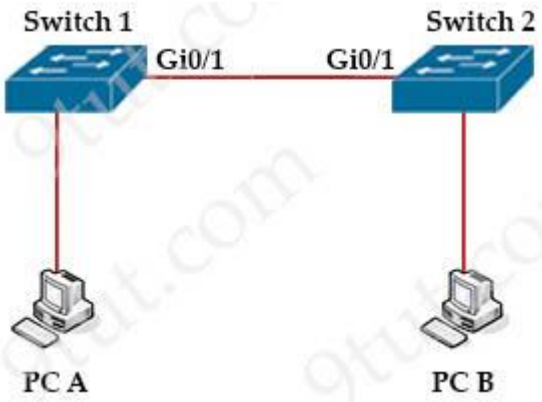
CCNAv7 (2020) – New Questions

Question 1

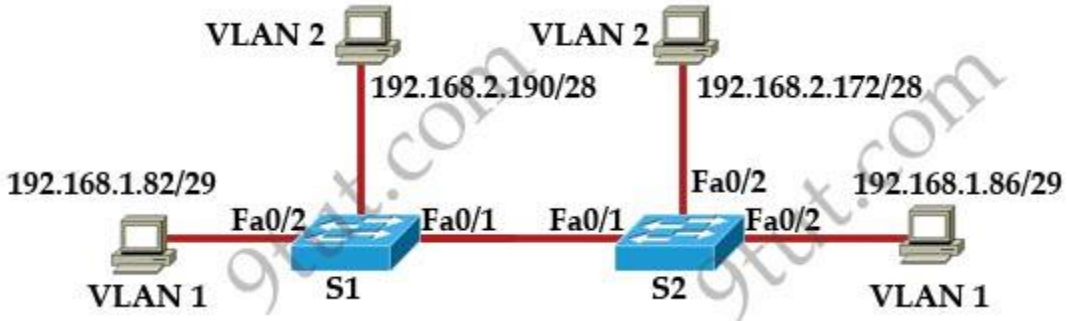
Refer to the exhibit. The network administrator wants VLAN 67 traffic to be untagged between Switch 1 and Switch 2 while all other VLANs are to remain tagged. Which command accomplishes this task?



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 2



S1#show interface trunk

Port	Mode	Encapsulation	Status	Native vlan
Fa0/1	on	802. 1q	Trunking	1

Port	Vlans allowed a trunk
Fa0/1	1.1005

Port	Vlans allowed and active in management domain
Fa0/1	12

S2#show interface trunk

Port	Mode	Encapsulation	Status	Native vlan
Fa0/1	on	802. 1q	Trunking	2

Port	Vlans allowed a trunk
Fa0/1	1.1005

Port	Vlans allowed and active in management domain
Fa0/1	12

A frame from VLAN1 of switch S1 is sent to switch S2 where the frame received on VLAN2. What causes this behavior?

A. trunk mode mismatches
B. VLANs that do not correspond to a unique IP subnet
C. native vlan mismatches
D. allowing only vlan 2 on the destination

Answer: C

Question 3

Refer to the exhibit. Which action is expected from SW1 when the untagged frame is received on the GigabitEthernet0/1 interface?

```
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
```

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 4

Refer to the exhibit.



SW1

```
interface FastEthernet 0/1
 channel-group 1 mode auto
 switchport trunk encapsulation dot1q
 switchport mode trunk

interface FastEthernet 0/2
 channel-group 1 mode auto
 switchport trunk encapsulation dot1q
 switchport mode trunk
```

A network administrator is configuring an EtherChannel between SW1 and SW2. The SW1 configuration is shown. What is the correct configuration for SW2?

A. interface FastEthernet 0/1
channel-group 1 mode active
switchport trunk encapsulation dot1q
switchport mode trunk
!
interface FastEthernet 0/2
channel-group 1 mode active
switchport trunk encapsulation dot1q
switchport mode trunk

B. interface FastEthernet 0/1
channel-group 2 mode auto
switchport trunk encapsulation dot1q
switchport mode trunk
!
interface FastEthernet 0/2
channel-group 2 mode auto
switchport trunk encapsulation dot1q
switchport mode trunk

C. interface FastEthernet 0/1
channel-group 1 mode desirable

switchport trunk encapsulation dot1q
switchport mode trunk
!
interface FastEthernet 0/2
channel-group 1 mode desirable
switchport trunk encapsulation dot1q
switchport mode trunk

D. interface FastEthernet 0/1
channel-group 1 mode passive
switchport trunk encapsulation dot1q
switchport mode trunk
!
interface FastEthernet 0/2
channel-group 1 mode passive
switchport trunk encapsulation dot1q
switchport mode trunk

Answer: C

——————————————————— IPv6 Questions ———————————————————

Question 5

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 6

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 7

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 8

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 9

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

A. Local AP mode creates two CAPWAP tunnels per AP to the WLC
B. FlexConnect AP mode fails to function if me 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 10

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 11

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 12

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 m a brownfield deployment
D. It is designed primarily to provide network assurance

Answer: A

——————————————— IP Routing Questions ———————————————

Question 13

Refer to the exhibit. A router reserved these five routes from different routing information sources. Which two routes does the router install in its routing table? (Choose two)

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. 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 14

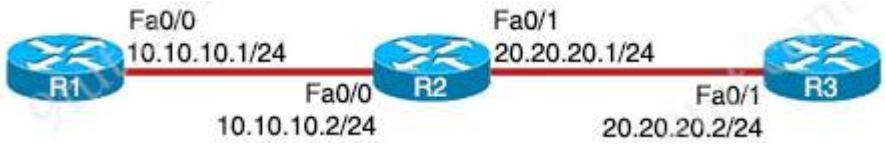
A packet is destined for 10.10.1.22. Which static route does the router choose to forward the packet?

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 15

Refer to the exhibit. Router R1 Fa0/0 cannot ping router R3 Fa0/1. Which action must be taken in router R1 to help resolve the configuration issue?



R1#**show ip route** <output omitted> Gateway of last resort is not set 10.0.0.0/24 is subnetted, 1 subnets C 10.10.10.0 is directly connected, FastEthernet0/0	R2#**show ip route** <output omitted> Gateway of last resort is not set 20.0.0.0/24 is subnetted, 1 subnets C 20.20.20.0 is directly connected, FastEthernet0/1 10.0.0.0/24 is subnetted, 1 subnets C 10.10.10.0 is directly connected, FastEthernet0/0
R3#**show ip route** <output omitted>	

Gateway of last resort is not set 20.0.0.0/24 is subnetted, 1 subnets C 20.20.20.0 is directly connected, FastEthernet0/1 10.0.0.0/24 is subnetted, 1 subnets S 10.10.10.0 [1/0] via 20.20.20.1	

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 16

Refer to the exhibit. 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?

```
R1#show ip route
.....
D  172.16.32.0/27 [90/293847483] via 20.1.1.1
O  172.16.32.0/19 [110/22847] via 20.1.1.10
R  172.16.32.0/24 [120/2] via 20.1.1.3
```

A. longest prefix
B. metric
C. cost
D. administrative distance

Answer: A

Question 17

Router R1 must send all traffic without a matching routing-table entry to 192.168.1.1. Which configuration accomplishes this task?

A.
R1#config t
R1(config)#ip routing
R1(config)#ip route default-route 192.168.1.1

B.
R1#config t

R1(config)#ip routing
R1(config)#ip route 192.168.1.1 0.0.0.0 0.0.0.0

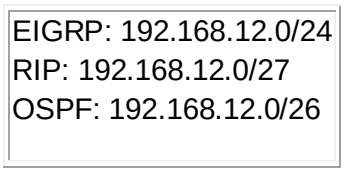
C.
R1#config t
R1(config)#ip routing
R1(config)#ip route 0.0.0.0 0.0.0.0 192.168.1.1

D.
R1#config t
R1(config)#ip routing
R1(config)#ip default-gateway 192.168.1.1

Answer: C

Question 18

Refer to the exhibit. How does router R1 handle traffic to 192.168.12.16?



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 19

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 20

What are two reasons for an engineer to configure a floating static 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 21

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 list
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 22

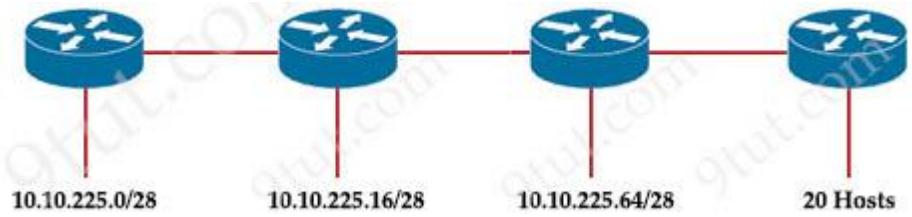
Which function does the range of private IPv4 addresses perform?

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 23

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 24

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

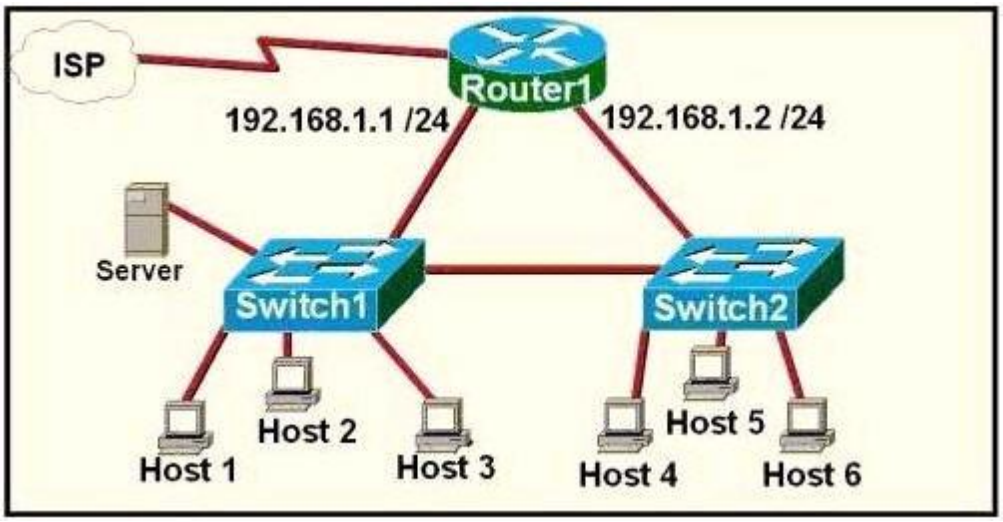
Which subnet summarizes and gives the most efficient distribution of IP addresses for the router configuration?

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 25

Refer to the exhibit. A network technician is asked to design a small network with redundancy. The exhibit represents this design, with all hosts configured in the same VLAN. What conclusions can be made about this design?



A. The design will function as intended
B. Spanning-tree will need to be used.
C. The router will not accept the addressing scheme.
D. The connection between switches should be a trunk.
E. The router interfaces must be encapsulated with the 802.1Q protocol.

Answer: C

Question 26

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 27

Refer to the exhibit. Which configuration issue is preventing the OSPF neighbor relationship from being established between the two routers?



R1#show running-config	R2#show running-config

Building configuration… ! interface GigabitEthernet1/0 mtu 1600 ip address 192.168.0.1 255.255.255.252 negotiation auto ! router ospf 1 router-id 1.1.1.1 passive-interface default no passive-interface GigabitEthernet1/0 network 192.168.0.1 0.0.0.0 area 0 !	Building configuration… ! interface GigabitEthernet2/0 ip address 192.168.0.2 255.255.255.252 negotiation auto ! router ospf 1 router-id 2.2.2.2 passive-interface default no passive-interface GigabitEthernet2/0 network 192.168.0.2 0.0.0.0 area 0 !

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 28

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 29

Refer to the exhibit. 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?



Router1(config)#interface GigabitEthernet1/1	Router2(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-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

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

——————————————— AAA Questions ———————————————

Question 30

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 31

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

——————————————— Topology Architecture Questions ———————————————

Question 32

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 33

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 34

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 35

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

——————————————— TCP & UDP Questions ———————————————

Question 36

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 37

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

——————————————— Drag Drop Questions ———————————————

Question 38

Refer to the exhibit. Drag and drop the routing table components on the left onto the corresponding letter from the exhibit on the right. Not all options are used.



administrative distance	A
metric	B
next-hop interface	C
outbound interface	D
route source	E
subnet mask	
timestamp	

Answer:

A: route source
B: administrative distance
C: metric
D: timestamp
E: outbound interface

Question 39

Drag and drop each broadcast IP address on the left to the Broadcast Address column on the right. Not all options are used.



