip nat inside	position C
ip nat inside source list 1 interface s0 overload	position D
ip nat inside source static tcp 172.16.1.2 80 45.83.2.214 80 extendable	position E
ip nat outside	position F

**Answer:**



**Question No : 182 - (Topic 1)**

Which CRUD operation corresponds to the HTTP GET method?

- A. read
- B. update
- C. create
- D. delete

**Answer: A**

**Explanation:** GET: This method retrieves the information identified by the request URI. In the context of the RESTful web services, this method is used to retrieve resources. This is the method used for read operations (the R in CRUD).

<https://hub.packtpub.com/crud-operations-rest/>

**Question No : 183 - (Topic 1)**

In which situation is private IPv4 addressing appropriate for a new subnet on the network of an organization?

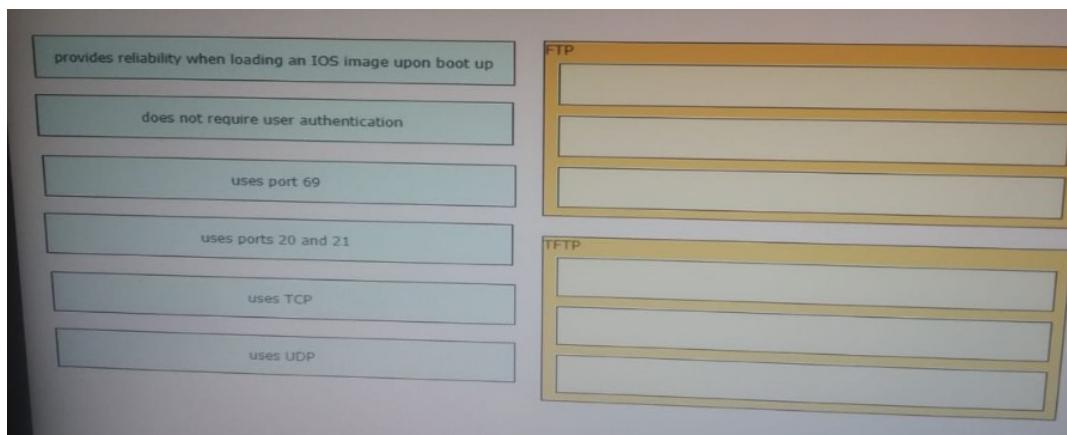
- A. There is limited unique address space, and traffic on the new subnet will stay local within the organization.

- B. The network has multiple endpoint listeners, and it is desired to limit the number of broadcasts.
- C. Traffic on the subnet must traverse a site-to-site VPN to an outside organization.
- D. The ISP requires the new subnet to be advertised to the internet for web services.

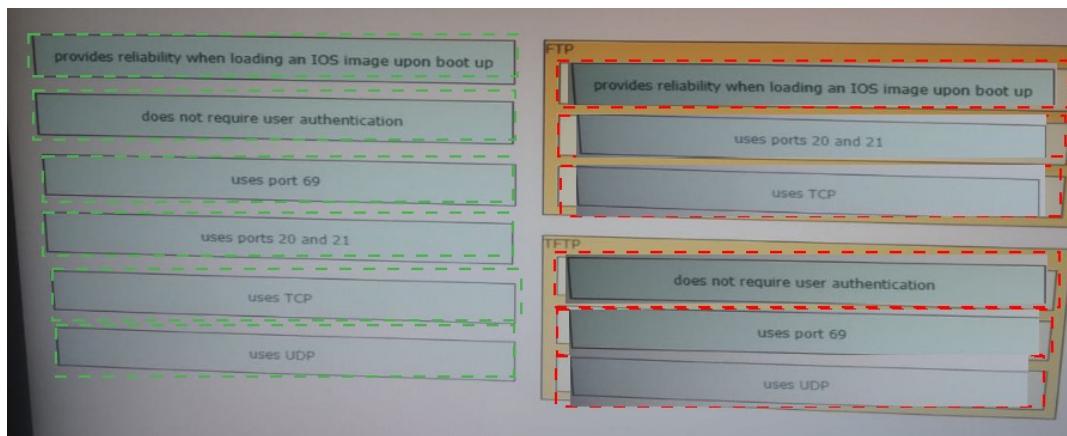
**Answer: A**

**Question No : 184 DRAG DROP - (Topic 1)**

Drag and drop the descriptions of file-transfer protocols from the left onto the correct protocols on the right.



**Answer:**



**Question No : 185 - (Topic 1)**

Which spanning-tree enhancement avoids the learning and listening states and immediately places ports in the forwarding state?

- A. BPDUfilter
- B. PortFast
- C. Backbonefast
- D. BPDUGuard

**Answer: B**

**Explanation: PortFast**

Spanning Tree Portfast causes layer 2 switch interfaces to enter forwarding state immediately, bypassing the listening and learning states. It should be used on ports connected directly to end hosts like servers or workstations. Note: If portfast isn't enabled, DHCP timeouts can occur while STP converges, causing more problems.

<https://skminhaj.wordpress.com/2015/03/04/spanning-tree-stp-rstp-mst-enhancements/>

**Question No : 186 - (Topic 1)**

How are the switches in a spine-and-leaf topology interconnected?

- A. Each leaf switch is connected to one of the spine switches.
- B. Each leaf switch is connected to two spine switches, making a loop.
- C. Each leaf switch is connected to each spine switch.
- D. Each leaf switch is connected to a central leaf switch, then uplinked to a core spine switch.

**Answer: B**

**Question No : 187 - (Topic 1)**

A port security violation has occurred on a switch port due to the maximum MAC address count being exceeded. Which command must be configured to increment the security-violation count and forward an SNMP trap?

- A. switchport port-security violation access
- B. switchport port-security violation protect
- C. switchport port-security violation restrict
- D. switchport port-security violation shutdown

**Answer: C**

**Explanation:** [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/25ew/configuration/guide/conf/port\\_sec.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/25ew/configuration/guide/conf/port_sec.html)

**Question No : 188 - (Topic 1)**

Refer to the exhibit.

```
SW1#show spanning-tree vlan 30

VLAN0030
Spanning tree enabled protocol rstp
Root ID    Priority          32798
            Address           0025.63e9.c800
            Cost               19
            Port               1 (FastEthernet 2/1)
            Hello Time         2 sec
            Max Age            30 sec
            Forward Delay      20 sec

[Output suppressed]
```

What two conclusions should be made about this configuration? (Choose two )

- A. The designated port is FastEthernet 2/1
- B. This is a root bridge
- C. The spanning-tree mode is Rapid PVST+
- D. The spanning-tree mode is PVST+
- E. The root port is FastEthernet 2/1

**Answer: C,E**

**Explanation:**

An engineer is configuring data and voice services to pass through the same port. The designated switch interface fastethernet0/1 must transmit packets using the same priority for data when they are received from the access port of the IP phone. Which configuration must be used?

A)

```
interface fastethernet0/1
switchport priority extend cos 7
```

B)

```
interface fastethernet0/1  
switchport voice vlan untagged
```

C)

```
> interface fastethernet0/1  
switchport voice vlan dot1p
```

D)

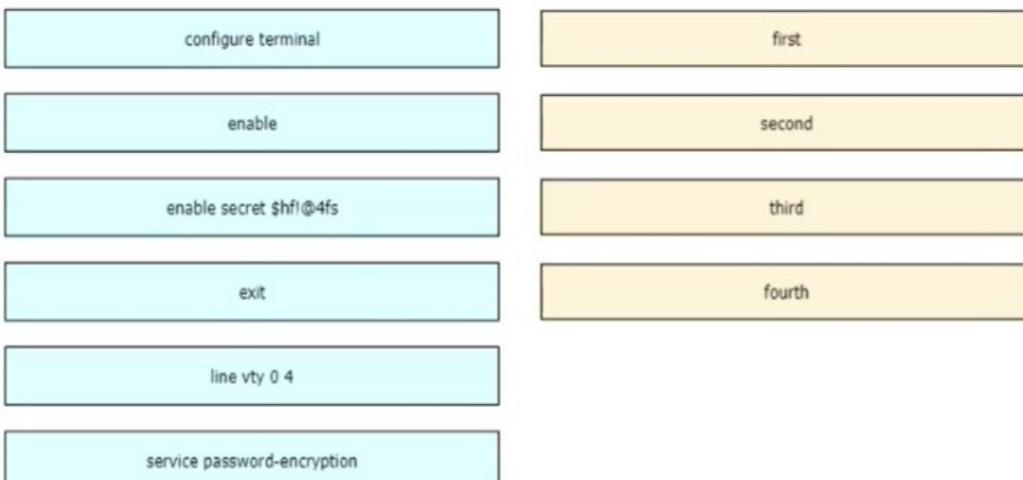
```
interface fastethernet0/1  
switchport priority extend trust
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

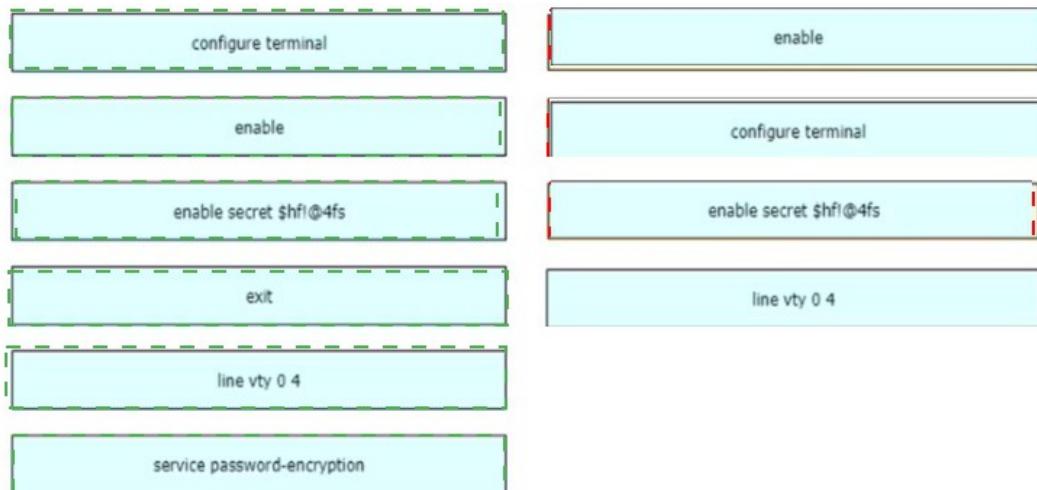
Answer: A

### Question No : 189 DRAG DROP - (Topic 1)

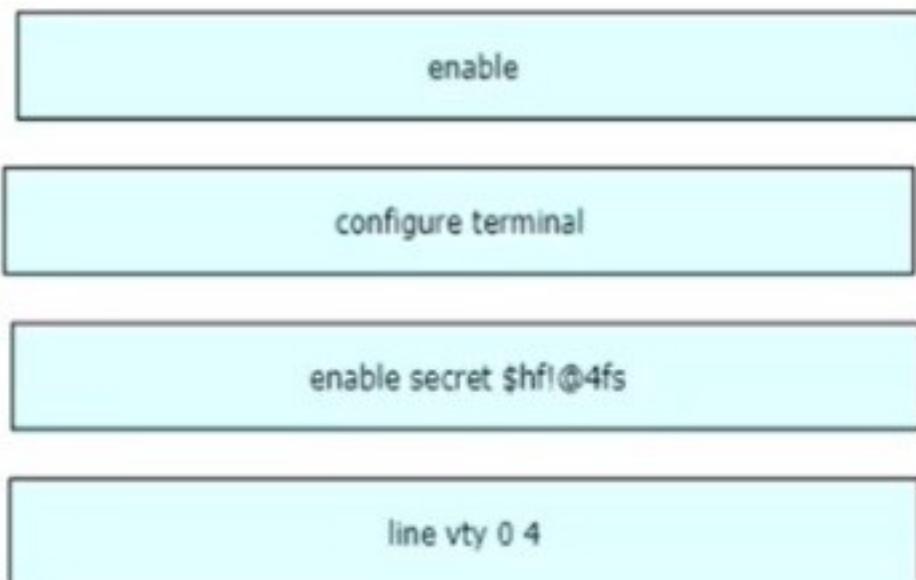
An engineer is configuring an encrypted password for the enable command on a router where the local user database has already been configured Drag and drop the configuration commands from the left into the correct sequence on the right Not all commands are used



**Answer:**



**Explanation:**



Graphical user interface, application

Description automatically generated

**Question No : 190 - (Topic 1)**

By default, how Does EIGRP determine the metric of a route for the routing table?

- A. it uses the bandwidth and delay values of the path to calculate the route metric

- B. it uses a default metric of 10 for all routes that are learned by the router
- C. it uses a reference Bandwidth and the actual bandwidth of the connected link to calculate the route metric
- D. it counts the number of hops between the receiving and destination routers and uses that value as the metric

**Answer: A**

**Question No : 191 - (Topic 1)**

Which mode allows access points to be managed by Cisco Wireless LAN Controllers?

- A. autonomous
- B. lightweight
- C. bridge
- D. mobility express

**Answer: B**

**Explanation:** <https://www.cisco.com/c/en/us/support/docs/wireless/aironet-1200-series/70278-lap-faq.html>

A Lightweight Access Point (LAP) is an AP that is designed to be connected to a wireless LAN (WLAN) controller (WLC). APs are “lightweight,” which means that they cannot act independently of a wireless LAN controller (WLC). The WLC manages the AP configurations and firmware. The APs are “zero touch” deployed, and individual configuration of APs is not necessary.

**Question No : 192 - (Topic 1)**

What is a DHCP client?

- A. a host that is configured to request an IP address automatically
- B. a server that dynamically assigns IP addresses to hosts
- C. a workstation that requests a domain name associated with its IP address
- D. a router that statically assigns IP addresses to hosts

**Answer: A**

**Question No : 193 - (Topic 1)**

What is the role of a firewall in an enterprise network?

- A. Forwards packets based on stateless packet inspection
- B. Processes unauthorized packets and allows passage to less secure segments of the network
- C. determines which packets are allowed to cross from unsecured to secured networks
- D. explicitly denies all packets from entering an administrative domain

**Answer: C**

**Question No : 194 - (Topic 1)**

What is a difference between local AP mode and FlexConnect AP mode?

- A. Local AP mode creates two CAPWAP tunnels per AP to the WLC
- B. FlexConnect AP mode fails to function if the AP loses connectivity with the WLC
- C. FlexConnect AP mode bridges the traffic from the AP to the WLC when local switching is configured
- D. Local AP mode causes the AP to behave as if it were an autonomous AP

**Answer: A**

**Question No : 195 - (Topic 1)**

What is the purpose of traffic shaping?

- A. to mitigate delays over slow links
- B. to provide fair queuing for buffered flows
- C. to limit the bandwidth that a flow can use to
- D. be a marking mechanism that identifies different flows

**Answer: B**

**Explanation:** Traffic shaping retains excess packets in a queue and then schedules the excess for later transmission over increments of time.

**Question No : 196 - (Topic 1)**

Which mode must be used to configure EtherChannel between two switches without using a negotiation protocol?

- A. on
- B. auto
- C. active
- D. desirable

**Answer: A**

**Explanation:** The Static Persistence (or “on” mode) bundles the links unconditionally and no negotiation protocol is used. In this mode, neither PAgP nor LACP packets are sent or received.

**Question No : 197 - (Topic 1)**

When using Rapid PVST+, which command guarantees the switch is always the root bridge for VLAN 200?

- A. spanning-tree vlan 200 priority 614440
- B. spanning-tree vlan 200 priority 38572422
- C. spanning-tree vlan 200 priority 0
- D. spanning-tree vlan 200 root primary

**Answer: C**

**Question No : 198 - (Topic 1)**

When a floating static route is configured, which action ensures that the backup route is used when the primary route fails?

- A. The floating static route must have a higher administrative distance than the primary route so it is used as a backup
- B. The administrative distance must be higher on the primary route so that the backup route becomes secondary.
- C. The floating static route must have a lower administrative distance than the primary route so it is used as a backup
- D. The default-information originate command must be configured for the route to be installed into the routing table

**Answer: A**

**Question No : 199 - (Topic 1)**

How do TCP and UDP differ in the way that they establish a connection between two endpoints?

- A. TCP uses synchronization packets, and UDP uses acknowledgment packets.
- B. UDP uses SYN, SYN ACK and FIN bits in the frame header while TCP uses SYN, SYN ACK and ACK bits
- C. UDP provides reliable message transfer and TCP is a connectionless protocol
- D. TCP uses the three-way handshake and UDP does not guarantee message delivery

**Answer: D**

**Question No : 200 - (Topic 1)**

What is a network appliance that checks the state of a packet to determine whether the packet is legitimate?

- A. Layer 2 switch
- B. load balancer
- C. firewall
- D. LAN controller

**Answer: C**

**Question No : 201 - (Topic 1)**

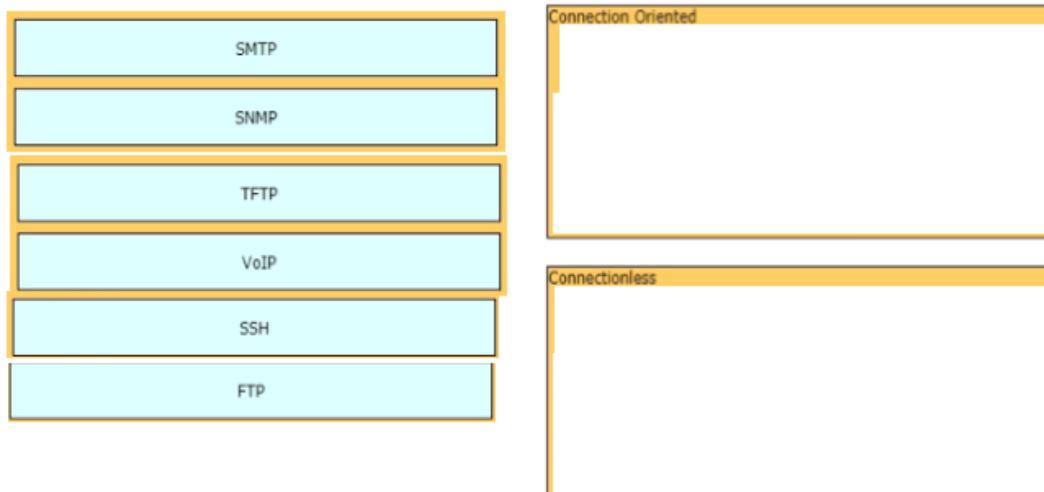
What is the difference in data transmission delivery and reliability between TCP and UDP?

- A. TCP transmits data at a higher rate and ensures packet delivery. UDP retransmits lost data to ensure applications receive the data on the remote end.
- B. UDP sets up a connection between both devices before transmitting data. TCP uses the three-way handshake to transmit data with a reliable connection.
- C. UDP is used for multicast and broadcast communication. TCP is used for unicast communication and transmits data at a higher rate with error checking.
- D. TCP requires the connection to be established before transmitting data. UDP transmits data at a higher rate without ensuring packet delivery.

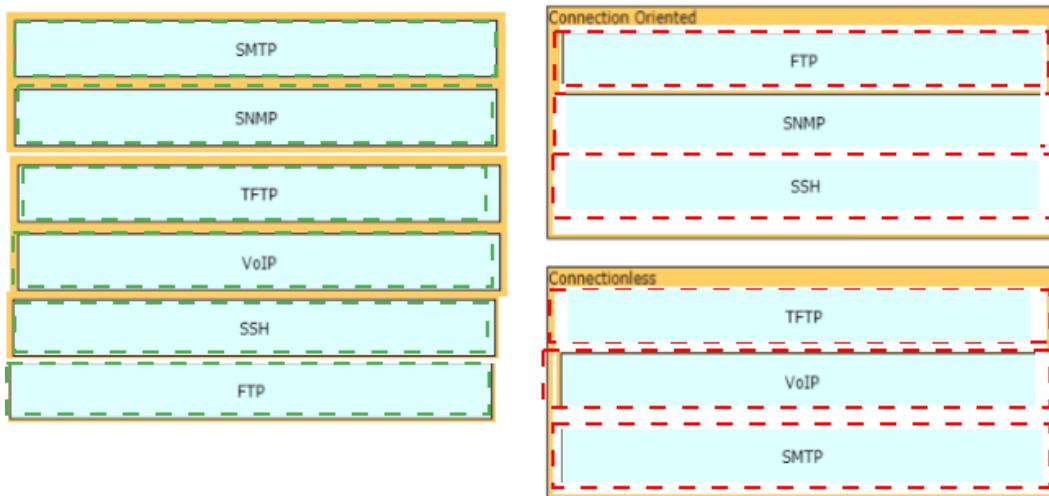
**Answer: D**

**Question No : 202 DRAG DROP - (Topic 1)**

Drag and drop the network protocols from the left onto the correct transport services on the right.



**Answer:**



**Question No : 203 - (Topic 1)**

which purpose does a northbound API serve in a controller-based networking architecture?

- A. communicates between the controller and the physical network hardware
- B. reports device errors to a controller
- C. generates statistics for network hardware and traffic
- D. facilitates communication between the controller and the applications

**Answer: D**

**Question No : 204 - (Topic 1)**

What are two characteristics of the distribution layer in a three-tier network architecture?  
(Choose two.)

- A. serves as the network aggregation point
- B. provides a boundary between Layer 2 and Layer 3 communications
- C. designed to meet continuous, redundant uptime requirements
- D. is the backbone for the network topology
- E. physical connection point for a LAN printer

**Answer: B,C**

**Question No : 205 - (Topic 1)**

What is the purpose of using First Hop Redundancy Protocol in a specific subnet?

- A. Filter traffic based on destination IP addressing
- B. Sends the default route to the hosts on a network
- C. ensures a loop-free physical topology
- D. forwards multicast hello messages between routers

**Answer: D**

**Explanation:** FHRP is layer 3 protocol whose purpose is to protect the default gateway by offering redundancy of the gateway in a subnet. This is achieved by allowing two or more routers to provide a backup for the first-hop IP router address. If a failure of an active router occurs, the backup router will take over the address. The routers negotiate their roles (Active/Standby) with each other by multicast hello messages to share the VIP (virtual IP address) between the FHRP routers. The terms Active/Standby vary between the different types of FHRP. The active router will act as the default gateway and the standby router acts as a backup the active router.

**Question No : 206 - (Topic 1)**

Which command prevents passwords from being stored in the configuration as plain text on a router or switch?

- A. enable secret
- B. service password-encryption
- C. username Cisco password encrypt
- D. enable password

**Answer: B**

**Question No : 207 - (Topic 1)**

Which function is performed by the collapsed core layer in a two-tier architecture?

- A. enforcing routing policies
- B. marking interesting traffic for data polices
- C. attaching users to the edge of the network
- D. applying security policies

Answer: A

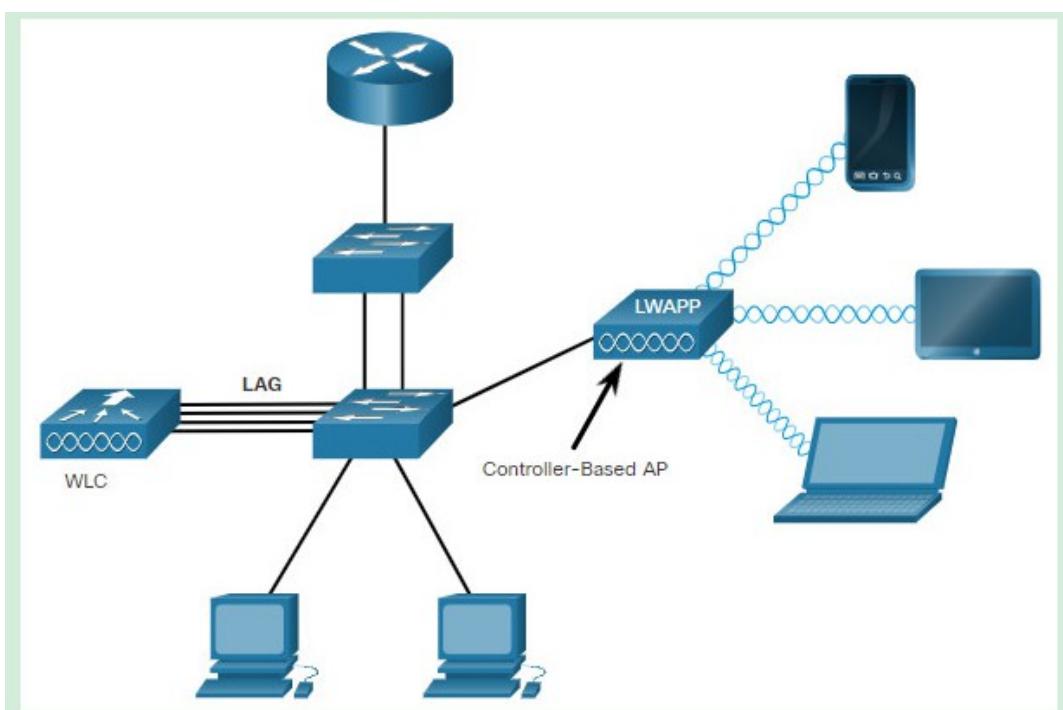
**Question No : 208 - (Topic 1)**

What is a function of Wireless LAN Controller?

- A. register with a single access point that controls traffic between wired and wireless endpoints.
- B. use SSIDs to distinguish between wireless clients.
- C. send LWAPP packets to access points.
- D. monitor activity on wireless and wired LANs

Answer: C

**Explanation:** Lightweight APs (LAPs) are devices that require no initial configuration. LAPs use the Lightweight Access Point Protocol (LWAPP) to communicate with a WLAN controller (WLC), as shown in the below figure. Controller-based APs are useful in situations where many APs are required in the network. As more APs are added, each AP is automatically configured and managed by the WLC.



**Question No : 209 - (Topic 1)**

Refer to the exhibit.

**Router#**

**Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
 S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
 D - Remote, C - CVTA, M - Two-port Mac Relay**

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
10.1.1.2	Gig 37/3	176	R I	CPT 600	Gig 36/41
10.1.1.2	Gig 37/1	174	R I	CPT 600	Gig 36/43
10.1.1.2	Gig 36/41	134	R I	CPT 600	Gig 37/3
10.1.1.2	Gig 36/43	134	R I	CPT 600	Gig 37/1
10.1.1.2	Ten 3/2	132	R I	CPT 600	Ten 4/2
10.1.1.2	Ten 4/2	174	R I	CPT 600	Ten 3/2

Which command provides this output?

- A. show ip route
- B. show ip interface
- C. show interface
- D. show cdp neighbor

**Answer: D**

### Question No : 210 - (Topic 1)

Which two actions are performed by the Weighted Random Early Detection mechanism?  
 (Choose two)

- A. It drops lower-priority packets before it drops higher-priority packets
- B. It can identify different flows with a high level of granularity
- C. It guarantees the delivery of high-priority packets
- D. It can mitigate congestion by preventing the queue from filling up
- E. it supports protocol discovery

**Answer: A,D**

**Explanation:** Weighted Random Early Detection (WRED) is just a congestion avoidance mechanism. WRED drops packets selectively based on IP precedence. Edge routers assign IP precedences to packets as they enter the network. When a packet arrives, the following events occur:

1. The average queue size is calculated.  
2. If the average is less than the minimum queue threshold, the arriving packet is queued.  
3. If the average is between the minimum queue threshold for that type of traffic and the maximum threshold for the interface, the packet is either dropped or queued, depending on the packet drop probability for that type of traffic.  
4. If the average queue size is greater than the maximum threshold, the packet is dropped.  
WRED reduces the chances of tail drop (when the queue is full, the packet is dropped) by selectively dropping packets when the output interface begins to show signs of congestion (thus it can mitigate congestion by preventing the queue from filling up). By dropping some packets early rather than waiting until the queue is full, WRED avoids dropping large numbers of packets at once and minimizes the chances of global synchronization. Thus, WRED allows the transmission line to be usedfully at all times.

WRED generally drops packets selectively based on IP precedence. Packets with a higher IP precedence are less likely to be dropped than packets with a lower precedence. Thus, the higher the priority of a packet, the higher the probability that the packet will be delivered

**Question No : 211 - (Topic 1)**

A frame that enters a switch fails the Frame Check Sequence. Which two interface counters are incremented? (Choose two)

- A. runts
- B. giants
- C. frame
- D. CRC
- E. input errors

**Answer: D,E**

**Explanation:**

Whenever the physical transmission has problems, the receiving device might receive a frame whose bits have changed values. These frames do not pass the error detection logic as implemented in the FCS field in the Ethernet trailer. The receiving device discards the frame and counts it as some kind of input error.

Cisco switches list this error as a CRC error. Cyclic redundancy check (CRC) is a term related to how the FCS math detects an error.

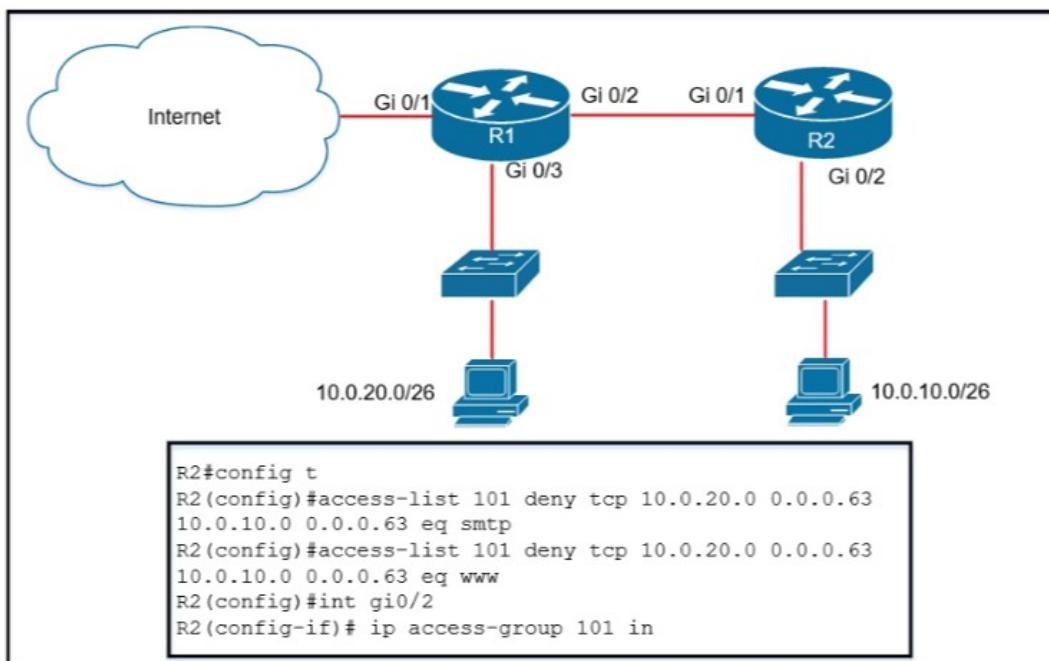
The “input errors” includes runts, giants, no buffer, CRC, frame, overrun, and ignored counts.

The output below show the interface counters with the “show interface s0/0/0” command:

```
Router#show interface s0/0/0
Serial0/0/0 is up, line protocol is up
  Hardware is M4T
  Description: Link to R2
  Internet address is 10.1.1.1/30
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
--output omitted--
  5 minute output rate 0 bits/sec, 0 packets/sec
    268 packets input, 24889 bytes, 0 no buffer
      Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
      0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    251 packets output, 23498 bytes, 0 underruns
      0 output errors, 0 collisions, 0 interface resets
      0 output buffer failures, 0 output buffers swapped out
      0 carrier transitions      DCD=up  DSR=up  DTR=up  RTS=up  CTS=up
```

### Question No : 212 - (Topic 1)

Refer to the exhibit.



An extended ACL has been configured and applied to router R2. The configuration failed to work as intended. Which two

**changes stop outbound traffic on TCP ports 25 and 80 to 10.0.20 0 26 from the 10.0.10 0/26 subnet while still allowing all other traffic? (Choose two )**

- A. Add a "permit ip any any" statement to the begining of ACL 101 for allowed traffic.
- B. Add a "permit ip any any" statement at the end of ACL 101 for allowed traffic
- C. The source and destination IPs must be swapped in ACL 101
- D. The ACL must be configured the Gi0/2 interface inbound on R1
- E. The ACL must be moved to the Gi0/1 interface outbound on R2

**Answer: B,C**

**Question No : 213 - (Topic 1)**

Which option about JSON is true?

- A. uses predefined tags or angle brackets () to delimit markup text
- B. used to describe structured data that includes arrays
- C. used for storing information
- D. similar to HTML, it is more verbose than XML

**Answer: B**

**Explanation:** JSON data is written as name/value pairs. A name/value pair consists of a field name (in double quotes), followed by a colon, followed by a value: "name": "Mark" JSON can use arrays. Array values must be of type string, number, object, array, boolean or null.. For example: {"name": "John", "age": 30, "cars": [ "Ford", "BMW", "Fiat" ]}

**Question No : 214 - (Topic 1)**

Which access layer threat-mitigation technique provides security based on identity?

- A. Dynamic ARP Inspection
- B. using a non-default native VLAN
- C. 802.1x
- D. DHCP snooping

**Answer: C**

**Question No : 215 - (Topic 1)**

After installing a new Cisco ISE server, which task must the engineer perform on the Cisco WLC to connect wireless clients on a specific VLAN based on their credentials?

- A. Enable the allow AAA Override
- B. Enable the Even: Driven RRM.
- C. Disable the LAG Mode or Next Reboot.
- D. Enable the Authorized MIC APs against auth-list or AAA.

**Answer: A**

**Question No : 216 - (Topic 1)**

Which two capacities of Cisco DNA Center make it more extensible as compared to traditional campus device management? (Choose two)

- A. adapters that support all families of Cisco IOS software
- B. SDKs that support interaction with third-party network equipment
- C. customized versions for small, medium, and large enterprises
- D. REST APIs that allow for external applications to interact natively with Cisco DNA Center
- E. modular design that is upgradable as needed

**Answer: B,D**

**Explanation:** Cisco DNA Center offers 360-degree extensibility through four distinct types of platform capabilities:+ Intent-based APIs leverage the controller and enable business and IT applications to deliver intent to the network and to reap network analytics and insights for IT and business innovation.+ Process adapters, built on integration APIs, allow integration with other IT and network systems to streamline IT operations and processes.+ Domain adapters, built on integration APIs, allow integration with other infrastructure domains such as data center, WAN, and security to deliver a consistent intent-based infrastructure across the entire IT environment.+ SDKs allow management to be extended to third-party vendor's network devices to offer support for diverse environments.

**Question No : 217 - (Topic 1)**

Which device tracks the state of active connections in order to make a decision to forward a packet through?

- A. wireless access point
- B. firewall
- C. wireless LAN controller
- D. router

**Answer: B**

**Explanation:**

Stateful inspection, also known as dynamic packet filtering, is a firewall technology that monitors the state of active connections and uses this information to determine which network packets to allow through the firewall.

**Question No : 218 - (Topic 1)**

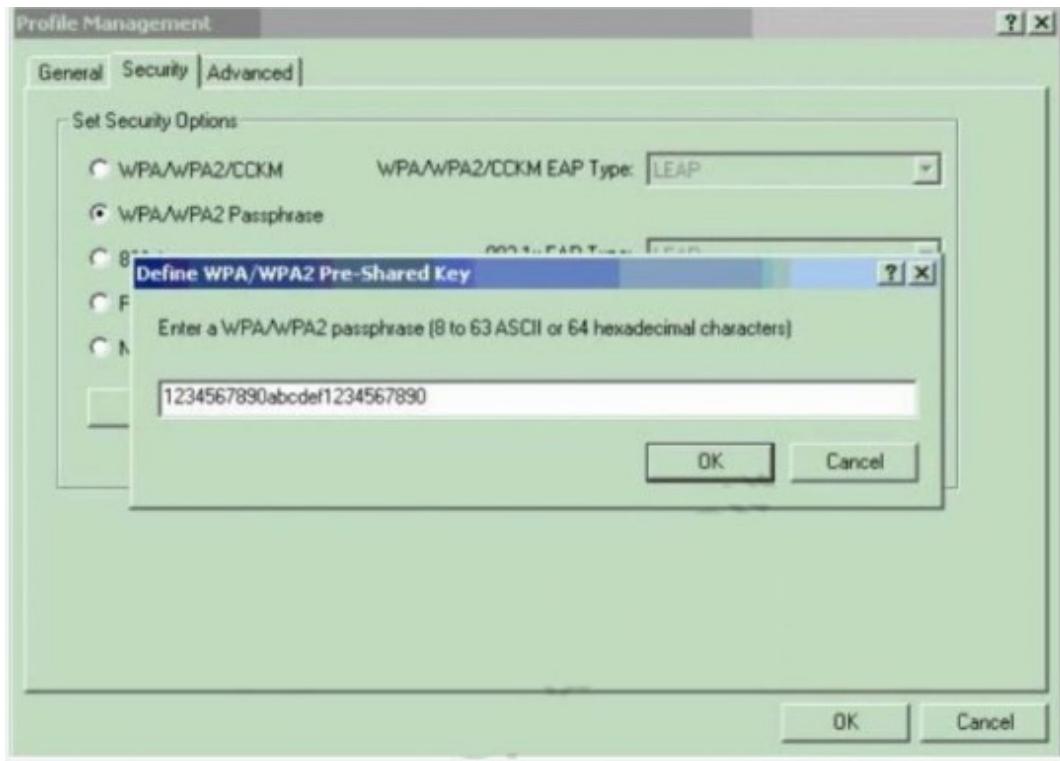
Which type of wireless encryption is used for WPA2 in preshared key mode?

- A. TKIP with RC4
- B. RC4
- C. AES-128
- D. AES-256

**Answer: D**

**Explanation:**

We can see in this picture we have to type 64 hexadecimal characters (256 bit) for the WPA2 passphrase so we can deduce the encryption is AES-256, not AES-128.



<https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/67134-wpa2-config.html>

#### Question No : 219 - (Topic 1)

An engineering team asks an implementer to configure syslog for warning conditions and error conditions. Which command does the implementer configure to achieve the desired result?

- A. logging trap 5
- B. logging trap 2
- C. logging trap 4
- D. logging trap 3

**Answer: C**

#### Question No : 220 - (Topic 1)

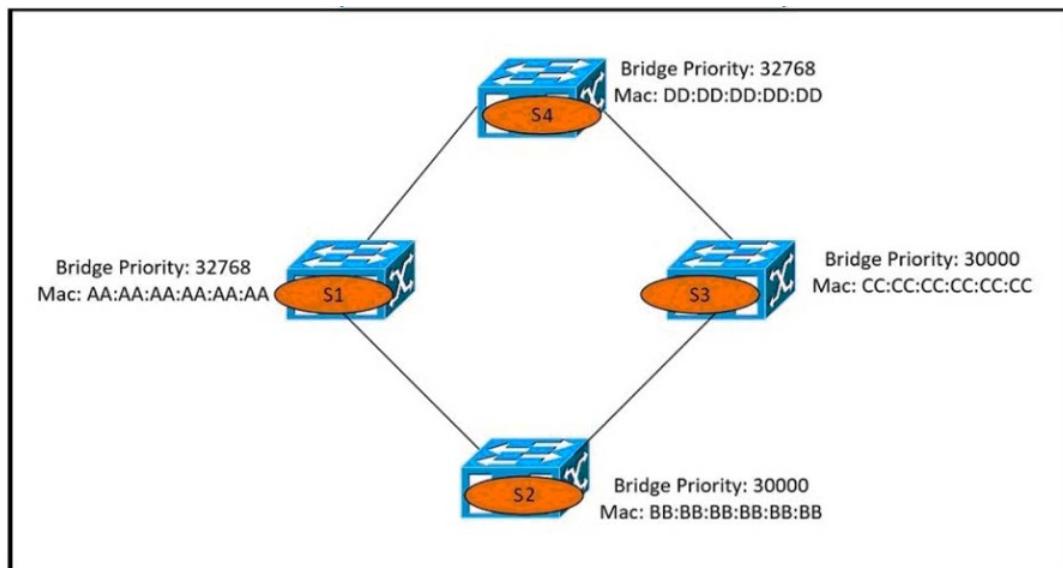
What are two roles of Domain Name Services (DNS)? (Choose Two)

- A. builds a flat structure of DNS names for more efficient IP operations
- B. encrypts network Traffic as it travels across a WAN by default
- C. improves security by protecting IP addresses under Fully Qualified Domain Names (FQDNs)
- D. enables applications to identify resources by name instead of IP address
- E. allows a single host name to be shared across more than one IP address

**Answer: D,E**

**Question No : 221 - (Topic 1)**

Refer to the exhibit.



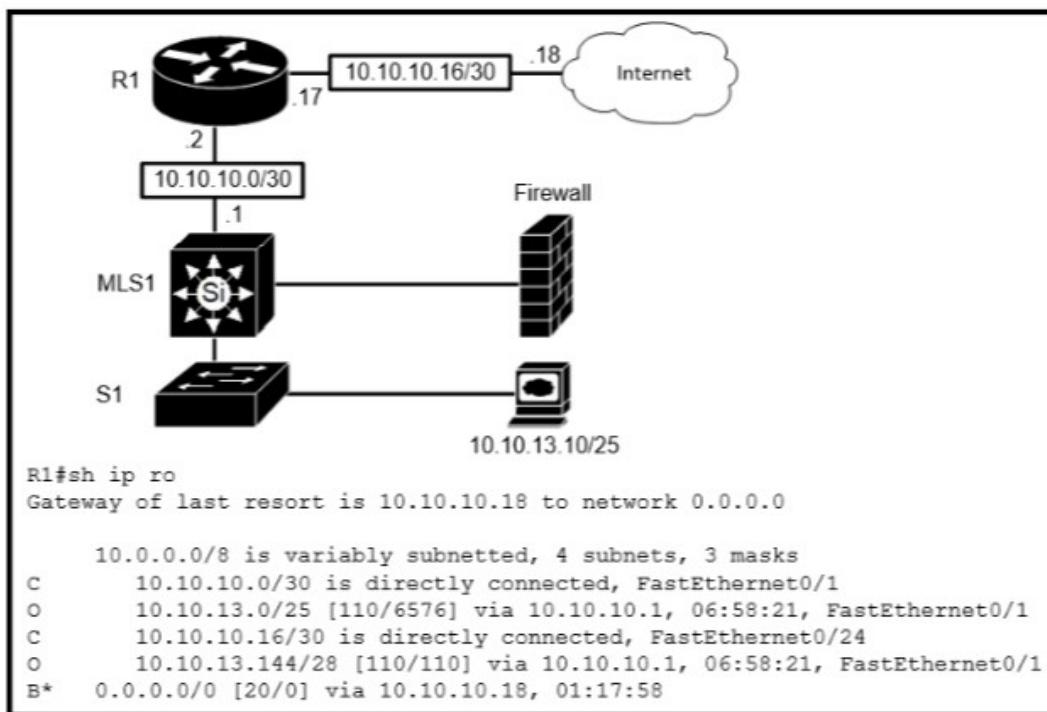
Which switch becomes the root bridge?

- A. S1
- B. S2
- C. S3
- D. S4

**Answer: B**

**Question No : 222 - (Topic 1)**

Refer to the exhibit.



Which type of route does R1 use to reach host 10.10.13.10/32?

- A. floating static route
- B. host route
- C. default route
- D. network route

**Answer: D**

**Explanation:** From the output, we see R1 will use the entry “O 10.10.13.0/25 [110/4576] via 10.10.10.1, ...” to reach host 10.10.13.10. This is a network route. Note: “B\* 0.0.0.0/0 ...” is a default route.

**Question No : 223 - (Topic 1)**

What is a recommended approach to avoid co-channel congestion while installing access points that use the 2.4 GHz frequency?

- A. different nonoverlapping channels
- B. different overlapping channels

- C. one overlapping channel
- D. one nonoverlapping channel

**Answer: A**

**Question No : 224 - (Topic 1)**

What are two southbound APIs? (Choose two )

- A. OpenFlow
- B. NETCONF
- C. Thrift
- D. CORBA
- E. DSC

**Answer: A,B**

**Explanation:** OpenFlow is a well-known southbound API. OpenFlow defines the way the SDN Controller should interact with the forwarding plane to make adjustments to the network, so it can better adapt to changing business requirements.

The Network Configuration Protocol (NetConf) uses Extensible Markup Language (XML) to install, manipulate and delete configuration to network devices.

**Question No : 225 - (Topic 1)**

Which security program element involves installing badge readers on data-center doors to allow workers to enter and exit based on their job roles?

- A. role-based access control
- B. biometrics
- C. multifactor authentication
- D. physical access control

**Answer: D**

**Question No : 226 - (Topic 1)**

Refer to the exhibit.

```
switch(config)#interface gigabitEthernet 1/11
switch(config-if)#switchport mode access
switch(config-if)#spanning-tree portfast
switch(config-if)#spanning-tree bpduguard enable
```

What is the result if Gig1/11 receives an STP BPDU?

- A. The port transitions to STP blocking
- B. The port transitions to the root port
- C. The port immediately transitions to STP forwarding.
- D. The port goes into error-disable state

**Answer: D**

**Question No : 227 - (Topic 1)**

Which IPv6 address block sends packets to a group address rather than a single address?

- A. 2000::/3
- B. FC00::/7
- C. FE80::/10
- D. FF00::/8

**Answer: D**

**Explanation:** FF00::/8 is used for IPv6 multicast and this is the IPv6 type of address the question wants to ask. FE80::/10 range is used for link-local addresses. Link-local addresses only used for communications within the local subnetwork (automatic address configuration, neighbor discovery, router discovery, and by many routing protocols). It is only valid on the current subnet. It is usually created dynamically using a link-local prefix of FE80::/10 and a 64-bit interface identifier (based on 48-bit MAC address).

**Question No : 228 - (Topic 1)**

Refer to the exhibit.

```
R2#show ip nat translations
Pro Inside global      Inside local     Outside local    Outside global
tcp 172.23.104.3:43268 10.4.4.4:43268 172.23.103.10:23 172.23.103.10:23
tcp 172.23.104.4:45507 10.4.4.5:45507 172.23.103.10:80 172.23.103.10:80
```

An engineer configured NAT translations and has verified that the configuration is correct.

Which IP address is the source IP?

- A. 10.4.4.4
- B. 10.4.4.5
- C. 172.23.103.10
- D. 172.23.104.4

**Answer: D**

**Explanation:** NAT is used to send a packet to the outside network, using a public IP address to make it routable. The NAT logic is "inside-to-outside" FIRST and "outside-to-inside" THEN. This way, configuring NAT means "choosing a public IP address" for any outbound packet" IN THE FIRST PLACE, where "public IP address" translates to "inside global address". Among the given answers, the only inside global address is 172.123.104.4.

**Question No : 229 - (Topic 1)**

What event has occurred if a router sends a notice level message to a syslog server?

- A. A TCP connection has been torn down
- B. An ICMP connection has been built
- C. An interface line has changed status

- D. A certificate has expired.

**Answer: C**

**Question No : 230 - (Topic 1)**

A network administrator must enable DHCP services between two sites. What must be configured for the router to pass DHCPDISCOVER messages on to the server?

- A. a DHCP Relay Agent
- B. DHCP Binding
- C. a DHCP Pool
- D. DHCP Snooping

**Answer: A**

**Question No : 231 - (Topic 1)**

Which API is used in controller-based architectures to interact with edge devices?

- A. overlay
- B. northbound
- C. underlay
- D. southbound

**Answer: D**

**Question No : 232 - (Topic 1)**

Why was the RFC 1918 address space defined?

- A. conserve public IPv4 addressing
- B. preserve public IPv6 address space
- C. reduce instances of overlapping IP addresses
- D. support the NAT protocol

**Answer: A**

**Question No : 233 - (Topic 1)**

Which function does the range of private IPv4 addresses perform?

- A. allows multiple companies to each use the same addresses without conflicts
- B. provides a direct connection for hosts from outside of the enterprise network
- C. ensures that NAT is not required to reach the internet with private range addressing
- D. enables secure communications to the internet for all external hosts

**Answer: A**

**Question No : 234 - (Topic 1)**

Refer to the exhibit.

EIGRP: 192.168.12.0/24  
RIP: 192.168.12.0/27  
OSPF: 192.168.12.0/28

How does the router manage traffic to 192.168.12.16?

- A. It selects the RIP route because it has the longest prefix inclusive of the destination address.
- B. It chooses the OSPF route because it has the longest prefix inclusive of the destination address.
- C. it load-balances traffic between all three routes
- D. It chooses the EIGRP route because it has the lowest administrative distance

**Answer: A**

**Question No : 235 - (Topic 1)**

What are network endpoints?

- A. act as routers to connect a user to the service provider network

- B. a threat to the network if they are compromised
- C. support inter-VLAN connectivity
- D. enforce policies for campus-wide traffic going to the internet

**Answer: B**

**Question No : 236 - (Topic 1)**

Which attribute does a router use to select the best path when two or more different routes to the same destination exist from two different routing protocols.

- A. dual algorithm
- B. metric
- C. administrative distance
- D. hop count

**Answer: C**

**Explanation:** Administrative distance is the feature used by routers to select the best path when there are two or more different routes to the same destination from different routing protocols. Administrative distance defines the reliability of a routing protocol.

**Question No : 237 - (Topic 1)**

How is the native VLAN secured in a network?

- A. separate from other VLANs within the administrative domain
- B. give it a value in the private VLAN range
- C. assign it as VLAN 1
- D. configure it as a different VLAN ID on each end of the link

**Answer: A**

**Question No : 238 - (Topic 1)**

Two switches are connected and using Cisco Dynamic Trunking Protocol SW1 is set to Dynamic Desirable

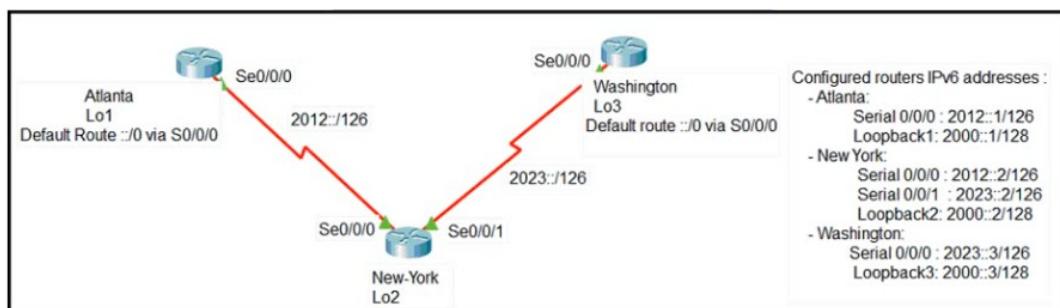
What is the result of this configuration?

- A. The link is in a down state.
- B. The link is in an error disables state
- C. The link becomes an access port.
- D. The link becomes a trunk port.

**Answer: D**

**Question No : 239 - (Topic 1)**

Refer to Exhibit.



The loopback1 interface of the Atlanta router must reach the loopback3 interface of the Washington router. Which two static host routes must be configured on the NEW York router? (Choose two)

- A. ipv6 route 2000::1/128 2012::1
- B. ipv6 route 2000::3/128 2023::3
- C. ipv6 route 2000::3/128 s0/0/0
- D. ipv6 route 2000::1/128 2012::2
- E. ipv6 route 2000::1/128 s0/0/1

**Answer: A,B**

**Question No : 240 - (Topic 1)**

What does a switch use to build its MAC address table?

- A. VTP
- B. DTP
- C. egress traffic
- D. ingress traffic

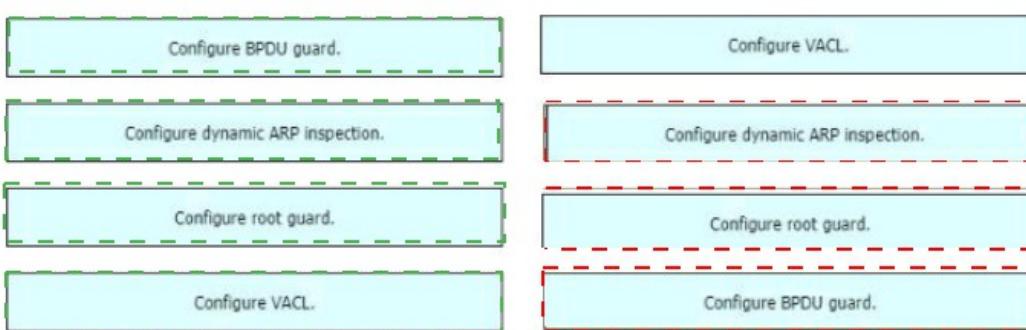
**Answer: D**

**Question No : 241 DRAG DROP - (Topic 1)**

Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.



**Answer:**



**Explanation:**

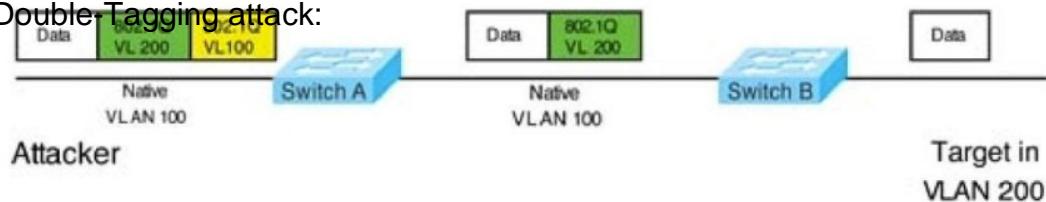
Configure VACL.

Configure dynamic ARP inspection.

Configure root guard.

Configure BPDU guard.

Double Tagging attack:



In this attack, the attacking computer generates frames with two 802.1Q tags. The first tag matches the native VLAN of the trunk port (VLAN 10 in this case), and the second matches the VLAN of a host it wants to attack (VLAN 20). When the packet from the attacker reaches Switch A, Switch A only sees the first VLAN 10 and it matches with its native VLAN 10 so this VLAN tag is removed. Switch A forwards the frame out all links with the same native VLAN 10. Switch B receives the frame with an tag of VLAN 20 so it removes this tag and forwards out to the Victim computer. Note: This attack only works if the trunk (between two switches) has the same native VLAN as the attacker. To mitigate this type of attack, you can use VLAN access control lists (VACLs, which applies to all traffic within a VLAN. We can use VACL to drop attacker traffic to specific victims/servers) or implement Private VLANs. ARP attack (like ARP poisoning/spoofing) is a type of attack in which a malicious actor sends falsified ARP messages over a local area network as ARP allows a gratuitous reply from a host even if an ARP request was not received. This results in the linking of an attacker's MAC address with the IP address of a legitimate computer or server on the network. This is an attack based on ARP which is at Layer 2. Dynamic ARP inspection (DAI) is a security feature that validates ARP packets in a network which can be used to mitigate this type of attack.

**Question No : 242 - (Topic 1)**

When DHCP is configured on a router, which command must be entered so the default gateway is automatically distributed?

- A. default-router
- B. default-gateway
- C. ip helper-address
- D. dns-server

**Answer: A**

**Question No : 243 - (Topic 1)**

An email user has been lured into clicking a link in an email sent by their company's security organization. The webpage that opens reports that it was safe but the link could have contained malicious code. Which type of security program is in place?

- A. Physical access control
- B. Social engineering attack
- C. brute force attack
- D. user awareness

**Answer: D**

**Explanation:** This is a training program which simulates an attack, not a real attack (as it says "The webpage that opens reports that it was safe") so we believed it should be called a "user awareness" program. Therefore the best answer here should be "user awareness". This is the definition of "User awareness" from CCNA 200- 301 Official Cert Guide Book: "User awareness: All users should be made aware of the need for data confidentiality to protect corporate information, as well as their own credentials and personal information. They should also be made aware of potential threats, schemes to mislead, and proper procedures to report security incidents." Note: Physical access control means infrastructure locations, such as network closets and data centers, should remain securely locked.

**Question No : 244 - (Topic 1)**

What describes the operation of virtual machines?

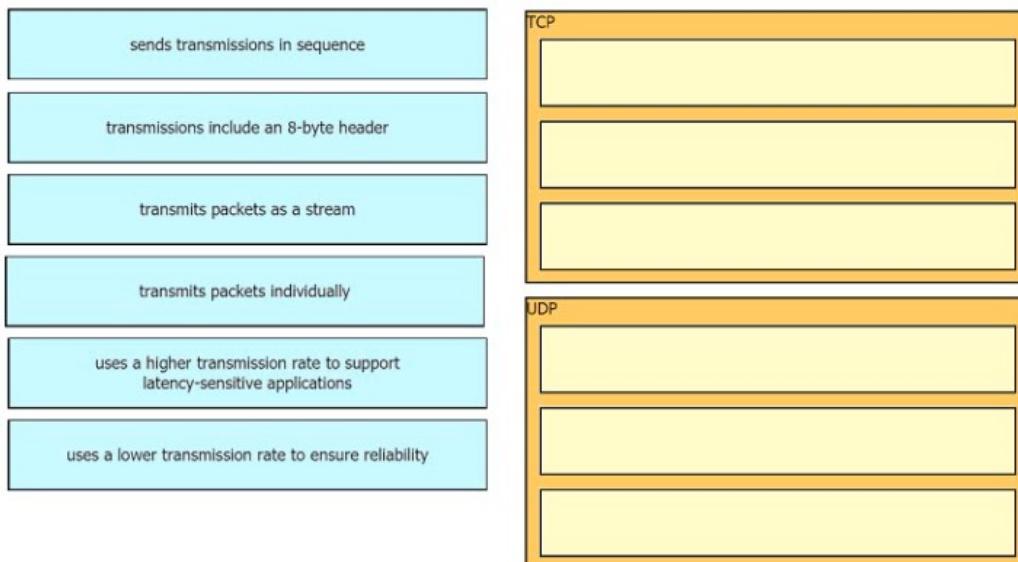
- A. Virtual machines are responsible for managing and allocating host hardware resources
- B. In a virtual machine environment, physical servers must run one operating system at a time.
- C. Virtual machines are the physical hardware that support a virtual environment.
- D. Virtual machines are operating system instances that are decoupled from server hardware

**Answer: B**

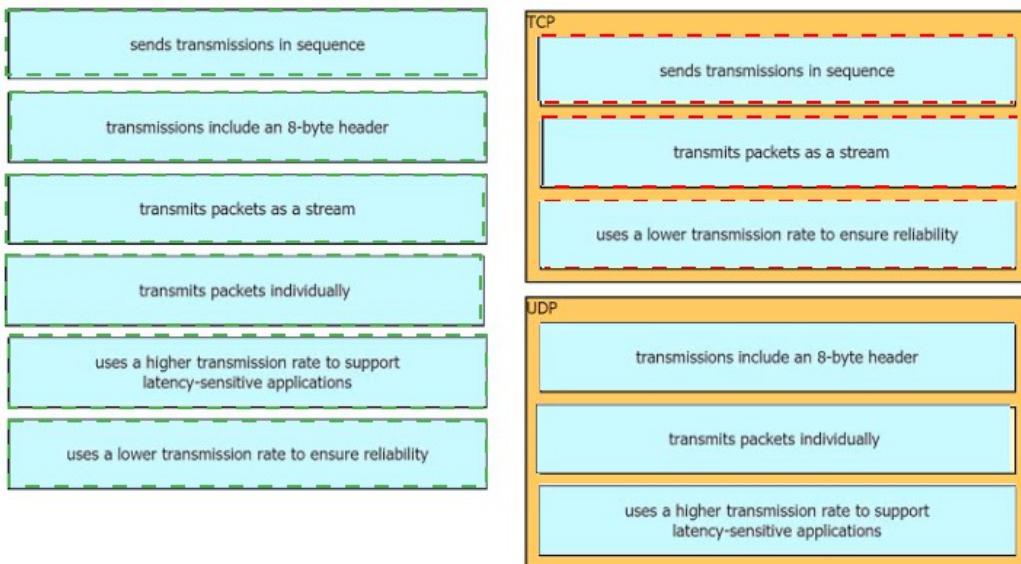
## Topic 2, Exam B

### Question No : 245 DRAG DROP - (Topic 2)

Drag the descriptions of IP protocol transmissions from the left onto the IP traffic types on the right.



**Answer:**



### Question No : 246 - (Topic 2)

Refer to the exhibit.

