Cisco

CCNP TSHOOT

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PRINTABLES

PRINTABLE PRACTICE QUESTIONS

QUESTIONS, ANSWERS, AND DETAILED EXPLANATIONS IN AN EASY-TO-USE PRINTABLE FORMAT

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CCNP TSHOOT (642-832) Printables

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Chapter 1
Maintain and monitor network performance

1. From a network maintenance standpoint, you want to eliminate what kind of maintenance tasks?Choose the best answer.

   - ❍ A. Structured tasks
   - ❍ B. Repetitive tasks
   - ❍ C. Interrupt-driven tasks
   - ❍ D. Preemptive tasks

   Find the Answer p. 69

2. Which well-known network maintenance model is a model defined by the ISO?Choose the best answer.

   - ❍ A. FCAPS
   - ❍ B. ITIL
   - ❍ C. TMN
   - ❍ D. Cisco Lifecycle Services

   Find the Answer p. 69

3. Which well-known network maintenance model is often referred to as the PPDIOO model?Choose the best answer.

   - ❍ A. TMN
   - ❍ B. ITIL
   - ❍ C. FCAPS
   - ❍ D. Cisco Lifecycle Services

   Find the Answer p. 69

4. Which FCAPS management type requires logging of any changes made to network configurations?Choose the best answer.

- ❍ A. Fault management.
- ❍ B. Accounting management.
- ❍ C. Security management.
- ❍ D. Configuration management.

Find the Answer p. 69

5. Which management type as defined by the well-known network management model, FCAPS would collect information from network equipment and alert administrators when problems occurred.Choose the best answer.

- ❍ A. Fault management
- ❍ B. Accounting management
- ❍ C. Performance management
- ❍ D. Configuration management

Find the Answer p. 69

6. Which of the following is NOT considered to be a routine maintenance task?Choose the best answer.

- ❍ A. Configuration changes
- ❍ B. Network security breach
- ❍ C. Monitoring network performance.
- ❍ D. Replacement of failed hardware

Find the Answer p. 69

7. Which routing maintenance task can help prepare for future expansion?Choose the best answer.

- ❍ A. Scheduled backups
- ❍ B. Updating software
- ❍ C. Configuration changes
- ❍ D. Monitoring network performance

Find the Answer p. 69

8. Which type of network diagram shows the interconnection of network segments, protocols used and how clients/servers interface with the network?Choose the best answer.

- ❍ A. Physical topology diagram
- ❍ B. Three-tiered network diagram
- ❍ C. Logical topology diagram
- ❍ D. Distributed topology diagram

Find the Answer p. 69

9. A network support engineer needs to be ready when a hardware failure occurs. Which of the following tools is NOT one of the recommended things to quickly and efficiently fix a network failure?Choose the best answer.

- ❍ A. Duplicate hardware
- ❍ B. Hardware Operating Systems and Licensing
- ❍ C. System logs
- ❍ D. Backup of device configurations

Find the Answer p. 69

10. Which of the following Cisco CLI tools are used for basic network troubleshooting?Choose two.

- ❑ A. Configuration commands
- ❑ B. Show commands
- ❑ C. Copy commands
- ❑ D. Debug commands
- ❑ E. Directory commands

Find the Answer p. 69

11. Which of the following is not a freely available device-based GUI tool used to manage network equipment?Choose the best answer.

- ❍ A. CiscoWorks
- ❍ B. Cisco Configuration Assistant
- ❍ C. Adaptive Security Device Manager
- ❍ D. Cisco Network Assistant

Find the Answer p. 69

12. A network engineer issues the following command. Look at the following IOS output and choose the answer below that best describes what the engineer is doing.Router# copy startup-config ftp://backup:p4ssw0rd@192.168.99.200Address or name of remote host [192.168.99.200]?Destination filename [config]?Writing config !!!!1546 bytes copied in 3.749 secs (422 bytes/sec)Choose the best answer.

- ❍ A. The engineer is copying the routers configuration that is currently in RAM to a remote FTP server.
- ❍ B. The engineer is copying the routers configuration that is currently in RAM to a remote TFTP server.
- ❍ C. The engineer is copying the routers configuration that is currently in NVRAM to a remote FTP server.
- ❍ D. The engineer is copying the routers configuration that is currently in RAM to a remote TFTP server.

Find the Answer p. 69

13. A network engineer is investigating a trouble ticket and has found problems with a router configuration where changes have recently been made by another engineer. Instead of removing the changes, the engineer wants to roll-back and use a configuration that was archived onto and FTP server. To do this the engineer uses the following command:configure replace ftp://192.168.1.199/R1-config-2What does this command do?Choose the best answer.

- ❍ A. Replaces the current router startup-configuration with the archived configuration.
- ❍ B. Replaces the current router running-configuration with the archived configuration.
- ❍ C. Merges the current router startup-configuration with the archived configuration.
- ❍ D. Merges the current router running-configuration with the archived configuration.

Find the Answer p. 69

14. A network engineer is investigating a trouble ticket and has connected to a router's command-line via SSH. They want to be able to see logging messages as if they were directly connected to the command line. What configuration command do they need to issue?Choose the best answer.

- ❍ A. Router(config)# logging buffered
- ❍ B. Router(config)# logging console
- ❍ C. Router(config)# terminal monitor
- ❍ D. Router(config)# AAA console

Find the Answer p. 69

15. Which logging severity level is called Debugging?Choose the best answer.

- ❍ A. Level 5
- ❍ B. Level 1
- ❍ C. Level 7
- ❍ D. Level 10

Find the Answer p. 69

16. A network engineer sees the following command in a switch configurationlogging buffered 4096 warningsWhat is the meaning of this command?Choose the best answer.

- ❍ A. Log messages will be written to RAM of the switch for which 4096 bytes of memory have been allocated. Once the 4097th byte of a log message is written, the switch will overwrite the oldest log messages.
- ❍ B. Log messages will be written to NVRAM of the switch for which 4096 bytes of memory have been allocated. Once the 4097th byte of a log message is written, the switch will overwrite the oldest log messages.
- ❍ C. Log messages will be written to RAM of the switch for which 4096 bytes of memory have been allocated. Once the 4097th byte of a log message is written, the switch will overwrite the newest log messages.
- ❍ D. Log messages will be written to NVRAM of the switch for which 4096 bytes of memory have been allocated. Once the 4097th byte of a log message is written, the switch will overwrite the newest log messages.

Find the Answer p. 69

17. Why is NTP important from a troubleshooting point of view?Choose the best answer.

- ❍ A. NTP offloads log messages to a remote server.
- ❍ B. NTP is useful for setting time and date information locally on network equipment.
- ❍ C. NTP automatically adjusts all your network equipment when daylight savings occurs.
- ❍ D. NTP is useful for synchronizing clocks on network devices which helps when troubleshooting log messages because you know exactly when problems started and/or stopped.

Find the Answer p. 69

18. A network engineer is diagnosing a network problem. At which step does the troubleshooter begin making educated guesses at to what he/she thinks the problem might be?Choose the best answer.

- ❍ A. Examine collected information
- ❍ B. Verify hypothesis
- ❍ C. Hypothesize underlying cause
- ❍ D. Eliminate potential causes

Find the Answer p. 69

19. The "Shoot from the hip" troubleshooting approach typically skips over which two troubleshooting steps that a more structured approach would step through?Choose two.

- ❑ A. Problem reported
- ❑ B. Examine information
- ❑ C. Eliminate Potential Causes
- ❑ D. Collect information
- ❑ E. Hypothesize underlying cause

Find the Answer p. 69

20. What troubleshooting approach is used when your first step is trying to determine if a piece of network equipment is up or down by using the ping command?Choose the best answer.

- ❍ A. Bottom-Up
- ❍ B. Following the traffic path
- ❍ C. Divide and Conquer
- ❍ D. Top-down
- ❍ E. Component Swapping

Find the Answer p. 69

21. Which troubleshooting method works purely at layer 1?Choose the best answer.

- ❍ A. Top-down
- ❍ B. Comparing configurations
- ❍ C. Bottom-up
- ❍ D. Divide and Conquer
- ❍ E. Component Swapping

Find the Answer p. 69

22. A trouble ticket comes into the network team where a large number of users in the same area of the building cannot access multiple applications. Which of the following troubleshooting methods is LEAST likely to solve the problem the fastest?Choose the best answer.

- ❍ A. Divide and conquer
- ❍ B. Follow the traffic path
- ❍ C. Component swapping
- ❍ D. Bottom-up

Find the Answer p. 69

23. A troubleshooter has several goals while examining the collected information. What are they?Choose two.

- ❑ A. Find evidence that logging methods are properly functioning.
- ❑ B. Find evidence that can be used to eliminate potential causes to the problem.
- ❑ C. Find things that point to the cause of the problem.
- ❑ D. Collect all necessary information and send to Cisco support for them to investigate.

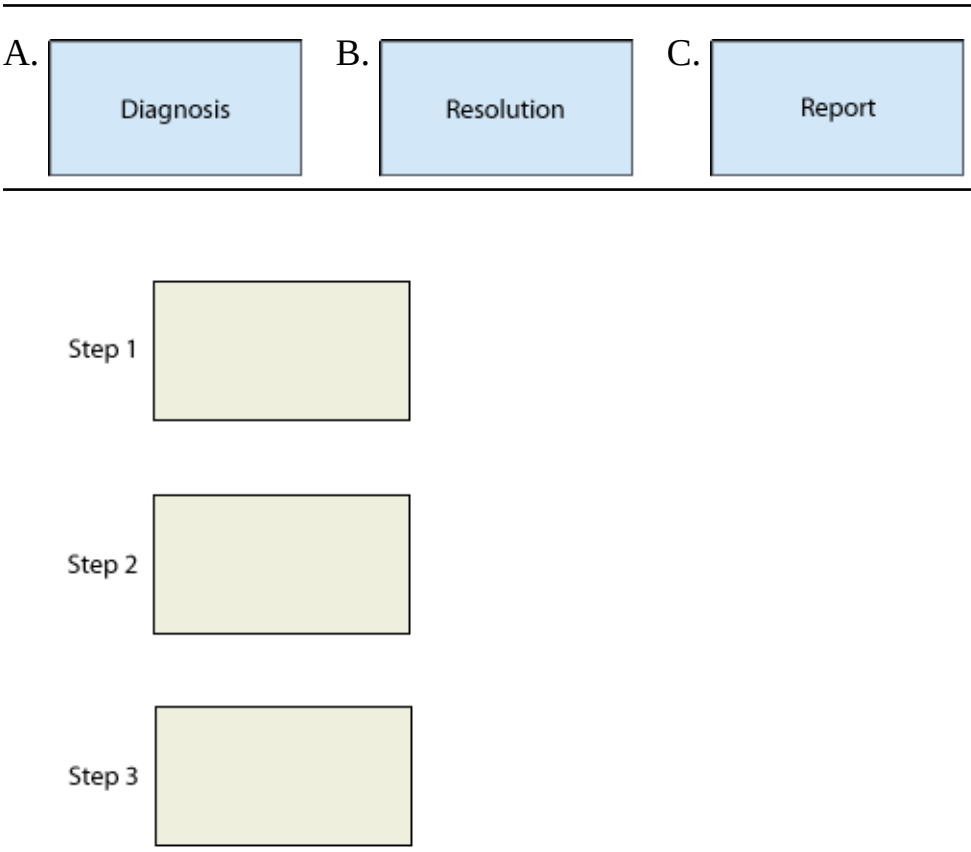
Find the Answer p. 69

24. Which of the following is not a valid suggestion to help support engineers maintain updated network documentation?

- ❍ A. Automate documentation
- ❍ B. Have outside consultants write your documentation.
- ❍ C. Schedule documentation checks
- ❍ D. Require documentation

Find the Answer p. 70

25. Drag the Troubleshooting flow steps on the left to the correct order of execution on the right.



Detailed Explanation p. 87

Chapter 2
Troubleshoot Multi Protocol system networks

1. A network administrator is troubleshooting a problem with a router that is experiencing high utilization after a NAT configuration change. The admin wants to check the CPU utilization of the IP NAT Ager process. What show command below successfully shows this single process?Choose the best answer.

   - ❍ A. Router# show processes cpu
   - ❍ B. Router# show processes cpu | IP NAT Ager
   - ❍ C. Router# show processes cpu | include IP NAT Ager
   - ❍ D. ps -ef | include IP NAT Ager

   Find the Answer p. 71

2. You have been asked to review the OSPF 101 configuration on a router. You SSH into the router and want to look at the running-configuration for the OSPF commands. What show command will most efficiently let you do this?Choose the best answer.

   - ❍ A. Router# show running-config | start OSPF 101
   - ❍ B. Router# show running-config
   - ❍ C. Router# show running-config | include OSPF 101
   - ❍ D. Router# show running-config | begin OSPF 101

   Find the Answer p. 71

3. A network administrator wants to run a show-tech-support command on a switch and automatically send it to a TFTP server (10.1.1.101) as well as display it on the console screen. Which command successfully does this?Choose the best answer.

- ❍ A. Switch# show tech-support | redirect tftp://10.1.1.101/shtech1.txt
- ❍ B. Switch# show tech-support | tftp://10.1.1.101/shtech1.txt
- ❍ C. Switch# show tech-support | display tftp://10.1.1.101/shtech1.txt
- ❍ D. Switch# show tech-support | tee tftp://10.1.1.101/shtech1.txt

Find the Answer p. 71

4. A Cisco support engineer wants a copy of the show tech-support output to a text file. In addition, the support engineer wants you to run an additional show processes cpu and add it to the show tech-support text file. Given the choices here, what is the best way to do this?Choose the best answer.

- ❍ A. After running the show tech-support | redirect command, issue the following command.

  show processes cpu | append <tftp-server IP/filename>
- ❍ B. After running the show tech-support | redirect command, issue the following command.

  show processes cpu | add <tftp-server IP/filename>
- ❍ C. show processes cpu | tee tftp://10.1.1.101/shtech1.txt
- ❍ D. show processes cpu | tee tftp://10.1.1.101/shtech1.txt

Find the Answer p. 71

5. Which ping command option forces the device not to fragment the ICMP datagram?Choose the best answer.

- ❍ A. Source
- ❍ B. Size
- ❍ C. DF-bit
- ❍ D. Interleave

Find the Answer p. 71

6. A network engineer is troubleshooting using the ping command. They issue the following command and receive the ping response below.Router# ping 10.99.11.102 size 1500 df-bitType escape sequence to abort.Sending 5, 1500-byte ICMP Echos to 10.4.4.4, timeout is 2 seconds:Packet sent with the DF bit setM.M.MWhat does the 'M' mean in the ping response?Choose the best answer.

- ❍ A. The ICMP datagram does not know how to reach the destination IP.
- ❍ B. This is the normal response received when you include the df-bit option. The M.M.M means the ping was successful.
- ❍ C. The ICMP datagram took multiple paths to reach the destination IP address.
- ❍ D. The ping datagram needed to be fragmented at some point but could not because the df-bit was set.

Find the Answer p. 71

7. Another engineer is troubleshooting a connectivity problem on your network. You see that he has run and extended ping and this is the output displayed on the console.Sending 101, [1400..1500]-byte ICMP Echos to 10.4.4.4, timeout is 2 seconds:Packet sent with the DF bit set!!!M.M.M.M.M.M.M.M.M.M.M.M.M.M.M.M .M.M. rate is 50 percent (51/101), round-trip min/avg/max = 60/125/232 msWhat can be concluded from these results?Choose the best answer.

❍ A. The MTU somewhere between the Cisco device and the destination IP address where the pings are being sent has an MTU maximum of 1500 bytes.

❍ B. The MTU somewhere between the Cisco device and the destination IP address where the pings are being sent has an MTU maximum of 1400 bytes.

❍ C. The MTU somewhere between the Cisco device and the destination IP address where the pings are being sent has an MTU maximum of 1450 bytes.

❍ D. The MTU somewhere between the Cisco device and the destination IP address where the pings are being sent has an MTU maximum of 1451 bytes.

❍ E. The MTU somewhere between the Cisco device and the destination IP address where the pings are being sent has an MTU maximum of 1501 bytes.

Find the Answer p. 71

8. You are connected to a Cisco switch command line and are troubleshooting a connectivity problem with a web server. You can successfully ping the server's IP address. What would be a good next step to troubleshoot?Choose the best answer.

- ❍ A. Check the patch cable that connects the web server to the switch.
- ❍ B. Check the ARP table to verify that the MAC address listed is the MAC address of the web servers NIC.
- ❍ C. Use the telnet command to TCP port 80 to verify that the web server application is running.
- ❍ D. Run a traceroute from the router to verify the path to the web server.

Find the Answer p. 71

9. A network administrator believes he has fixed a performance problem on a switch that was causing the input interface counter to increment. The administrator wants to monitor the port overnight to see if the problem has gone away. What command should be run to more easily verify that the problem has been fixed?Choose the best answer.

- ❍ A. Issue the terminal monitor command.
- ❍ B. Issue the logging buffered command.
- ❍ C. Issue the clear counters command.
- ❍ D. Issue the clear ip route command.

Find the Answer p. 71

10. What is the name for the collection of network statistics taken when the network is operating normally?Choose the best answer.

- ❍ A. Correlation
- ❍ B. Anomaly
- ❍ C. Error detection and correction
- ❍ D. Baseline

Find the Answer p. 71

11. A network engineer needs to attach a packet sniffer on port fa0/10 of switch_2. The engineer has access via SSH to the switch but cannot access it physically. Instead, the engineer has physical access to switch_1, there is a trunk link between the two. What can the engineer do to create a SPAN port for Fa0/10 on switch_2?Choose the best answer.

- ❍ A. Configure a monitor port on switch_1 that monitors port fa0/10.
- ❍ B. This cannot be done. In order to SPAN a port, one needs to have physical access to the switch. This is a security feature.
- ❍ C. A Remote SPAN (RSPAN) can be configured on switch_1 and switch_2 to monitor the port on switch_1 and pass that mirrored traffic over the trunk link to switch_2 where the network engineer has physical access.
- ❍ D. When you create the SPAN port on switch_2, configure it to monitor session 2. This tells the switch to forward the mirrored traffic to switch_2 where the engineer has physical access.

Find the Answer p. 71

12. What baseline tool collects detailed information about the end-to-end traffic progression through network equipment?Choose the best answer.

- ❍ A. SNMP
- ❍ B. Syslog
- ❍ C. NAC
- ❍ D. NetFlow

Find the Answer p. 71

13. Which SNMP version supports encryption and authentication?Choose the best answer.

- ❍ A. SNMPv1
- ❍ B. SNMPv3
- ❍ C. SNMPv2 and v3
- ❍ D. SNMPv1, v2 and v3

Find the Answer p. 71

14. What are the two SNMP community string types?Choose two.

- ❑ A. Read-only
- ❑ B. Write-only
- ❑ C. Append-only
- ❑ D. Read-write
- ❑ E. Read-mark

Find the Answer p. 71

15. Which two show commands on a switch display the VLANs each switch port belongs to?Choose two

- ❑ A. show ip arp
- ❑ B. show interfaces trunk
- ❑ C. show cdp neighbors
- ❑ D. show vlan brief

Find the Answer p. 71

16. A network engineer is troubleshooting a layer 2 switch problem and needs to see what VLANs have been allowed to traverse a trunk. Which of the following commands will display this information?Choose the best answer.

- ❍ A. show cdp neighbor
- ❍ B. show interfaces trunk
- ❍ C. show interfaces switchport
- ❍ D. sh vlan dot1q tag native

Find the Answer p. 71

17. What type of layer 2 problem occurs partly due to the fact that frames do not have any type of TTL?Choose the best answer.