Answer:

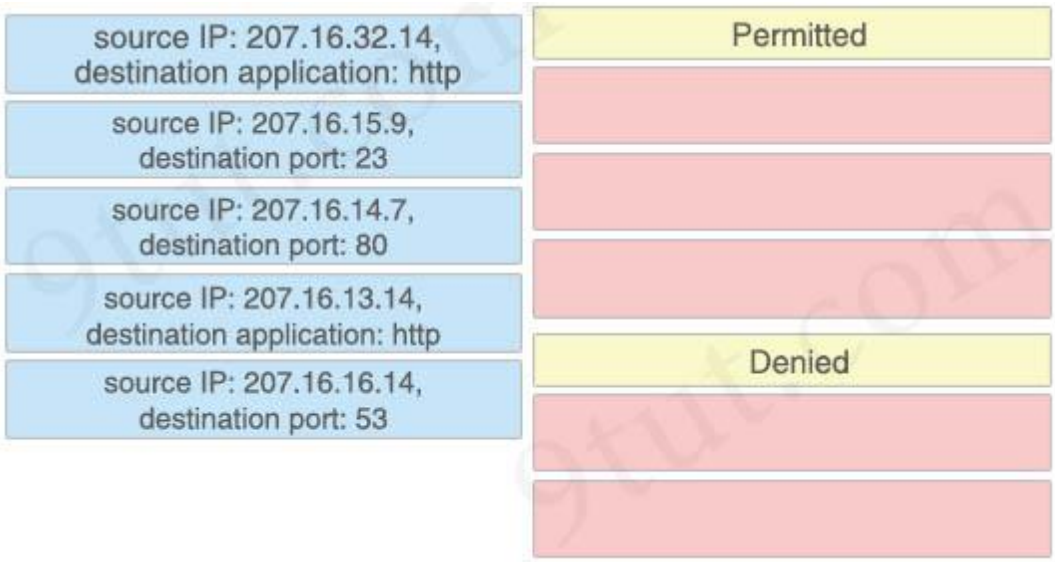
+ 10.63.255.255/10
+ 172.16.255.39/29
+ 172.20.255.255/16
+ 192.168.255.127/25

Question 40

An interface has been configured with the access list that is shown below.

```
access-list 107 deny tcp 207.16.12.0.0.0.3.255 any eq http
access-list 107 permit ip any any
```

On the basis of that access list, drag each information packet on the left to the appropriate category on the right.



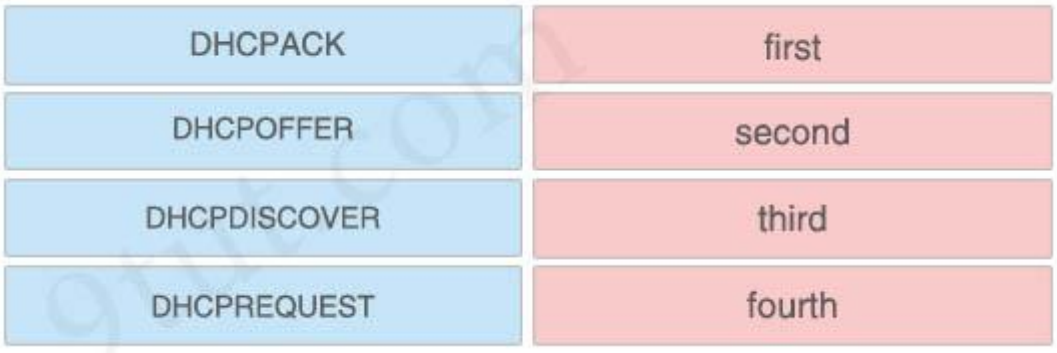
Answer:

Permitted:
+ source IP: 207.16.32.14,
destination application: http
+ source IP: 207.16.15.9,
destination port: 23
+ source IP: 207.16.16.14,
destination port: 53

Denied:
+ source IP: 207.16.14.7,
destination port: 80
+ source IP: 207.16.13.14,
destination application: http

Question 41

Order the DHCP message types as they would occur between a DHCP client and a DHCP server.

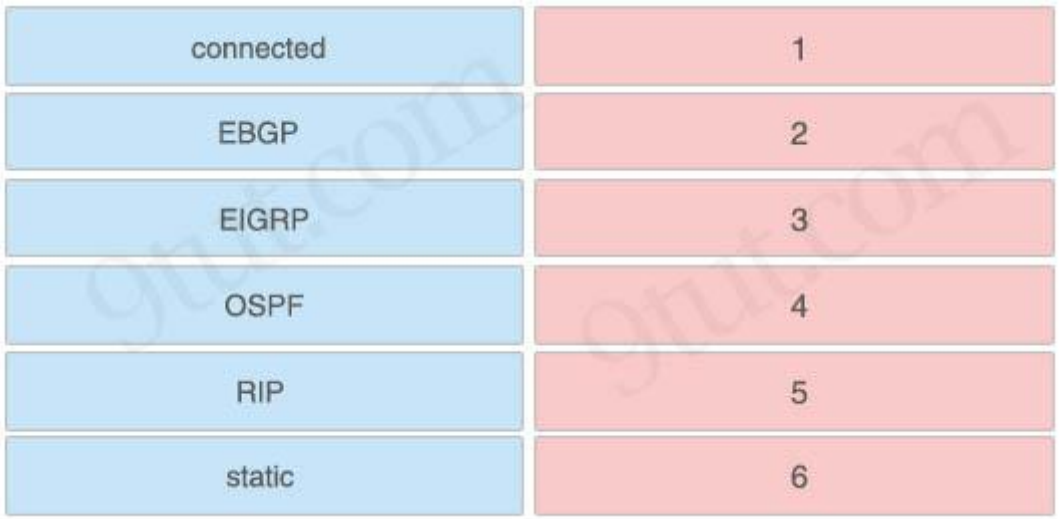


Answer:

+ First: DHCPDISCOVER
+ Second: DHCPOFFER
+ Third: DHCPREQUEST
+ Fourth: DHCPACK

Question 42

Drag each route source from the left to the numbers on the right. Beginning with the lowest and ending with the highest administrative distance.

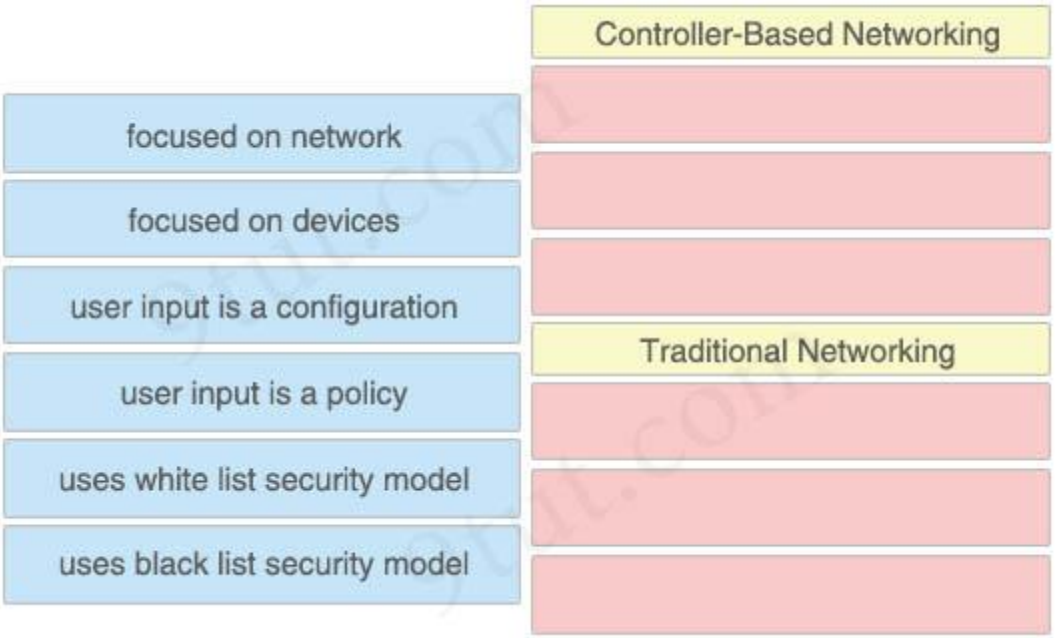


Answer:

1: connected
2: static
3: EBGP
4: EIGRP
5 :OSPF
6: RIP

Question 43

Drag and drop to the characteristics of networking from the left onto the correct networking types on the right.



Answer:

Controller-Based Networking:
+ focused on network
+ user input is a policy
+ uses white list security model

Traditional Networking:
+ focused on devices
+ user input is a configuration
+ uses black list security model

Question 44

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 45

Which function does an SNMP agent perform?

A. It sends information about MIB variables in response to requests from the NMS
B. It coordinates user authentication between a network device and a TACACS+ or RADIUS server
C. It requests information from remote network nodes about catastrophic system events.
D. It manages routing between Layer 3 devices in a network

Answer: A

Question 46

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)

A.
interface range g0/0-1
channel-group 10 mode active

B.
interface range g0/0-1
channel-group 10 mode desirable

C.
interface range g0/0-1
channel-group 10 mode passive

D.
interface range g0/0-1
channel-group 10 mode auto

E.
interface range g0/0-1
channel-group 10 mode on

Answer: A C

Question 47

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 48

Refer to the exhibit. 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?

```
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 password abcd1234
SW4(config)#username admin2 password abcd1234
SW4(config-line)#line console 0
SW4(config-line)#login local
```

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

Answer: C

Question 49

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: A C

Question 50

Refer to the exhibit. What two conclusions should be made about this configuration? (Choose two)

```
SW1#show spanning-tree vlan 30

VLAN0030
Spanning tree enabled protocol rstp
Root ID  Priority  32798
         Address   0018.7363.4300
         Cost      2
         Port      13 (FastEthernet2/1)
         Hello Time 2 sec
         Max Age 20 sec
         Forward Delay 20 sec
<output omitted>
```

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

Question 51

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 52

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 53

What occurs to frames during the process of frame flooding?

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

Answer: C

Question 54

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

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

Answer: C E

Question 55

Which type of ipv6 address is publicly routable in the same way as ipv4 public addresses?

A. multicast
B. unique local
C. link-local
D. global unicast

Answer: D

Question 56

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

A. interface GigabitEthernet0/0/1
channel-group 10 mode active

B. interface GigabitEthernet0/0/1
channel-group 10 mode auto

C. interface GigabitEthernet0/0/1
channel-group 10 mode on

D. interface port-channel 10
no switchport
ip address 172.16.0.1 255.255.255.0

E. interface port-channel 10
switchport
switchport mode trunk

Answer: A D

Question 57

Refer to the exhibit. An administrator is tasked with configuring a voice VLAN. What is the expected outcome when a Cisco phone is connected to the GigabitEthernet 3/1/4 port on a switch?

```
interface GigabitEthernet3/1/4
switchport voice vlan 50
!
```

A. The phone and a workstation that is connected to the phone do not have VLAN connectivity.
B. The phone sends and receives data in VLAN 50, but a workstation connected to the phone sends and receives data in VLAN 1.
C. The phone sends and receives data in VLAN 50, but a workstation connected to the phone has no VLAN connected.
D. The phone and a workstation that is connected to the phone send and receive data in VLAN 50.

Answer: B

Question 58

Refer to the exhibit. How does router R1 handle traffic to 192.168.10.16?

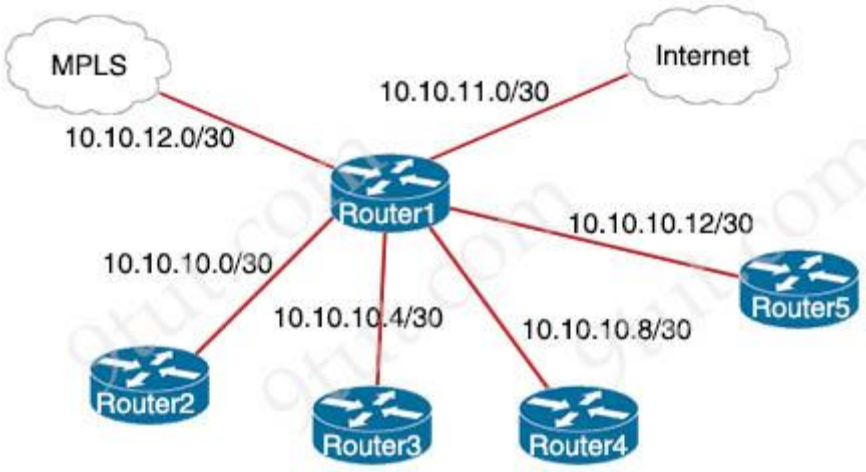
```
R1# show ip route
D 192.168.10.0/24 [90/2679326] via 192.168.1.1
R 192.168.10.0/27 [120/3] via 192.168.1.2
O 192.168.10.0/23 [110/2] via 192.168.1.3
i L1 192.168.10.0/13 [115/30] via 192.168.1.4
```

A. It selects the IS-IS route because it has the shortest prefix inclusive of the destination address
B. It selects the RIP route because it has the longest prefix: inclusive of the destination address
C. It selects the OSPF route because it has the lowest cost
D. It selects the EIGRP route because it has the lowest administrative distance

Answer: B

Question 59

Refer to the exhibit. To which device does Router1 send packets that are destined to host 10.10.13.165?




```
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 10.10.12.2,03:32:14
    209.165.201.0/27 is subnetted, 1 subnets
B      209.165.201.0 [20/0] via 10.10.12.2,02:26:53
    209.165.202.0/27 is subnetted, 1 subnets
B      209.165.202.128 [20/0] via 10.10.12.2,02:46:03
    10.0.0.0/8 is variably subneted, 10 subnets, 4 masks
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 10.10.10.5,00:00:12, GigabitEthernet0/1
O      10.10.13.144/28 [110/2] via 10.10.10.9,00:01:57, GigabitEthernet0/2
O      10.10.13.160/29 [110/2] via 10.10.10.5,00:00:12, GigabitEthernet0/1
```

```
O     10.10.13.208/29 [110/2] via 10.10.10.13,00:01:57, GigabitEthernet0/3
S*  0.0.0.0/0 [1/0] via 10.10.11.2
```

A. Router2
B. Router3
C. Router4
D. Router5

Answer: B

Question 60

Refer to the exhibit. 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?