```

Gateway of last resort is 10.12.0.1 to network 0.0.0.0

O*E2  0.0.0.0/0 [110/1] via 10.12.0.1, 00:00:01, GigabitEthernet0/0
      10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C      10.0.0.0/24 is directly connected, GigabitEthernet0/0
L      10.0.0.2/32 is directly connected, GigabitEthernet0/0
C      10.13.0.0/24 is directly connected, GigabitEthernet0/1
L      10.13.0.2/32 is directly connected, GigabitEthernet0/1
  
```

If configuring a static default route on the router with the ip route 0.0.0.0 0.0.0.0 10.13.0.1 120 command how does the router respond?

- A. It ignores the new static route until the existing OSPF default route is removed
- B. It immediately replaces the existing OSPF route in the routing table with the newly configured static route
- C. It starts load-balancing traffic between the two default routes
- D. It starts sending traffic without a specific matching entry in the routing table to GigabitEthernet0/1

**Answer: A**

**Explanation:** Our new static default route has the Administrative Distance (AD) of 120, which is bigger than the AD of OSPF External route (O\*E2) so it will not be pushed into the

routing table until the current OSPF External route is removed. For your information, if you don't type the AD of 120 (using the command "ip route 0.0.0.0 0.0.0.0 10.13.0.1") then the new static default route would replace the OSPF default route as the default AD of static route is 1. You will see such line in the routing table:S\* 0.0.0.0/0 [1/0] via 10.13.0.1

**Question No : 247 DRAG DROP - (Topic 2)**

Refer to the exhibit.

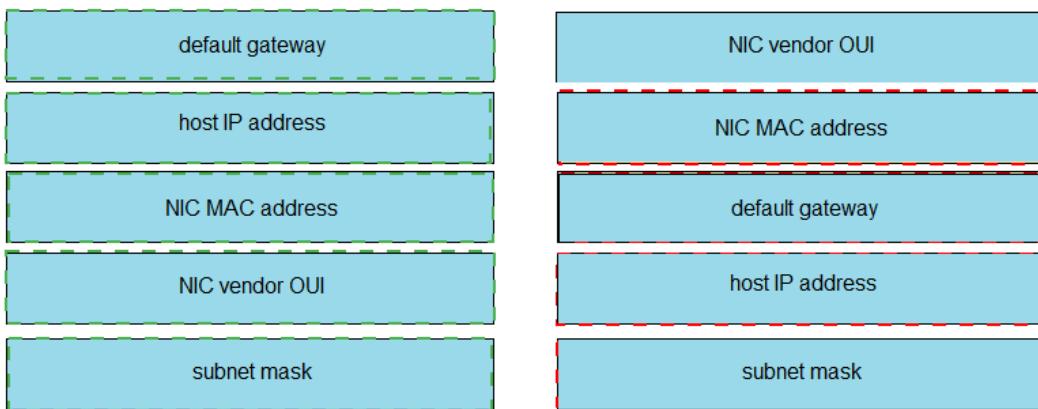
```
[root@HostTest ~]# ip route
default via 192.168.1.193 dev eth1 proto static
192.168.1.0/26 dev eth1 proto kernel scope link src 192.168.1.200 metric 1

[root@HostTest ~]# ip addr show eth1
eth1: mtu 1500 qdisc pfifo_fast qlen 1000
    link/ether 00:0C:22:83:79:A3 brd ff:ff:ff:ff:ff:ff
        inet 192.168.1.200/26 brd 192.168.1.255 scope global eth1
            inet6 fe80::20c:29ff:fe89:79b3/64 scope link
                valid_lft forever preferred_lft forever
```

Drag and drop the networking parameters from the left onto the correct values on the right.

default gateway	00:0C:22
host IP address	00:0C:22:83:79:A3
NIC MAC address	192.168.1.193
NIC vendor OUI	192.168.1.200
subnet mask	255.255.255.192

**Answer:**



**Explanation:**

NIC vendor OUI

NIC MAC address

default gateway

host IP address

subnet mask

NIC vendor OUI → 00:0C:22NIC MAC address → 00:0C:22:83:79:A3default gateway → 192.168.1.193host IP address → 192.168.1.200subnet mask → 255.255.255.192

The “ip route” and “ip addr show eth1” are Linux commands.  
+ “ip route”: display the routing table  
+ “ip addr show eth1”: get depth information (only on eth1 interface) about your network interfaces like IP Address, MAC Address information

**Question No : 248 - (Topic 2)**

which type of IPv6 address is publicly routable in the same way as IPv4 public address?

- A. global unicast
- B. link-local
- C. unique local
- D. multicast

**Answer: A**

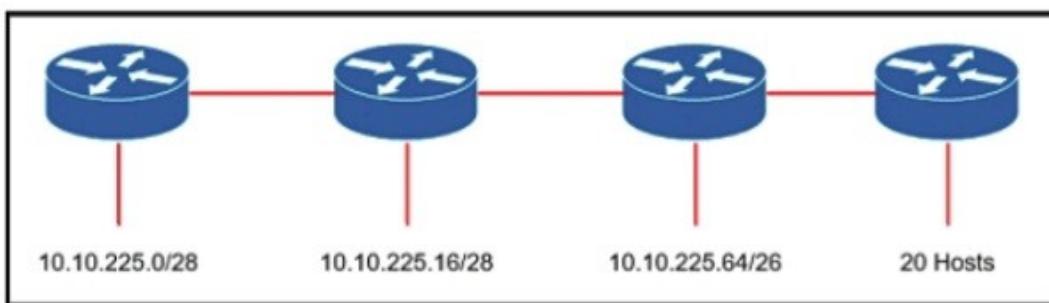
**Question No : 249 - (Topic 2)**

An engineer configured an OSPF neighbor as a designated router. Which state verifies the designated router is in the proper mode?

- A. Exchange
- B. 2-way
- C. Full
- D. Init

**Answer: C**

**Question No : 250 - (Topic 2)**



Refer to the exhibit. An engineer must add a subnet for a new office that will add 20 users to the network. Which IPv4 network and subnet mask combination does the engineer assign to minimize wasting addresses?

- A. 10.10.225.48 255.255.255.240
- B. 10.10.225.32 255.255.255.240
- C. 10.10.225.48 255.255.255.224
- D. 10.10.225.32 255.255.255.224

**Answer: D****Question No : 251 DRAG DROP - (Topic 2)**

Refer to the exhibit.

```
C:\>ipconfig/all
Windows IP Configuration

Host Name . . . . . : Inspiron15
Primary Dns Suffix . . . . . :
Node Type . . . . . : Mixed
IP Routing Enabled . . . . . : No
WINS Proxy Enabled . . . . . : No

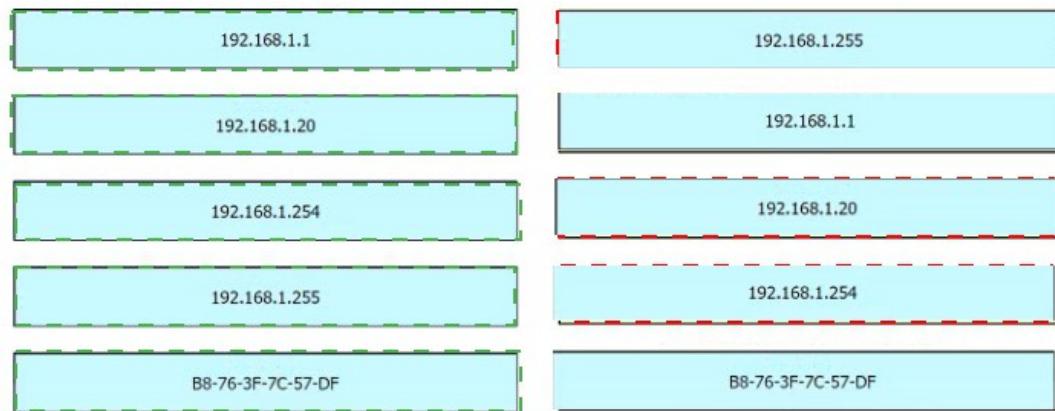
Wireless LAN adapter Local Area Connection* 12:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . :
  Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
  Physical Address . . . . . : 1A-76-3F-7C-57-DF
  DHCP Enabled . . . . . : Yes
  Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wi-Fi:
  Connection-specific DNS Suffix . . . . . :
  Description . . . . . : Dell Wireless 1703 802.11b/g/n <2.4GHz>
  Physical Address . . . . . : B8-76-3F-7C-57-DF
  DHCP Enabled . . . . . : No
  Autoconfiguration Enabled . . . . . : Yes
  Link-local IPv6 Address . . . . . :
    fe80::e09f:9839%12<Preferred>
    192.168.1.20<Preferred>
    255.255.255.0
    192.168.1.1
  DHCPv6 IAID . . . . . : 263747135
  DHCPv6 Client DUID . . . . . :
    . . . . . : 00-01-00-01-18-E6-32-43-B8-76-3F-7C-57-DF
    . . . . . : 192.168.1.15
    . . . . . : 192.168.1.16
  NetBIOS over Tcpip . . . . . : Enabled
```

An engineer is tasked with verifying network configuration parameters on a client workstation to report back to the team lead. Drag and drop the node identifiers from the left onto the network parameters on the right.

192.168.1.1	broadcast address
192.168.1.20	default gateway
192.168.1.254	host IP address
192.168.1.255	last assignable IP address in the subnet
B8-76-3F-7C-57-DF	MAC address

**Answer:**



**Question No : 252 - (Topic 2)**

A network engineer must configure the router R1 GigabitEthernet1/1 interface to connect to the router R2 GigabitEthernet1/1 interface. For the configuration to be applied the engineer must compress the address 2001:0db8:0000:0000:0500:000a:400F:583B. Which command must be issued on the interface?

- A. ipv6 address 2001:0db8::5: a: 4F 583B
- B. ipv6 address 2001:db8::500:a:400F:583B
- C. ipv6 address 2001 db8:0::500:a:4F:583B
- D. ipv6 address 2001::db8:0000::500:a:400F:583B

**Answer: B**

**Question No : 253 - (Topic 2)**

A network engineer must create a diagram of a multivendor network. Which command must be configured on the Cisco devices so that the topology of the network can be mapped?

- A. Device(Config)#lldp run
- B. Device(Config)#cdp run
- C. Device(Config-if)#cdp enable
- D. Device(Config)#flow-sampler-map topology

**Answer: A**

**Question No : 254 - (Topic 2)**

An administrator must secure the WLC from receiving spoofed association requests. Which steps must be taken to configure the WLC to restrict the requests and force the user to wait 10 ms to retry an association request?

- A. Enable Security Association Teardown Protection and set the SA Query timeout to 10
- B. Enable MAC filtering and set the SA Query timeout to 10
- C. Enable 802.1x Layer 2 security and set me Comeback timer to 10
- D. Enable the Protected Management Frame service and set the Comeback timer to 10

**Answer: C**

**Question No : 255 - (Topic 2)**

When a WPA2-PSK WLAN is configured in the wireless LAN Controller, what is the minimum number of characters that in ASCII format?

- A. 6
- B. 8
- C. 12
- D. 18

**Answer: B**

**Question No : 256 - (Topic 2)**

Where does wireless authentication happen?

- A. SSID
- B. radio
- C. band
- D. Layer 2

**Answer: D**

**Question No : 257 - (Topic 2)**

If a switch port receives a new frame while it is actively transmitting a previous frame, how does it process the frames?

- A. The new frame is delivered first, the previous frame is dropped, and a retransmission request is sent.
- B. The previous frame is delivered, the new frame is dropped, and a retransmission request is sent.
- C. The new frame is placed in a queue for transmission after the previous frame.
- D. The two frames are processed and delivered at the same time.

**Answer: B**

**Question No : 258 - (Topic 2)**

Which type of organization should use a collapsed-core architecture?

- A. large and requires a flexible, scalable network design
- B. large and must minimize downtime when hardware fails
- C. small and needs to reduce networking costs currently
- D. small but is expected to grow dramatically in the near future

**Answer: C**

**Explanation:** A collapsed-core architecture is a limited investment for a small company, and may be efficient and productive for a limited time.

**Question No : 259 - (Topic 2)**

A network administrator needs to aggregate 4 ports into a single logical link which must negotiate layer 2 connectivity to ports on another switch. What must be configured when using active mode on both sides of the connection?

- A. 802.1q trunks
- B. Cisco vPC
- C. LLDP
- D. LACP

**Answer: D**

**Question No : 260 - (Topic 2)**

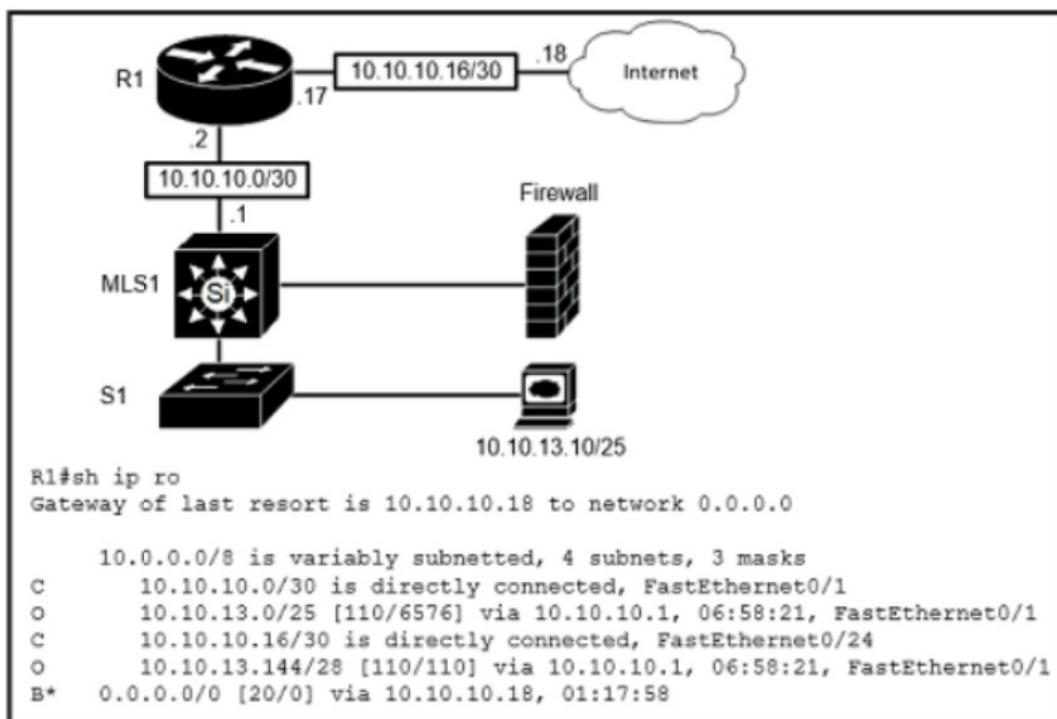
What is the expected outcome when an EUI-64 address is generated?

- A. The seventh bit of the original MAC address of the interface is inverted
- B. The interface ID is configured as a random 64-bit value
- C. The characters FE80 are inserted at the beginning of the MAC address of the interface
- D. The MAC address of the interface is used as the interface ID without modification

**Answer: A**

**Question No : 261 - (Topic 2)**

Refer to the exhibit.



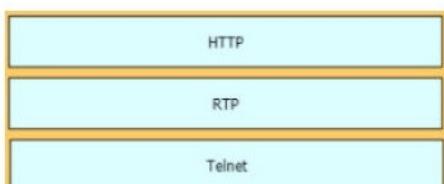
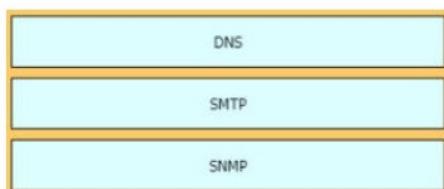
Which route type is configured to reach the internet?

- A. host route
- B. default route
- C. floating static route
- D. network route

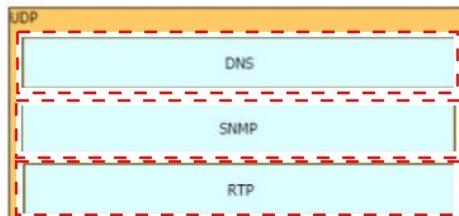
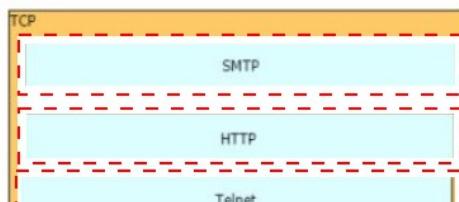
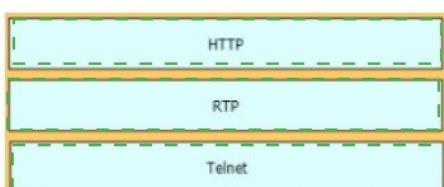
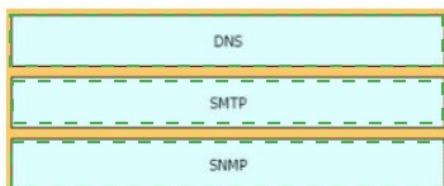
**Answer: B**

**Question No : 262 DRAG DROP - (Topic 2)**

Drag and drop the TCP/IP protocols from the left onto the transmission protocols on the right



**Answer:**



**Question No : 263 - (Topic 2)**

Which protocol does an access point use to draw power from a connected switch?

- A. Internet Group Management Protocol
- B. Adaptive Wireless Path Protocol
- C. Cisco Discovery Protocol
- D. Neighbor Discovery Protocol

**Answer: C**

**Question No : 264 - (Topic 2)**

A Cisco IP phone receive untagged data traffic from an attached PC. Which action is taken by the phone?

- A. It allows the traffic to pass through unchanged
- B. It drops the traffic
- C. It tags the traffic with the default VLAN
- D. It tags the traffic with the native VLAN

**Answer: A**

**Explanation:**

[https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960x/software/15-0\\_2\\_EX/vlan/configuration\\_guide/b\\_vlan\\_152ex\\_2960-x\\_cg/b\\_vlan\\_152ex\\_2960-x\\_cg\\_chapter\\_0110.pdf](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960x/software/15-0_2_EX/vlan/configuration_guide/b_vlan_152ex_2960-x_cg/b_vlan_152ex_2960-x_cg_chapter_0110.pdf)

Untagged traffic from the device attached to the Cisco IP Phone passes through the phone unchanged, regardless of the trust state of the access port on the phone.

**Question No : 265 - (Topic 2)**

What is the same for both copper and fiber interfaces when using SFP modules?

- A. They support an inline optical attenuator to enhance signal strength
- B. They provide minimal interruption to services by being hot-swappable
- C. They offer reliable bandwidth up to 100 Mbps in half duplex mode
- D. They accommodate single-mode and multi-mode in a single module

**Answer: B**

**Question No : 266 - (Topic 2)**

What is the benefit of configuring PortFast on an interface?

- A. After the cable is connected, the interface uses the fastest speed setting available for that cable type
- B. After the cable is connected, the interface is available faster to send and receive user data

- C. The frames entering the interface are marked with higher priority and then processed faster by a switch.
- D. Real-time voice and video frames entering the interface are processed faster

**Answer: B**

**Question No : 267 - (Topic 2)**

Which JSON data type is an unordered set of attribute- value pairs?

- A. array
- B. string
- C. object
- D. Boolean

**Answer: C**

**Question No : 268 - (Topic 2)**

Which statement about Link Aggregation when implemented on a Cisco Wireless LAN Controller is true?

- A. To pass client traffic two or more ports must be configured.
- B. The EtherChannel must be configured in "mode active"
- C. When enabled the WLC bandwidth drops to 500 Mbps
- D. One functional physical port is needed to pass client traffic

**Answer: D**

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-2/config-guide/b\\_cg82/b\\_cg82\\_chapter\\_010101011.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-2/config-guide/b_cg82/b_cg82_chapter_010101011.html)

**Question No : 269 - (Topic 2)**

How do traditional campus device management and Cisco DNA Center device management differ in regards to deployment?

- A. Cisco DNA Center device management can deploy a network more quickly than traditional campus device management
- B. Traditional campus device management allows a network to scale more quickly than with Cisco DNA Center device management
- C. Cisco DNA Center device management can be implemented at a lower cost than most traditional campus device management options
- D. Traditional campus device management schemes can typically deploy patches and updates more quickly than Cisco DNA Center device management

**Answer: A**

**Question No : 270 - (Topic 2)**

Which action must be taken to assign a global unicast IPv6 address on an interface that is derived from the MAC address of that interface?

- A. configure a stateful DHCPv6 server on the network
- B. enable SLAAC on an interface
- C. disable the EUI-64 bit process
- D. explicitly assign a link-local address

**Answer: B**

**Question No : 271 - (Topic 2)**

What role does a hypervisor provide for each virtual machine in server virtualization?

- A. infrastructure-as-a-service.
- B. Software-as-a-service
- C. control and distribution of physical resources
- D. services as a hardware controller.

**Answer: C**

**Explanation:** The hypervisor creates and manages virtual machines on a host computer and allocates physical system resources to them.

**Question No : 272 - (Topic 2)**

An engineer observes high usage on the 2.4GHz channels and lower usage on the 5GHz channels. What must be configured to allow clients to preferentially use 5GHz access points?

- A. Re-Anchor Roamed Clients
- B. 11ac MU-MIMO
- C. OEAP Split Tunnel
- D. Client Band Select

**Answer: D**

**Question No : 273 - (Topic 2)**

Which two QoS tools provides congestion management? ( Choose two )

- A. CAR
- B. CBWFQ
- C. PQ
- D. PBR
- E. FRTS

**Answer: B,C**

**Explanation:** Type of queuing methods are available:

- First-In-First-Out (FIFO)
- Priority Queuing (PQ)
- Custom Queuing (CQ)
- Weighted Fair Queuing (WFQ)
- Class-Based Weighted Fair Queuing (CBWFQ)
- Low-Latency Queuing (LLQ)

<https://www.orbit-computer-solutions.com/qos-congestion-management-tools/>

**Question No : 274 - (Topic 2)**

Router A learns the same route from two different neighbors, one of the neighbor routers is an OSPF neighbor and the other is an EIGRP neighbor. What is the administrative distance of the route that will be installed in the routing table?

- A. 20
- B. 90
- C. 110
- D. 115

**Answer: B**

**Explanation:** The Administrative distance (AD) of EIGRP is 90 while the AD of OSPF is 110 so EIGRP route will be chosen to install into the routing table.

**Question No : 275 - (Topic 2)**

Which function does an SNMP agent perform?

- A. it sends information about MIB variables in response to requests from the NMS
- B. it requests information from remote network nodes about catastrophic system events.
- C. it manages routing between Layer 3 devices in a network
- D. it coordinates user authentication between a network device and a TACACS+ or RADIUS server

**Answer: A**

**Question No : 276 - (Topic 2)**

What is the primary function of a Layer 3 device?

- A. to analyze traffic and drop unauthorized traffic from the Internet
- B. to transmit wireless traffic between hosts
- C. to pass traffic between different networks
- D. forward traffic within the same broadcast domain

**Answer: C**

**Question No : 277 - (Topic 2)**

The **service password-encryption** command is entered on a router. What is the effect of this configuration?

- A. restricts unauthorized users from viewing clear-text passwords in the running configuration

- B. encrypts the password exchange when a VPN tunnel is established
- C. prevents network administrators from configuring clear-text passwords
- D. protects the VLAN database from unauthorized PC connections on the switch

**Answer: A**

**Question No : 278 - (Topic 2)**

What is a capability of FTP in network management operations?

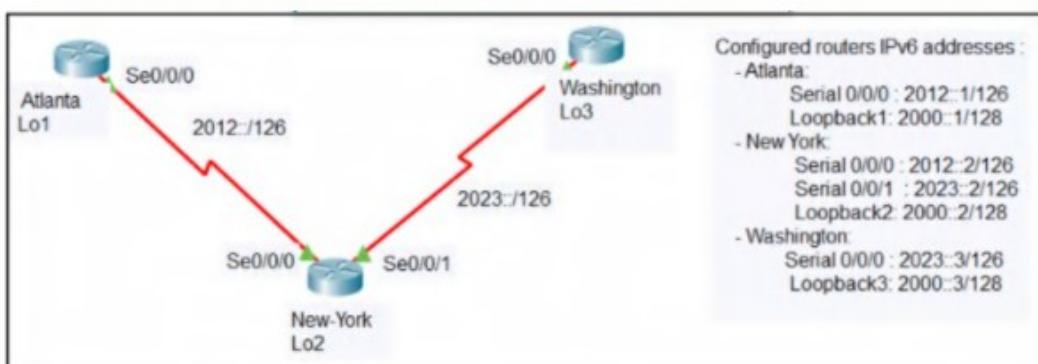
- A. encrypts data before sending between data resources
- B. devices are directly connected and use UDP to pass file information
- C. uses separate control and data connections to move files between server and client
- D. offers proprietary support at the session layer when transferring data

**Answer: C**

**Explanation:** The File Transfer Protocol (FTP) is a standard communication protocol used for the transfer of computer files from a server to a client on a computer network. FTP is built on a client–server model architecture using separate control and data connections between the client and the server.

**Question No : 279 - (Topic 2)**

Refer to the exhibit.



An engineer configured the New York router with state routes that point to the Atlanta and

Washington sites. When command must be configured on the Atlanta and Washington routers so that both sites are able to reach the loopback2 interface on the New York router?

- A. ipv6 route ::/0 Serial 0/0/1
- B. ipv6 route 0/0 Serial 0/0/0
- C. ipv6 route ::/0 Serial 0/0/0
- D. ip route 0.0.0.0.0.0.0 Serial 0/0/0
- E. ipv6 route ::/0 2000::2

**Answer: C**

**Question No : 280 - (Topic 2)**

What Is the path for traffic sent from one user workstation to another workstation on a separate switch In a three-tier architecture model?

- A. access - core - distribution - access
- B. access - distribution - distribution - access
- C. access - core - access
- D. access -distribution - core - distribution - access

**Answer: D**

**Question No : 281 - (Topic 2)**

Which WPA3 enhancement protects against hackers viewing traffic on the Wi-Fi network?

- A. TKIP encryption
- B. AES encryption
- C. scrambled encryption key
- D. SAE encryption

**Answer: D**

**Question No : 282 - (Topic 2)**

Which design element is a best practice when deploying an 802.11b wireless infrastructure?

- A. disabling TPC so that access points can negotiate signal levels with their attached wireless devices.
- B. setting the maximum data rate to 54 Mbps on the Cisco Wireless LAN Controller
- C. allocating nonoverlapping channels to access points that are in close physical proximity to one another
- D. configuring access points to provide clients with a maximum of 5 Mbps

**Answer: C**

**Question No : 283 - (Topic 2)**

Which type of traffic is sent with pure iPsec?

- A. broadcast packets from a switch that is attempting to locate a MAC address at one of several remote sites
- B. multicast traffic from a server at one site to hosts at another location
- C. spanning-tree updates between switches that are at two different sites
- D. unicast messages from a host at a remote site to a server at headquarters

**Answer: D**

**Explanation:** “The original poster makes a correct observation that EIGRP does not work in a pure IPSEC environment. IPSEC was designed to process unicast traffic.

**Question No : 284 DRAG DROP - (Topic 2)**

Refer to the exhibit.

```
C:\>ipconfig/all
Windows IP Configuration

Host Name . . . . . : Inspiron15
Primary Dns Suffix . . . . . :
Node Type . . . . . : Mixed
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

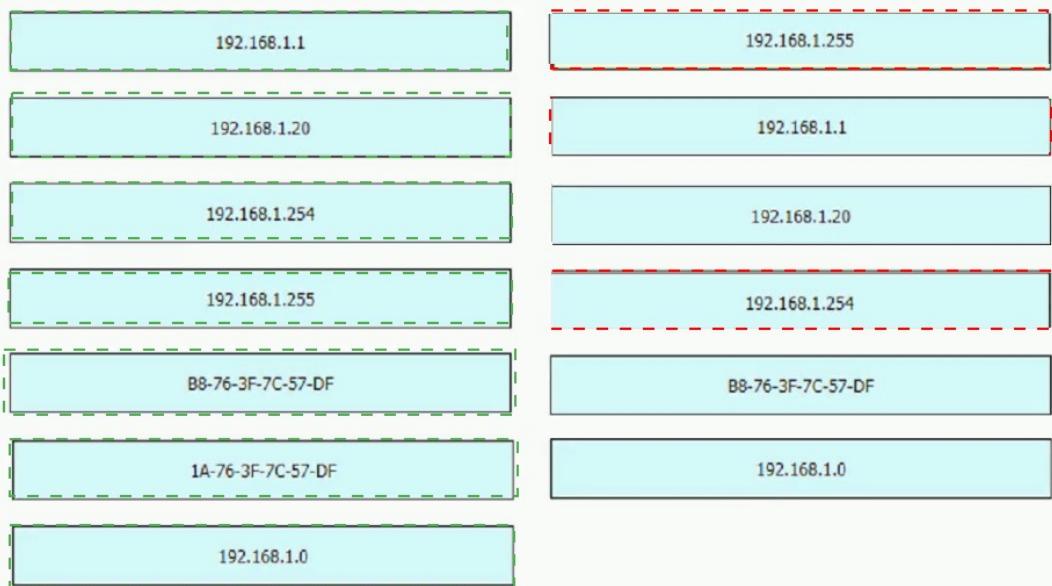
Wireless LAN adapter Local Area Connection* 12:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
Physical Address. . . . . : 1A-76-3F-7C-57-DF
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Dell Wireless 1703 802.11b/g/n (2.4GHz)
Physical Address. . . . . : B8-76-3F-7C-57-DF
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . :
    . . . . . fe80::e09f:9839%6:86:f755x12<Preferred>
        . . . . . 192.168.1.20<Preferred>
        . . . . . 255.255.255.0
        . . . . . 192.168.1.1
    . . . . . 263747135
DHCPv6 IAID . . . . . : 00-01-00-81-18-E6-32-43-B8-76-3F-7C-57-DF
DHCPv6 Client DUID. . . . . :
    . . . . . 192.168.1.15
    . . . . . 192.168.1.16
NetBIOS over Tcpip. . . . . : Enabled
```

An engineer is required to verify that the network parameters are valid for the users wireless LAN connectivity on a /24 subnet. Drag and drop the values from the left onto the network parameters on the right. Not all values are used.

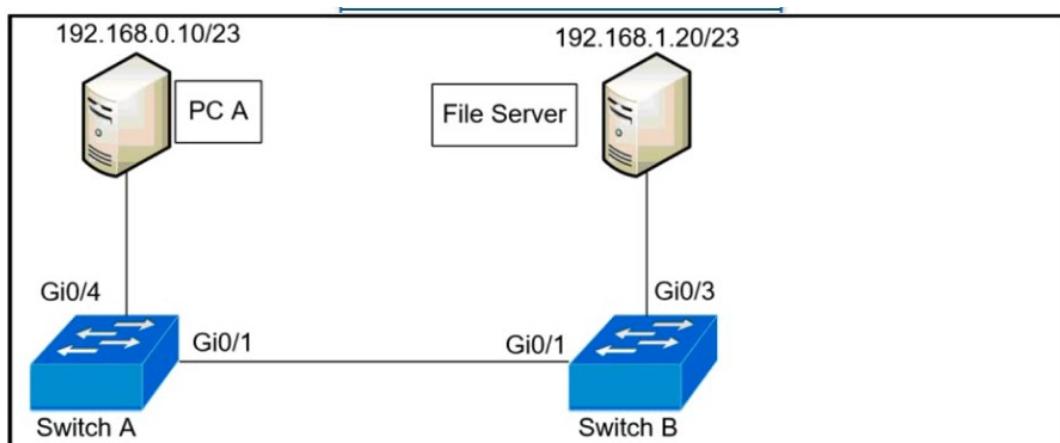
192.168.1.1	broadcast address
192.168.1.20	default gateway
192.168.1.254	host IP address
192.168.1.255	last assignable IP address in the subnet
B8-76-3F-7C-57-DF	MAC address
1A-76-3F-7C-57-DF	network address
192.168.1.0	

**Answer:**



**Question No : 285 - (Topic 2)**

Refer to the exhibit.



<b>Switch A</b> Vlan 10,11,12,13  interface GigabitEthernet0/1 switchport mode trunk switchport trunk allowed vlan 10-12 ! interface GigabitEthernet0/4 switchport access vlan 13 switchport mode access	<b>Switch B</b> Vlan 10,11,12,13  interface GigabitEthernet0/1 switchport mode trunk ! interface GigabitEthernet0/3 switchport access vlan 13 switchport mode access
---	--

A network administrator assumes a task to complete the connectivity between PC A and

the File Server. Switch A and Switch B have been partially configured with VLAN 10, 11, 12, and 13. What is the next step in the configuration?

- A. Add PC A to VLAN 10 and the File Server to VLAN 11 for VLAN segmentation
- B. Add VLAN 13 to the trunk links on Switch A and Switch B for VLAN propagation
- C. Add a router on a stick between Switch A and Switch B allowing for Inter-VLAN routing.
- D. Add PC A to the same subnet as the File Server allowing for intra-VLAN communication.

**Answer: B**

**Question No : 286 - (Topic 2)**

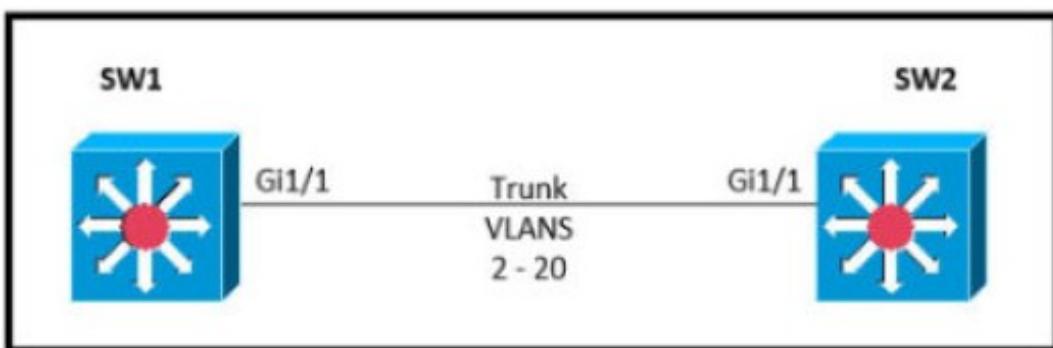
Which QoS tool is used to optimize voice traffic on a network that is primarily intended for data traffic?

- A. FIFO
- B. WFQ
- C. PQ
- D. WRED

**Answer: C**

**Question No : 287 - (Topic 2)**

Refer to the exhibit.



Which command must be executed for Gi1.1 on SW1 to become a trunk port if Gi1/1 on SW2 is configured in desirable or trunk mode?

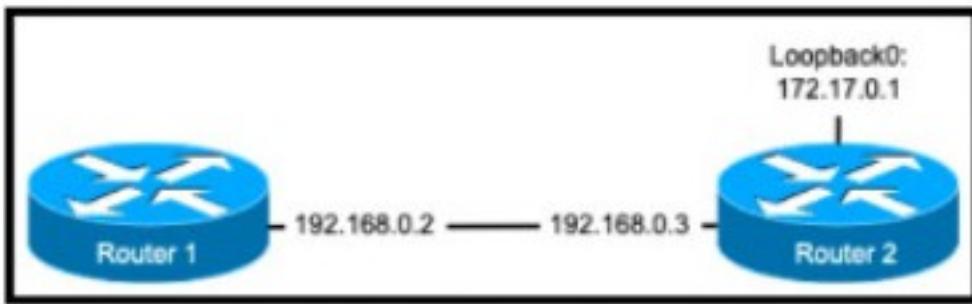
- A. switchport mode trunk
- B. switchport mode dot1-tunnel
- C. switchport mode dynamic auto

- D. switchport mode dynamic desirable

**Answer: C**

**Question No : 288 - (Topic 2)**

Refer to the exhibit.



The ntp server 192.168.0.3 command has been configured on router 1 to make it an NTP client of router 2. Which command must be configured on router 2 so that it operates in server-only mode and relies only on its internal clock?

- A. Router2(config)#ntp passive
- B. Router2(config)#ntp server 172.17.0.1
- C. Router2(config)#ntp master 4
- D. Router2(config)#ntp server 192.168.0.2

**Answer: B**

**Explanation:** • To use internal clock of this router, use any configured IP address in any interface of this router.

**Question No : 289 - (Topic 2)**

Which configuration management mechanism uses TCP port 22 by default when communicating with managed nodes?

- A. Ansible
- B. Python
- C. Puppet
- D. Chef

**Answer: A**

**Question No : 290 - (Topic 2)**

Refer to the exhibit.

```
R1# show ip route
*****
D      172.16.32.0/27 [90/2888597172]  via 20.1.1.1
O      172.16.32.0/19  [110/292094]    via 20.1.1.10
R      172.16.32.0/24  [120/2]       via 20.1.1.3
```

Router R1 is running three different routing protocols. Which route characteristic is used by the router to forward the packet that it receives for destination IP 172.16.32.1?

- A. longest prefix
- B. metric
- C. cost
- D. administrative distance

**Answer: A**

**Explanation:**

<https://learningnetwork.cisco.com/s/question/0D53i00000KszSICAJ/administrative-distance-vs-longest-match-rule>

**Question No : 291 - (Topic 2)**

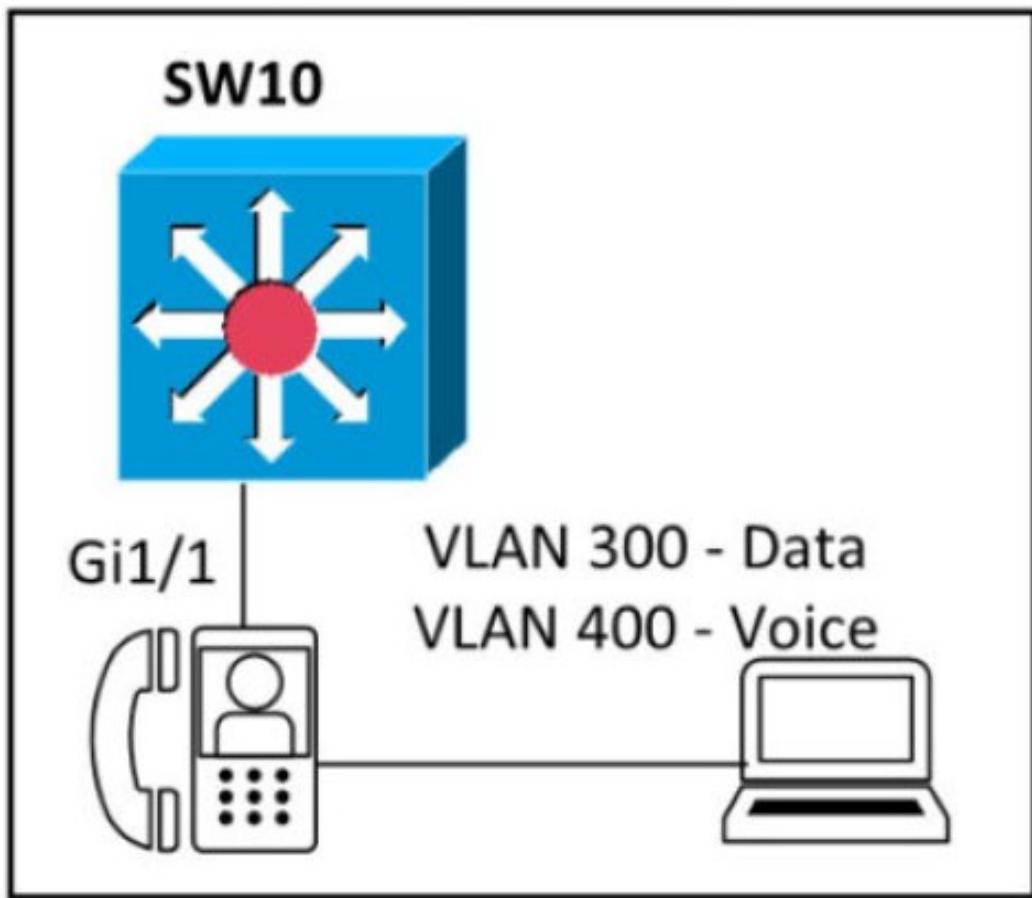
Using direct sequence spread spectrum, which three 2.4-GHz channels are used to limit collisions?

- A. 1,6,11
- B. 1,5,10
- C. 1,2,3
- D. 5,6,7

**Answer: A**

**Question No : 292 - (Topic 2)**

Refer to the exhibit.



An engineer must configure GigabitEthernet1/1 to accommodate voice and data traffic  
Which configuration accomplishes this task?

```
interface gigabitethernet1/1
switchport mode access
switchport access vlan 300
switchport voice vlan 400
```

```
interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport voice vlan 400
```

```
interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport trunk vlan 400
```

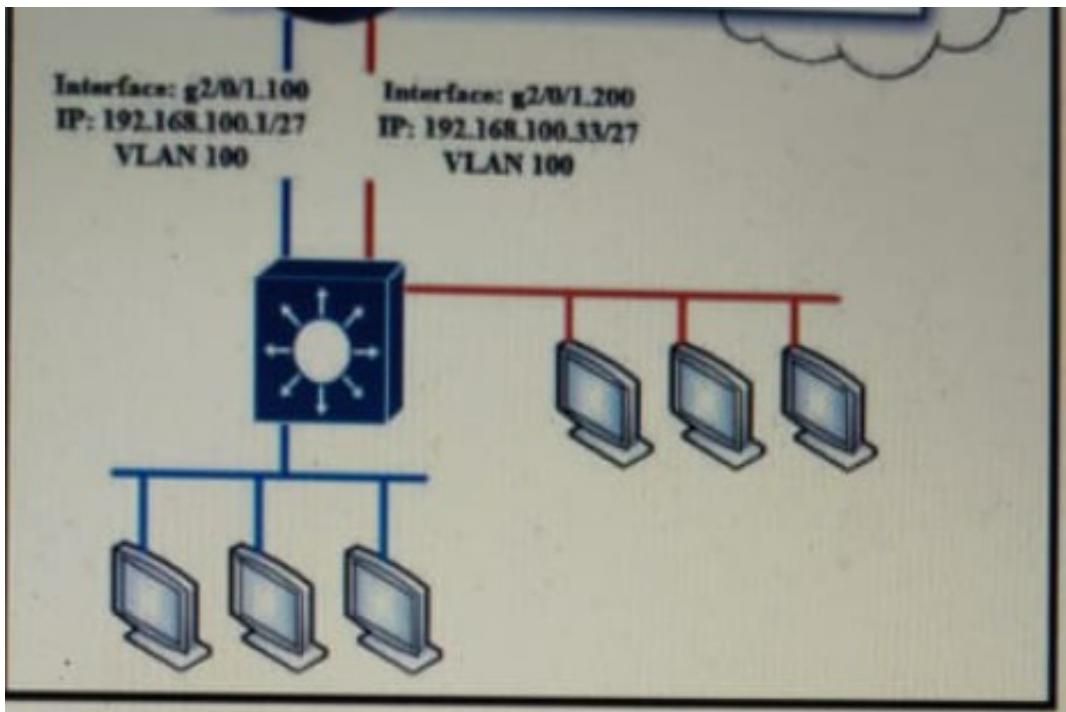
```
interface gigabitethernet1/1
switchport mode access
switchport voice vlan 300
switchport access vlan 400
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

**Question No : 293 - (Topic 2)**

Refer to Exhibit.



Which configuration must be applied to the router that configures PAT to translate all addresses in VLAN 200 while allowing devices on VLAN 100 to use their own IP addresses?

- Router1(config)#access-list 99 permit 209.165.201.2 0.0.0.0  
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside
- Router1(config)#access-list 99 permit 209.165.201.2 255.255.255.255  
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside
- Router1(config)#access-list 99 permit 192.168.100.0 0.0.0.255  
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside
- Router1(config)#access-list 99 permit 192.168.100.32 0.0.0.31  
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config-if)#ip nat inside  
Router1(config)#interface gi1/0/0  
Router1(config-if)#ip nat outside

A. Option A

- B. Option B
- C. Option C
- D. Option D

**Answer: D**

**Question No : 294 - (Topic 2)**

What are two characteristics of an SSID? (Choose Two)

- A. It can be hidden or broadcast in a WLAN
- B. It uniquely identifies an access point in a WLAN
- C. It uniquely identifies a client in a WLAN
- D. It is at most 32 characters long.
- E. IT provides secured access to a WLAN

**Answer: B,E**

**Question No : 295 - (Topic 2)**

What is the purpose of an SSID?

- A. It provides network security
- B. It differentiates traffic entering access points
- C. It identifies an individual access point on a WLAN
- D. It identifies a WLAN

**Answer: D**

**Explanation:** “In IEEE 802.11 wireless local area networking standards (including Wi-Fi), a service set is a group of wireless network devices which share a service set identifier (SSID)... A service set forms a logical network of nodes operating with shared link-layer networking parameters; they form one logical network segment.“

**Question No : 296 - (Topic 2)**

What are two recommendations for protecting network ports from being exploited when located in an office space outside of an IT closer? (Choose two.)

- A. enable the PortFast feature on ports
- B. implement port-based authentication
- C. configure static ARP entries
- D. configure ports to a fixed speed
- E. shut down unused ports

**Answer: B,E**

**Question No : 297 - (Topic 2)**

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
S   172.16.0.0/24 [1/0] via 207.165.200.250, Serial0/0/0
O   172.16.0.128/25 [110/38443] via 207.165.200.254, 00:00:23, Serial0/0/1
D   172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:25, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C   209.165.200.248/30 is directly connected, Serial0/0/0
L   209.165.200.249/32 is directly connected, Serial0/0/0
C   209.165.200.252/30 is directly connected, Serial0/0/1
L   209.165.200.253/32 is directly connected, Serial0/0/1
```

With which metric was the route to host 172.16.0.202 learned?

- A. 0
- B. 110
- C. 38443
- D. 3184439

**Answer: C**

**Explanation:** Both the line “O 172.16.0.128/25” and “S 172.16.0.0/24” cover the host 172.16.0.202 but with the “longest (prefix) match” rule the router will choose the first route.

**Question No : 298 - (Topic 2)**

Refer to the exhibit.

```
SiteA#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02a.db91 (bia 780a.f02b.db91)
  Description: Connection to SiteB
  Internet address is 10.10.10.1/30
  MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 166/255, txload 1/255, rxload 1/255
  Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
  5 minute input rate 264797000 bits/sec, 26672 packets/sec
  5 minute output rate 122464000 bits/sec, 15724 packets/sec

SiteB#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02c.db26 (bia 780c.f02c.db26)
  Description: Connection to SiteA
  Internet address is 10.10.10.2/30
  MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
  5 minute input rate 122464000 bits/sec, 15724 packets/sec
  5 minute output rate 264797000 bits/sec, 26672 packets/sec
```

Shortly after SiteA was connected to SiteB over a new single-mode fiber path users at SiteA report intermittent connectivity issues with applications hosted at SiteB. What is the cause of the intermittent connectivity issue?

- A. Interface errors are incrementing
- B. An incorrect SFP media type was used at SiteA
- C. High usage is causing high latency
- D. The sites were connected with the wrong cable type

**Answer: A**

### Question No : 299 - (Topic 2)

Which result occurs when PortFast is enabled on an interface that is connected to another switch?

- A. Spanning tree may fail to detect a switching loop in the network that causes broadcast storms
- B. VTP is allowed to propagate VLAN configuration information from switch to switch automatically.
- C. Root port choice and spanning tree recalculation are accelerated when a switch link goes down
- D. After spanning tree converges PortFast shuts down any port that receives BPDUs.

**Answer: A**

**Explanation:** Enabling the PortFast feature causes a switch or a trunk port to enter the STP forwarding-state immediately or upon a linkup event, thus bypassing the listening and

learning states.

Note: To enable portfast on a trunk port you need the trunk keyword “spanning-tree portfast trunk

**Question No : 300 - (Topic 2)**

A device detects two stations transmitting frames at the same time. This condition occurs after the first 64 bytes of the frame is received interface counter increments?

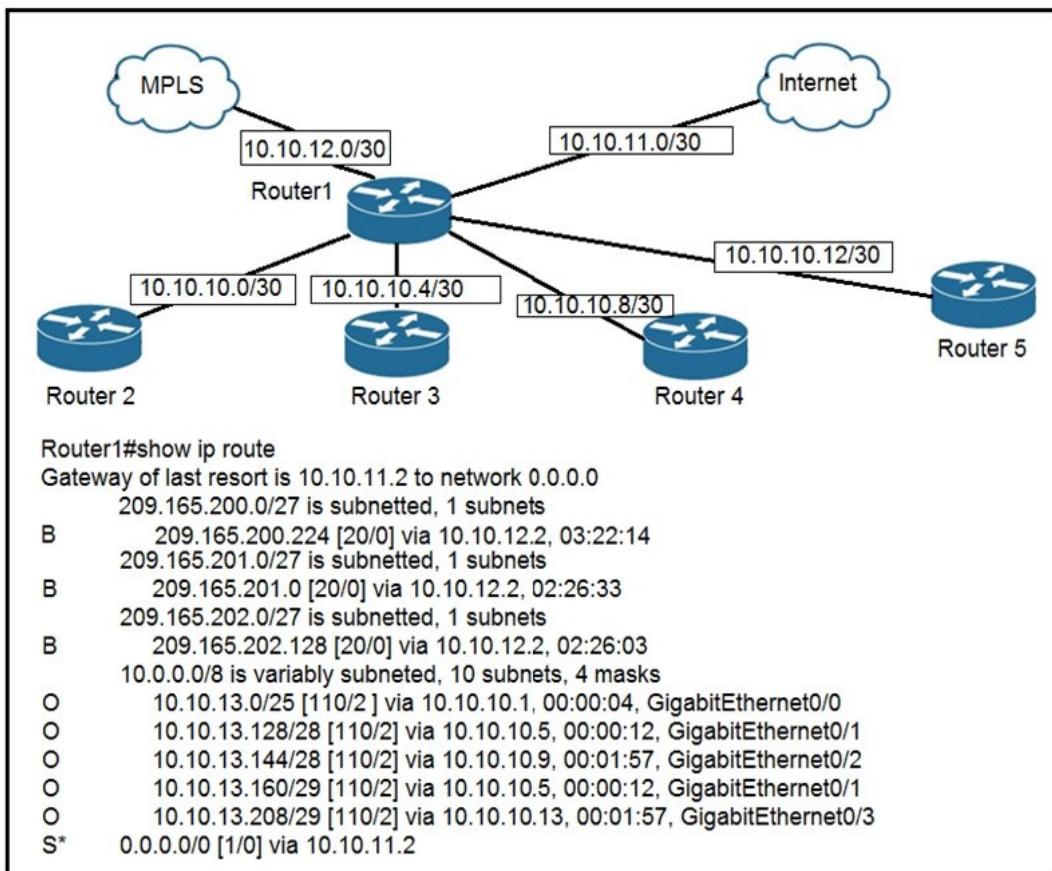
- A. collision
- B. CRC
- C. runt
- D. late collision

**Answer: D**

**Explanation:** <https://www.cisco.com/c/en/us/support/docs/interfaces-modules/port-adapters/12768-eth-collisions.html>

**Question No : 301 - (Topic 2)**

Refer to the exhibit.



To which device does Router1 send packets that are destined to host 10.10.13.165?

- A. Router2
- B. Router3
- C. Router4
- D. Router5

**Answer: B**

**Question No : 302 DRAG DROP - (Topic 2)**

Drag and drop the lightweight access point operation modes from the left onto the descriptions on the right

## Cisco 200-301 : Practice Test

bridge mode	allows the access point to communicate with the WLC over a WAN link.
local mode	allows for packet captures of wireless traffic
monitor mode	rogue detector mode
Flexconnect mode	preferred for connecting access points in a mesh environment
sniffer mode	receive only mode which acts as a dedicated sensor for RFID and IDS
	transmits normally on one channel and monitors other channels for noise and interference

### Answer:

bridge mode	local mode
local mode	sniffer mode
monitor mode	rogue detector mode
Flexconnect mode	bridge mode
sniffer mode	Flexconnect mode
	monitor mode

### Explanation:

local mode
sniffer mode
rogue detector mode
bridge mode
Flexconnect mode
monitor mode

Table

Description automatically generated

**Question No : 303 - (Topic 2)**

An engineer configures interface Gi1/0 on the company PE router to connect to an ISP  
Neighbor discovery is disabled

```
interface Gi1/0
description HQ_DC3978-87297
duplex full
speed 100
negotiation auto
lldp transmit
lldp receive
```

Which action is necessary to complete the configuration if the ISP uses third-party network devices?

- A. Enable LLDP globally
- B. Disable autonegotiation
- C. Disable Cisco Discovery Protocol on the interface
- D. Enable LLDP-MED on the ISP device

**Answer: D**

**Question No : 304 - (Topic 2)**

Which two must be met before SSH can operate normally on a Cisco IOS switch? (Choose two)

- A. The switch must be running a k9 (crypto) IOS image
- B. The `ip domain-name` command must be configured on the switch
- C. IP routing must be enabled on the switch
- D. A console password must be configured on the switch
- E. Telnet must be disabled on the switch

**Answer: A,B**

Reference: <https://www.cisco.com/c/en/us/support/docs/security-vpn/secure-shell-ssh/4145-ssh.html>

**Question No : 305 - (Topic 2)**

Which type of API allows SDN controllers to dynamically make changes to the network?

- A. northbound API
- B. REST API
- C. SOAP API
- D. southbound API

**Answer: D**

**Explanation:**

Cisco overview doc for SDN here:

[https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Data\\_Center/VMDC/SDN/SDN.html](https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Data_Center/VMDC/SDN/SDN.html)

### **Question No : 306 - (Topic 2)**

Which communication interaction takes place when a southbound API is used?

- A. between the SDN controller and PCs on the network
- B. between the SON controller and switches and routers on the network
- C. between the SON controller and services and applications on the network
- D. between network applications and switches and routers on the network

**Answer: B**

### **Question No : 307 - (Topic 2)**

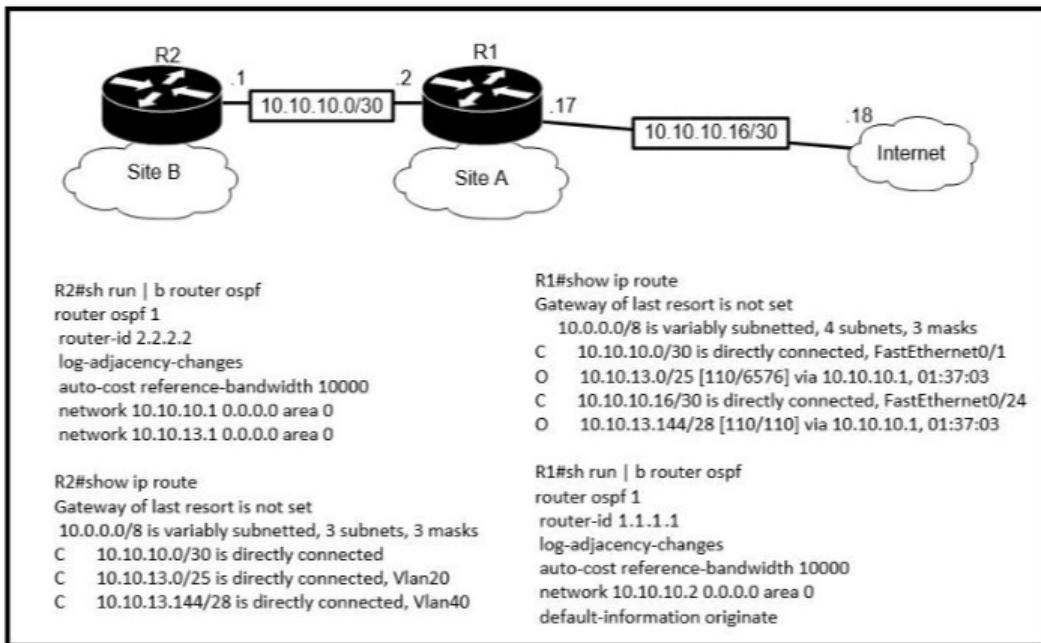
Which two primary drivers support the need for network automation? (Choose two.)

- A. Eliminating training needs
- B. Increasing reliance on self-diagnostic and self-healing
- C. Policy-derived provisioning of resources
- D. Providing a single entry point for resource provisioning
- E. Reducing hardware footprint

**Answer: C,D**

### **Question No : 308 - (Topic 2)**

Refer to the exhibit.



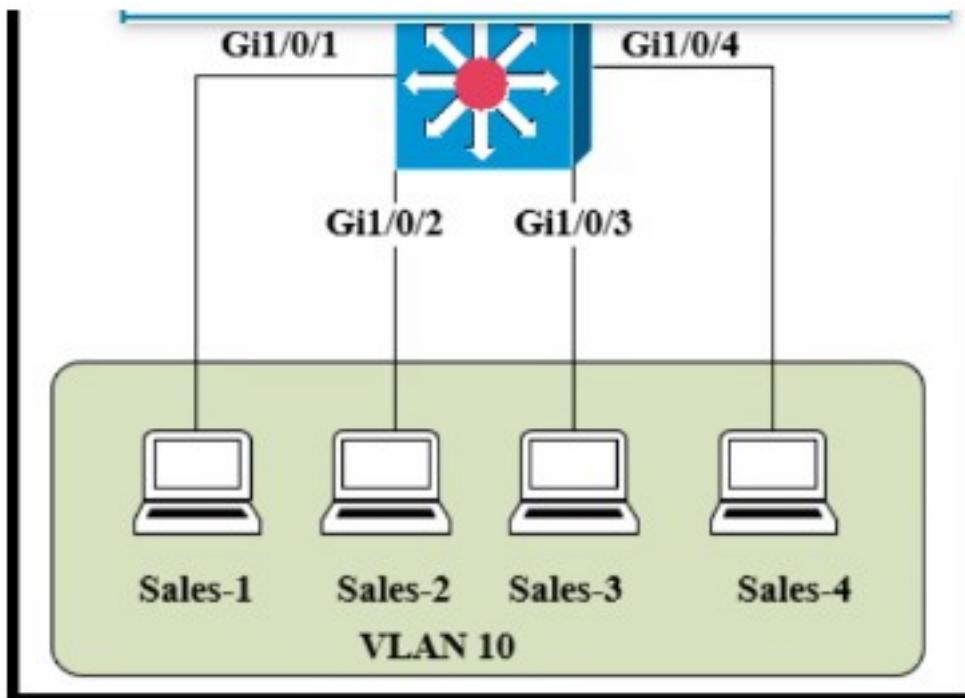
An engineer is bringing up a new circuit to the MPLS provider on the Gi0/1 interface of Router1. The new circuit uses eBGP and teams the route to VLAN25 from the BGP path. What's the expected behavior for the traffic flow for route 10.10.13.0/25?

- A. Traffic to 10.10.13.0.25 is load balanced out of multiple interfaces
- B. Route 10.10.13.0/25 is updated in the routing table as being learned from interface Gi0/1.
- C. Traffic to 10.10.13.0/25 is asymmetrical
- D. Route 10.10.13.0/25 learned via the Gi0/0 interface remains in the routing table

**Answer: D**

**Question No : 309 - (Topic 2)**

Refer to the exhibit.



The entire contents of the MAC address table are shown. Sales-4 sends a data frame to Sales-1.

```
Sales-SW#show mac-address-table
Mac Address Table
```

VLAN	MAC Address	Type	Ports
10	000c.8590.bb7d	DYNAMIC	Gi1/0/1
10	3910.4161.9bb7	DYNAMIC	Gi1/0/2
10	00d0.d3b6.957c	DYNAMIC	Gi1/0/3

```
Sales-SW#
```

What does the switch do as it receives the frame from Sales-4?

- A. Perform a lookup in the MAC address table and discard the frame due to a missing entry.
- B. Insert the source MAC address and port into the forwarding table and forward the frame to Sales-1.
- C. Map the Layer 2 MAC address to the Layer 3 IP address and forward the frame.
- D. Flood the frame out of all ports except on the port where Sales-1 is connected.

**Answer: B**

**Explanation:** <https://www.ciscopress.com/articles/article.asp?p=3089352&seqNum=6>

**Question No : 310 - (Topic 2)**

Which network plane is centralized and manages routing decisions?

- A. policy plane
- B. management plane
- C. control plane
- D. data plane

**Answer: C**

**Question No : 311 - (Topic 2)**

which IPv6 address block forwards packets to a multicast address rather than a unicast address?

- A. 2000::/3
- B. FC00::/7
- C. FE80::/10
- D. FF00::/12

**Answer: D**

**Question No : 312 - (Topic 2)**

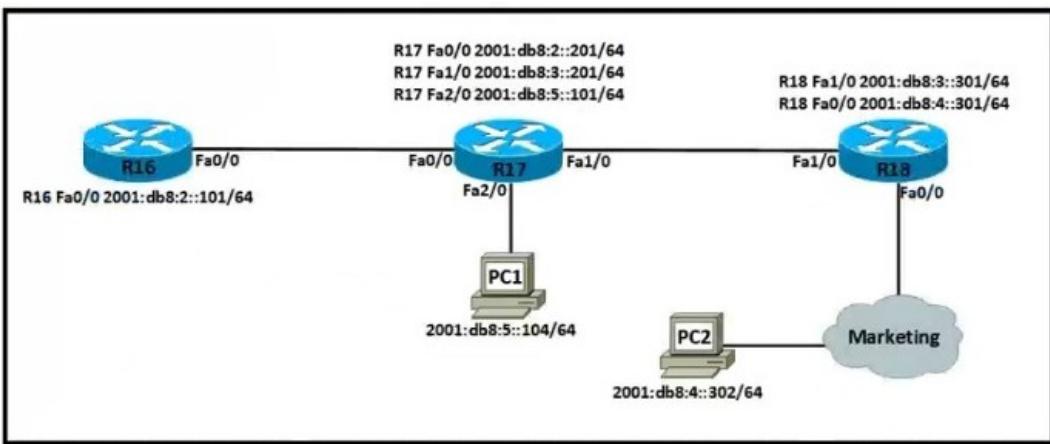
How does the dynamically-learned MAC address feature function?

- A. The CAM table is empty until ingress traffic arrives at each port
- B. Switches dynamically learn MAC addresses of each connecting CAM table.
- C. The ports are restricted and learn up to a maximum of 10 dynamically-learned addresses
- D. It requires a minimum number of secure MAC addresses to be filled dynamically

**Answer: A**

**Question No : 313 - (Topic 2)**

Refer to the exhibit.



Which IPv6 configuration is required for R17 to successfully ping the WAN interface on R18?

A)

```
R17#
!
no ip domain lookup
ip cef
!
interface FastEthernet0/0
no ip address
duplex auto
speed auto
ipv6 address 2001:DB8:3::201/64
!
interface FastEthernet1/0
no ip address
duplex auto
speed auto
ipv6 address 2001:DB8:2::201/64
!
no cdp log mismatch duplex
ipv6 route 2001:DB8:4::/64 2001:DB8:5::101
```

B)

R17#  
!  
no ip domain lookup  
ip cef  
ipv6 unicast-routing  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:2::201/64  
!  
interface FastEthernet1/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:3::201/64  
!  
no cdp log mismatch duplex  
ipv6 route 2001:DB8:4::/64 2001:DB8:3::301

C)

R17#  
!  
no ip domain lookup  
ip cef  
ipv6 cef  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:2::201/64  
!  
interface FastEthernet1/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:3::201/64  
!  
no cdp log mismatch duplex  
ipv6 route 2001:DB8:4::/64 2001:DB8:4::302

D)

R17#  
!  
no ip domain lookup  
ip cef  
ipv6 unicast-routing  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:2::201/64  
!  
interface FastEthernet1/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:3::201/64  
!  
no cdp log mismatch duplex  
ipv6 route 2001:DB8:4::/64 2001:DB8:2::201

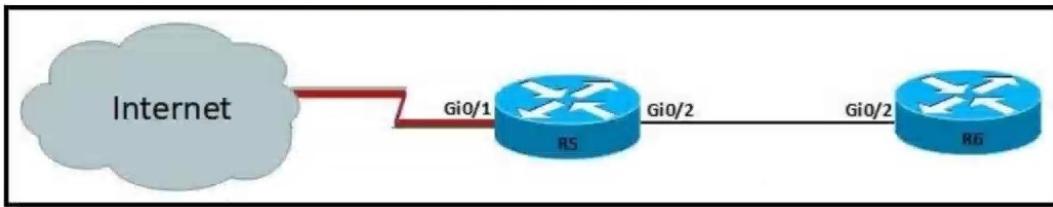
- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: B**

**Explanation:** ipv6 unicast-routing statement included (IPv6 is enabled on the router). Compared to the exhibit, Fa0/0 and Fa0/1 have correct configurations. The route to subnet 2001:db8:4::/64 points to R18's Fa1/0 (correct next-hop).

**Question No : 314 - (Topic 2)**

Refer to the exhibit.



For security reasons, automatic neighbor discovery must be disabled on the R5 Gi0/1 interface. These tasks must be completed:

- Disable all neighbor discovery methods on R5 interface Gi0/1.
- Permit neighbor discovery on R5 interface Gi0/2.
- Verify there are no dynamically learned neighbors on R5 interface Gi0/1.
- Display the IP address of R6's interface Gi0/2.

Which configuration must be used?

● R5(config)#int Gi0/1  
R5(config-if)#no cdp run  
R5(config-if)#exit  
R5(config)#lldp run  
R5(config)#cdp enable  
R5#sh cdp neighbor  
R5#sh lldp neighbor

■ R5(config)#int Gi0/1  
R5(config-if)#no cdp enable  
R5(config-if)#exit  
R5(config)#no lldp run  
R5(config)#cdp run  
R5#sh cdp neighbor  
R5#sh lldp neighbor

● R5(config)#int Gi0/1  
R5(config-if)#no cdp enable  
R5(config-if)#exit  
R5(config)#no lldp run  
R5(config)#cdp run  
R5#sh cdp neighbor detail  
R5#sh lldp neighbor

● R5(config)#int Gi0/1  
R5(config-if)#no cdp enable  
R5(config-if)#exit  
R5(config)#lldp run  
R5(config)#no cdp run  
R5#sh cdp neighbor detail  
R5#sh lldp neighbor

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Question No : 315 - (Topic 2)**

Where does a switch maintain DHCP snooping information?

- A. in the MAC address table
- B. in the CAM table
- C. in the binding database
- D. in the frame forwarding database

**Answer: C**

**Question No : 316 - (Topic 2)**

An engineer must configure an OSPF neighbor relationship between router R1 and R3. The authentication configuration has been configured and the connecting interfaces are in the same 192.168.1.0/30 subnet. What are the next two steps to complete the configuration? (Choose two.)

- A. configure the hello and dead timers to match on both sides
- B. configure the same process ID for the router OSPF process
- C. configure the same router ID on both routing processes
- D. Configure the interfaces as OSPF active on both sides.
- E. configure both interfaces with the same area ID

**Answer: A,E**

**Question No : 317 - (Topic 2)**

Which mode must be set for APs to communicate to a Wireless LAN Controller using the Control and Provisioning of Wireless Access Points (CAPWAP) protocol?

- A. bridge
- B. route
- C. autonomous
- D. lightweight

**Answer: D**

**Question No : 318 - (Topic 2)**

Refer to the exhibit.