- ❍ A. Broadcast storm
- ❍ B. MAC spoofing
- ❍ C. MAC table corruption
- ❍ D. Root-bridge corruption

Find the Answer p. 71

18. Which of the following is NOT a common root cause when troubleshooting EtherChannel problems?Choose the best answer.

- ❍ A. Inappropriate EtherChannel GRE tunnel configuration
- ❍ B. Mismatched port configuration
- ❍ C. Mismatched EtherChannel configuration
- ❍ D. Inappropriate EtherChannel distribution algorithm

Find the Answer p. 71

19. You are investigating an SNMP alert stating that a switch on your network is experiencing high CPU utilization. You console into the switch and see the following log messages constantly coming up on the screen every 2 seconds.10:25:32: %SW_MATM-4-MACFLAP_NOTIF: Host 0009.b72a.d1a1 in vlan 1 is flapping between port Gi1/1 and port Gi1/2What is likely causing the problem?Choose the best answer.

- ❍ A. There is a speed/duplex mismatch.
- ❍ B. There is an IP address conflict on the subnet.
- ❍ C. There is a STP loop on the network.
- ❍ D. There is a rogue router attached to interface gi1/0 causing a MAC address conflict.

Find the Answer p. 71

20. What does the traceroute mac <source-mac> <destination-mac> command do?Choose the best answer.

- ❍ A. It performs a layer 3 traceroute that shows a hop-by-hop list of routers IP addresses that are traversed using source and destination MAC addresses of two devices.
- ❍ B. It performs a layer 3 traceroute that shows a hop-by-hop list of routers IP addresses that are traversed using source and destination MAC addresses of two devices.
- ❍ C. It performs a layer 2 traceroute that shows a hop-by-hop list of routers IP addresses that are traversed using source and destination MAC addresses of two devices.
- ❍ D. It performs a layer 2 traceroute that shows a hop-by-hop list of switch names that are traversed using source and destination MAC addresses of two devices.

Find the Answer p. 71

21. Which of the following Cisco router features is used to recognize the traffic on an interface so that QoS policies can be applied to it?Choose the best answer.

- ❍ A. NetFlow
- ❍ B. SNMP
- ❍ C. TCAM
- ❍ D. CEF
- ❍ E. NBAR

Find the Answer p. 71

22. What is another name for a Layer 3 VLAN interface?Choose the best answer.

- ❍ A. SVI
- ❍ B. VPI
- ❍ C. MPLS
- ❍ D. TCAM
- ❍ E. VCI

Find the Answer p. 71

23. A junior network engineer has configured two PCs in the lab that connect to a layer 2 switch. One PC is configured for VLAN 10 and the other is on VLAN 20. Each PC is in the same /24 network of 172.16.10.X. The engineer does not understand why he cannot ping from one PC to the other. What two things should you tell him?Choose two.

- ❑ A. A layer 3 interface needs to be configured to route between VLANs.
- ❑ B. Devices that reside in separate VLANs must be on separate IP subnets.
- ❑ C. A layer 2 interface needs to be configured to route between VLANs.
- ❑ D. Devices that reside in separate VLANs must be on the same IP subnet.

Find the Answer p. 71

24. On a layer 3 switch, what plane do routing protocols operate?Choose the best answer.

- ❍ A. RSP plane
- ❍ B. Switch plane
- ❍ C. Control plane
- ❍ D. Data plane

Find the Answer p. 72

25. At which plane is troubleshooting different when working on a layer 3 switch compared to a layer 3 router?Choose the best answer.

- ❍ A. Route plane
- ❍ B. Data plane
- ❍ C. Control plane
- ❍ D. Switch plane

Find the Answer p. 72

26. Given the statements below comparing Layer 3 switches with routers, which of them is most accurate?Choose the best answer.

- ❍ A. Layer 3 switches can forward packets faster and also commonly have more layer 3 configuration features than a router.
- ❍ B. Incorrect. Routers can forward packets faster but layer 3 switches commonly have more layer 3 configuration features than a router.
- ❍ C. Incorrect. Routers can forward packets faster and also commonly have more layer 3 configuration features than a layer 3 switch
- ❍ D. Layer 3 switches can forward packets faster but routers commonly have more layer 3 configuration features than a layer 3 switch.

Find the Answer p. 72

27. You are troubleshooting a problem on a Layer 3 switch and issue the following command:L3_Switch#show ip cefPrefix Next Hop Interface0.0.0.0/0 192.168.10.1 GigabitEthernet3/10.0.0.0/32 receive10.0.0.0/8 192.168.10.1 GigabitEthernet3/110.5.5.0/24 192.168.10.1 GigabitEthernet3/110.10.56.0/24 attached Vlan1056What does the 'attached' mean for the next hop of prefix 10.10.56.0/24?Choose the best answer.

- ❍ A. The subnet resides only 1 L3 hop away from the switch.
- ❍ B. The switch is attached to a router running in 'router-on-a-stick' mode. The 10.10.56.0/24 subnet is configured on that router.
- ❍ C. The subnet is directly attached to the switch on a gigabit interface.
- ❍ D. The subnet is directly attached to the switch on SVI VLAN 1056.

Find the Answer p. 72

28. Viewing TCAM information using Cisco IOS show depends on the hardware you are using. What is the correct command to view TCAM information on the Cisco Catalyst 3560 hardware and on the Catalyst 6500 switch hardware?Choose the best answer.

- ❍ A. 3560 - show tcam

  6500 - show mls cef
- ❍ B. 3560 - show tcam

  6500 - show platform
- ❍ C. 3560 - show platform

  6500 - show mls cef
- ❍ D. 3560 - show mls cef

  6500 - show platform

Find the Answer p. 72

29. A network engineer is configuring an IP address on a FastEthernet port of a multilayer switch. Here is the result of that command.MLS(config-if)#ip address 192.168.1.1 255.255.255.0% IP addresses may not be configured on L2 links.Which of the statements below is the cause of the problem?Choose the best answer.

- ❍ A. The switch hardware does not support assigning IP addresses directly on physical interfaces. Instead, the engineer must configure SVIs and add layer 3 addressing to them.
- ❍ B. The switch software does not support assigning IP addresses directly on physical interfaces. Instead, the engineer must configure SVIs and add layer 3 addressing to them.
- ❍ C. The switchport is set for layer 2 mode. To make it a layer 3 physical port, run this command.

  MLS(config-if)# no switchport
- ❍ D. The switch is set for layer 2 mode. To make it a layer 3 switch, run this command.

  MLS(config)# no switchport

Find the Answer p. 72

30. A standby router running HSRP sends and receives hello messages every 2 seconds. By default, how many hello messages can the standby router miss before moving from standby to active mode?Choose the best answer.

- ❍ A. 3 hellos
- ❍ B. 5 hellos
- ❍ C. 2 hellos
- ❍ D. 10 hellos

Find the Answer p. 72

31. When troubleshooting HSRP, all of the following information should be gathered to help troubleshoot EXCEPT what?Choose the best answer.

- ❍ A. Which router is active
- ❍ B. The Virtual IP address (VIP)
- ❍ C. Routing protocols used.
- ❍ D. The Virtual MAC address

Find the Answer p. 72

32. A network engineer issues a show standby brief command and received the following output.Router# show standby briefInterface Grp Prio P State Active Standby Virtual IPFa0/0 0 100 P Active local 192.168.0.11 192.168.0.1What does the 'P' indicate?Choose the best answer.

- ❍ A. If this router is the primary or standby switch. A 'P' means that it is currently primary.
- ❍ B. If the router HSRP authentication is privately encrypted. A 'P' means that it is encrypted using an MD5 hash.
- ❍ C. If the router HSRP configuration is set to preempt. A 'P' means that this router will preempt if it ever goes down and back up for some reason.
- ❍ D. If the HSRP is configured using private IP address space. A 'P' means that it is using private IP space.

Find the Answer p. 72

33. You are troubleshooting an HSRP problem and see that the router you are consoled into is in a speak state. What does this mean?Choose the best answer.

- ❍ A. The router is attempting to become either active or standby with its peer.
- ❍ B. The router is not yet in either the active or standby state. No packets have been set to the HSRP peer yet.
- ❍ C. The router is not yet ready or able to participate in HSRP.
- ❍ D. Indicates that the router next will transition to the Standby router and is informing the Active router.
- ❍ E. Indicates that the router next will transition to the Active router and is informing the Standby router.

Find the Answer p. 72

34. Your HSRP virtual MAC address is.000.0c.07.ac1cWhat HSRP group is this MAC address in?Choose the best answer.

- ❍ A. 32
- ❍ B. 7
- ❍ C. 12
- ❍ D. 19
- ❍ E. 28

Find the Answer p. 72

35. Both VRRP and GLBP use similar show commands that equate to a show standby brief. Which VRRP command and GLBP command perform similar functions?Choose two.

- ❑ A. show vrrp brief
- ❑ B. show vrrp standby brief
- ❑ C. show glbp standby brief
- ❑ D. show glbp brief

Find the Answer p. 72

36. A frame enters a port on a layer 2 Catalyst switch, enters the _____ and exits out another port.Choose the best answer.

- ❍ A. Route-switch processor (RSP)
- ❍ B. Backplane
- ❍ C. CPU
- ❍ D. ASIC

Find the Answer p. 72

37. What is a common reason for TCP flows on an application to enter 'slow start'?Choose the best answer.

- ❍ A. Packet drops on the network.
- ❍ B. CPU spike on a router or switch.
- ❍ C. Memory leak on a router or switch.
- ❍ D. QoS misconfiguration.

Find the Answer p. 72

38. What Cisco feature can automatically detect if devices are automatically detected using either a straight-through or crossover cable?Choose the best answer.

- ❍ A. Duplex mismatch
- ❍ B. Multiplexer
- ❍ C. Auto-MDIX
- ❍ D. Media converter

Find the Answer p. 72

39. According to Cisco, which two error counters most commonly point to a duplex mismatch on an Ethernet port?Choose two.

- ❑ A. FCS-Err
- ❑ B. Rcv-Err
- ❑ C. Late-Col
- ❑ D. Excess-Col
- ❑ E. Xmit-Err
- ❑ F. Align-Err

Find the Answer p. 72

40. A router is running two routing protocols: EIGRP and OSPF. Both of them know how to reach the remote network of 192.168.99.0/24. What factor determines which routing protocol will be selected for use the IP routing table?Choose the best answer.

- ❍ A. The metric of each link along the path to the remote network.
- ❍ B. The number of areas that each protocol needs to cross to reach the remote network.
- ❍ C. The administrative distance of each routing protocol.
- ❍ D. The number of hops each routing protocol sees to the remote network.

Find the Answer p. 72

41. You are troubleshooting EIGRP and want to see all of the routes that EIGRP knows about on a router. What command displays this?Choose the best answer.

- ❍ A. Router# show ip route
- ❍ B. Router# show ip eigrp interfaces
- ❍ C. Router# show ip eigrp topology
- ❍ D. Router# show ip eigrp neighbors

Find the Answer p. 72

42. When using the divide and conquer troubleshooting. At what layer of the OSI model do most engineers begin?Choose the best answer.

- ❍ A. Layer 3
- ❍ B. Layer 2
- ❍ C. Layer 4
- ❍ D. Layer 5

Find the Answer p. 72

43. When troubleshooting a problem with a server not receiving data, a network engineer uses a sniffer at several of the layer three hops along the path between the client and server. While taking these packet captures, what should the engineer notice?Choose the best answer.

- ❍ A. The source IP address in the IP packet changes along each layer 3 hop.
- ❍ B. Both the source and destination MAC addresses in a packet change along each layer 3 hop.
- ❍ C. The destination IP address in the IP packet changes along each layer 3 hop.
- ❍ D. The source MAC address in a packet changes along each layer 3 hop.
- ❍ E. The destination MAC address in a packet changes along each layer 3 hop.
- ❍ F. Both the source and destination IP addresses in a packet change along each layer 3 hop.

Find the Answer p. 72

44. You are watching over the shoulder of another network engineer as he troubleshoots a possible routing problem with a client and server. The engineer issues the following command and looks at the output.R2# show ip cef exact-route 10.10.10.202 192.168.1.10110.10.10.202 -> 192.168.1.101 : FastEthernet0/0 (next hop 192.168.19.1)Given this information, which of the following is true?Choose the best answer.

- ❍ A. The engineer is verifying the route from a source IP of 192.168.19.1 to a destination of 10.10.10.202
- ❍ B. The engineer is verifying the route from a source IP of 10.10.10.202 to a destination of 192.168.1.101
- ❍ C. The engineer is verifying the route from a source IP of 192.168.1.101 to a destination of 10.10.10.202
- ❍ D. The engineer is verifying the route from a source IP of 192.168.1.101 to a destination of 192.168.19.1

Find the Answer p. 72

45. You run the following show command on a router configured for frame-relay.Router# show frame-relay mapSerial1/0.2 (up): point-to-point dlci, dlci 111(0xB6,0x2C60), broadcast status defined, activeSerial1/0.1 (up): point-to-point dlci, dlci 112(0xB5,0x2C50), broadcast status defined, activeWhat does this command show?Choose the best answer.

- ❍ A. The DLCI to IP address mapping.
- ❍ B. The frame-relay sub-interface to MAC address mapping.
- ❍ C. The frame-relay sub-interface to DLCI address mapping.
- ❍ D. The MAC address to DLCI mapping.

Find the Answer p. 72

46. What debug command focuses strictly on showing what the EIGRP routing process is doing in response to EIGRP messages?Choose the best answer.

- ❍ A. debug ip eigrp
- ❍ B. debug ip eigrp packets
- ❍ C. debug ip packets
- ❍ D. debug ip eigrp processes

Find the Answer p. 72

47. What OSPF LSA type is sourced by OSPF ABR's?Choose the best answer.

- ❍ A. Type 1
- ❍ B. Type 2
- ❍ C. Type 3
- ❍ D. Type 5

Find the Answer p. 72

48. Which of the four OSPF data structures contains the results of the OSPF shortest path first (SPF) algorithm calculations?Choose the best answer.

- ❍ A. Neighbor table
- ❍ B. Link-state Database
- ❍ C. Routing Information Base
- ❍ D. Interface table

Find the Answer p. 72

49. A network engineer is troubleshooting a router using the debug ip ospf packet command. The engineer sees Type 2 LSA's. Knowing that Type 2 LSA's are being sent, what layer 1 technology is being used on the router?Choose the best answer.

- ❍ A. T1 or E1 Serial interface
- ❍ B. Frame-relay
- ❍ C. Ethernet
- ❍ D. ISDN

Find the Answer p. 73

50. You are adding a new router to an OSPF network and are having problems getting a neighbor relationship to form. You believe that there might be an OSPF timer mismatch causing the problem. What debug command can be used to verify your theory?Choose the best answer.

- ❍ A. debug ip ospf events
- ❍ B. debug ip ospf timers
- ❍ C. debug ip routing
- ❍ D. debug ip packet

Find the Answer p. 73

51. Which OSPF Adjacency state should occur after the Exchange state?Choose the best answer.

- ❍ A. Init
- ❍ B. Loading
- ❍ C. ExStart
- ❍ D. 2-Way

Find the Answer p. 73

52. A network engineer is troubleshooting a problem that recently came up where they are seeing OSPF LSA flapping. What command should first be used to diagnose the problem?Choose the best answer.

- ❍ A. show ip ospf database
- ❍ B. show ip ospf statistics
- ❍ C. show ip ospf neighbors
- ❍ D. show ip ospf interface

Find the Answer p. 73

53. What command shows how many times the OSPF SPF algorithm has executed since the counters were cleared last?Choose the best answer.

- ❍ A. show ip ospf database
- ❍ B. show ip ospf rib
- ❍ C. show ip ospf statistics
- ❍ D. show ip ospf neighbors

Find the Answer p. 73

54. What OSPF debug command shows real-time details as to how a router establishes an adjacency with a neighbor?Choose the best answer.

- ❍ A. debug ip ospf packet
- ❍ B. debug ip ospf monitor
- ❍ C. debug ip ospf database
- ❍ D. debug ip adj

Find the Answer p. 73

55. You are troubleshooting an OSPF adjacency problem with another neighbor. What command can be used to confirm that the router is reachable?Choose the best answer.

- ❍ A. show ip ospf network
- ❍ B. show ip ospf database
- ❍ C. show cdp neighbor
- ❍ D. show interfaces peer

Find the Answer p. 73

56. All of the following are valid reasons for having route redistribution on a network except what?Choose the best answer.

- ❍ A. A merger of companies.
- ❍ B. Transitioning to a more advanced routing protocol.
- ❍ C. Expansion of very large routed networks.
- ❍ D. Different areas of administrative control.

Find the Answer p. 73

57. You are asked to verify the seed metric on the boundary router. What is a seed metric?Choose the best answer.

- ❍ A. The metric assigned by a network engineer that is to be injected into another routing protocol when redistributing routes.
- ❍ B. The metric assigned by a network engineer that is to be injected into other routers in different OSPF areas.
- ❍ C. The metric assigned by a network engineer that is to be injected into another routing protocol when redistributing distance vector routes.
- ❍ D. The metric assigned by a network engineer that is to be injected into another routing protocol when redistributing link state routes.

Find the Answer p. 73

58. A seed metric can be defined on a router in all the methods except which choice?Choose the best answer.

- ❍ A. Using the metric parameter in the redistribute router configuration command.
- ❍ B. Using the default metric command.
- ❍ C. On a per-interface basis using the metric command.
- ❍ D. Using a route map configuration and then specifying it when redistributing the route.

Find the Answer p. 73

59. How do two different routing protocols exchange routes when performing redistribution?Choose the best answer.

- ❍ A. By pulling routes out of the IP routing table that are placed there by the native routing protocol.
- ❍ B. The two protocols place all of their routes into a separate routing information base (RIB). The protocol that is doing the redistribution into itself then uses its native algorithm to choose routes to be placed into the IP routing table.
- ❍ C. The two protocols use a third protocol called CEF that created solely for the purpose of redistribution. CEF then uses its native algorithm to choose routes to be placed into the IP routing table.
- ❍ D. It depends on which routing protocols are being redistributed. If they are both distance vector protocols, then the protocol that is doing the redistribution into itself pulls the foreign routes directly from the IP routing table. If they are any other combination, then the two protocols place all of their routes into a separate routing information base (RIB). The protocol that is doing the redistribution into itself then uses its native algorithm to choose routes to be placed into the IP routing table.

Find the Answer p. 73

60. A route that should be redistributed into EIGRP from OSPF is not propagating. What is the logical first step to troubleshoot this problem?Choose the best answer.

- ❍ A. Verify that the seed metric is low enough to be redistributed.
- ❍ B. Check to see if NTP is running on the router so redistribution is not disrupted by timing errors.
- ❍ C. Make sure that the hello and dead timers match between EIGRP and OSPF.
- ❍ D. Verify that the route has first been learned by OSPF.

Find the Answer p. 73

61. You are having problems with routes flapping on your router. What IOS configuration can be used to help monitor these by keeping track of the times that each flap occurs?Choose the best answer.

- ❍ A. ip route monitor
- ❍ B. ip route triggered
- ❍ C. ip route flap
- ❍ D. ip route profile

Find the Answer p. 73

62. How does BGP communicate with peers?Choose the best answer.

- ❍ A. Using IP protocol 88
- ❍ B. Using TCP 179
- ❍ C. Using IP protocol 89
- ❍ D. Using UDP 520

Find the Answer p. 73

63. Which BGP data structure is also referred to as the BGP Routing Information Base (RIB)?Choose the best answer.

- ❍ A. BGP Interface table
- ❍ B. BGP Neighbor table
- ❍ C. BGP External table
- ❍ D. BGP table

Find the Answer p. 73

64. Which BGP criterion is Cisco-specific?Choose the best answer.

- ❍ A. Weight
- ❍ B. Local Preference
- ❍ C. MED
- ❍ D. Shortest AS path

Find the Answer p. 73

65. Which of the following is NOT a common reason why two BGP routers cannot peer?Choose the best answer.

- ❍ A. One of the BGP peers is not directly connected to the backbone.
- ❍ B. The AS number of the remote router does not match what the local router has configured as the neighbor AS.
- ❍ C. A BGP peer is sending BGP messages from an IP address other than the one specifically configured to peer with the remote BGP router.
- ❍ D. A lack of underlying IP connectivity.