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

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

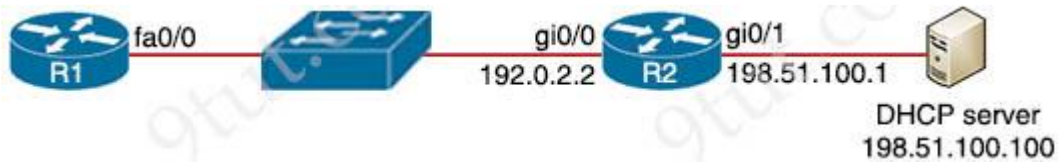
C.
R1 (config)#interface ethernet0/0.20
R1(config)#ip address 10.20.20.1 255.255.255.0

D.
R1 (config)#interface ethernet0/0
R1(config)#ip address 10.20.20.1 255.255.255.0

Answer: B

Question 61

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

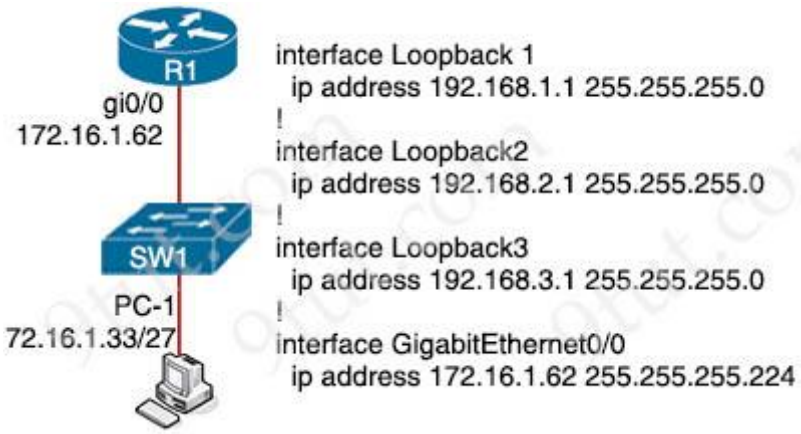
D. R2(config)# interface gi0/0
R2(config-if)# ip address dhcp

E. R1 (config)# interface fa0/0
R1 (config-if)# ip helper-address 192.0.2.2

Answer: B C

Question 62

Refer to the exhibit. What configuration on R1 denies SSH access from PC-1 to any R1 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

C. line vty 0 15
access-class 100 in
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
access-class 100 in

Answer: A

Question 63

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. prevents network administrators from configuring clear-text passwords
C. protects the VLAN database from unauthorized PC connections on the switch
D. encrypts the password exchange when a VPN tunnel is established

Answer: A

Question 64

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

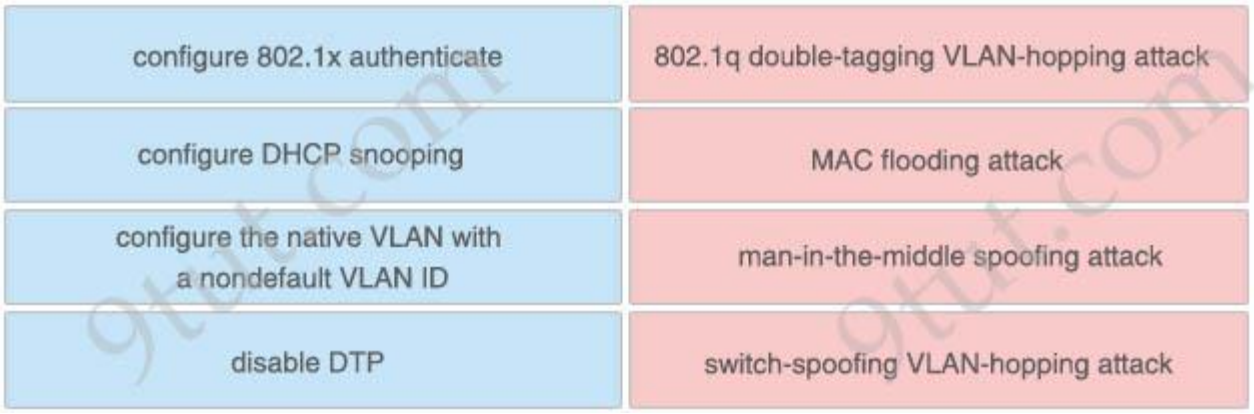
```
ip arp inspection vlan 2-10
interface fastethernet 0/1
ip arp inspection trust
```

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

Answer: C

Question 65

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



Answer:

+ 802.1q double-tagging VLAN-hopping attack: configure the native VLAN with a nondefault VLAN ID
+ MAC flooding attack: configure 802.1x authenticate
+ man-in-the-middle spoofing attack: configure DHCP snooping
+ switch-spoofing VLAN-hopping attack: disable DTP

Question 66

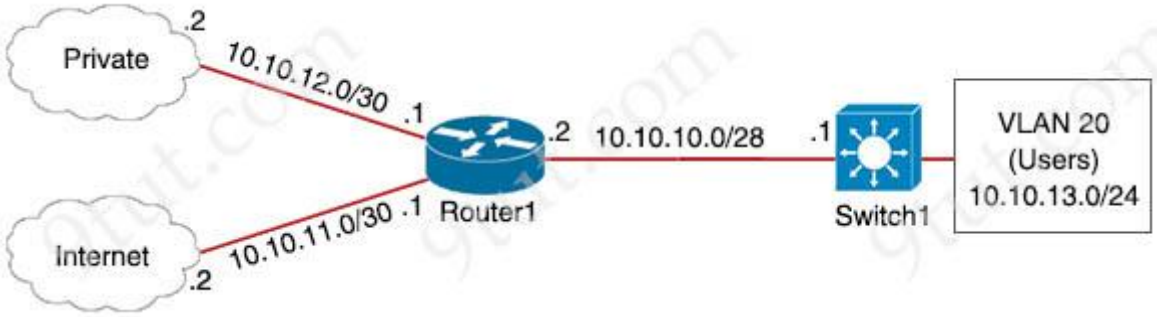
In which two ways does a password manager reduce the chance of a hacker stealing a user's password? (Choose two)

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 67

Refer to the exhibit. Which path is used by the router for Internet traffic?




```
R1#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, 00:10:34
        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
C               10.10.13.0/30 [110/2] via 10.10.10.1, 00:03:34,
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
```

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 68

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

========== New Questions (added on 16th-Jun-2020) ==========

Question 69

Which type of API would be used to allow authorized salespeople of an organization access to internal sales data from their mobile devices?

A. partner
B. open
C. public
D. private

Answer: D

Question 70

What is a characteristic of the REST API?

A. evolved into what became SOAP
B. used for exchanging XML structured information over HTTP or SMTP
C. considered slow, complex, and rigid
D. most widely used API for web services

Answer: D

Question 71

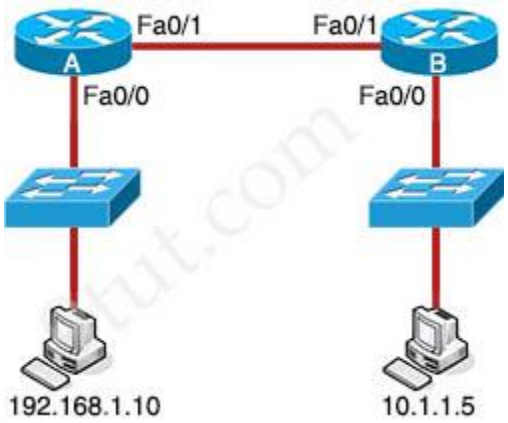
What is the name of the layer in the Cisco borderless switched network design that is considered to be the backbone used for high-speed connectivity and fault isolation?

A. data link
B. access
C. core
D. network
E. network access

Answer: C

Question 72

Refer to the exhibit. An administrator configures the following ACL in order to prevent devices on the 192.168.1.0 subnet from accessing the server at 10.1.1.5:




```
access-list 100 deny ip 192.168.1.0 0.0.0.255 host 10.1.1.5
access-list 100 permit ip any any
```

Where should the administrator place this ACL for the most efficient use of network resources?

A. inbound on router A Fa0/0
B. outbound on router B Fa0/0
C. outbound on router A Fa0/1
D. inbound on router B Fa0/1

Answer: A

Question 73

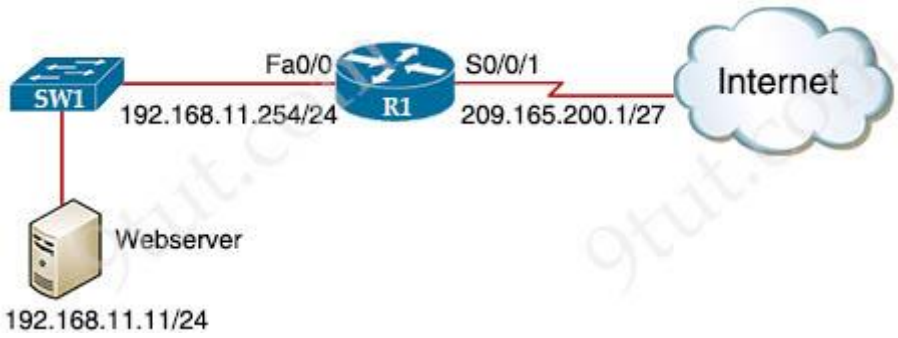
Which step in the link-state routing process is described by a router sending Hello packets out all of the OSPF-enabled interfaces?

A. electing the designated router
B. establishing neighbor adjacencies
C. injecting the default route
D. exchanging link-state advertisements

Answer: B

Question 74

Refer to the exhibit. Router R1 is configured with static NAT. Addressing on the router and the web server are correctly configured, but there is no connectivity between the web server and users on the Internet. What is a possible reason for this lack of connectivity?




```
R1(config)# ip nat inside source static 192.168.11.254 209.165.200.1
R1(config)#interface FastEthernet0/0
R1(config-if)#ip nat inside
R1(config-if)#interface Serial0/0/1
R1(config-if)#ip nat outside
```

A. The router NAT configuration has an incorrect inside local address
B. The inside global address is incorrect
C. The NAT configuration on interface S0/0/1 is incorrect.
D. Interface Fa0/0 should be configured with the command ip nat outside

Answer: A

Question 75

Anycompany has decided to reduce its environmental footprint by reducing energy costs, moving to a smaller facility, and promoting telecommuting. What service or technology would support this requirement?

A. Cisco ACI
B. cloud services

C. APIC-EM
D. data center

Answer: B

Question 76

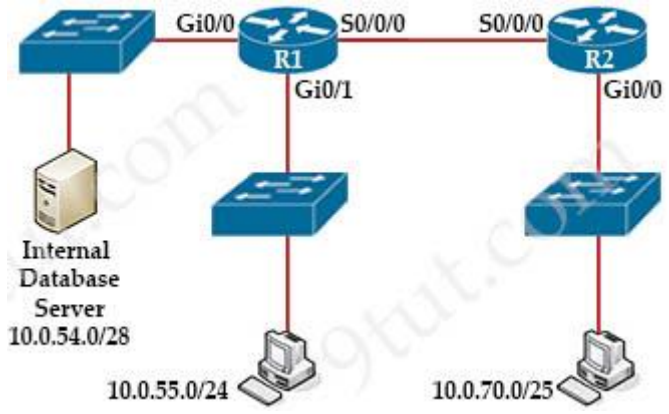
A company needs to interconnect several branch offices across a metropolitan area. The network engineer is seeking a solution that provides high-speed converged traffic, including voice, video, and data on the same network infrastructure. The company also wants easy integration to their existing LAN infrastructure in their office locations. Which technology should be recommended?

A. VSAT
B. ISDN
C. Frame Relay
D. Ethernet WAN

Answer: D

Question 77

Refer to the exhibit. Which two configurations would be used to create and apply a standard access list on R1, so that only the 10.0.70.0/25 network devices are allowed to access the internal database server? (Choose two)



A. R1(config)# interface GigabitEthernet0/0
R1(config-if)# ip access-group 5 out

B. R1(config)# access-list 5 permit 10.0.54.0 0.0.1.255

C. R1(config)# interface Serial0/0/0
R1(config-if)# ip access-group 5 in

D. R1(config)# access-list 5 permit 10.0.70.0 0.0.0.127

E. R1(config)# access-list 5 permit any

Answer: A D

Question 78

Which type of VPN uses a hub-and-spoke configuration to establish a full mesh topology?

A. GRE over IPsec
B. dynamic multipoint VPN
C. MPLS VPN
D. IPsec virtual tunnel interface

Answer: B

Question 79

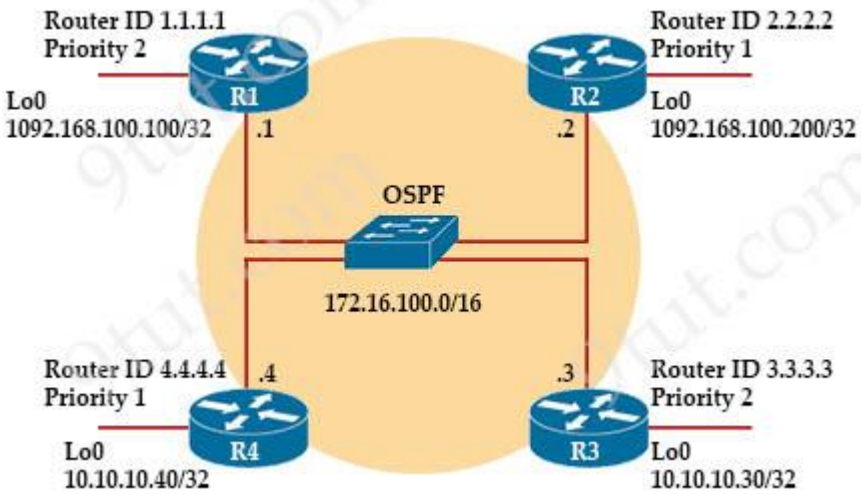
What are two purposes of launching a reconnaissance attack on a network? (Choose two)

A. to prevent other users from accessing the system
B. to escalate access privileges
C. to gather information about the network and devices
D. to scan for accessibility
E. to retrieve and modify data

Answer: C D

Question 80

Refer to the exhibit. If the switch reboots and all routers have to re-establish OSPF adjacencies, which routers will become the new DR and BDR?