```
R2#show ip route  
C    192.168.1.0/26 is directly connected, FastEthernet0/1
```

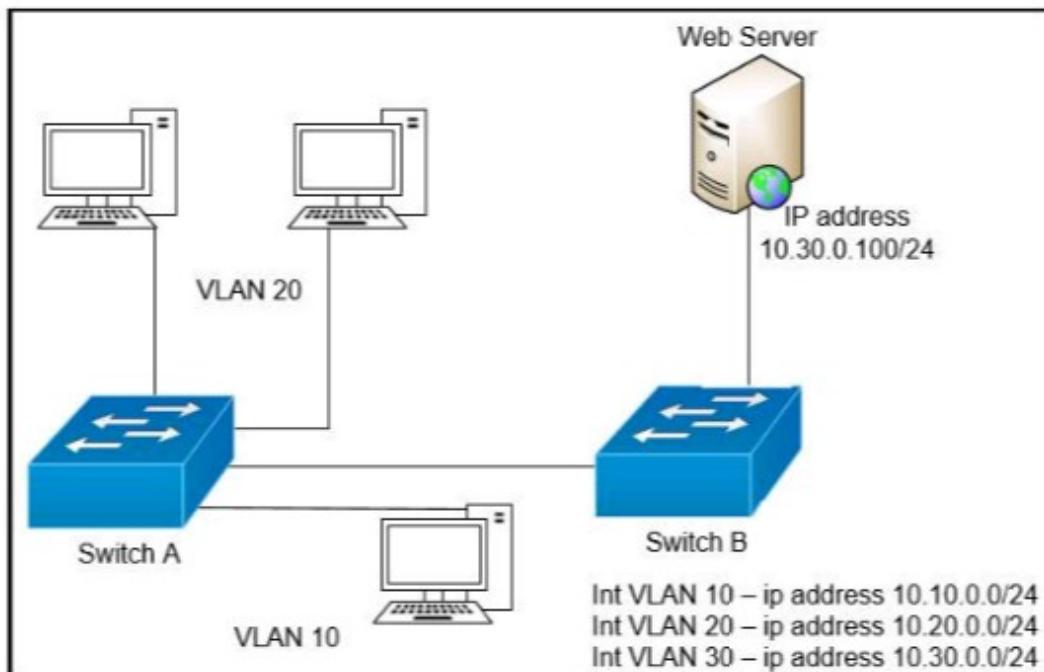
Which two prefixes are included in this routing table entry? (Choose two.)

- A. 192.168.1.17
- B. 192.168.1.61
- C. 192.168.1.64
- D. 192.168.1.127
- E. 192.168.1.254

**Answer: B,C**

**Question No : 319 - (Topic 2)**

Refer to the exhibit.



A network engineer must block access for all computers on VLAN 20 to the web server via HTTP. All other computers must be able to access the web server. Which configuration, when applied to switch A, accomplishes this task?

```
config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80
int vlan 10
ip access-group wwwblock in
```

```
config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80
permit ip any any
int vlan 20
ip access-group wwwblock in
```

```
config t
ip access-list extended wwwblock
permit ip any any
deny tcp any host 10.30.0.100 eq 80
int vlan 30
ip access-group wwwblock in
```

```
config t
ip access-list extended wwwblock
permit ip any any
deny tcp any host 10.30.0.100 eq 80
int vlan 20
ip access-group wwwblock in
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: B**

**Question No : 320 - (Topic 2)**

An engineer needs to configure LLDP to send the port description time length value (TLV). What command sequence must be implemented?

- A. switch(config-line)#lldp port-description
- B. switch(config)#lldp port-description
- C. switch(config-if)#lldp port-description
- D. switch#lldp port-description

**Answer: B**

**Question No : 321 - (Topic 2)**

A user configured OSPF in a single area between two routers A serial interface connecting R1 and R2 is running encapsulation PPP By default which OSPF network type is seen on this interface when the user types show ip ospf interface on R1 or R2?

- A. port-to-multipoint
- B. broadcast
- C. point-to-point
- D. nonbroadcast

**Answer: C**

**Explanation:** The default OSPF network type for HDLC and PPP on Serial link is point-to-point (while the default OSPF network type for Ethernet link is Broadcast).

**Question No : 322 - (Topic 2)**

What is a function of a Layer 3 switch?

- A. move frames between endpoints limited to IP addresses
- B. transmit broadcast traffic when operating in Layer 3 mode exclusively
- C. forward Ethernet frames between VLANs using only MAC addresses
- D. flood broadcast traffic within a VLAN

**Answer: A**

**Question No : 323 - (Topic 2)**

What are two reasons for an engineer to configure a floating state route? (Choose two)

- A. to automatically route traffic on a secondary path when the primary path goes down
- B. to route traffic differently based on the source IP of the packet
- C. to enable fallback static routing when the dynamic routing protocol fails
- D. to support load balancing via static routing
- E. to control the return path of traffic that is sent from the router

**Answer:** A,C

**Question No : 324 - (Topic 2)**

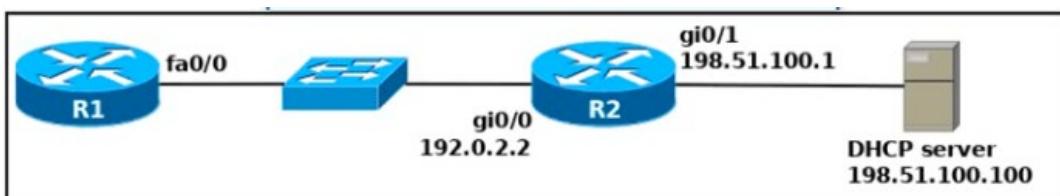
Which two values or settings must be entered when configuring a new WLAN in the Cisco Wireless LAN Controller GUI? (Choose two)

- A. management interface settings
- B. QoS settings
- C. Ip address of one or more access points
- D. SSID
- E. Profile name

**Answer:** D,E

**Question No : 325 - (Topic 2)**

Refer to the exhibit.



An engineer deploys a topology in which R1 obtains its IP configuration from DHCP. If the switch and DHCP server configurations are complete and correct. Which two sets of commands must be configured on R1 and R2 to complete the task? (Choose two)

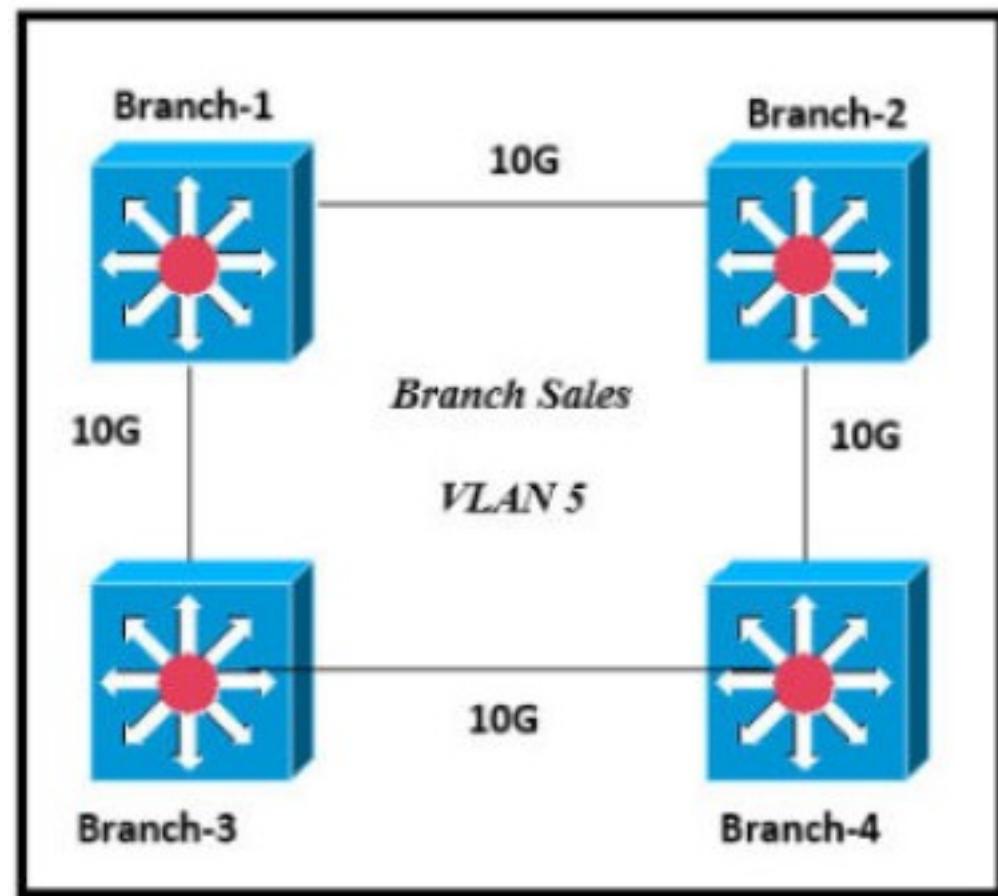
- A. R1(config)# interface fa0/0  
R1(config-if)# ip helper-address 198.51.100.100
- B. R2(config)# interface gi0/0

```
R2(config-if)# ip helper-address 198.51.100.100
C. R1(config)# interface fa0/0
R1(config-if)# ip address dhcp
R1(config-if)# no shutdown
D. R2(config)# interface gi0/0
R2(config-if)# ip address dhcp
E. R1(config)# interface fa0/0
R1(config-if)# ip helper-address 192.0.2.2
```

**Answer: B,C**

**Question No : 326 - (Topic 2)**

Refer to the exhibit.



Only four switches are participating in the VLAN spanning-tree process.

Branch-1 priority 614440

Branch-2: priority 39082416

Branch-3: priority 0

Branch-4: root primary

Which switch becomes the permanent root bridge for VLAN 5?

- A. Branch-1
- B. Branch-2
- C. Branch-3
- D. Branch-4

**Answer: C**

**Explanation:**

Dynamic ARP inspection is an ingress security feature; it does not perform any egress checking.

**Question No : 327 - (Topic 2)**

Which networking function occurs on the data plane?

- A. forwarding remote client/server traffic
- B. facilitates spanning-tree elections
- C. processing inbound SSH management traffic
- D. sending and receiving OSPF Hello packets

**Answer: A**

**Question No : 328 - (Topic 2)**

Refer to the exhibit.

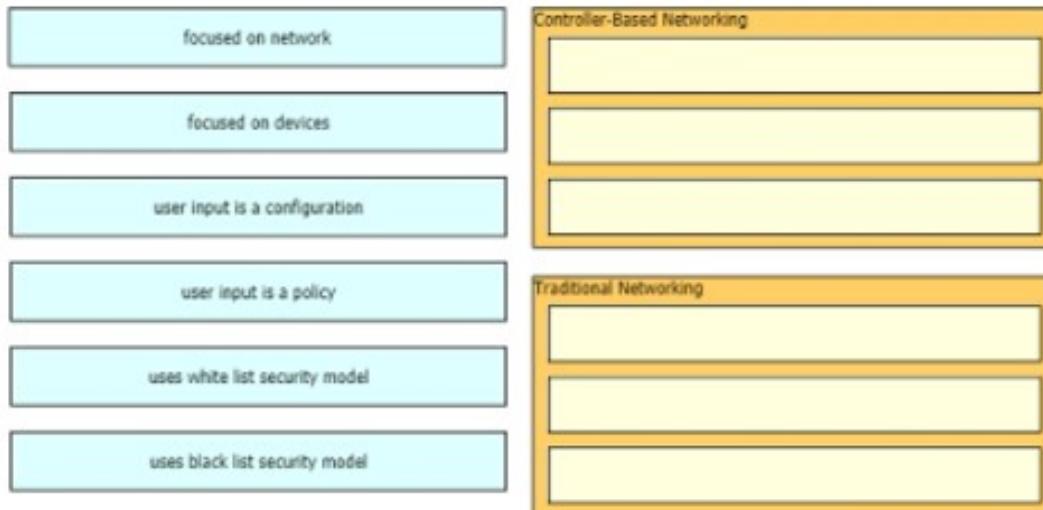
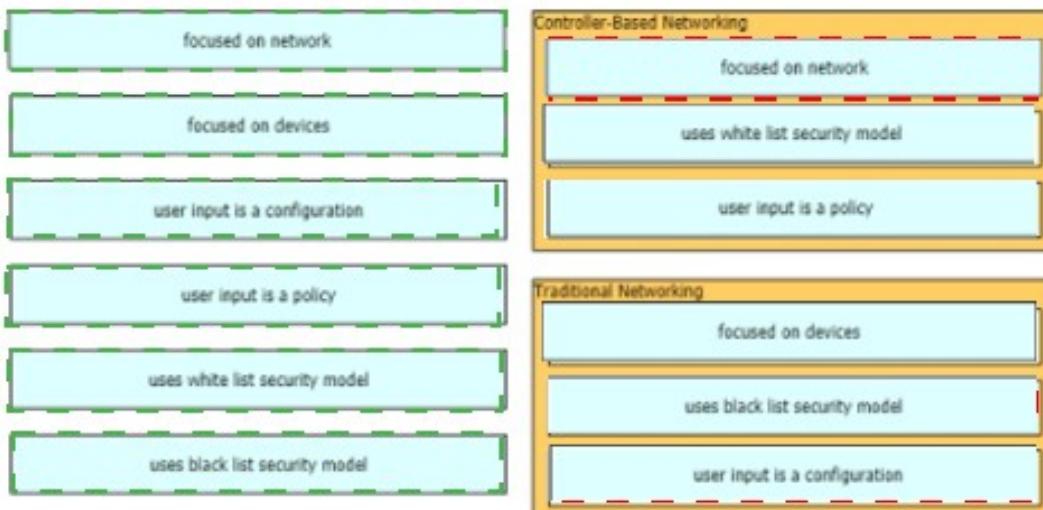


Which configuration issue is preventing the OSPF neighbor relationship from being established between the two routers?

- A. R2 is using the passive-interface default command
- B. R1 has an incorrect network command for interface Gi1/0
- C. R2 should have its network command in area 1
- D. R1 interface Gi1/0 has a larger MTU size

**Answer: D****Question No : 329 DRAG DROP - (Topic 2)**

Drag and drop to the characteristics of networking from the left onto the correct networking types on the right.

**Answer:****Question No : 330 - (Topic 2)**

What is the primary difference between AAA authentication and authorization?

- A. Authentication verifies a username and password, and authorization handles the communication between the authentication agent and the user database.
- B. Authentication identifies a user who is attempting to access a system, and authorization validates the user's password.
- C. Authentication identifies and verifies a user who is attempting to access a system, and authorization controls the tasks the user can perform.
- D. Authentication controls the system processes a user can access and authorization logs the activities the user initiates.

**Answer: C**

**Explanation:** AAA stands for Authentication, Authorization and Accounting.+

Authentication: Specify who you are (usually via login username & password)+

Authorization: Specify what actions you can do, what resource you can access+

Accounting: Monitor what you do, how long you do it (can be used for billing and auditing)

An example of AAA is shown below:+ Authentication: "I am a normal user. My

username/password is user\_tom/learnforever"+ Authorization: "user\_tom can access

LearnCCNA server via HTTP and FTP"+ Accounting: "user\_tom accessed LearnCCNA

server for 2 hours". This user only uses "show" commands.

### Question No : 331 - (Topic 2)

An engineer must configure a WLAN using the strongest encryption type for WPA2- PSK. Which cipher fulfills the configuration requirement?

- A. WEP
- B. RC4
- C. AES
- D. TKIP

**Answer: C**

**Explanation:** Many routers provide WPA2-PSK (TKIP), WPA2-PSK (AES), and WPA2-PSK (TKIP/AES) as options. TKIP is actually an older encryption protocol introduced with WPA to replace the very-insecure WEP encryption at the time. TKIP is actually quite similar to WEP encryption. TKIP is no longer considered secure, and is now deprecated. In other words, you shouldn't be using it.

AES is a more secure encryption protocol introduced with WPA2 and it is currently the strongest encryption type for WPA2-PSK.

**Question No : 332 - (Topic 2)**

Refer to the exhibit.

```
Router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      Gateway of last resort is 209.165.202.131 to network 0.0.0.0

S*      0.0.0.0/0 [1/0] via 209.165.202.131
        209.165.200.0/27 is subnetted, 1 subnets
S          209.165.200.224 [254/0] via 209.165.202.129
        209.165.201.0/27 is subnetted, 1 subnets
S          209.165.201.0 [1/0] via 209.165.202.130
```

Which command configures a floating static route to provide a backup to the primary link?

- A. ip route 0.0.0.0 0.0.0.0 209.165.202.131
- B. ip route 209.165.201.0 255.255.255.224 209.165.202.130
- C. ip route 0.0.0.0 0.0.0.0 209.165.200.224
- D. ip route 209.165.200.224 255.255.255.224 209.165.202.129 254

**Answer: D**

**Question No : 333 - (Topic 2)**

A packet is destined for 10.10.1.22. Which static route does the router choose to forward the packet?

- A. ip route 10.10.1.0 255.255.255.240 10.10.255.1
- B. ip route 10.10.1.16 255.255.255.252 10.10.255.1
- C. ip route 10.10.1.20 255.255.255.252 10.10.255.1
- D. ip route 10.10.1.20 255.255.255.254 10.10.255.1

**Answer: C**

**Question No : 334 - (Topic 2)**

Refer to me exhibit.

```
Router1#show ip route
Gateway of last resort is not set
 209.165.200.0/27 is subnetted, 1 subnets
B      209.165.200.224 [20/0] via 10.10.12.2, 00:09:57
 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
C        10.10.10.0/28 is directly connected, GigabitEthernet0/0
C        10.10.11.0/30 is directly connected, FastEthernet2/0
O        10.10.13.0/24 [110/2] via 10.10.10.1, 00:08:34, GigabitEthernet0/0
C        10.10.12.0/30 is directly connected, GigabitEthernet0/1

Keystream Times!
https://keystream
```

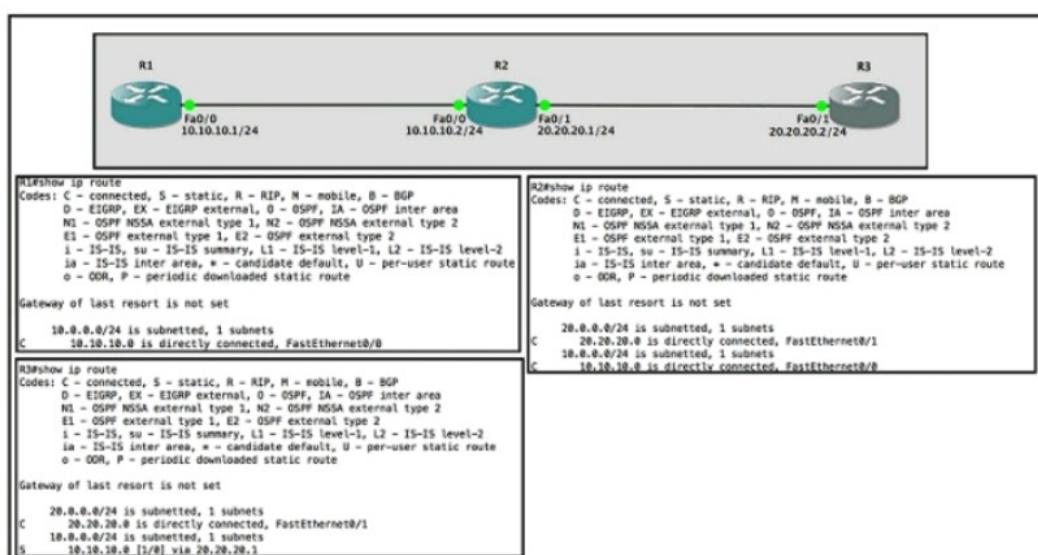
Which action is taken by the router when a packet is sourced from 10.10.10.2 and destined for 10.10.10.16?

- A. It uses a route that is similar to the destination address
- B. It discards the packets.
- C. It floods packets to all learned next hops.
- D. It Queues the packets waiting for the route to be learned.

**Answer: A**

### Question No : 335 - (Topic 2)

Refer to the exhibit.



Router R1 Fa0/0 is unable ping router R3 Fa0/1.

Which action must be taken in router R1 to help resolve the configuration issue?

- A. set the default network as 20.20.20.0/24
- B. set the default gateway as 20.20.20.2
- C. configure a static route with Fa0/1 as the egress interface to reach the 20.20.20.0/24 network
- D. configure a static route with 10.10.10.2 as the next hop to reach the 20.20.20.0/24 network

**Answer: D**

**Question No : 336 - (Topic 2)**

Where is the interface between the control plane and data plane within the software-defined architecture?

- A. control layer and the infrastructure layer
- B. application layer and the infrastructure layer
- C. application layer and the management layer
- D. control layer and the application layer

**Answer: A**

**Question No : 337 - (Topic 2)**

Why does a switch flood a frame to all ports?

- A. The frame has zero destination MAC addresses.
- B. The source MAC address of the frame is unknown
- C. The source and destination MAC addresses of the frame are the same
- D. The destination MAC address of the frame is unknown.

**Answer: B**

**Question No : 338 - (Topic 2)**

An organization secures its network with multi-factor authentication using an authenticator app on employee smartphone. How is the application secured in the case of a user's smartphone being lost or stolen?

- A. The application requires an administrator password to reactivate after a configured

Interval.

- B. The application requires the user to enter a PIN before it provides the second factor.
- C. The application challenges a user by requiring an administrator password to reactivate when the smartphone is rebooted.
- D. The application verifies that the user is in a specific location before it provides the second factor.

**Answer: B**

**Question No : 339 - (Topic 2)**

With REST API, which standard HTTP header tells a server which media type is expected by the client?

- A. Accept-Encoding: gzip, deflate
- B. Accept-Patch: text/example; charset=utf-8
- C. Content-Type: application/json; charset=utf-8
- D. Accept: application/json

**Answer: D**

**Explanation:** Accept header is a way for a client to specify the media type of the response content it is expecting and Content-type is a way to specify the media type of request being sent from the client to the server.

<http://www.java-allandsundry.com/2012/08/accept-header-vs-content-type-header.html#:~:text=Accept%20and%20Content%2Dtype%20are,the%20client%20to%20the%20server>

**Question No : 340 - (Topic 2)**

Refer to the exhibit.

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	unassigned	YES	NVRAM	administratively down	down
GigabitEthernet1/0	192.168.0.1	YES	NVRAM	up	up
GigabitEthernet2/0	10.10.1.10	YES	manual	up	up
GigabitEthernet3/0	10.10.10.20	YES	manual	up	up
GigabitEthernet4/0	unassigned	YES	NVRAM	administratively down	down
Loopback0	172.16.15.10	YES	manual		

What does router R1 use as its OSPF router-ID?

- A. 10.10.1.10
- B. 10.10.10.20
- C. 172.16.15.10
- D. 192.168.0.1

**Answer: C**

**Explanation:** OSPF uses the following criteria to select the router ID:  
1. Manual configuration of the router ID (via the “router-id x.x.x.x” command under OSPF router configuration mode).  
2. Highest IP address on a loopback interface.  
3. Highest IP address on a non-loopback and active (no shutdown) interface.

**Question No : 341 - (Topic 2)**

Refer to the exhibit.

```
ip arp inspection vlan 2
interface fastethernet 0/1
  switchport mode access
  switchport access vlan 2
```

What is the effect of this configuration?

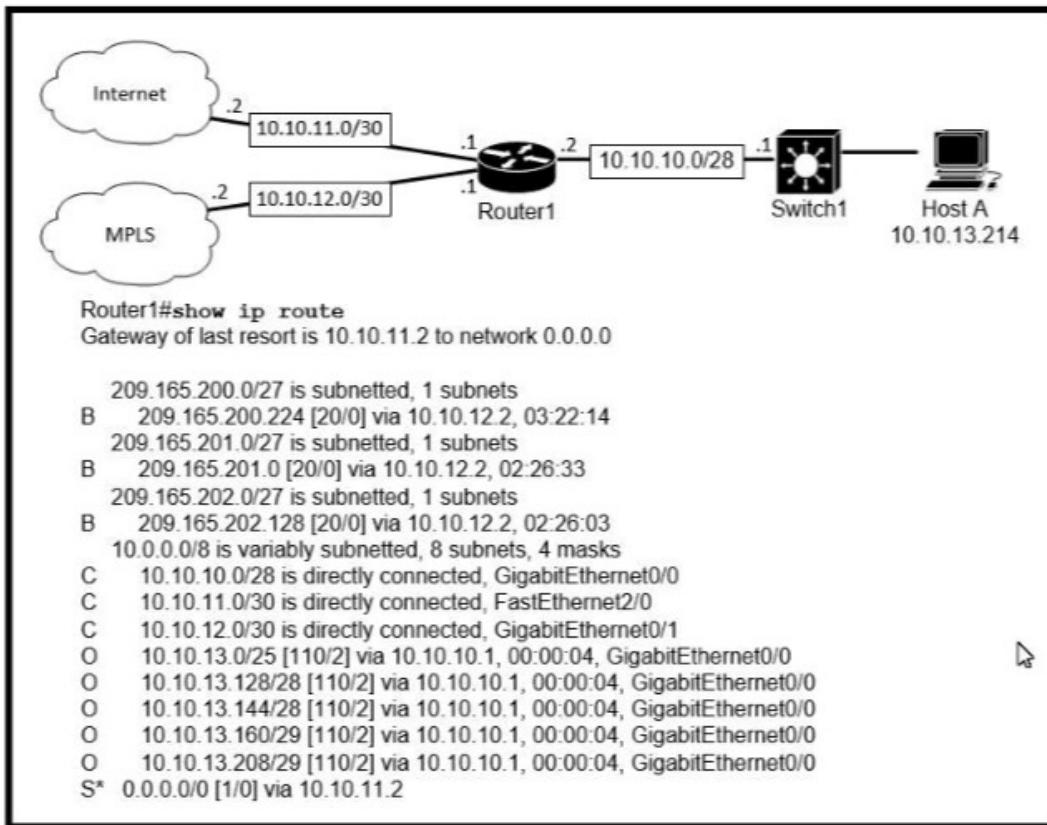
- A. The switch port interface trust state becomes untrusted
- B. The switch port remains administratively down until the interface is connected to another switch
- C. Dynamic ARP inspection is disabled because the ARP ACL is missing
- D. The switch port remains down until it is configured to trust or untrust incoming packets

**Answer: A**

**Explanation:** Dynamic ARP inspection (DAI) is a security feature that validates ARP packets in a network. It intercepts, logs, and discards ARP packets with invalid IP-to-MAC address bindings. This capability protects the network from certain man-in-the-middle attacks. After enabling DAI, all ports become untrusted ports.

**Question No : 342 - (Topic 2)**

Refer to the exhibit.



Which prefix does Router 1 use for traffic to Host A?

- A. 10.10.10.0/28
- B. 10.10.13.0/25
- C. 10.10.13.144/28
- D. 10.10.13.208/29

**Answer: D**

**Explanation:** Host A address fall within the address range. However, if more than one route to the same subnet exist (router will use the longest stick match, which match more specific route to the subnet). If there are route 10.10.13.192/26 and 10.10.13.208/29, the router will forward the packet to /29 rather than /28.

### Question No : 343 - (Topic 2)

Which unified access point mode continues to serve wireless clients after losing connectivity to the Cisco Wireless LAN Controller?

- A. sniffer
- B. mesh
- C. flexconnect

D. local

**Answer: C**

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-5/config-guide/b\\_cg85/flexconnect.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-5/config-guide/b_cg85/flexconnect.html)

**Question No : 344 - (Topic 2)**

When a client and server are not on the same physical network, which device is used to forward requests and replies between client and server for DHCP?

- A. DHCP relay agent
- B. DHCP server
- C. DHCPDISCOVER
- D. DHCPOFFER

**Answer: A**

**Question No : 345 - (Topic 2)**

While examining excessive traffic on the network, it is noted that all incoming packets on an interface appear to be allowed even though an IPv4 ACL is applied to the interface.

Which two misconfigurations cause this behavior? (Choose two)

- A. The packets fail to match any permit statement
- B. A matching permit statement is too high in the access test
- C. A matching permit statement is too broadly defined
- D. The ACL is empty
- E. A matching deny statement is too high in the access list

**Answer: B,C**

**Question No : 346 - (Topic 2)**

Refer to the exhibit.

```
R1# show ip route

D      192.168.16.0/26 [90/2679326] via 192.168.1.1
R      192.168.16.0/24 [120/3] via 192.168.1.2
O      192.168.16.0/21 [110/2] via 192.168.1.3
i L1   192.168.16.0/27 [115/30] via 192.168.1.4
```

Which route does R1 select for traffic that is destined to 192.168.16.2?

- A. 192.168.16.0/21
- B. 192.168.16.0/24
- C. 192.168.16.0/26
- D. 192.168.16.0/27

**Answer: D**

**Explanation:** The destination IP addresses match all four entries in the routing table but the 192.168.16.0/27 has the longest prefix so it will be chosen. This is called the “longest prefix match” rule.

**Question No : 347 - (Topic 2)**

Refer to the exhibit.

```
access-list 101 permit ospf any any
access-list 101 permit tcp any any eq 179
access-list 101 permit tcp any eq 179 any
access-list 101 permit gre any any
access-list 101 permit esp any any

access-list 101 deny ospf any any
access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq telnet
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 500
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 4500
access-list 101 deny ip any any log

interface Ethernet0/0
ip address 10.1.1.25 255.255.255.0
ip access-group 101 in
```

A network administrator has been tasked with securing VTY access to a router. Which access-list entry accomplishes this task?

- A. access-list 101 permit tcp 10.1.10 0.0.0.255 172.16.10 0.0.0.255 eq ssh
- B. access-list 101 permit tcp 10.11.0 0.0.0.255 172.16.10 0.0.0.255 eq scp

- C. access-list 101 permit tcp 10.11.0 0.0.0.255 172.16.10 0.0.0.255 eq telnet
- D. access-list 101 permit tcp 10.1.10 0.0.0.255 172.16.10 0.0.0.255 eq https

**Answer: A**

**Question No : 348 - (Topic 2)**

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
S   172.16.3.0/24 [1/0] via 209.165.200.250, Serial0/0/0
O   172.16.3.0/28 [110/1] via 209.165.200.254, 00:00:28, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 6 subnets, 2 masks
C   209.165.200.244/30 is directly connected, Serial0/1/0
L   209.165.200.245/32 is directly connected, Serial0/1/0
C   209.165.200.248/30 is directly connected, Serial0/0/0
L   209.165.200.249/32 is directly connected, Serial0/0/0
C   209.165.200.252/30 is directly connected, Serial0/0/1
L   209.165.200.253/32 is directly connected, Serial0/0/1
```

A packet is being sent across router R1 to host 172.16.0.14. What is the destination route for the packet?

- A. 209.165.200.254 via Serial0/0/1
- B. 209.165.200.254 via Serial0/0/0
- C. 209.165.200.246 via Serial0/1/0
- D. 209.165.200.250 via Serial0/0/0

**Answer: A**

**Question No : 349 - (Topic 2)**

Which action is taken by a switch port enabled for PoE power classification override?

- A. When a powered device begins drawing power from a PoE switch port a syslog message is generated
- B. As power usage on a PoE switch port is checked data flow to the connected device is temporarily paused

- C. If a switch determines that a device is using less than the minimum configured power it assumes the device has failed and disconnects
- D. Should a monitored port exceeds the maximum administrative value for power, the port is shutdown and err-disabled

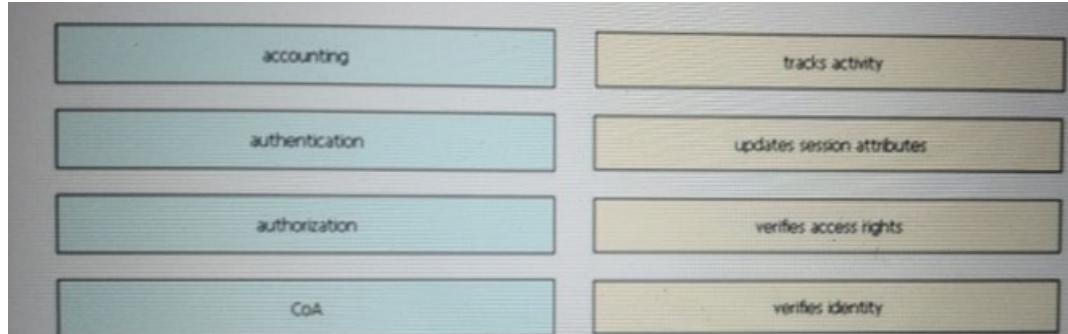
**Answer: D**

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/ios/12-2SX/configuration/guide/book/power\\_over\\_ether.pdf](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/ios/12-2SX/configuration/guide/book/power_over_ether.pdf)

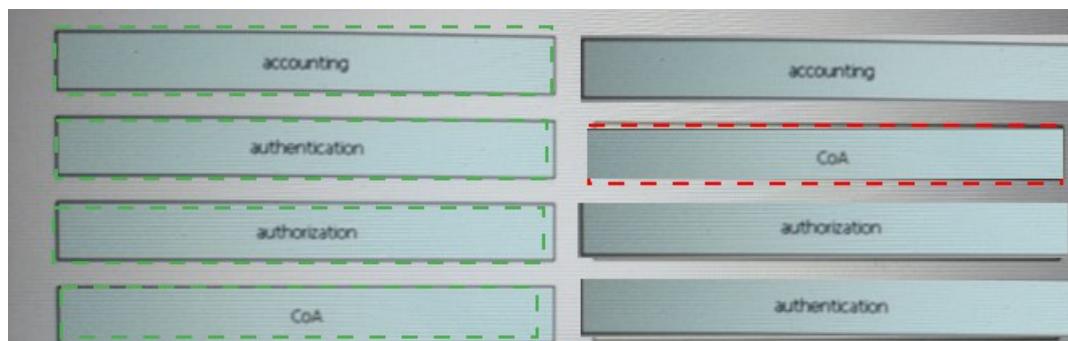
PoE monitoring and policing compares the power consumption on ports with the administrative maximum value (either a configured maximum value or the port's default value). If the power consumption on a monitored port exceeds the administrative maximum value, the following actions occur:– A syslog message is issued.– The monitored port is shut down and error-disabled.– The allocated power is freed.

**Question No : 350 DRAG DROP - (Topic 2)**

Drag and drop the AAA terms from the left onto the description on the right.



**Answer:**



**Explanation:** 1-1, 2-4, 3-3, 4-2

**Question No : 351 - (Topic 2)**

Which protocol prompts the Wireless LAN Controller to generate its own local web administration SSL certificate for GUI access?

- A. HTTPS
- B. RADIUS
- C. TACACS+
- D. HTTP

**Answer: A**

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b\\_cg80/b\\_cg80\\_chapter\\_011.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b_cg80/b_cg80_chapter_011.html)

**Question No : 352 - (Topic 2)**

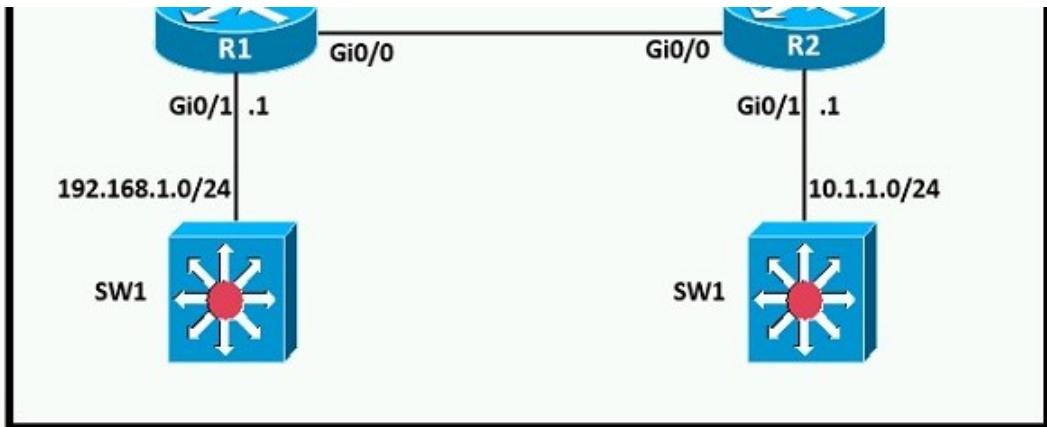
What does an SDN controller use as a communication protocol to relay forwarding changes to a southbound API?

- A. OpenFlow
- B. Java
- C. REST
- D. XML

**Answer: A**

**Question No : 353 - (Topic 2)**

Refer to the exhibit.



A network engineer is in the process of establishing IP connectivity between two sites. Routers R1 and R2 are partially configured with IP addressing. Both routers have the ability to access devices on their respective LANs. Which command set configures the IP connectivity between devices located on both LANs in each site?

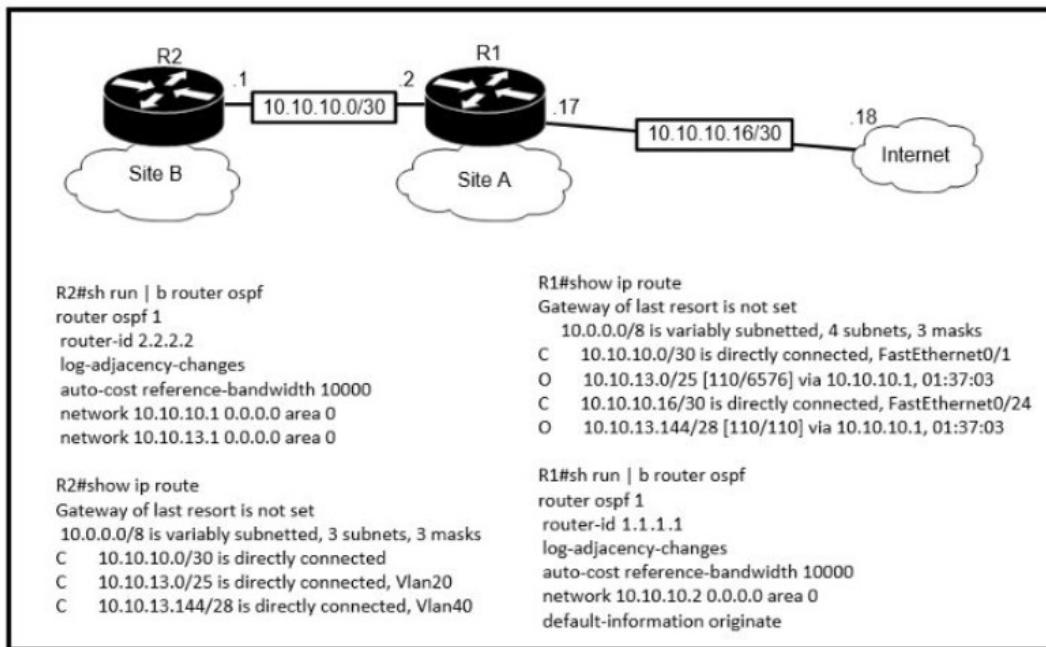
- R1  
**ip route 192.168.1.0 255.255.255.0 GigabitEthernet0/0**  
R2  
**ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/0**
- R1  
**ip route 0.0.0.0 0.0.0.0 209.165.200.225**  
R2  
**ip route 0.0.0.0 0.0.0.0 209.165.200.226**
- R1  
**ip route 192.168.1.1 255.255.255.0 GigabitEthernet0/1**  
R2  
**ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/1**
- R1  
**ip route 0.0.0.0 0.0.0.0 209.165.200.226**  
R2  
**ip route 0.0.0.0 0.0.0.0 209.165.200.225**

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: D**

**Question No : 354 - (Topic 2)**

Refer to the exhibit.



The default-information originate command is configured under the R1 OSPF configuration  
 After testing workstations on VLAN 20 at Site B cannot reach a DNS server on the Internet  
 Which action corrects the configuration issue?

- A. Add the default-information originate command on R2
- B. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.18 command on R1
- C. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.2 command on R2
- D. Add the always keyword to the default-information originate command on R1

**Answer: B**

**Question No : 355 - (Topic 2)**

R1 has learned route 192.168.12.0/24 via IS-IS. OSPF, RIP. and Internal EIGRP Under normal operating conditions, which routing protocol is installed in the routing table?

- A. IS-IS
- B. RIP
- C. Internal EIGRP
- D. OSPF

**Answer: C**

**Explanation:** With the same route (prefix), the router will choose the routing protocol with lowest Administrative Distance (AD) to install into the routing table. The AD of Internal EIGRP (90) is lowest so it would be chosen. The table below lists the ADs of popular routing protocols.

Route Source	Administrative Distance
Directly Connected	0
Static	1
EIGRP	90
EIGRP Summary route	5
OSPF	110
RIP	120

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Note: The AD of IS-IS is 115. The “EIGRP” in the table above is “Internal EIGRP”. The AD of “External EIGRP” is 170. An EIGRP external route is a route that was redistributed into EIGRP.

**Question No : 356 - (Topic 2)**

Which plane is centralized by an SDN controller?

- A. management-plane
- B. control-plane
- C. data-plane
- D. services-plane

**Answer: B**

**Question No : 357 - (Topic 2)**

What Is a syslog facility?

- A. Host that is configured for the system to send log messages
- B. password that authenticates a Network Management System to receive log messages

- C. group of log messages associated with the configured severity level
- D. set of values that represent the processes that can generate a log message

**Answer: C**

**Explanation:** Cisco Community – Difference between logging level and logging facility

Post by ahmednaas

“The logging facility command basically tells the syslog server where to put the log message. You configure the syslog server with something like:

local7.debug /var/adm/local7.log

Now, when you use the “logging facility local7” on your device, all messages with severity “debug” or greater should be saved in /var/adm/local7.log.”

Example: on a switch, any process (CDP, SNMP, etc.) can generate a log message. On a syslog server, the logging facility is the place where all received messages with the same priority level are stored.

### Question No : 358 - (Topic 2)

Refer to the exhibit.

```
ip arp inspection vlan 5-10
interface fastethernet 0/1
  switchport mode access
  switchport access vlan 5
```

What is the effect of this configuration?

- A. All ARP packets are dropped by the switch
- B. Egress traffic is passed only if the destination is a DHCP server.
- C. All ingress and egress traffic is dropped because the interface is untrusted
- D. The switch discard all ingress ARP traffic with invalid MAC-to-IP address bindings.

**Answer: D**

### Question No : 359 - (Topic 2)

Which goal is achieved by the implementation of private IPv4 addressing on a network?

- A. provides an added level of protection against Internet exposure
- B. provides a reduction in size of the forwarding table on network routers
- C. allows communication across the Internet to other private networks
- D. allows servers and workstations to communicate across public network boundaries

**Answer: A**

**Question No : 360 - (Topic 2)**

A user configured OSPF and advertised the Gigabit Ethernet interface in OSPF By default, which type of OSPF network does this interface belong to?

- A. point-to-multipoint
- B. point-to-point
- C. broadcast
- D. nonbroadcast

**Answer: C**

**Explanation:** <https://www.oreilly.com/library/view/cisco-ios-cookbook/0596527225/ch08s15.html>

The Broadcast network type is the default for an OSPF enabled ethernet interface (while Point-toPoint is the default OSPF network type for Serial interface with HDLC and PPP encapsulation).

**Question No : 361 - (Topic 2)**

What are two characteristics of a public cloud Implementation? (Choose two.)

- A. It is owned and maintained by one party, but it is shared among multiple organizations.
- B. It enables an organization to fully customize how it deploys network resources.
- C. It provides services that are accessed over the Internet.
- D. It is a data center on the public Internet that maintains cloud services for only one company.
- E. It supports network resources from a centralized third-party provider and privately-owned virtual resources

**Answer: C,E**

**Explanation:** Private cloud is cloud infrastructure operated solely for a single organization, whether managed internally or by a third party, and hosted either internally or externally. Most public-cloud providers offer direct-connection services that allow customers to securely link their legacy data centers to their cloud-resident applications.

**Question No : 362 - (Topic 2)**

What is a similarity between 1000BASE-LX and 1000BASE-T standards?

- A. Both use the same data-link header and trailer formats
- B. Both cable types support LP connectors
- C. Both cable types support RJ-45 connectors
- D. Both support up to 550 meters between nodes

**Answer: A**

**Explanation:** "In computer networking, Gigabit Ethernet (GbE or 1 GigE) is the term applied to transmitting Ethernet frames at a rate of a gigabit per second." Both standards use Ethernet framing (same headers and trailers)

**Question No : 363 - (Topic 2)**

Which command must be entered when a device is configured as an NTP server?

- A. ntp authenticate
- B. ntp server
- C. ntp peer
- D. ntp master

**Answer: D**

**Explanation:** To configure a Cisco device as an Authoritative NTP Server, use the ntp master [stratum] command. To configure a Cisco device as a NTP client, use the command ntp server <IP address>. For example: Router(config)#ntp server 192.168.1.1. This command will instruct the router to query 192.168.1.1 for the time.

**Question No : 364 - (Topic 2)**

When deploying syslog, which severity level logs informational message?

- A. 0
- B. 2
- C. 4
- D. 6

**Answer: D**

**Explanation:** <https://en.wikipedia.org/wiki/Syslog>

**Question No : 365 - (Topic 2)**

What are two benefits of FHRPs? (Choose two.)

- A. They prevent (oops in the Layer 2 network.
- B. They allow encrypted traffic.
- C. They are able to bundle multiple ports to increase bandwidth
- D. They enable automatic failover of the default gateway.
- E. They allow multiple devices to serve as a single virtual gateway for clients in the network

**Answer: D,E**

**Question No : 366 - (Topic 2)**

What is a difference between RADIUS and TACACS+?

- A. RADIUS is most appropriate for dial authentication, but TACACS+ can be used for multiple types of authentication
- B. TACACS+ encrypts only password information and RADIUS encrypts the entire payload
- C. TACACS+ separates authentication and authorization, and RADIUS merges them
- D. RADIUS logs all commands that are entered by the administrator, but TACACS+ logs only start, stop, and interim commands

**Answer: C**

**Question No : 367 - (Topic 2)**

Refer to the exhibit.

```
R1#config t
R1(config)# interface g1/1
R1(config-if)# ip address 192.168.0.1 255.255.255.0

R1(config)# router bgp 65000
R1(config-router)# neighbor 192.168.0.2 remote-as 65001
R1(config-router)# network 10.1.1.0 mask 255.255.255.0

R1(config)# router ospf 1
R1(config)# router-id 1.1.1.1
R1(config)# network 192.168.0.1 0.0.0.0 area 0
R1(config)# network 10.1.1.0 0.0.0.255 area 0

R1(config)# router eigrp 1
R1(config)# eigrp router-id 1.1.1.1
R1(config)# network 10.1.1.0 0.0.0.255
R1(config)# network 192.168.0.1 0.0.0.0

R2#config t
R2(config)# interface g1/1
R2(config-if)# ip address 192.168.0.2 255.255.255.0

R2#config t
R2(config)# router bgp 65001
R2(config-router)# neighbor 192.168.0.1 remote-as 65000

R2(config)# router ospf 1
R2(config)# router-id 2.2.2.2
R2(config)# network 192.168.1.2 0.0.0.0 area 0

R2(config)# router eigrp 1
R2(config)# eigrp router-id 1.1.1.1
R2(config)# network 192.168.0.1 0.0.0.0

R2(config)# ip route 10.1.1.0 255.255.255.0 192.168.0.1
```

Router R2 is configured with multiple routes to reach network 10.1.1.0/24 from router R1. What protocol is chosen by router R2 to reach the destination network 10.1.1.0/24?

- A. eBGP
- B. static

- C. OSPF
- D. EIGRP

**Answer: B**

**Question No : 368 - (Topic 2)**

What are two characteristics of a controller-based network? (Choose two)

- A. The administrator can make configuration updates from the CLI
- B. It uses northbound and southbound APIs to communicate between architectural layers
- C. It moves the control plane to a central point.
- D. It decentralizes the control plane, which allows each device to make its own forwarding decisions
- E. It uses Telnet to report system issues.

**Answer: B,C**

**Question No : 369 - (Topic 2)**

Refer to the exhibit.

Switch#show etherchannel summary [output omitted]				
Group	Port-channel	Protocol	Ports	
10	Po10 (SU)	LACP	Gi0/0 (P)	Gi0/1 (P)
20	Po20 (SU)	LACP	Gi0/2 (P)	Gi0/3 (P)

Which two commands were used to create port channel 10? (Choose two )

- int range g0/0-1  
channel-group 10 mode active
- int range g0/0-1  
channel-group 10 mode desirable
- int range g0/0-1  
channel-group 10 mode passive
- int range g0/0-1  
channel-group 10 mode auto
- int range g0/0-1  
channel-group 10 mode on

- A. Option A
- B. Option B
- C. Option C
- D. Option D
- E. Option E

**Answer:** A,C

**Question No : 370 - (Topic 2)**

Which two protocols must be disabled to increase security for management connections to a Wireless LAN Controller? (Choose two )

- A. Telnet
- B. SSH
- C. HTTP
- D. HTTPS
- E. TFTP

**Answer:** A,C

**Question No : 371 - (Topic 2)**

```

Router1(config)#interface GigabitEthernet1/1
Router1(config-if)#description ***Connection to Router2***
Router1(config-if)#ip address 10.10.10.1 255.255.255.252
Router1(config-if)#ip ospf hello-interval 5
Router1(config)#router ospf 1000
Router1(config-router)#router-id 1.1.1.1
Router1(config-router)#network 10.10.10.0 0.0.0.3 area 0

Router2(config)#interface GigabitEthernet1/1
Router2(config-if)#description ***Connection to Router1***
Router2(config-if)#ip address 10.10.10.2 255.255.255.252
Router2(config)#router ospf 1001
Router2(config-router)#router-id 2.2.2.2
Router2(config-router)#network 10.10.10.0 0.0.0.3 area 0
Router2(config-router)#passive-interface default
Router2(config-router)#no passive-interface GigabitEthernet1/1

```

Refer to the exhibit. After the configuration is applied, the two routers fail to establish an OSPF neighbor relationship. what is the reason for the problem?

- A. The OSPF router IDs are mismatched.
- B. Router2 is using the default hello timer.
- C. The network statement on Router1 is misconfigured.
- D. The OSPF process IDs are mismatched.

**Answer: B**

**Question No : 372 - (Topic 2)**

A wireless administrator has configured a WLAN; however, the clients need access to a less congested 5-GHz network for their voice quality. What action must be taken to meet the requirement?

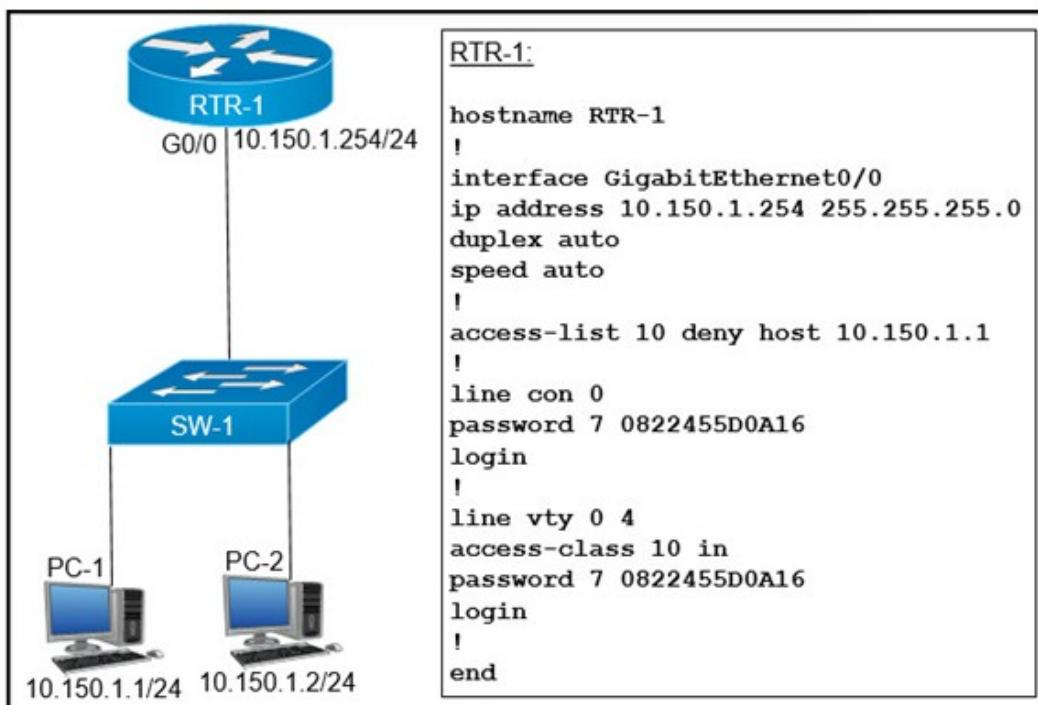
- A. enable AAA override

- B. enable RX-SOP
- C. enable DTIM
- D. enable Band Select

**Answer: D**

**Question No : 373 - (Topic 2)**

Refer to the exhibit.



An access list is created to deny Telnet access from host PC-1 to RTR-1 and allow access from all other hosts. A Telnet attempt from PC-2 gives this message: "% Connection refused by remote host". Without allowing Telnet access from PC-1, which action must be taken to permit the traffic?

- A. Add the access-list 10 permit any command to the configuration
- B. Remove the access-class 10 in command from line vty 0.4.
- C. Add the ip access-group 10 out command to interface g0/0.
- D. Remove the password command from line vty 0.4.

**Answer: A**

**Question No : 374 - (Topic 2)**

What makes Cisco DNA Center different from traditional network management applications and their management of networks?

- A. It omits supports auto-discovery of network elements in a greenfield deployment.
- B. Its modular design allows someone to implement different versions to meet the specific needs of an organization
- C. It abstracts policy from the actual device configuration
- D. It does not support high availability of management functions when operating in cluster mode

**Answer: C**

**Question No : 375 - (Topic 2)**

Refer to the exhibit.

```
10.0.0.0/24 is subnetted, 1 subnets
C      10.0.0.0 is directly connected, FastEthernet0/1
C      172.160.0/16 is directly connected, FastEthernet0/0
D      192.168.0.0/24 [90/30720] via 172.16.0.2, 00:00:03, FastEthernet0/0
```

Which route type does the routing protocol Code D represent in the output?

- A. internal BGP route
- B. /24 route of a locally configured IP
- C. statically assigned route
- D. route learned through EIGRP

**Answer: D**

**Question No : 376 - (Topic 2)**

Refer to the exhibit.

```
R1# sh ip ospf int gig0/0
Gig0/0 is up, line protocol is up
  Internet Address 10.201.24.8/28, Area 1, Attached via Network Statement
  Process ID 100, Router ID 192.168.1.1, Network Type BROADCAST, Cost: 1
  Topology-MTID      Cost      Disabled      Shutdown      Topology Name
    0            1        no        no          Base
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 192.168.1.1, Interface address 10.201.24.8
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    oob-resync timeout 40
  Hello due in 00:00:07

R2#sh ip ospf int gig0/0
gig0/0 is up, line protocol is up
  Internet Address 10.201.24.1/28, Area 1
  Process ID 100, Router ID 172.16.1.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 172.16.1.1, Interface address 10.201.24.1
  No backup designated router on this network
  Timer intervals configured, Hello 20, Dead 80, Wait 80, Retransmit 5
```

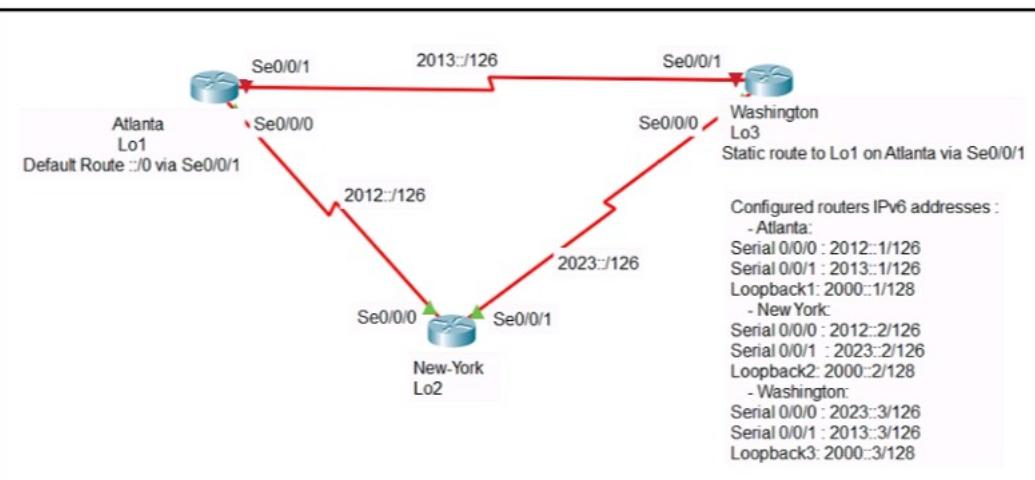
What action establishes the OSPF neighbor relationship without forming an adjacency?

- A. modify hello interval
- B. modify process ID
- C. modify priority
- D. modify network type

**Answer: A**

### Question No : 377 - (Topic 2)

Refer to Exhibit.



An engineer is configuring the NEW York router to reach the Lo1 interface of the Atlanta router using interface Se0/0/0 as the primary path. Which two commands must be configured on the New York router so that it can reach the Lo1 interface of the Atlanta router via Washington when the link between New York and Atlanta goes down? (Choose two)

- A. ipv6 router 2000::1/128 2012::1
- B. ipv6 router 2000::1/128 2012::1 5
- C. ipv6 router 2000::1/128 2012::2
- D. ipv6 router 2000::1/128 2023::2 5
- E. ipv6 router 2000::1/128 2023::3 5

**Answer:** A,E

**Explanation:** Floating static routes are static routes that have an administrative distance greater than the administrative distance (AD) of another static route or dynamic routes. By default a static route has an AD of 1 then floating static route must have the AD greater than 1. Floating static route has a manually configured administrative distance greater than that of the primary route and therefore would not be in the routing table until the primary route fails.

**Question No : 378 - (Topic 2)**

What is a role of access points in an enterprise network?

- A. connect wireless devices to a wired network
- B. support secure user logins to devices or the network
- C. integrate with SNMP in preventing DDoS attacks
- D. serve as a first line of defense in an enterprise network

**Answer:** A

**Question No : 379 - (Topic 2)**

Which technology must be implemented to configure network device monitoring with the highest security?

- A. IP SLA
- B. syslog
- C. NetFlow
- D. SNMPv3

**Answer: C**

**Question No : 380 - (Topic 2)**

Refer to Exhibit.