Find the Answer p. 73

66. You are troubleshooting a router running BGP that is taking in full routing tables from the Internet. Lately, you have seen that memory utilization on the router has steadily increased and you think it is BGP related. What show command lets you see memory usage information that is specific to BGP?Choose the best answer.

- ❍ A. show processes memory
- ❍ B. show ip bgp
- ❍ C. Show ip bgp summary
- ❍ D. Show processes cpu

Find the Answer p. 73

67. A network engineer is having problems peering with an ISP router on the network edge. The engineer wants to see real-time information regarding BGP messages that are being sent and/or received with the problematic peer. What command listed below is best for this purpose?Choose the best answer.

- ❍ A. debug ip routing
- ❍ B. debug ip bgp updates
- ❍ C. debug ip bgp peers
- ❍ D. debug ip bgp

Find the Answer p. 73

68. You run the command show ip bgp summary and look at the following output.R2#show ip bgp summaryBGP router identifier 10.100.1.1, local AS number 65001BGP table version is 11, main routing table version 1110 network entries using 1170 bytes of memory14 path entries using 728 bytes of memory6/5 BGP path/bestpath attribute entries using 744 bytes of memory2 BGP AS-PATH entries using 48 bytes of memory0 BGP route-map cache entries using 0 bytes of memory0 BGP filter-list cache entries using 0 bytes of memoryBGP using 2690 total bytes of memoryBGP activity 10/0 prefixes, 14/0 paths, scan interval 60 secsNeighbor V AS MsgRcvd MsgSent TblVer InQ OutQ Up/Down State/PfxRcd172.16.55.1 4 65002 11 15 11 0 0 00:07:45 4172.16.77.1 4 65003 8 12 11 0 0 00:03:19 4Using this information, which of the following statements below is true?Choose the best answer.

- ❍ A. The neighbor at 172.15.55.1 is running iBGP with this router.
- ❍ B. The neighbor at 172.15.77.1 is running iBGP with this router.
- ❍ C. Both neighbors are running eBGP with this router.
- ❍ D. The router is only partially peered with its two neighbors.

Find the Answer p. 73

69. When BGP peers are fully functional, a network engineer can run the show ip bgp neighbors command. What BGP state should the neighbor be in?Choose the best answer.

- ❍ A. Full
- ❍ B. Connect
- ❍ C. Established
- ❍ D. Routing

Find the Answer p. 73

70. You are looking at the output of a show ip bgp command and see the following.Network Next Hop Metric LocPrf Weight Path*> 10.1.1.1/32 192.168.0.11 11 32768 ?What does the '>' mean?Choose the best answer.

- ❍ A. The route is suppressed.
- ❍ B. This route is learned through iBGP.
- ❍ C. This is a valid route.
- ❍ D. This route is learned through eBGP.
- ❍ E. This is the path selected by BGP to the network.

Find the Answer p. 73

71. A network engineer runs the following debug command and sees this output.Router#debug ip routingIP routing debugging is on*Mar 1 00:18:32.707: RT: 172.16.8.254/32 gateway changed from 10.17.2.1 to10.77.77.1*Mar 1 00:18:32.711: RT: NET-RED 172.16.8.254/32*Mar 1 00:18:32.735: RT: del 172.16.8.254/32 via 10.77.77.1, bgp metric [20/0]*Mar 1 00:18:32.739: RT: delete subnet route to 172.16.8.254/32*Mar 1 00:18:32.743: RT: NET-RED 172.16.8.254/32*Mar 1 00:21:25.815: RT: SET_LAST_RDB for 172.16.8.254/32NEW rdb: via 10.17.2.1*Mar 1 00:21:25.819: RT: add 172.16.8.254/32 via 10.17.2.1, bgp metric [20/0]Which of the following statements is true given this information?Choose the best answer.

- ❍ A. The peer at IP 172.16.8.254 flapped.
- ❍ B. Someone on the peer router at IP 172.16.8.254 is modifying the metric.
- ❍ C. Someone on the peer router at IP 172.16.8.254 is modifying the local preference.
- ❍ D. The local router's loopback interface was removed and then re-added.

Find the Answer p. 73

72. During which BGP state will potential BGP peers wait for the TCP connection to establish?Choose the best answer.

- ❍ A. Active
- ❍ B. Connect
- ❍ C. Idle
- ❍ D. OpenSent

Find the Answer p. 73

73. A network engineer is troubleshooting a router running BGP. The router is in the BGP Established state with its peer. If everything is working properly, when running debug commands, which messages should the engineer see being sent and received?Choose two.

- ❑ A. Keepalive messages
- ❑ B. Open messages
- ❑ C. Notification messages
- ❑ D. Update messages

Find the Answer p. 73

74. You are troubleshooting a routing problem on your edge router running both EIGRP and iBGP. Both protocols know how to reach the same remote network. Which route will be put into the IP routing table?Choose the best answer.

- ❍ A. Because BGP is an Exterior Gateway protocol and EIGRP is an Interior Gateway protocol, both routes will be placed into the IP routing table.
- ❍ B. The EIGRP learned route will be placed into the routing table.
- ❍ C. The AD of iBGP is 20 while the AD of EIGRP is 90. The higher AD is preferred so the EIGRP route will be placed into the IP routing table.
- ❍ D. The AD of iBGP is 20 while the AD of EIGRP is 90. The lower AD is preferred so the iBGP route will be placed into the IP routing table.

Find the Answer p. 74

75. Which of the following is NOT a common cause of high CPU utilization?Choose the best answer.

- ❍ A. ARP requests
- ❍ B. TCP timer process
- ❍ C. RTP traffic handling
- ❍ D. Net background process

Find the Answer p. 74

76. You check the ARP table of a router and see a large number of entries that are "incomplete". What might be the cause of this?Choose the best answer.

- ❍ A. The ARP table cache is full.
- ❍ B. There is a buffer overrun.
- ❍ C. There probably is a device scanning your network.
- ❍ D. The routers CPU utilization is high and cannot process the entries.

Find the Answer p. 74

77. A network engineer is concerned about high CPU utilization on a router. The engineer thinks the cause might be an excessive number of TCP connections. What show command can be used to verify this theory?Choose the best answer.

- ❍ A. show processes cpu
- ❍ B. show tcp statistics
- ❍ C. show ip tcp buffers
- ❍ D. show processes cpu history

Find the Answer p. 74

78. What Cisco command lets one view CPU utilization on a device for up to the past 72 hours?Choose the best answer.

- ❍ A. show processes cpu
- ❍ B. show cpu history
- ❍ C. show memory statistics
- ❍ D. show processes cpu history
- ❍ E. show memory statistics history

Find the Answer p. 74

79. A network engineer runs a show memory statistics history on a router and looks at the amount of available memory over time. What two types of memory are plotted on the graphs?Choose two.

- ❑ A. ASIC memory
- ❑ B. Processor memory
- ❑ C. Buffer memory
- ❑ D. Services memory
- ❑ E. I/O memory

Find the Answer p. 74

80. What type of packet switching mode is a multi-layer switch using if you troubleshoot using the show ip cache command?Choose the best answer.

- ❍ A. Process switching
- ❍ B. WRED
- ❍ C. CEF
- ❍ D. Fast switching

Find the Answer p. 74

81. A network engineer is reviewing the output of the following command.Router#show ip cefPrefix Next Hop Interface0.0.0.0/0 drop Null0 (default route handler entry)0.0.0.0/32 receive10.1.1.0/24 10.3.3.1 FastEthernet0/010.1.1.2/32 10.3.3.1 FastEthernet0/010.3.3.0/24 attached FastEthernet0/010.3.3.0/32 receiveWhat does the Next hop of 'receive' mean?Choose the best answer.

- ❍ A. The network is being fast switched and not CEF switch.
- ❍ B. The network is being processed switched and not CEF switched.
- ❍ C. The remote network only has partial routing table information.
- ❍ D. The network is local to the router itself.

Find the Answer p. 74

82. What IPT device is responsible for translating traditional circuit-switch phone lines with the IP network?Choose the best answer.

- ❍ A. CallManager
- ❍ B. Gatekeeper.
- ❍ C. Gateway
- ❍ D. SIP gatekeeper

Find the Answer p. 74

83. What IPT device provides call admission control, bandwidth control and address translation features?Choose the best answer.

- ❍ A. Gatekeepers
- ❍ B. Multipoint control unit (MCU)
- ❍ C. Call agent
- ❍ D. Gateway

Find the Answer p. 74

84. Which of the following is NOT a voice transmission issue that can be caused by lack of bandwidth?Choose the best answer.

- ❍ A. Delay
- ❍ B. Jitter
- ❍ C. Drops
- ❍ D. TCP windowing

Find the Answer p. 74

85. Which of the following is an IEEE standard method of providing power over Ethernet (PoE)?Choose the best answer.

- ❍ A. In-line power (ILP)
- ❍ B. 802.1d
- ❍ C. 802.1x
- ❍ D. Fast Link Pulse (FLP)
- ❍ E. 802.3af

Find the Answer p. 74

86. How do Cisco IP phones learn what VLAN is the voice VLAN?Choose the best answer.

- ❍ A. As soon as the phone receives an IP address from the DHCP server, it sends a multicast to the Cisco Unified Communications Manager (CUCM). The response from the CUCM contains information about the Voice VLAN.
- ❍ B. As soon as the phone receives an IP address from the DHCP server, it sends a multicast to the gateway. The response from the gateway contains information about the Voice VLAN.
- ❍ C. The Voice VLAN is learned via CDP.
- ❍ D. The VLAN is learned via DHCP.

Find the Answer p. 74

87. You are troubleshooting a router that is running CEF. Lately, you have seen performance degradation on the router and want to verify that packets are actually being CEF switched. What show command would best give you this information?Choose the best answer.

- ❍ A. show ip cef adjacency
- ❍ B. show cef not-switched
- ❍ C. show ip cef events
- ❍ D. show cef events

Find the Answer p. 74

88. Which of the following is NOT a prerequisite for configuring AutoQoS on a network?Choose the best answer.

- ❍ A. CEF must be enabled.
- ❍ B. An IP address needs to be configured on an interface if its speed is equal to or less than 768 kbps.
- ❍ C. RDP must be enabled at each layer 3 gateway.
- ❍ D. The proper bandwidth needs to be configured on the interface.
- ❍ E. A QoS policy must not be currently attached to the interface.

Find the Answer p. 74

89. A network engineer wants to configure AutoQoS on a router interface. The interface should be set to use DSCP markings. What command below is correct?Choose the best answer.

- ❍ A. Router(config-if)# auto qos voip trust
- ❍ B. Router(config-if)# auto qos voip dscp
- ❍ C. Router(config)# auto qos voip trust dscp
- ❍ D. Router(config)# auto qos voip trust

Find the Answer p. 74

90. When configuring Modular QoS, where do you configure actual bandwidth settings for traffic?Choose the best answer.

- ❍ A. Within the class-map
- ❍ B. Within the service-policy
- ❍ C. Within the policy-map
- ❍ D. Within the match map

Find the Answer p. 74

91. What multicast protocol is used between client devices and routers so that routers can be informed of which clients want to join a multicast group?Choose the best answer.

- ❍ A. CGMP
- ❍ B. WCCP
- ❍ C. MPLS
- ❍ D. IGMP

Find the Answer p. 74

92. An application on the network is using the multicast address of239.10.10.10What is the corresponding MAC address for the multicast address?Choose the best answer.

- ❍ A. 0100.5E0A.0A0A
- ❍ B. 0100.5E10.1010
- ❍ C. 010E.EF0A.0A0A
- ❍ D. 0100.EF10.1010

Find the Answer p. 74

93. What do Cisco routers do when running multicast to ensure that duplicate packets are not sent to the receiver?Choose the best answer.

- ❍ A. RPF check
- ❍ B. PIM Sparse mode
- ❍ C. PIM Dense mode
- ❍ D. Source Distribution tree

Find the Answer p. 74

94. What are currently the three different ways of routing IPv6?Choose three.

- ❑ A. Static Routes
- ❑ B. EIGRP
- ❑ C. RIPng
- ❑ D. OSPFv2
- ❑ E. IGRPv3

Find the Answer p. 74

95. What IPv6 Address type uses a communication flow that is one-to-many?Choose the best answer.

- ❍ A. Unicast.
- ❍ B. Anycast
- ❍ C. Multicast
- ❍ D. Broadcast

Find the Answer p. 74

96. Which of the following two rules are valid ways to abbreviate IPv6 addresses?Choose two.

- ❑ A. Leading 0's in a field can be omitted.
- ❑ B. Trailing 0's in a field can be omitted.
- ❑ C. Contiguous fields containing all 0's can be represented with a '::' This option can only be done 1 time for an address.
- ❑ D. Leading 0's in the first 2 fields can be omitted.
- ❑ E. Contiguous fields containing all 0's can be represented with a '::' This option can only be done 2 times for an address.

Find the Answer p. 74

97. Which of the following is NOT an OSPFv3 enhancement made to support IPv6 networks?Choose the best answer.

- ❍ A. Routes over links instead of over networks.
- ❍ B. Can support multiple IPv6 subnets on a single link.
- ❍ C. Does not use hierarchical structures of OSPF areas.
- ❍ D. Does not use ARP.

Find the Answer p. 74

98. When configuring OSPFv3 for IPv6. What address is used as the router's router ID?Choose the best answer.

- ❍ A. IPv6 address.
- ❍ B. IPv4 address
- ❍ C. IPv6 Anycast address
- ❍ D. IPv6 Multicast address

Find the Answer p. 74

99. What IPv6 OSPF show command displays IPv6 link local address, area ID, process ID, router ID, and cost?Choose the best answer.

- ❍ A. show ipv6 ospf neighbor
- ❍ B. show ipv6 ospf interface
- ❍ C. show ipv6 ospf
- ❍ D. show ipv6 ospf processes

Find the Answer p. 75

100. Which of the following OSPFv3 characteristics is the same as OSPFv2 when it comes to neighbors not forming adjacencies?Choose the best answer.

- ❍ A. Mismatched hello timers.
- ❍ B. Mismatched area type
- ❍ C. Interface configured as passive
- ❍ D. Mismatched IP MTU
- ❍ E. All of the answers are correct.

Find the Answer p. 75

101. What debug command is best used when troubleshooting IPv6 OSPF adjacency problems?Choose the best answer.

- ❍ A. debug ipv6 packet
- ❍ B. debug ipv6 ospf network
- ❍ C. debug ipv6 ospf neighbor
- ❍ D. debug ospf ipv6 adj
- ❍ E. debug ipv6 ospf adj

Find the Answer p. 75

102. RIPng sends routing updates on what multicast address?Choose the best answer.

- ❍ A. 224.0.0.9
- ❍ B. FF02::9
- ❍ C. FF10::9
- ❍ D. 224.0.0.5

Find the Answer p. 75

103. You are troubleshooting IPv6 and believe you have figured out the problem. You want to clear out the IPv6 traffic counters on the router. Which command below accomplishes that goal?Choose the best answer.

- ❍ A. Router# clear ipv6 traffic
- ❍ B. Router# clear ipv6 interfaces
- ❍ C. Router(config)# clear ipv6 traffic
- ❍ D. Router(config)# clear ipv6 interfaces

Find the Answer p. 75

104. By default, IP SLA sends probes every ____ seconds.Choose the best answer.

- ❍ A. 5
- ❍ B. 30
- ❍ C. 120
- ❍ D. 60
- ❍ E. 10

Find the Answer p. 75

105. What Cisco application network service component performs server load balancing and content switching functionality?Choose the best answer.

- ❍ A. Global Site Selector (GSS)
- ❍ B. Application Control Engine (ACE)
- ❍ C. Application Velocity System (AVS)
- ❍ D. Wide Area Application Software (WAAS)

Find the Answer p. 75

106. Which of the following information is NOT captured in NetFlow data?Choose the best answer.

- ❍ A. Source IP address
- ❍ B. Encryption type
- ❍ C. Destination IP address
- ❍ D. Ports
- ❍ E. Protocols
- ❍ F. Type of Service (TOS)

Find the Answer p. 75

107. You are reviewing your IP SLA and issue the following command to review the output.Router# show ip sla monitor responderIP SLA Monitor Responder is: EnabledNumber of control message received: 15 Number of errors: 1Recent sources:4.2.2.2 [13:38:01.807 UTC Fri Mar 1 2010]4.2.2.2 [13:37:01.783 UTC Fri Mar 1 2010]4.2.2.2 [13:36:01.791 UTC Fri Mar 1 2010]4.2.2.2 [13:35:01.791 UTC Fri Mar 1 2010]4.2.2.2 [13:34:01.779 UTC Fri Mar 1 2010]Recent error sources:4.2.2.2 [13:24:01.807 UTC Fri Mar 1 2010] RTT_FAILtcpConnect Responder:IP Address Port18.4.4.4Given this information, how often does the monitor verify the connection?Choose the best answer.

- ❍ A. Every 60 minutes
- ❍ B. Every 10 minutes
- ❍ C. Every 30 seconds
- ❍ D. Every minute

Find the Answer p. 75

108. NBAR classifies traffic at which layers of the OSI model?Choose the best answer.

- ❍ A. Layers 3 and 4
- ❍ B. Layers 4 to 7
- ❍ C. Layers 3 to 7
- ❍ D. Layers 3 to 5
- ❍ E. Layers 4 and 5

Find the Answer p. 75

109. What add-on NBAR tool can be downloaded and installed into a routers flash to recognize and classify Bit-torrent traffic?Choose the best answer.

- ❍ A. CEF
- ❍ B. PDLM
- ❍ C. WCCP
- ❍ D. NAC

Find the Answer p. 75

110. A network engineer is having problems identifying some web traffic that is using port 8080. What can be done to have NBAR recognize both the standard port 80 web traffic and this non-standard port 8080 web traffic?Choose the best answer.

- ❍ A. The network engineer must download and install a PDLM for the non-standard web traffic.
- ❍ B. Nothing needs to be done. By default NBAR monitors web traffic on 80, 443 and 8080.
- ❍ C. The engineer can issue the following command.

  Router(config)# nbar port-map http tcp 80
- ❍ D. The engineer can issue the following command.

  Router(config)# nbar port-map http tcp 80 8080

Find the Answer p. 75

111. What are the two modes that wireless access points can operate in?Choose two.

- ❑ A. Independent mode.
- ❑ B. Mobile mode
- ❑ C. Split-MAC mode
- ❑ D. Autonomous mode
- ❑ E. Low-power mode

Find the Answer p. 75

112. What wireless EAP Security type authenticates clients using digital certificates?Choose the best answer.

- ❍ A. EAP-TLS
- ❍ B. EAP-TTLS
- ❍ C. LEAP
- ❍ D. EAP-FAST

Find the Answer p. 75

113. A network engineer is troubleshooting a problem where multiple PCs have the same IP address. The engineer logs into the router running the DHCP service and issues what show command to view the IP addresses that the router has detected as seen on more than one device?Choose the best answer.

- ❍ A. show ip dhcp binding
- ❍ B. show ip dhcp conflict
- ❍ C. show ip dhcp duplicate
- ❍ D. show ip dhcp report

Find the Answer p. 75

114. A network is installed with lightweight wireless access points. What device do the access-points talk to in order to give intelligence to the network?Choose the best answer.

- ❍ A. PDLM
- ❍ B. EAP
- ❍ C. WLC
- ❍ D. LWAPP

Find the Answer p. 75

115. What type of VPN requires that VPN clients run some sort of VPN software?Choose the best answer.

- ❍ A. Remote-access VPN
- ❍ B. Split-tunnel VPN
- ❍ C. Site-to-site VPN
- ❍ D. VRF

Find the Answer p. 75

116. When configuring a site-to-site VPN, what should you do to prevent packets from being fragmented?Choose the best answer.

- ❍ A. Mark the packet with the DF bit.
- ❍ B. Disable fragmentation by turning off the DF bit.
- ❍ C. Raise the MTU to at least 1580 bytes.
- ❍ D. Use network address translation across the VPN tunnel.