A. Router R3 will become the DR and router R1 will become the BDR.
B. Router R4 will become the DR and router R3 will become the BDR.
C. Router R1 will become the DR and router R2 will become the BDR.
D. Router R3 will become the DR and router R2 will become the BDR.

Answer: A

Question 81

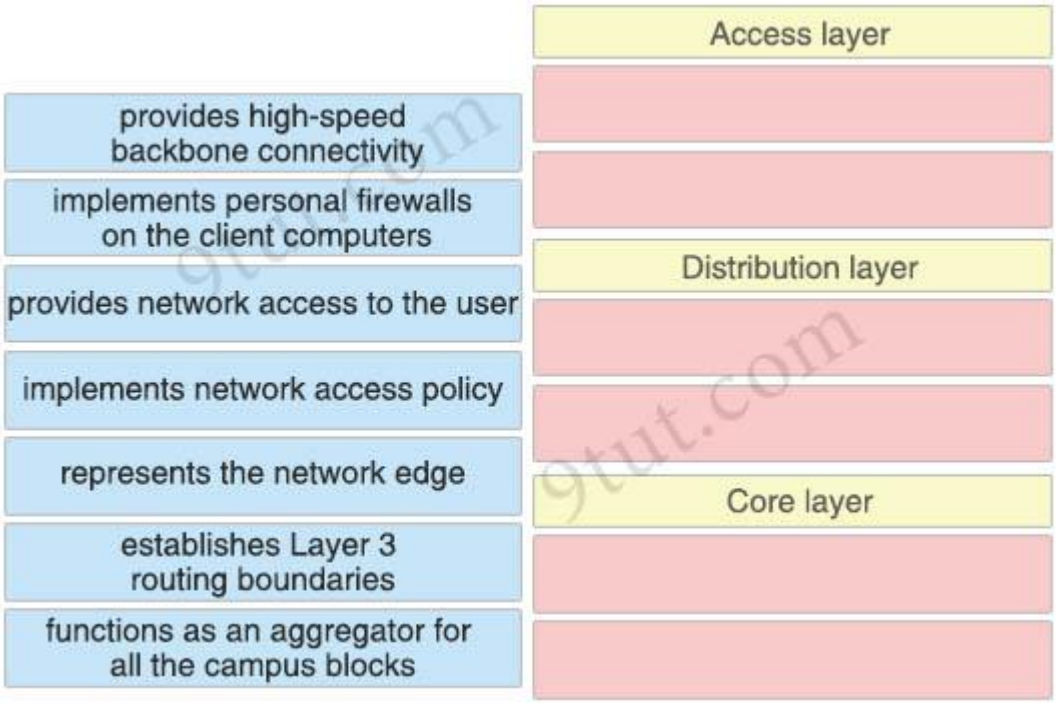
The SW1 interface g0/1 is in the down/down state. Which two configurations are valid reasons for the interface conditions? (Choose two)

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: D E

Question 82

Match the functions to the corresponding layers. (Not all options are used)



Answer:

Access layer:
+ provides network access to the user
+ represents the network edge

Distribution layer:
+ implements network access policy
+ establishes Layer 3 routing boundaries

Core layer:
+ provides high-speed backbone connectivity
+ functions as an aggregator for all the campus blocks

Basic Questions

https://www.9tut.com/basic-questions-3

Question 1

Which two statements about the purpose of the OSI model are accurate? (Choose two)

A. Defines the network functions that occur at each layer
B. Facilitates an understanding of how information travels throughout a network

C. Changes in one layer do not impact other layer
D. Ensures reliable data delivery through its layered approach

Answer: A B

Question 2

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
O. The Layer 2 switch forwards the packet and adds the destination MAC address to Its MAC address table

Answer: B

Question 3

What is the destination MAC address of a broadcast frame?

A. 00:00:0c:07:ac:01
B. ff:ff:ff:ff:ff:ff
C. 43:2e:08:00:00:0c
D. 00:00:0c:43:2e:08
E. 00:00:0crfHfrff

Answer: B

Question 4

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. If a monitored port exceeds the maximum administrative value for power, the port is shutdown and err-disabled

Answer: D

Question 5

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

Question 6

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

Question 7

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

Cloud & Virtualization Questions

https://www.9tut.com/cloud-virtualization-questions

Question 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 2

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: D

CDP & LLDP Questions

https://www.9tut.com/cdp-lldp-questions-2

Question 1

How can the Cisco Discovery Protocol be used?

A. to allow a switch to discover the devices that are connected to its ports
B. to determine the hardware platform of the device
C. to determine the IP addresses of connected Cisco devices
D. all of the above

Answer: D

Question 2

In a CDP environment, what happens when the CDP interface on an adjacent device is configured without an IP address?

A. CDP operates normally, but it cannot provide any information for that neighbor.
B. CDP operates normally, but it cannot provide IP address information for that neighbor.
C. CDP uses the IP address of another interface for that neighbor.
D. CDP becomes inoperable on that neighbor.

Answer: B

Question 3

Which command should you enter to configure an LLDP delay time of 5 seconds?

A. lldp reinit 5
B. lldp reinit 5000
C. lldp holdtime 5
D. lldp timer 5000

Answer: A

Question 4

Which command is used to enable LLDP globally on a Cisco IOS ISR?

A. lldp run
B. lldp enable
C. lldp transmit
D. cdp run
E. cdp enable

Answer: A

Question 5

Refer to the exhibit. Which command provides this output?

```
Capability Codes: k - Router, I - 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  Gig37/3         176       RI     CPT 600  Gig36/41
10.1.1.2  Gig37/1         174       RI     CPT 600  Gig36/43
10.1.1.2  Gig36/41        134       RI     CPT 600  Gig37/3
10.1.1.2  Gig36/43        134       RI     CPT 600  Gig37/1
10.1.1.2  Ten3/2          132       RI     CPT 600  Ten4/2
10.1.1.2  Ten4/2          174       RI     CPT 600  Ten3/2
```

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

Answer: D

Question 6

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

A. lldp timer
B. lldp holdtime
C. lldp reinit
D. lldp tlv-select

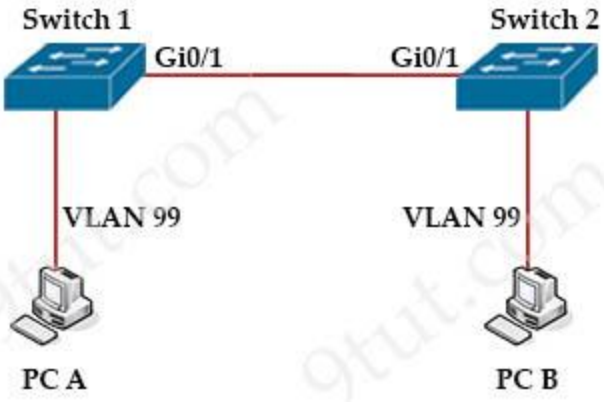
Answer: C

Trunking Questions

https://www.9tut.com/trunking-questions-3

Question 1

Refer to the exhibit. After the switch configuration the ping test fails between PC A and PC B. Baaed on the output for switch 1, which error must be corrected?



Switch 1 Name: Gi0/1 Switchport: Enabled Administrative Mode: trunk Operational Mode: trunk	**Switch 2** Name: Gi0/1 Switchport: Enabled Administrative Mode: trunk Operational Mode: trunk

Administrative Trunking Encapsulation: dot1q Operational Trunking Encapsulation: dot1q Negotiation of Trunking: Off Access Mode VLAN: 1 (default) Trunking Native Mode VLAN: 1 (default) Administrative Native VLAN tagging: enabled Voice VLAN: none <output omitted> Trunking VLANs Enabled: 50-100 Pruning VLANs Enabled: 2-1001 Capture Mode Disabled Capture VLANs Allowed: ALL	Administrative Trunking Encapsulation: dot1q Operational Trunking Encapsulation: dot1q Negotiation of Trunking: Off Access Mode VLAN: 1 (default) Trunking Native Mode VLAN: 99 (default) Administrative Native VLAN tagging: enabled Voice VLAN: none <output omitted> Trunking VLANs Enabled: 50-100 Pruning VLANs Enabled: 2-1001 Capture Mode Disabled Capture VLANs Allowed: ALL

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

Question 2

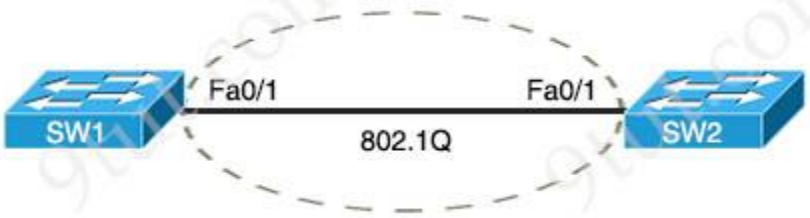
Two switches are connected and using Cisco Dynamic Trunking Protocol. SW1 is set to Dynamic Desirable. What is the result of this configuration?

A. The link is in a downstate.
B. The link is in an error disables stale
C. The link is becomes an access port
D. The link becomes a trunkport

Answer: D

Question 3

Refer to exhibit. Which action do the switches take on the trunk link?



interface FastEthernet0/1 switchport trunk encapsulation dot1q	interface FastEthernet0/1 switchport trunk encapsulation dot1q

switchport trunk native vlan 999 switchport mode trunk	switchport trunk native vlan 99 switchport mode trunk

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

STP & VTP Questions

https://www.9tut.com/stp-vtp-questions

Question 1

How does STP prevent forwarding loops at OSI Layer 2?

A. TTL
B. MAC address forwarding
C. Collision avoidance.
D. Port blocking

Answer: D

Question 2

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: C

Question 3

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

Question 4

Refer to exhibit. How does SW2 interact with other switches in this VTP domain?

```
SW2
vtp domain cisco
vtp mode transparent
vtp password test
interface fastethernet0/1
description connection to SW1
switchport mode trunk
switchport trunk encapsulation dot1q
```

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

EtherChannel Questions

https://www.9tut.com/etherchannel-questions-2

Question 1

Which two statements about EtherChannel technology are true? (Choose two)

A. EtherChannel provides increased bandwidth by bundling existing FastEthernet or Gigabit Ethernet interfaces into a single EtherChannel
B. STP does not block EtherChannel links
C. You can configure multiple EtherChannel links between two switches, using up to a limit of sixteen physical ports
D. EtherChannel does not allow load sharing of traffic among the physical links within the EtherChannel
E. EtherChannel allows redundancy in case one or more links in the EtherChannel fail

Answer: A E

Question 2

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

Question 3

Refer to the exhibit. Based on the LACP neighbor status, in which mode is the SW1 port channel configured?

```
SW1# show lacp neighbor
Flags:  S - Device is sending Slow LACPDUs
        F - Device is sending Fast LACPDUs
        A - Device is in Active mode
        P - Device is in Passive mode

Channel group 31 neighbors

Partner's information:

              LaCP port                    Admin  Oper  Port    Port
Port  Flags   Priority  Dev ID          Age  key    Key   Number  State
Et1/0 SP      32768     aabb.cc40.4000   6s  0x0    0x23  0x101   0x3C
Et1/1 SP      32768     aabb.cc50.4000   6s  0x0    0x23  0x101   0x3C
```

A. passive
B. mode on
C. auto
D. active

Answer: D

IP Address & Subnetting Questions

https://www.9tut.com/ip-address-subnetting-questions

Question 1

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

A. interface e0/0
description to HQ-A371:10975
ip address 172.16.1.4 255.255.255.248

B. interface e0/0
description to HQ-A371:10975
ip address 10.2.1.3 255.255.255.252

C. interface e0/0
description to HQ-A371:10975
ip address 192.168.1.1 255.255.255.248

D. interface e0/0
description to HQ-A371:10975
ip address 209.165.201.2 255.255.255.252

Answer: D

Question 2

Refer to exhibit. Which statement explains the configuration error message that is received?

```
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
```

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 3

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

A. 172.9.0.0/16
B. 172.28.0.0/16
C. 192.0.0.0/8
D. 209.165.201.0/24

Answer: B

IP Routing Questions

https://www.9tut.com/ip-routing-questions

Question 1

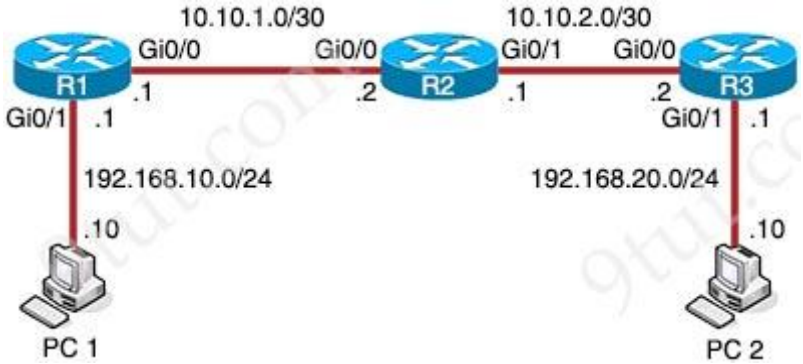
Which statement about static and dynamic routes is true?