```
SW2
vtp domain cisco
vtp mode transparent
vtp password ciscotest
interface fastethernet0/1
  description connection to sw1
  switchport mode trunk
  switchport trunk encapsulation dot1q
```

How does SW2 interact with other switches in this VTP domain?

- A. It processes VTP updates from any VTP clients on the network on its access ports.
- B. It receives updates from all VTP servers and forwards all locally configured VLANs out all trunk ports
- C. It forwards only the VTP advertisements that it receives on its trunk ports.
- D. It transmits and processes VTP updates from any VTP Clients on the network on its trunk ports

**Answer: C**

Reference: <https://www.cisco.com/c/en/us/support/docs/lan-switching/vtp/10558-21.html>

The VTP mode of SW2 is transparent so it only forwards the VTP updates it receives to its trunk links without processing them.

**Question No : 381 - (Topic 2)**

Which port type supports the spanning-tree portfast command without additional configuration?

- A. access ports
- B. Layer 3 main Interfaces
- C. Layer 3 suninterfaces
- D. trunk ports

**Answer: A**

**Question No : 382 - (Topic 2)**

How does WPA3 improve security?

- A. It uses SAE for authentication.
- B. It uses a 4-way handshake for authentication.
- C. It uses RC4 for encryption.
- D. It uses TKIP for encryption.

**Answer: A**

**Question No : 383 - (Topic 2)**

When OSPF learns multiple paths to a network, how does it select a route?

- A. It multiple the active K value by 256 to calculate the route with the lowest metric.
- B. For each existing interface, it adds the metric from the source router to the destination to calculate the route with the lowest bandwidth.
- C. It divides a reference bandwidth of 100 Mbps by the actual bandwidth of the existing interface to calculate the router with the lowest cost.
- D. It count the number of hops between the source router and the destination to determine the router with the lowest metric

**Answer: C**

**Question No : 384 - (Topic 2)**

Which statement correctly compares traditional networks and controller-based networks?

- A. Only traditional networks offer a centralized control plane
- B. Only traditional networks natively support centralized management
- C. Traditional and controller-based networks abstract policies from device configurations

- D. Only controller-based networks decouple the control plane and the data plane

**Answer: D**

**Explanation:** Most traditional devices use a distributed architecture, in which each control plane is resided in a networking device. Therefore they need to communicate with each other via messages to work correctly. In contrast to distributed architecture, centralized (or controller-based) architectures centralizes the control of networking devices into one device, called SDN controller

**Question No : 385 - (Topic 2)**

An office has 8 floors with approximately 30-40 users per floor. What command must be configured on the router Switched Virtual Interface to use address space efficiently?

- A. ip address 192.168.0.0 255.255.0.0
- B. ip address 192.168.0.0 255.255.254.0
- C. ip address 192.168.0.0 255.255.255.128
- D. ip address 192.168.0.0 255.255.255.224

**Answer: B**

**Question No : 386 - (Topic 2)**

What are two benefits of using the PortFast feature? (Choose two )

- A. Enabled interfaces are automatically placed in listening state
- B. Enabled interfaces come up and move to the forwarding state immediately
- C. Enabled interfaces never generate topology change notifications.
- D. Enabled interfaces that move to the learning state generate switch topology change notifications
- E. Enabled interfaces wait 50 seconds before they move to the forwarding state

**Answer: A,B**

**Question No : 387 - (Topic 2)**

What is a characteristic of spine-and-leaf architecture?

- A. Each device is separated by the same number of hops
- B. It provides variable latency
- C. It provides greater predictability on STP blocked ports.
- D. Each link between leaf switches allows for higher bandwidth.

**Answer: A**

**Question No : 388 - (Topic 2)**

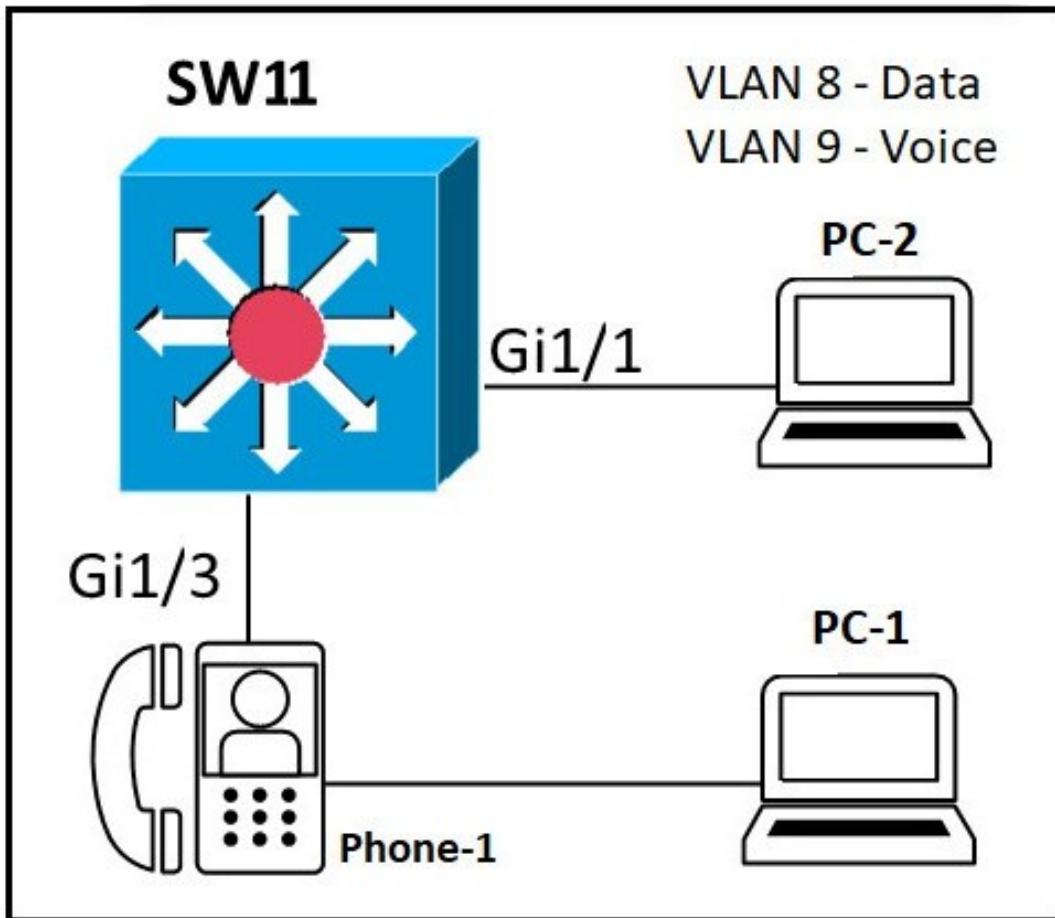
Which IPv6 address type provides communication between subnets and is unable to route on the Internet?

- A. global unicast
- B. unique local
- C. link-local
- D. multicast

**Answer: B**

**Question No : 389 - (Topic 2)**

Refer to the exhibit.



An administrator must configure interfaces Gi1/1 and Gi1/3 on switch SW11. PC-1 and PC-2 must be placed in the Data VLAN and Phone-1 must be placed in the Voice VLAN. Which configuration meets these requirements?

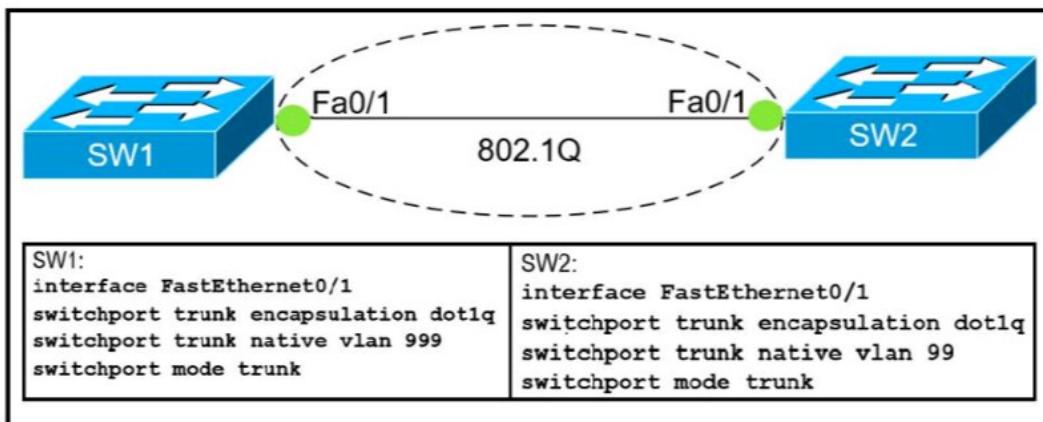
- interface gigabitethernet1/1  
switchport mode access  
switchport access vlan 8  
!  
interface gigabitethernet1/3  
switchport mode access  
switchport voice vlan 8  
switchport access vlan 9
- interface gigabitethernet1/1  
switchport mode access  
switchport access vlan 9  
!  
interface gigabitethernet1/3  
switchport mode trunk  
switchport trunk vlan 8  
switchport trunk vlan 9
- interface gigabitethernet1/1  
switchport mode access  
switchport access vlan 8  
!  
interface gigabitethernet1/3  
switchport mode access  
switchport access vlan 8  
switchport voice vlan 9
- interface gigabitethernet1/1  
switchport mode access  
switchport access vlan 8  
!  
interface gigabitethernet1/3  
switchport mode trunk  
switchport trunk vlan 8  
switchport voice vlan 9

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Question No : 390 - (Topic 2)

Refer to Exhibit.



Which action do the switches take on the trunk link?

- A. The trunk does not form and the ports go into an err-disabled status.
- B. The trunk forms but the mismatched native VLANs are merged into a single broadcast domain.
- C. The trunk does not form, but VLAN 99 and VLAN 999 are allowed to traverse the link.
- D. The trunk forms but VLAN 99 and VLAN 999 are in a shutdown state.

**Answer: B**

**Explanation:** The trunk still forms with mismatched native VLANs and the traffic can actually flow between mismatched switches. But it is absolutely necessary that the native VLANs on both ends of a trunk link match; otherwise a native VLAN mismatch occurs, causing the two VLANs to effectively merge.

For example with the above configuration, SW1 would send untagged frames for VLAN 999. SW2 receives them but would think they are for VLAN 99 so we can say these two VLANs are merged.

### Question No : 391 - (Topic 2)

Which technology can prevent client devices from arbitrarily connecting to the network without state remediation?

- A. 802.1x
- B. IP Source Guard
- C. MAC Authentication Bypass
- D. 802.11n

**Answer: A**

**Question No : 392 - (Topic 2)**

Which condition must be met before an NMS handles an SNMP trap from an agent?

- A. The NMS software must be loaded with the MIB associated with the trap.
- B. The NMS must be configured on the same router as the SNMP agent
- C. The NMS must receive a trap and an inform message from the SNMP agent within a configured interval
- D. The NMS must receive the same trap from two different SNMP agents to verify that it is reliable.

**Answer: A**

**Question No : 393 - (Topic 2)**

What are two benefits of network automation? (Choose two)

- A. reduced operational costs
- B. reduced hardware footprint
- C. faster changes with more reliable results
- D. fewer network failures
- E. increased network security

**Answer: A,C**

**Question No : 394 - (Topic 2)**

Refer to the exhibit.

```
Designated Router (ID) 10.11.11.11, Interface address 10.10.10.1
Backup Designated router (ID) 10.3.3.3, Interface address 10.10.10.3
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
oob-resync timeout 40
Hello due in 00:00:08
Supports Link-local Signaling (LLS)
Cisco NSF helper support enabled
IETF NSF helper support enabled
Index 1/1/1, flood queue length 0
Next 0x0(0)/0x0(0)/0x0(0)
Last flood scan length is 1, maximum is 6
Last flood scan time is 0 msec, maximum is 1 msec
Neighbor Count is 3, Adjacent neighbor count is 3
Adjacent with neighbor 10.1.1.4
Adjacent with neighbor 10.2.2.2
Adjacent with neighbor 10.3.3.3 (Backup Designated Router)
Suppress hello for 0 neighbor(s)
```

The show ip ospf interface command has been executed on R1. How is OSPF configured?

- A. The interface is not participating in OSPF
- B. A point-to-point network type is configured
- C. The default Hello and Dead timers are in use
- D. There are six OSPF neighbors on this interface

**Answer: C**

**Explanation:** <https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/13689-17.html>

### Question No : 395 - (Topic 2)

How do AAA operations compare regarding user identification, user services and access control?

- A. Authorization provides access control and authentication tracks user services
- B. Authentication identifies users and accounting tracks user services
- C. Accounting tracks user services, and authentication provides access control
- D. Authorization identifies users and authentication provides access control

Answer: B

**Question No : 396 - (Topic 2)**

Refer to the exhibit.

```
SW1(config-line)#line vty 0 15
SW1(config-line)#no login local
SW1(config-line)#password cisco

SW2(config)#username admin1 password abcd1234
SW2(config)#username admin2 password abcd1234
SW2(config-line)#line vty 0 15
SW2(config-line)#login local

SW3(config)#username admin1 secret abcd1234
SW3(config)#username admin2 secret abcd1234
SW3(config-line)#line vty 0 15
SW3(config-line)#login local

SW4(config)#username admin1 secret abcd1234
SW4(config)#username admin2 secret abcd1234
SW4(config-line)#line console 0
SW4(config-line)#login local
```

An administrator configures four switches for local authentication using passwords that are stored in a cryptographic hash. The four switches must also support SSH access for administrators to manage the network infrastructure. Which switch is configured correctly to meet these requirements?

- A. SW1
- B. SW2
- C. SW3
- D. SW4

Answer: C

**Question No : 397 - (Topic 2)**

What is the effect when loopback interfaces and the configured router ID are absent during the OSPF Process configuration?

- A. No router ID is set, and the OSPF protocol does not run.
- B. The highest up/up physical interface IP address is selected as the router ID.
- C. The lowest IP address is incremented by 1 and selected as the router ID.
- D. The router ID 0.0.0.0 is selected and placed in the OSPF process.

**Answer: B**

**Question No : 398 - (Topic 2)**

Refer to the exhibit.

```
Switch1#show etherchannel summary
Flags:  D - down      P - in port-channel
        I - stand-alone  S - suspended
        H - Hot-standby (LACP only)
        R - Layer3       S - Layer2
        U - in use        f - failed to allocate aggregator
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port

Number of channel-groups in use: 1
Number of aggregators:          1
Group  Port-channel  Protocol    Ports
-----+-----+-----+
1      Po1 (SD)      LACP        Fa0/2(I)  Fa0/1(I)

Switch1#show run
Building configuration...
interface Port-channel1
!
interface FastEthernet0/1
  channel-group 1 mode passive
!
interface FastEthernet0/2
  channel-group 1 mode passive

Switch2#show run
Building configuration...
interface Port-channel1
!
interface FastEthernet0/1
  channel-group 1 mode passive
!
interface FastEthernet0/2
  channel-group 1 mode passive
```

Which change to the configuration on Switch?

allows the two switches to establish an EtherChannel?

- A. Change the protocol to EtherChannel mode on.
- B. Change the LACP mode to active
- C. Change the LACP mode to desirable
- D. Change the protocol to PAQP and use auto mode

**Answer: B**

**Question No : 399 - (Topic 2)**

An engineer requires a scratch interface to actively attempt to establish a trunk link with a neighbor switch. What command must be configured?

- A. switchport mode trunk
- B. switchport mode dynamic desirable
- C. switchport mode dynamic auto
- D. switchport nonegotiate

**Answer: C**

**Question No : 400 - (Topic 2)**

Refer to the exhibit.

```
R1# show ip route
D 192.168.10.0/24 [90/2679326] via 192.168.1.1
R 192.168.10.0/27 [120/3] via 192.168.1.2
O 192.168.10.0/23 [110/2] via 192.168.1.3
i L1 192.168.10.0/13 [115/30] via 192.168.1.4
```

How does router R1 handle traffic to 192.168.10.16?

- A. It selects the IS-IS route because it has the shortest prefix inclusive of the destination address.
- B. It selects the EIGRP route because it has the lowest administrative distance.
- C. It selects the OSPF route because it has the lowest cost.
- D. It selects the RIP route because it has the longest prefix inclusive of the destination address.

**Answer: D**

**Question No : 401 - (Topic 2)**

What benefit does controller-based networking provide versus traditional networking?

- A. moves from a two-tier to a three-tier network architecture to provide maximum redundancy
- B. provides an added layer of security to protect from DDoS attacks
- C. allows configuration and monitoring of the network from one centralized port
- D. combines control and data plane functionality on a single device to minimize latency

**Answer: C**

**Question No : 402 - (Topic 2)**

What is a characteristic of private IPv4 addressing?

- A. traverse the Internet when an outbound ACL is applied
- B. issued by IANA in conjunction with an autonomous system number
- C. composed of up to 65.536 available addresses
- D. used without tracking or registration

**Answer: D**

**Question No : 403 - (Topic 2)**

R1 has learned route 10.10.10.0/24 via numerous routing protocols. Which route is installed?

- A. route with the lowest cost
- B. route with the next hop that has the highest IP
- C. route with the shortest prefix length
- D. route with the lowest administrative distance

**Answer: D**

**Question No : 404 - (Topic 2)**

What is the function of a server?

- A. It transmits packets between hosts in the same broadcast domain.
- B. It provides shared applications to end users.
- C. It routes traffic between Layer 3 devices.
- D. It creates security zones between trusted and untrusted networks

**Answer: B**

**Question No : 405 - (Topic 2)**

A network administrator must configure SSH for remote access to router R1. The requirement is to use a public and private key pair to encrypt management traffic to and from the connecting client.

Which configuration, when applied, meets the requirements?

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 2048
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate rsa modulus 1024
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 1024
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key encrypt rsa name myKey
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Question No : 406 - (Topic 2)**

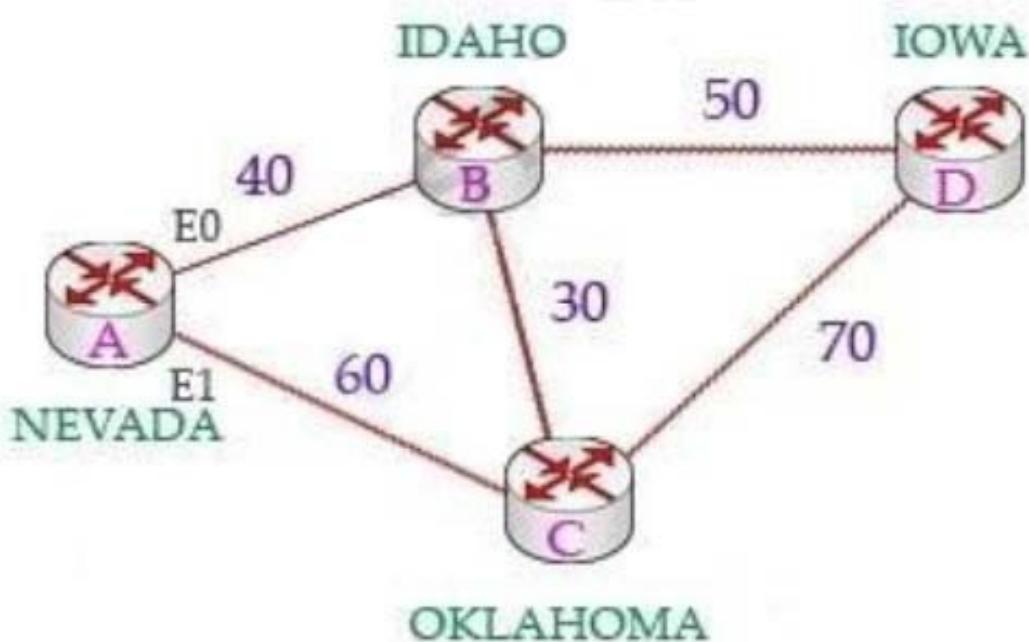
Which two actions influence the EIGRP route selection process? (Choose two)

- A. The router calculates the reported distance by multiplying the delay on the exiting Interface by 256.
- B. The router calculates the best backup path to the destination route and assigns it as the feasible successor.
- C. The router calculates the feasible distance of all paths to the destination route
- D. The advertised distance is calculated by a downstream neighbor to inform the local router of the bandwidth on the link
- E. The router must use the advertised distance as the metric for any given route

**Answer: B,C**

**Explanation:** The reported distance (or advertised distance) is the cost from the neighbor to the destination. It is calculated from the router advertising the route to the network. For example in the topology below, suppose router A & B are exchanging their routing tables for the first time. Router B says “Hey, the best metric (cost) from me to IOWA is 50 and the metric from you to IOWA is 90” and advertises it to router A.

Router A considers the first metric (50) as the Advertised distance. The second metric (90), which is from NEVADA to IOWA (through IDAHO), is called the Feasible distance.



The reported distance is calculated in the same way of calculating the metric. By default

(K1 = 1, K2 = 0, K3 = 1, K4 = 0, K5 = 0), the metric is calculated as follows:

$$\text{metric} = \left[ \frac{10,000,000}{\text{slowest bandwidth[in kbps]}} + \frac{\text{sum of delay[in } \mu\text{sec}]}{10} \right] * 256$$

**Question No : 407 - (Topic 2)**

Which two outcomes are predictable behaviors for HSRP? (Choose two)

- A. The two routers share a virtual IP address that is used as the default gateway for devices on the LAN.
- B. The two routers negotiate one router as the active router and the other as the standby router
- C. Each router has a different IP address both routers act as the default gateway on the LAN, and traffic is load balanced between them.
- D. The two routers synchronize configurations to provide consistent packet forwarding
- E. The two routers share the same IP address, and default gateway traffic is load-balanced between them

**Answer: A,B**

**Question No : 408 - (Topic 2)**

Which action does the router take as it forwards a packet through the network?

- A. The router replaces the source and destination labels with the sending router interface label as a source and the next hop router label as a destination
- B. The router encapsulates the source and destination IP addresses with the sending router IP address as the source and the neighbor IP address as the destination
- C. The router replaces the original source and destination MAC addresses with the sending router MAC address as the source and neighbor MAC address as the destination
- D. The router encapsulates the original packet and then includes a tag that identifies the source router MAC address and transmit transparently to the destination

**Answer: C**

**Question No : 409 - (Topic 2)**

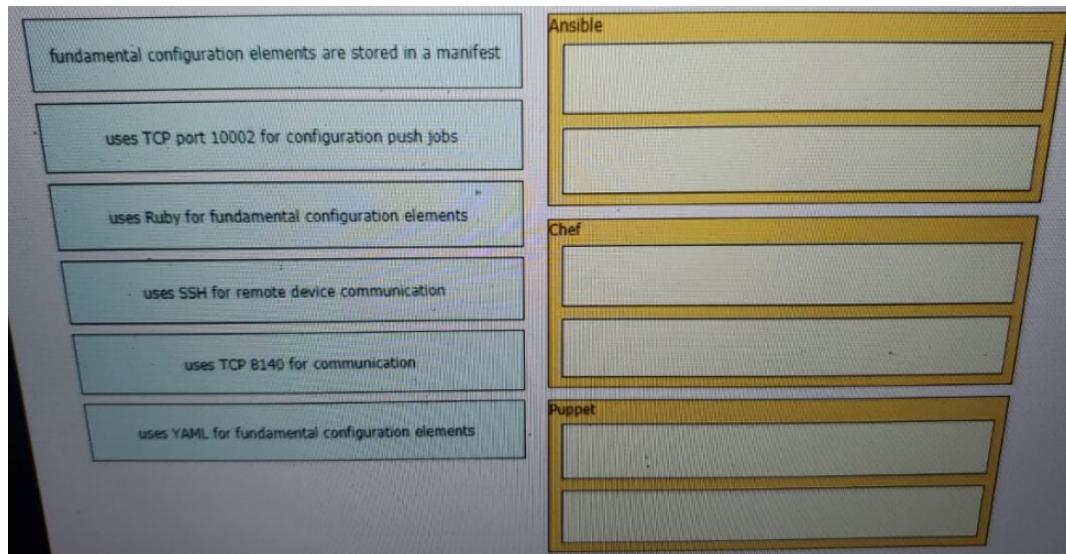
What are two descriptions of three-tier network topologies? (Choose two)

- A. The core and distribution layers perform the same functions
- B. The access layer manages routing between devices in different domains
- C. The network core is designed to maintain continuous connectivity when devices fail.
- D. The core layer maintains wired connections for each host
- E. The distribution layer runs Layer 2 and Layer 3 technologies

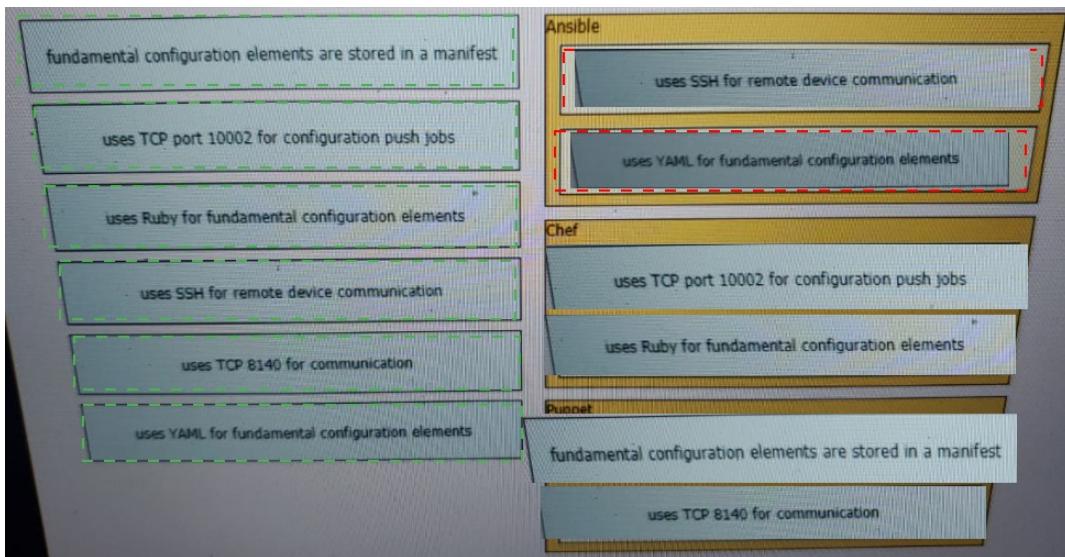
**Answer: C,E**

**Question No : 410 DRAG DROP - (Topic 2)**

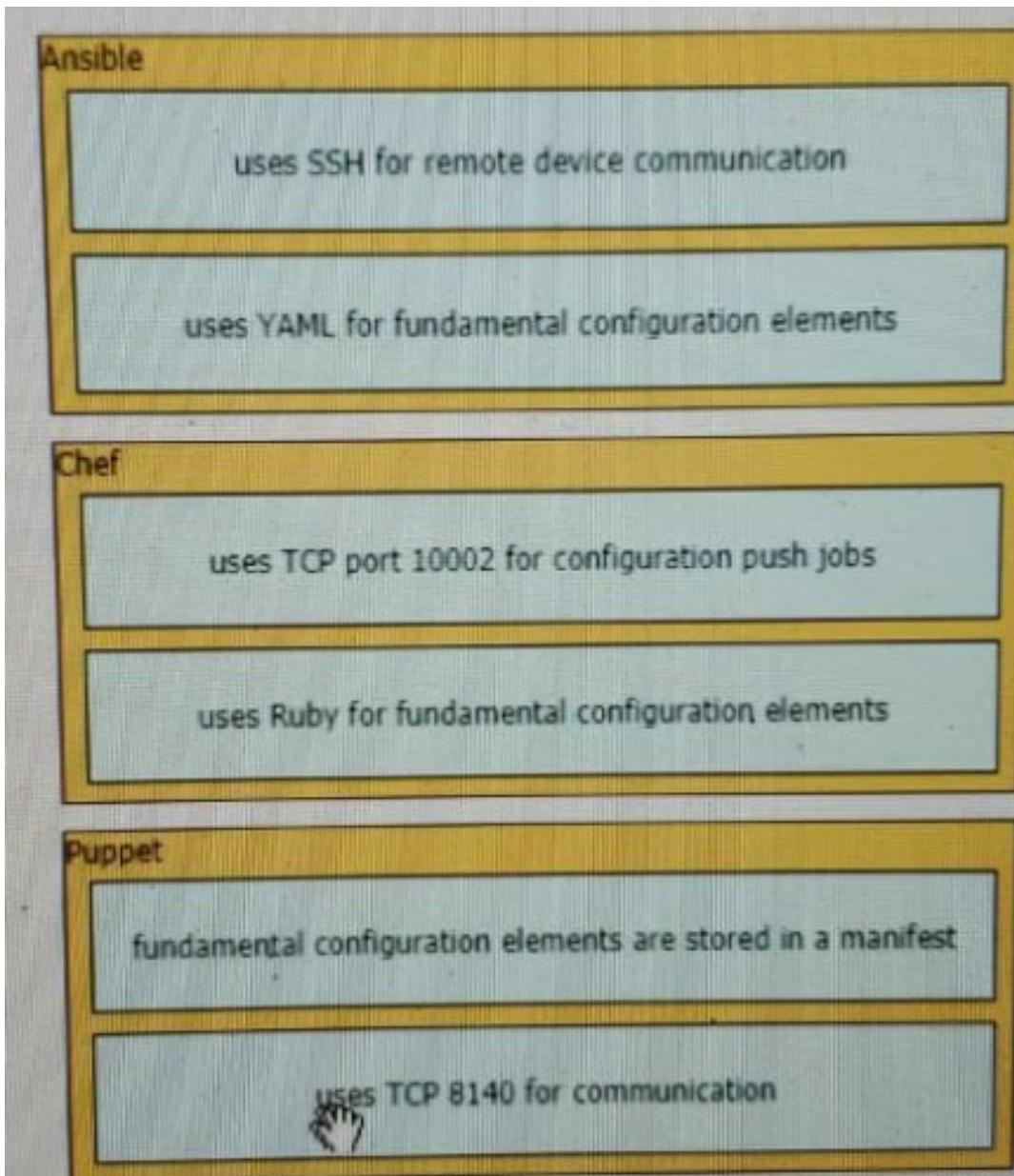
Drag and drop the descriptions from the left onto the configuration-management technologies on the right.



**Answer:**



### Explanation:



Ansible:- uses SSH for remote device communication– uses YAML for fundamental configuration elements

Chef:- uses TCP port 10002 for configuration push jobs– uses Ruby for fundamental configuration elements

Puppet:- fundamental configuration elements are stored in a manifest– uses TCP 8140 for communication

The focus of Ansible is to be streamlined and fast, and to require no node agent installation. Thus, Ansible performs all functions over SSH. Ansible is built on Python, in contrast to the Ruby foundation of Puppet and Chef. TCP port 10002 is the command port. It may be configured in the Chef Push Jobs configuration file . This port allows Chef Push Jobs clients to communicate with the Chef Push Jobs server. Puppet is an open-source configuration management solution, which is built with Ruby and offers custom Domain Specific Language (DSL) and Embedded Ruby (ERB) templates to create custom Puppet language files, offering a declarative-paradigm programming approach. A Puppet piece of code is called a manifest, and is a file with .pp extension.

#### **Question No : 411 - (Topic 2)**

A corporate office uses four floors in a building

- Floor 1 has 24 users
- Floor 2 has 29 users
- Floor 3 has 28 users
- Floor 4 has 22 users

Which subnet summarizes and gives the most efficient distribution of IP addresses for the router configuration?

- A. 192.168.0.0/26 as summary and 192.168.0.0/29 for each floor
- B. 192.168.0.0/24 as summary and 192.168.0.0/28 for each floor
- C. 192.168.0.0/23 as summary and 192.168.0.0/25 for each floor
- D. 192.168.0.0/25 as summary and 192.168.0.0/27 for each floor

**Answer: D**

**Question No : 412 - (Topic 2)**

A router running EIGRP has learned the same route from two different paths. Which parameter does the router use to select the best path?

- A. cost
- B. administrative distance
- C. metric
- D. as-path

**Answer: C**

**Explanation:** If a router learns two different paths for the same network from the same routing protocol, it has to decide which route is better and will be placed in the routing table. Metric is the measure used to decide which route is better (lower number is better). Each routing protocol uses its own metric. For example, RIP uses hop counts as a metric, while OSPF uses cost.

**Question No : 413 - (Topic 2)**

How does a Cisco Unified Wireless network respond to Wi-Fi channel overlap?

- A. It alternates automatically between 2.4 GHz and 5 GHz on adjacent access points
- B. It allows the administrator to assign channels on a per-device or per-interface basis.
- C. It segregates devices from different manufacturers onto different channels.
- D. It analyzes client load and background noise and dynamically assigns a channel.

**Answer: A**

**Question No : 414 - (Topic 2)**

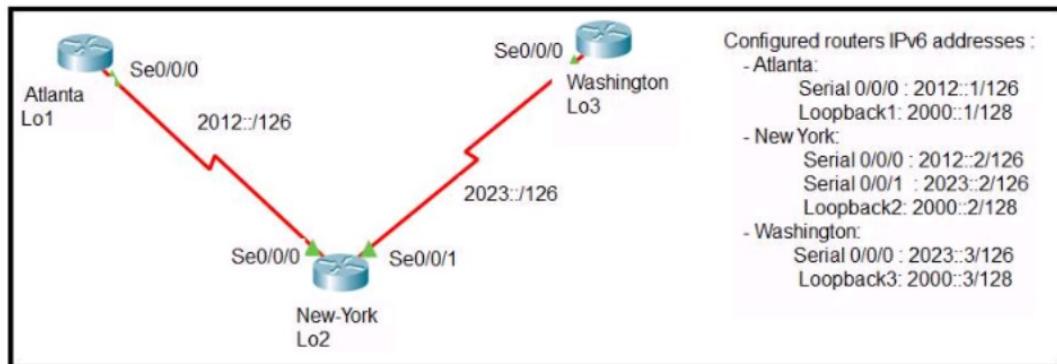
Which function is performed by DHCP snooping?

- A. propagates VLAN information between switches
- B. listens to multicast traffic for packet forwarding
- C. provides DDoS mitigation
- D. rate-limits certain traffic

**Answer: A**

**Question No : 415 - (Topic 2)**

Refer to the exhibit.



The New York router is configured with static routes pointing to the Atlanta and Washington sites. Which two tasks must be performed so that the Serial0/0/0 interfaces on the Atlanta and Washington routers can reach one another?

(Choose two.)

- A. Configure the ipv6 route 2012::1/126 2023::1 command on the Washington router.
- B. Configure the ipv6 route 2023::1/126 2012::1 command on the Atlanta router.
- C. Configure the Ipv6 route 2012::1/126 s0/0/0 command on the Atlanta router.
- D. Configure the ipv6 route 2023::1/126 2012::2 command on the Atlanta router.
- E. Configure the ipv6 route 2012::1/126 2023::2 command on the Washington router.

**Answer: D,E**

**Explanation:** The short syntax of static IPv6 route is:ipv6 route <destination-IPv6-address> {next-hop-IPv6-address | exit-interface}

**Question No : 416 - (Topic 2)**

Refer to the exhibit.

```
SW1#show run int gig 0/1
interface GigabitEthernet0/1
  switchport access vlan 11
  switchport trunk allowed vlan 1-10
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 5
  switchport mode trunk
  speed 1000
  duplex full
```

Which action is expected from SW1 when the untagged frame is received on the GigabitEthernet0/1 interface?

- A. The frame is processed in VLAN 5.
- B. The frame is processed in VLAN 11
- C. The frame is processed in VLAN 1
- D. The frame is dropped

**Answer: A**

**Question No : 417 - (Topic 2)**

Which 802.11 frame type is indicated by a probe response after a client sends a probe request?

- A. action
- B. management
- C. control
- D. data

**Answer: B**

**Question No : 418 - (Topic 2)**

What prevents a workstation from receiving a DHCP address?

- A. DTP

- B. STP
- C. VTP
- D. 802.10

**Answer: B**

**Question No : 419 - (Topic 2)**

An implementer is preparing hardware for virtualization to create virtual machines on a host. What is needed to provide communication between hardware and virtual machines?

- A. hypervisor
- B. router
- C. straight cable
- D. switch

**Answer: A**

**Question No : 420 - (Topic 2)**

What is a function of TFTP in network operations?

- A. transfers a backup configuration file from a server to a switch using a username and password
- B. transfers files between file systems on a router
- C. transfers a configuration files from a server to a router on a congested link
- D. transfers IOS images from a server to a router for firmware upgrades

**Answer: D**

**Explanation:** TFTP is mostly used (Firmware upgrade) whereby the admin have the IOS image on one device and uses TFTP to load the image to all other devices quickly.

**Question No : 421 - (Topic 2)**

When a WLAN with WPA2 PSK is configured in the Wireless LAN Controller GUI which format is supported?

- A. Unicode
- B. base64
- C. decimal
- D. ASCII

Answer: D

### Question No : 422 - (Topic 2)

Refer to the exhibit.

```
Switch(config)#hostname R1
R1(config)#interface FastEthernet0/1
R1(config-if)#no switchport
R1(config-if)#ip address 10.100.20.42 255.255.255.0
R1(config-if)#line vty 0 4
R1(config-line)#login
```

An engineer booted a new switch and applied this configuration via the console port. Which additional configuration must be applied to allow administrators to authenticate directly to enable privilege mode via Telnet using a local username and password?

- R1(config)#username admin privilege 15 secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local
- R1(config)#username admin secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local  
R1(config)#enable secret p@ss1234
- R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234  
R1(config-line)#transport input telnet
- R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234

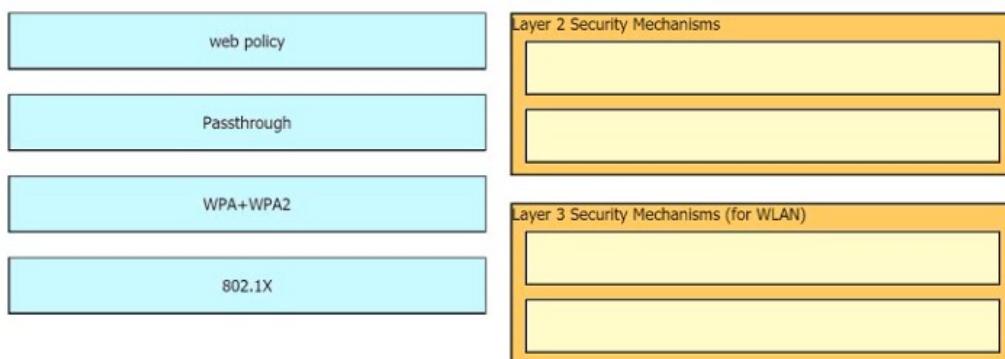
- A. Option A
- B. Option B

- C. Option C  
D. Option D

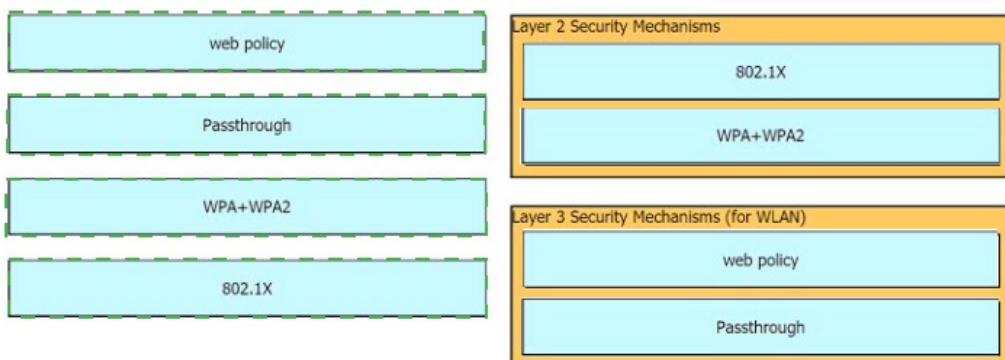
**Answer: A**

**Question No : 423 DRAG DROP - (Topic 2)**

Drag and drop the Cisco Wireless LAN Controller security settings from the left onto the correct security mechanism categories on the right.



**Answer:**



**Question No : 424 - (Topic 2)**

What are two reasons that cause late collisions to increment on an Ethernet interface?  
(Choose two)

- A. when the sending device waits 15 seconds before sending the frame again  
B. when the cable length limits are exceeded

- C. when one side of the connection is configured for half-duplex
- D. when Carrier Sense Multiple Access/Collision Detection is used
- E. when a collision occurs after the 32nd byte of a frame has been transmitted

**Answer:** B,C

**Explanation:** The usual possible causes are full-duplex/half-duplex mismatch, exceeded Ethernet cable length limits, or defective hardware such as incorrect cabling, non-compliant number of hubs in the network, or a bad NIC.

#### **Question No : 425 - (Topic 2)**

What are two differences between optical-fiber cabling and copper cabling? (Choose two)

- A. Light is transmitted through the core of the fiber
- B. A BNC connector is used for fiber connections
- C. The glass core component is encased in a cladding
- D. Fiber connects to physical interfaces using RJ-45 connections
- E. The data can pass through the cladding

**Answer:** A,C

#### **Question No : 426 - (Topic 2)**

The SW1 interface g0/1 is in the down/down state. Which two configurations are valid reasons for the interface conditions?(choose two)

- A. There is a duplex mismatch
- B. There is a speed mismatch
- C. There is a protocol mismatch
- D. The interface is shut down
- E. The interface is error-disabled

**Answer:** B,E

#### **Question No : 427 - (Topic 2)**

Which command must be entered to configure a DHCP relay?

- A. ip helper-address
- B. ip address dhcp
- C. ip dhcp pool
- D. ip dhcp relay

**Answer: A**

**Question No : 428 - (Topic 2)**

Which set of action satisfy the requirement for multifactor authentication?

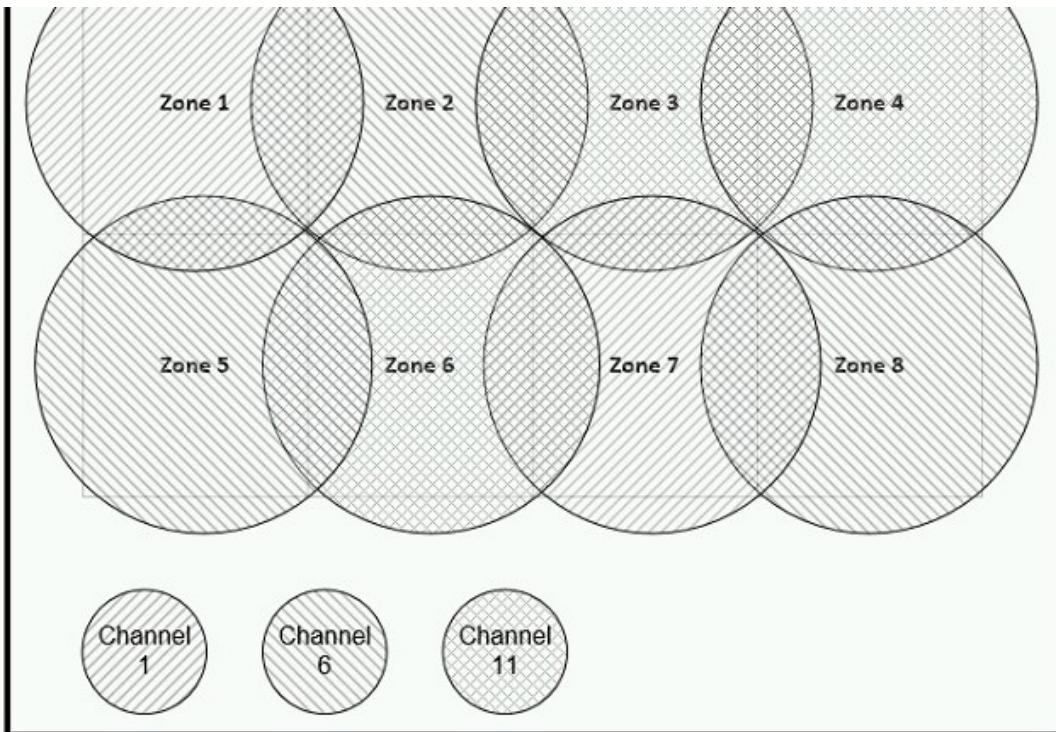
- A. The user swipes a key fob, then clicks through an email link
- B. The user enters a user name and password, and then clicks a notification in an authentication app on a mobile device
- C. The user enters a PIN into an RSA token, and then enters the displayed RSA key on a login screen
- D. The user enters a user name and password and then re-enters the credentials on a second screen

**Answer: B**

**Explanation:** This is an example of how two-factor authentication (2FA) works:1. The user logs in to the website or service with their username and password.2. The password is validated by an authentication server and, if correct, the user becomes eligible for the second factor.3. The authentication server sends a unique code to the user's second-factor method (such as a smartphone app).4. The user confirms their identity by providing the additional authentication for their second-factor method.

**Question No : 429 - (Topic 2)**

Refer to the exhibit.



Between which zones do wireless users expect to experience intermittent connectivity?

- A. between zones 1 and 2
- B. between zones 2 and 5
- C. between zones 3 and 4
- D. between zones 3 and 6

**Answer: D**

**Question No : 430 - (Topic 2)**

When a site-to-site VPN is used, which protocol is responsible for the transport of user data?

- A. IKEv2
- B. IKEv1
- C. IPsec
- D. MD5

**Answer: C**

**Explanation:** A site-to-site VPN allows offices in multiple fixed locations to establish secure connections with each other over a public network such as the Internet. A site-to-site VPN means that two sites create a VPN tunnel by encrypting and sending data between two

devices. One set of rules for creating a site-to-site VPN is defined by IPsec.

**Question No : 431 - (Topic 2)**

An engineer must establish a trunk link between two switches. The neighboring switch is set to trunk or desirable mode. What action should be taken?

- A. configure switchport nonegotiate
- B. configure switchport mode dynamic desirable
- C. configure switchport mode dynamic auto
- D. configure switchport trunk dynamic desirable

**Answer: C**

**Question No : 432 - (Topic 2)**

When the active router in an HSRP group fails, what router assumes the role and forwards packets?

- A. backup
- B. standby
- C. listening
- D. forwarding

**Answer: B**

**Question No : 433 - (Topic 2)**

Which configuration is needed to generate an RSA key for SSH on a router?

- A. Configure the version of SSH
- B. Configure VTY access.
- C. Create a user with a password.
- D. Assign a DNS domain name

Answer: D

**Question No : 434 - (Topic 2)**

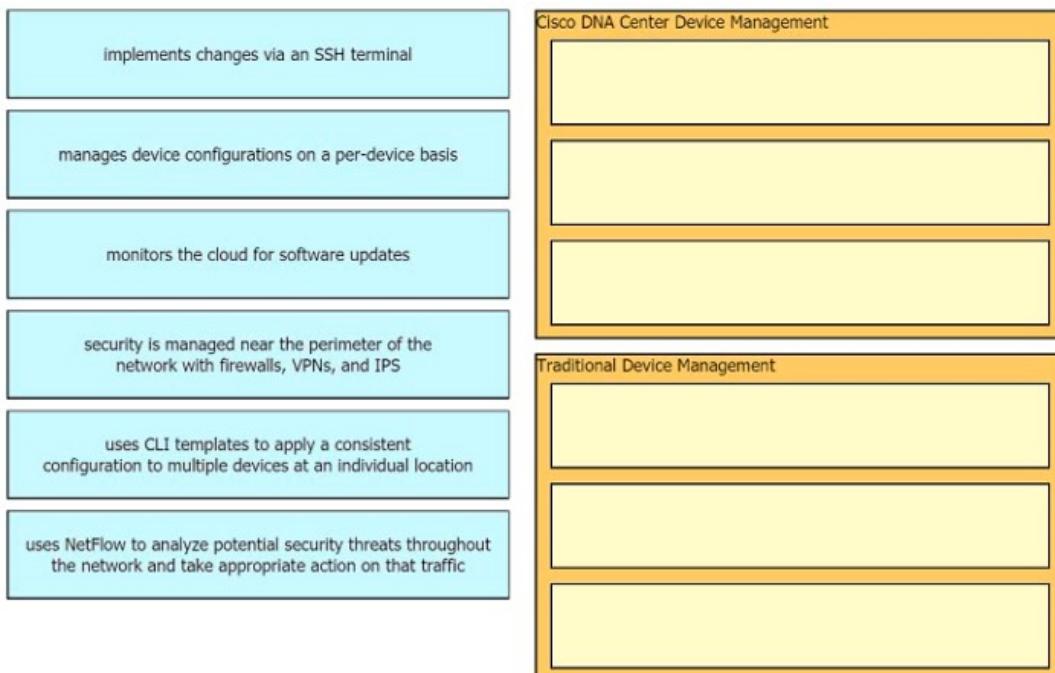
How does CAPWAP communicate between an access point in local mode and a WLC?

- A. The access point must directly connect to the WLC using a copper cable
- B. The access point must not be connected to the wired network, as it would create a loop
- C. The access point must be connected to the same switch as the WLC
- D. The access point has the ability to link to any switch in the network, assuming connectivity to the WLC

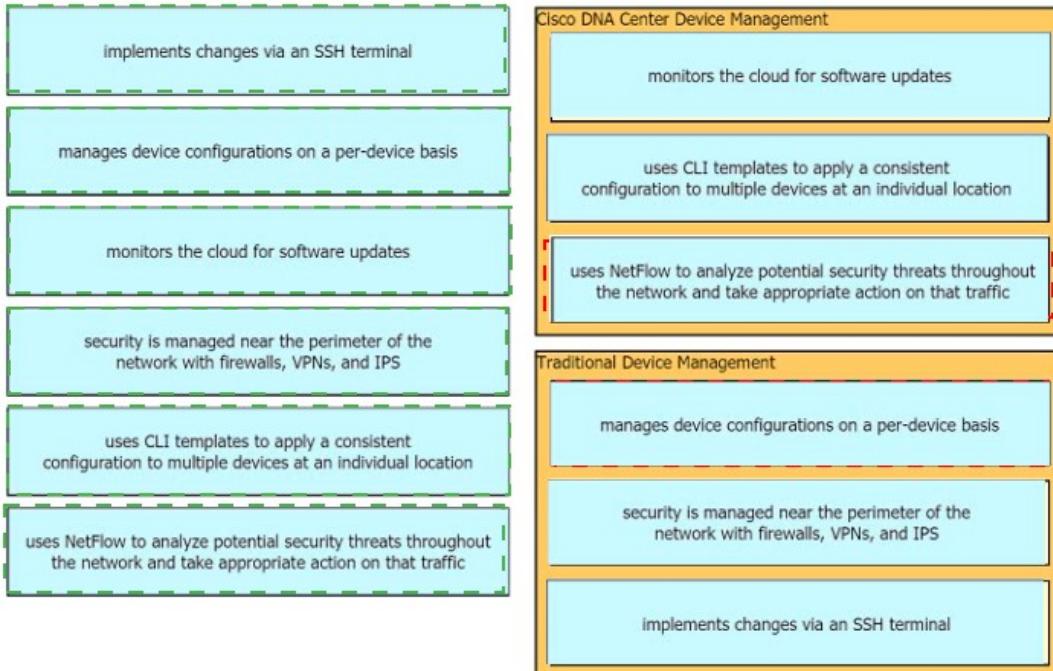
Answer: D

**Question No : 435 DRAG DROP - (Topic 2)**

Drag the descriptions of device management from the left onto the types of device management on the right.



**Answer:**



**Question No : 436 - (Topic 2)**

An engineer must configure traffic for a VLAN that is untagged by the switch as it crosses a trunk link. Which command should be used?

- A. switchport trunk allowed vlan 10
- B. switchport trunk native vlan 10
- C. switchport mode trunk
- D. switchport trunk encapsulation dot1q

**Answer: B**

**Question No : 437 - (Topic 2)**

Refer to the exhibit.

```
SW1#sh lacp neighbor
Flags: S - Device is requesting Slow LACPDU
      F - Device is requesting Fast LACPDU
      A - Device is in Active mode      P - Device is in Passive mode
```

Channel group 35 neighbors

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number	Port State
Et1/0	SP	32768		aabb.cc80.7000	8s	0x0	0x23	0x101	0x3C
Et1/1	SP	32768		aabb.cc80.7000	8s	0x0	0x23	0x102	0x3C

Based on the LACP neighbor status, in which mode is the SW1 port channel configured?

- A. passive
- B. mode on
- C. auto
- D. active

**Answer: D**

**Explanation:** From the neighbor status, we notice the “Flags” are SP. “P” here means the neighbor is in Passive mode. In order to create an Etherchannel interface, the (local) SW1 ports should be in Active mode. Moreover, the “Port State” in the exhibit is “0x3c” (which equals to “00111100 in binary format). Bit 3 is “1” which means the ports are synchronizing -> the ports are working so the local ports should be in Active mode.

**Question No : 438 - (Topic 2)**

Refer to the exhibit.

```
R1#show ip route
#output suppressed

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C    172.16.1.128/25 is directly connected, GigabitEthernet1/1/0
C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.13.0/24 is directly connected, FastEthernet0/1
C    192.168.14.0/24 is directly connected, FastEthernet1/0
C    172.16.16.1 is directly connected, Loopback1
      192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O    192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O    192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O    192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D    192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
*E2  0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

If R1 receives a packet destined to 172.161.1, to which IP address does it send the packet?

- A. 192.168.12.2
- B. 192.168.13.3
- C. 192.168.14.4
- D. 192.168.15.5

**Answer: C**

### **Question No : 439 - (Topic 2)**

A network administrator enabled port security on a switch interface connected to a printer. What is the next configuration action in order to allow the port to learn the MAC address of the printer and insert it into the table automatically?

- A. enable dynamic MAC address learning
- B. implement static MAC addressing.
- C. enable sticky MAC addressing
- D. implement auto MAC address learning

**Answer: C**

**Question No : 440 - (Topic 2)**

Refer to the exhibit.

```
interface GigabitEthernet3/1/4
switchport voice vlan 50
```

!

An administrator is tasked with configuring a voice VLAN. What is the expected outcome when a Cisco phone is connected to the GigabitEthernet3/1/4 port on a switch?

- A. The phone and a workstation that is connected to the phone do not have VLAN connectivity
- B. The phone and a workstation that is connected to the phone send and receive data in VLAN 50.
- C. The phone sends and receives data in VLAN 50, but a workstation connected to the phone has no VLAN connectivity
- D. The phone sends and receives data in VLAN 50, but a workstation connected to the phone sends and receives data in VLAN 1

**Answer: D**

**Question No : 441 - (Topic 2)**

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
    S 172.16.3.0/24 [1/0] via 207.165.200.250, Serial0/0/0
    O 172.16.3.0/28 [110/84437] via 207.165.200.254, 00:00:28, Serial0/0/1
        207.165.200.0/24 is variably subnetted, 6 subnets, 2 masks
        C 207.165.200.244/30 is directly connected, Serial0/1/0
        L 207.165.200.245/32 is directly connected, Serial0/1/0
        C 207.165.200.248/30 is directly connected, Serial0/0/0
        L 207.165.200.249/32 is directly connected, Serial0/0/0
        C 207.165.200.252/30 is directly connected, Serial0/0/1
        L 207.165.200.253/32 is directly connected, Serial0/0/1
```

A packet is being sent across router R1 to host 172.163.3.14. To which destination does the router send the packet?

- A. 207.165.200.246 via Serial0/1/0
- B. 207.165.200.254 via Serial0/0/1
- C. 207.165.200.254 via Serial0/0/0
- D. 207.165.200.250 via Serial0/0/0

**Answer: B**

**Question No : 442 - (Topic 2)**

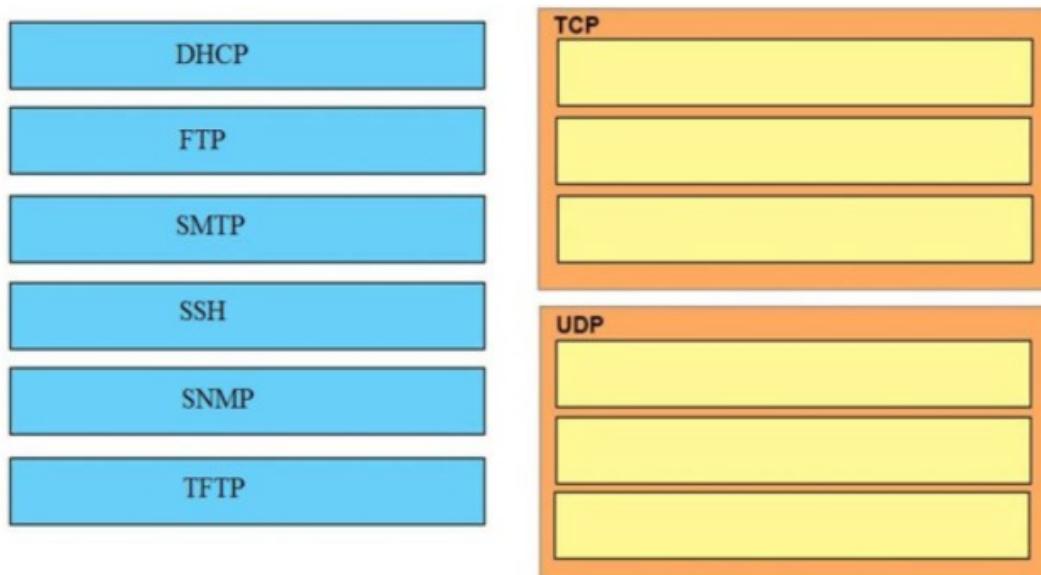
Which protocol requires authentication to transfer a backup configuration file from a router to a remote server?

- A. DTP
- B. FTP
- C. SMTP
- D. TFTP

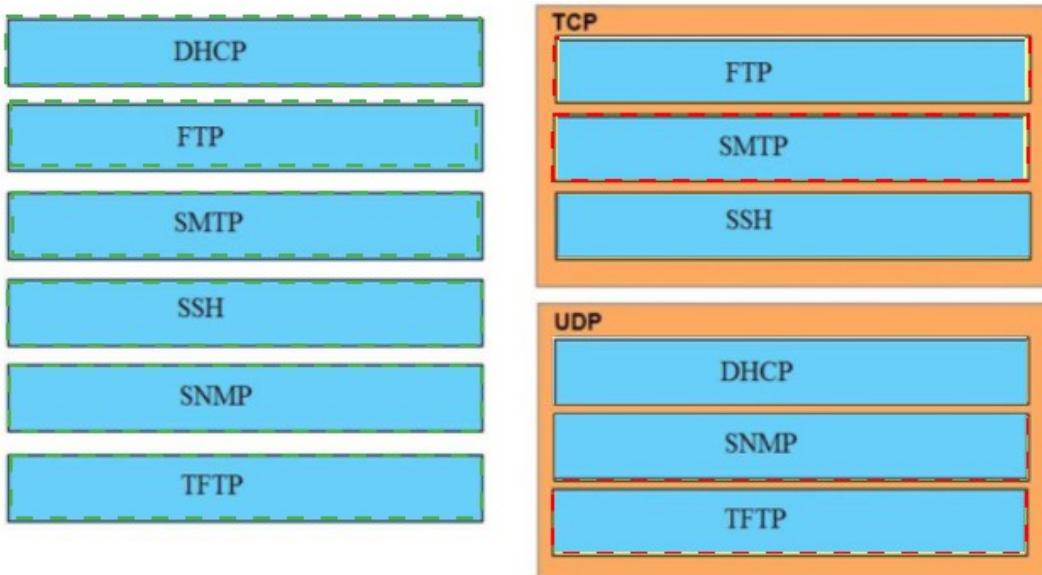
**Answer: B**

**Question No : 443 DRAG DROP - (Topic 2)**

Drag and drop the application protocols from the left onto the transport protocols that it uses on the right



**Answer:**



**Question No : 444 - (Topic 2)**

Which two tasks must be performed to configure NTP to a trusted server in client mode on a single network device? (Choose two)

- A. Enable NTP authentication.
- B. Verify the time zone.
- C. Disable NTP broadcasts
- D. Specify the IP address of the NTP server
- E. Set the NTP server private key

**Answer: A,D**

**Explanation:** <https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4000/8-2glx/configuration/guide/ntp.html>

To configure authentication, perform this task in privileged mode:  
Step 1: Configure an authentication key pair for NTP and specify whether the key will be trusted or untrusted.  
Step 2: Set the IP address of the NTP server and the public key.  
Step 3: Enable NTP client mode.  
Step 4: Enable NTP authentication.  
Step 5: Verify the NTP configuration.

**Question No : 445 - (Topic 2)**

An engineer is configuring NAT to translate the source subnet of 10.10.0.0/24 to any of three addresses 192.168.30.1, 192.168.3.2, 192.168.3.3 Which configuration should be used?

enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
route-map permit 10.10.0.0 255.255.255.0  
ip nat outside destination list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside

enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.255  
ip nat inside source list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside

1

enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.255  
ip nat outside destination list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside

enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.254  
ip nat inside source list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside

---

A. Option A

- B. Option B
- C. Option C
- D. Option D

**Answer: C**

### Topic 3, Exam Pool C

#### Question No : 446 DRAG DROP - (Topic 3)

An engineer is tasked to configure a switch with port security to ensure devices that forward unicasts multicasts and broadcasts are unable to flood the port. The port must be configured to permit only two random MAC addresses at a time. Drag and drop the required configuration commands from the left onto the sequence on the right. Not all commands are used.

switchport mode access	1
switchport port-security	2
switchport port-security mac-address 0060.3EDD.77AB	3
switchport port-security mac-address 00D0.D3ED.622A	4
switchport port-security mac-address sticky	
switchport port-security maximum 2	
switchport port-security violation shutdown	

**Answer:**

switchport mode access	switchport port-security
switchport port-security	switchport port-security mac-address sticky
switchport port-security mac-address 0060.3EDD.77AB	switchport port-security maximum 2
switchport port-security mac-address 00D0.D3ED.622A	switchport port-security violation shutdown
switchport port-security mac-address sticky	
switchport port-security maximum 2	
switchport port-security violation shutdown	

**Explanation:**

switchport mode access

switchport port-security

switchport port-security mac-address sticky

switchport port-security mac-address 0060.3EDD.77AB

switchport port-security maximum 2

switchport port-security mac-address 00D0.D3ED.622A

switchport port-security violation shutdown

Diagram

Description automatically generated

**Question No : 447 - (Topic 3)**

Refer to the exhibit.

```
Cat9K-1# show lldp entry Cat9K-2
Local Intf: Gi1/0/21
Chassis id: 308b.b2b3.2880
Port id: Gi1/0/21
Port Description: GigabitEthernet1/0/21
System Name: Cat9K-2

Management Addresses:
IP: 10.5.110.2
```

The network administrator must prevent the switch Cat9K-2 IP address from being visible in LLDP without disabling the protocol. Which action must be taken must be taken to complete the task?

- A. Configure the no lldp tlv-select-management-address command globally on Cat9K-2
- B. Configure the no lldp transmit command on interface G1/0/21 in Cat9K-1
- C. Configure the no lldp receive command on interface G1/0/21 on Cat9K-1
- D. Configure the no lldp mac-phy-cfg command globally on Cat9K-2

**Answer: A**

**Question No : 448 - (Topic 3)**

Which WAN topology has the highest degree of reliability?

- A. full mesh
- B. Point-to-point
- C. hub-and-spoke
- D. router-on-a-stick

**Answer: A**

**Question No : 449 - (Topic 3)**

Refer to the exhibit.