Find the Answer p. 75

117. A network engineer is having a difficult time maintaining a growing number of full-mesh of point-to-point VPN connections. What is an alternative to this setup?Choose the best answer.

- ❍ A. Remote-access VPN
- ❍ B. PPTP
- ❍ C. GRE Tunnel
- ❍ D. DMVPN

Find the Answer p. 75

118. Which of the following is NOT a benefit of using DMVPN over a full-mesh technology?Choose the best answer.

- ❍ A. More ease in troubleshooting.
- ❍ B. Suboptimal routing.
- ❍ C. Recursive routing.
- ❍ D. Processing overhead.

Find the Answer p. 75

119. What IOS show command displays status and configured settings for a VPN tunnel?Choose the best answer.

- ❍ A. Router# show crypto map
- ❍ B. Router# show crypto ipsec sa
- ❍ C. Router# show crypto engine connections active
- ❍ D. Router# show interfaces tunnel <number>

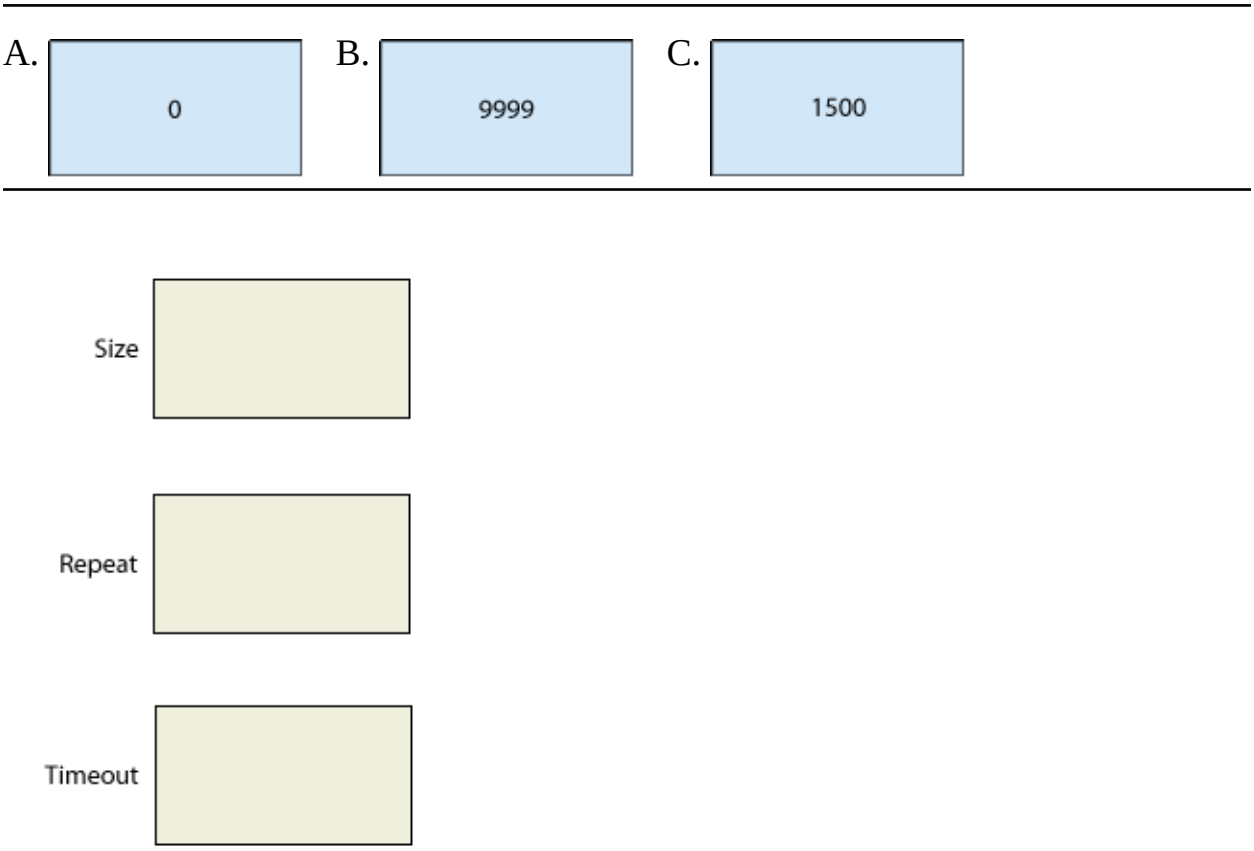
Find the Answer p. 75

120. Which of the following technologies provides for voice redundancy when the IP WAN is down?Choose the best answer.

- ❍ A. H.323
- ❍ B. SRST
- ❍ C. HSRP
- ❍ D. SIP

Find the Answer p. 75

121. When attempting to test a link on the network using the ping command and options. Drag the numbers on the left that best match the ping options for load testing on a link.



Detailed Explanation p. 134

122. You are troubleshooting a degraded FastEthernet link and issue a show interfaces command. This command shows various queue drops and errors. Drag the error/drop statistic name on the left to the correct description on the right of how these counters increment.

A. Input queue drops

B. Input errors

C. Output queue drops

D. Output errors

	Increments when a router received packets faster than the packets could be processed.
	Increments when a router received packets faster than the packets could be sent out of the outbound interface.
	Increments when frames were not received correctly. This often happens when there is a duplex mismatch.
	Increments when frames were not transmitted correctly, perhaps due to a duplex mismatch.

Detailed Explanation p. 135

123. Drag the section of the HSRP virtual MAC address on the left to the right that fits the specific code it stands for.

A. 0000.0c B. 07.ac C. 0a

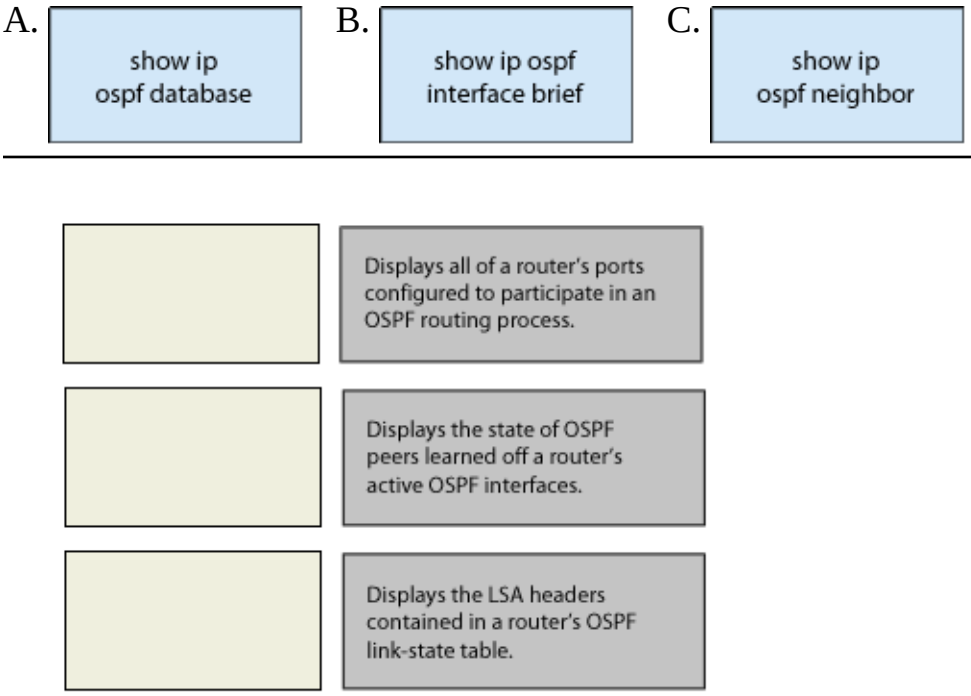
HSRP code

Vendor code

HSRP group

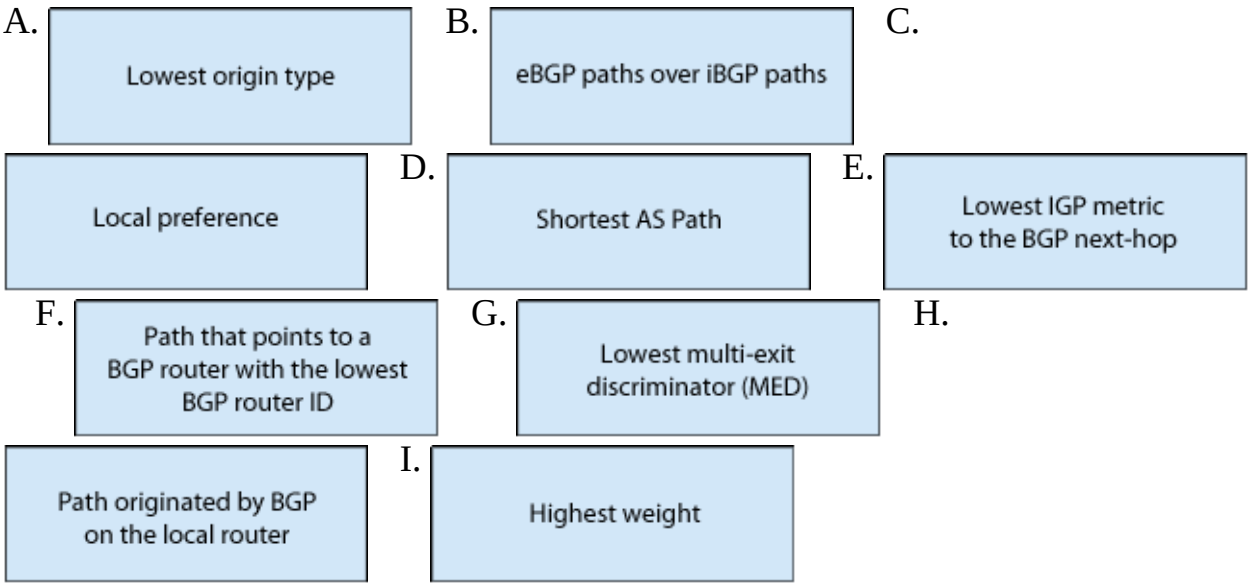
Detailed Explanation p. 136

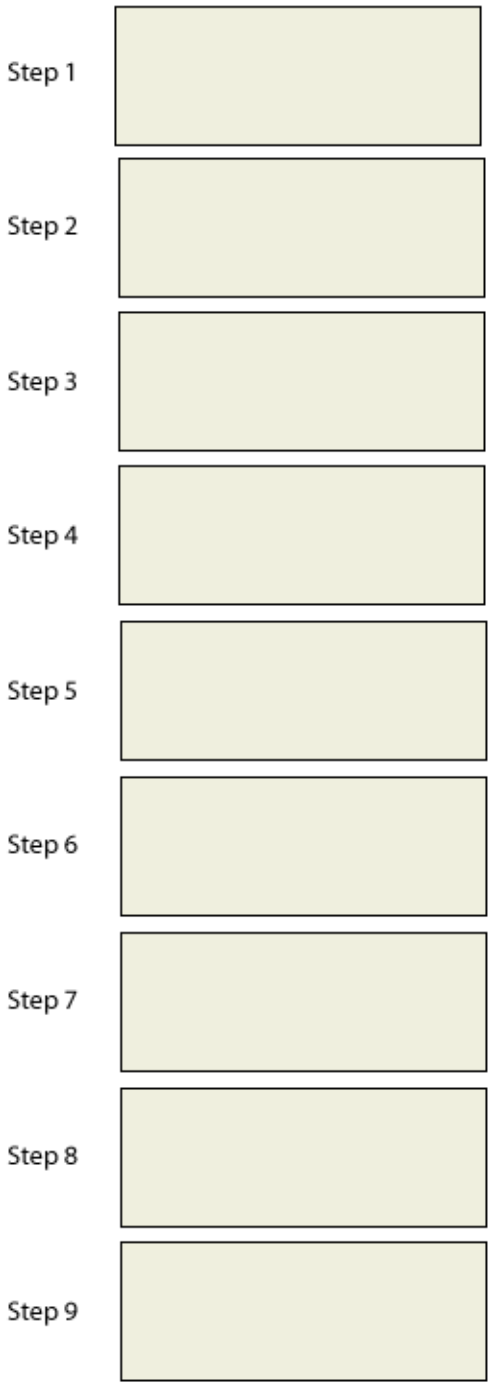
124. Drag the OSPF show command on the left to the description of it on the right.



Detailed Explanation p. 137

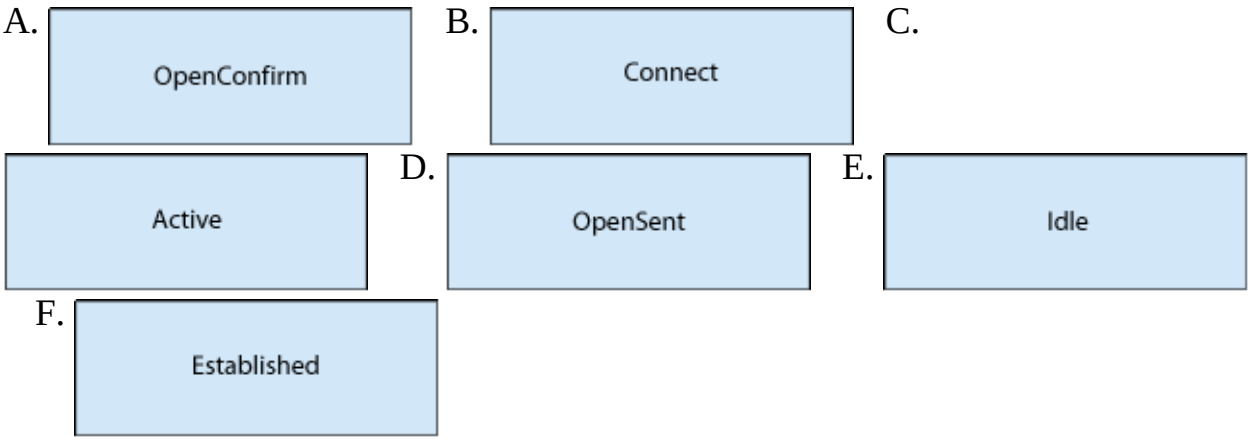
125. Drag the BGP criteria on the right to the correct prioritization that BGP uses to determine the best route to a destination.

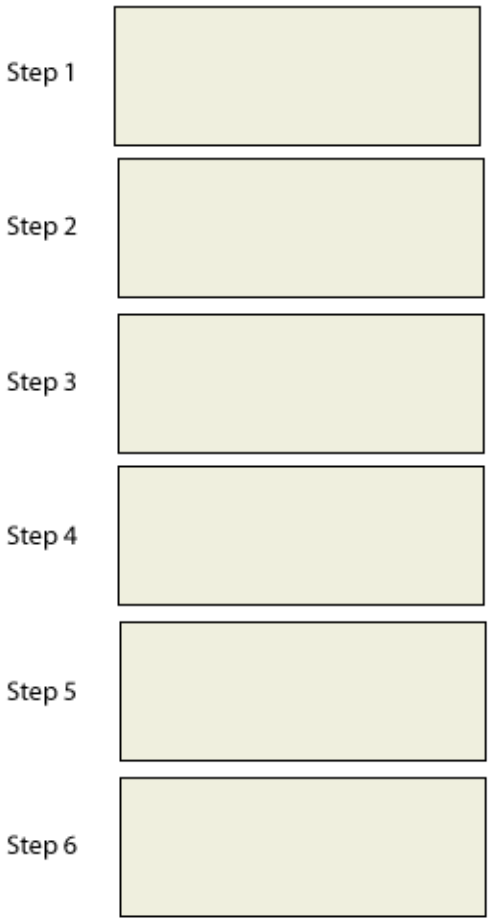




Detailed Explanation p. 138

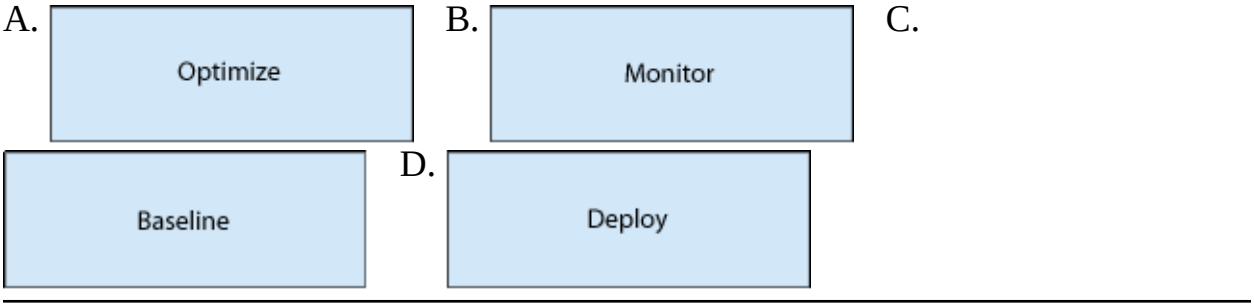
126. Drag the BGP states listed on the left to the correct order of transition the protocol moves through on the right.

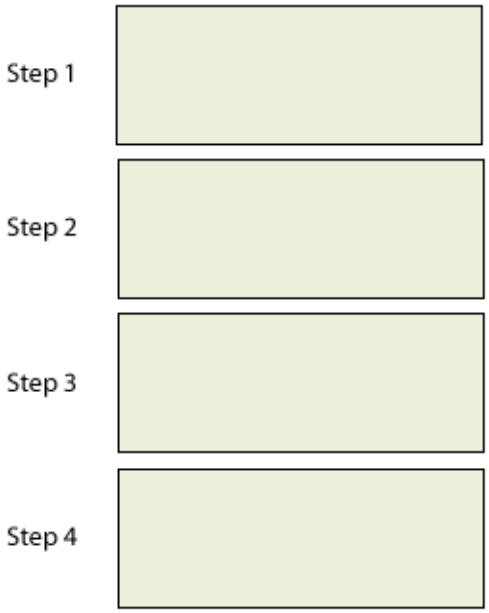




Detailed Explanation p. 140

127. A network Engineer wants to use application optimization tools to offer a better application experience to end-users. To do this properly, the engineer must follow the application optimization process to understand the application traffic. Drag the application optimization steps on the left to the correct order of operation on the right.





Detailed Explanation p. 140

128. Drag the Cisco IP phone boot processes on the left to the correct order of operation on the right.

A. Phone requests and receives via DHCP as to the IP address where it can find the configuration.

B. Phone registers with the Call Manager.

C.

Phone receives power via PoE.

D. Cisco switch communicates with the phone by CDP to tell it what Voice VLAN it should join.

E. Phone requests and receives a port of its configuration from its TFTP server.

F. Phone loads its firmware from flash.

Step 1

Step 2

Step 3

Step 4

Step 5

Step 6

Detailed Explanation p. 141

129. The Cisco IOS uses a three-step method for configuring QoS. Drag the QoS task on the right to the IOS configuration method on the left used to complete that task.