A. Dynamic routes are manually configured by a network administrator, while static routes are automatically learned and adjusted by a routing protocol
B. Static routes are manually configured by a network administrator, while dynamic routes are automatically learned and adjusted by a routing protocol
C. Static routes tell the router how to forward packets to networks that are not directly connected, while dynamic routes tell the router how to forward packets to networks that are directly connected
D. Dynamic routes tell the router how to forward packets to networks that are not directly connected, while static routes tell the router how to forward packets to networks that are directly connected

Answer: B

Question 2

Refer to the exhibit. When PC 1 sends a packet to PC2, the packet has which source and destination IP address when it arrives at interface Gi0/0 on router R2?



A. source 192.168.10.10 and destination 10.10.2.2
B. source 192.168.20.10 and destination 192.168.20.1
C. source 192.168.10.10 and destination 192.168.20.10
D. source 10.10.1.1 and destination 10.10.2.2

Answer: C

Question 3

Which of the following dynamic routing protocols are Distance Vector routing protocols? (Choose two)

A. IS-IS
B. EIGRP
C. OSPF
D. BGP
E. RIP

Answer: B E

Question 4

Refer to the exhibit. With which metric was the route to host 172.16.0.202 learned?

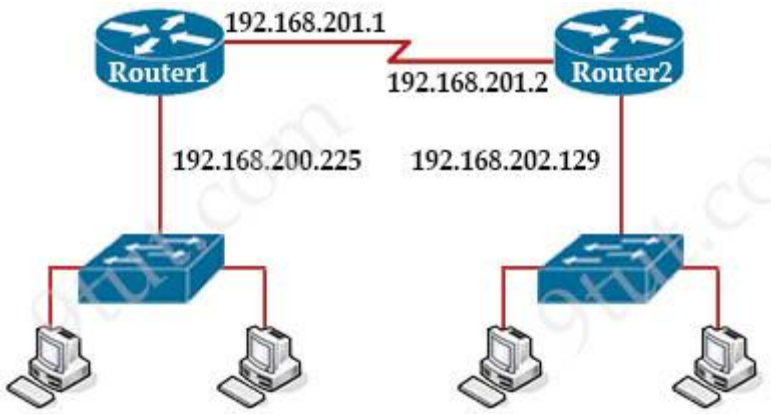
```
R1#show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
     is directly connected, Serial0/1/0
     172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
S    172.16.0.0/24 [1/0] via 207.165.200.254, 00:00:33, Serial0/0/0
O    172.16.0.128/25 [110/38443] via 207.165.200.254, 00:00:33, Serial0/0/1
D    172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:33, 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    209.165.200.249/30 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. 0
B. 110
C. 38443
D. 3184439

Answer: C

Question 5

Refer to the exhibit. Which command would you use to configure a static route on Router 1 to network 192.168.202.0/24 with a nondefault administrative distance?

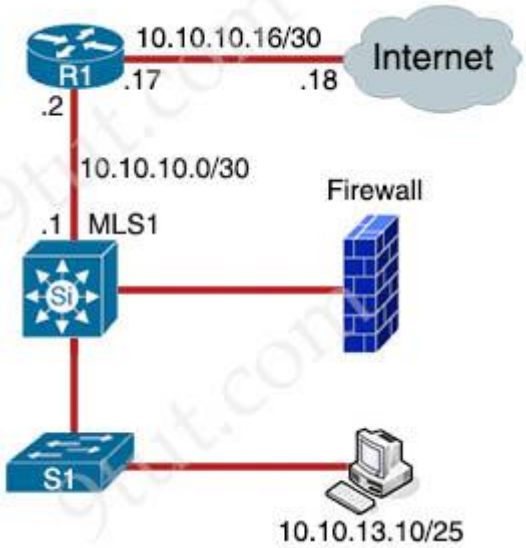


A. router1(config)#ip route 192.168.202.0 255.255.255.0 192.168.201.2 1
B. router1(config)#ip route 192.168.202.0 255.255.255.0 192.168.201.2 5
C. router1(config)#ip route 1 192.168.201.1 255.255.255.0 192.168.201.2
D. router1(config)#ip route 5 192.168.202.0 255.255.255.0 192.168.201.2

Answer: B

Question 6

Refer to the exhibit. Which type of route does R1 use to reach host 10.10.13.10/32?




```
R1#show ip route
Gateway of last resort is 10.10.10.18 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 4 subnets. 3 Masks
C 10.10.10.0/30 is directly connected. FastEthernet0/1
O 10.10.13.0/25 [110/4576] via 10.10.10.1, 02:53:11, FastEthernet0/1
C 10.10.10.16/30 is directly connected, FastEthernet0/24
0 10.10.13.144/28 [110/110] via 10.10.10.1, 03:51:21, FastEthernet0/1
B* 0.0.0.0/0 [20/0] via 10.10.10.18, 02:17:53
```

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

Answer: D

Question 7

Refer to the exhibit. 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?

```
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
```

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

Question 8

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

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 9

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

Question 10

Refer to the exhibit. Which route does R1 select for traffic that is destined to 192.168.16.2?

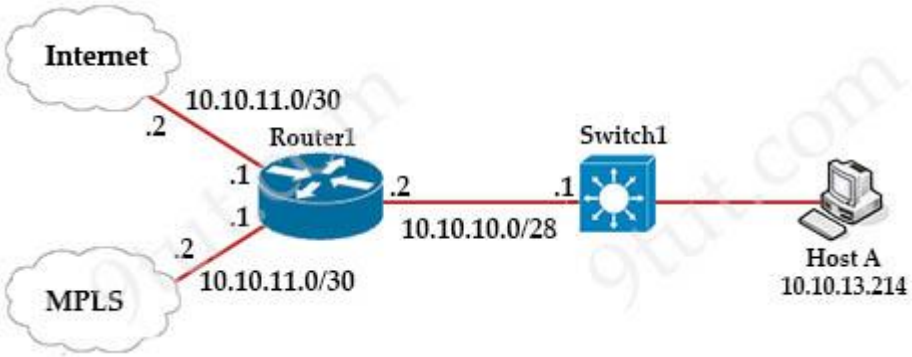
```
R1#show ip route
D    192.168.16.0/26 [90/2679326] via 192.168.1.1
R    192.168.16.0/24 [120/3] via 192.168.1.2
O    192.168.16.0/21 [110/2] via 192.168.1.3
i L1 192.168.16.0/27 [115/30] via 192.168.1.4
```

A. 192.168.16.0/21
B. 192.168.16.0/24
C. 192.168 26.0/26
D. 192.168.16.0/27

Answer: D

Question 11

Refer to the exhibit. Which prefix does Router 1 use for traffic to Host A?




```
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 sudnetted, 1 subnets
B    209.165.200.224 [20/0] via 10.10.12.2, 03:03:03
```

```
   209.165.201.0/27 is sudnetted, 1 subnets
B    209.165.201.0 [20/0] via 10.10.12.2, 03:03:03
   209.165.202.0/27 is subnetted, 1 subnets
B    209.165.202.128 [20/0] via 10.10.12.2, 03:03:03
   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, 00:00:03, GigabitEthernet0/0
O    10.10.13.128/28 [110/2] via 10.10.10.1, 00:00:03, GigabitEthernet0/0
O    10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:03, GigabitEthernet0/0
O    10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:03, GigabitEthernet0/0
O    10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:03, GigabitEthernet0/0
S*  0.0.0.0/0 [1/0] via 10.10.11.2
```

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

Question 12

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

OSPF Questions

https://www.9tut.com/ospf-questions-3

Question 1

What is the purpose of the show ip ospf interface command?

A. displaying OSPF-related interface information
B. displaying general information about OSPF routing processes
C. displaying OSPF neighbor information on a per-interface basis
D. displaying OSPF neighbor information on a per-interface-type basis

Answer: A

Question 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 3

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

Question 4

You have configured a router with an OSPF router ID, but its IP address still reflects the physical interface. Which action can you take to correct the problem in the least disruptive way?

A. Reload the OSPF process
B. Reload the router
C. Save the router configuration
D. Specify a loopback address

Answer: A

Question 5

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 6

Refer to the exhibit. If OSPF is running on this network, how does Router 2 handle traffic from Site B to 10.10.13.128/25 at Site A?




```
Router2#show ip route
Gateway of last resort is not set

  10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
C   10.10.10.8/30 is directly connected, FastEthernet0/2
C   10.10.10.12/30 is directly connected, FastEthernet0/1
O   10.10.13.0/25 [110/11] via 10.10.10.9, 00:00:02, FastEthernet0/2
                  [110/11] via 10.10.10.13, 00:00:02, FastEthernet0/1
C   10.10.10.4/30 is directly connected, FastEthernet0/2
```

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

Question 7

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. point-to-multipoint
B. broadcast
C. point-to-point
D. non-broadcast

Answer: C

Question 8

Refer to the exhibit. What does router R1 use as its OSPF router-ID?

```
R1#show ip interface brief
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 NVRAM  up                    up
GigabitEthernet3/0     10.10.10.20     YES NVRAM  up                    up
GigabitEthernet4/0     unassigned      YES NVRAM  administratively down down
Loopback0              172.16.15.10    YES manual
```

A. 10.10.1.10
B. 10.10.10.20
C. 172.16.15.10
D. 192.168.0.1

Answer: C

Question 9

Refer to the exhibit. The “show ip ospf interface” command has been executed on R1. How is OSPF configured?

```
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)
```

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

Question 10

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?

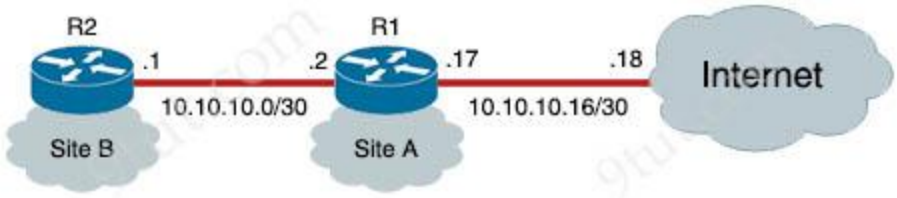
A. IS-IS
B. RIP
C. Internal EIGRP
D. OSPF

Answer: C

Question 11

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?



R2#show run | b router ospf router ospf 1 router-id 2.2.2.2 log-adjacency-changes auto-cost reference-bandwidth 10000 network 10.10.10.1 0.0.0.0 area 0 network 10.10.13.1 0.0.0.0 area 0 ========== == R2#show ip route	R1#show run | b router ospf router ospf 1 router-id 1.1.1.1 log-adjacency-changes auto-cost reference-bandwidth 10000 network 10.10.10.2 0.0.0.0 area 0 default-information originate ========== == R1#show ip route

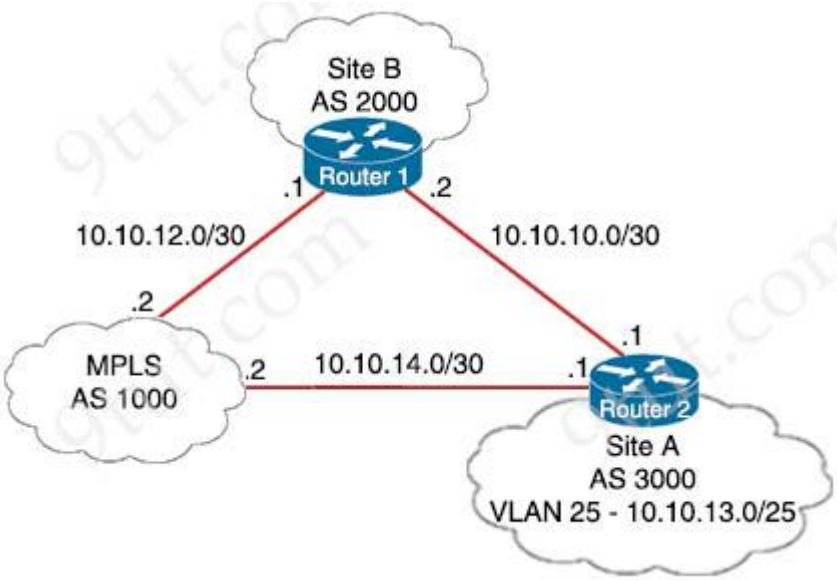
Gateway of last resort is not set 10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks C 10.10.10.0/30 is directly connected C 10.10.13.0/25 is directly connected, Vlan20 C 10.10.13.144/28 is directly connected, Vlan40	Gateway of last resort is not set 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks C 10.10.10.0/30 is directly connected, FastEthernet0/1 O 10.10.13.0/25 [110/5766] via 10.10.10.1,00:33:22 C 10.10.10.16/30 is directly connected, FastEthernet0/24 O 10.10.13.144/28 [110/110] via 10.10.10.1, 01:33:33

A. Add the **default-information originate** command on R2
B. Add the always keyword to the default-information originate command on R1
C. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.18 command on R1
D. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.2 command on R2

Answer: C

Question 12

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 learns the route to VLAN25 from the BGP path.