```

Codes: C - Connected, L - Local, S - Static, U - Per-user Static route
      B - BGP, R - RIP, H - NHRP, I1 - ISIS L1
      I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary, D - EIGRP
      EX - EIGRP external, ND - ND Default, NDp - ND Prefix, DCE - Destination
      NDr - Redirect, O - OSPF Intra, OI - OSPF Inter, OE1 - OSPF ext 1
      OE2 - OSPF ext 2, ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
      la - LISP alt, lr - LISP site-registrations, ld - LISP dyn-eid
      1A - LISP away, 1e - LISP extranet-policy, lp - LISP publications
ND  ::/0 [2/0]
  via FE80::A8BB:CCFF:FE00:200, Ethernet0/0
NDp 2001:DB8:1234:1::/64 [2/0]
  via Ethernet0/0, directly connected
L  2001:DB8:1234:1:A8BB:CCFF:FE00:100/128 [0/0]
  via Ethernet0/0, receive
C  2001:DB8:1234:2::/64 [0/0]
  via Ethernet0/1, directly connected
L  2001:DB8:1234:2:A8BB:CCFF:FE00:110/128 [0/0]
  via Ethernet0/1, receive
L  FF00::/8 [0/0]
  via Null0, receive

```

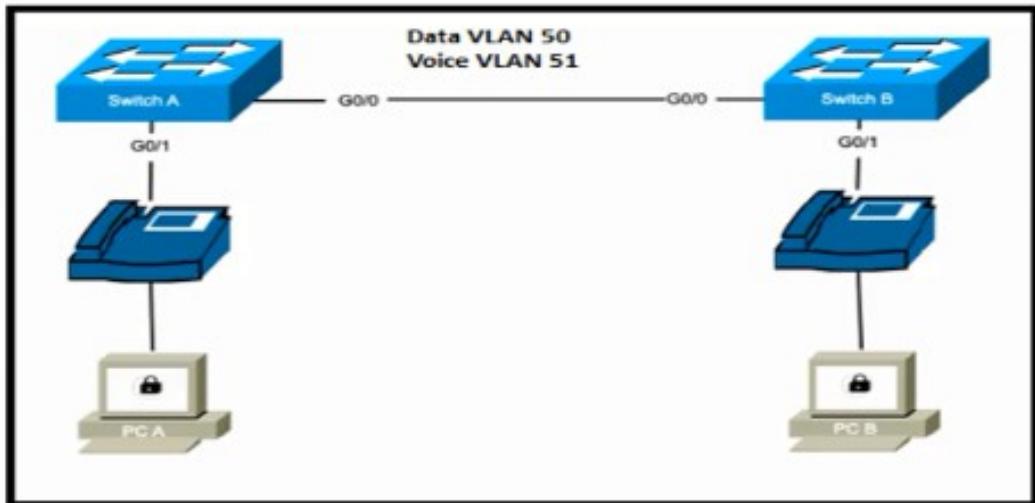
The administrator must configure a floating static default route that points to 2001:db8:1234:2::1 and replaces the current default route only if it fails. Which command must the engineer configure on the CPE?

- A. ipv6 route ::/0 2001:db8:1234:2::1 3
- B. ipv6 route ::/128 2001:db8:1234:2::1 3
- C. ipv6 route ::/0 2001:db8:1234:2::1 1
- D. ipv6 route ::/0 2001:db8:1234:2::1 2

**Answer: B**

**Question No : 450 - (Topic 3)**

Refer to the exhibit.



Switch A is newly configured. All VLANs are present in the VLAN database. The IP phone and PC A on Gi0/1 must be configured for the appropriate VLANs to establish connectivity between the PCs. Which command set fulfills the requirement?

A)

```
SwitchA(config-if)#switchport mode access  
SwitchA(config-if)#switchport access vlan 50  
SwitchA(config-if)#switchport voice vlan 51
```

B)

```
SwitchA(config-if)#switchport mode access  
SwitchA(config-if)#switchport access vlan 50  
SwitchA(config-if)#switchport voice vlan untagged
```

C)

```
SwitchA(config-if)#switchport mode trunk  
SwitchA(config-if)#switchport trunk allowed vlan add 50, 51  
SwitchA(config-if)#switchport voice vlan dot1p
```

D)

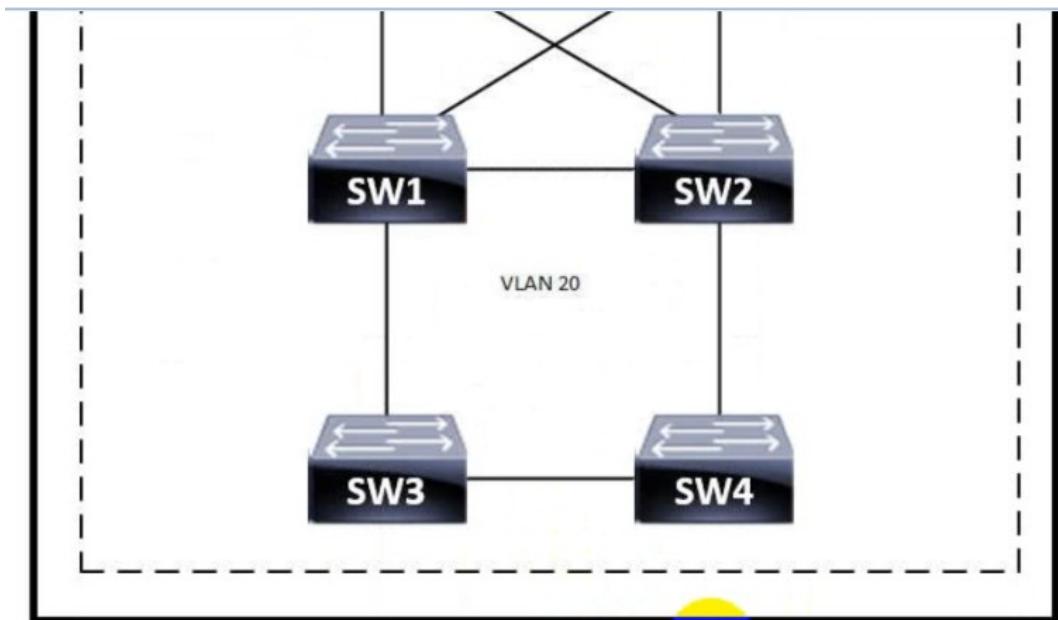
```
SwitchA(config-if)#switchport mode trunk  
SwitchA(config-if)#switchport trunk allowed vlan 50, 51  
SwitchA(config-if)#mls qos trust cos
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

**Question No : 451 - (Topic 3)**

Refer to the exhibit.



Which switch becomes the root of a spanning tree for VLAN 20 if all link speeds are equal?

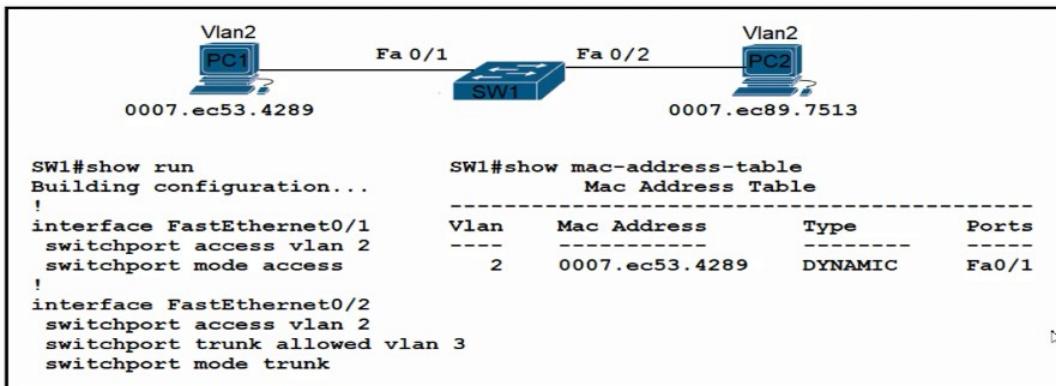
SW1 = 24596 0018.184e.3c00  
SW2 = 28692 004a.14e5.4077  
SW3 = 32788 0022.55cf.dd00  
SW4 = 64000 0041.454d.407f

- A. SW1
- B. SW2
- C. SW3
- D. SW4

Answer: C

**Question No : 452 - (Topic 3)**

Refer to the exhibit.



An engineer has started to configure replacement switch SW1. To verify part of the configuration, the engineer issued the commands as shown and noticed that the entry for PC2 is missing. Which change must be applied to SW1 so that PC1 and PC2 communicate normally?

A)

```

SW1(config)#interface fa0/2
SW1(config-if)#no switchport mode trunk
SW1(config-if)#no switchport trunk allowed vlan 3
SW1(config-if)#switchport mode access

```

B)

```

SW1(config)#interface fa0/1
SW1(config-if)#no switchport access vlan 2
SW1(config-if)#switchport trunk native vlan 2
SW1(config-if)#switchport trunk allowed vlan 3

```

C)

```

SW1(config)#interface fa0/1
SW1(config-if)#no switchport access vlan 2
SW1(config-if)#switchport access vlan 3
SW1(config-if)#switchport trunk allowed vlan 2

```

D)

```

SW1(config)#interface fa0/2
SW1(config-if)#no switchport access vlan 2
SW1(config-if)#no switchport trunk allowed vlan 3
SW1(config-if)#switchport trunk allowed vlan 2

```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

**Question No : 453 - (Topic 3)**

What is an expected outcome when network management automation is deployed?

- A. A distributed management plane must be used.
- B. Software upgrades are performed from a central controller
- C. Complexity increases when new device configurations are added
- D. Custom applications are needed to configure network devices

Answer: B

**Question No : 454 - (Topic 3)**

Which field within the access-request packet is encrypted by RADIUS?

- A. authorized services
- B. authenticator
- C. username
- D. password

Answer: D

**Question No : 455 - (Topic 3)**

Refer to the exhibit.

Switch#show etherchannel summary [output omitted]				
Group	Port-channel	Protocol	Ports	
10	Po10 (SU)	LACP	Gi0/0 (P)	Gi0/1 (P)
20	Po20 (SU)	LACP	Gi0/2 (P)	Gi0/3 (P)

Which two commands when used together create port channel 10? (Choose two.)

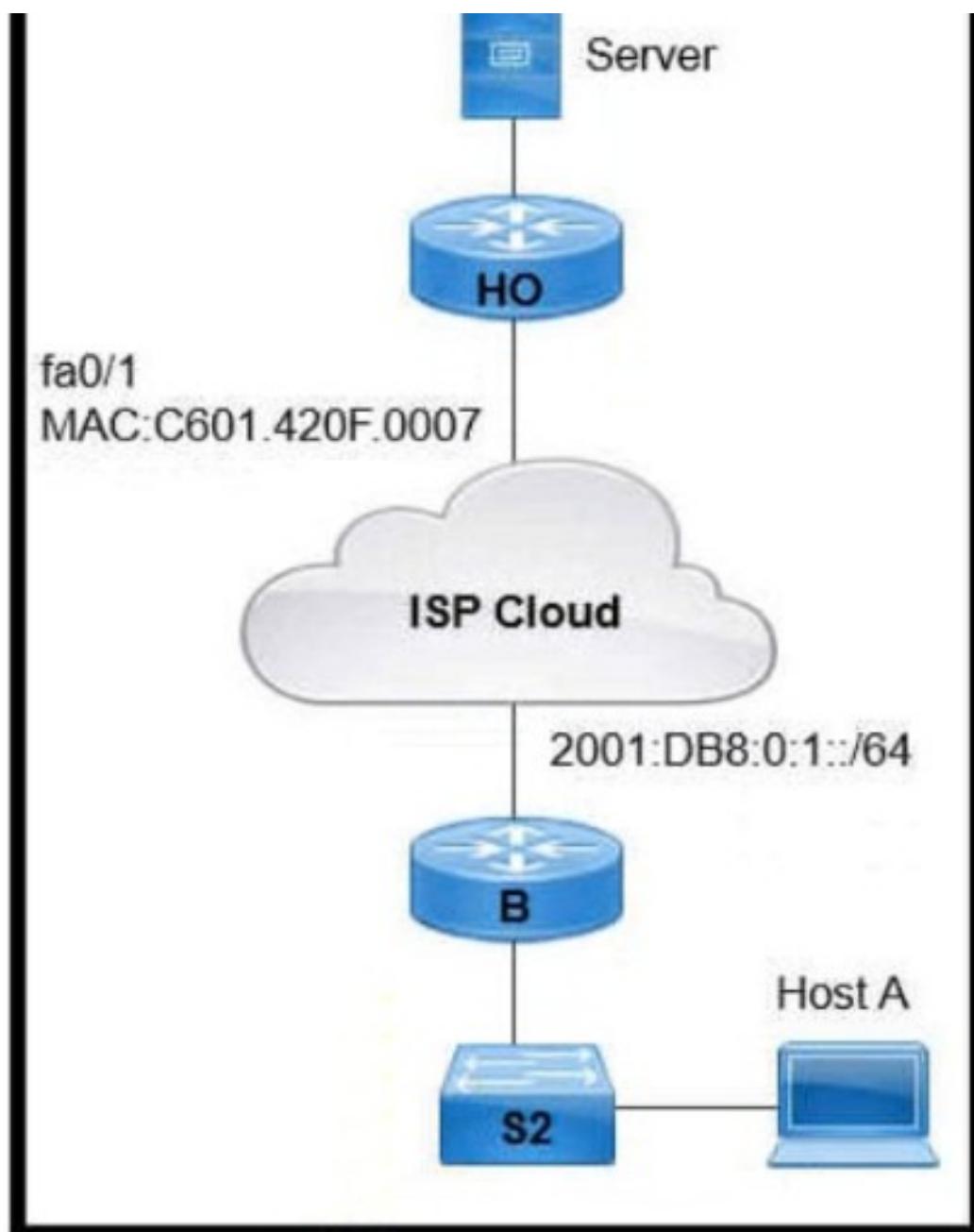
- A. int range g0/0-1  
channel-group 10 mode active

- B. int range g0/0-1 chanm.l-group 10 mode desirable
- C. int range g0/0-1 channel-group 10 mode passive
- D. int range g0/0-1 channel-group 10 mode auto
- E. int range g0/0-1 channel-group 10 mode on

**Answer: A,C**

**Question No : 456 - (Topic 3)**

Refer to the exhibit.



An engineer is configuring the HO router. Which IPv6 address configuration must be applied to the router fa0'1 interface for the router to assign a unique 64-bit IPv6 address to itself?

- A. ipv6 address 2001:DB8:0:1:C601:42FF:FE0F:7/64
- B. ipv6 address 2001:DB8:0:1:C601:42FE:800F:7/64
- C. ipv6 address 2001:DB8:0:1:FFFF:C601:420F:7/64
- D. iov6 address 2001:DB8:0:1:FE80:C601:420F:7/64

**Answer: A**

**Question No : 457 - (Topic 3)**

Refer to the exhibit.

```
Switch#show ip dhcp snooping
Switch DHCP snooping is enabled
Switch DHCP gleaning is disabled
DHCP snooping is configured on following VLANs:
 1
DHCP snooping is operational on following VLANs:
 1
DHCP snooping is configured on the following L3 Interfaces:
Insertion of option 82 is disabled
circuit-id default format: vlan-mod-port
remote-id: aabb.cc00.6500 (MAC)
Option 82 on untrusted port is not allowed
Verification of hwaddr field is enabled
Verification of giaddr field is enabled
DHCP snooping trust/rate is configured on the following Interfaces:
Interface Trusted Allow option Rate limit (pps)
```

```
Switch#show ip dhcp snooping statistics detail
Packets Processed by DHCP Snooping = 34
Packets Dropped Because
IDB not known = 0
Queue full = 0
Interface is in errdisabled = 0
Rate limit exceeded = 0
Received on untrusted ports = 32
Nonzero giaddr = 0
Source mac not equal to chaddr = 0
No binding entry = 0
Insertion of opt82 fail = 0
Unknown packet = 0
Interface Down = 0
Unknown output interface = 0
Misdirected Packets = 0
Packets with Invalid Size = 0
Packets with Invalid Option = 0
```

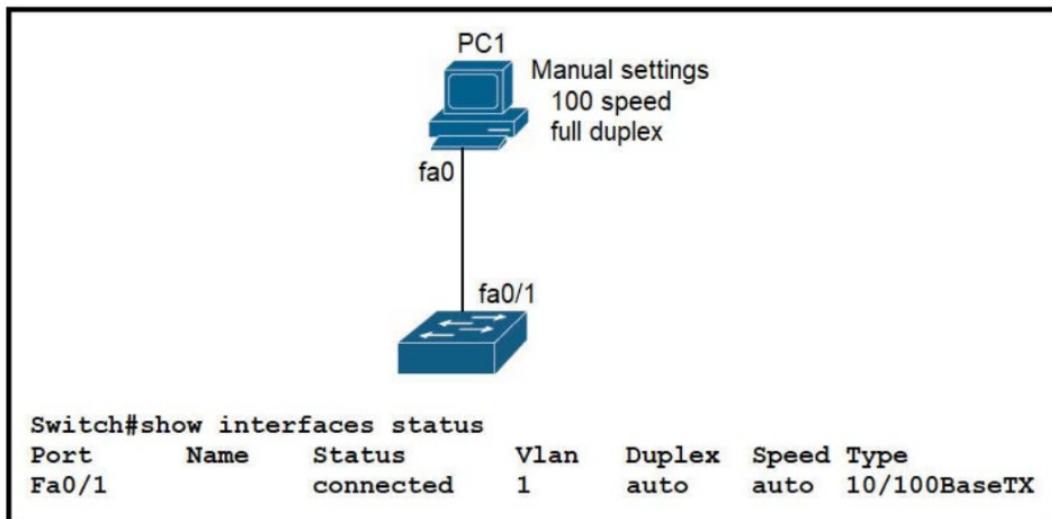
The DHCP server and clients are connected to the same switch. What is the next step to complete the DHCP configuration to allow clients on VLAN 1 to receive addresses from the DHCP server?

- A. Configure the ip dhcp snooping trust command on the interface that is connected to the DHCP client.
- B. Configure the ip dhcp relay information option command on the interface that is connected to the DHCP client.
- C. Configure the ip dhcp snooping trust command on the interface that is connected to the DHCP server.
- D. Configure the ip dhcp relay information option command on the interface that is connected to the DHCP server.

**Answer: C**

**Question No : 458 - (Topic 3)**

Refer to the exhibit.



The link between PC1 and the switch is up, but it is performing poorly. Which interface condition is causing the performance problem?

- A. There is a duplex mismatch on the interface
- B. There is an issue with the fiber on the switch interface.
- C. There is a speed mismatch on the interface.
- D. There is an interface type mismatch

**Answer: A**

### Question No : 459 - (Topic 3)

An engineer must configure neighbor discovery between the company router and an ISP

```

interface gigabitethernet0/0
description Circuit-ATT4203-21099
duplex full
speed 1000
media-type gbic
negotiation auto
lldp transmit
lldp receive
  
```

What is the next step to complete the configuration if the ISP uses a third-party router?

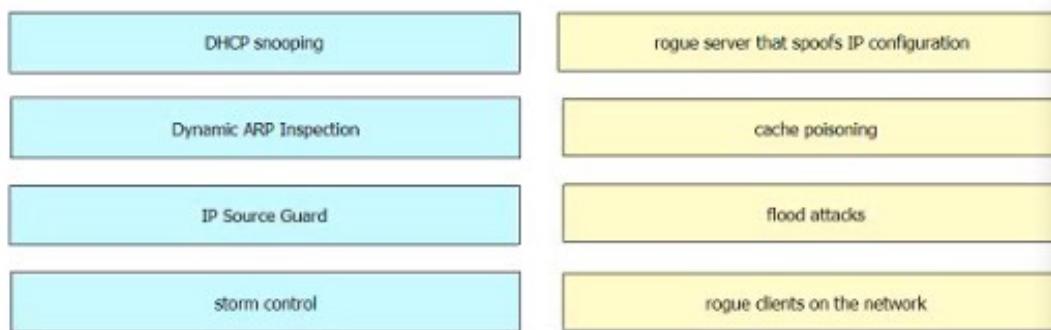
- A. Enable LLDP globally.
- B. Disable CDP on gi0/0.

- C. Enable LLDP TLVs on the ISP router.
- D. Disable auto-negotiation.

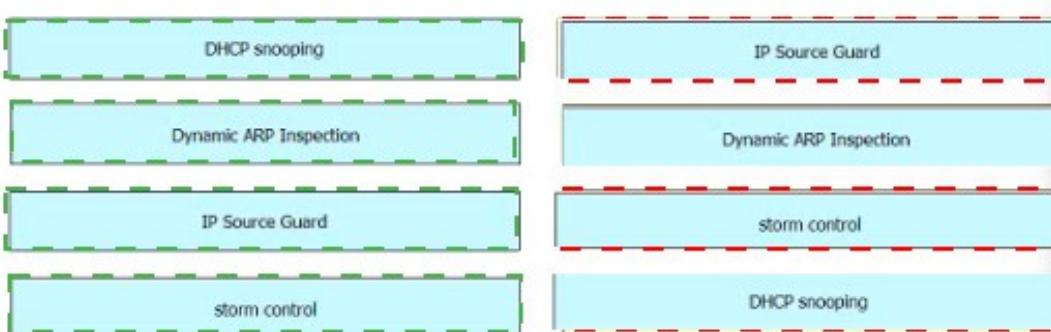
**Answer: A**

**Question No : 460 DRAG DROP - (Topic 3)**

Drag and drop the Cisco IOS attack mitigation features from the left onto the types of network attack they mitigate on the right.



**Answer:**



**Explanation:**



## Application

Description automatically generated with medium confidence

**Question No : 461 - (Topic 3)**

Refer to the exhibit.



```

SW1#show run interface fastEthernet 0/1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode on

SW1#show run interface fastEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode on

SW2#show run interface fastEthernet 0/1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode active

SW2#show run interface fastEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode active
    
```

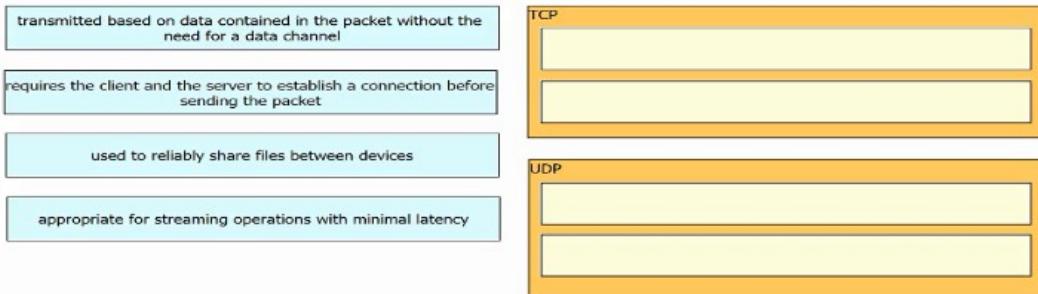
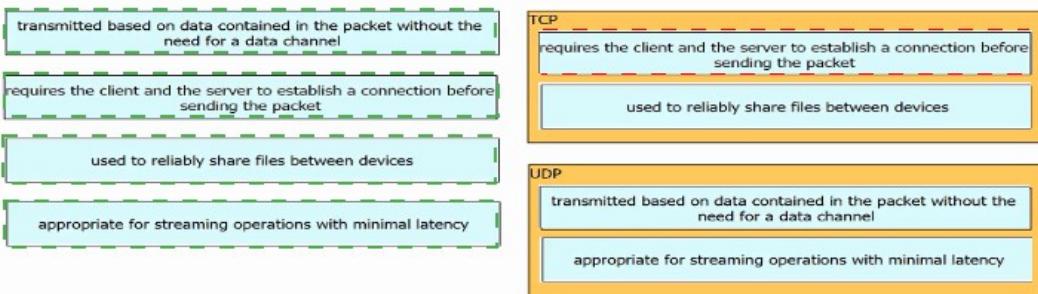
An engineer built a new L2 LACP EtherChannel between SW1 and SW2 and executed these show commands to verify the work. Which additional task allows the two switches to establish an LACP port channel?

- A. Change the channel-group mode on SW2 to auto
- B. Change the channel-group mode on SW1 to desirable.
- C. Configure the interface port-channel 1 command on both switches.
- D. Change the channel-group mode on SW1 to active or passive.

**Answer: D**

**Question No : 462 DRAG DROP - (Topic 3)**

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

**Answer:****Question No : 463 - (Topic 3)**

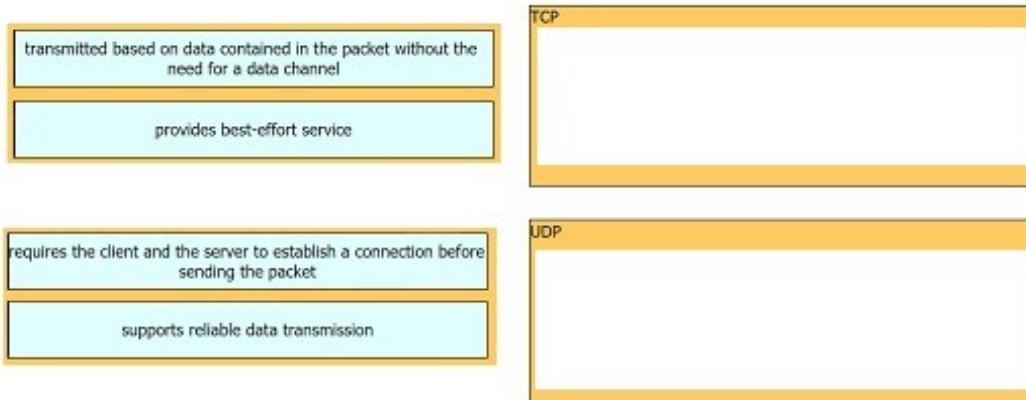
What is the function of "off-the-shell" switches in a controller-based network?

- A. providing a central view of the deployed network
- B. forwarding packets
- C. making routing decisions
- D. setting packet-handling policies

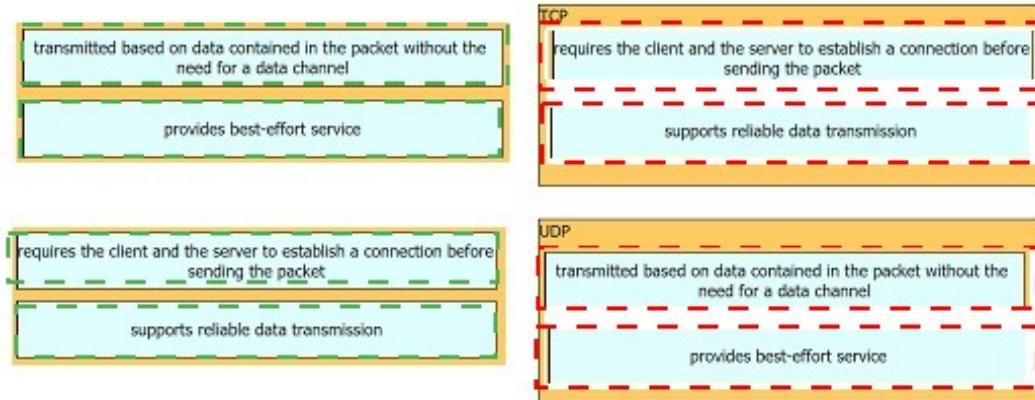
**Answer: D**

**Question No : 464 DRAG DROP - (Topic 3)**

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

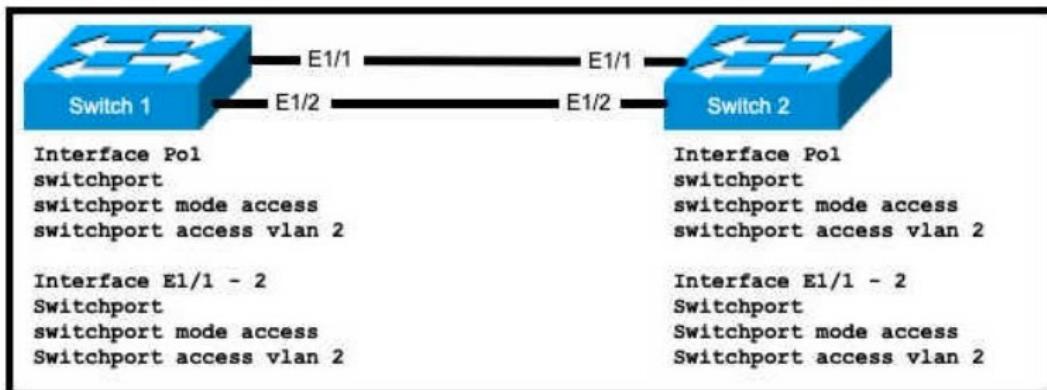


**Answer:**



**Question No : 465 - (Topic 3)**

Refer to the exhibit.



An engineer is configuring an EtherChannel using LACP between Switches 1 and 2. Which configuration must be applied so that only Switch 1 sends LACP initiation packets?

- A. Switch 1 (config-if)#channel-group 1 mode on  
Swrtch2(config-if)#channel-group 1 mode passive
- B. Switch1(config-if)#channel-group 1 mode passive  
Switch2(config-if)#channel-group 1 mode active
- C. Switch1{config-if}£channel-group 1 mode active  
Switch2(config-if)#channel-group 1 mode passive
- D. Switch1(config-if)#channel-group 1 mode on  
Switch2(config-if)#channel-group 1 mode active

**Answer: C**

**Question No : 466 DRAG DROP - (Topic 3)**

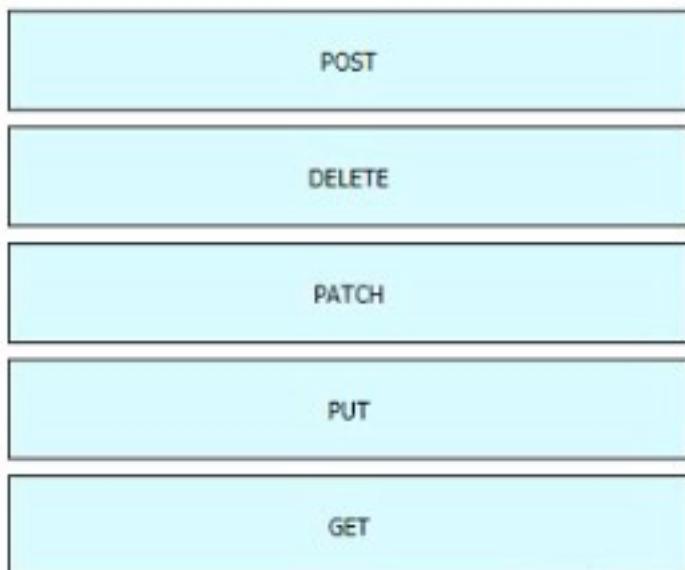
Drag and drop the HTTP methods used with REST-Based APIs from the left onto the descriptions on the right.

DELETE	creates a resource and returns its URI in the response header
GET	creates or replaces a previously modified resource using information in the request body
POST	removes a resource
PATCH	retrieves a list of a resource's URIs
PUT	updates a resource using instructions included in the request body

**Answer:**

DELETE	POST
GET	DELETE
POST	PATCH
PATCH	PUT
PUT	GET

**Explanation:**

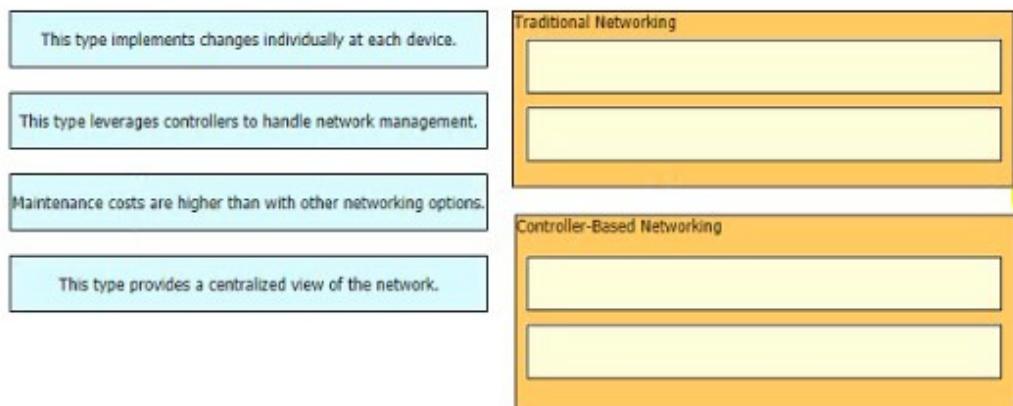


Table

Description automatically generated

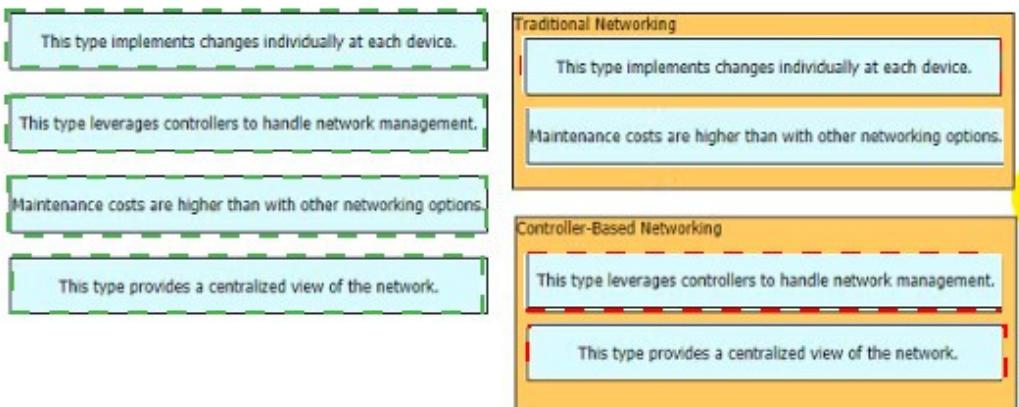
**Question No : 467 DRAG DROP - (Topic 3)**

Drag and drop the statements about networking from the left onto the corresponding networking types on the right



✓

**Answer:**



→

**Question No : 468 - (Topic 3)**

What is the role of disaggregation in controller-based networking?

- A. It divides the control-plane and data-plane functions.
- B. It summarizes the routes between the core and distribution layers of the network topology.
- C. It enables a network topology to quickly adjust from a ring network to a star network
- D. It streamlines traffic handling by assigning individual devices to perform either Layer 2 or Layer 3 functions.

**Answer: A**

**Question No : 469 - (Topic 3)**

Refer to the exhibit.

```
{  
    "SW1" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW2" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW3" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW4" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"]  
}
```

How many JSON objects are represented?

- A. 1
- B. 2
- C. 3
- D. 4

**Answer: D**

**Question No : 470 - (Topic 3)**

What is a function of a Next-Generation IPS?

- A. makes forwarding decisions based on learned MAC addresses
- B. serves as a controller within a controller-based network
- C. integrates with a RADIUS server to enforce Layer 2 device authentication rules
- D. correlates user activity with network events

**Answer: D**

**Question No : 471 - (Topic 3)**

Which REST method updates an object in the Cisco DNA Center Intent API?

- A. CHANGE
- B. UPDATE
- C. POST
- D. PUT

**Answer: D**

**Explanation:** PUT is most-often utilized for \*\*update\*\* capabilities, PUT-ing to a known resource URI with the request body containing the newly-updated representation of the original resource. However, PUT can also be used to create a resource in the case where the resource ID is chosen by the client instead of by the server. In other words, if the PUT is to a URI that contains the value of a non-existent resource ID. Again, the request body contains a resource representation. Many feel this is convoluted and confusing. Consequently, this method of creation should be used sparingly, if at all. Alternatively, use POST to create new resources and provide the client-defined ID in the body representation—presumably to a URI that doesn't include the ID of the resource (see POST below). On successful update, return 200 (or 204 if not returning any content in the body) from a PUT. If using PUT for create, return HTTP status 201 on successful creation. A body in the response is optional—providing one consumes more bandwidth. It is not

necessary to return a link via a Location header in the creation case since the client already set the resource ID.PUT is not a safe operation, in that it modifies (or creates) state on the server, but it is idempotent. In other words, if you create or update a resource using PUT and then make that same call again, the resource is still there and still has the same state as it did with the first call.If, for instance, calling PUT on a resource increments a counter within the resource, the call is no longer idempotent. Sometimes that happens and it may be enough to document that the call is not idempotent. However, it's recommended to keep PUT requests idempotent. It is strongly recommended to use POST for non-idempotent requests.Examples:

<https://www.restapitutorial.com/lessons/httpmethods.html>

### Question No : 472 - (Topic 3)

Which command do you enter so that a switch configured with Rapid PVST + listens and learns for a specific time period?

- A. switch(config)#spanning-tree vlan 1 max-age 6
- B. switch(config)#spanning-tree vlan 1 hello-time 10
- C. switch(config)#spanning-tree vlan 1 priority 4096
- D. switch(config)#spanning-tree vlan 1 forward-time 20

**Answer: D**

**Explanation: Forward time :** Determines how long each of the listening and learning states last before the port begins forwarding.

**Switch(config)# [ no ] spanning-tree vlan vlan\_ID forward-time**

**forward\_time**Configures the forward time of a VLAN. The forward\_time value can be from 4 to 30 seconds.

<https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/15-02SG/configuration/guide/config/spantree.html#56177>

### Question No : 473 - (Topic 3)

Refer to the exhibit.

```
R1# show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set
  10.0.0.0/24 is subnetted, 5 subnets
D  10.1.2.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0
D  10.1.3.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0
D  10.1.2.0/25 [90/2170112] via 10.165.20.126, 00:01:30, Serial0/0
D  10.1.3.0/25 [90/2170112] via 10.165.20.146, 00:01:30, Serial0/0
D  10.1.4.0/25 [90/2170112] via 10.165.20.156, 00:01:30, Serial0/0
  192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C  192.18.10.0/24 is directly connected, GigabitEthernet0/0
  192.168.21.0/24 is variably subnetted, 2 subnets, 2 masks
C  192.168.11.0/24 is directly connected, GigabitEthernet0/1
  10.165.20.0/24 is variably subnetted, 2 subnets, 2 masks
C  10.165.20.224/24 is directly connected, Serial0/0
S  10.1.2.112/28 [1/0] via 10.165.20.166
```

What is the next hop for traffic entering R1 with a destination of 10.1.2.126?

- A. 10.165.20.126
- B. 10.165.20.146
- C. 10.165.20.166
- D. 10.165.20.226

**Answer: D**

#### Question No : 474 - (Topic 3)

What is a function of Cisco Advanced Malware Protection for a Next-Generation IPS?

- A. authorizing potentially compromised wireless traffic
- B. inspecting specific files and file types for malware
- C. authenticating end users
- D. URL filtering

**Answer: B**

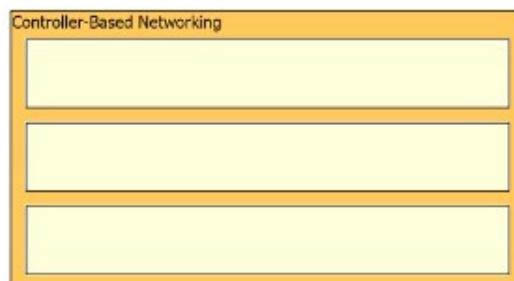
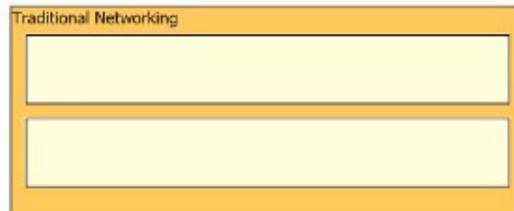
**Explanation:** AMP gives you **real-time blocking of malware and advanced sandboxing**, that is backed up by world class global threat intelligence, to provide rapid detection, containment and removal of advanced malware

<https://www.cisco.com/c/en/us/products/security/amp-appliances/index.html>

### Question No : 475 DRAG DROP - (Topic 3)

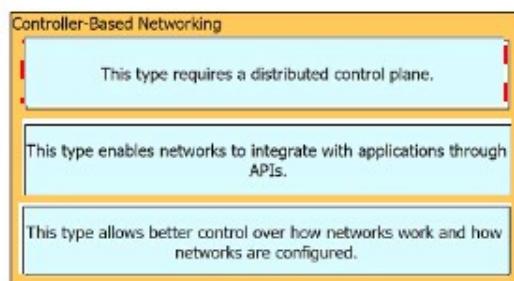
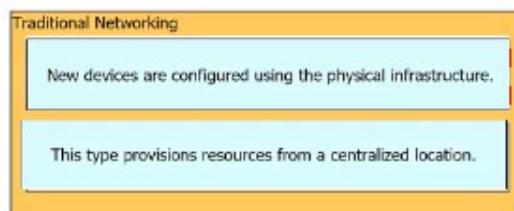
Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

- This type allows better control over how networks work and how networks are configured.
- This type enables networks to integrate with applications through APIs.
- New devices are configured using the physical infrastructure.
- This type provisions resources from a centralized location.
- This type requires a distributed control plane.



### Answer:

- This type allows better control over how networks work and how networks are configured.
- This type enables networks to integrate with applications through APIs.
- New devices are configured using the physical infrastructure.
- This type provisions resources from a centralized location.
- This type requires a distributed control plane.



### Explanation:

**Traditional Networking**

New devices are configured using the physical infrastructure.

This type provisions resources from a centralized location.

**Controller-Based Networking**

This type requires a distributed control plane.

This type enables networks to integrate with applications through APIs.

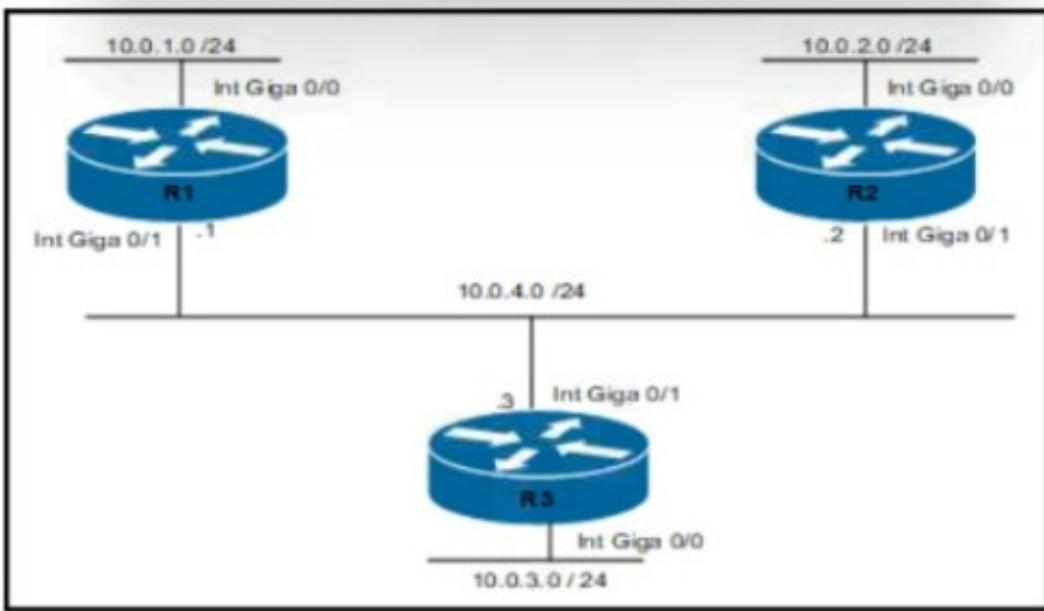
This type allows better control over how networks work and how networks are configured.

A picture containing table

Description automatically generated

**Question No : 476 - (Topic 3)**

Refer to the exhibit.



Routers R1 and R3 have the default configuration. The router R2 priority is set to 99. Which commands on R3 configure it as the DR in the 10.0.4.0/24 network?

- A. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 100
- B. R3(config)#interface Gig0/0 R3(config-if)#ip ospf priority 100
- C. R3(config)#interface Gig0/0 R3(config-if)i=ip ospf priority 1
- D. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 0

**Answer: B**

### Question No : 477 - (Topic 3)

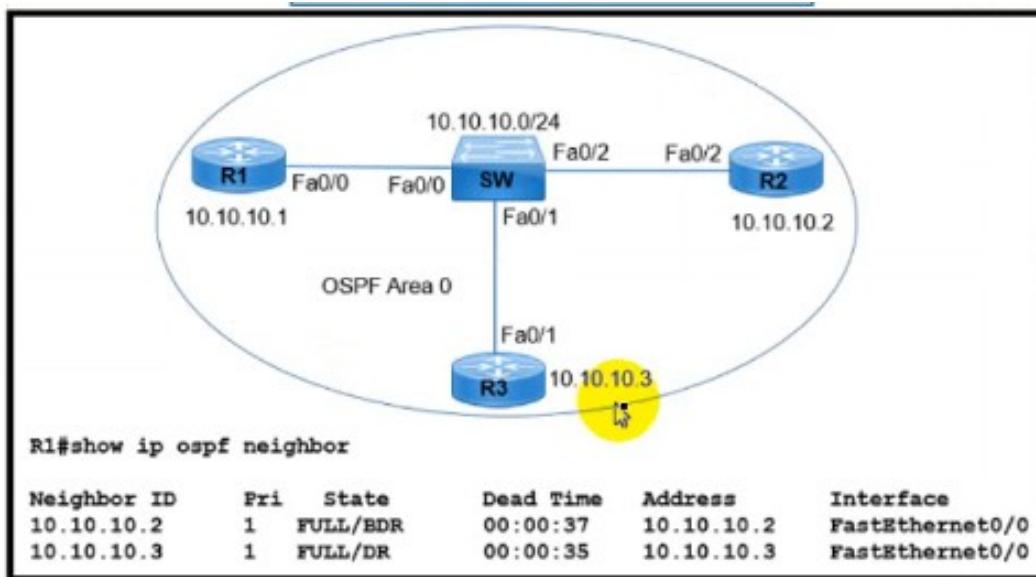
An engineer is installing a new wireless printer with a static IP address on the Wi-Fi network. Which feature must be enabled and configured to prevent connection issues with the printer?

- A. client exclusion
- B. passive client
- C. DHCP address assignment
- D. static IP tunneling

**Answer: C**

### Question No : 478 - (Topic 3)

Refer to the exhibit.



R1 has taken the DROTHER role in the OSPF DR/BDR election process. Which configuration must an engineer implement so that R1 is elected as the DR?

- R1(config)#interface FastEthernet 0/0  
R1(config-if)#ip ospf priority 1  
R1#clear ip ospf process
- R1(config)#interface FastEthernet 0/0  
R1(config-if)#ip ospf priority 200  
R1#clear ip ospf process
- R3(config)#interface FastEthernet 0/1  
R3(config-if)#ip ospf priority 200  
R3#clear ip ospf process
- R2(config)#interface FastEthernet 0/2  
R2(config-if)#ip ospf priority 1  
R2#clear ip ospf process

- A. Option A  
B. Option B  
C. Option C  
D. Option D

**Answer: B**

**Question No : 479 - (Topic 3)**

A network engineer must configure two new subnets using the address block 10 70 128 0/19 to meet these requirements:

- The first subnet must support 24 hosts
- The second subnet must support 472 hosts
- Both subnets must use the longest subnet mask possible from the address block

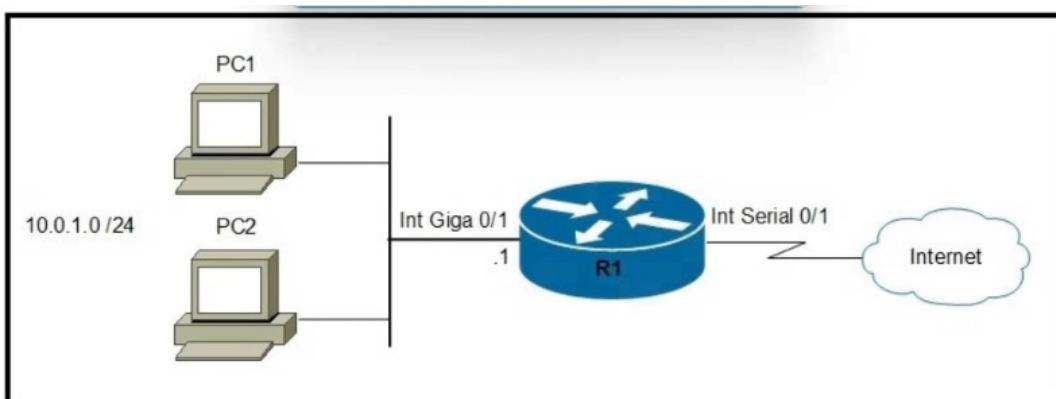
Which two configurations must be used to configure the new subnets and meet a requirement to use the first available address in each subnet for the router interfaces? (Choose two )

- A. interface vlan 1234  
ip address 10.70.159.1 255.255.254.0
- B. interface vlan 1148  
ip address 10.70.148.1 255.255.254.0
- C. interface vlan 4722  
ip address 10.70.133.17 255.255.255.192
- D. interface vlan 3002  
ip address 10.70.147.17 255.255.255.224
- E. interface vlan 155  
ip address 10.70.155.65 255.255.255.224

**Answer: B,D**

**Question No : 480 - (Topic 3)**

Refer to the exhibit.



Which two commands must be configured on router R1 to enable the router to accept secure remote-access connections? (Choose two )

- A. transport input telnet
- B. crypto key generate rsa
- C. ip ssh pubkey-chain
- D. login console

- E. username cisco password 0 Cisco

**Answer: B,E**

**Question No : 481 - (Topic 3)**

Which two spanning-tree states are bypassed on an interface running PortFast? (Choose two.)

- A. disabled
- B. listening
- C. forwarding
- D. learning
- E. blocking

**Answer: B,D**

**Question No : 482 - (Topic 3)**

Refer to the exhibit.

```
TenGigabitEthernet0/0/0 is up, line protocol is up
Hardware is BUILT-IN-2T+6XIGE, address is 74a0.2f7a.0123 (bia 74a0.2f7a.0123)
Description: Uplink
Internet address is 10.1.1.1/24
MTU 1500 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not supported
Full Duplex, 10000Mbps, link type is force-up, media type is unknown media type
output flow-control is on, input flow-control is on
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:00, output 00:05:40, output hang never
Last clearing of "show interface" counters never
Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
Output queue: 0/40 (size/max)
5 minute input rate 6160000 bits/sec, 1113 packets/sec
5 minute output rate 11213000 bits/sec, 1553 packets/sec
12662416065 packets input, 12607032232894 bytes, 0 no buffer
Received 14117163 broadcasts (0 IP multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 26271385 multicast, 0 pause input
7907779058 packets output, 5073750426832 bytes, 0 underruns
0 output errors, 8662416065 collisions, 1 interface resets
0 unknown protocol drops
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 pause output
0 output buffer failures, 0 output buffers swapped out
1 carrier transitions
```

Traffic that is flowing over interface TenGigabitEthernet0/0 experiences slow transfer speeds. What is the reason for the issue?

- A. heavy traffic congestion
- B. a duplex incompatibility
- C. a speed conflict

**D. queuing drops****Answer: C****Question No : 483 - (Topic 3)**

Refer to the exhibit.

```

Hardware is ISR4331-3x1GE, address is 5486.bc25.1f70 (bia 5486.bc25.1f70)
Description: <> WAN Link >>
Internet address is 192.0.2.2/30
MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not supported
Full Duplex, 1000Mbps, link type is auto, media type is RJ45
output flow-control is off, input flow-control is off
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:00, output 00:00:11, output hang never
Last clearing of "show interface" counters never
Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 7000 bits/sec, 4 packets/sec
5 minute output rate 4000 bits/sec, 4 packets/sec
    22579370 packets input, 8825545968 bytes, 0 no buffer
    Received 67 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    3612699 input errors, 3612699 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 10747057 multicast, 0 pause input
    12072167 packets output, 1697953637 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    6 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    5 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out

```

What is a reason for poor performance on the network interface?

- A. The interface is receiving excessive broadcast traffic.
- B. The cable connection between the two devices is faulty.
- C. The interface is operating at a different speed than the connected device.
- D. The bandwidth setting of the interface is misconfigured

**Answer: A****Question No : 484 - (Topic 3)**

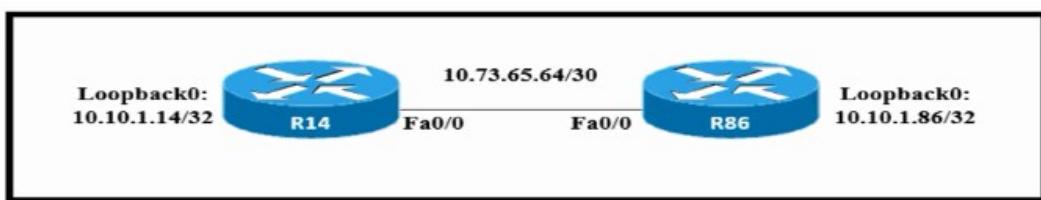
Which two practices are recommended for an acceptable security posture in a network?

(Choose two)

- A. Backup device configurations to encrypted USB drives for secure retrieval
- B. maintain network equipment in a secure location
- C. Use a cryptographic keychain to authenticate to network devices
- D. Place internal email and file servers in a designated DMZ
- E. Disable unused or unnecessary ports, interfaces and services

**Answer: C,E****Question No : 485 - (Topic 3)**

Refer to the exhibit.



Which configuration allows routers R14 and R86 to form an OSPFv2 adjacency while acting as a central point for exchanging OSPF information between routers?

A)

```
R14#
interface Loopback0
ip ospf 10 area 0

interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf network broadcast
ip ospf 10 area 0
ip mtu 1500

router ospf 10
ip ospf priority 255
router-id 10.10.1.14
```

```
R86#
interface Loopback0
ip ospf 10 area 0

interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip ospf network broadcast
ip ospf 10 area 0
ip mtu 1500
```

B)

```
R14#
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf network broadcast
ip ospf priority 255
ip mtu 1500

router ospf 10
router-id 10.10.1.14
network 10.10.1.14 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
R86#
interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip ospf network broadcast
ip mtu 1500

router ospf 10
router-id 10.10.1.86
network 10.10.1.86 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

C)

```
R14#
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf network broadcast
ip ospf priority 0
ip mtu 1400

router ospf 10
router-id 10.10.1.14
network 10.10.1.14 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
R86#
interface Loopback0
ip address 10.10.1.86 255.255.255.255
```

D)

```
R14#
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip cspf network broadcast
ip ospf priority 255
ip mtu 1500

router ospf 10
router-id 10.10.1.14
network 10.10.1.14 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
R86#
interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip ospf network broadcast
ip mtu 1400

router ospf 10
router-id 10.10.1.86
network 10.10.1.86 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: D**

**Question No : 486 - (Topic 3)**

After a recent security breach and a RADIUS failure, an engineer must secure the console port of each enterprise router with a local username and password. Which configuration must the engineer apply to accomplish this task?

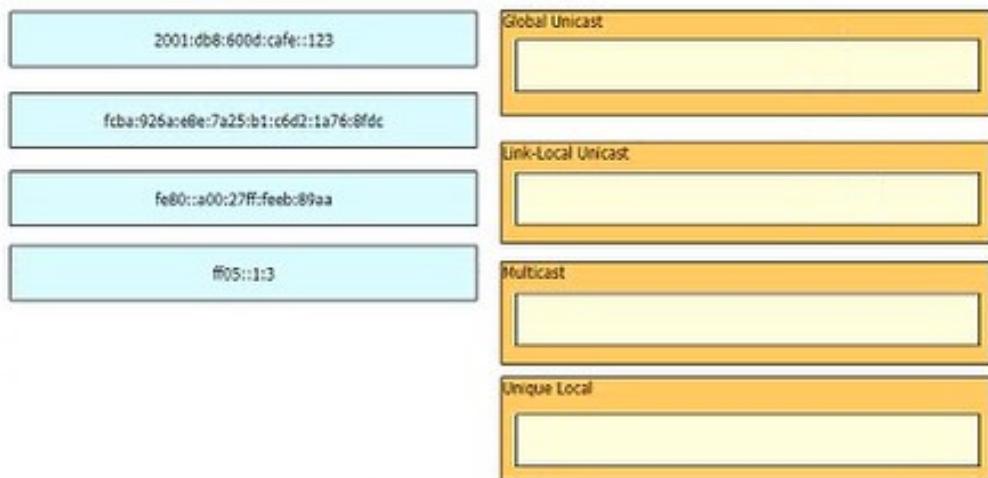
- aaa new-model  
line con 0  
password plaintextpassword  
privilege level 15
- username localuser secret plaintextpassword  
line con 0  
login authentication default  
privilege level 15
- username localuser secret plaintextpassword  
line con 0  
no login local  
privilege level 15
- aaa new-model  
aaa authorization exec default local  
aaa authentication login default radius  
username localuser privilege 15 secret plaintextpassword

- A. Option A
- B. Option B
- C. Option C
- D. Option D

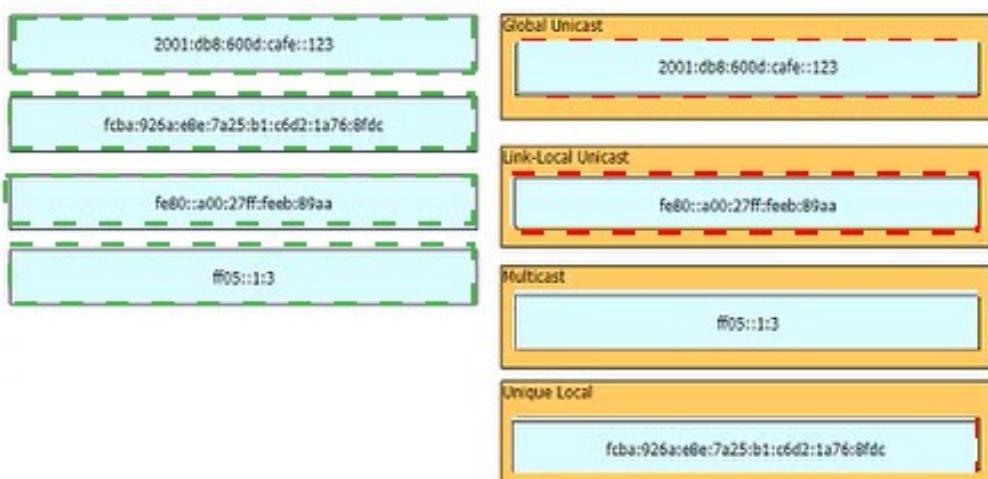
**Answer:** B

**Question No : 487 DRAG DROP - (Topic 3)**

Drag and drop the IPv6 addresses from the left onto the corresponding address types on the right.



**Answer:**



**Explanation:**

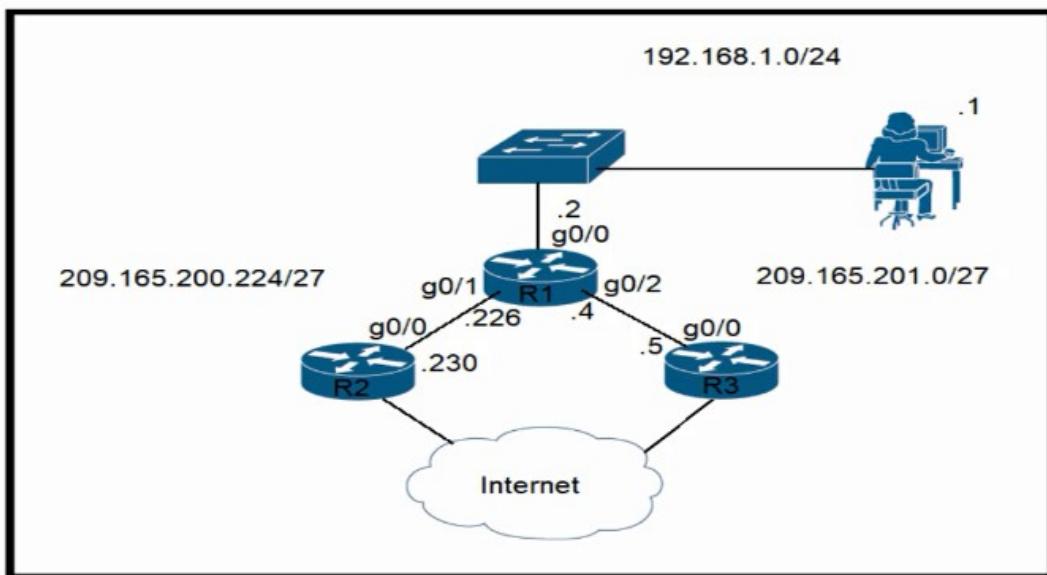


Graphical user interface

Description automatically generated

**Question No : 488 - (Topic 3)**

Refer to the exhibit.



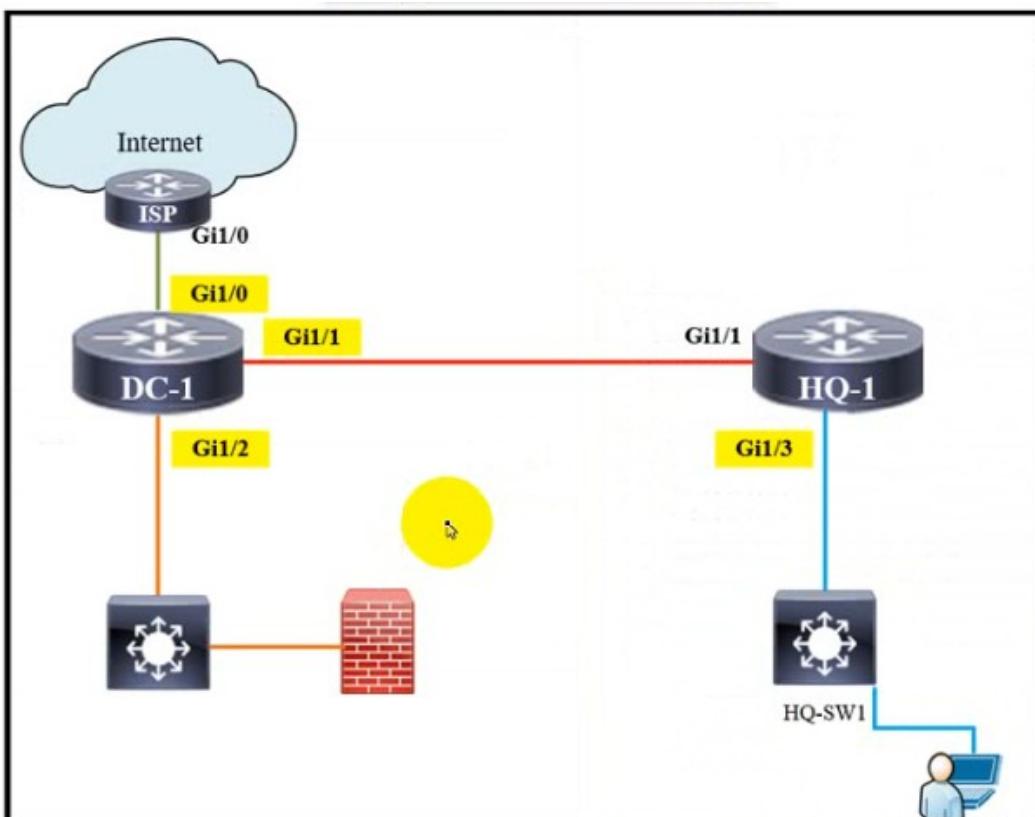
Router R1 currently is configured to use R3 as the primary route to the Internet, and the route uses the default administrative distance settings. A network engineer must configure R1 so that it uses R2 as a backup, but only if R3 goes down. Which command must the engineer configure on R1 so that it correctly uses R2 as a backup route, without changing the administrative distance configuration on the link to R3?

- A. ip route 0.0.0.0 0.0.0.0 g0/1 1
- B. ip route 0.0.0.0 0.0.0.0 209.165.201.5 10
- C. ip route 0.0.0.0 0.0.0.0 209.165.200.226 1
- D. ip route 0.0.0.0 0.0.0.0 g0/1 6

**Answer: C**

**Question No : 489 DRAG DROP - (Topic 3)**

Refer to Exhibit.