A. Allocate Traffic

B. Apply Policy

C. Assign Policy

Service Policy

Policy Map

Class Map

Detailed Explanation p. 142

Answers: Chapter 1

1. **C**	Review Question p. 2	Detailed Explanation p. 78
2. **A**	Review Question p. 2	Detailed Explanation p. 78
3. **D**	Review Question p. 2	Detailed Explanation p. 78
4. **D**	Review Question p. 3	Detailed Explanation p. 79
5. **A**	Review Question p. 3	Detailed Explanation p. 79
6. **B**	Review Question p. 3	Detailed Explanation p. 79
7. **D**	Review Question p. 4	Detailed Explanation p. 80
8. **C**	Review Question p. 4	Detailed Explanation p. 80
9. **C**	Review Question p. 4	Detailed Explanation p. 81
10. **B, D**	Review Question p. 5	Detailed Explanation p. 81
11. **A**	Review Question p. 5	Detailed Explanation p. 82
12. **C**	Review Question p. 6	Detailed Explanation p. 82
13. **B**	Review Question p. 6	Detailed Explanation p. 82
14. **C**	Review Question p. 7	Detailed Explanation p. 83
15. **C**	Review Question p. 7	Detailed Explanation p. 83
16. **A**	Review Question p. 8	Detailed Explanation p. 83
17. **D**	Review Question p. 8	Detailed Explanation p. 84
18. **C**	Review Question p. 9	Detailed Explanation p. 84
19. **B, C**	Review Question p. 9	Detailed Explanation p. 85
20. **C**	Review Question p. 9	Detailed Explanation p. 85
21. **E**	Review Question p. 10	Detailed Explanation p. 86
22. **C**	Review Question p. 10	Detailed Explanation p. 86
23. **B, C**	Review Question p. 10	Detailed Explanation p. 86

24. **B**	Review Question p. 11	Detailed Explanation p. 87
25. See Explanation	Review Question p. 11	Detailed Explanation p. 87

Answers: Chapter 2

1. **C**	Review Question p. 12	Detailed Explanation p. 89
2. **D**	Review Question p. 12	Detailed Explanation p. 89
3. **D**	Review Question p. 13	Detailed Explanation p. 89
4. **A**	Review Question p. 13	Detailed Explanation p. 90
5. **C**	Review Question p. 13	Detailed Explanation p. 90
6. **D**	Review Question p. 14	Detailed Explanation p. 90
7. **C**	Review Question p. 15	Detailed Explanation p. 91
8. **C**	Review Question p. 16	Detailed Explanation p. 91
9. **C**	Review Question p. 16	Detailed Explanation p. 92
10. **D**	Review Question p. 16	Detailed Explanation p. 92
11. **C**	Review Question p. 17	Detailed Explanation p. 93
12. **D**	Review Question p. 17	Detailed Explanation p. 93
13. **B**	Review Question p. 17	Detailed Explanation p. 93
14. **A, D**	Review Question p. 18	Detailed Explanation p. 94
15. **B, D**	Review Question p. 18	Detailed Explanation p. 94
16. **B**	Review Question p. 18	Detailed Explanation p. 94
17. **A**	Review Question p. 19	Detailed Explanation p. 95
18. **A**	Review Question p. 19	Detailed Explanation p. 95
19. **C**	Review Question p. 19	Detailed Explanation p. 96
20. **D**	Review Question p. 20	Detailed Explanation p. 96
21. **E**	Review Question p. 20	Detailed Explanation p. 96
22. **A**	Review Question p. 21	Detailed Explanation p. 97
23. **A, B**	Review Question p. 21	Detailed Explanation p. 97

24. **C**	Review Question p. 21	Detailed Explanation p. 98
25. **B**	Review Question p. 22	Detailed Explanation p. 98
26. **D**	Review Question p. 22	Detailed Explanation p. 98
27. **D**	Review Question p. 22	Detailed Explanation p. 99
28. **C**	Review Question p. 23	Detailed Explanation p. 99
29. **C**	Review Question p. 24	Detailed Explanation p. 99
30. **B**	Review Question p. 24	Detailed Explanation p. 100
31. **C**	Review Question p. 25	Detailed Explanation p. 100
32. **C**	Review Question p. 25	Detailed Explanation p. 100
33. **A**	Review Question p. 26	Detailed Explanation p. 101
34. **E**	Review Question p. 26	Detailed Explanation p. 101
35. **A, D**	Review Question p. 26	Detailed Explanation p. 102
36. **B**	Review Question p. 27	Detailed Explanation p. 102
37. **A**	Review Question p. 27	Detailed Explanation p. 102
38. **C**	Review Question p. 27	Detailed Explanation p. 103
39. **B, C**	Review Question p. 28	Detailed Explanation p. 103
40. **C**	Review Question p. 28	Detailed Explanation p. 104
41. **C**	Review Question p. 28	Detailed Explanation p. 104
42. **A**	Review Question p. 29	Detailed Explanation p. 104
43. **B**	Review Question p. 29	Detailed Explanation p. 105
44. **B**	Review Question p. 30	Detailed Explanation p. 105
45. **C**	Review Question p. 30	Detailed Explanation p. 106
46. **A**	Review Question p. 31	Detailed Explanation p. 106
47. **C**	Review Question p. 31	Detailed Explanation p. 107
48. **C**	Review Question p. 31	Detailed Explanation p. 107

49. **C**	Review Question p. 32	Detailed Explanation p. 107
50. **A**	Review Question p. 32	Detailed Explanation p. 108
51. **B**	Review Question p. 32	Detailed Explanation p. 108
52. **B**	Review Question p. 33	Detailed Explanation p. 108
53. **C**	Review Question p. 33	Detailed Explanation p. 109
54. **D**	Review Question p. 33	Detailed Explanation p. 109
55. **C**	Review Question p. 34	Detailed Explanation p. 109
56. **C**	Review Question p. 34	Detailed Explanation p. 110
57. **A**	Review Question p. 34	Detailed Explanation p. 110
58. **C**	Review Question p. 35	Detailed Explanation p. 111
59. **A**	Review Question p. 35	Detailed Explanation p. 111
60. **D**	Review Question p. 36	Detailed Explanation p. 111
61. **D**	Review Question p. 36	Detailed Explanation p. 112
62. **B**	Review Question p. 36	Detailed Explanation p. 112
63. **D**	Review Question p. 37	Detailed Explanation p. 112
64. **A**	Review Question p. 37	Detailed Explanation p. 113
65. **A**	Review Question p. 37	Detailed Explanation p. 113
66. **C**	Review Question p. 38	Detailed Explanation p. 113
67. **B**	Review Question p. 38	Detailed Explanation p. 114
68. **C**	Review Question p. 39	Detailed Explanation p. 114
69. **C**	Review Question p. 39	Detailed Explanation p. 115
70. **E**	Review Question p. 40	Detailed Explanation p. 115
71. **A**	Review Question p. 40	Detailed Explanation p. 115
72. **B**	Review Question p. 41	Detailed Explanation p. 116
73. **A, D**	Review Question p. 41	Detailed Explanation p. 116

74. **B**	Review Question p. 41	Detailed Explanation p. 117
75. **C**	Review Question p. 42	Detailed Explanation p. 117
76. **C**	Review Question p. 42	Detailed Explanation p. 117
77. **B**	Review Question p. 42	Detailed Explanation p. 118
78. **D**	Review Question p. 43	Detailed Explanation p. 118
79. **B, E**	Review Question p. 43	Detailed Explanation p. 118
80. **D**	Review Question p. 43	Detailed Explanation p. 119
81. **D**	Review Question p. 44	Detailed Explanation p. 119
82. **C**	Review Question p. 44	Detailed Explanation p. 120
83. **A**	Review Question p. 44	Detailed Explanation p. 120
84. **D**	Review Question p. 45	Detailed Explanation p. 120
85. **E**	Review Question p. 45	Detailed Explanation p. 121
86. **C**	Review Question p. 45	Detailed Explanation p. 121
87. **B**	Review Question p. 46	Detailed Explanation p. 122
88. **C**	Review Question p. 46	Detailed Explanation p. 122
89. **A**	Review Question p. 46	Detailed Explanation p. 122
90. **C**	Review Question p. 47	Detailed Explanation p. 123
91. **D**	Review Question p. 47	Detailed Explanation p. 123
92. **A**	Review Question p. 47	Detailed Explanation p. 123
93. **A**	Review Question p. 48	Detailed Explanation p. 124
94. **A, B, C**	Review Question p. 48	Detailed Explanation p. 124
95. **C**	Review Question p. 48	Detailed Explanation p. 125
96. **A, C**	Review Question p. 49	Detailed Explanation p. 125
97. **C**	Review Question p. 49	Detailed Explanation p. 125
98. **B**	Review Question p. 49	Detailed Explanation p. 125

99. **B**	Review Question p. 50	Detailed Explanation p. 126
100. **E**	Review Question p. 50	Detailed Explanation p. 126
101. **E**	Review Question p. 50	Detailed Explanation p. 127
102. **B**	Review Question p. 51	Detailed Explanation p. 127
103. **A**	Review Question p. 51	Detailed Explanation p. 127
104. **D**	Review Question p. 51	Detailed Explanation p. 128
105. **B**	Review Question p. 52	Detailed Explanation p. 128
106. **B**	Review Question p. 52	Detailed Explanation p. 128
107. **D**	Review Question p. 53	Detailed Explanation p. 129
108. **C**	Review Question p. 53	Detailed Explanation p. 129
109. **B**	Review Question p. 53	Detailed Explanation p. 130
110. **D**	Review Question p. 54	Detailed Explanation p. 130
111. **C, D**	Review Question p. 54	Detailed Explanation p. 131
112. **A**	Review Question p. 54	Detailed Explanation p. 131
113. **B**	Review Question p. 55	Detailed Explanation p. 131
114. **C**	Review Question p. 55	Detailed Explanation p. 132
115. **A**	Review Question p. 55	Detailed Explanation p. 132
116. **C**	Review Question p. 56	Detailed Explanation p. 133
117. **D**	Review Question p. 56	Detailed Explanation p. 133
118. **A**	Review Question p. 56	Detailed Explanation p. 133
119. **D**	Review Question p. 57	Detailed Explanation p. 134
120. **B**	Review Question p. 57	Detailed Explanation p. 134
121. See Explanation	Review Question p. 58	Detailed Explanation p. 134
122. See Explanation	Review Question p. 59	Detailed Explanation p. 135
123. See Explanation	Review Question p. 60	Detailed Explanation p. 136

124. See Explanation Review Question p. 61 Detailed Explanation p. 137

125. See Explanation Review Question p. 63 Detailed Explanation p. 138

126. See Explanation Review Question p. 65 Detailed Explanation p. 140

127. See Explanation Review Question p. 65 Detailed Explanation p. 140

128. See Explanation Review Question p. 67 Detailed Explanation p. 141

129. See Explanation Review Question p. 67 Detailed Explanation p. 142

Explanations: Chapter 1

1. Review Question p. 2

Answers: C

Explanation A. Incorrect. In regards to network maintenance, network administrators should not focus on eliminating structured tasks.

Explanation B. Incorrect. In regards to network maintenance, network administrators should not focus on eliminating repetitive tasks.

Explanation C. Correct. Interrupt-driven tasks involve resolving issues as they are reported. Network administrators should work to eliminate this type of maintenance when possible.

Explanation D. Incorrect. In regards to network maintenance, network administrators should not focus on eliminating preemptive tasks.

PrepLogic Question: 12384-1000

2. Review Question p. 2

Answers: A

Explanation A. Correct. FCAPS is a network maintenance model defined by the International Organization of Standardization (ISO).

Explanation B. Incorrect. IITL is not a network maintenance model defined by the International Organization of Standardization (ISO).

Explanation C. Incorrect. TMN is not a network maintenance model defined by the International Organization of Standardization (ISO).

Explanation D. Incorrect. The Cisco Lifecycle Services is not a network maintenance model defined by the International Organization of Standardization (ISO).

PrepLogic Question: 12384-1001

3. Review Question p. 2

Answers: D

Explanation A. Incorrect. TMN is not referred to as the PPDIOO model.

Explanation B. Incorrect. ITIL is not referred to as the PPDIOO model.

Explanation C. Incorrect. FCAPS is not referred to as the PPDIOO model.

Explanation D. Correct. The Cisco Lifecycle Services network model is often referred to as the PPDIOO model because the phases in the lifecycle are prepare, plan, design, implement, operate and optimize.

PrepLogic Question: 12384-1002

4. Review Question p. 3

Answers: D

Explanation A. Incorrect. Fault management does not require logging of changes made to network configurations.

Explanation B. Incorrect. Accounting management does not require logging of changes made to network configurations.

Explanation C. Incorrect. Security management does not require logging of changes made to network configurations.

Explanation D. Correct. When any configuration changes are made to the network, FCAPS requires that these changes be logged.

PrepLogic Question: 12384-1003

5. Review Question p. 3

Answers: A

Explanation A. Correct. Fault management is monitoring the network and notifying the proper persons when a failure happens.

Explanation B. Incorrect. Accounting management is not responsible for monitoring the network and notifying the proper persons when a failure happens.

Explanation C. Incorrect. Performance management is not responsible for monitoring the network and notifying the proper persons when a failure happens.

Explanation D. Incorrect. Configuration management is not responsible for monitoring the network and notifying the proper persons when a failure happens.

PrepLogic Question: 12384-1004

6. Review Question p. 3

Answers: B

Explanation A. Incorrect. Configuration changes will always be required on a network where people are constantly requiring additional functionality or improved security.

Explanation B. Correct. This is not a routine maintenance task.

Explanation C. Incorrect. The monitoring of network performance should be done on a regular basis.

Explanation D. Incorrect. Hardware no matter how reliable will fail and therefore is part of routine maintenance procedures.

PrepLogic Question: 12384-1005

7. Review Question p. 4

Answers: D

Explanation A. Incorrect. Scheduled backups have nothing to do with future network expansion.

Explanation B. Incorrect. Updating software has nothing to do with future network expansion.

Explanation C. Incorrect. Configuration changes have nothing to do with future network expansion.

Explanation D. Correct. By monitoring the network, you can better understand the types and amounts of traffic that flows through a network.

PrepLogic Question: 12384-1006

8. Review Question p. 4

Answers: C

Explanation A. Incorrect. A physical topology shows cabling and hardware information only.

Explanation B. Incorrect. A three-tiered network diagram is another term used for a physical diagram.

Explanation C. Correct. The Logical topology diagram shows how the network functions from a protocol and configuration point of view.

Explanation D. Incorrect. There is no such thing as a distributed topology diagram.

PrepLogic Question: 12384-1007

9. Review Question p. 4

Answers: C

Explanation A. Incorrect. Having duplicate hardware (often called cold spare equipment) insures that a network support engineer has working equipment that is on-site and can be quickly used to replace a failed hardware in the production environment.

Explanation B. Incorrect. All of the OS software and licensing information should be on-hand to quickly upgrade and re-license any spare hardware that is used to replace the failed hardware in the production environment.

Explanation C. Correct. While it is important to have logs to identify the root cause of a failure, it is not absolutely necessary to be prepared for restoring network devices after a failure.

Explanation D. Incorrect. A backup of all the network configurations is needed to quickly configure the replacement equipment that failed.

PrepLogic Question: 12384-1008

10. Review Question p. 5

Answers: B, D

Explanation A. Incorrect. These commands are used to configure the hardware but not to troubleshoot it.

Explanation B. Correct. Show commands are commonly used for troubleshooting purposes.

Explanation C. Incorrect. The copy command is used to copy files to and from flash storage and for saving configurations into NVRAM. It is not used for troubleshooting.

Explanation D. Correct. Debug commands are commonly used for troubleshooting purposes.

Explanation E. Incorrect. The directory command is used to copy files to and from flash storage. It is not used for troubleshooting.

PrepLogic Question: 12384-1009

11. Review Question p. 5

Answers: A

Explanation A. Correct. While CiscoWorks is indeed a GUI network management tool, it is not free.

Explanation B. Incorrect. The CCA is a GUI tool to manage Cisco devices which fall into the Smart Business Communications System (SBCS) line of hardware and software.

Explanation C. Incorrect. The SDM is a GUI tool used to manage Cisco PIX/ASA and Firewall Services Modules (FWSM) devices.

Explanation D. Incorrect. The CNA is a GUI tool used to configure and manage Cisco routers, switches and wireless access points.

PrepLogic Question: 12384-1010

12. Review Question p. 6

Answers: C

Explanation A. Incorrect. The command states that the startup-configuration is being copied. This is the configuration that is found on the hardware's non-volatile memory (NVRAM).

Explanation B. Incorrect. The command states that the startup-configuration is being copied to a remote FTP server and not a TFTP server.

Explanation C. Correct. The engineer is sending the startup-configuration located in NVRAM to a remote FTP server. This is often done to save a copy of the configuration in a second location in cast the router were to fail and the configuration could not be recovered.

Explanation D. Incorrect. The command states that the startup-configuration is being copied to a remote FTP server and not a TFTP server. Also, the command states that the startup-configuration is being copied. This is the configuration that is found on the hardware's non-volatile memory (NVRAM).

PrepLogic Question: 12384-1011

13. Review Question p. 6

Answers: B

Explanation A. Incorrect. The command given does not replace the current

startup-config with an archived configuration.

Explanation B. Correct. The command completely replaces the current running-config with the archived configuration specified.

Explanation C. Incorrect. The command given does not merge configurations.

Explanation D. Incorrect. The command given does not merge configurations.

PrepLogic Question: 12384-1012

14. Review Question p. 7

Answers: C

Explanation A. Incorrect. The command given does not allow an administrator to see logging messages as if they were directly connected to the command line.

Explanation B. Incorrect. The command given does not allow an administrator to see logging messages as if they were directly connected to the command line.

Explanation C. Correct. This command lets you view console logging messages that writes messages to the SSH screen just like a console connection writes the log messages to the terminal screen.

Explanation D. Incorrect. The command given is not a valid IOS syntax.

PrepLogic Question: 12384-1013

15. Review Question p. 7

Answers: C

Explanation A. Incorrect. Debugging Level 5 is named Notifications.

Explanation B. Incorrect. Debugging Level 1 is named Alerts.

Explanation C. Correct. Level 7 is the highest severity level and is called Debugging because it triggers the most logging output which is best used when troubleshooting problems.

Explanation D. Incorrect. Severity levels range from 0 to 7.

PrepLogic Question: 12384-1014

16. Review Question p. 8

Answers: A

Explanation A. Correct. The number listed in the command specifies the amount of RAM to be allocated for local storing of log messages. Once this memory fills up, the oldest messages are rewritten with newer messages. Also, when the switch is rebooted, all log messages are lost.

Explanation B. Incorrect. Log messages are written somewhere other than NVRAM.

Explanation C. Incorrect. When the buffer fills up, the newest log messages are not the first to be overwritten.

Explanation D. Incorrect. Log messages are written somewhere other than NVRAM and when the buffer fills up, the newest log messages are not the first to be overwritten.

PrepLogic Question: 12384-1015

17. Review Question p. 8

Answers: D

Explanation A. Incorrect. NTP does not offload any messages.

Explanation B. Incorrect. NTP does not set time locally on network equipment.

Explanation C. Incorrect. NTP is not directly responsible for adjusting to daylight savings time.

Explanation D. Correct. NTP, if implemented on all network devices, has the ability to synchronize clock settings on all equipment. Having synchronized clocks helps to troubleshoot log messages because you can compare exactly when problems began happening on multiple devices.

PrepLogic Question: 12384-1016

18. Review Question p. 9

Answers: C

Explanation A. Incorrect. This step is not where a network administrator would begin making educated guesses at to what he/she thinks the problem might be.

Explanation B. Incorrect. This step is not where a network administrator would begin making educated guesses at to what he/she thinks the problem might be.

Explanation C. Correct. Once the troubleshooter has collected information about the problem, examined that information and eliminated potential causes, they can make

educated guesses as to what the problem is likely to be.

Explanation D. Incorrect. This step is not where a network administrator would begin making educated guesses at to what he/she thinks the problem might be.

PrepLogic Question: 12384-1017

19. Review Question p. 9

Answers: B, C

Explanation A. Incorrect. The shoot from the hip approach does not skip this step.

Explanation B. Correct. The shoot from the hip troubleshooting approach often skips this step.

Explanation C. Correct. The shoot from the hip troubleshooting approach often skips this step.

Explanation D. Incorrect. The shoot from the hip approach does not skip this step.

Explanation E. Incorrect. The shoot from the hip approach does not skip this step.

PrepLogic Question: 12384-1018

20. Review Question p. 9

Answers: C

Explanation A. Incorrect. The "bottom-up" approach does not begin by trying to determine if a piece of network equipment is up or down by using the ping command.

Explanation B. Incorrect. The "following the traffic path" approach does not begin by trying to determine if a piece of network equipment is up or down by using the ping command.

Explanation C. Correct. The divide and conquer approach starts in the middle of the OSI model where you attempt to communicate with the device at layer 3. Depending on the success or failure of the ping, an engineer then works up or down from layer 3.