```
Router1#show ip route
Gateway of last resort is 10.10.11.2 to network 0.0.0.0
   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
O       10.10.13.0/25 [110/2] via 10.10.10.1,00:00:32, GigabitEthernet0/0
O       10.10.13.128/28 [110/2] via 10.10.10.1,00:00:32, GigabitEthernet0/0
O       10.10.13.144/28 [110/2] via 10.10.10.1,00:00:32, GigabitEthernet0/0
```

```
O       10.10.13.160/29 [110/2] via 10.10.10.1,00:00:32, GigabitEthernet0/0
O       10.10.13.208/30 [110/2] via 10.10.10.1,00:00:32, GigabitEthernet0/0
O       10.10.13.252/30 [110/2] via 10.10.10.1,00:00:32, GigabitEthernet0/0
S* 0.0.0.0/0 [1/0] via 10.10.11.2
```

What is 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 symmetrical
D. Route 10.10.13.0/25 learned via the Gi0/0 interface remains in the routing table

Answer: B

EIGRP Questions

https://www.9tut.com/eigrp-questions-2

Question 1

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

Question 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

NAT Questions

https://www.9tut.com/nat-questions

Question 1

Which statement about the nature of NAT overload is true?

A. applies a one-to-many relationship to internal IP addresses
B. applies a one-to-one relationship to internal IP addresses
C. applies a many-to-many relationship to internal IP addresses
D. can be configured only on Gigabit interface

Answer: A

Question 2

Refer to the exhibit. An engineer configured NAT translations and has verified that the configuration is correct. Which IP address is the source IP?

```
R1#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
```

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

Answer: C

Question 3

Which keyword in a NAT configuration enables the use of one outside IP address for multiple inside hosts?

A. source
B. static
C. pool
D. overload

Answer: D

Question 4

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

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

Answer: C

NTP Questions

https://www.9tut.com/ntp-questions-2

Question 1

Which command should you enter to configure a device as an NTP server?

A. ntp server
B. ntp peer
C. ntp authenticate
D. ntp master

Answer: D

Question 2

Which two pieces of information can you determine from the output of the **show ntp status** command? (Choose two)

A. whether the NTP peer is statically configured
B. the IP address of the peer to which the clock is synchronized
C. the configured NTP servers
D. whether the clock is synchronized
E. the NTP version number of the peer

Answer: B D

Question 3

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

Syslog Questions

https://www.9tut.com/syslog-questions-2

Question 1

What will happen if you configure the logging trap debug command on a router?

A. It causes the router to send messages with lower severity levels to the syslog server
B. It causes the router to send all messages with the severity levels Warning, Error, Critical, and Emergency to the syslog server
C. It causes the router to send all messages to the syslog server
D. It causes the router to stop sending all messages to the syslog server

Answer: C

Question 2

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

HSRP Questions

https://www.9tut.com/hsrp-questions-2

Question 1

Which command must you enter to guarantee that an HSRP router with higher priority becomes the HSRP primary router after it is reloaded?

A. standby 10 preempt
B. standby 10 version 1
C. standby 10 priority 150
D. standby 10 version 2

Answer: A

Question 2

Which command should you enter to verify the priority of a router in an HSRP group?

A. show hsrp
B. show sessions
C. show interfaces
D. show standby

Answer: D

Question 3

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

Question 4

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

A. The two routers share a virtual P 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 routed share the same IP address, and default gateway traffic is load-balanced between them

Answer: A B

Question 5

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 and data path
D. It uses a shared virtual IMC and a virtual IP address to a group of routers that serve as the default gateway for hosts on a LAN

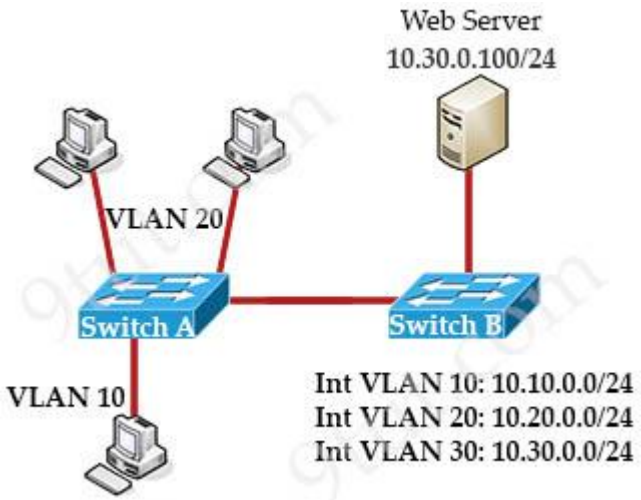
Answer: D

Access-list Questions

https://www.9tut.com/access-list-questions-2

Question 1

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?



A.
config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80

int vlan 100
ip access-group wwwblock in

B.
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

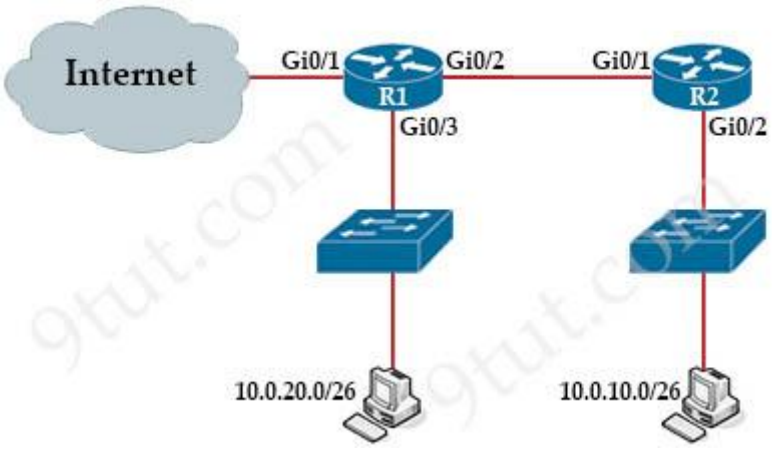
C. config t
ip access-list extended wwwblock
permit ip any any
deny tcp any host 10.30.0.100 eq 80
int vlan 30
ip access-group wwwblock in

D.
config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80
int vlan 20
ip access-group wwwblock in

Answer: B

Question 2

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)



```
R2#config t
R2(config)#access-list 101 deny tcp 10.0.20.0 0.0.0.63 10.0.10.0 0.0.0.63 eq smtp
R2(config)#access-list 101 deny tcp 10.0.20.0 0.0.0.63 10.0.10.0 0.0.0.63 eq www
R2(config)#int gi0/2
R2(config-if)#ip access-group 101 in
```

A. Add a “permit ip any any” statement to the beginning 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

AAA Questions

https://www.9tut.com/aaa-questions-2

Question 1

AAA stands for authentication, authorization, and accounting.

A. False
B. True

Answer: B

Question 2

Which effect does the **aaa new-model** configuration command have?

A. It configures the device to connect to a RADIUS server for AAA.
B. It configures a local user on the device.
C. It associates to RADIUS server to an AAA group.
D. It enables AAA services on the device.

Answer: D

Question 3

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 users 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 9ie activities the user initiates

Answer: C

Question 4

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

```
Atlanta#config t
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
```

A. adminadmin123
B. default
C. testing1234
D. cisco123

Answer: C

Security Questions

https://www.9tut.com/security-questions-3

Question 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

Question 2

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 3

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 4

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

Question 5

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

Question 6

Which set of action satisfy the requirement for multi-factor 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

Question 7

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

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

Answer: B

DAI Questions

https://www.9tut.com/dai-questions

Question 1

Refer to the exhibit. What is the effect of this configuration?

```
ip arp inspection vlan 2
```

```
interface fastethernet 0/1
 switchport mode access
 switchport access vlan 2
```

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 2

Refer to the exhibit. What is the effect of this configuration?