Rotate to the exhibit. The IP address configurations must be completed on the DC-1 and HQ-1 routers based on these requirements:

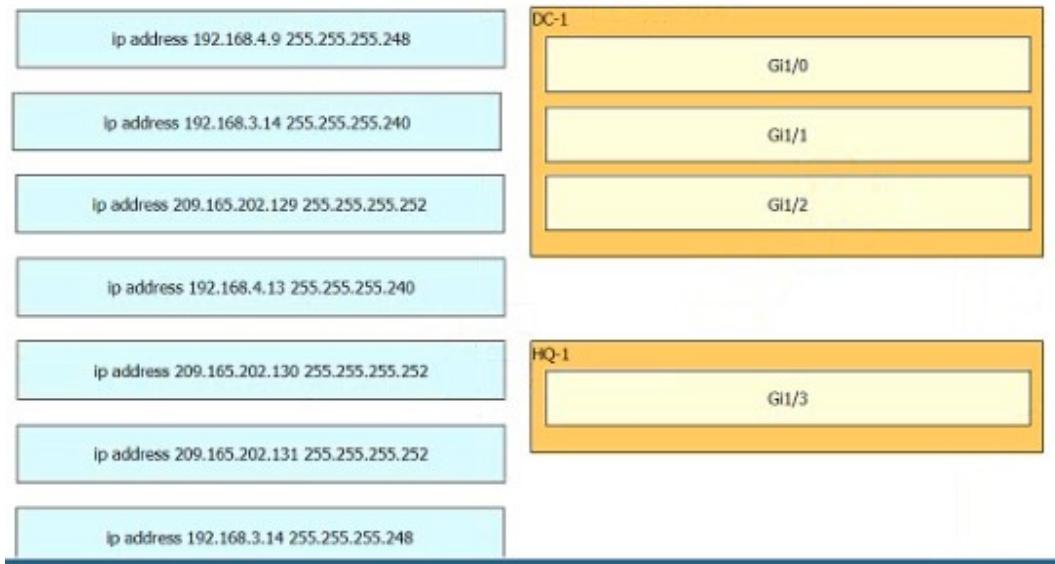
DC-1 Gi1/0 must be the last usable address on a /30

DC-1 Gi1/1 must be the first usable address on a /29

DC-1 Gi1/2 must be the last usable address on a /28

HQ-1 Gi1/3 must be the last usable address on a /29

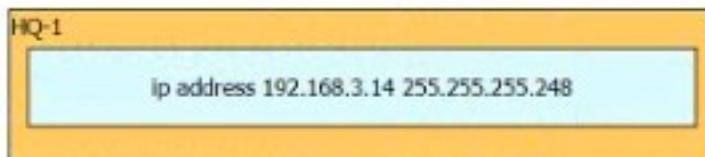
Drag and drop the commands from the left onto the destination interfaces on the right. Not all commands are used



**Answer:**



**Explanation:**



Graphical user interface, application

Description automatically generated

**Question No : 490 - (Topic 3)**

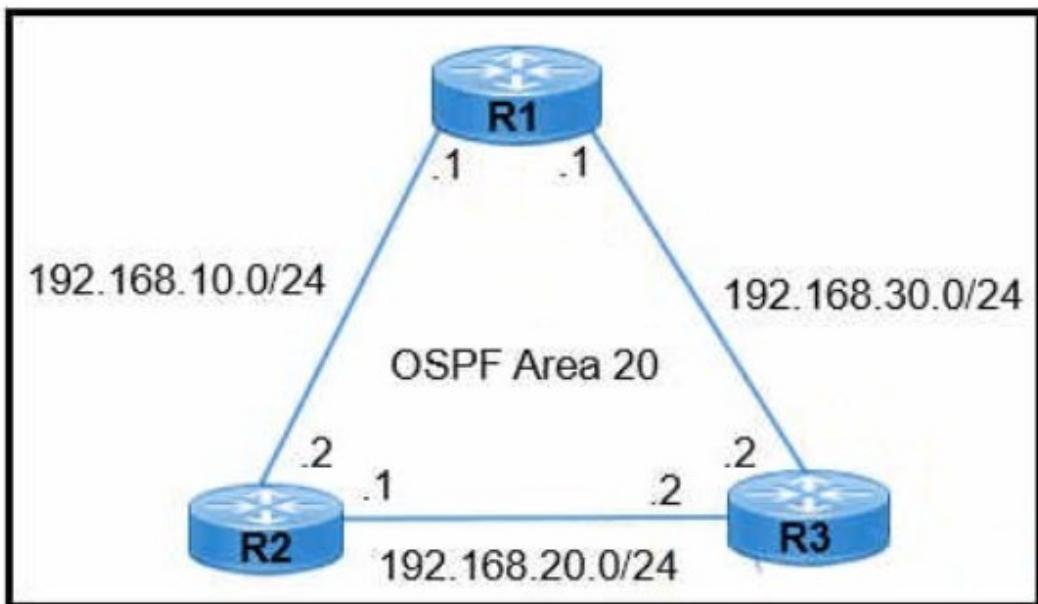
Which wireless security protocol relies on Perfect Forward Secrecy?

- A. WPA3
- B. WPA
- C. WEP
- D. WPA2

**Answer: A**

**Question No : 491 - (Topic 3)**

Refer to the exhibit.



R1 learns all routes via OSPF Which command configures a backup static route on R1 to reach the 192.168.20.0/24 network via R3?

- A. R1(config)#ip route 192.168.20.0 255.255.0.0 192.168.30.2
- B. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 90
- C. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 111
- D. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2

**Answer: C**

**Question No : 492 - (Topic 3)**

What is a zero-day exploit?

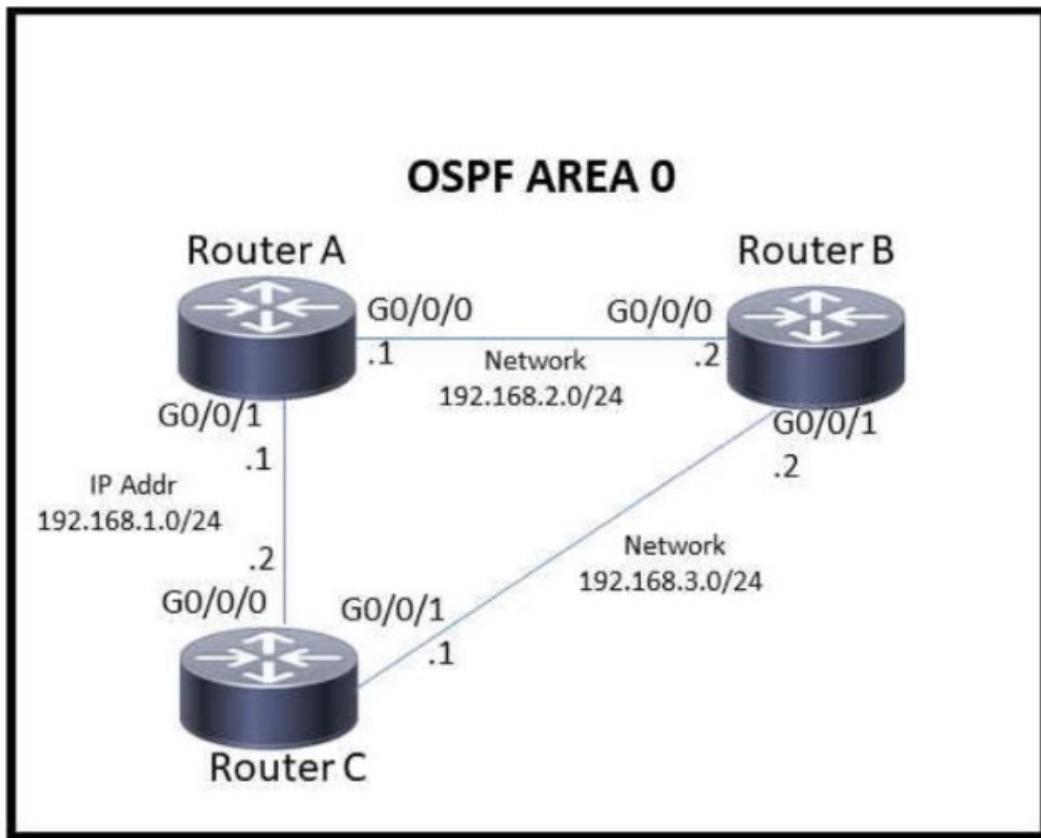
- A. It is when a new network vulnerability is discovered before a fix is available
- B. It is when the perpetrator inserts itself in a conversation between two parties and captures or alters data.
- C. It is when the network is saturated with malicious traffic that overloads resources and bandwidth
- D. It is when an attacker inserts malicious code into a SOL server.

**Answer: A**

**Explanation:** <https://www.kaspersky.com/resource-center/definitions/zero-day-exploit>

**Question No : 493 - (Topic 3)**

Refer to the exhibit.



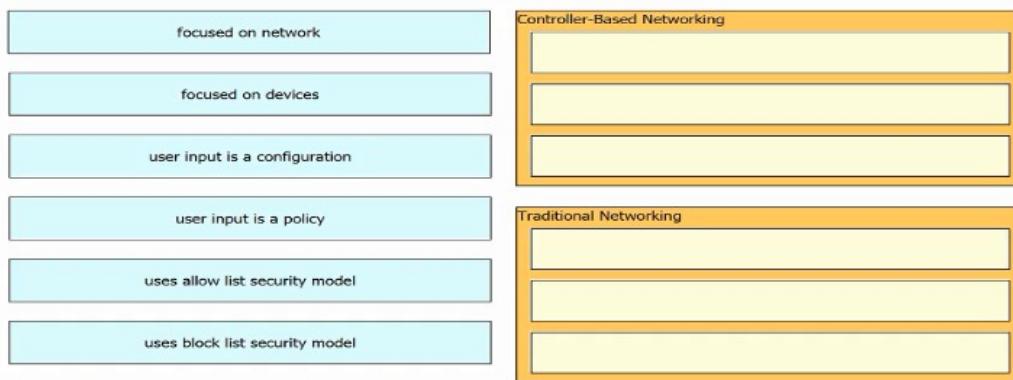
Which action must be taken to ensure that router A is elected as the DR for OSPF area 0?

- A. Configure the OSPF priority on router A with the lowest value between the three routers.
- B. Configure router B and router C as OSPF neighbors of router A.
- C. Configure the router A interfaces with the highest OSPF priority value within the area.
- D. Configure router A with a fixed OSPF router ID

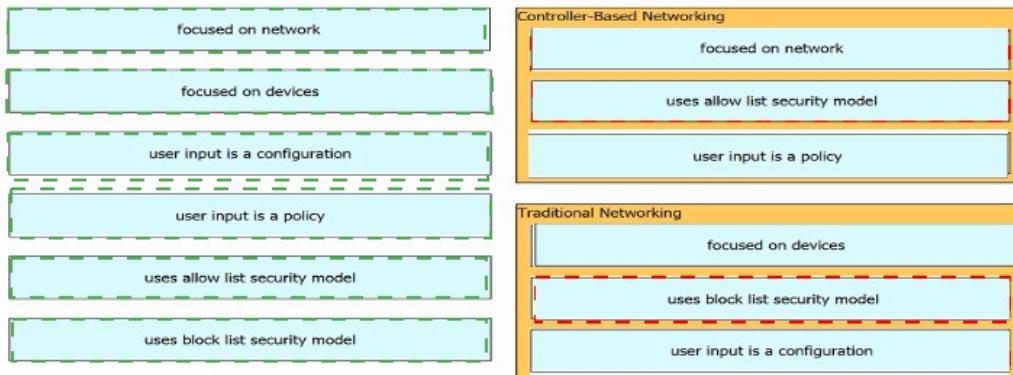
**Answer: C**

**Question No : 494 DRAG DROP - (Topic 3)**

Drag and drop the characteristics of networking from the left onto the networking types on the right.



**Answer:**



**Question No : 495 - (Topic 3)**

Which action implements physical access control as part of the security program of an organization?

- A. configuring a password for the console port
- B. backing up syslogs at a remote location
- C. configuring enable passwords on network devices
- D. setting up IP cameras to monitor key infrastructure

**Answer: A**

**Question No : 496 - (Topic 3)**

What is one reason to implement LAG on a Cisco WLC?

- A. to increase security and encrypt management frames
- B. to provide link redundancy and load balancing
- C. to allow for stateful and link-state failover
- D. to enable connected switch ports to failover and use different VLANs

**Answer: B**

**Question No : 497 - (Topic 3)**

Refer to the exhibit.

Security	RADIUS Authentication Servers > New
<ul style="list-style-type: none"><li>AAA<ul style="list-style-type: none"><li>General</li><li>RADIUS<ul style="list-style-type: none"><li>Authentication</li><li>Accounting</li><li>Fallback</li><li>DNS</li><li>Downloaded AVP</li></ul></li></ul></li><li>TACACS+</li><li>LDAP</li><li>Local Net Users</li><li>MAC Filtering</li><li>Disabled Clients<ul style="list-style-type: none"><li>User Login Policies</li><li>AP Policies</li><li>Password Policies</li></ul></li><li>Local EAP<ul style="list-style-type: none"><li>Advanced EAP</li></ul></li><li>Priority Order</li><li>Certificate</li><li>Access Control Lists</li><li>Wireless Protection Policies</li></ul>	<p>Server Index (Priority) <input type="text" value="1"/></p> <p>Server IP Address(Ipv4/Ipv6) <input type="text" value="192.168.25.2"/></p> <p>Shared Secret Format <input type="text" value="ASCII"/></p> <p>Shared Secret <input type="password" value="*****"/></p> <p>Confirm Shared Secret <input type="password" value="*****"/></p> <p>Key Wrap <input type="checkbox"/> (Designed for FIPS customers and requires a key wrap compliant RADIUS server)</p> <p>Port Number <input type="text" value="1812"/></p> <p>Server Status <input type="text" value="Enabled"/></p> <p>Support for CoA <input type="text" value="Disabled"/></p> <p>Server Timeout <input type="text" value="2 seconds"/></p> <p>Network User <input type="checkbox"/> Enable</p> <p>Management <input type="checkbox"/> Enable</p> <p>Management Retransmit Timeout <input type="text" value="2 seconds"/></p> <p>Tunnel Proxy <input type="checkbox"/> Enable</p> <p>IPSec <input type="checkbox"/> Enable</p>

A network engineer configures the Cisco WLC to authenticate local wireless clients against a RADIUS server. Which task must be performed to complete the process?

- A. Change the Server Status to Disabled
- B. Select Enable next to Management
- C. Select Enable next to Network User
- D. Change the Support for CoA to Enabled.

**Answer: C**

**Question No : 498 - (Topic 3)**

What is the purpose of the ip address hcp command?

- A. to configure an Interface as a DHCP server

- B. to configure an interface as a DHCP helper
- C. to configure an interface as a DHCP relay
- D. to configure an interface as a DHCP client

**Answer: D**

**Question No : 499 - (Topic 3)**

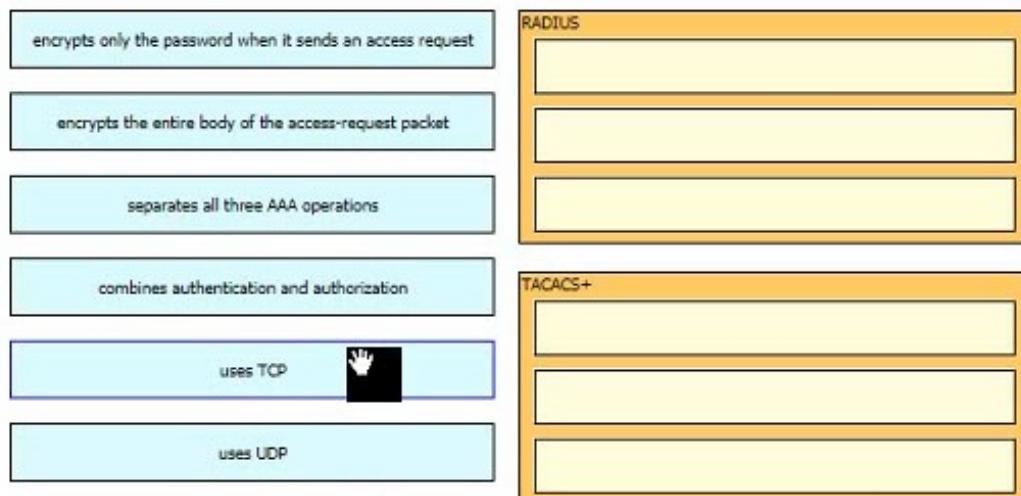
What is a function of Opportunistic Wireless Encryption in an environment?

- A. offer compression
- B. increase security by using a WEP connection
- C. provide authentication
- D. protect traffic on open networks

**Answer: D**

**Question No : 500 DRAG DROP - (Topic 3)**

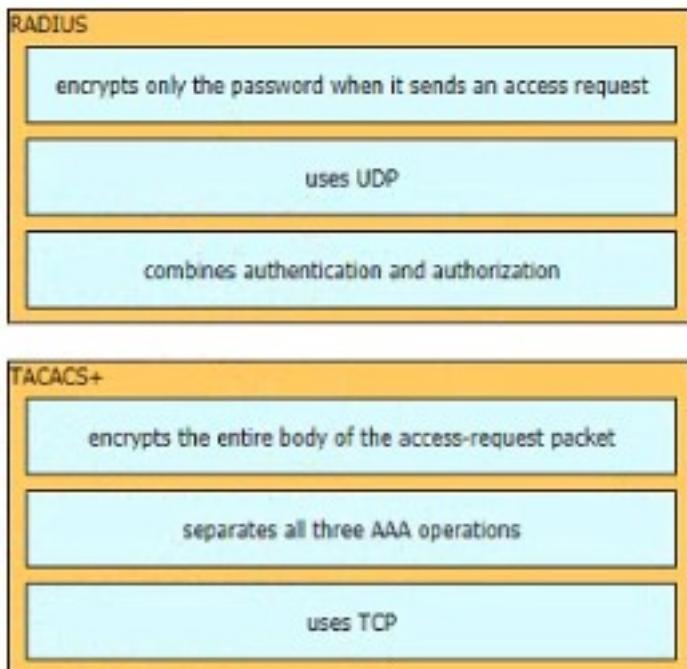
Drag and drop the functions of AAA supporting protocols from the left onto the protocols on the right.



**Answer:**



### Explanation:



A picture containing graphical user interface

Description automatically generated

**Question No : 501 - (Topic 3)**

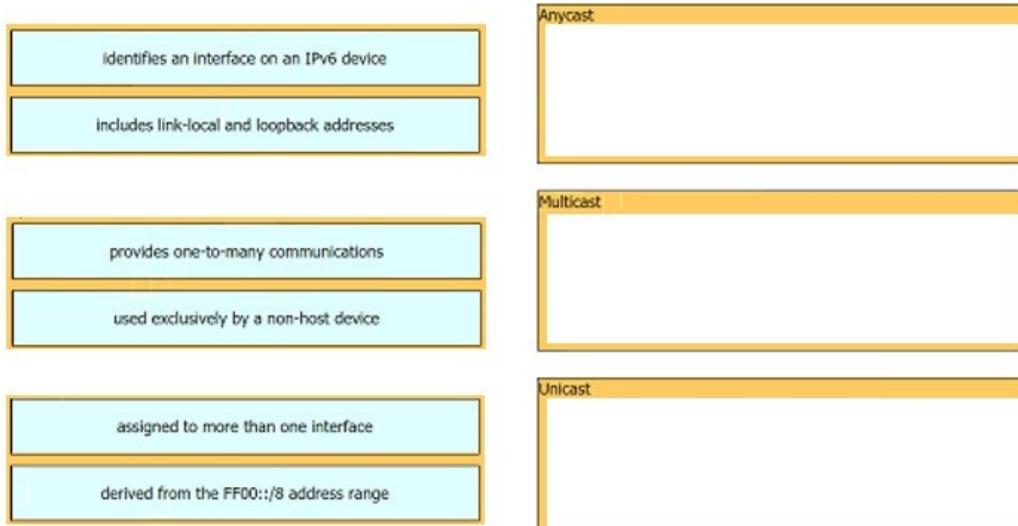
What is the function of the controller in a software-defined network?

- A. multicast replication at the hardware level
- B. fragmenting and reassembling packets
- C. making routing decisions
- D. forwarding packets

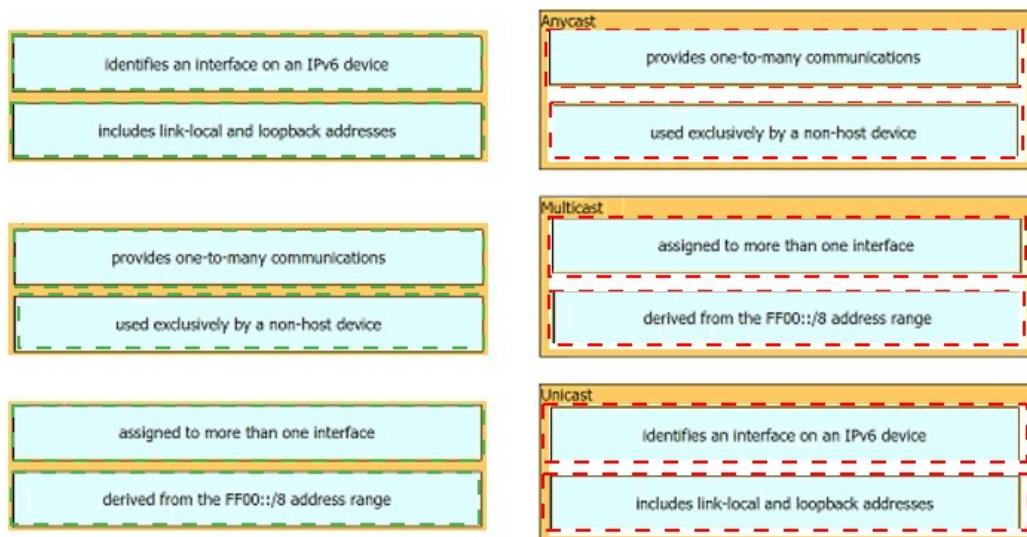
**Answer: C**

**Question No : 502 DRAG DROP - (Topic 3)**

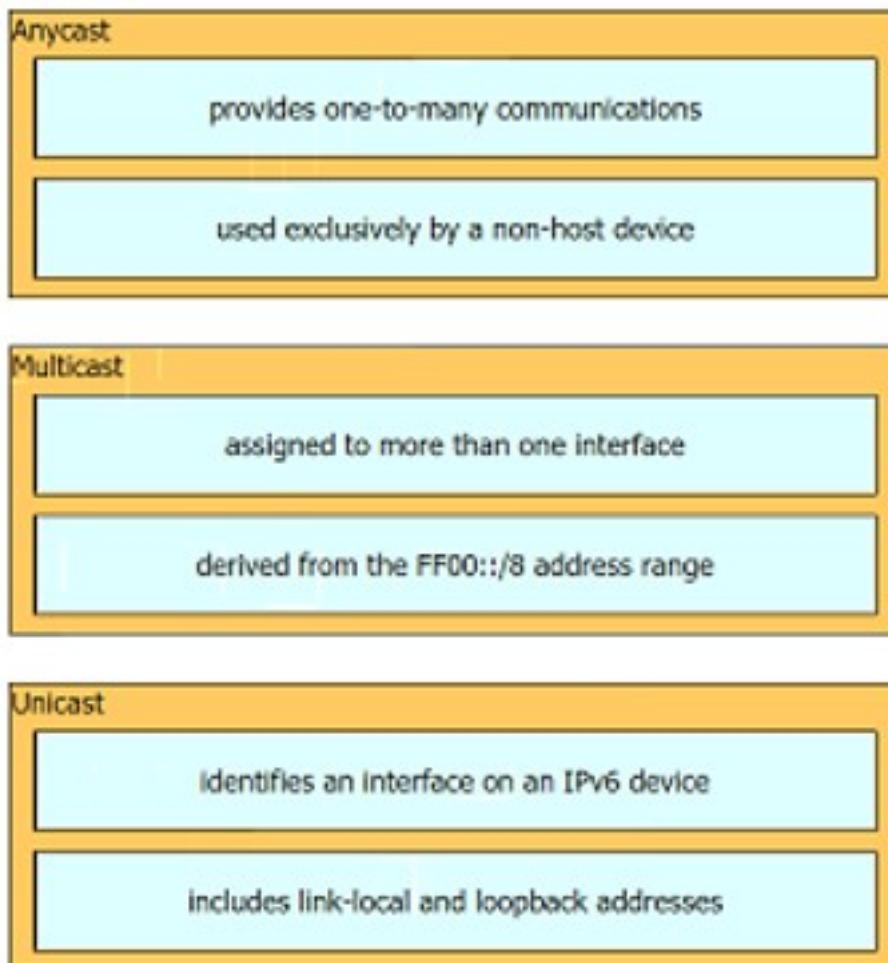
Drag and drop the IPv6 address details from the left onto the corresponding types on the right.



**Answer:**



### Explanation:



Graphical user interface, diagram

Description automatically generated

**Question No : 503 - (Topic 3)**

OSPF must be configured between routers R1 and R2. Which OSPF configuration must be applied to router R1 to avoid a DR/BDR election?

**A.** router ospf 1

```
network 192.168.1.1 0.0.0.0 area 0
interface e1/1
ip address 192.168.1.1 255.255.255.252
ip ospf network broadcast
```

**B.** router ospf 1

```
network 192.168.1.1 0.0.0.0 area 0
interface e1/1
ip address 192.168.1.1 255.255.255.252
ip ospf network point-to-point
```

**C.** router ospf 1

```
network 192.168.1.1 0.0.0.0 area 0
interface e1/1
ip address 192.168.1.1 255.255.255.252
ip ospf cost 0
```

**D.** router ospf 1

```
network 192.168.1.1 0.0.0.0 area 0
hello interval 15
interface e1/1
ip address 192.168.1.1 255.255.255.252
```

**Answer: B**

**Question No : 504 - (Topic 3)**

An engineer must configure R1 for a new user account. The account must meet these requirements:

- \* It must be configured in the local database.
  - \* The username is engineer.
- \* It must use the strongest password configurable. Which command must the engineer configure on the router?

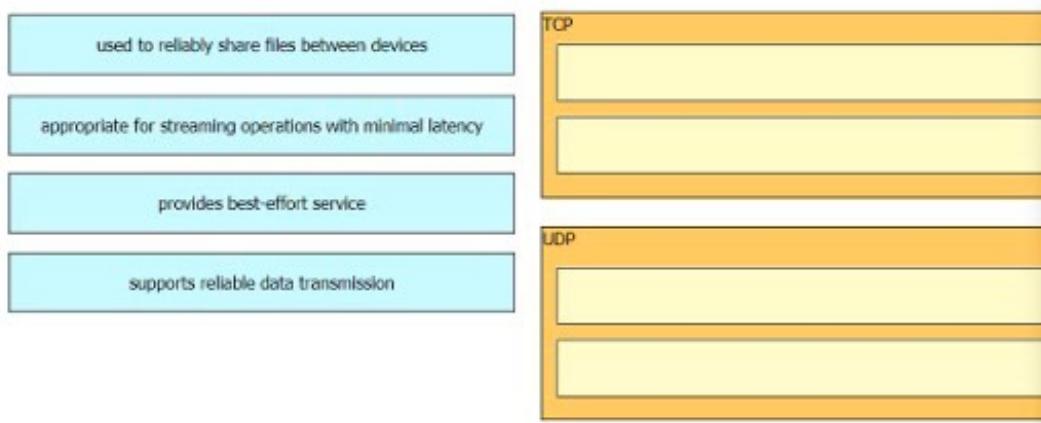
**A.** R1 (config)# username engineer2 algorithm-type scrypt secret test2021

- B. R1(config)# username engineer2 secret 5 .password S1\$b1Ju\$kZbBS1Pyh4QzwXyZ
- C. R1(config)# username engineer2 privilege 1 password 7 test2021
- D. R1(config)# username englneer2 secret 4 S1Sb1Ju\$kZbBS1Pyh4QzwXyZ

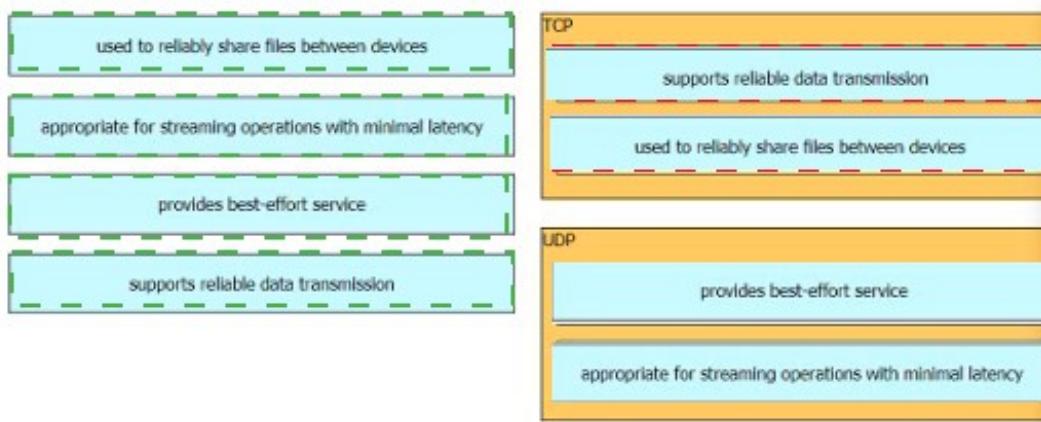
**Answer: B**

**Question No : 505 DRAG DROP - (Topic 3)**

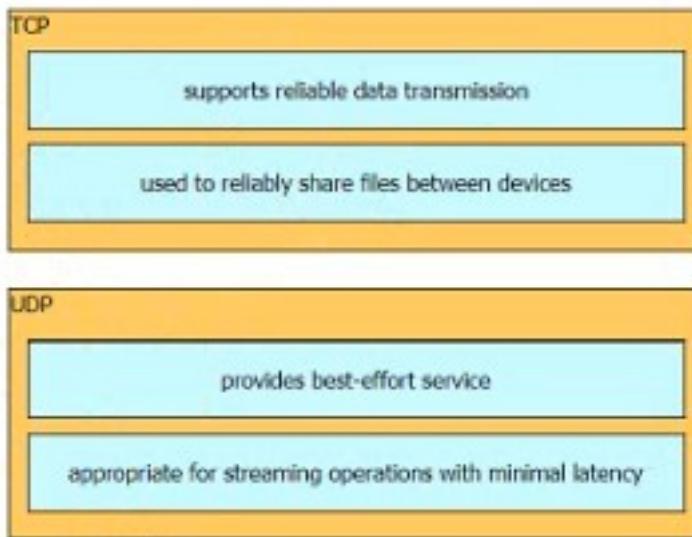
Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.



**Answer:**



**Explanation:**



Graphical user interface, application

Description automatically generated

**Question No : 506 - (Topic 3)**

Which WLC management connection type is vulnerable to man-in-the-middle attacks?

- A. SSH
- B. HTTPS
- C. Telnet
- D. console

**Answer: C**

**Question No : 507 - (Topic 3)**

Which action is taken by the data plane within a network device?

- A. forwards traffic to the next hop
- B. constructs a routing table based on a routing protocol
- C. provides CLI access to the network device
- D. looks up an egress interface in the forwarding information base

**Answer: A**

**Question No : 508 - (Topic 3)**

Which two components comprise part of a PKI? (Choose two.)

- A. preshared key that authenticates connections
- B. RSA token
- C. CA that grants certificates
- D. clear-text password that authenticates connections
- E. one or more CRLs

**Answer: B,C**

**Question No : 509 - (Topic 3)**

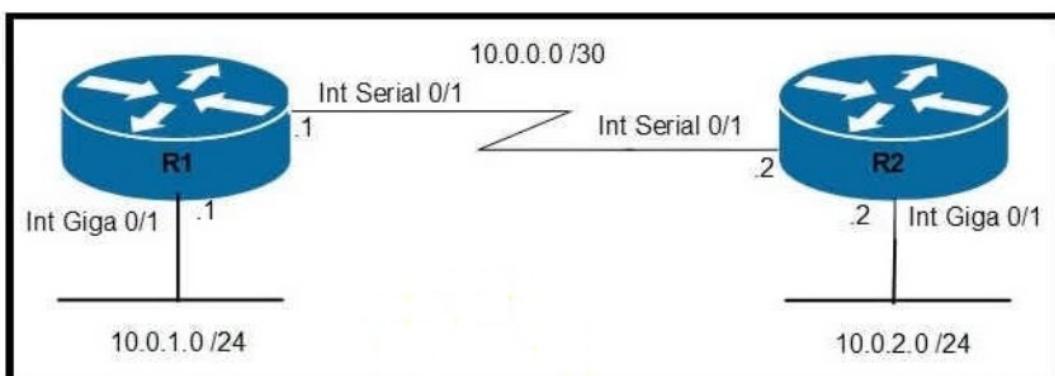
Which QoS traffic handling technique retains excess packets in a queue and reschedules these packets for later transmission when the configured maximum bandwidth has been surpassed?

- A. weighted random early detection
- B. traffic policing
- C. traffic shaping
- D. traffic prioritization

**Answer: C**

**Question No : 510 - (Topic 3)**

Refer to the exhibit.



Which command configures OSPF on the point-to-point link between routers R1 and R2?

- A. router-id 10.0.0.15
- B. neighbor 10.1.2.0 cost 180
- C. ipospf priority 100
- D. network 10.0.0.0 0.0.0.255 area 0

**Answer: D**

**Question No : 511 - (Topic 3)**

Refer to the exhibit.

```
R1# show ip route
Codes:
C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP, D -
EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA
external type 1, N2 - OSPF NSSA external type 2, E1 - OSPF external type
1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default,
U - per-user static route, o - ODR
Gateway of last resort is not set
C 10.0.0.0/8 is directly connected, Loopback0
  10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
O 10.0.1.3/32 [110/100] via 10.0.1.100, 00:39:08, Serial0
C 10.0.1.0/24 is directly connected, Serial0
O 10.0.1.5/32 [110/5] via 10.0.1.50, 00:39:08, Serial0
O 10.0.10.0/24 [110/10] via 10.0.1.4, 00:39:08, Gigabit Ethernet 0/0
D 10.0.10.0/24 [90/10] via 10.0.1.5, 00:39:08, Gigabit Ethernet 0/1
```

Web traffic is coming in from the WAN interface. Which route takes precedence when the router is processing traffic destined for the LAN network at 10.0.10.0/24?

- A. via next-hop 10.0.1.5
- B. via next-hop 10.0.1.4
- C. via next-hop 10.0.1.50
- D. via next-hop 10.0.1.100

**Answer: A**

**Question No : 512 - (Topic 3)**

Refer to the exhibit.

<b>RIP</b>	<b>10.1.1.16/28[120/5]</b>	<b>via</b>	<b>F0/0</b>
<b>OSPF</b>	<b>10.1.1.0/24[110/30]</b>	<b>via</b>	<b>F0/1</b>
<b>OSPF</b>	<b>10.1.1.0/24[110/40]</b>	<b>via</b>	<b>F0/2</b>
<b>EIGRP</b>	<b>10.1.0.0/26[90/20]</b>	<b>via</b>	<b>F0/3</b>
<b>EIGRP</b>	<b>10.0.0.0/8 [90/133]</b>	<b>via</b>	<b>F0/4</b>

Packets received by the router from BGP enter via a serial interface at 209 165 201 1 Each route is present within the routing table Which interface is used to forward traffic with a destination IP of 10.1.1.19?

- A. F0/4
- B. F0/0
- C. F0/1
- D. F0/3

**Answer: B**

### Question No : 513 - (Topic 3)

Refer to the exhibit.

```
R1#show run
!
router ospf 1
auto-cost reference-bandwidth 100000
!
interface GigabitEthernet0/0
bandwidth 10000000
!
interface GigabitEthernet0/1
bandwidth 100000000
!
interface GigabitEthernet0/2
ip ospf cost 100
!
interface GigabitEthernet0/3
ip ospf cost 1000
end
```

Router R1 resides in OSPF Area 0. After updating the R1 configuration to influence the paths that it will use to direct traffic, an engineer verified that each of the four Gigabit interfaces has the same route to 10.10.0.0/16. Which interface will R1 choose to send

traffic to reach the route?

- A. GigabitEthernet0/0
- B. GigabitEthernet0/1
- C. GigabitEthernet0/2
- D. GigabitEthernet0/3

**Answer: B**

**Question No : 514 - (Topic 3)**

What is a function of an endpoint on a network?

- A. forwards traffic between VLANs on a network
- B. connects server and client devices to a network
- C. allows users to record data and transmit to a tile server
- D. provides wireless services to users in a building

**Answer: C**

**Explanation:** An endpoint is a host that acts as the source or destination of data traffic flowing through a network.

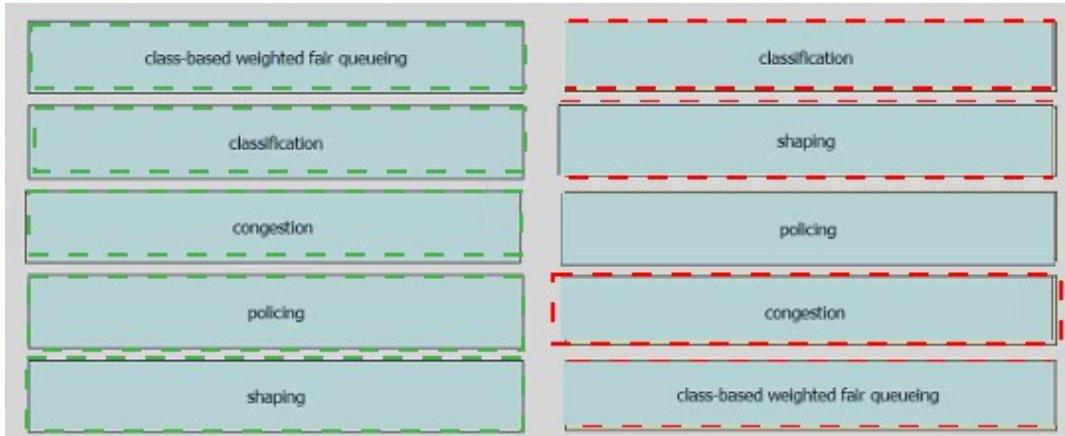
When you are at your PC, editing your CV and uploading it to a file server, you are sitting at an endpoint.

**Question No : 515 DRAG DROP - (Topic 3)**

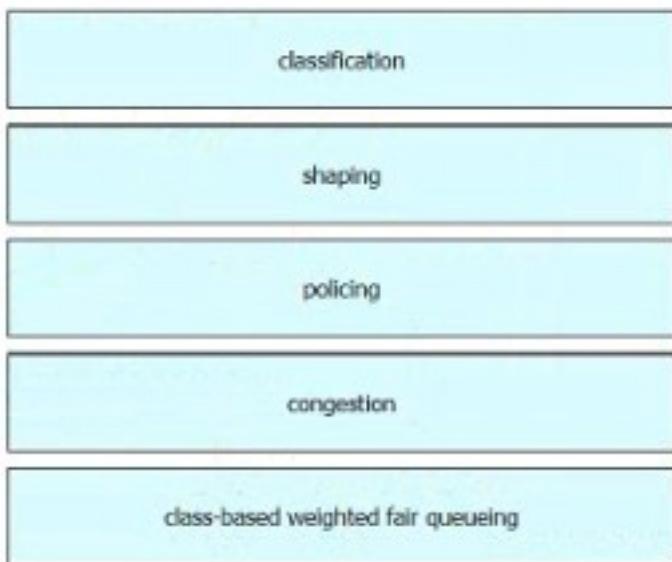
Drag and drop the QoS terms from the left onto the descriptions on the right.

class-based weighted fair queueing	categorizes packets based on the value of a traffic descriptor
classification	guarantees minimum bandwidth to specific traffic classes when an interface is congested
congestion	prevents congestion by reducing the flow of outbound traffic
policing	outcome of overutilization
shaping	uses defined criteria to limit the transmission of one or more classes of traffic

Answer:



Explanation:

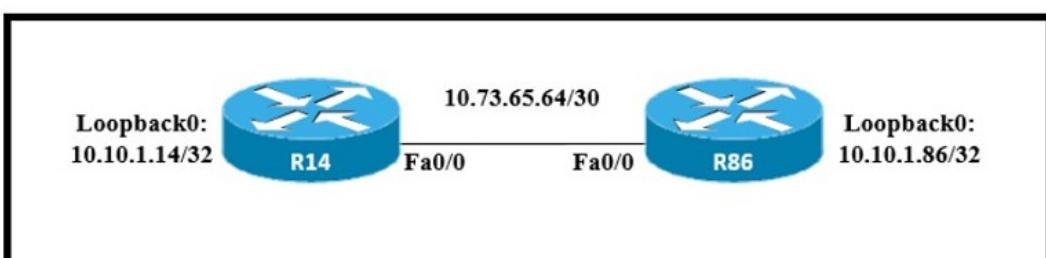


Table

Description automatically generated

**Question No : 516 - (Topic 3)**

Refer to the exhibit.



All interfaces are configured with duplex auto and ip ospf network broadcast. Which configuration allows routers R14 and R86 to form an OSPFv2 adjacency and act as a central point for exchanging OSPF information between routers?

R14#

```
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf priority 0
ip mtu 1500
```

```
router ospf 10
router-id 10.10.1.14
network 10.10.1.14 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

R86#

```
interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip mtu 1500
```

```
router ospf 10
router-id 10.10.1.86
network 10.10.1.86 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

● R14#

```
interface Loopback0  
ip ospf 10 area 0
```

```
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf priority 255  
ip ospf 10 area 0  
ip mtu 1500
```

```
router ospf 10  
router-id 10.10.1.14
```

R86#

```
interface Loopback0  
ip ospf 10 area 0
```

```
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf 10 area 0  
ip mtu 1500
```

```
router ospf 10  
router-id 10.10.1.86
```

|

● R14#

```
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf priority 255
ip mtu 1500
```

```
router ospf 10
router-id 10.10.1.14
network 10.10.1.14 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

R86#

```
interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip mtu 1400
```

```
router ospf 10
router-id 10.10.1.86
network 10.10.1.86 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

R14#

```
interface Loopback0
```

```
ip ospf 10 area 0
```

```
interface FastEthernet0/0
```

```
ip address 10.73.65.65 255.255.255.252
```

```
ip ospf 10 area 0
```

```
ip mtu 1500
```

```
router ospf 10
```

```
ip ospf priority 255
```

```
router-id 10.10.1.14
```

R86#

```
interface Loopback0
```

```
ip ospf 10 area 0
```

```
interface FastEthernet0/0
```

```
ip address 10.73.65.66 255.255.255.252
```

```
ip ospf 10 area 0
```

```
ip mtu 1500
```

```
router ospf 10
```

```
router-id 10.10.1.86
```

---

- A. Option A
- B. Option B
- C. Option C
- D. option D

**Answer: B**

**Question No : 517 - (Topic 3)**

What causes a port to be placed in the err-disabled state?

- A. nothing plugged into the port
- B. link flapping
- C. shutdown command issued on the port
- D. latency

Answer: B

**Question No : 518 - (Topic 3)**

Which interface mode must be configured to connect the lightweight APs in a centralized architecture?

- A. WLAN dynamic
- B. management
- C. trunk
- D. access

Answer: D

**Question No : 519 - (Topic 3)**

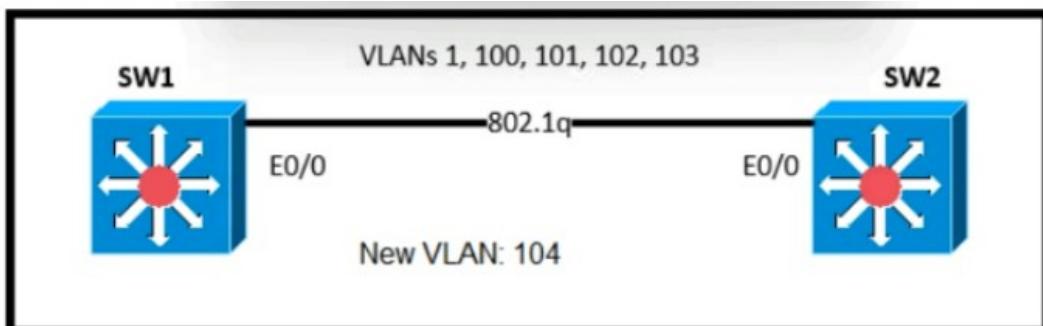
Which value is the unique identifier that an access point uses to establish and maintain wireless connectivity to wireless network devices?

- A. VLANID
- B. SSID
- C. RFID
- D. WLANID

Answer: B

**Question No : 520 - (Topic 3)**

Refer to the exhibit.



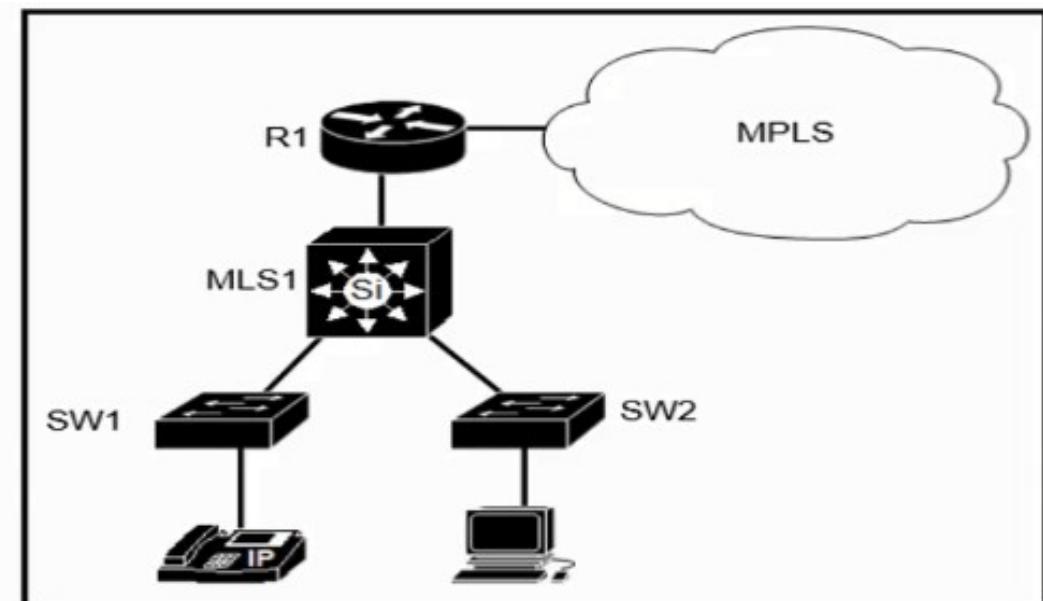
An engineer is asked to insert the new VLAN into the existing trunk without modifying anything previously configured Which command accomplishes this task?

- A. switchport trunk allowed vlan 100-104
- B. switchport trunk allowed vlan add 104
- C. switchport trunk allowed vlan all
- D. switchport trunk allowed vlan 104

**Answer: D**

**Question No : 521 - (Topic 3)**

Refer to the exhibit.



Which plan must be implemented to ensure optimal QoS marking practices on this network?

- A. As traffic traverses MLS1 remark the traffic, but trust all markings at the access layer.
- B. Trust the IP phone markings on SW1 and mark traffic entering SW2 at SW2.
- C. Remark traffic as it traverses R1 and trust all markings at the access layer.
- D. As traffic enters from the access layer on SW1 and SW2, trust all traffic markings.

**Answer: C**

**Question No : 522 - (Topic 3)**

Which protocol is used for secure remote CLI access?

- A. HTTPS
- B. HTTP
- C. Telnet
- D. SSH

**Answer: D**

**Question No : 523 - (Topic 3)**

Refer to the exhibit.

```
Router#show run
Building configuration...

Current configuration : 1530 bytes
!
! Last configuration change at 11:32:53 UTC Sat Oct 10 2020
upgrade fpd auto
version 15.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router
!
boot-start-marker
boot-end-marker
!
!
!
no aaa new-model
no ip icmp rate-limit unreachable
!
!
!
!
!--More--
```

Which minimum configuration items are needed to enable Secure Shell version 2 access to R15?

- A)

```
Router(config)#hostname R15
R15(config)#crypto key generate rsa general-keys modulus 1024
R15(config-line)#line vty 0 15
R15(config-line)# transport input ssh
R15(config)#ip ssh source-interface Fa0/0
R15(config)#ip ssh stricthostkeycheck
```

B)

```
Router(config)#crypto key generate rsa general-keys modulus 1024
Router(config)#ip ssh version 2
Router(config-line)#line vty 0 15
Router(config-line)# transport input ssh
Router(config)#ip ssh logging events
R15(config)#ip ssh stricthostkeycheck
```

C)

```
> Router(config)#ip domain-name cisco.com
Router(config)#crypto key generate rsa general-keys modulus 1024
Router(config)#ip ssh version 2
Router(config-line)#line vty 0 15
Router(config-line)# transport input all
Router(config)#ip ssh logging events
```

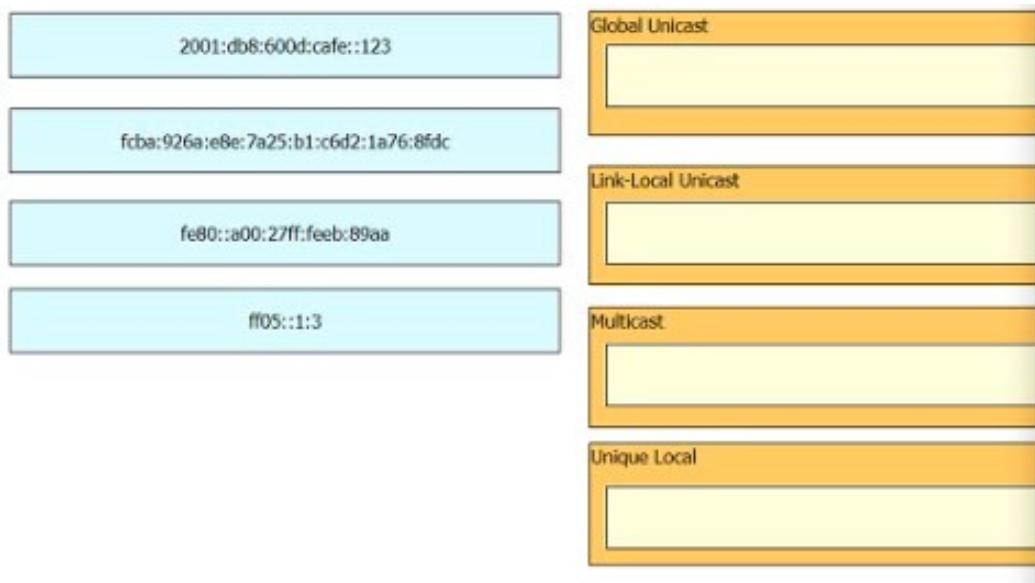
D)

```
> Router(config)#hostname R15
R15(config)#ip domain-name cisco.com
R15(config)#crypto key generate rsa general-keys modulus 1024
R15(config)#ip ssh version 2
R15(config-line)#line vty 0 15
R15(config-line)# transport input ssh
```

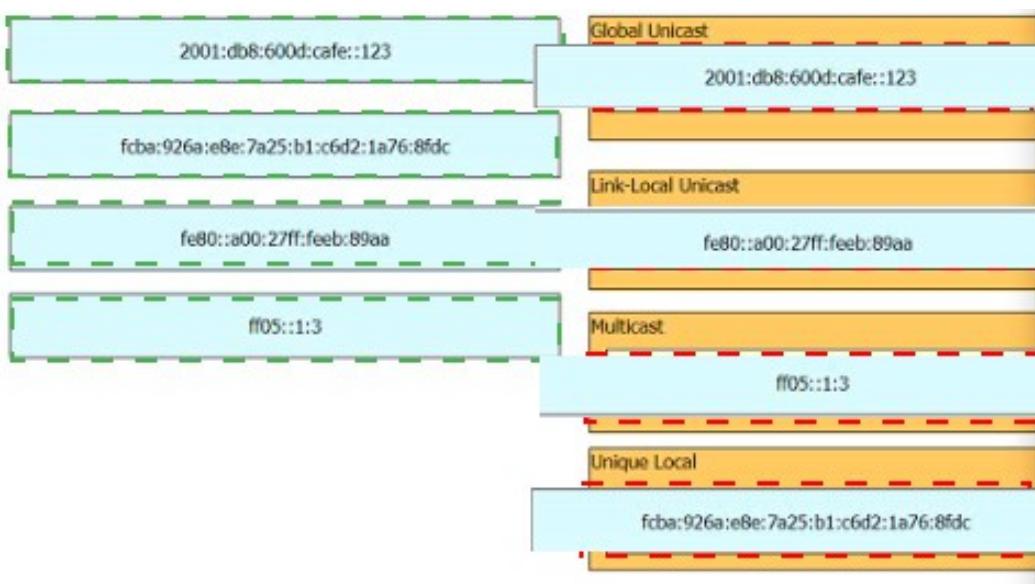
- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

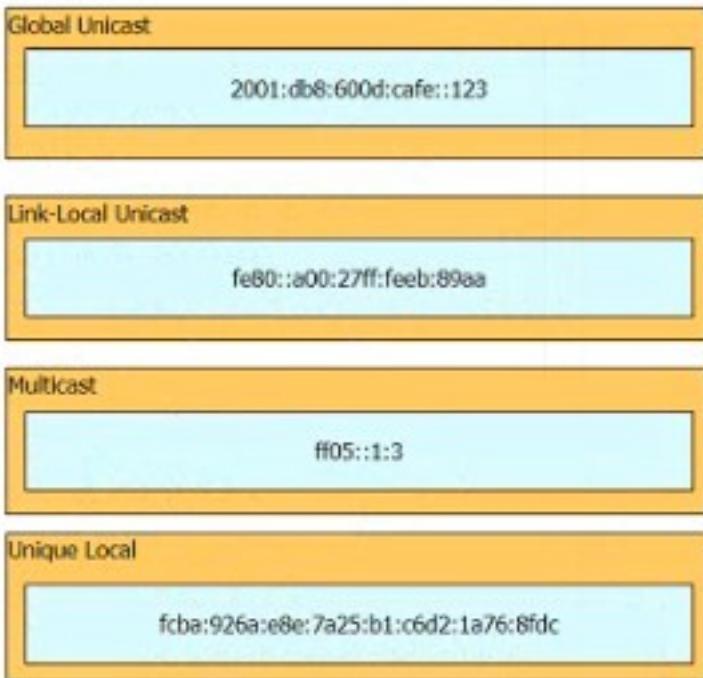
**Question No : 524 DRAG DROP - (Topic 3)**



**Answer:**



**Explanation:**



Graphical user interface

Description automatically generated

**Question No : 525 - (Topic 3)**

An engineer is configuring SSH version 2 exclusively on the R1 router. What is the minimum configuration required to permit remote management using the cryptographic protocol?

● **hostname R1**

```
ip domain name cisco  
crypto key generate rsa general-keys modulus 1024  
username cisco privilege 15 password 0 cisco123  
ip ssh version 2  
line vty 0 15  
transport input ssh  
login local
```

● **hostname R1**

```
crypto key generate rsa general-keys modulus 1024  
username cisco privilege 15 password 0 cisco123  
ip ssh version 2  
line vty 0 15  
transport input all  
login local
```

● **hostname R1**

```
service password-encryption  
crypto key generate rsa general-keys modulus 1024  
username cisco privilege 15 password 0 cisco123  
ip ssh version 2  
line vty 0 15  
transport input ssh  
login local
```

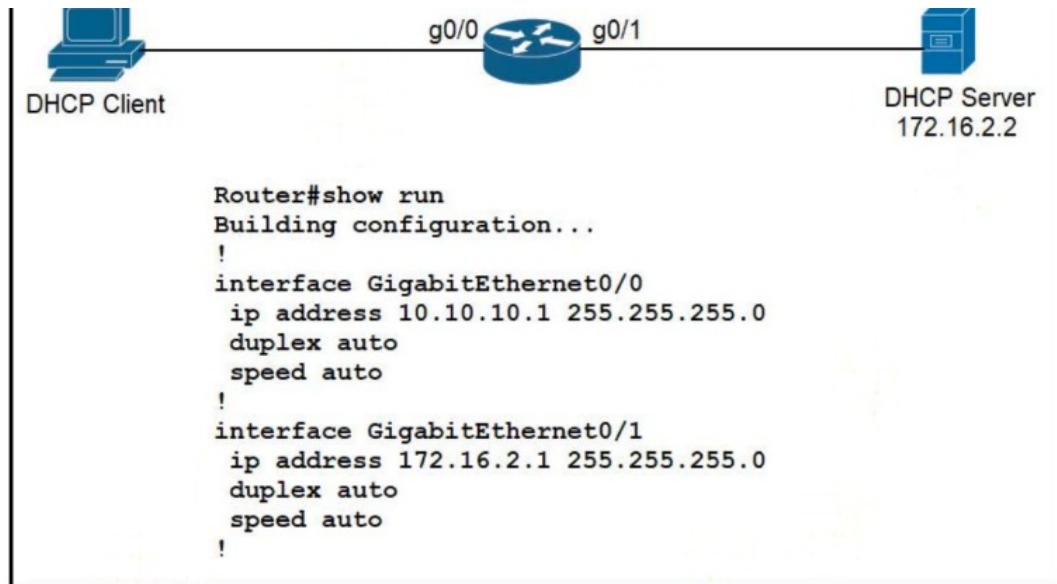
● **hostname R1**

```
ip domain name cisco  
crypto key generate rsa general-keys modulus 1024  
username cisco privilege 15 password 0 cisco123  
ip ssh version 2  
line vty 0 15  
transport input all  
login local
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C****Question No : 526 - (Topic 3)**

Refer to the exhibit.

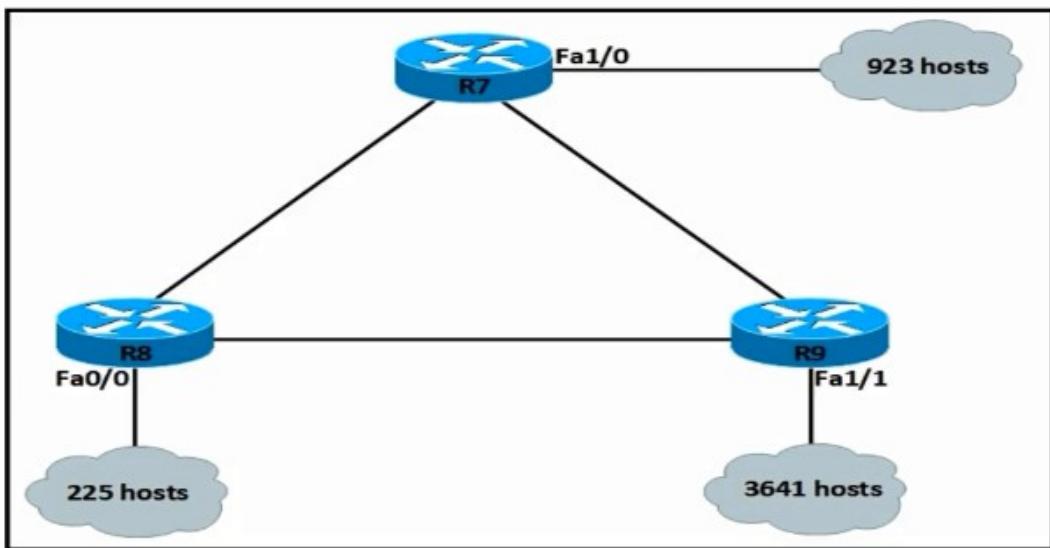


An engineer is configuring a new router on the network and applied this configuration. Which additional configuration allows the PC to obtain its IP address from a DHCP server?

- A. Configure the ip dhcp relay information command under interface Gi0/1.
- B. Configure the ip dhcp smart-relay command globally on the router
- C. Configure the ip helper-address 172.16.2.2 command under interface Gi0/0
- D. Configure the ip address dhcp command under interface Gi0/0

**Answer: C****Question No : 527 - (Topic 3)**

Refer to the exhibit.



An IP subnet must be configured on each router that provides enough addresses for the number of assigned hosts and anticipates no more than 10% growth for new hosts. Which configuration script must be used?

A)

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.252.0
no shutdown
```

```
R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.255.0
no shutdown
```

```
R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.240.0
no shutdown
```

B)

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.248.0
no shutdown
```

```
R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.254.0
no shutdown
```

```
R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.248.0
no shutdown
```

C)

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.240.0
no shutdown
```

```
R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.224.0
no shutdown
```

```
R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.192.0
no shutdown
```

D)

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.192.0
no shutdown
```

```
R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.224.0
no shutdown
```

```
R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.128.0
no shutdown
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Question No : 528 - (Topic 3)**

What is a function performed by a web server?

- A. provide an application that is transmitted over HTTP
- B. send and retrieve email from client devices
- C. authenticate and authorize a user's identity
- D. securely store files for FTP access

**Answer: A**

**Question No : 529 - (Topic 3)**

Refer to the exhibit.



During outage

```
R1#show ip route 10.1.1.10  
% Network not in table
```

Normal operation

```
R1#show ip route 10.1.1.10  
Routing entry for 10.1.1.0/24  
Known via "ospf 1", distance 110, metric 2, type intra area  
Last update from 172.16.2.2 on GigabitEthernet0/0, 00:00:18 ago  
Routing Descriptor Blocks:  
* 172.16.2.2, from 10.1.1.10, 00:00:18 ago, via GigabitEthernet0/0  
    Route metric is 2, traffic share count is 1
```

Which route must be configured on R1 so that OSPF routing is used when OSPF is up, but the server is still reachable when OSPF goes down?

- A. ip route 10.1.1.10 255.255.255.255 172.16.2.2 100

- B. ip route 10.1.1.0 255.255.255.0 gi0/1 125
- C. ip route 10.1.1.0 255.255.255.0 172.16.2.2 100
- D. ip route 10.1.1.10 255.255.255.255 gi0/0 125

**Answer: D**

**Question No : 530 - (Topic 3)**

What is a requirement when configuring or removing LAG on a WLC?

- A. The Incoming and outgoing ports for traffic flow must be specified If LAG Is enabled.
- B. The controller must be rebooted after enabling or reconfiguring LAG.
- C. The management interface must be reassigned if LAG disabled.
- D. Multiple untagged interfaces on the same port must be supported.

**Answer: C**

**Question No : 531 - (Topic 3)**

What is the difference between IPv6 unicast and anycast addressing?