Explanation D. Incorrect. The "top-down" approach does not begin by trying to determine if a piece of network equipment is up or down by using the ping command.

Explanation E. Incorrect. The question refers to the "divide and conquer" approach.

PrepLogic Question: 12384-1019

21. Review Question p. 10

Answers: E

Explanation A. Incorrect. The "top-down" method does not solely work at layer 1 of the OSI model.

Explanation B. Incorrect. The "comparing configurations" method does not solely work at layer 1 of the OSI model.

Explanation C. Incorrect. The "bottom-up" method does not solely work at layer 1 of the OSI model.

Explanation D. Incorrect. The "divide and conquer" method does not solely work at layer 1 of the OSI model.

Explanation E. Correct. This method works solely at troubleshooting the physical layer.

PrepLogic Question: 12384-1020

22. Review Question p. 10

Answers: C

Explanation A. Incorrect. This troubleshooting approach would be useful in this situation.

Explanation B. Incorrect. This troubleshooting approach would be useful in this situation.

Explanation C. Correct. Because there are multiple devices with a problem, it would seem that swapping out single physical components is not the best way to begin troubleshooting.

Explanation D. Incorrect. This troubleshooting approach would be useful in this situation.

PrepLogic Question: 12384-1021

23. Review Question p. 10

Answers: B, C

Explanation A. Incorrect. This is not a primary goal when examining collected troubleshooting information.

Explanation B. Correct. An engineer should find evidence to eliminate potential

causes.

Explanation C. Correct. The goal of troubleshooting is to investigate and identify things on the network that point to the cause of the problem.

Explanation D. Incorrect. This is not a primary goal when examining collected troubleshooting information.

PrepLogic Question: 12384-1022

24. Review Question p. 11

Answers: B

Explanation A. Incorrect. By automating as much of the documentation process as possible, it helps to speed up the process which can often be cumbersome.

Explanation B. Correct. While it might save support engineers money, it is important for them to maintain their own documentation so it is well understood when it needs to be used for troubleshooting purposes.

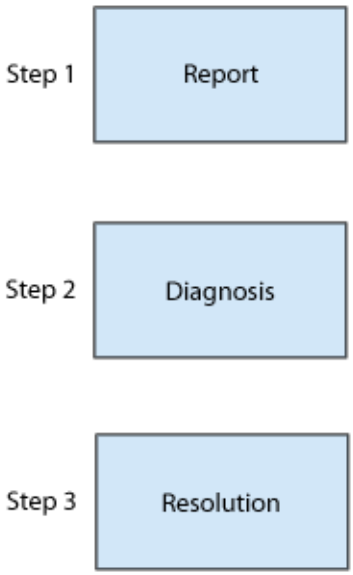
Explanation C. Incorrect. By scheduling checks, support engineers know they must properly maintain documentation at regular intervals.

Explanation D. Incorrect. Documentation should be required and written down in networking policies. This helps to insure that the documentation is completed properly and often.

PrepLogic Question: 12384-1023

25. Review Question p. 11

Answer:



Explanation:

PrepLogic Question: 12384-10

Explanations: Chapter 2

1. Review Question p. 12

   Answers: C

   Explanation A. Incorrect. Even though this would show the IP NAT Ager process (if running), the command would also show every other process running.

   Explanation B. Incorrect. This is not the correct command syntax.

   Explanation C. Correct. The proper command is show processes cpu | include IP NAT Ager

   Explanation D. Incorrect. This is not the correct command syntax.

   PrepLogic Question: 12384-1024

2. Review Question p. 12

   Answers: D

   Explanation A. Incorrect. Start is not a valid pipe command keyword.

   Explanation B. Incorrect. This will show you the entire configuration when all you want to see is the OSPF 101 configuration.

   Explanation C. Incorrect. This command will only show the lines with 'OSPF 101' in them. It will not show you any other configuration commands associated with configuring OSPF on the router.

   Explanation D. Correct. This command will search for the first line in the configuration that has 'OSPF 101' in it. Once found, the router will output this line and any other configuration commands below it. This lets you see the entire OSPF configuration setup.

   PrepLogic Question: 12384-1025

3. Review Question p. 13

   Answers: D

   Explanation A. Incorrect. This command will TFTP the show tech output but it will not display it on the console screen.

   Explanation B. Incorrect. This is not the correct command syntax.

Explanation C. Incorrect. This is not the correct command syntax.

Explanation D. Correct. The "tee" pipe keywords instructs the switch to TFTP both the output of the show tech command as well as display it to the console screen.

PrepLogic Question: 12384-1026

4. Review Question p. 13

Answers: A

Explanation A. Correct. The append pipe keyword writes additional output to an existing text file.

Explanation B. Incorrect. This is not the correct command syntax.

Explanation C. Incorrect. This is not the correct command syntax.

Explanation D. Incorrect. This is not the correct command syntax.

PrepLogic Question: 12384-1027

5. Review Question p. 13

Answers: C

Explanation A. Incorrect. The source specifies the IP address where the datagram originates from.

Explanation B. Incorrect. The size sets the number of bytes a single ICMP datagram has.

Explanation C. Correct. The DF-Bit sets the datagram to not fragment.

Explanation D. Incorrect. This is not a ping option.

PrepLogic Question: 12384-1028

6. Review Question p. 14

Answers: D

Explanation A. Incorrect. This is not the correct description when receiving an "M" in the output of a ping command on a Cisco IOS device.

Explanation B. Incorrect. This is not the correct description when receiving an "M" in the output of a ping command on a Cisco IOS device.

Explanation C. Incorrect. This is not the correct description when receiving an "M" in the output of a ping command on a Cisco IOS device.

Explanation D. Correct. The M means that the datagram needed to be fragmented but it could not because the df-bit was set. This means that somewhere along the path to the destination, the MTU size is different from the standard 1500 byte size.

PrepLogic Question: 12384-1029

7. Review Question p. 15

Answers: C

Explanation A. Incorrect. The answer does not accurately describe the reason for the ping results.

Explanation B. Incorrect. The answer does not accurately describe the reason for the ping results.

Explanation C. Correct. The extended ping is sending a sweep of ICMP datagrams with the df-bit set. One datagram of an MTU starting with 1400 bytes up to 1500 bytes will be sent. The first 51 datagrams are successful. That means that the MTU of one of the links is set to 1450 because as soon as a packet sized 1451 was sent to the destination, the datagram did not reach the destination. We know this because of the 'M' indicator.

Explanation D. Incorrect. The answer does not accurately describe the reason for the ping results.

Explanation E. Incorrect. The answer does not accurately describe the reason for the ping results.

PrepLogic Question: 12384-1030

8. Review Question p. 16

Answers: C

Explanation A. Incorrect. Checking a physical layer problem is not the next best logical troubleshooting step.

Explanation B. Incorrect. Checking the ARP table at layer 3 is not the next best logical troubleshooting step.

Explanation C. Correct. We know we have layer 3 connectivity because we can ping the server. This means that layers 1-3 are working. The next step would be to verify

layer 4 is working by checking to see if the HTTP port is available on the server. You can use the telnet command and have it attempt to open a connection on TCP port 80. If the HTTP port is active, you will see an Open message.

Explanation D. Incorrect. Running a layer 3 traceroute is not the next best logical troubleshooting step.

PrepLogic Question: 12384-1031

9. Review Question p. 16

Answers: C

Explanation A. Incorrect. The terminal monitor command enables network administrators to view console logging information when logged in via telnet or SSH. The command will not help in this situation.

Explanation B. Incorrect. The logging buffer command enables logged messages to be stored on the IOS device's memory. The command will not help in this situation.

Explanation C. Correct. The clear counters command is useful because it resets the input errors counter back to 0. If the administrator checks the counters the next morning and they're still at 0, than the duplex problem was certainly the cause.

Explanation D. Incorrect. The clear ip route command will clear out any dynamically learned routes on an IOS router. The command will not help in this situation.

PrepLogic Question: 12384-1032

10. Review Question p. 16

Answers: D

Explanation A. Incorrect. Correlation is not the name for a collection of network statistics taken when the network is operating normally.

Explanation B. Incorrect. Anomaly is not the name for a collection of network statistics taken when the network is operating normally.

Explanation C. Incorrect. Error detection and correction is not the name for a collection of network statistics taken when the network is operating normally.

Explanation D. Correct. A baseline is great to have as a point of reference to compare a normal working environment with an environment that has a problem.

PrepLogic Question: 12384-1033

11. Review Question p. 17

Answers: C

Explanation A. Incorrect. This would create a SPAN port for fa0/10 on switch_1 and we need to capture switch_2 fa0/10 traffic.

Explanation B. Incorrect. A Remote SPAN (RSPAN) can be configured on any Cisco switch.

Explanation C. Correct. A Remote SPAN (RSPAN) can be configured between switch_1 and switch_2 to send the monitor traffic of switch_2 port fa0/10 over the trunk link on switch_1.

Explanation D. Incorrect. This is not the correct way to configure a remote SPAN.

PrepLogic Question: 12384-1034

12. Review Question p. 17

Answers: D

Explanation A. Incorrect. SNMP does not collect end-to-end flow information.

Explanation B. Incorrect. Syslog does not collect end-to-end flow information.

Explanation C. Incorrect. NAC does not collect end-to-end flow information.

Explanation D. Correct. NetFlow statistics can be pulled off of network gear. It collects information about traffic flows on your network which can be used for baselining and anomaly detection.

PrepLogic Question: 12384-1035

13. Review Question p. 17

Answers: B

Explanation A. Incorrect. SNMPv1 does not support authentication and encryption.

Explanation B. Correct. Only SNMPv3 supports authentication and encryption.

Explanation C. Incorrect. SNMPv2 does not support authentication and encryption.

Explanation D. Incorrect. SNMPv1 and SNMPv2 do not support authentication or encryption.

PrepLogic Question: 12384-1036

14. Review Question p. 18

Answers: A, D

Explanation A. Correct. The two SNMP community string types are read-only and read-write.

Explanation B. Incorrect. Write-only is not an SNMP community string type.

Explanation C. Incorrect. Append-only is not an SNMP community string type.

Explanation D. Correct. The two SNMP community string types are read-only and read-write.

Explanation E. Incorrect. Read-mark is not an SNMP community string type.

PrepLogic Question: 12384-1037

15. Review Question p. 18

Answers: B, D

Explanation A. Incorrect. The show ip arp command will not display information about the VLANs each switchport belongs to.

Explanation B. Correct. The two commands are show interfaces trunk and show vlan brief.

Explanation C. Incorrect. The show cdp neighbors command will not display information about the VLANs each switchport belongs to.

Explanation D. Correct. The two commands are show interfaces trunk and show vlan brief.

PrepLogic Question: 12384-1038

16. Review Question p. 18

Answers: B

Explanation A. Incorrect. The show cdp neighbor command will not display what VLANs are allowed on a trunk.

Explanation B. Correct. To display what VLANs are allowed on a trunk, use the show interfaces trunk command.

Explanation C. Incorrect. The show interfaces switchport command will not display what VLANs are allowed on a trunk.

Explanation D. Incorrect. To display what VLANs are allowed on a trunk, use the show interfaces trunk command.

PrepLogic Question: 12384-1039

17. Review Question p. 19

Answers: A

Explanation A. Correct. A broadcast storm occurs when frames are broadcasted out all port except the one it came in on. If there is a layer 2 loop, the broadcast will continue looping the frame around the network until the loop is broken. Because there is no time-to-live (TTL) value, the frames never stop.

Explanation B. Incorrect. MAC spoofing is not caused by the fact that frames do not have any type of TTL.

Explanation C. Incorrect. MAC table corruption is not caused by the fact that frames do not have any type of TTL.

Explanation D. Incorrect. Root-bridge corruption is not caused by the fact that frames do not have any type of TTL.

PrepLogic Question: 12384-1040

18. Review Question p. 19

Answers: A

Explanation A. Correct. This is not one of the more common root causes when troubleshooting EtherChannel problems.

Explanation B. Incorrect. Mismatched port configurations are not a common root cause when troubleshooting EtherChannel problems.

Explanation C. Incorrect. Mismatched EtherChannel configurations are not a common root cause when troubleshooting EtherChannel problems.

Explanation D. Incorrect. Inappropriate EtherChannel distribution algorithms are not a common root cause when troubleshooting EtherChannel problems.

PrepLogic Question: 12384-1041

19. Review Question p. 19

Answers: C

Explanation A. Incorrect. Given the symptoms described, a speed/duplex mismatch is not likely to be the root cause of the problem.

Explanation B. Incorrect. Given the symptoms described, an IP address conflict is not likely to be the root cause of the problem.

Explanation C. Correct. A loop on the network will be easily detected when you begin seeing a single MAC address 'flapping' between two ports.

Explanation D. Incorrect. Given the symptoms described, a MAC address conflict from a rogue router is not likely to be the root cause of the problem.

PrepLogic Question: 12384-1042

20. Review Question p. 20

Answers: D

Explanation A. Incorrect. This command does not perform a layer 3 traceroute. It also will not list a hop-by-hop list of routers IP addresses.

Explanation B. Incorrect. This command does not perform a layer 3 traceroute.

Explanation C. Incorrect. This command will not list a hop-by-hop list of routers IP addresses.

Explanation D. Correct. This command uses CDP to come up with a list of switch names that are traversed on a network from the Source MAC to the destination MAC.

PrepLogic Question: 12384-1043

21. Review Question p. 20

Answers: E

Explanation A. Incorrect. The NetFlow feature is not used to recognize the traffic on an interface so that QoS policies can be applied to it.

Explanation B. Incorrect. The SNMP protocol is not used to recognize the traffic on an interface so that QoS policies can be applied to it.

Explanation C. Incorrect. A TCAM is not used to recognize the traffic on an interface so that QoS policies can be applied to it.

Explanation D. Incorrect. CEF is not used to recognize the traffic on an interface so that QoS policies can be applied to it.

Explanation E. Correct. NBAR is used to recognize the traffic on an interface so that QoS policies can be applied to it.

PrepLogic Question: 12384-1044

22. Review Question p. 21

Answers: A

Explanation A. Correct. A layer 3 VLAN interface is also known as a switched virtual interface (SVI). These can be created on layer 3 switches.

Explanation B. Incorrect. VPI is used in ATM networks and has nothing to do with layer 3 VLANs.

Explanation C. Incorrect. MPLS is a method of tagging and transporting data across networks.

Explanation D. Incorrect. TCAM is a hardware chip on Cisco multilayer switches that perform layer 2 and layer 3 lookups at wire speed.

Explanation E. Incorrect. VCI is used in ATM networks and has nothing to do with layer 3 VLANs.

PrepLogic Question: 12384-1045

23. Review Question p. 21

Answers: A, B

Explanation A. Correct. If the engineer wants the two PC's to be on separate VLANs, a layer 3 interface must be used as gateways for routing traffic from one VLAN to another.

Explanation B. Correct. If multiple VLANs are used, this is a broadcast segment. Because of this, a separate IP subnet must be used on each VLAN.

Explanation C. Incorrect. A layer 3 interface is needed.

Explanation D. Incorrect. This is the mistake the Junior engineer did. Instead, devices that are in different VLANs must be in different subnets.

PrepLogic Question: 12384-1046

24. Review Question p. 21

Answers: C

Explanation A. Incorrect. There is no such thing as the RSP plane.

Explanation B. Incorrect. There is no such thing as the switch plane.

Explanation C. Correct. Routing protocols operate on the control plane of an L3 switch.

Explanation D. Incorrect. The data plane's responsibility is to transport voice and data packets.

PrepLogic Question: 12384-1047

25. Review Question p. 22

Answers: B

Explanation A. Incorrect. There is no such thing as the route plane.

Explanation B. Correct. Troubleshooting on a layer 3 switch vs. a layer 3 router is different when investigating the data plane.

Explanation C. Incorrect. Troubleshooting on a layer 3 switch vs. a layer 3 router is identical when troubleshooting the control plane.

Explanation D. Incorrect. There is no such thing as the switch plane.

PrepLogic Question: 12384-1048

26. Review Question p. 22

Answers: D

Explanation A. Incorrect. Routers typically let you configure more features at layer 3.

Explanation B. Correct. Layer 3 switches use ASICs to more quickly forward packets. Routers on the other hand typically let you configure more features at layer 3.

Explanation C. Incorrect. Layer 3 switches use ASICs to more quickly forward packets.

Explanation D. Correct. Layer 3 switches use ASICs to more quickly forward packets. Routers on the other hand typically let you configure more features at layer 3.

PrepLogic Question: 12384-1049

27. Review Question p. 22

Answers: D

Explanation A. Incorrect. The attached command does not mean that the subnet resides only 1 L3 hop away from the switch.

Explanation B. Incorrect. The attached command does not mean the switch is attached to a router running in 'router-on-a-stick' mode.

Explanation C. Incorrect. The attached command does not mean that the subnet is directly attached to the switch on a gigabit interface.

Explanation D. Correct. The attached command means that VLAN 1056 is an SVI configured directly on this L3 switch.

PrepLogic Question: 12384-1050

28. Review Question p. 23

Answers: C

Explanation A. Incorrect. These are not the proper commands for the hardware given.

Explanation B. Incorrect. These are not the proper commands for the hardware given.

Explanation C. Correct. These are the two commands to view TCAM information on that specific hardware.

Explanation D. Incorrect. These are not the proper commands for the hardware given.

PrepLogic Question: 12384-1051

29. Review Question p. 24

Answers: C

Explanation A. Incorrect. Cisco multilayer switch hardware allows you to configure IP addressing directly on the interface.

Explanation B. Incorrect. Cisco multilayer switch software allows you to configure IP addressing directly on the interface.

Explanation C. Correct. By default, multilayer switch physical ports are configured to be layer 2 switchports. To change this setting, you can configure the port with the no

switchport command.

Explanation D. Incorrect. By default, multilayer switch physical ports are configured to be layer 2 switchports. To change this setting, you can configure the port with the no switchport command.

PrepLogic Question: 12384-1052

30. Review Question p. 24

Answers: B

Explanation A. Incorrect. The router can miss more than 3 hellos before HSRP will move an interface from standby to active mode.

Explanation B. Correct. The default is 5 hellos missed (10 seconds).

Explanation C. Incorrect. The router can miss more than 2 hellos before HSRP will move an interface from standby to active mode.

Explanation D. Incorrect. The router will miss fewer than 10 hellos before HSRP will move an interface from standby to active mode.

PrepLogic Question: 12384-1053

31. Review Question p. 25

Answers: C

Explanation A. Incorrect. This is good information to have when troubleshooting HSRP.

Explanation B. Incorrect. This is good information to have when troubleshooting HSRP.

Explanation C. Correct. The routing protocol used is irrelevant when troubleshooting HSRP specifically.

Explanation D. Incorrect. This is good information to have when troubleshooting HSRP.

PrepLogic Question: 12384-1054

32. Review Question p. 25

Answers: C

Explanation A. Incorrect. The 'P' does not stand for primary.

Explanation B. Incorrect. The 'P' does not mean that authentication is encrypted between two routers.

Explanation C. Correct. The 'P' stands for preempt.

Explanation D. Incorrect. The 'P' does not mean the HSRP interface is using private address space.

PrepLogic Question: 12384-1055

33. Review Question p. 26

Answers: A

Explanation A. Correct. The "speak" state attempts to move into either an active or standby role with its peer. To do this, it must send packets to the peer to see which router will become active and which one will be standby.

Explanation B. Incorrect. The description in the answer does not describe the speak state.

Explanation C. Incorrect. The description in the answer does not describe the speak state.

Explanation D. Incorrect. The description in the answer does not describe the speak state.

Explanation E. Incorrect. The description in the answer does not describe the speak state.

PrepLogic Question: 12384-1056

34. Review Question p. 26

Answers: E

Explanation A. Incorrect. The HSRP group is found in hex of the last 2 digits of the virtual MAC.

Explanation B. Incorrect. The HSRP group is found in hex of the last 2 digits of the virtual MAC.