```
ip arp inspection vlan 2
interface fastethernet 0/1
 switchport mode access
 switchport access vlan 2
```

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

IPv6 Questions

https://www.9tut.com/ipv6-questions-5

Question 1

Which command is used to configure an IPv6 static default route?

A. ipv6 route ::/0 interface next-hop
B. ipv6 route default interface next-hop
C. ipv6 route 0.0.0.0/0 interface next-hop
D. ip route 0.0.0.0/0 interface next-hop

Answer: A

Question 2

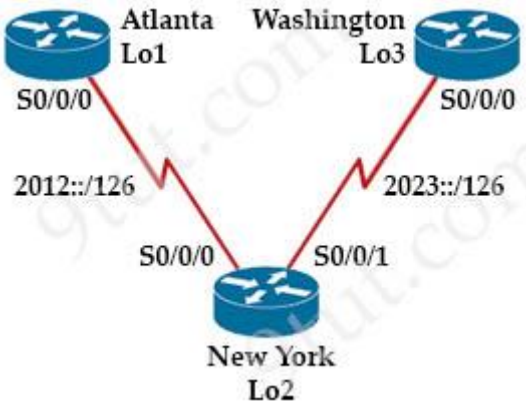
Which command verifies whether any IPv6 ACLs are configured on a router?

A. show ipv6 interface
B. show access-list
C. show ipv6 access-list
D. show ipv6 route

Answer: C

Question 3

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)



Configured interfaces:

Atlanta: S0/0/0: 2012::1/126 Loopback1: 2000::1/128	**New York:** S0/0/0: 2012::2/126 S0/0/1: 2023::2/126 Loopback2:2000::2/128	**Washington:** S0/0/0: 2023::3/126 Loopback3: 2000::3/128

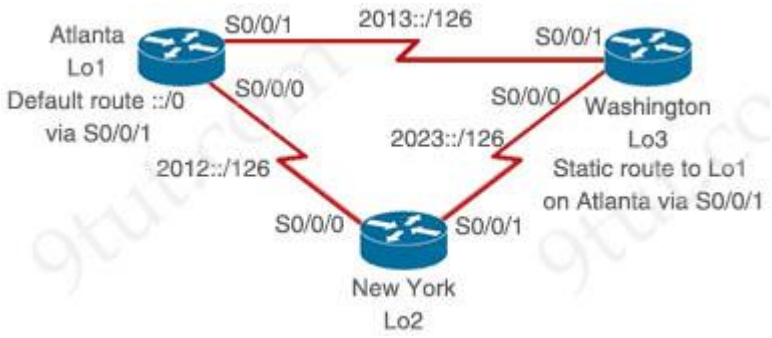
A. Configure the ipv6 route 2012::/126 2023::1 command on the Washington router
B. Configure the ipv6 route 2023::/126 2012::1 command on the Atlanta router
C. Configure the ipv6 route 2012::/126 s0/0/0 command on the Atlanta router
D. Configure the ipv6 route 2023::/126 2012::2 command on the Atlanta router
E. Configure the ipv6 route 2012::/126 2023:2 command on the Washington router

Answer: D E

Question 4

Refer to exhibit. An engineer is configuring the New York router to reach the Lo1 interface of the Atlanta router using interface S0/0/0 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)



Configured interfaces:

Atlanta:	**New York:**	**Washington:**
S0/0/0: 2012::1/126	S0/0/0: 2012::2/126	S0/0/0: 2023::3/126
S0/0/1: 2013::1/126	S0/0/1: 2023::2/126	S0/0/1: 2013::3/126
Loopback1: 2000::1/128	Loopback2:2000::2/128	Loopback3: 2000::3/128

A. ipv6 route 2000::1/128 2012::1
B. ipv6 route 2000::1/128 2012::1 5
C. ipv6 route 2000::1/128 2012::2
D. ipv6 route 2000::1/128 2023::2 5
E. ipv6 route 2000::1/128 2023::3 5

Answer: A E

Question 5

Which IPv6 address type provides communication between subnets and cannot route on the Internet?

A. global unicast
B. unique local
C. link-local
D. multicast

Answer: B

Question 6

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 2001:068:5:112::64 eui-64
C. ipv6 address autoconfig
D. ipv6 address 2001:068:5:112:2/64 link-local

Answer: C

Question 7

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

Question 8

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

Wireless Questions

https://www.9tut.com/wireless-questions-2

Question 1

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

Question 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. flex connect
D. local

Answer: C

Question 3

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

Question 4

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 non overlapping 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 5

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

Question 6

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

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

Answer: B

Question 7

Which type of wireless encryption is used for WPA2 in pre-shared key mode?

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

Answer: D

Question 8

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 9

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

Question 10

Which 802.11 frame type is association response?

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

Answer: A

Question 11

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

Question 12

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

SDN Questions

https://www.9tut.com/sdn-questions

Question 1

Which statement about the Cisco ACI fabric is most accurate?

A. The APIC is able to enforce security by inserting itself into the data path.
B. The fabric header carries the EPG from the egress to the ingress leaf switch.
C. An APIC is a cluster of at least three APIC controllers, providing a single point of management without a single point of failure.
D. The spine switch rewrites the EPG from ingress to egress when it performs the forwarding proxy function

Answer: C

Question 2

Which API is used in controller-based architectures to interact with edge devices?

A. overlay
B. northbound
C. underlay
D. southbound

Answer: D

Question 3

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 4

What are two southbound APIs? (Choose two)

A. Thrift
B. NETCONF
C. Open Flow
D. DSC
E. CORBA

Answer: B C

Question 5

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

DNA Center Questions

https://www.9tut.com/dna-center-questions

Question 1

Which two capacities of Cisco DNA Center make it more extensible? (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

Question 2

Which two capacities of Cisco DNA Center make it more extensible? (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

Question 3

What makes Cisco DNA Center different from traditional network management applications and their management of networks?

A. It only supports auto-discovery of network elements in a green field deployment.
B. It 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

Automation Questions

https://www.9tut.com/automation-questions

Question 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”
}

Answer: D

Question 2

Which option best describes an API?

A. communication often uses either Java scripting, Python, XML, or simple HTTP
B. an architectural style (versus a protocol) for designing applications
C. a stateless client-server model
D. request a certain type of data by specifying the URL path that models the data

Answer: C

Question 3

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

Question 4

Which of the following is the JSON encoding of a dictionary or hash?

A. {“key”: “value”}
B. [“key”, “value”]
C. {“key”, “value”}
D. (“key”: “value”)

Answer: A

Question 5

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

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

Answer: B E

Question 6

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

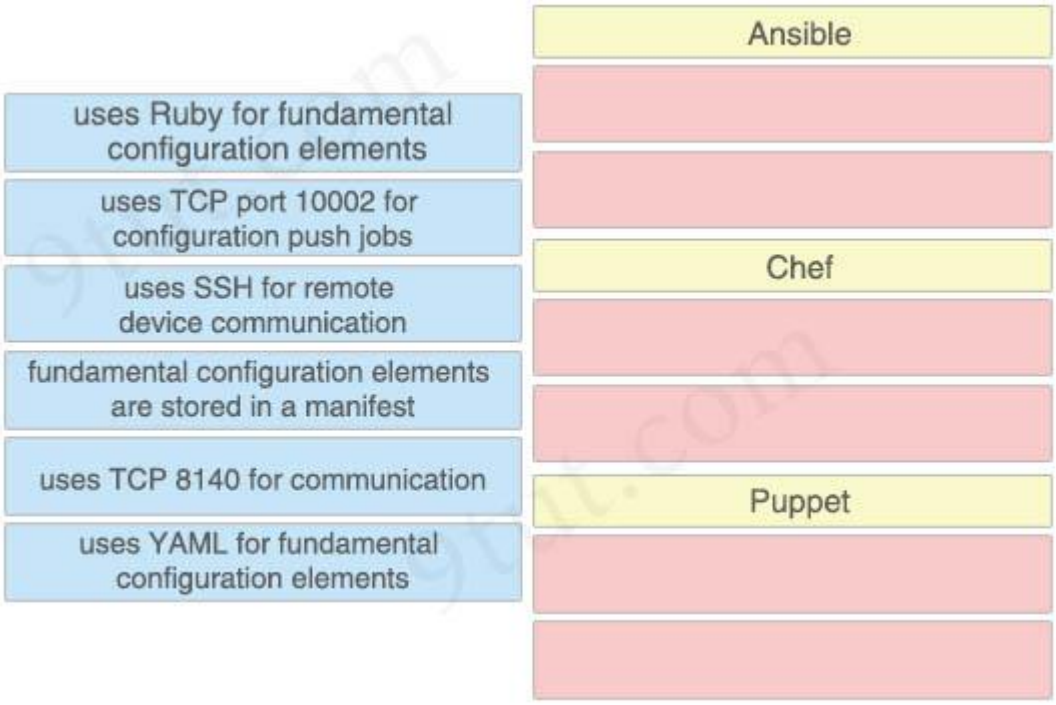
Answer: A C

Drag Drop Questions

https://www.9tut.com/drag-drop-questions

Question 1

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



Answer:

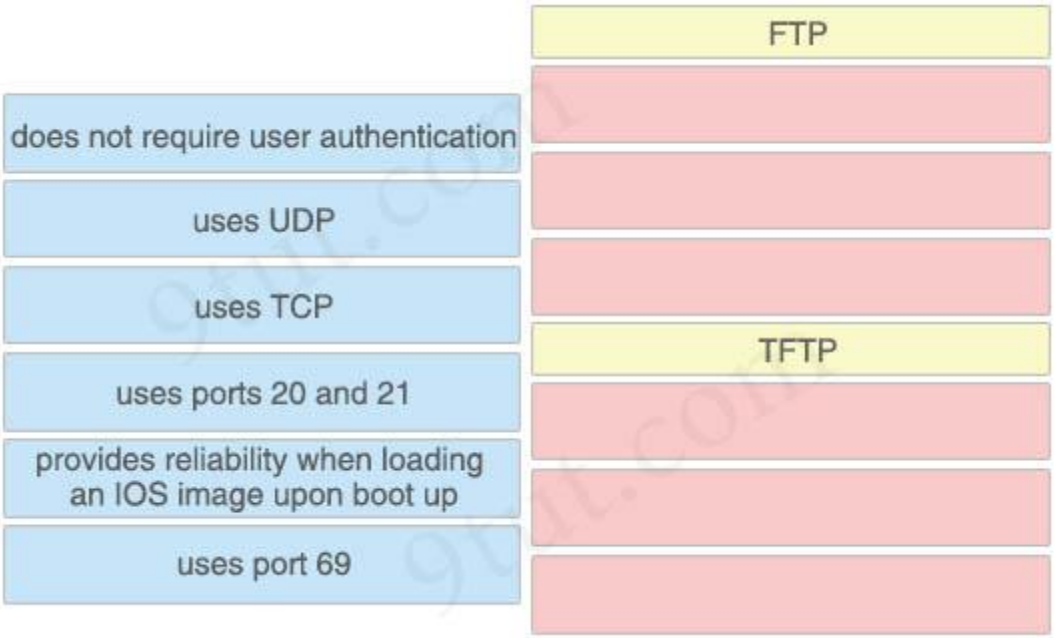
Ansible:
+ uses SSH for remote device communication
+ uses YAML for fundamental configuration elements

Chef:
+ uses Ruby for fundamental configuration elements
+ uses TCP port 10002 for configuration push jobs

Puppet:
+ fundamental configuration elements are stored in a manifest
+ uses TCP 8140 for communication

Question 2

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



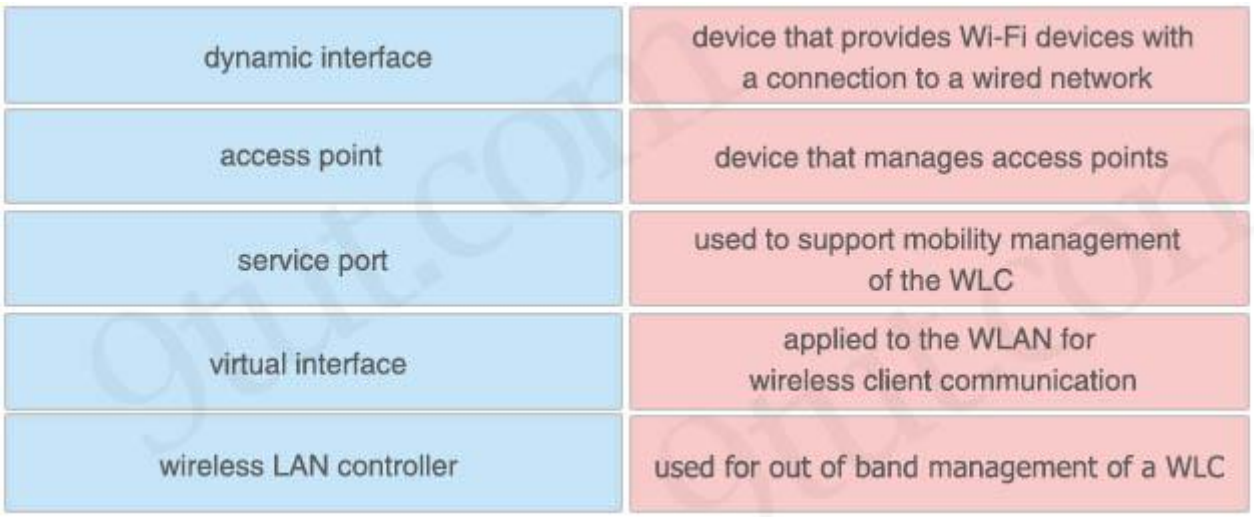
Answer:

FTP:
+ uses TCP
+ uses ports 20 and 21
+ provides reliability when loading an IOS image upon boot up

TFTP:
+ does not require user authentication
+ uses UDP
+ uses port 69

Question 3

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

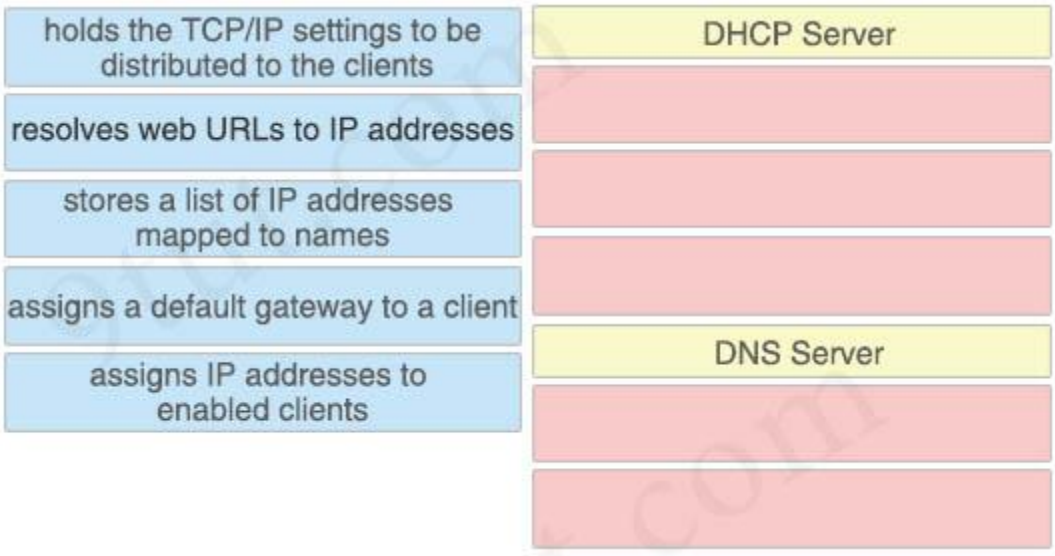


Answer:

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

Question 4

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



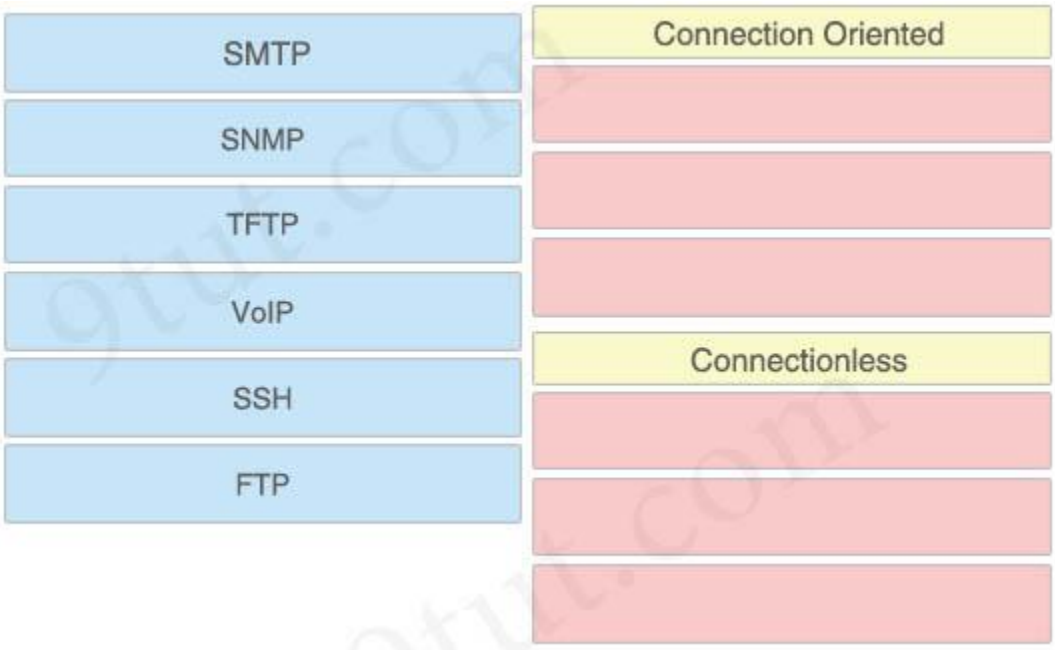
Answer:

DHCP Server:
+ holds the TCP/IP settings to be distributed to the clients
+ assigns a default gateway to a client
+ assigns IP addresses to enabled clients

DNS Server:
+ resolves web URLs to IP addresses
+ stores a list of IP addresses mapped to names

Question 5

Drag and drop the networking parameters from the left on to the correct values on the right.



Answer:

Connection Oriented:
+ SMTP
+ SSH
+ FTP

Connectionless:
+ SNMP
+ TFTP
+ VoIP

Question 6

Drag the OSPF parameters to the correct places on the right.



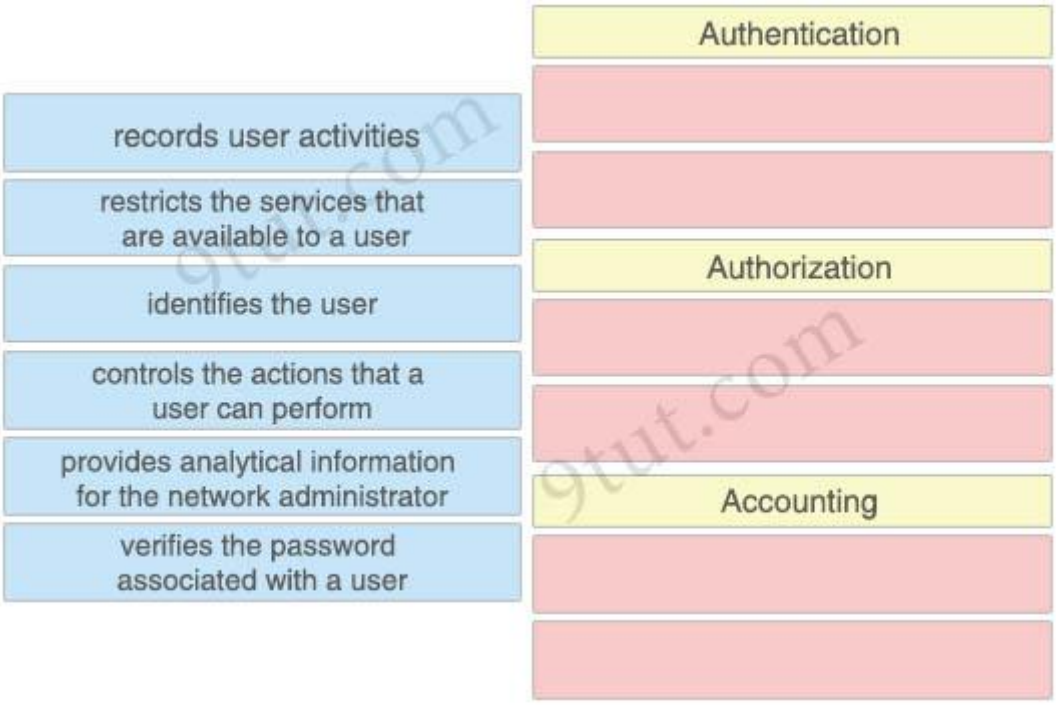
Answer:

must be unique:
+ IP address
+ router ID

must match:
+ area ID
+ timers
+ netmask

Question 7

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



Answer:

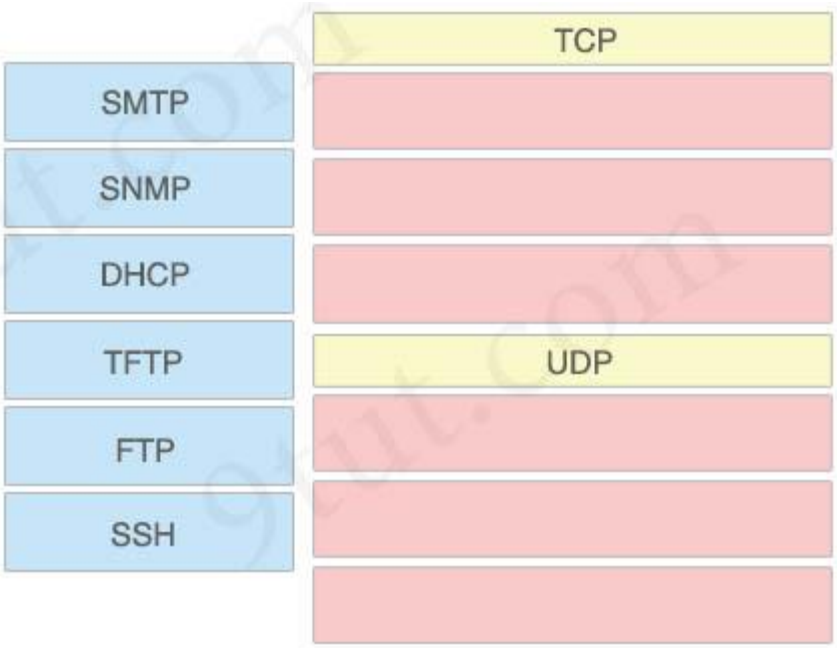
Authentication:
+ identifies the user
+ verifies the password associated with a user

Authorization:
+ restricts the services that are available to a user
+ controls the actions that a user can perform

Accounting:
+ records user activities
+ provides analytical information for the network administrator

Question 8

Drag and drop the application protocols from the left onto the suitable transport protocols on the right.



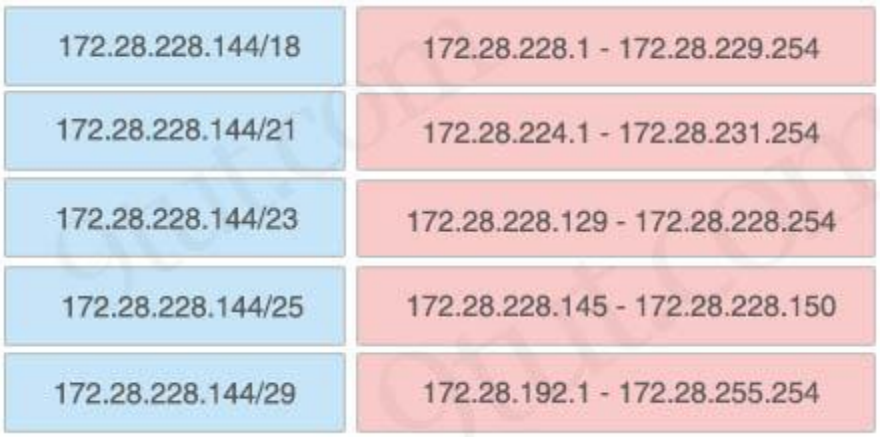
Answer:

TCP:
+ SMTP
+ FTP
+ SSH

UDP:
+ SNMP
+ DHCP
+ TFTP

Question 9

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

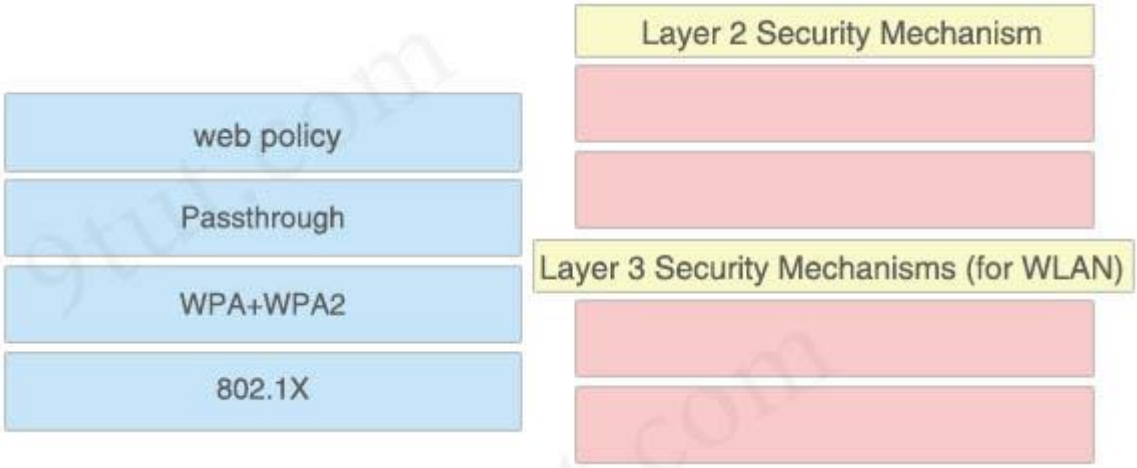


Answer:

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

Question 10

Drag and drop the Cisco Wireless LAN Controller security settings from the left onto the correct security mechanism categories on the right.



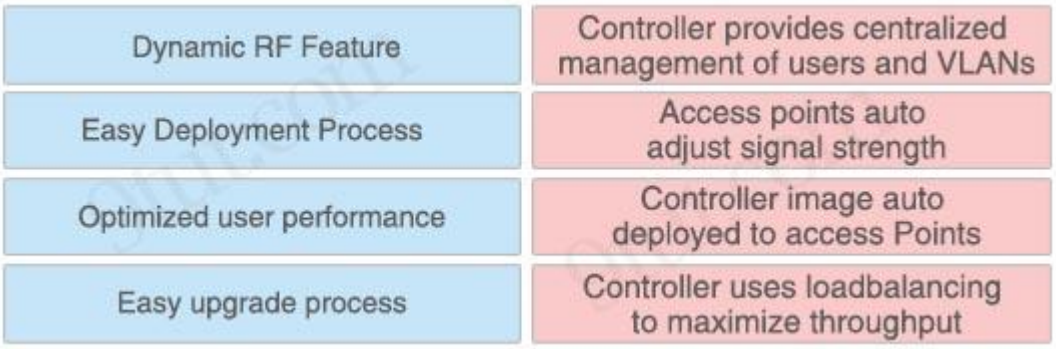
Answer:

Layer 2 Security Mechanism:
+ WPA+WPA2
+ 802.1X

Layer 3 Security Mechanisms (for WLAN):
+ web policy
+ Passthrough

Question 11

Drag and Drop the benefits of a Cisco Wireless LAN Controller from the left onto the correct examples on the right

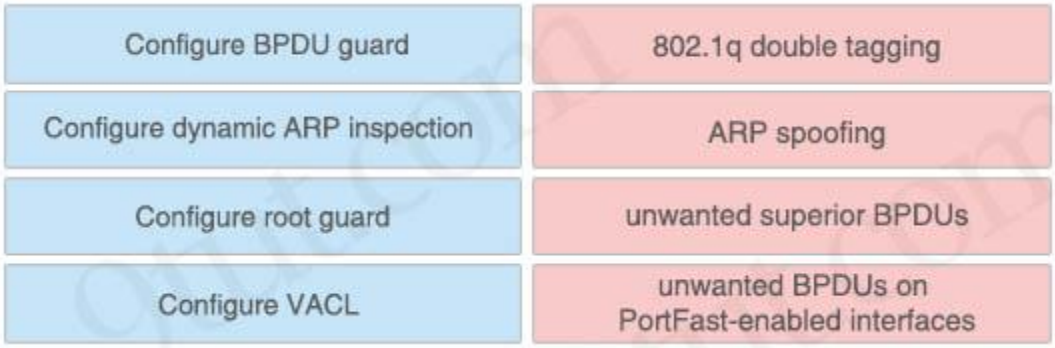


Answer:

+ **Dynamic RF Feature**: Access points auto adjust signal strength
+ **Easy Deployment Process**: Controller provides centralized management of users and VLANs
+ **Optimized user performance**: Controller uses loadbalancing to maximize throughput
+ **Easy upgrade process**: Controller image auto deployed to access Points

Question 12

Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.



Answer:

+ 802.1q double tagging: Configure VACL
+ ARP spoofing: Configure dynamic ARP inspection
+ unwanted superior BPDUs: Configure root guard
+ unwanted BPDUs on PortFast-enabled interfaces: Configure BPDU guard

Question 13

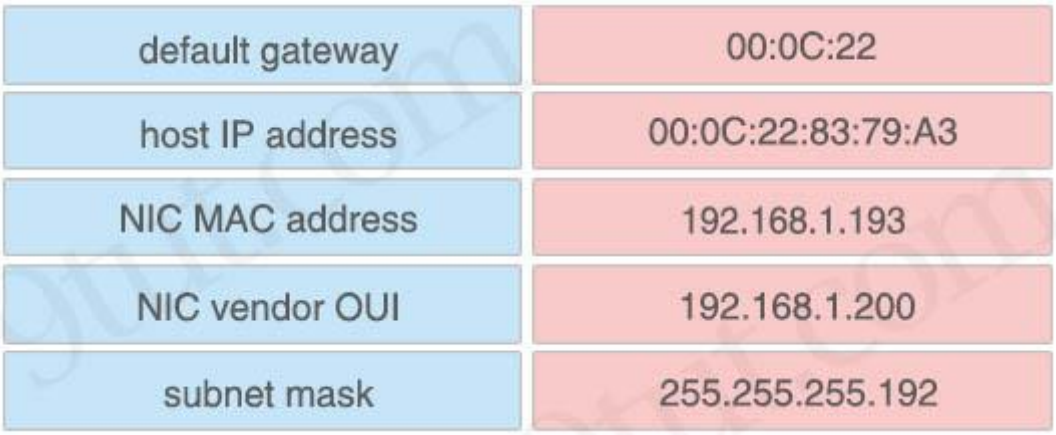
Refer to the exhibit.