- A. IPv6 anycast nodes must be explicitly configured to recognize the anycast address, but IPv6 unicast nodes require no special configuration
- B. IPv6 unicast nodes must be explicitly configured to recognize the unicast address, but IPv6 anycast nodes require no special configuration
- C. An individual IPv6 unicast address is supported on a single interface on one node but an IPv6 anycast address is assigned to a group of interfaces on multiple nodes.
- D. Unlike an IPv6 anycast address, an IPv6 unicast address is assigned to a group of interfaces on multiple nodes

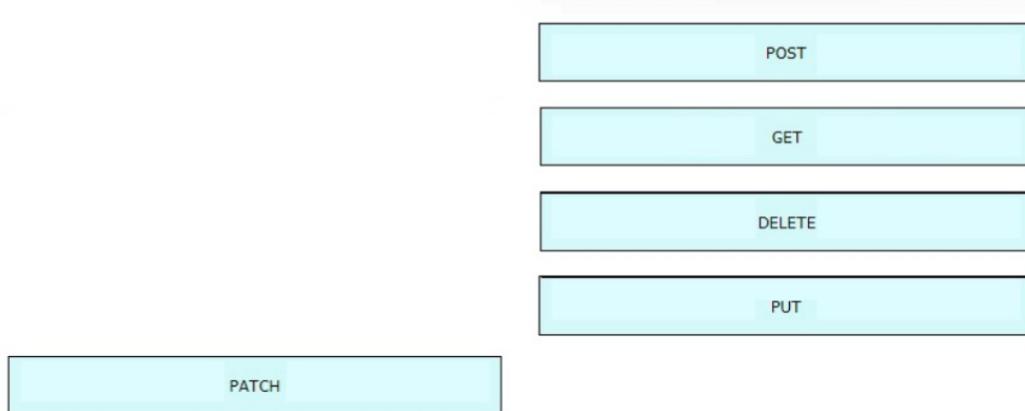
**Answer: C**

**Question No : 532 CORRECT TEXT - (Topic 3)**

Drag and drop the REST API call methods for HTTP from the left onto the actions they perform on the right Not all methods are used.

**Answer:** see the answer below

**Explanation:**



Chart, bar chart

Description automatically generated

**Question No : 533 - (Topic 3)**

Which set of 2.4 GHz nonoverlapping wireless channels is standard in the United States?

- A. channels 2, 7, 9, and 11
- B. channels 1, 6, 11, and 14
- C. channels 2, 7, and 11
- D. channels 1, 6, and 11

**Answer: D**

**Explanation:** In the United States, while channels 1-13 can be used for 2.4 GHz WiFi, only three channels are considered non-overlapping (channels 12 and 13 are allowed under low powered conditions, but for most cases are not used). For best results, it is highly recommended to keep the 2.4 GHz channels to 1, 6, and 11, as these channel settings will allow for virtually no overlap in the WiFi signal. Shown below is a channel graph from WiFi Scanner showing three access points configured for channels 1, 6, and 11. As you can see, the center of each signal is at 1, 6, and 11 with the actual signal extending over several channels to the left and right.

**Question No : 534 - (Topic 3)**

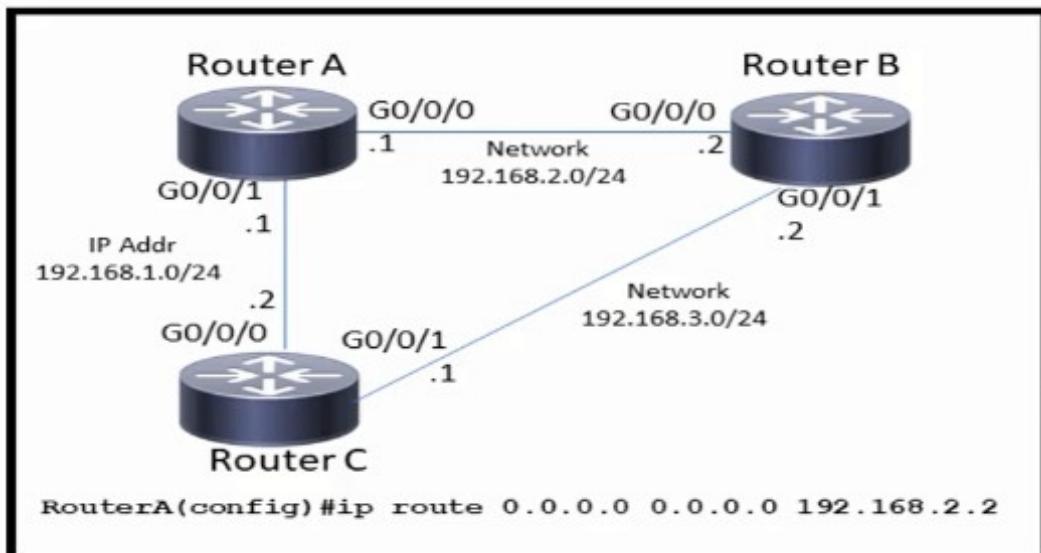
A network administrator is setting up a new IPv6 network using the 64-bit address 2001 0EB8 00C1 2200:0001 0000 0000 0331/64 To simplify the configuration the administrator has decided to compress the address Which IP address must the administrator configure?

- A. ipv6 address 21:EB8:C1:2200:1::331/64
- B. ipv6 address 2001:EB8:C1:22:1::331/64
- C. ipv6 address 2001 :EB8:C 1:2200.1 ::331-64
- D. ipv6 address 2001:EB8:C1:2200:1:0000:331/64

**Answer: C**

**Question No : 535 - (Topic 3)**

Refer to the exhibit.



Which command must be issued to enable a floating static default route on router A?

- A. ip route 0.0.0.0 0.0.0.0 192.168.1.2
- B. ip default-gateway 192.168.2.1
- C. ip route 0.0.0.0 0.0.0.0 192.168.2.1 10
- D. ip route 0.0.0.0 0.0.0.0 192.168.1.2 10

**Answer: D**

**Question No : 536 - (Topic 3)**

An engineer is configuring router R1 with an IPv6 static route for prefix

2019:C15C:0CAF:E001::/64. The next hop must be 2019:C15C:0CAF:E002::1 The route must be reachable via the R1 Gigabit 0/0 interface. Which command configures the designated route?

- A. R1(config)#ipv6 route 2019:C15C:0CAF:E001::/64 2019:C15C:0CAF:E002::1
- B. R1(config-if)#ipv6 route 2019:C15C:0CAF:E001::/64 2019:C15C:0CAF:E002::1
- C. R1(config-if)#ip route 2019:C15C:0CAF:E001::/64 GigabitEthernet0/0
- D. R1(config)#ip route 2019:C15C:0CAF:E001::/64 GigabitEthernet0/0

**Answer: C**

**Question No : 537 - (Topic 3)**

Refer to the exhibit.

```
SW1#show spanning-tree vlan 30

VLAN0030
Spanning tree enabled protocol rstp
Root ID    Priority          32798
            Address           0025.63e9.c800
            Cost               19
Port        Hello Time       2 sec
            Max Age           30 sec
            Forward Delay     20 sec

[Output suppressed]
```

What are two conclusions about this configuration? {Choose two.)

- A. The spanning-tree mode is Rapid PVST+.
- B. This is a root bridge.
- C. The root port is FastEthernet 2/1.
- D. The designated port is FastEthernet 2/1.
- E. The spanning-tree mode is PVST+.

**Answer: A**

**Question No : 538 - (Topic 3)**

Which protocol uses the SSL?

- A. HTTP
- B. SSH
- C. HTTPS
- D. Telnet

**Answer: C**

**Question No : 539 - (Topic 3)**

An engineer is configuring remote access to a router from IP subnet 10.139.58.0/28. The domain name, crypto keys, and SSH have been configured. Which configuration enables the traffic on the destination router?

A)

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.240
    access-group 120 in

    ip access-list extended 120
        permit tcp 10.139.58.0 255.255.255.248 any eq 22
```

B)

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.252
    ip access-group 110 in

    ip access-list extended 110
        permit tcp 10.139.58.0 0.0.0.15 host 10.122.49.1 eq 22
```

C)

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.248
    ip access-group 10 in

    ip access-list standard 10
        permit udp 10.139.58.0 0.0.0.7 host 10.122.49.1 eq 22
```

D)

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.252
    ip access-group 105 in

    ip access-list standard 105
        permit tcp 10.139.58.0 0.0.0.7 eq 22 host 10.122.49.1
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: B**

**Question No : 540 CORRECT TEXT - (Topic 3)**

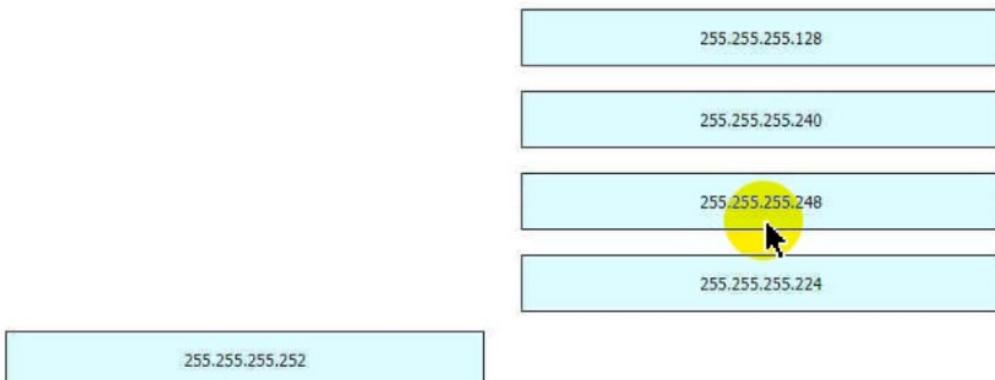
Refer to the exhibit.

- 209.165.201.0/27 is subnetted, 1 subnets
- B 209.165.201.0 [20/0] via 10.10.12.2, 02:26:33
- 209.165.202.0/27 is subnetted, 1 subnets
- B 209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
- 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks
- C 10.10.10.0/28 is directly connected, GigabitEthernet0/0
- C 10.10.11.0/30 is directly connected, FastEthernet2/0
- C 10.10.12.0/30 is directly connected, GigabitEthernet0/1
- O 10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.128/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- S\* 0.0.0.0/0 [1/0] via 10.10.11.2

Drag and drop the prefix lengths from the left onto the corresponding prefixes on the right  
Not all prefixes are used

**Answer:** see the answer below.

**Explanation:**



Diagram

Description automatically generated with low confidence

**Question No : 541 - (Topic 3)**

A Cisco engineer must configure a single switch interface to meet these requirements

- accept untagged frames and place them in VLAN 20
- accept tagged frames in VLAN 30 when CDP detects a Cisco IP phone

Which command set must the engineer apply?

A)

**switchport mode dynamic desirable  
switchport access vlan 20  
switchport trunk allowed vlan 30  
switchport voice vlan 30**

B)

**switchport mode dynamic auto  
switchport trunk native vlan 20  
switchport trunk allowed vlan 30  
switchport voice vlan 30**

C)

**switchport mode access  
switchport access vlan 20  
switchport voice vlan 30**

D)

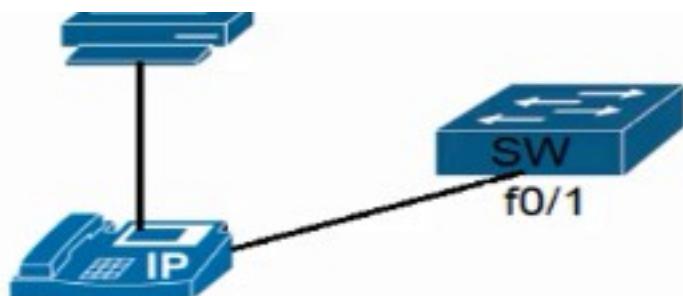
**switchport mode trunk  
switchport access vlan 20  
switchport voice vlan 30**

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Question No : 542 - (Topic 3)**

Refer to the exhibit.



Voice Vlan 10

```
SW#show run
Building configuration...
!
interface FastEthernet0/1
  switchport access vlan 15
!
end
```

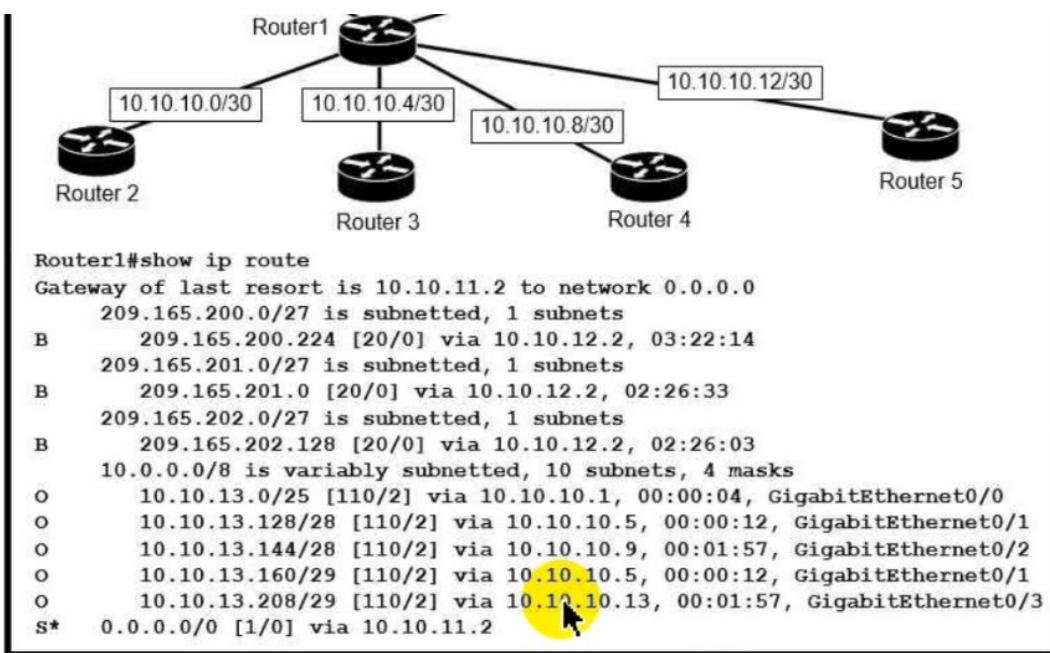
All VLANs are present in the VLAN database. Which command sequence must be applied to complete the configuration?

- A. Interface FastEthernet0/1 switchport trunk native vlan 10 switchport trunk allowed vlan 10,15
- B. Interface FastEthernet0/1 switchport mode trunk switchport trunk allowed vlan 10,15
- C. interface FastEthernet0/1 switchport mode access switchport voice vlan 10
- D. Interface FastEthernet0/1 switchport trunk allowed vlan add 10 vlan 10 private-vlan isolated

**Answer: C**

**Question No : 543 - (Topic 3)**

Refer to the exhibit.



Which next-hop IP address does Router 1 use for packets destined to host 10.10.13.158?

- A. 10.10.10.5
- B. 10.10.11.2
- C. 10.10.12.2
- D. 10.10.10.9

**Answer: A**

**Question No : 544 - (Topic 3)**

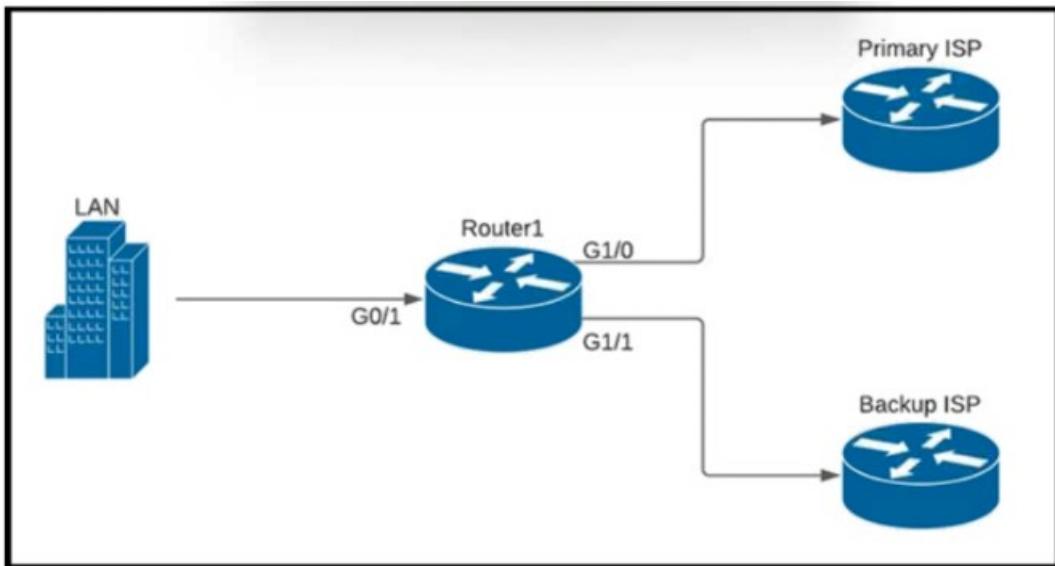
A network engineer is installing an IPv6-only capable device. The client has requested that the device IP address be reachable only from the internal network. Which type of IPv6 address must the engineer assign?

- A. unique local address
- B. link-local address
- C. aggregatable global address
- D. IPv4-compatible IPv6 address

**Answer: B**

**Question No : 545 - (Topic 3)**

Refer to the exhibit.



A company is configuring a failover plan and must implement the default routes in such a way that a floating static route will assume traffic forwarding when the primary link goes down. Which primary route configuration must be used?

- A. ip route 0.0.0.0 0.0.0.0 192.168.0.2 GigabitEthernet1/0
- B. ip route 0.0.0.0 0.0.0.0 192.168.0.2 tracked
- C. ip route 0.0.0.0 0.0.0.0 192.168.0.2 floating
- D. ip route 0.0.0.0 0.0.0.0 192.168.0.2

**Answer: B**

**Question No : 546 - (Topic 3)**

A network engineer is configuring a switch so that it is remotely reachable via SSH. The engineer has already configured the host name on the router. Which additional command must the engineer configure before entering the command to generate the RSA key?

- A. password password
- B. crypto key generate rsa modulus 1024
- C. ip domain-name domain
- D. ip ssh authentication-retries 2

**Answer: C**

**Explanation:** <https://www.cisco.com/c/en/us/solutions/small-business/resource-center/networking/how-to-setup-network-switch.html>

**Question No : 547 - (Topic 3)**

Refer to the exhibit.

```
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname R4
!
boot-start-marker
boot-end-marker
!
ip cef
!
interface FastEthernet0/0
description WAN_INTERFACE
ip address 10.0.1.2 255.255.255.252
ip access-group 100 in
!
interface FastEthernet0/1
description LAN_INTERFACE
ip address 10.148.2.1 255.255.255.0
duplex auto
speed auto
!
ip forward-protocol nd
!
access-list 100 permit eigrp any any
access-list 100 permit icmp any any
access-list 100 permit tcp 10.149.3.0 0.0.0.255 host 10.0.1.2 eq 22
access-list 100 permit tcp any any eq 80
access-list 100 permit tcp any any eq 443
access-list 100 deny ip any any log
```

Which configuration enables DHCP addressing for hosts connected to interface FastEthernet0/1 on router R4?

- A. interface FastEthernet0/0  
ip helper-address 10.0.1.1  
!  
access-list 100 permit udp host 10.0.1.1 eq bootps host 10.148.2.1
- B. interface FastEthernet0/1  
ip helper-address 10.0.1.1  
!  
access-list 100 permit tcp host 10.0.1.1 eq 67 host 10.148.2.1
- C. interface FastEthernet0/0  
ip helper-address 10.0.1.1  
!  
access-list 100 permit host 10.0.1.1 host 10.148.2.1 eq bootps
- D. interface FastEthernet0/1  
ip helper-address 10.0.1.1  
!  
access-list 100 permit udp host 10.0.1.1 eq bootps host 10.148.2.1

**Answer: B**

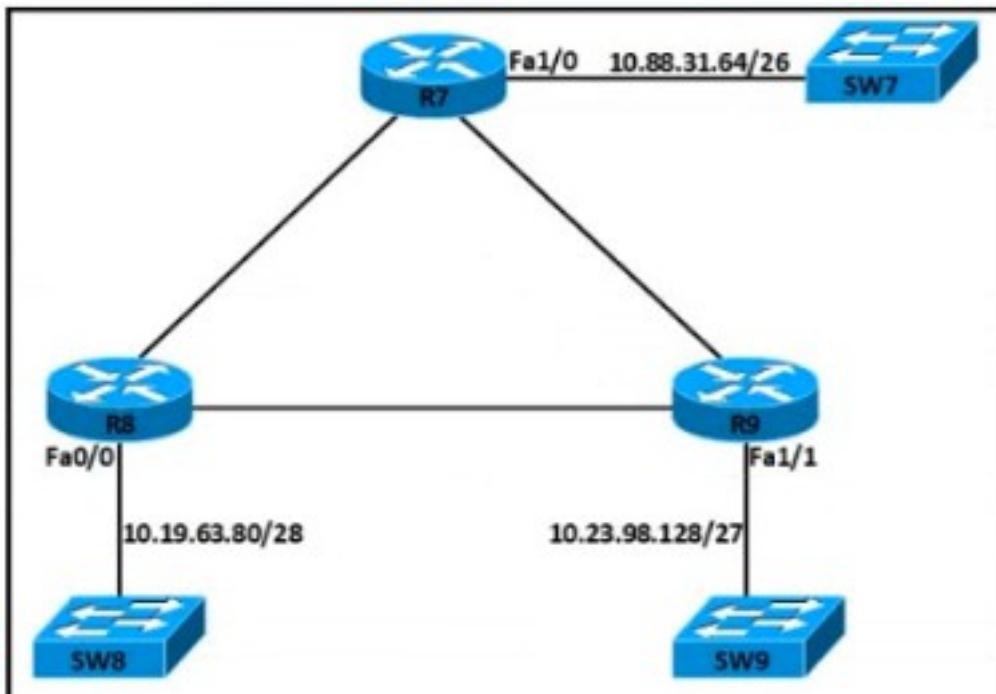
**Question No : 548 - (Topic 3)**

A network engineer must implement an IPv6 configuration on the vlan 2000 interface to create a routable locally-unique unicast address that is blocked from being advertised to the internet. Which configuration must the engineer apply?

- A. interface vlan 2000  
ipv6 address ffc0:0000:aaaa::1234:2343/64
- B. interface vlan 2000  
Ipv6 address fc00:0000:aaaa:a15d:1234:2343:8aca/64
- C. interface vlan 2000  
ipv6 address fe80;0000:aaaa::1234:2343/64
- D. interface vlan 2000  
ipv6 address fd00::1234:2343/64

**Answer: B**

**Question No : 549 - (Topic 3)**



Refer to the exhibit. Each router must be configured with the last usable IP address in the subnet. Which configuration fulfills this requirement?

R7#  
 interface FastEthernet1/0  
 ip address 10.88.31.126 255.255.255.240

R8#  
 interface FastEthernet0/0  
 ip address 10.19.63.94 255.255.255.192

R9#  
 interface FastEthernet1/1  
 ip address 10.23.98.158 255.255.255.248

R7#  
 interface FastEthernet1/0  
 ip address 10.88.31.127 255.255.255.240

R8#  
 interface FastEthernet0/0  
 ip address 10.19.63.95 255.255.255.192

R9#  
 interface FastEthernet1/1  
 ip address 10.23.98.159 255.255.255.248

R7#  
 interface FastEthernet1/0  
 ip address 10.88.31.126 255.255.255.192

R8#  
 interface FastEthernet0/0  
 ip address 10.19.63.94 255.255.255.240

R9#  
 interface FastEthernet1/1  
 ip address 10.23.98.158 255.255.255.224

R7#  
 interface FastEthernet1/0  
 ip address 10.88.31.127 255.255.255.192

R8#  
 interface FastEthernet0/0  
 ip address 10.19.63.95 255.255.255.240

R9#  
 interface FastEthernet1/1  
 ip address 10.23.98.159 255.255.255.224

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Question No : 550 - (Topic 3)**

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.254 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.254, Serial0/0/1
    is directly connected, Serial0/0/1
    172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
C     172.16.1.0/24 is directly connected, FastEthernet0/0
L     172.16.1.1/32 is directly connected, FastEthernet0/0
R     172.16.2.0/24 [120/2] via 207.165.200.250, 00:00:25, Serial0/0/0
O     192.168.1.0/24 [110/4437] via 207.165.200.254, 00:00:17, Serial0/0/1
D     192.168.2.0/24 [90/84437] via 207.165.200.254, 00:00:15, Serial0/0/1
    207.165.200.0/24 is variably subnetted, 5 subnets, 2 masks
S     207.165.200.244/30 [1/1] via 207.165.200.254, Serial0/0/1
C     207.165.200.248/30 is directly connected, Serial0/0/0
L     207.165.200.249/32 is directly connected, Serial0/0/0
C     207.165.200.252/30 is directly connected, Serial0/0/1
L     207.165.200.253/32 is directly connected, Serial0/0/1
```

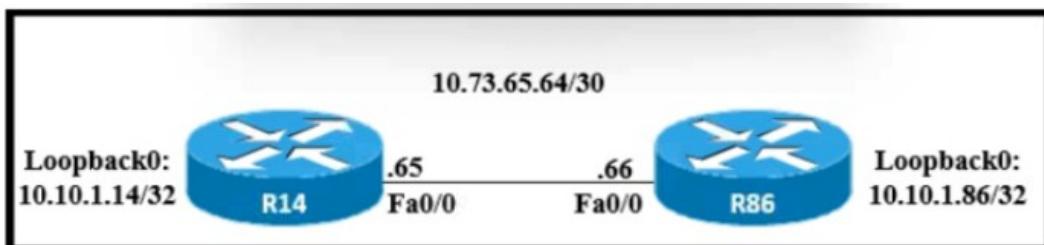
Which network prefix was learned via EIGRP?

- A. 172.16.0.0/16
- B. 192.168.2.0/24
- C. 207.165.200.0/24
- D. 192.168.1.0/24

**Answer: B**

### Question No : 551 - (Topic 3)

Refer to the exhibit.



A static route must be configured on R14 to forward traffic for the 172.21.34.0/25 network that resides on R86. Which command must be used to fulfill the request?

- A. ip route 172.21.34.0 255.255.255.192 10.73.65.65
- B. ip route 172.21.34.0 255.255.255.0 10.73.65.65
- C. ip route 172.21.34.0 255.255.128.0 10.73.65.64
- D. ip route 172.21.34.0 255.255.255.128 10.73.65.66

**Answer: D**

### Question No : 552 - (Topic 3)

Refer to the exhibit.

```
Switch2# show lldp
Global LLDP Information
  Status: ACTIVE
  LLDP advertisements are sent every 30 seconds
  LLDP hold time advertised is 120 seconds
  LLDP interface reinitialization delay is 2 seconds
```

A network engineer must update the configuration on Switch2 so that it sends LLDP packets every minute and the information sent via LLDP is refreshed every 3 minutes. Which configuration must the engineer apply?

A)

```
Switch2(config)#lldp timer 60
Switch2(config)#lldp holdtime 180
```

B)

```
Switch2(config)#lldp timer 60
Switch2(config)#lldp tlv-select 180
```

C)

```
Switch2(config)#lldp timer 1
Switch2(config)#lldp holdtime 3
```

D)

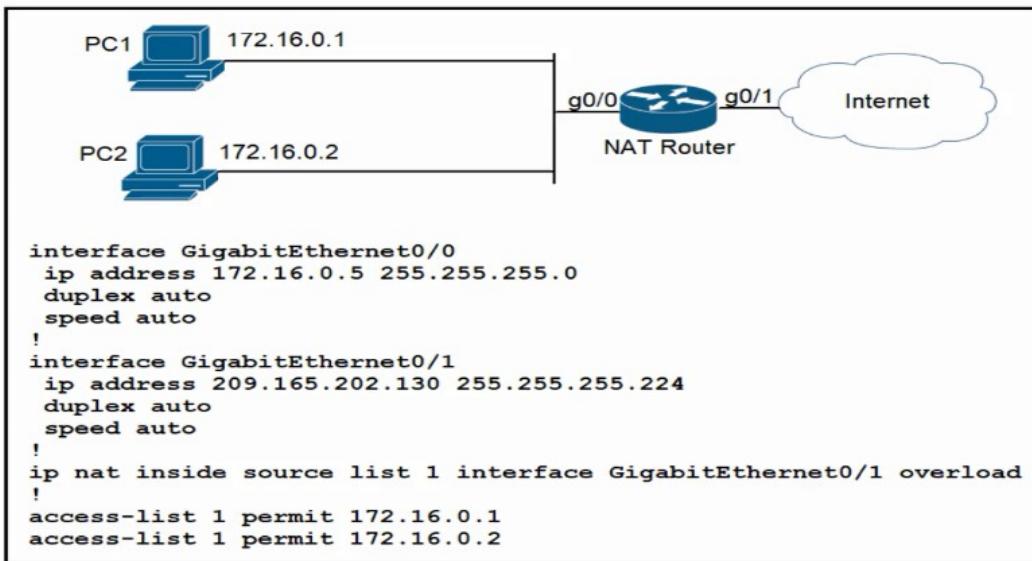
```
Switch2(config)#lldp timer 1
Switch2(config)#lldp tlv-select 3
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: A**

### **Question No : 553 - (Topic 3)**

Refer to the exhibit.

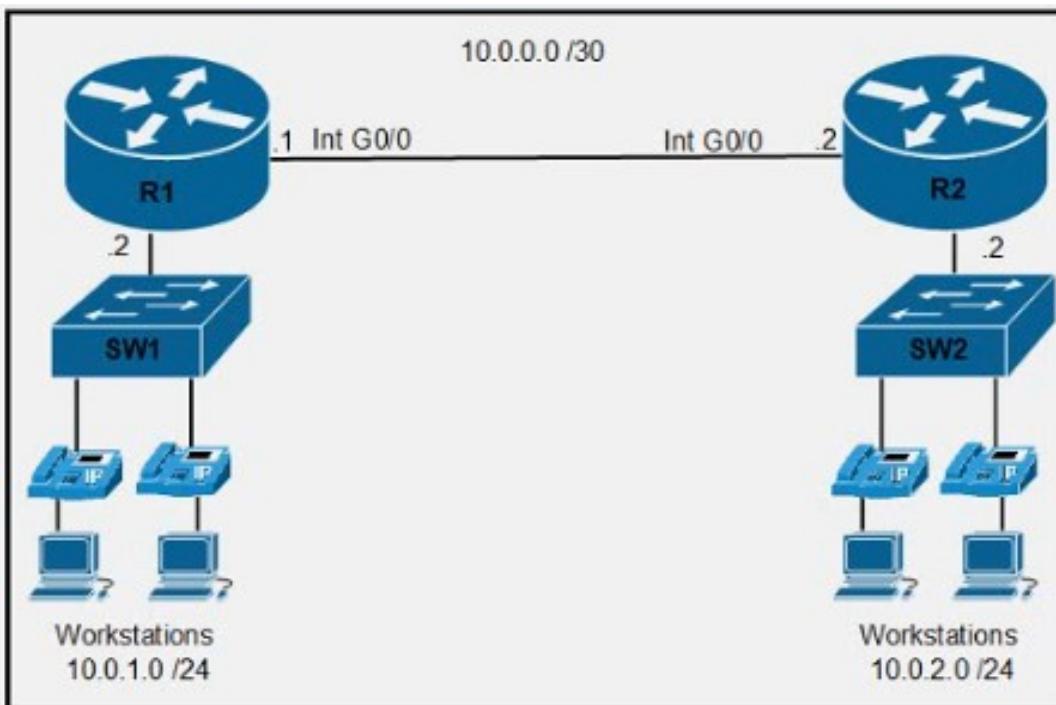


How should the configuration be updated to allow PC1 and PC2 access to the Internet?

- A. Modify the configured number of the second access list.
  - B. Add either the ip nat {inside|outside} command under both interfaces.
  - C. Remove the overload keyword from the ip nat inside source command.
  - D. Change the ip nat inside source command to use interface GigabitEthernet0/0.

**Answer:** B

**Question No : 554 - (Topic 3)**



Refer to the exhibit. An engineer is asked to configure router R1 so that it forms an OSPF single-area neighbor relationship with R2. Which command sequence must be implemented to configure the router?

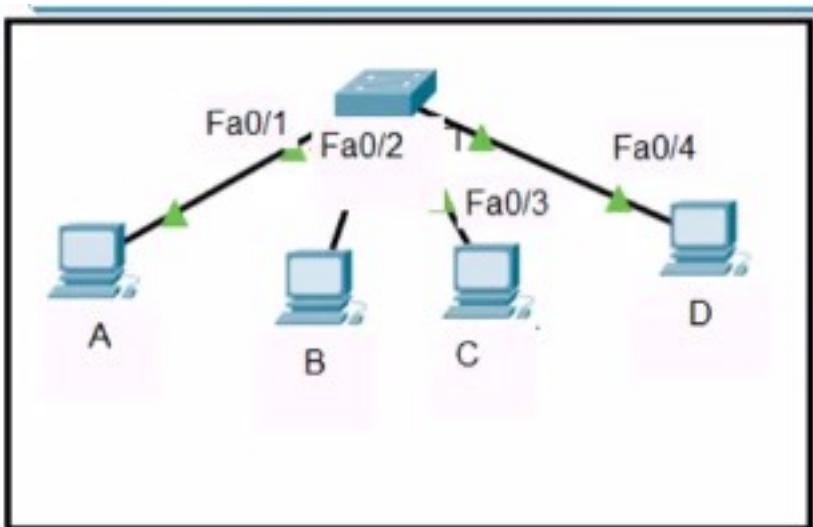
- router ospf 10  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.2.0 0.0.0.255 area 0
- router ospf 10  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.1.0 0.0.0.255 area 0
- router ospf 100  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.2.0 255.255.255.0 area 0
- router ospf 100  
network 10.0.0.0 0.0.0.252 area 0  
network 10.0.1.0 0.0.0.255 area 0

- A. Option A  
 B. Option B  
 C. Option C  
 D. Option D

**Answer: B**

**Question No : 555 - (Topic 3)**

Refer to the exhibit.



Host A sent a data frame destined for host D

SwitchA#show mac-address table

Mac Address Table

Vlan	Mac Address	Type	Ports
2	000c.859c.bb7b	DYNAMIC	Fa0/1
2	0010.11dc.3e91	DYNAMIC	Fa0/2
2	0041.45d7.c451	DYNAMIC	Fa0/3

SwitchA#

What does the switch do when it receives the frame from host A?

- A. It drops the frame from the switch CAM table.
- B. It floods the frame out of all ports except port Fa0/1.
- C. It shuts down the port Fa0/1 and places it in err-disable mode.
- D. It experiences a broadcast storm.

**Answer: B**

**Question No : 556 - (Topic 3)**

Refer to the exhibit.

EIGRP	10.10.10.0/24 [90/1441]	via	F0/10
EIGRP	10.10.10.0/24 [90/144]	via	F0/11
EIGRP	10.10.10.0/24 [90/1441]	via	F0/12
OSPF	10.10.10.0/24 [110/20]	via	F0/13
OSPF	10.10.10.0/24 [110/30]	via	F0/14

Packets received by the router from BGP enter via a serial interface at 209.165.201.10. Each route is present within the routing table. Which interface is used to forward traffic with a destination IP of 10.10.10.24?

- A. F0/10
- B. F0/11
- C. F0/12
- D. F0/13

**Answer: B**

**Question No : 557 CORRECT TEXT - (Topic 3)**

Drag and drop the functions of SNMP fault-management from the left onto the definitions on the right.

**Answer:** see the answer below image.

**Explanation:**

event correlation and aggregation

fault detection

fault diagnosis and isolation

problem resolution

restoration of service

Table

Description automatically generated

**Question No : 558 - (Topic 3)**

Which QoS queuing method discards or marks packets that exceed the desired bit rate of traffic flow?

- A. shaping
- B. policing
- C. CBWFQ
- D. LLQ

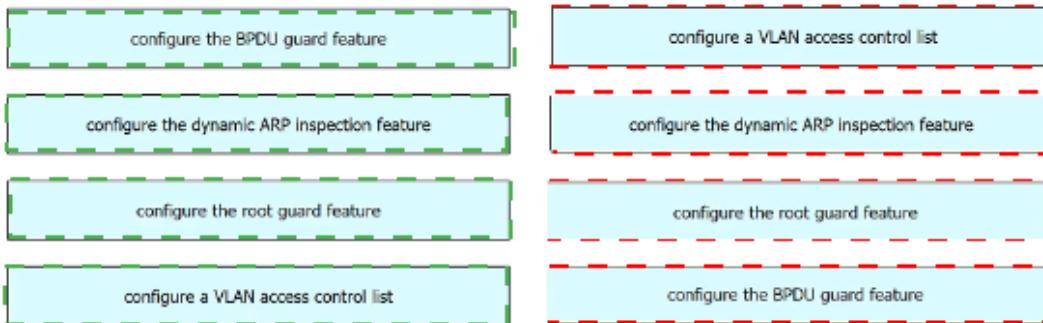
**Answer: B**

**Question No : 559 DRAG DROP - (Topic 3)**

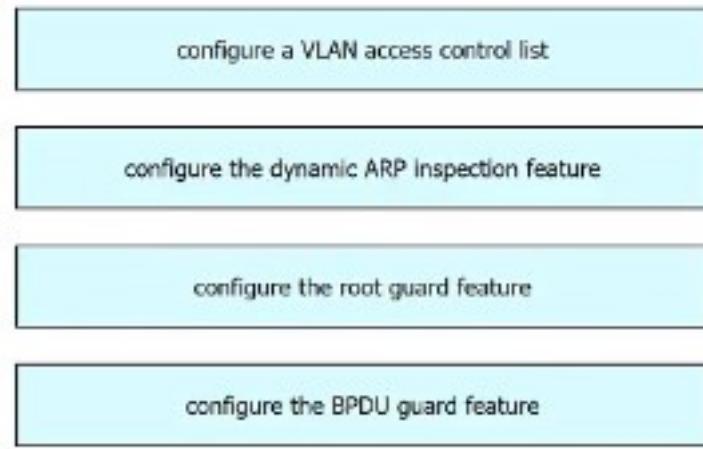
Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.



**Answer:**



**Explanation:**



Graphical user interface, text, application, email

Description automatically generated

**Question No : 560 - (Topic 3)**

An engineer has configured the domain name, user name, and password on the local router. What is the next step to complete the configuration for a Secure Shell access RSA key?

- A. crypto key Import rsa pem
- B. crypto key pubkey-chain rsa
- C. crypto key generate rsa
- D. crypto key zeroize rsa

**Answer: C**

**Question No : 561 - (Topic 3)**

A Cisco engineer is configuring a factory-default router with these three passwords:

- The user EXEC password for console access is p4ssw0rd1
- The user EXEC password for Telnet access is s3cr3t2
- The password for privileged EXEC mode is pnv4t3p4ss Which command sequence must the engineer configured

A)

```
enable secret priv4t3p4ss
!
line con 0
password login p4ssw0rd1
!
line vty 0 15
password login s3cr3t2
login
```

B)

```
enable secret privilege 15 priv4t3p4ss
!
line con 0
password p4ssw0rd1
login
!
line vty 0 15
password s3cr3t2
login
```

C)

```
enable secret priv4t3p4ss
!
line con 0
password p4ssw0rd1
login
!
line vty 0 15
password s3cr3t2
login
```

D)

```
enable secret priv4t3p4ss
!
line con 0
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: B**

**Question No : 562 - (Topic 3)**

What is a feature of WPA?

- A. 802.1x authentication
- B. preshared key
- C. TKIP/MIC encryption
- D. small Wi-Fi application

**Answer: A**

**Question No : 563 - (Topic 3)**

Refer to the exhibit.

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate
default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C 192.168.3.5 is directly connected, Loopback0
      10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
O     10.0.1.3/32 [110/100] via 192.168.0.40, 00:39:08, Serial0
C     10.0.1.0/24 is directly connected, Serial0
O     10.0.1.190/32 [110/5] via 192.168.0.35, 00:39:08, Serial0
O     10.0.1.0/24 [110/10] via 192.168.0.4, 00:39:08, Gigabit Ethernet 0/0
D     10.0.1.0/28 [90/10] via 192.168.0.7, 00:39:08, Gigabit Ethernet 0/0
```

Traffic sourced from the loopback0 Interface is trying to connect via ssh to the host at 10.0.1.15. What is the next hop to the destination address?

- A. 192.168.0.7
- B. 192.168.0.4
- C. 192.168.0.40
- D. 192.168.3.5

**Answer: B**

#### **Question No : 564 - (Topic 3)**

How does Rapid PVST+ create a fast loop-free network topology?

- A. It requires multiple links between core switches
- B. It generates one spanning-tree instance for each VLAN
- C. It maps multiple VLANs into the same spanning-tree instance
- D. It uses multiple active paths between end stations.

**Answer: A**

#### **Question No : 565 - (Topic 3)**

Which PoE mode enables powered-device detection and guarantees power when the device is detected?

- A. dynamic
- B. static
- C. active
- D. auto

**Answer: B**

**Question No : 566 - (Topic 3)**

Refer to the exhibit.

The screenshot shows a configuration interface for a Cisco Wireless Controller. It includes sections for 'Protected Management Frame' (Fast Transition set to Disable, PMF set to Disabled), 'WPA+WPA2 Parameters' (WPA Policy is unchecked, WPA2 Policy is checked, WPA2 Encryption includes AES, TKIP, CCMP256, GCMP128, and GCMP256), and 'Authentication Key Management' (802.1X, CCKM, PSK, FT 802.1X, and FT PSK all have their 'Enable' checkboxes checked).

Users need to connect to the wireless network with IEEE 802.11r-compatible devices. The connection must be maintained as users travel between floors or to other areas in the building. What must be the configuration of the connection?

- A. Select the WPA Policy option with the CCKM option.
- B. Disable AES encryption.
- C. Enable Fast Transition and select the FT 802.1x option.
- D. Enable Fast Transition and select the FT PSK option.

**Answer: C**

**Question No : 567 - (Topic 3)**

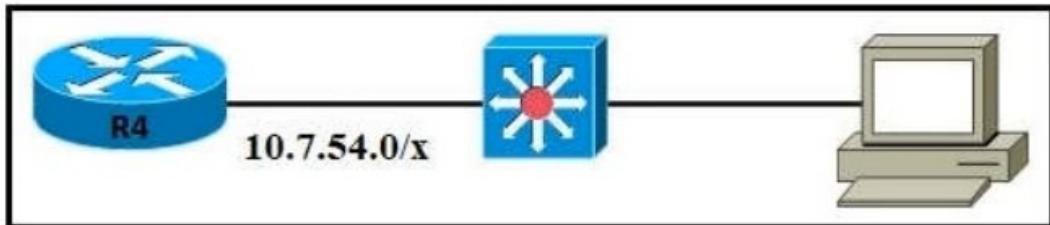
What is the MAC address used with VRRP as a virtual address?

- A. 00-00-0C-07-AD-89
- B. 00-00-5E-00-01-0a
- C. 00-07-C0-70-AB-01
- D. 00-C6-41-93-90-91

Answer: B

**Question No : 568 - (Topic 3)**

Refer to the exhibit.



The router has been configured with a supernet to accommodate the requirement for 380 users on a subnet. The requirement already considers 30% future growth. Which configuration verifies the IP subnet on router R4?

A)

Subnet: 10.7.54.0

Subnet mask: 255.255.254.0

Broadcast address: 10.7.54.255

Usable IP address range: 10.7.54.1 - 10.7.55.254

B)

Subnet: 10.7.54.0

Subnet mask: 255.255.254.0

Broadcast address: 10.7.55.255

Usable IP address range: 10.7.54.1 - 10.7.55.254

C)

Subnet: 10.7.54.0

Subnet mask: 255.255.128.0

Broadcast address: 10.7.55.255

Usable IP address range: 10.7.54.1 - 10.7.55.254

D)

Subnet: 10.7.54.0

Subnet mask: 255.255.255.0

Broadcast address: 10.7.54.255

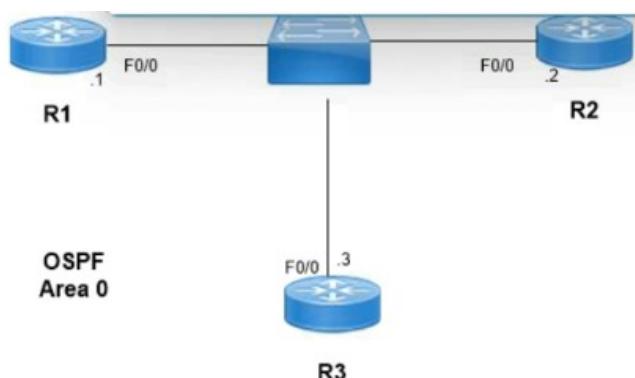
Usable IP address range: 10.7.54.1 - 10.7.55.254

- A. Option A
- B. Option B**
- C. Option C
- D. Option D

**Answer: B**

**Question No : 569 - (Topic 3)**

Refer to the exhibit.



```

R1#show ip ospf neighbor
Neighbor ID      Pri   State          Dead Time     Address           Interface
192.168.100.2    1     FULL/BDR      00:00:32      192.168.100.2  FastEthernet0/0
192.168.100.3    1     FULL/DR       00:00:31      192.168.100.3  FastEthernet0/0
  
```

Which two configurations must the engineer apply on this network so that R1 becomes the DR? (Choose two.)

A)

```

| R1(config)#router ospf 1
| R1(config-router)#router-id 192.168.100.1
  
```

B)

```

R1(config)#interface fastethernet 0/0
R1(config-if)#ip ospf priority 200
  
```

C)

```
R3(config)#interface fastethernet 0/0
R3(config-if)#ip ospf priority 0
```

D)

```
R1(config)#interface fastethernet 0/0
R1(config-if)#ip ospf priority 0
```

E)

```
R3(config)#interface fastethernet 0/0
R3(config-if)#ip ospf priority 200
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D
- E. Option E

**Answer: B,C**

**Question No : 570 - (Topic 3)**

R1 as an NTP server must have:

- NTP authentication enabled
- NTP packets sourced from Interface loopback 0
- NTP stratum 2
- NTP packets only permitted to client IP 209.165 200 225

How should R1 be configured?

A)

```
ntp authenticate
ntp authentication-key 2 md5 CISCO123
ntp source Loopback0
nntp access-group server-only 10
ntp master 2
!
access-list 10 permit 209.165.200.225
```

B)

```
ntp authenticate
ntp authentication-key 2 md5 CISCO123
ntp source Loopback0
ntp access-group server-only 10
ntp stratum 2
!
access-list 10 permit udp host 209.165.200.225 any eq 123
```

C)

```
ntp authenticate
ntp authentication-key 2 sha1 CISCO123
ntp source Loopback0
ntp access-group server-only 10
ntp master 2
!
access-list 10 permit udp host 209.165.200.225 any eq 123
```

D)