Explanation C. Incorrect. The HSRP group is found in hex of the last 2 digits of the virtual MAC.

Explanation D. Incorrect. The HSRP group is found in hex of the last 2 digits of the virtual MAC.

Explanation E. Correct. The HSRP group is found in hex of the last 2 digits of the virtual MAC. Therefore 1c translates to 28 in decimal format.

PrepLogic Question: 12384-1058

35. Review Question p. 26

Answers: A, D

Explanation A. Correct. This VRRP command has similar output as show standby brief and therefore can be used similarly in troubleshooting.

Explanation B. Incorrect. This command does not have similar output for both VRRP and GLBP.

Explanation C. Incorrect. This command does not have similar output for both VRRP and GLBP.

Explanation D. Correct. This GLBP command has similar output as show standby brief and therefore can be used similarly in troubleshooting.

PrepLogic Question: 12384-1059

36. Review Question p. 27

Answers: B

Explanation A. Incorrect. The frame will not be sent to an RSP.

Explanation B. Correct. All frames enter in one port, move across the backplane and are forwarded out another port onto its intended destination.

Explanation C. Incorrect. The frame will not be sent to the CPU.

Explanation D. Incorrect. The frame will not be sent to an ASIC.

PrepLogic Question: 12384-1060

37. Review Question p. 27

Answers: A

Explanation A. Correct. The most common reason for applications to enter 'slow start' is due to packet loss on the network.

Explanation B. Incorrect. Slow starts are no indicative of a CPU spike.

Explanation C. Incorrect. Slow starts are no indicative of a memory leak.

Explanation D. Incorrect. Slow starts are no indicative of a QoS misconfiguration.

PrepLogic Question: 12384-1061

38. Review Question p. 27

Answers: C

Explanation A. Incorrect. A duplex mismatch is when the one side of an Ethernet connection is set to full duplex mode and the other set to half-duplex mode.

Explanation B. Incorrect. A multiplexer takes information from multiple streams and interleaves them together into a single stream.

Explanation C. Correct. This fairly new Cisco feature is called automatic medium-dependent interface crossover (auto-MDIX).

Explanation D. Incorrect. A media converter converts the physical of one medium into another while maintaining the data stream.

PrepLogic Question: 12384-1062

39. Review Question p. 28

Answers: B, C

Explanation A. Incorrect. This is not one of the two most common errors seen that point to a duplex mismatch.

Explanation B. Correct. The two most common errors seen are Rcv-Err and Late-Col errors.

Explanation C. Correct. The two most common errors seen are Rcv-Err and Late-Col errors.

Explanation D. Incorrect. This is not one of the two most common errors seen that point to a duplex mismatch.

Explanation E. Incorrect. This is not one of the two most common errors seen that point to a duplex mismatch.

Explanation F. Incorrect. This is not one of the two most common errors seen that

point to a duplex mismatch.

PrepLogic Question: 12384-1063

40. Review Question p. 28

Answers: C

Explanation A. Incorrect. The metric of each link will not be used to determine which routing protocol it will choose when routes are identical.

Explanation B. Incorrect. The number of areas each protocol needs to cross to reach the remote network will not be used to determine which routing protocol it will choose when routes are identical.

Explanation C. Correct. If a router knows about the exact same route and subnet mask for a network on two different routing protocols, the Administrative distance will be used as a tiebreaker.

Explanation D. Incorrect. The number of hops each protocol needs to cross to reach the remote network will not be used to determine which routing protocol it will choose when routes are identical.

PrepLogic Question: 12384-1064

41. Review Question p. 28

Answers: C

Explanation A. Incorrect. This command will show the routing table but not all EIGRP learned routes.

Explanation B. Incorrect. This command will show the local interfaces configured for EIGRP.

Explanation C. Correct. This command shows all of the learned EIGRP routes even if there are duplicate routes to a remote network. This table is then used to select the best route to be placed into the IP routing table.

Explanation D. Incorrect. This command will show the EIGRP neighbors the local router knows about.

PrepLogic Question: 12384-1065

42. Review Question p. 29

Answers: A

Explanation A. Correct. Layer 3 is a very appropriate place to start because there are many techniques to verify IP connectivity.

Explanation B. Incorrect. Typically, this is not the layer of the OSI model when the divide and conquer troubleshooting method is used.

Explanation C. Incorrect. Typically, this is not the layer of the OSI model when the divide and conquer troubleshooting method is used.

Explanation D. Incorrect. Typically, this is not the layer of the OSI model when the divide and conquer troubleshooting method is used.

PrepLogic Question: 12384-1066

43. Review Question p. 29

Answers: B

Explanation A. Incorrect. The IP source address in the packet never changes.

Explanation B. Correct. The source and destination MAC addresses change along each layer 3 hop but the IP source and destination addresses in the packet never change.

Explanation C. Incorrect. The IP destination address in the packet never changes.

Explanation D. Incorrect. Both the source and destination MAC addresses change along each layer 3 hop.

Explanation E. Incorrect. Both the source and destination MAC addresses change along each layer 3 hop.

Explanation F. Incorrect. The IP source and destination addresses in the packet never change.

PrepLogic Question: 12384-1067

44. Review Question p. 30

Answers: B

Explanation A. Incorrect. The statement above is not accurate for what the command output displays.

Explanation B. Correct. The command is show ip cef exact-route <source-IP> <destination-IP>

Explanation C. Incorrect. The statement above is not accurate for what the command output displays.

Explanation D. Incorrect. The statement above is not accurate for what the command output displays.

PrepLogic Question: 12384-1068

45. Review Question p. 30

Answers: C

Explanation A. Incorrect. This command does not show a table listing DLCI to IP address mappings.

Explanation B. Incorrect. This command does not show a table listing frame-relay subinterface to MAC address mappings.

Explanation C. Correct. This command shows the serial sub-interface to DLCI mapping.

Explanation D. Incorrect. This command does not show a table listing MAC address to DLCI mappings.

PrepLogic Question: 12384-1069

46. Review Question p. 31

Answers: A

Explanation A. Correct. This command focuses on showing what EIGRP routing processes does in response to EIGRP messages.

Explanation B. Incorrect. This command does not focus strictly on showing what the EIGRP routing process is doing in response to EIGRP messages. The command shows ALL EIGRP packets passing through a router.

Explanation C. Incorrect. This command does not focus strictly on showing what the EIGRP routing process is doing in response to EIGRP messages. This command shows ALL IP packets passing through a router.

Explanation D. Incorrect. This command does not focus strictly on showing what the EIGRP routing process is doing in response to EIGRP messages. This is not a valid debug command.

PrepLogic Question: 12384-1070

47. Review Question p. 31

Answers: C

Explanation A. Incorrect. Type 1 LSA's are sourced by all routers.

Explanation B. Incorrect. Type 2 LSA's are sourced by designated routers (DR).

Explanation C. Correct. Type 3 and 4 LSA's are link advertisements generated by ABR's that describe inter-area routes.

Explanation D. Incorrect. Type 5 LSA's are sourced by autonomous system boundary routers (ASBR).

PrepLogic Question: 12384-1071

48. Review Question p. 31

Answers: C

Explanation A. Incorrect. The neighbor table does not contain the results of the OSPF shortest path first (SPF) algorithm calculations.

Explanation B. Incorrect. The link-state database does not contain the results of the OSPF shortest path first (SPF) algorithm calculations.

Explanation C. Correct. The OSPF RIB is where the protocol stores the results of the SPF algorithm calculations of all the routes it received from the link-state database.

Explanation D. Incorrect. The interface table does not contain the results of the OSPF shortest path first (SPF) algorithm calculations.

PrepLogic Question: 12384-1072

49. Review Question p. 32

Answers: C

Explanation A. Incorrect. Type 2 LSA's are not used by OSPF on point-to-point media.

Explanation B. Incorrect. Type 2 LSA's are not used by OSPF on point-to-point or point-to-multipoint media such as frame relay.

Explanation C. Correct. Ethernet is a broadcast technology. Because of this, OSPF uses DR's and BDR's to limit the need for a full mesh.

Explanation D. Incorrect. Type 2 LSA's are not used by OSPF on point-to-point media such as ISDN.

PrepLogic Question: 12384-1073

50. Review Question p. 32

Answers: A

Explanation A. Correct. Of all the choices given, this is the best answer to verify that your OSPF timers match.

Explanation B. Incorrect. This is not a valid debug command.

Explanation C. Incorrect. This is not the best choice for verifying an OSPF timer mismatch.

Explanation D. Incorrect. This is not the best choice for verifying an OSPF timer mismatch.

PrepLogic Question: 12384-1074

51. Review Question p. 32

Answers: B

Explanation A. Incorrect. The Init state does not occur after the Exchange state.

Explanation B. Correct. The Loading state occurs after the Exchange state. In the loading state, routers request missing routes that it does not know about but its neighbor does. The missing routes were learned in the Exchange state and the Loading state is the actual exchange of those missing routes to insure all routers have the same routing information.

Explanation C. Incorrect. The ExStart state does not occur after the Exchange state.

Explanation D. Incorrect. The 2-Way state does not occur after the Exchange state.

PrepLogic Question: 12384-1075

52. Review Question p. 33

Answers: B

Explanation A. Incorrect. The show ip ospf database command does not display information about SPF calculations and the events that trigger them.

Explanation B. Correct. The show ip ospf statistics command displays information about SPF calculations and the events that trigger them.

Explanation C. Incorrect. The show ip ospf neighbors command does not display information about SPF calculations and the events that trigger them.

Explanation D. Incorrect. The show ip ospf interface command does not display information about SPF calculations and the events that trigger them.

PrepLogic Question: 12384-1076

53. Review Question p. 33

Answers: C

Explanation A. Incorrect. The show ip ospf database command will not display how many times the OSPF SPF algorithm has executed.

Explanation B. Incorrect. The show ip ospf rib command will not display how many times the OSPF SPF algorithm has executed.

Explanation C. Correct. The show ip ospf statistics keeps track of the number of times the SPF algorithm executed.

Explanation D. Incorrect. The show ip ospf neighbors command will not display how many times the OSPF SPF algorithm has executed.

PrepLogic Question: 12384-1078

54. Review Question p. 33

Answers: D

Explanation A. Incorrect. The debug ip ospf packet command does not display real-time details as a router forms a neighbor relationship with a peer router.

Explanation B. Incorrect. The debug ip ospf monitor command does not display real-time details as a router forms a neighbor relationship with a peer router.

Explanation C. Incorrect. The debug ip ospf database command does not display real-time details as a router forms a neighbor relationship with a peer router.

Explanation D. Correct. The debug ip adj command shows real-time details as a router forms a neighbor relationship with a peer router.

PrepLogic Question: 12384-1079

55. Review Question p. 34

Answers: C

Explanation A. Incorrect. This is not a valid IOS show command.

Explanation B. Incorrect. The show ip ospf database command will not give an administrator any insight into determining if a remote neighbor is down.

Explanation C. Correct. The show cdp neighbor is a simple way to make sure two routers have connectivity up through layer 3.

Explanation D. Incorrect. This is not a valid IOS show command.

PrepLogic Question: 12384-1080

56. Review Question p. 34

Answers: C

Explanation A. Incorrect. This is one of the more popular reasons. When two networks merge that use different routing protocols, it is often more feasible to redistribute routes into each other.

Explanation B. Incorrect. This is a valid reason when companies use a phased approach to change from an older routing protocol such as RIP to a more advanced protocol such as OSPF.

Explanation C. Correct. This is not a valid reason to redistribute routing protocols.

Explanation D. Correct. This method provides a defined boundary for administration purposes by separate groups.

PrepLogic Question: 12384-1081

57. Review Question p. 34

Answers: A

Explanation A. Correct. The seed metric is the default metric a routing protocol uses within itself when any other routes are redistributed into it.

Explanation B. Incorrect. The answer does not accurately describe a seed metric.

Explanation C. Incorrect. The answer does not accurately describe a seed metric.

Explanation D. Incorrect. The answer does not accurately describe a seed metric.

PrepLogic Question: 12384-1082

58. Review Question p. 35

Answers: C

Explanation A. Incorrect. This is a valid way to define a seed metric.

Explanation B. Incorrect. This is a valid way to define a seed metric.

Explanation C. Correct. This is not a valid way to define a seed metric.

Explanation D. Incorrect. This is a valid way to define a seed metric.

PrepLogic Question: 12384-1083

59. Review Question p. 35

Answers: A

Explanation A. Correct. Routing protocols do not exchange routes directly between themselves. Instead the protocol that is doing the redistribution into itself pulls the foreign routes directly from the IP routing table.

Explanation B. Incorrect. The answer does not accurately describe how two different routing protocols exchange routes when performing redistribution. They do not combine all routes into a separate RIB.

Explanation C. Incorrect. The answer does not accurately describe how two different routing protocols exchange routes when performing redistribution. CEF is not used in redistribution.

Explanation D. Incorrect. The answer does not accurately describe how two different routing protocols exchange routes when performing redistribution.

PrepLogic Question: 12384-1084

60. Review Question p. 36

Answers: D

Explanation A. Incorrect. The seed metric has nothing to do with route redistribution.

Explanation B. Incorrect. NTP has nothing to do with route redistribution.

Explanation C. Incorrect. Hello and dead timers do not need to match when redistributing between EIGRP and OSPF.

Explanation D. Correct. The best place to start is to verify that the route has been learned by OSPF. If OSPF does not know about the route, than it cannot redistribute it into EIGRP.

PrepLogic Question: 12384-1085

61. Review Question p. 36

Answers: D

Explanation A. Incorrect. This is not a valid IOS command.

Explanation B. Incorrect. This is not a valid IOS command.

Explanation C. Incorrect. This is not a valid IOS command.

Explanation D. Correct. This command helps to keep statistics on a router for occurrences of route flapping. These statistics include forward-path changes, next-hop changes, path count changes and others.

PrepLogic Question: 12384-1086

62. Review Question p. 36

Answers: B

Explanation A. Incorrect. BGP does not use IP protocol 88 to communicate with peers.

Explanation B. Correct. BGP uses TCP 179 to communicate with peers.

Explanation C. Incorrect. BGP does not use IP protocol 89 to communicate with peers.

Explanation D. Incorrect. BGP does not use UDP 520 to communicate with peers.

PrepLogic Question: 12384-1087

63. Review Question p. 37

Answers: D

Explanation A. Incorrect. The BGP Interface table is not referred to as the BGP Routing Information Base.

Explanation B. Incorrect. The BGP neighbor table is not referred to as the BGP Routing Information Base.

Explanation C. Incorrect. The BGP external table is not referred to as the BGP Routing

Information Base.

Explanation D. Correct. The BGP table is also referred to as the BGP Routing Information Base.

PrepLogic Question: 12384-1088

64. Review Question p. 37

Answers: A

Explanation A. Correct. The BGP weight parameter is specific to Cisco routers only.

Explanation B. Incorrect. Local preference is used by any vendor router that can run BGP version 4.

Explanation C. Incorrect. MED is used by any vendor router that can run BGP version 4.

Explanation D. Incorrect. Shortest AS path is used by any vendor router that can run BGP version 4.

PrepLogic Question: 12384-1090

65. Review Question p. 37

Answers: A

Explanation A. Correct. This is not a common reason why BGP routers cannot peer.

Explanation B. Incorrect. This is a common reason why BGP routers cannot peer.

Explanation C. Incorrect. This is a common reason why BGP routers cannot peer.

Explanation D. Incorrect. This is a common reason why BGP routers cannot peer.

PrepLogic Question: 12384-1091

66. Review Question p. 38

Answers: C

Explanation A. Incorrect. The show processes memory displays information about the various system processes running on an IOS device. It does not show information such as the router ID, AS number and memory utilization.

Explanation B. Incorrect. The show ip bgp command displays information on the next

hop destinations for routes learned by BGP. It does not show information such as the router ID, AS number and memory utilization.

Explanation C. Correct. This command displays information about BGP including the router ID, AS number and memory utilization.

Explanation D. Incorrect. The show processes cpu command shows CPU utilization on an IOS device. It does not show information such as the router ID, AS number and memory utilization.

PrepLogic Question: 12384-1092

67. Review Question p. 38

Answers: B

Explanation A. Incorrect. This command is not the most ideal choice because it shows information from all routing protocols running and not just BGP.

Explanation B. Correct. This command will show real-time information about all BGP updates that the router is sending and receiving.

Explanation C. Incorrect. This is not a valid IOS debug command.

Explanation D. Incorrect. This command shows information related to processing of the Border Gateway Protocol (BGP) and not specifically about BGP updates.

PrepLogic Question: 12384-1093

68. Review Question p. 39

Answers: C

Explanation A. Incorrect. The information clearly shows that iBGP is not being run on this router.

Explanation B. Incorrect. The information clearly shows that iBGP is not being run on this router.

Explanation C. Correct. The router we are running the show command from states that it is configured for AS 65001. The other two neighbors list their AS as 65002 and 65003. When neighbors are not in the same AS peer, they run eBGP.

Explanation D. Incorrect. The information shows that the two neighbors are fully peered.

PrepLogic Question: 12384-1094

69. Review Question p. 39

Answers: C

Explanation A. Incorrect. This is not a valid BGP state.

Explanation B. Incorrect. When BGP peers are fully functional, the BGP state is not Connect.

Explanation C. Correct. When BGP peers are fully functional, the BGP state is Established.

Explanation D. Incorrect. This is not a valid BGP peer state.

PrepLogic Question: 12384-1095

70. Review Question p. 40

Answers: E

Explanation A. Incorrect. The character does not mean the route has been suppressed.

Explanation B. Incorrect. The character does not mean the route has been learned through iBGP.

Explanation C. Incorrect. The character does not mean the route is valid.

Explanation D. Incorrect. The character does not mean the route has been learned through eBGP.

Explanation E. Correct. The '>' tells us that BGP has selected this path as being the best path to reach the remote network.

PrepLogic Question: 12384-1096

71. Review Question p. 40

Answers: A

Explanation A. Correct. We can see from the debug output that the peer was deleted and later re-added.

Explanation B. Incorrect. This cannot be determined with the information given.

Explanation C. Incorrect. This cannot be determined with the information given.

Explanation D. Incorrect. This cannot be determined with the information given.

PrepLogic Question: 12384-1097

72. Review Question p. 41

Answers: B

Explanation A. Incorrect. The Active state is not the state when BGP routers attempt to establish a TCP session with a potential peer. This state is when a connection comes in from a peer. The router will then send a BGP OPEN message, and transition to the OpenSent state.

Explanation B. Correct. The Connect state is when BGP routers attempt to establish a TCP session with a potential peer.

Explanation C. Incorrect. The Idle state is not the state when BGP routers attempt to establish a TCP session with a potential peer. This state is when incoming connections are refused and the system gets ready to start speaking BGP.

Explanation D. Incorrect. The OpenSent state is not the state when BGP routers attempt to establish a TCP session with a potential peer. This state is when the router waits for an OPEN message from the peer. When received, it sends a KEEPALIVE and transitions to the OpenConfirm state.

PrepLogic Question: 12384-1098

73. Review Question p. 41

Answers: A, D

Explanation A. Correct. Keepalive messages are sent back and forth to peers to insure that the connection is still functional.

Explanation B. Incorrect. Once two peers are in the BGP Established state, open messages will no longer be exchanged.

Explanation C. Incorrect. If Notification messages are seen, there is some sort of problem and the BGP session will transition back to an Idle state.

Explanation D. Correct. Update messages are used to exchange routing information between peers to insure everything is up to date.

PrepLogic Question: 12384-1099

74. Review Question p. 41

Answers: B

Explanation A. Incorrect. The fact that BGP is an EGP and EIGRP is an IGP does not factor into which route will be placed into the routing table.

Explanation B. Correct. EIGRP will have an administrative distance of 90 while iBGP will have an administrative distance of 200. The lower AD is more preferred so the EIGRP learned route will be placed into the IP routing table.

Explanation C. Incorrect. The Administrative Distance of iBGP is not correct. Also, the lower AD is the preferred protocol.