```
[root#HostTime=]#ip route
default via 192.168.1.193 dev eth1 proto static
192.168.1.0/26 dev sth1 proto kernel scope link src 192.168.1.200 metric 1

[root#HostTime=]#ip addr show eth1
```

```
eth1:mtu 1500 qdisc pfifo_fast qlan 1000
 link/ether 00:0C:22:83:79:A3 brd ff:ff:ff:ff:ff:ff
 inet 192.168.1.200/26 hrd 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.



Answer:

+ 00:0C:22: NIC vendor OUI
+ 00:0C:22:83:79:A3: NIC MAC address
+ 192.168.1.193: default gateway
+ 192.168.1.200: host IP address
+ 255.255.255.192: subnet mask

Miscellaneous Questions

https://www.9tut.com/miscellaneous-questions-2

Question 1

Which three statements about MAC addresses are correct? (Choose three)

A. To communicate with other devices on a network, a network device must have a unique MAC address
B. The MAC address is also referred to as the IP address
C. The MAC address of a device must be configured in the Cisco IOS CLI by a user with administrative privileges
D. A MAC address contains two main components, the first of which identifies the manufacturer of the hardware and the second of which uniquely identifies the hardware
E. An example of a MAC address is 0A:26:B8:D6:65:90
F. A MAC address contains two main components, the first of which identifies the network on which the host resides and the second of which uniquely identifies the host on the network

Answer: A D E

Question 2

Which Cisco IOS command will indicate that interface GigabitEthernet 0/0 is configured via DHCP?

A. show ip interface GigabitEthernet 0/0 dhcp
B. show interface GigabitEthernet 0/0
C. show ip interface dhcp
D. show ip interface GigabitEthernet 0/0
E. show ip interface GigabitEthernet 0/0 brief

Answer: D

Question 3

Which command can you enter to allow Telnet to be supported in addition to SSH?

A. transport input telnet ssh
B. transport input telnet
C. no transport input telnet
D. privilege level 15

Answer: A

Question 4

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

Question 5

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

Question 6

Which feature or protocol determines whether the QoS on the network is sufficient to support IP services?

A. LLDP
B. CDP
C. IP SLA
D. EEM

Answer: C

Question 7

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. COP
B. SNMP
C. SMTP
D. ARP

Answer: B

Question 8

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 9

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