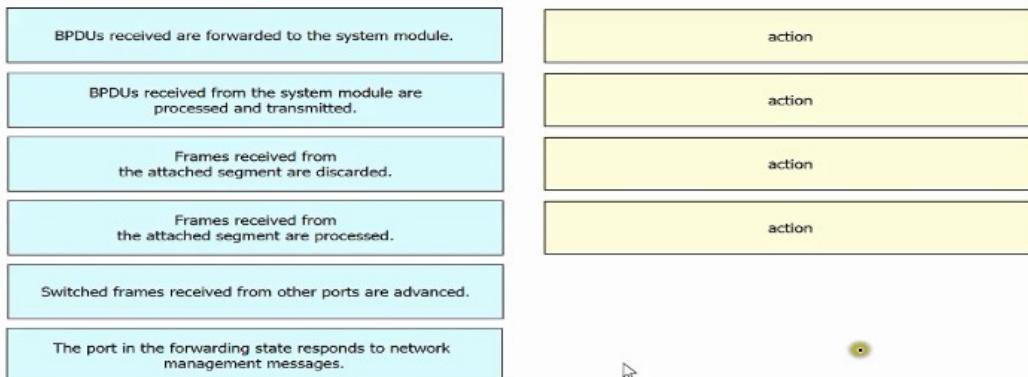
```
ntp authenticate
ntp authentication-key 2 md5 CISCO123
ntp interface Loopback0
nntp access-group server-only 10
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

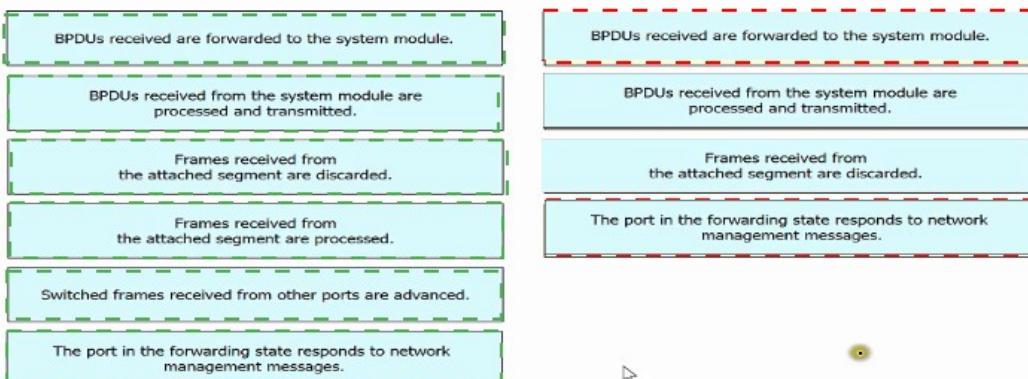
Answer: B

Question No : 571 DRAG DROP - (Topic 3)

Drag and drop the Rapid PVST+ forwarding slate actions from the left to the right. Not all actions are used.



**Answer:**



### Question No : 572 - (Topic 3)

What provides centralized control of authentication and roaming In an enterprise network?

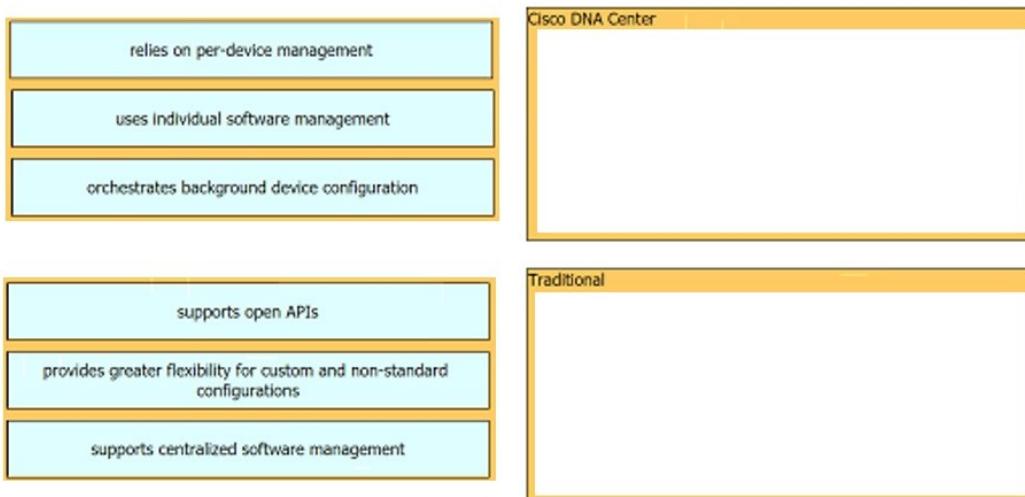
- A. a lightweight access point
- B. a firewall
- C. a wireless LAN controller
- D. a LAN switch

**Answer: C**

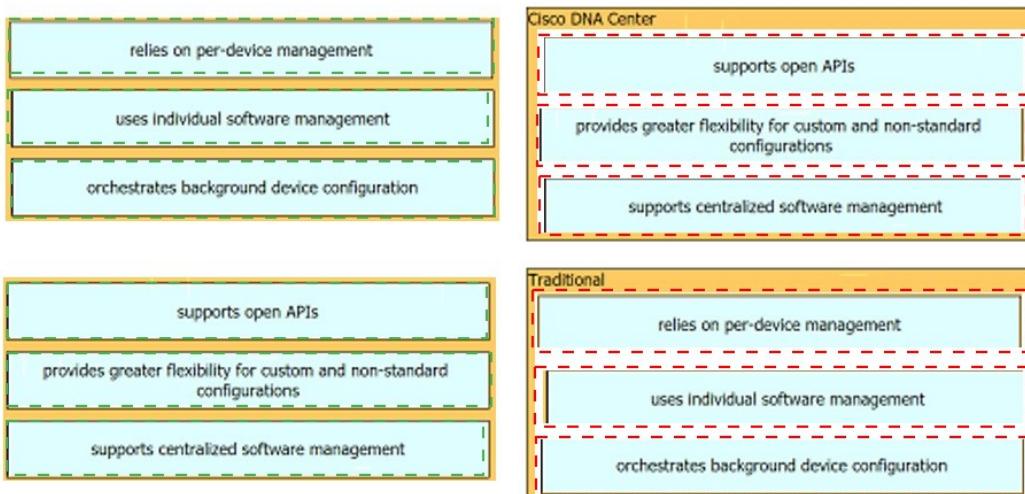
### Question No : 573 DRAG DROP - (Topic 3)

Drag and drop each characteristic of device-management technologies from the left onto

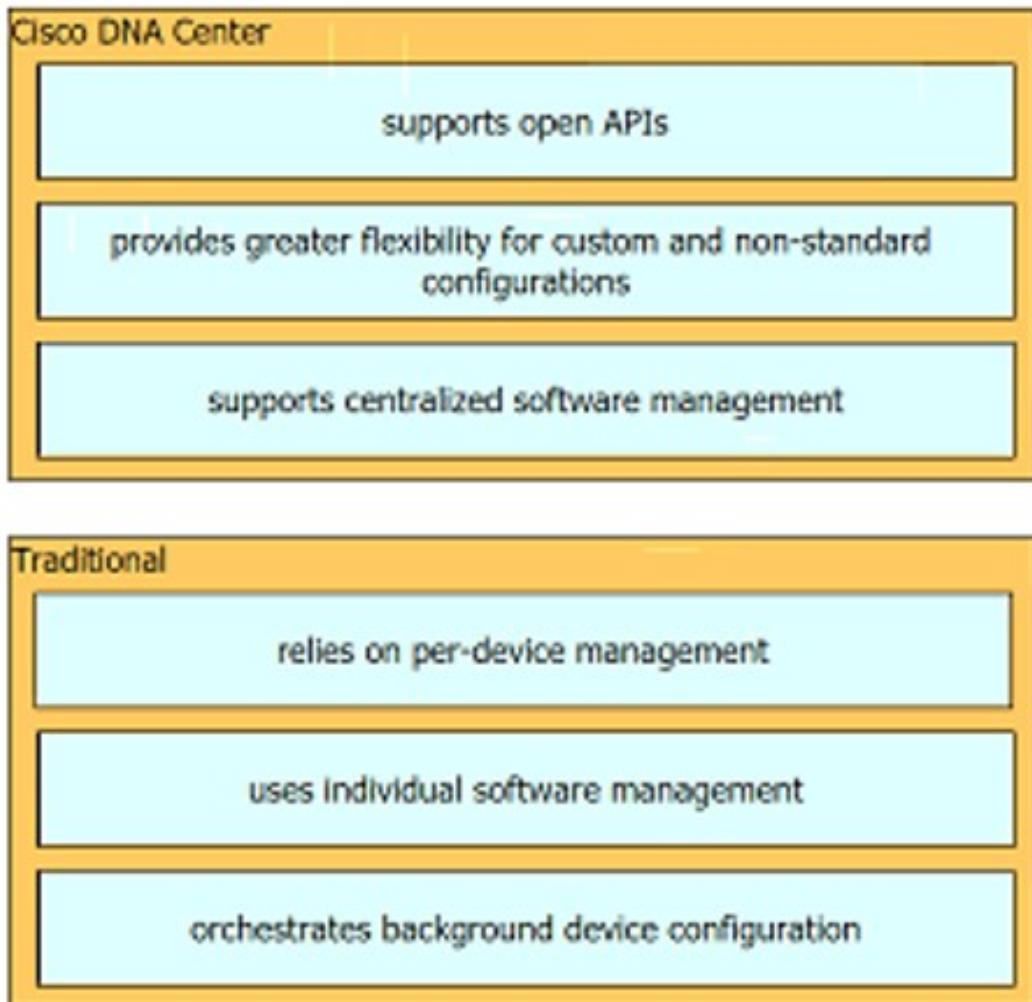
the deployment type on the right.



### Answer:



### Explanation:



A picture containing diagram

Description automatically generated

**Question No : 574 - (Topic 3)**

Which Layer 2 switch function encapsulates packets for different VLANs so that the packets traverse the same port and maintain traffic separation between the VLANs?

- A. VLAN numbering
- B. VLAN DSCP
- C. VLAN tagging
- D. VLAN marking

Answer: C

**Question No : 575 - (Topic 3)**

What is a requirement for nonoverlapping Wi-Fi channels?

- A. different security settings
- B. discontinuous frequency ranges
- C. different transmission speeds
- D. unique SSIDs

Answer: B

**Question No : 576 - (Topic 3)**

Refer to the exhibit.



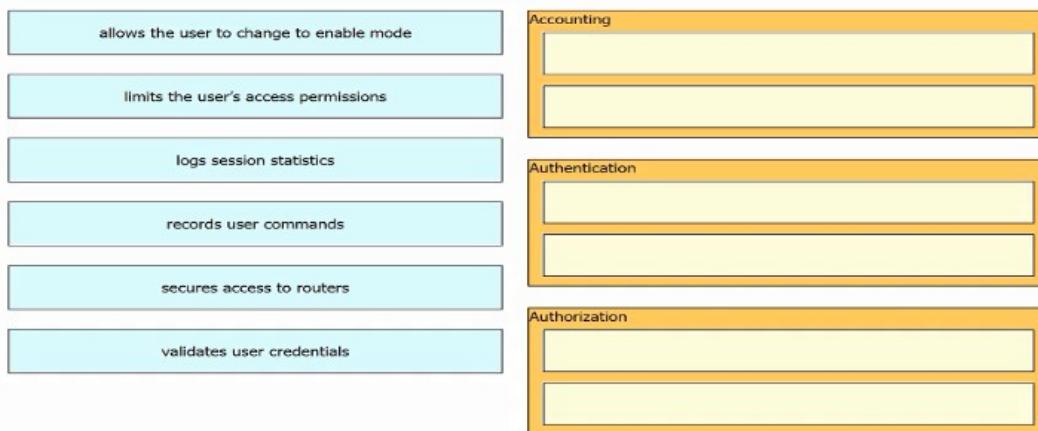
What are the two steps an engineer must take to provide the highest encryption and authentication using domain credentials from LDAP?

- A. Select PSK under Authentication Key Management
- B. Select WPA+WPA2 on Layer 2 Security
- C. Select Static-WEP + 802.1X on Layer 2 Security
- D. Select WPA Policy with TKIP Encryption
- E. Select 802.1X from under Authentication Key Management

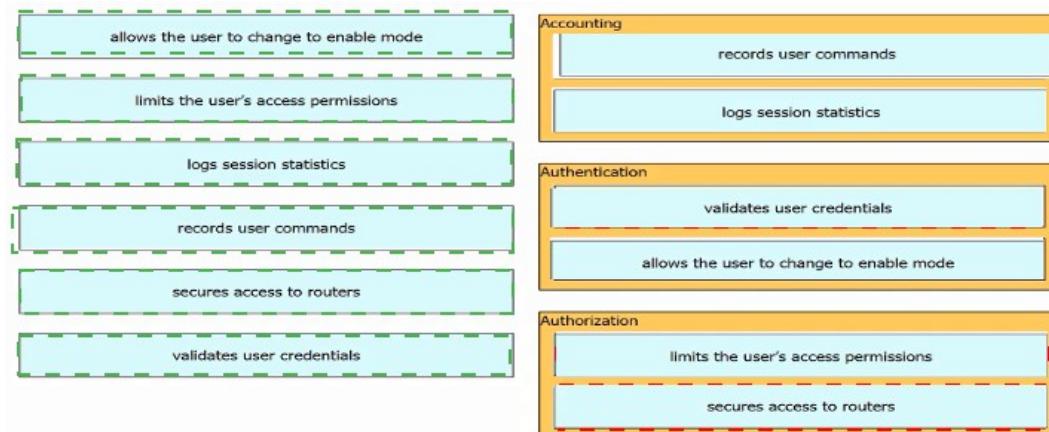
**Answer: B,E**

**Question No : 577 DRAG DROP - (Topic 3)**

Drag and drop the descriptions of AAA services from the left onto the corresponding services on the right.



**Answer:**



**Question No : 578 - (Topic 3)**

What are two benefits of FHRPs? (Choose two.)

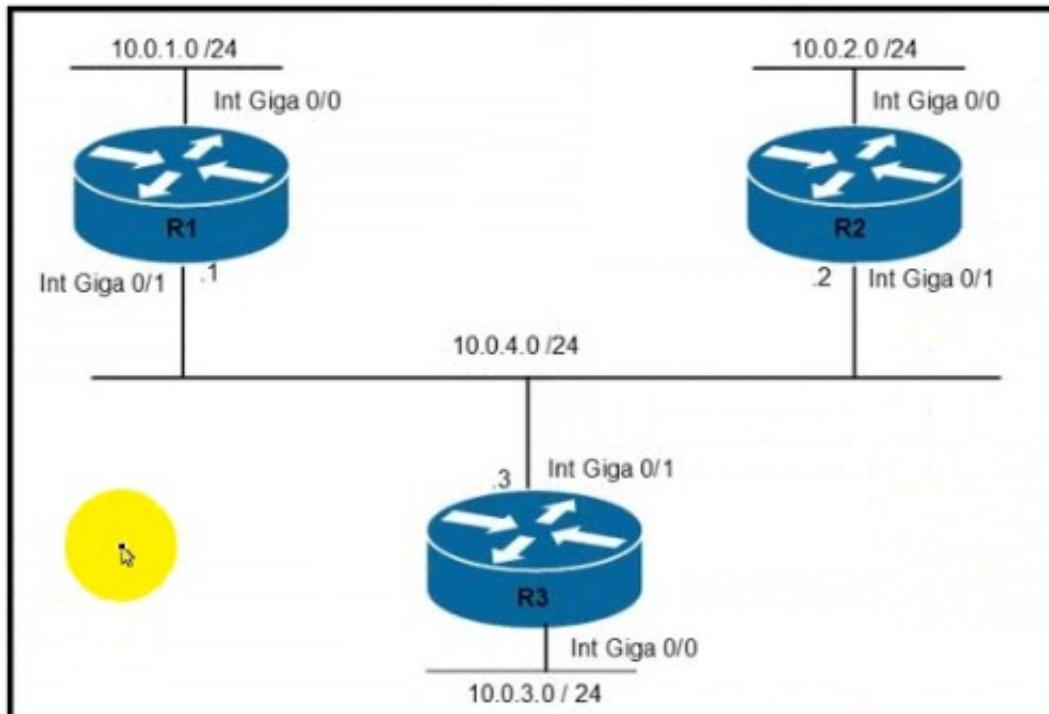
- A. They enable automatic failover of the default gateway.
- B. They allow multiple devices to serve as a single virtual gateway for clients in the network.
- C. They are able to bundle multiple ports to increase bandwidth.
- D. They prevent loops in the Layer 2 network.

- E. They allow encrypted traffic.

**Answer: A,B**

**Question No : 579 - (Topic 3)**

Refer to the exhibit.



Router R1 must be configured to reach the 10.0.3.0/24 network from the 10.0.1.0/24 segment.

Which command must be used to configure the route?

- A. ip route 10.0.3.0 0.255255.255 10.0.4.2
- B. route add 10.0.3.0 mask 255.255.255.0 10.0.4.3
- C. Ip route 10.0.3.0 255.255.255.0 10.0.4.3
- D. route add 10.0.3.0 0.255.255.255 10.0.4.2

**Answer: C**

**Question No : 580 - (Topic 3)**

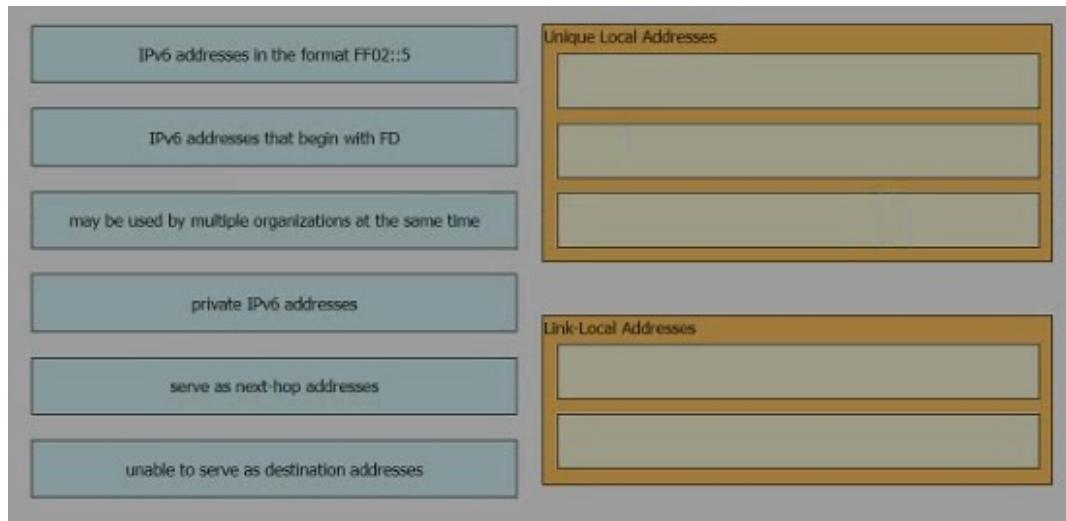
A network engineer is replacing the switches that belong to a managed-services client with new Cisco Catalyst switches. The new switches will be configured for updated security standards, including replacing Telnet services with encrypted connections and doubling the modulus size from 1024. Which two commands must the engineer configure on the new switches? (Choose two.)

- A. crypto key generate rsa general-keys modulus 1024
- B. transport input all
- C. crypto key generate rsa usage-keys
- D. crypto key generate rsa modulus 2048
- E. transport Input ssh

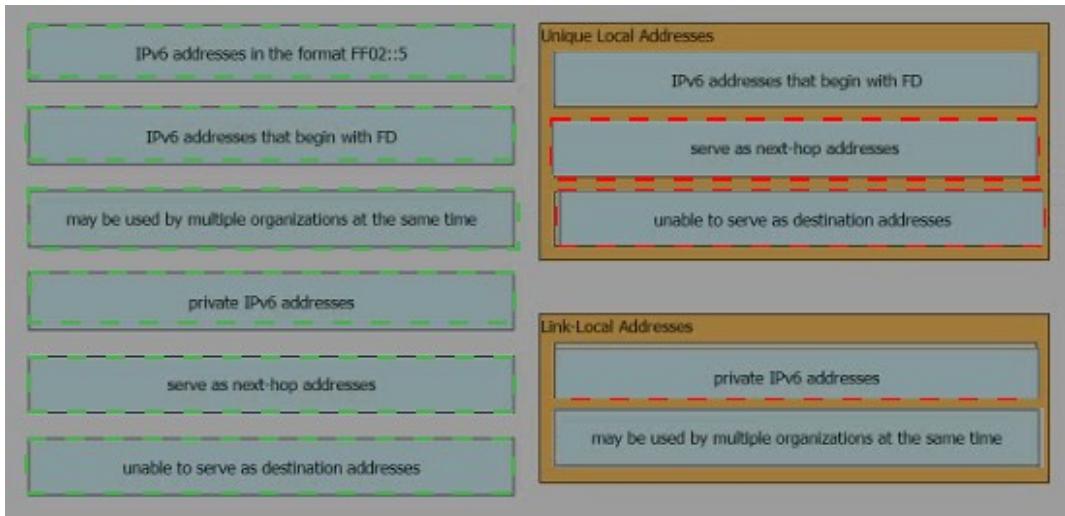
**Answer:** A,E

**Question No : 581 DRAG DROP - (Topic 3)**

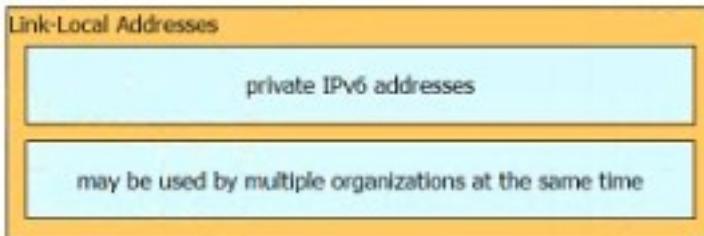
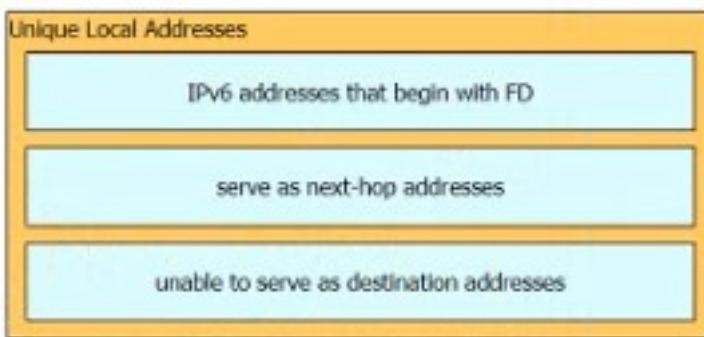
Drag and drop the IPv6 address description from the left onto the IPv6 address types on the right. Not all options are used.



**Answer:**



### Explanation:

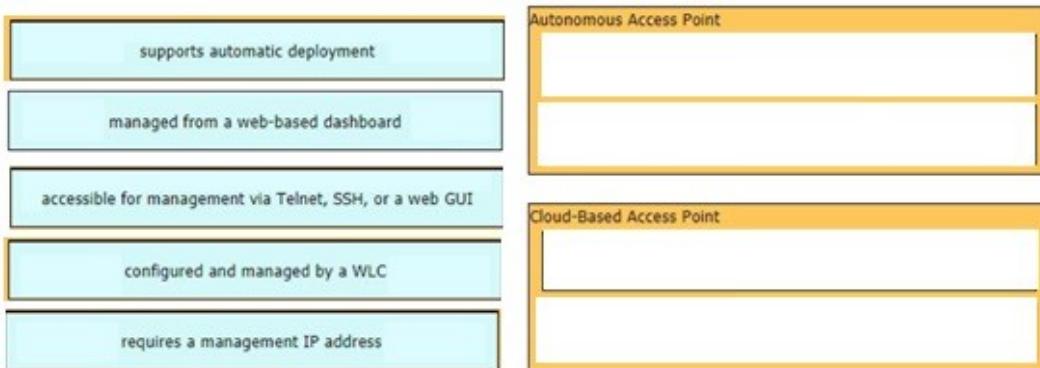


Graphical user interface, application

Description automatically generated

### Question No : 582 DRAG DROP - (Topic 3)

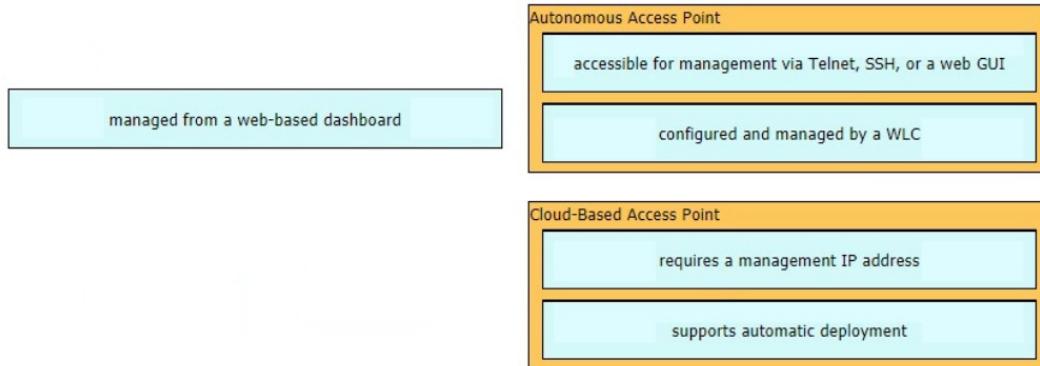
Drag and drop the facts about wireless architectures from the left onto the types of access point on the right. Not all options are used.



**Answer:**



**Explanation:**



**Diagram**

Description automatically generated

**Question No : 583 - (Topic 3)**

Which type of network attack overwhelms the target server by sending multiple packets to a port until the half-open TCP resources of the target are exhausted?

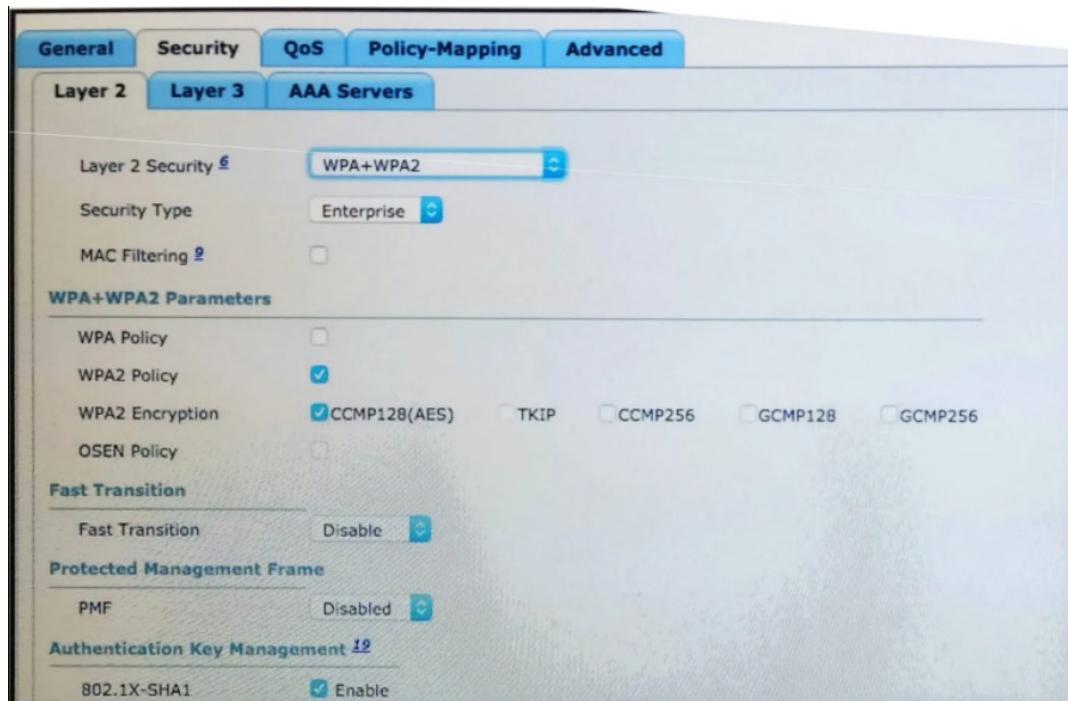
- A. SYNFlood

- B. reflection
- C. teardrop
- D. amplification

**Answer: A**

**Question No : 584 - (Topic 3)**

Refer to the exhibit.



What must be configured to enable 802.11w on the WLAN?

- A. Set PMF to Required.
- B. Enable MAC Filtering.
- C. Enable WPA Policy.
- D. Set Fast Transition to Enabled

**Answer: A**

**Question No : 585 - (Topic 3)**

Which characteristic differentiates the concept of authentication from authorization and

accounting?

- A. user-activity logging
- B. service limitations
- C. consumption-based billing
- D. identity verification

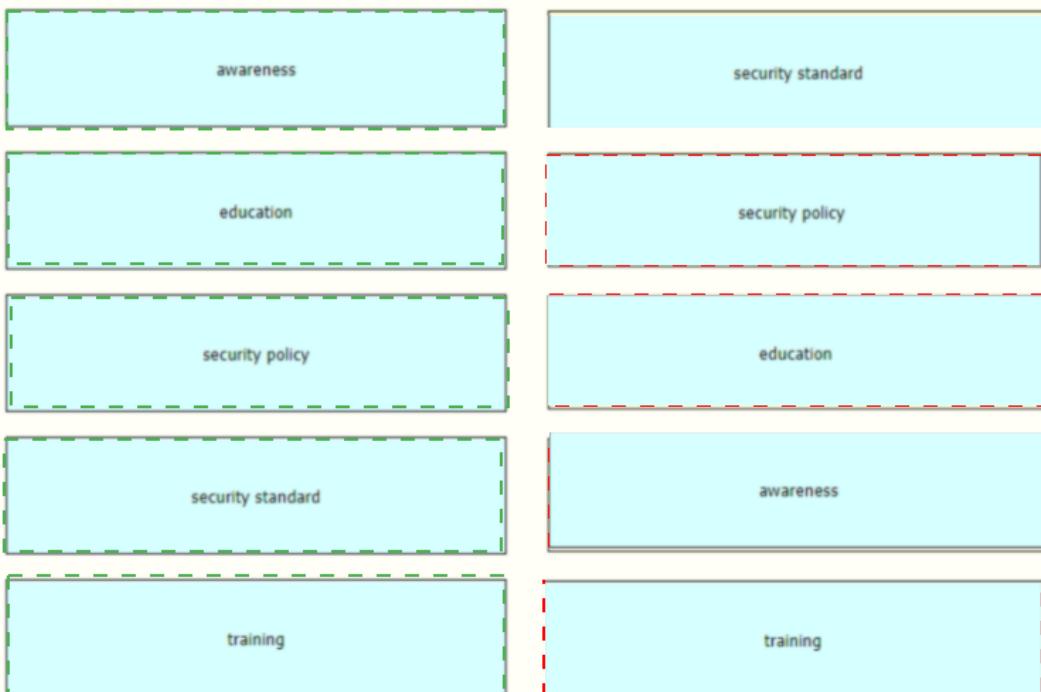
**Answer: D**

**Question No : 586 DRAG DROP - (Topic 3)**

Drag and drop the elements of a security program from the left onto the corresponding descriptions on the right



**Answer:**



**Explanation:**

awareness	document that outlines an organization's security goals and practices and the roles and responsibilities of the organization's personnel	Security Standard
education	tactical document that sets out specific tasks and methods to maintain security	Security Policy
security policy	user-awareness learning level that focuses on learning about topics and practices beyond what is typically required by the user's job	Education
security standard	user-awareness learning level that focuses on security practices that all employees must understand and enforce	Awareness
training	user-awareness learning level that focuses on teaching employees how to perform tasks specifically required by their jobs	Training

**Diagram**

Description automatically generated

<https://www.ciscopress.com/articles/article.asp?p=1998559&seqNum=3>

**Question No : 587 - (Topic 3)**

What is the collapsed layer in collapsed core architectures?

- A. core and WAN
- B. access and WAN
- C. distribution and access
- D. core and distribution

**Answer: D**

**Question No : 588 - (Topic 3)**

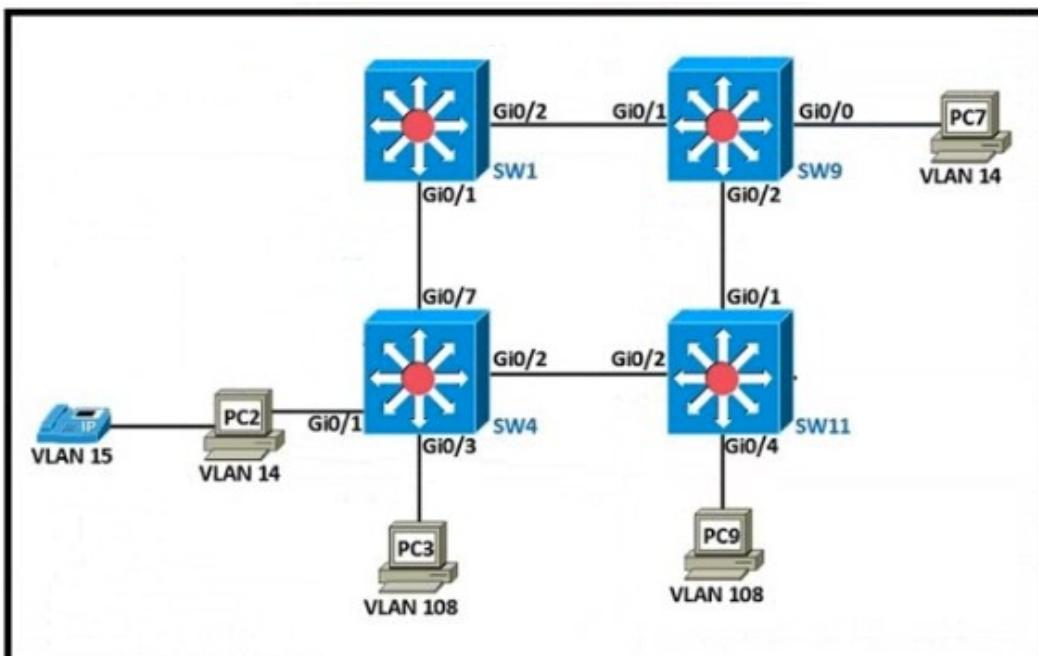
Which QoS per-hop behavior changes the value of the ToS field in the IPv4 packet header?

- A. shaping
- B. classification
- C. policing
- D. marking

**Answer: D**

**Question No : 589 - (Topic 3)**

Refer to the exhibit.



The following must be considered:

- SW1 is fully configured for all traffic
- The SW4 and SW9 links to SW1 have been configured
- The SW4 interface Gi0/1 and Gi0/0 on SW9 have been configured
- The remaining switches have had all VLANs added to their VLAN database

Which configuration establishes a successful ping from PC2 to PC7 without interruption to traffic flow between other PCs?

A)

SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14

SW11#  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14

SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 108

B)

SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14

SW11#  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14

SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 108

C)

● SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14,108

SW11#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14,108  
!  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14,108

SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14

D)

● SW4#  
interface Gi0/2  
switchport mode access  
switchport access vlan 14

SW11#  
interface Gi0/2  
switchport mode access  
switchport access vlan 14  
!  
interface Gi0/0  
switchport mode access  
switchport access vlan 14  
!  
interface Gi0/1  
switchport mode trunk

SW9#  
interface Gi0/2  
switchport mode access  
switchport access vlan 14

- A. Option A
- B. Option B
- C. Option C
- D. Option D

**Answer: C**

**Question No : 590 - (Topic 3)**

Refer to the exhibit.

```
A# show ip ospf neighbor
Neighbor ID  Pri  State          Dead Time  Address      Interface
172.1.1.1    1    EXCHANGE/ - 00:00:36  172.16.32.1  Serial0.1
```

An engineer assumes a configuration task from a peer Router A must establish an OSPF neighbor relationship with neighbor 172.1.1.1. The output displays the status of the adjacency after 2 hours. What is the next step in the configuration process for the routers to establish an adjacency?

- A. Configure router A to use the same MTU size as router B.
- B. Set the router B OSPF ID to a nonhost address.
- C. Configure a point-to-point link between router A and router B.
- D. Set the router B OSPF ID to the same value as its IP address

**Answer: B**

#### **Question No : 591 - (Topic 3)**

Why would VRRP be implemented when configuring a new subnet in a multivendor environment?

- A. when a gateway protocol is required that supports more than two Cisco devices for redundancy
- B. to enable normal operations to continue after a member failure without requiring a change in a host ARP cache
- C. to ensure that the spanning-tree forwarding path to the gateway is loop-free
- D. to interoperate normally with all vendors and provide additional security features for Cisco devices

**Answer: A**

#### **Question No : 592 - (Topic 3)**

Refer to the exhibit.

```

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix :
Description . . . . . : Realtek PCIe GBE Family
Controller
Physical Address. . . . . : 3C-52-82-33-F3-8F
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . : Yes

Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix : arcep.se
Description . . . . . : Intel(R) Dual Band
Wireless-AC 7265
Physical Address. . . . . : C8-21-58-B4-F3-EF
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . : Yes
Link-local IPv6 Address . . . : fe80::45a1:b3fa:2f37:bf37%2 (Preferred)
IPv4 Address. . . . . : 192.168.1.226(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : October 3, 2019 12:28:08 PM
Lease Expires . . . . . : October 3, 2019 7:18:37 PM
Default Gateway . . . . . : 192.168.1.100
DHCP Server . . . . . : 192.168.1.254
DHCPv6 IAID . . . . . : 46670168
DHCPv6 Client DUID. . . . . : 00-01-00-01-20-FF-05-55-3C-52-82-33-D3-84
DNS Servers . . . . . : 192.168.1.253
NetBIOS over Tcpip. . . . . : Enabled
Connection-specific DNS Suffix Search List :
arcep.se

```

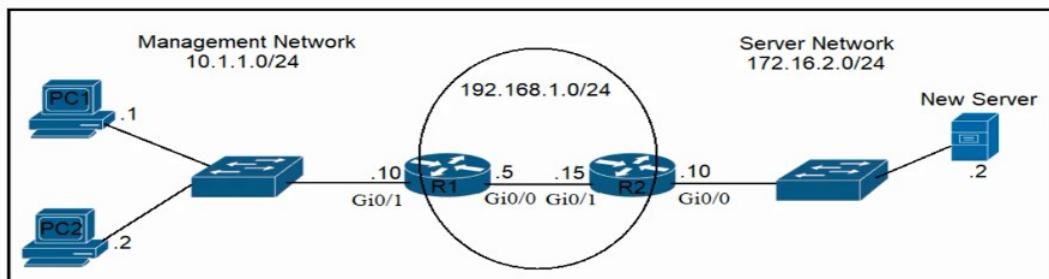
The given Windows PC is requesting the IP address of the host at [www.cisco.com](http://www.cisco.com). To which IP address is the request sent?

- A. 192.168.1.226
- B. 192.168.1.100
- C. 192.168.1.254
- D. 192.168.1.253

**Answer: D**

### Question No : 593 - (Topic 3)

Refer to the exhibit.



An engineer is updating the R1 configuration to connect a new server to the management network. The PCs on the management network must be blocked from pinging the default gateway of the new server. Which command must be configured on R1 to complete the

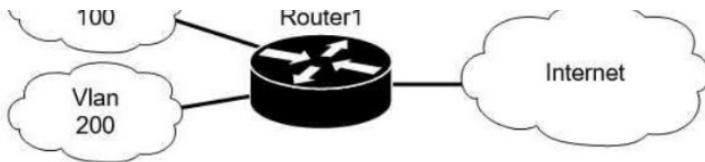
task?

- A. R1(config)#ip route 172.16.2.2 255.255.255.248 gi0/1
- B. R1(config)#jp route 172.16.2.2 255.255.255.255 gi0/0
- C. R1(config)>#ip route 172.16.2.0 255.255.255.0 192.168.1.15
- D. R1(config)#ip route 172.16.2.0 255.255.255.0 192.168.1.5

**Answer: C**

**Question No : 594 - (Topic 3)**

Refer to the exhibit.



```

Router1(config)#interface GigabitEthernet0/0
Router1(config-if)#ip address 209.165.200.225 255.255.255.224
Router1(config-if)#ip nat outside
Router1(config)#interface GigabitEthernet0/1
Router1(config-if)#ip nat inside
Router1(config)#interface GigabitEthernet0/1.100
Router1(config-if)#encapsulation dot1Q 100
Router1(config-if)#ip address 10.10.10.1 255.255.255.0
Router1(config)#interface GigabitEthernet0/1.200
Router1(config-if)#encapsulation dot1Q 200
Router1(config-if)#ip address 10.10.20.1 255.255.255.0
Router1(config)#ip access-list standard NAT_INSIDE_RANGES
Router1(config-std-nacl)#permit 10.10.10.0 0.0.0.255
Router1(config)#ip nat inside source list NAT_INSIDE_RANGES interface GigabitEthernet0/0 overload
  
```

Users on existing VLAN 100 can reach sites on the Internet. Which action must the administrator take to establish connectivity to the Internet for users in VLAN 200?

- A. Define a NAT pool on the router.
- B. Configure static NAT translations for VLAN 200.
- C. Configure the ip nat outside command on another interface for VLAN 200.
- D. Update the NAT INSIDF RANGFS ACL

**Answer: B**

**Question No : 595 - (Topic 3)**

An administrator must use the password complexity not manufacturer-name command to prevent users from adding “cisco” as a password. Which command must be issued before

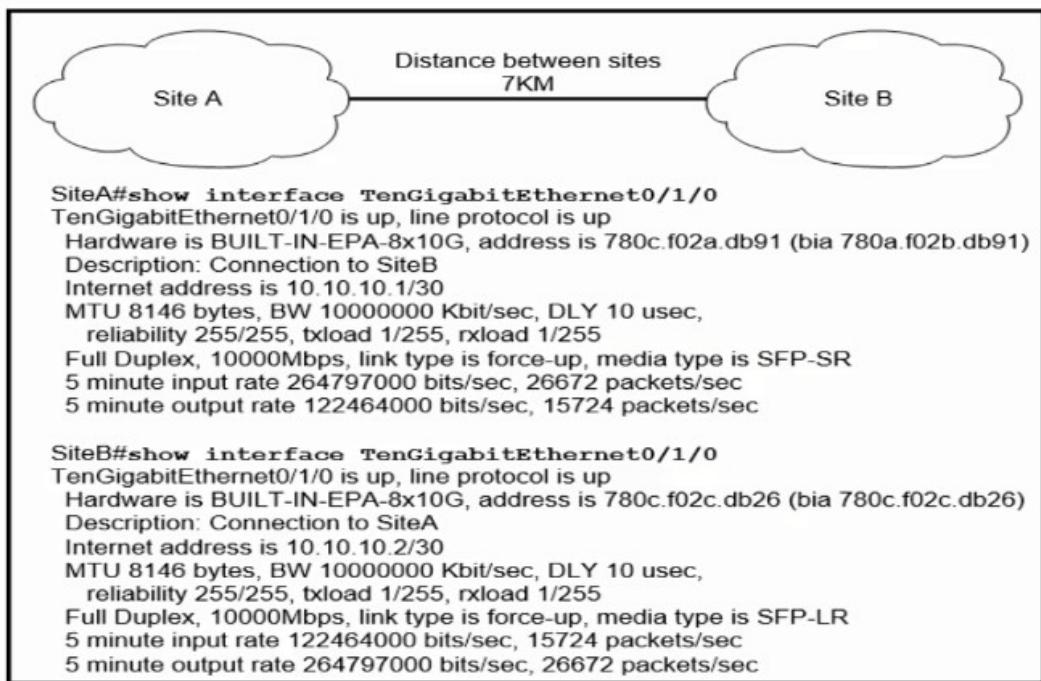
this command?

- A. Password complexity enable
- B. confreg 0x2142
- C. Login authentication my-auth-list
- D. service password-encryption

**Answer: A**

**Question No : 596 - (Topic 3)**

Refer to the exhibit.



Site A was recently connected to site B over a new single-mode fiber path. Users at site A report Intermittent connectivity Issues with applications hosted at site B. What is the reason for the problem?

- A. Heavy usage is causing high latency.
- B. An incorrect type of transceiver has been inserted into a device on the link.
- C. physical network errors are being transmitted between the two sites.
- D. The wrong cable type was used to make the connection.

**Answer: C**

**Question No : 597 - (Topic 3)**

Refer to the exhibit.

```
ip domain-name CNAC.com
!
interface GigabitEthernet0/0/0
    ip address 192.168.1.10 255.255.255.0
    duplex auto
    speed auto
!
line vty 0 15
    login local

R1#show crypto key mypubkey rsa

R1#show ssh
%No SSHv2 server connections running.
%No SSHv1 server connections running.
```

Which two commands must be added to update the configuration of router R1 so that it accepts only encrypted connections? (Choose two )

- A. username CNAC secret R!41!4319115@
- B. ip ssh version 2
- C. line vty 0 4
- D. crypto key generate rsa 1024
- E. transport input ssh

**Answer: D,E**

**Question No : 598 - (Topic 3)**

Refer to the exhibit.

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C    172.16.0.0/16 is directly connected, Loopback0
      172.16.0/16 is variably subnetted, 4 subnets, 2 masks
O      172.16.1.3/24 [110/100] via 192.168.7.40, 00:39:08, Serial0
C      172.16.1.0/24 is directly connected, Serial0
O      172.16.1.184/29 [110/5] via 192.168.7.35, 00:39:08, Serial0
O      172.16.3.0/24 [110/10] via 192.168.7.4, 00:39:08, Gigabit Ethernet 0/0
D      172.16.1.0/28 [90/10]  via 192.168.7.7, 00:39:08, Gigabit Ethernet 0/0
```

Load-balanced traffic is coming in from the WAN destined to a host at 172.16.1.190. Which next-hop is used by the router to forward the request?

- A. 192.168.7.4
- B. 192.168.7.7
- C. 192.168.7.35
- D. 192.168.7.40

**Answer: D**

### Question No : 599 - (Topic 3)

Which type of IPv6 address is similar to a unicast address but is assigned to multiple devices on the same network at the same time?

- A. global unicast address
- B. anycast address
- C. multicast address
- D. link-local address

**Answer: B**

### Question No : 600 - (Topic 3)

Which two network actions occur within the data plane? (Choose two.)

- A. Add or remove an 802.1Q trunking header.
- B. Make a configuration change from an incoming NETCONF RPC.
- C. Run routing protocols.

- D. Match the destination MAC address to the MAC address table.
- E. Reply to an incoming ICMP echo request.

**Answer: B,D**

**Question No : 601 - (Topic 3)**

Refer to the exhibit.

```
CPE# show ip route
 192.168.1.0/24 is variably subnetted, 3 subnets, 3 masks
B  192.168.1.0/24 [20/1] via 192.168.12.2, 00:00:06
R  192.168.1.128/25 [120/5] via 192.168.13.3, 00:02:35, Ethernet0/1
O  192.168.1.192/26 [110/11] via 192.168.14.4, 00:02:23, Ethernet0/2
D  192.168.1.224/27 [90/1024640] via 192.168.15.5, 00:01:40, Ethernet0/3
```

All traffic enters the CPE router from interface Serial0/3 with an IP address of 192 168 50 1  
Web traffic from the WAN is destined for a LAN network where servers are load-balanced  
An IP packet with a destination address of the HTTP virtual IP of 192 1681 250 must be forwarded Which routing table entry does the router use?

- A. 192.168.1.0/24 via 192.168.12.2
- B. 192.168.1.128/25 via 192.168.13.3
- C. 192.168.1.192/26 via 192.168.14.4
- D. 192.168.1.224/27 via 192.168.15.5

**Answer: B**

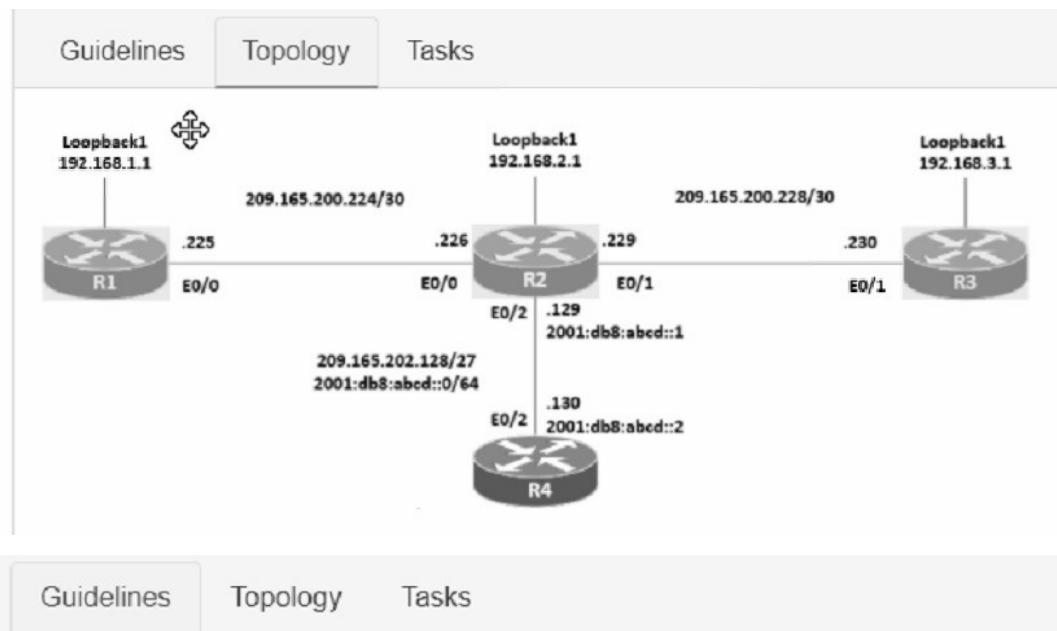
**Topic 4, Simulations / Lab**

**Question No : 602 CORRECT TEXT - (Topic 4)**

Connectivity between four routers has been established. IP connectivity must be configured in the order presented to complete the implementation. No dynamic routing protocols are included.

1. Configure static routing using host routes to establish connectivity from router R3 to the router R1 Loopback address using the source IP of 209.165.200.230.
2. Configure an IPv4 default route on router R2 destined for router R4.

3. Configure an IPv6 default router on router R2 destined for router R4.



Guidelines      Topology      Tasks

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

**Answer:** See the Explanation below.

### Explanation:

Answer as below configuration:

#### 1.- on R3

```
config terminal
ip route 192.168.1.1 255.255.255.255 209.165.200.229
end
copy running start
```

## 2.- on R2

```
config terminal
ip route 0.0.0.0 0.0.0.0 209.165.202.130
end
copy running start
```

## 3.- on R2

```
config terminal
ipv6 route ::/0 2001:db8:abcd::2
end
copy running start
```

### Question No : 603 CORRECT TEXT - (Topic 4)

Guidelines    Topology    Tasks

R1 Lo1: 192.168.1.1  
R2 Lo1: 192.168.2.1  
R3 Lo1: 192.168.3.1

R1 E0/0: 10.1.2.1    R2 E0/0: 10.1.2.2  
R1 E0/2: 10.1.3.1    R2 E0/1: 10.2.3.2  
R3 E0/2: 10.1.3.11    R3 E0/1: 10.2.3.3

R1    R2    R3

Guidelines    Topology    Tasks

**Guidelines**

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

R1    R2    R3

Connectivity between three routers has been established, and IP services must be configured in the order presented to complete the implementation. Tasks assigned include configuration of NAT, NTP, DHCP, and SSH services.

1. All traffic sent from R3 to the R1 Loopback address must be configured for NAT on R2. All source addresses must be translated from R3 to the IP address of Ethernet0/0 on R2, while using only a standard access list named NAT. To verify, a ping must be successful to the R1 Loopback address sourced from R3. Do not use NVRAM NAT configuration.
2. Configure R1 as an NTP server and R2 as a client, not as a peer, using the IP address of the R1 Ethernet0/2 interface. Set the clock on the NTP server for midnight on January 1, 2019.
3. Configure R1 as a DHCP server for the network 10.1.3.0/24 in a pool named TEST. Using a single command, exclude addresses 1-10 from the range. Interface Ethernet0/2 on R3 must be issued the IP address of 10.1.3.11 via DHCP.
4. Configure SSH connectivity from R1 to R3, while excluding access via other remote connection protocols. Access for user root and password Cisco must be set on router R3 using RSA and 1024 bits. Verify connectivity using an SSH session from router R1 using a destination address of 10.1.3.11. Do NOT modify console access or line numbers to accomplish this task.

**Answer:** See the Explanation below.

**Explanation:**

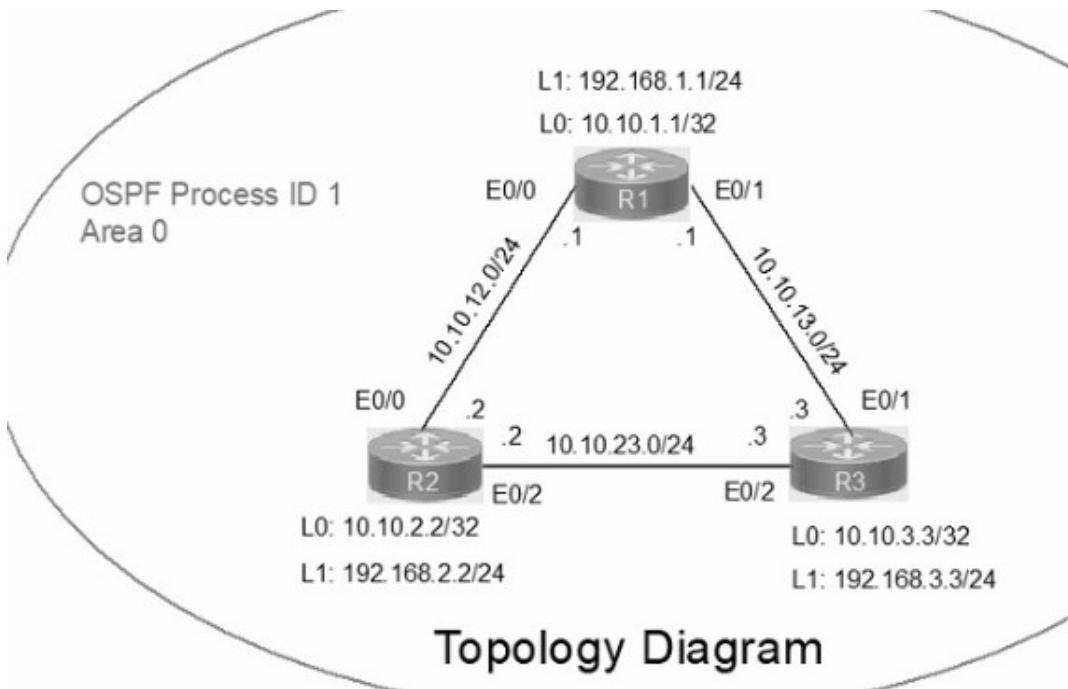
Answer as below configuration:

```
conf t
R1(config)#ntp master 1
R2(config)#ntp server 10.1.2.1
Exit
Router#clock set 00:00:00 jan 1 2019
ip dhcp pool TEST
network 10.1.3.0 255.255.255.0
ip dhcp excluded-address 10.1.3.1 10.1.3.10
R3(config)#int e0/3
R3(config)#int e0/2
ip address dhcp
no shut

crypto key generate RSA
1024
```

Copy run start

**Question No : 604 CORRECT TEXT - (Topic 4)**



## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

IP connectivity between the three routers is configured. OSPF adjacencies must be established.

- Configure R1 and R2 Router IDs using the interface IP addresses from the link that is shared between them.
- Configure the R2 links with a max value facing R1 and R3. R2 must become the DR. R1 and R3 links facing R2 must remain with the default OSPF configuration for DR election. Verify the configuration after clearing the OSPF process.
- Using a host wildcard mask, configure all three routers to advertise their respective

Loopback1 networks.

4. Configure the link between R1 and R3 to disable their ability to add other OSPF routers.

**Answer:** See the Explanation below.

**Explanation:**

Answer as below configuration:

**on R1**

```
conf terminal
interface Loopback0
ip address 10.10.1.1 255.255.255.255
!
interface Loopback1
ip address 192.168.1.1 255.255.255.0
!
interface Ethernet0/0
no shut
ip address 10.10.12.1 255.255.255.0
ip ospf 1 area 0
duplex auto
!
interface Ethernet0/1
no shut
ip address 10.10.13.1 255.255.255.0
ip ospf 1 area 0
duplex auto
!
router ospf 1
router-id 10.10.12.1
network 10.10.1.1 0.0.0.0 area 0
network 192.168.1.0 0.0.0.255 area 0
!
copy run star
```

---

**On R2**

```
conf terminal
interface Loopback0
```

```
ip address 10.10.2.2 255.255.255.255
!
interface Loopback1
ip address 192.168.2.2 255.255.255.0
!
interface Ethernet0/0
no shut
ip address 10.10.12.2 255.255.255.0
ip ospf priority 255
ip ospf 1 area 0
duplex auto
!
interface Ethernet0/2
no shut
ip address 10.10.23.2 255.255.255.0
ip ospf priority 255
ip ospf 1 area 0
duplex auto
!
router ospf 1
network 10.10.2.2 0.0.0.0 area 0
network 192.168.2.0 0.0.0.255 area 0
!
copy runs start
```

---

### On R3

```
conf ter
interface Loopback0
ip address 10.10.3.3 255.255.255.255
!
interface Loopback1
ip address 192.168.3.3 255.255.255.0
!
interface Ethernet0/1
no shut
ip address 10.10.13.3 255.255.255.0
ip ospf 1 area 0
duplex auto
```

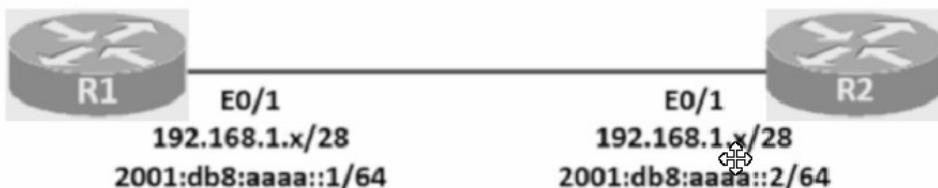
```

!
interface Ethernet0/2
no shut
ip address 10.10.23.3 255.255.255.0
ip ospf 1 area 0
duplex auto
!
router ospf 1
network 10.10.3.3 0.0.0.0 area 0
network 192.168.3.0 0.0.0.255 area 0
!
copy run start
!
```

**Question No : 605 CORRECT TEXT - (Topic 4)**

Configure IPv4 and IPv6 connectivity between two routers. For IPv4, use a /28 network from the 192.168.1.0/24 private range. For IPv6, use the first /64 subnet from the 2001:0db8:aaaa::/48 subnet.

1. Using Ethernet0/1 on routers R1 and R2, configure the next usable/28 from the 192.168.1.0/24 range. The network 192.168.1.0/28 is unavailable.
2. For the IPv4 /28 subnet, router R1 must be configured with the first usable host address.
3. For the IPv4 /28 subnet, router R2 must be configured with the last usable host address.
4. For the IPv6 /64 subnet, configure the routers with the IP addressing provided from the topology.
5. A ping must work between the routers on the IPv4 and IPv6 address ranges.



The screenshot shows the Cisco Practice Test interface. At the top, there are three tabs: 'Guidelines' (selected), 'Topology', and 'Tasks'. Below the tabs, the word 'Guidelines' is displayed in bold. A note states: 'This is a lab item in which tasks will be performed on virtual devices.' To the right, there is a terminal window titled 'R1' with the prompt 'R1#'. The terminal area is black.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

**Answer:** See the Explanation below.

**Explanation:**

Answer as below configuration:

**on R1**

```
config terminal  
ipv6 unicast-routing  
inter eth0/1  
ip addre 192.168.1.1 255.255.255.240  
ipv6 addre 2001:db8:aaaa::1/64  
not shut  
end  
copy running start
```

**on R2**

```
config terminal  
ipv6 unicast-routing  
inter eth0/1  
ip address 192.168.1.14 255.255.255.240  
ipv6 address 2001:db8:aaaa::2/64  
not shut  
end  
copy running start
```

-----

for test from R1

```
ping ipv6 2001:db8:aaaa::1
```

for test from R2

```
ping ipv6 2001:db8:aaaa::2
```

**Question No : 606 CORRECT TEXT - (Topic 4)**

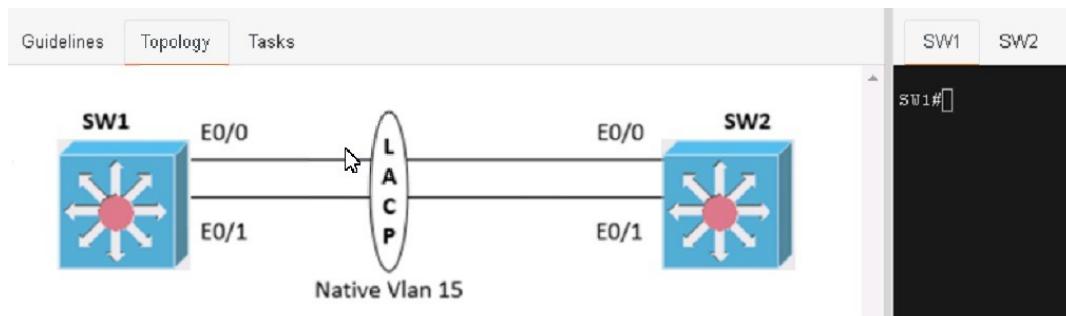
Physical connectivity is implemented between the two Layer 2 switches, and the network connectivity between them must be configured

1. Configure an LACP EtherChannel and number it as 1; configure it between switches SW1 and SVV2 using interfaces Ethernet0/0 and Ethernet0/1 on both sides. The LACP mode must match on both ends
- 2 Configure the EtherChannel as a trunk link.
3. Configure the trunk link with 802.1 q tags.
4. Configure the native VLAN of the EtherChannel as VLAN 15.

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.



**Answer:** See the Explanation below.

**Explanation:**

Answer as below configuration:

**On SW1:**

```
conf terminal  
vlan 15  
exit  
interface range eth0/0 - 1  
channel-group 1 mode active  
exit  
interface port-channel 1  
switchport trunk encapsulation dot1q  
switchport mode trunk  
switchport trunk native vlan 15  
end  
copy run start
```

**on SW2:**

```
conf terminal  
vlan 15  
exit  
interface range eth0/0 - 1  
channel-group 1 mode active  
exit  
interface port-channel 1  
switchport trunk encapsulation dot1q  
switchport mode trunk  
switchport trunk native vlan 15  
end  
copy run start
```

**Question No : 607 CORRECT TEXT - (Topic 4)**

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

N

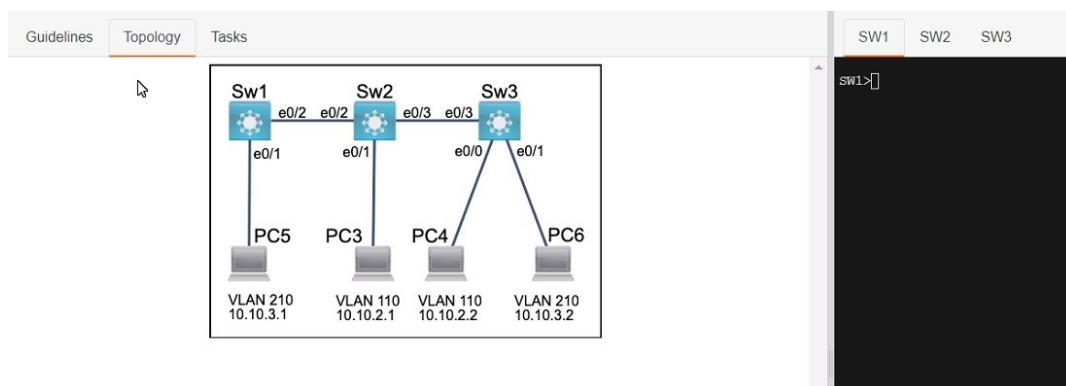
Three switches must be configured for Layer 2 connectivity. The company requires only the designated VLANs to be configured on their respective switches and permitted across any links between switches for security purposes. Do not modify or delete VTP configurations.

The network needs two user-defined VLANs configured:

VLAN 110: MARKETING

VLAN 210: FINANCE

- Configure the VLANs on the designated switches and assign them as access ports to the interfaces connected to the PCs.
- Configure the e0/2 interfaces on Sw1 and Sw2 as 802.1q trunks with only the required VLANs permitted.
- Configure the e0/3 interfaces on Sw2 and Sw3 as 802.1q trunks with only the required VLANs permitted.



**Answer:** See the Explanation below.

**Explanation:**

Answer as below configuration:

**Sw1**

```
enbale
config t
Vlan 210
Name FINANCE
Int e0/1
Switchport access vlan 210
do wr
```

**Sw2**

```
Enable
config t
Vlan 110
Name MARKITING
Int e0/1
Switchport acees vlan 110
do wr
```

**Sw3**

```
Enable
config t
Vlan 110
Name MARKITING
Vlan 210
Name FINANCE
Int e0/0
Switchport access vlan 110
Int e0/1
Switchport access vlan 210
```

**Sw1**

```
Int e0/1
Switchport allowed vlan 210
```

### **Sw2**

Int e0/2

Switchport trunk allowed vlan 210

### **Sw3**

Int e0/3

Switchport trunk allowed vlan 210

Switchport trunk allowed vlan 210,110

### **Question No : 608 CORRECT TEXT - (Topic 4)**

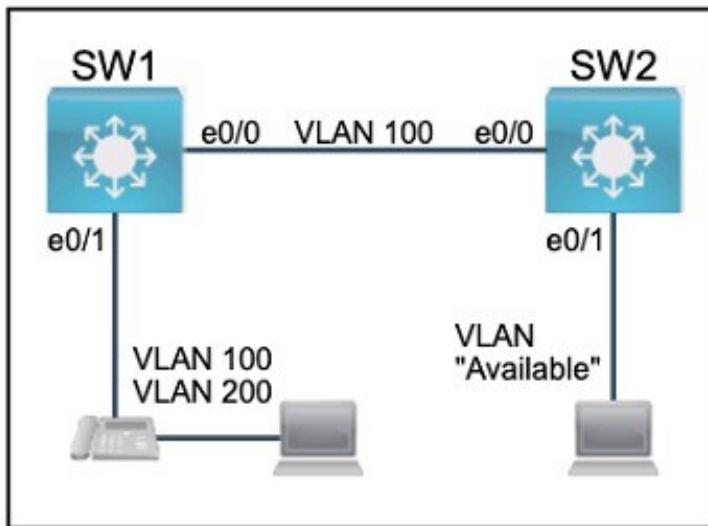
### **Guidelines**

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

All physical cabling between the two switches is installed. Configure the network connectivity between the switches using the designated VLANs and interfaces.

1. Configure VLAN 100 named Compute and VLAN 200 named Telephony where required for each task.
2. Configure Ethernet0/1 on SW2 to use the existing VLAN named Available.
3. Configure the connection between the switches using access ports.
4. Configure Ethernet0/1 on SW1 using data and voice VLANs.
5. Configure Ethernet0/1 on SW2 so that the Cisco proprietary neighbor discovery protocol is turned off for the designated interface only.



**Answer:** See the Explanation below.

**Explanation:**

Answer as below configuration:

```

on sw1
enable
conf t
vlan 100
name Compute
vlan 200
name Telephony
int e0/1
switchport voice vlan 200
switchport access vlan 100
int e0/0
switchport mode access
do wr
  
```

```

on sw2
Vlan 99
Name Available
Int e0/1
Switchport access vlan 99
do wr
  
```

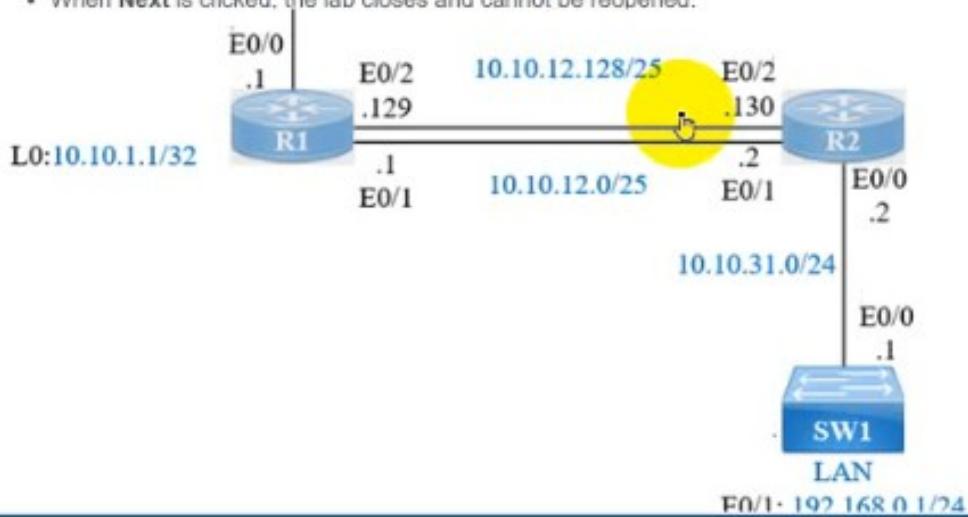
**Question No : 609 CORRECT TEXT - (Topic 4)**

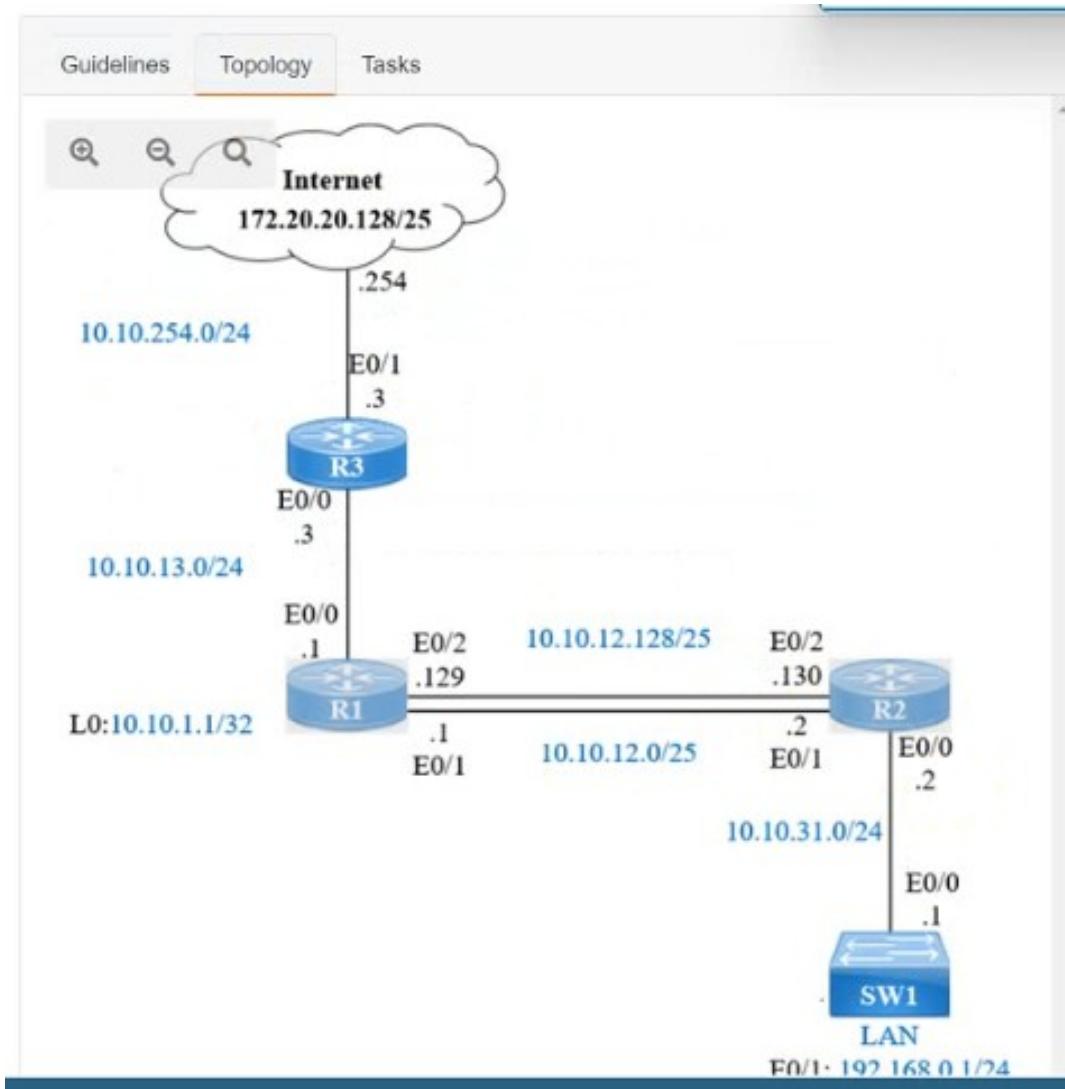
Guidelines    Topology    Tasks

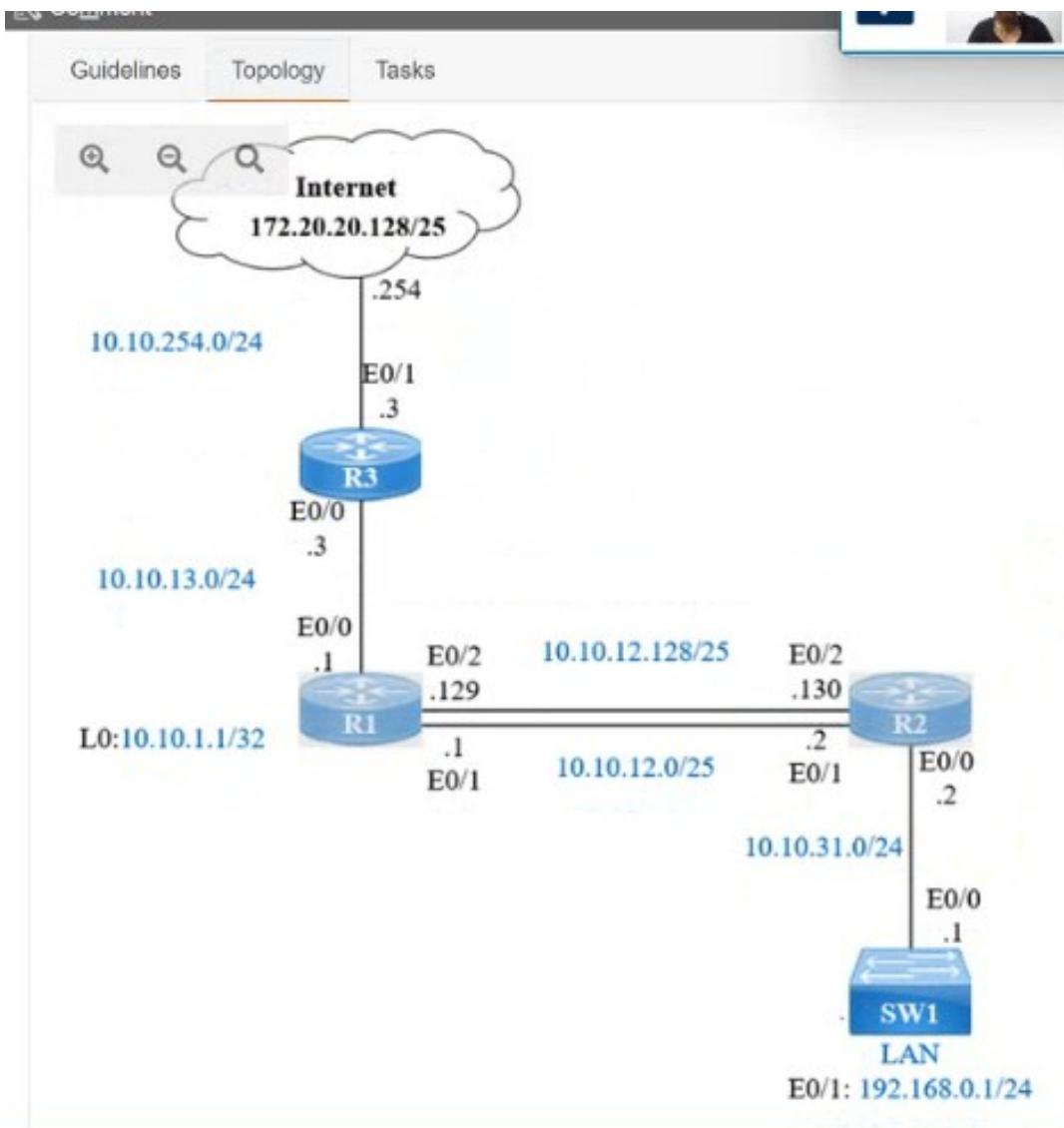
## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.







IP connectivity and OSPF are preconfigured on all devices where necessary. Do not make any changes to the IP addressing or OSPF. The company policy uses connected interfaces and next hops when configuring static routes except for load balancing or redundancy without floating static. Connectivity must be established between subnet 172.20.20.128/25 on the Internet and the LAN at 192.168.0.0/24 connected to SW1:

1. Configure reachability to the switch SW1 LAN subnet in router R2.
2. Configure default reachability to the Internet subnet in router R1.
3. Configure a single static route in router R2 to reach to the Internet subnet considering both redundant links between routers R1 and R2. A default route is NOT allowed in router R2.
4. Configure a static route in router R1 toward the switch SW1 LAN subnet where the primary link must be through Ethernet0/1. and the backup link must be through Ethernet0/2 using a floating route. Use the minimal administrative distance value when required.

**Answer:** See the Explanation below.

**Explanation:**

Answer as below configuration:

**On R2:**

```
Enable  
Conf t  
Ip route 192.168.1.0 255.255.255.0 10.10.31.1
```

**On R1:**

```
Enable  
Conf t  
Ip route 0.0.0.0 0.0.0.0 10.10.13.3
```

**On R2**

```
Ip route 172.20.20.128 255.255.255.128 e0/2  
Ip route 172.20.20.128 255.255.255.128 e0/1
```

**On R1**

```
Ip route 192.168.0.0 255.255.255.0 e0/1  
Ip route 192.168.0.0 255.255.255.0 10.10.12.2 3
```

Save all configurations after every router from anyone of these command

Do wr

Or

Copy run start