Explanation D. Incorrect. The Administrative Distance of iBGP is not correct.

PrepLogic Question: 12384-1100

75. Review Question p. 42

Answers: C

Explanation A. Incorrect. This can cause high CPU utilization if the router constantly has to send many ARP requests.

Explanation B. Incorrect. This process runs for every TCP connection. The more connections a router has, the more CPU must be used.

Explanation C. Correct. RTP streams alone do not cause an increase in CPU utilization any more than any other data being routed.

Explanation D. Incorrect. This process is essentially the interface queue process. If the router constantly has to handle buffer queuing, this can increase CPU utilization.

PrepLogic Question: 12384-1101

76. Review Question p. 42

Answers: C

Explanation A. Incorrect. When the ARP table cache fills up, you will not see routes as "incomplete".

Explanation B. Incorrect. Buffer overruns occur on physical interfaces and do not have any effect on the ARP table.

Explanation C. Correct. The best and most logical choice is that there is a device doing ping scans on your network. This may or may not be malicious behavior. This is likely

the cause due to the fact that the ARP table has no MAC addresses associated to the IP address. This is because the ping scan attempts to ping devices that do not exist!

Explanation D. Incorrect. Seeing ARP table entries as "incomplete" is not a common symptom when the routers CPU utilization is high.

PrepLogic Question: 12384-1102

77. Review Question p. 42

Answers: B

Explanation A. Incorrect. This output of this command will not give you the information you are looking for.

Explanation B. Correct. This command show information about TCP connections including number of connections initiated, accepted, established, and closed.

Explanation C. Incorrect. This is not a valid IOS command.

Explanation D. Incorrect. This output of this command will not give you the information you are looking for.

PrepLogic Question: 12384-1103

78. Review Question p. 43

Answers: D

Explanation A. Incorrect. The history of the show process cpu command does not extend to 72 hours.

Explanation B. Incorrect. This is not a valid IOS command.

Explanation C. Incorrect. The show memory statistics command will not show CPU utilization information.

Explanation D. Correct. This command gives an administrator a graphical output showing CPU utilization for 60 seconds, 60 minutes and 72 hours.

Explanation E. Incorrect. The show memory statistics command will not show CPU utilization information.

PrepLogic Question: 12384-1104

79. Review Question p. 43

Answers: B, E

Explanation A. Incorrect. ASIC memory is not a memory type displayed using the show memory statistics history command.

Explanation B. Correct. The two types of memory graphed are Processor and I/O memory.

Explanation C. Incorrect. Buffer memory is not a memory type displayed using the show memory statistics history command.

Explanation D. Incorrect. Services memory is not a memory type displayed using the show memory statistics history command.

Explanation E. Correct. The two types of memory graphed are Processor and I/O memory.

PrepLogic Question: 12384-1105

80. Review Question p. 43

Answers: D

Explanation A. Incorrect. The show ip cache command cannot be used when the MLS switch is process switching.

Explanation B. Incorrect. WRED is a QoS mechanism that has nothing to do with packet switching.

Explanation C. Incorrect. The show ip cache command cannot be used when the MLS switch is running CEF.

Explanation D. Correct. The show ip cache command is used when the MLS switch is running process fast. This is also known as route once, switch many processing.

PrepLogic Question: 12384-1106

81. Review Question p. 44

Answers: D

Explanation A. Incorrect. A next hop of 'receive' does not mean that the network is being fast switched.

Explanation B. Incorrect. A next hop of 'receive' does not mean that the network is being processed switched.

Explanation C. Incorrect. A next hop of 'receive' does not mean that the network has a partial route table.

Explanation D. Correct. Any network listed as receive is a local network to the router that the show command is being run on.

PrepLogic Question: 12384-1107

82. Review Question p. 44

Answers: C

Explanation A. Incorrect. A CallManager is responsible for call setup and processing.

Explanation B. Incorrect. The gatekeeper is responsible for bridging traditional telephone networks with an IP network.

Explanation C. Correct. The gatekeeper is responsible for bridging traditional telephone networks with an IP network.

Explanation D. Incorrect. A SIP gatekeeper is responsible for bridging traditional telephone networks with an IP network using the SIP protocol.

PrepLogic Question: 12384-1108

83. Review Question p. 44

Answers: A

Explanation A. Correct. The Gatekeeper is used to provide call admission control (CAC), bandwidth management control and often times, address translation features. Many voice protocols (such as H.323) often use gatekeepers.

Explanation B. Incorrect. An MCU does not provide the features and services described in the question.

Explanation C. Incorrect. A call agent does not provide the features and services described in the question.

Explanation D. Incorrect. The Gateway is used to translate traditional circuit-switch phone lines with the IP network and for handling services that use DSP chips.

PrepLogic Question: 12384-1109

84. Review Question p. 45

Answers: D

Explanation A. Incorrect. Delay is a voice transmission issue because it is the time required for a packet to travel from the source device to the destination device.

Explanation B. Incorrect. Jitter is a voice transmission issue because it is the uneven arrival of packets.

Explanation C. Incorrect. Drops are a voice transmission issue because packet drops occur when a link is congested and the buffer overflows.

Explanation D. Correct. Voice packets most commonly use UDP for transmission.

PrepLogic Question: 12384-1110

85. Review Question p. 45

Answers: E

Explanation A. Incorrect. ILP is a Cisco proprietary PoE method.

Explanation B. Incorrect. The IEEE PoE standard is 802.3af.

Explanation C. Incorrect. The IEEE PoE standard is 802.3af.

Explanation D. Incorrect. The IEEE PoE standard is 802.3af.

Explanation E. Correct. The IEEE PoE standard is 802.3af. Within this class are (currently) four different power classes that have minimum and maximum power amounts.

PrepLogic Question: 12384-1111

86. Review Question p. 45

Answers: C

Explanation A. Incorrect. This is not the correct way that IP phones learn what VLAN is the voice VLAN.

Explanation B. Incorrect. This is not the correct way that IP phones learn what VLAN is the voice VLAN.

Explanation C. Correct. CDP is used by Cisco phones to communicate to the local access switch. The switch then tells the phone which Voice VLAN it should be on.

Explanation D. Incorrect. This is not the correct way that IP phones learn what VLAN

is the voice VLAN.

PrepLogic Question: 12384-1112

87. Review Question p. 46

Answers: B

Explanation A. Incorrect. The show ip cef adjacency command will not let an administrator verify that packets are actually being CEF switched.

Explanation B. Correct. The show cef not-switched command shows statistics on the number of packets that for one reason or another are not CEF switched. If many packets are switched using methods other than CEF, it can cause higher CPU utilization.

Explanation C. Incorrect. The show ip cef events command will not let an administrator verify that packets are actually being CEF switched.

Explanation D. Incorrect. The show cef events command is not a valid IOS command.

PrepLogic Question: 12384-1113

88. Review Question p. 46

Answers: C

Explanation A. Incorrect. This is a prerequisite for configuring AutoQoS.

Explanation B. Incorrect. This is a prerequisite for configuring AutoQoS.

Explanation C. Correct. This is not a prerequisite for configuring AutoQoS.

Explanation D. Incorrect. This is a prerequisite for configuring AutoQoS.

Explanation E. Incorrect. This is a prerequisite for configuring AutoQoS.

PrepLogic Question: 12384-1114

89. Review Question p. 46

Answers: A

Explanation A. Correct. This command is performed on an interface-by-interface basis. By default auto qos uses NBAR to classify traffic. By adding the trust command option, the router will use DSCP values on the interface.

Explanation B. Incorrect. This is not the correct command to configure AutoQoS on a

router interface that uses DSCP markings.

Explanation C. Incorrect. This is not the correct command to configure AutoQoS on a router interface that uses DSCP markings. It is also not the proper configuration mode.

Explanation D. Incorrect. This is not the correct configuration mode to configure AutoQoS on a router interface that uses DSCP markings.

PrepLogic Question: 12384-1115

90. Review Question p. 47

Answers: C

Explanation A. Incorrect. You cannot configure bandwidth settings within the class-map.

Explanation B. Incorrect. You cannot configure bandwidth settings within the service-policy.

Explanation C. Correct. Bandwidth configurations are set within the policy-map.

Explanation D. Incorrect. There is no such thing as a match map.

PrepLogic Question: 12384-1116

91. Review Question p. 47

Answers: D

Explanation A. Incorrect. CGMP is not used between client devices and routers so that routers can be informed of which clients want to join a multicast group.

Explanation B. Incorrect. WCCP is not a multicast protocol.

Explanation C. Incorrect. MPLS is not a multicast protocol.

Explanation D. Correct. The Internet Group Management Protocol is used so the router can build and maintain multicast group tables. With these tables, multicast messages are sent only to those clients whom have joined the group.

PrepLogic Question: 12384-1117

92. Review Question p. 47

Answers: A

Explanation A. Correct. The first 6 digits of all multicast addresses are 0100.5E. The last 6 digits are the hex form of the last 3 octets of the address (10.10.10).

Explanation B. Incorrect. The first 6 digits of all multicast addresses are 0100.5E. The last 6 digits are the hex form of the last 3 octets of the address which does not turn out to be 10.1010.

Explanation C. Incorrect. The first 6 digits of all multicast addresses are 0100.5E.

Explanation D. Incorrect. The first 6 digits of all multicast addresses are 0100.5E.

PrepLogic Question: 12384-1118

93. Review Question p. 48

Answers: A

Explanation A. Correct. A reverse path forward check (RPF) is performed to make sure that multicast packets are sent along a loop-free path.

Explanation B. Incorrect. PIM sparse mode will not ensure that multicast packets are sent along a loop-free path.

Explanation C. Incorrect. PIM dense mode will not ensure that multicast packets are sent along a loop-free path.

Explanation D. Incorrect. A source distribution tree will not ensure that multicast packets are sent along a loop-free path.

PrepLogic Question: 12384-1119

94. Review Question p. 48

Answers: A, B, C

Explanation A. Correct. IPv6 addressing can utilize static routes.

Explanation B. Correct. EIGRP supports IPv6.

Explanation C. Correct. RIPng supports IPv6.

Explanation D. Incorrect. You must run OSPFv3 for IPv6.

Explanation E. Incorrect. IGRP does not handle IPv6 routing.

PrepLogic Question: 12384-1120

95. Review Question p. 48

Answers: C

Explanation A. Incorrect. The communication flow of this IPv6 type is one-to-one.

Explanation B. Incorrect. The communication flow of this IPv6 type is one-to-nearest.

Explanation C. Correct. The communication flow of this IPv6 type is one-to-many.

Explanation D. Incorrect. There is no broadcast address type in IPv6.

PrepLogic Question: 12384-1121

96. Review Question p. 49

Answers: A, C

Explanation A. Correct. You can eliminate leading 0's in a field that has them.

Explanation B. Incorrect. You can eliminate leading 0's in a field.

Explanation C. Correct. The use of the double colon can eliminate multiple fields that contain all 0's. The only caveat is that it can only be used one time per address.

Explanation D. Incorrect. Leading 0's can be omitted in any field.

Explanation E. Incorrect. The use of the double colon can only be used one time per address.

PrepLogic Question: 12384-1122

97. Review Question p. 49

Answers: C

Explanation A. Incorrect. This is an OSPFv3 enhancement.

Explanation B. Incorrect. This is an OSPFv3 enhancement.

Explanation C. Correct. Both OSPFv2 and v3 use the concept of OSPF areas.

Explanation D. Incorrect. This is an OSPFv3 enhancement.

PrepLogic Question: 12384-1123

98. Review Question p. 49

Answers: B

Explanation A. Incorrect. Even though you are running IPv6, OSPFv3 does not use an IPv6 address as the router ID.

Explanation B. Correct. Even though you are running IPv6, OSPFv3 uses an IPv4 address for the router ID.

Explanation C. Incorrect. Even though you are running IPv6, OSPFv3 does not use an IPv6 anycast address as the router ID.

Explanation D. Incorrect. Even though you are running IPv6, OSPFv3 does not use an IPv6 multicast address as the router ID.

PrepLogic Question: 12384-1124

99. Review Question p. 50

Answers: B

Explanation A. Incorrect. This command will not display the IPv6 link local address, area ID, process ID, router ID, and cost.

Explanation B. Correct. The correct command is show ipv6 ospf interface.

Explanation C. Incorrect. This command will not display the IPv6 link local address, area ID, process ID, router ID, and cost.

Explanation D. Incorrect. This command will not display the IPv6 link local address, area ID, process ID, router ID, and cost.

PrepLogic Question: 12384-1125

100. Review Question p. 50

Answers: E

Explanation A. Incorrect. While this is indeed a shared OSPFv2 to OSPFv3 reason why neighbors won't form adjacencies, there is a more appropriate answer.

Explanation B. Incorrect. While this is indeed a shared OSPFv2 to OSPFv3 reason why neighbors won't form adjacencies, there is a more appropriate answer.

Explanation C. Incorrect. While this is indeed a shared OSPFv2 to OSPFv3 reason why neighbors won't form adjacencies, there is a more appropriate answer.

Explanation D. Incorrect. While this is indeed a shared OSPFv2 to OSPFv3 reason why

neighbors won't form adjacencies, there is a more appropriate answer.

Explanation E. Correct. In regards to adjacencies, OSPFv2 and v3 have to follow the same guidelines for forming neighbor adjacencies.

PrepLogic Question: 12384-1126

101. Review Question p. 50

Answers: E

Explanation A. Incorrect. This command will display all ipv6 packets on the network. It is not the best debug command to use when troubleshooting IPv6 OSPF adjacency problems.

Explanation B. Incorrect. This is not a valid debug command.

Explanation C. Incorrect. This command will display debug information that deals with OSPF neighbor relationships. It is not the best debug command to use when troubleshooting IPv6 OSPF adjacency problems.

Explanation D. Incorrect. This is not a valid debug command.

Explanation E. Correct. This debug command will display OSPFv3 adjacency information on the router.

PrepLogic Question: 12384-1127

102. Review Question p. 51

Answers: B

Explanation A. Incorrect. This is the RIPv2 multicast for IPv4.

Explanation B. Correct. The correct RIPng routing update address for IPv6 is FF02::9

Explanation C. Incorrect. This is not the multicast address used for RIPng routing.

Explanation D. Incorrect. This is an IPv4 OSPF multicast routing protocol address.

PrepLogic Question: 12384-1128

103. Review Question p. 51

Answers: A

Explanation A. Correct. The correct privileged EXEC command is clear ipv6 traffic.

Explanation B. Incorrect. This is not the correct privileged EXEC command to clear out the IPv6 traffic counters on the router.

Explanation C. Incorrect. This is not the correct privileged EXEC command to clear out the IPv6 traffic counters on the router.

Explanation D. Incorrect. This is not the correct privileged EXEC command to clear out the IPv6 traffic counters on the router.

PrepLogic Question: 12384-1129

104. Review Question p. 51

Answers: D

Explanation A. Incorrect. 5 seconds is too short.

Explanation B. Incorrect. 30 seconds is too short.

Explanation C. Incorrect. 120 seconds is too long.

Explanation D. Correct. By default, probes are sent every 60 seconds. This can be modified by using the frequency command.

Explanation E. Incorrect. 10 seconds is too short.

PrepLogic Question: 12384-1130

105. Review Question p. 52

Answers: B

Explanation A. Incorrect. The GSS optimizes distributed data center environments.

Explanation B. Correct. The ACE is Cisco's load balancing appliance.

Explanation C. Incorrect. The AVS enhances web applications by making them faster.

Explanation D. Incorrect. The WAAS accelerates WAN links for people at remote offices.

PrepLogic Question: 12384-1131

106. Review Question p. 52

Answers: B

Explanation A. Incorrect. This information is collected by NetFlow.

Explanation B. Correct. This information is not collected by NetFlow

Explanation C. Incorrect. This information is collected by NetFlow.

Explanation D. Incorrect. This information is collected by NetFlow.

Explanation E. Incorrect. This information is collected by NetFlow.

Explanation F. Incorrect. This information is collected by NetFlow.

PrepLogic Question: 12384-1132

107. Review Question p. 53

Answers: D

Explanation A. Incorrect. The SLA is not configured to probe every 60 minutes.

Explanation B. Incorrect. The SLA is not configured to probe every 10 minutes.

Explanation C. Incorrect. The SLA is not configured to probe every 30 seconds.

Explanation D. Correct. The SLA is configured to probe every 60 seconds. We know this because the output of the show ip sla monitor responder command has the recent sources one minute apart from each other.

PrepLogic Question: 12384-1133

108. Review Question p. 53

Answers: C

Explanation A. Incorrect. NBAR classifies traffic at layers 3 and 4 but also other layers of the OSI model.

Explanation B. Incorrect. NBAR classifies traffic at layers 4 to 7 but also other layers of the OSI model.

Explanation C. Correct. NBAR classifies traffic by examining information contained within each packet at OSI layers 3 to 7.

Explanation D. Incorrect. NBAR classifies traffic at layers 3 to 5 but also other layers of the OSI model.

Explanation E. Incorrect. NBAR classifies traffic at layers 4 and 5 but also other layers

of the OSI model.

PrepLogic Question: 12384-1134

109. Review Question p. 53

Answers: B

Explanation A. Incorrect. CEF is not a downloadable tool that can be used to identify unwanted traffic such as bit-torrents.

Explanation B. Correct. A Bit-torrent Packet Description Language Module (PLDM) can be downloaded and installed into a routers flash. Once installed, it can be used with NBAR to identify and classify Bit-torrent traffic.

Explanation C. Incorrect. WCCP is not a downloadable tool that can be used to identify unwanted traffic such as bit-torrents.

Explanation D. Incorrect. NAC is not a downloadable tool that can be used to identify unwanted traffic such as bit-torrents.

PrepLogic Question: 12384-1135

110. Review Question p. 54

Answers: D

Explanation A. Incorrect. The PDLM for non-standard web traffic is not needed to recognize both standard port 80 web traffic and non-standard port 8080 web traffic.

Explanation B. Incorrect. A network administrator must perform a task in order for NBAR to recognize non-standard ports.

Explanation C. Incorrect. This is not the correct command to accomplish the task outlined in the question.

Explanation D. Correct. The engineer can issue the following command to have NBAR monitor

Router(config)# nbar port-map http tcp 80 8080

This tells NBAR to classify web traffic on both TCP port 80 and 8080.

PrepLogic Question: 12384-1136

111. Review Question p. 54

Answers: C, D

Explanation A. Incorrect. The names for the two modes of operation for wireless access points are autonomous and split-MAC mode.

Explanation B. Incorrect. This is not a wireless AP mode.

Explanation C. Correct. This is one of the two wireless modes Cisco wireless access points can operate in.

Explanation D. Correct. This is one of the two wireless modes Cisco wireless access points can operate in.

Explanation E. Incorrect. This is not a wireless AP mode.

PrepLogic Question: 12384-1137

112. Review Question p. 54

Answers: A

Explanation A. Correct. EAP-Transport Layer Security (EAP-TLS) authenticates clients using digital certificates.

Explanation B. Incorrect. EAP-TTLS does not authenticate clients using digital certificates.

Explanation C. Incorrect. LEAP does not authenticate clients using digital certificates.

Explanation D. Incorrect. EAP-FAST does not authenticate clients using digital certificates.

PrepLogic Question: 12384-1138

113. Review Question p. 55

Answers: B

Explanation A. Incorrect. The show ip dhcp binding command is not the command to view DHCP conflicts.

Explanation B. Correct. The command to view DHCP conflicts on the router running the DHCP service is show ip dhcp conflict.

Explanation C. Incorrect. This is not a valid IOS command.

Explanation D. Incorrect. This is not a valid IOS command.

PrepLogic Question: 12384-1139

114. Review Question p. 55

Answers: C

Explanation A. Incorrect. Lightweight Access points (LWAPs) do not use PDLMs to give them network intelligence.

Explanation B. Incorrect. Lightweight Access points (LWAPs) do not use EAP to give them network intelligence.

Explanation C. Correct. Lightweight Access points (LWAPs) are essentially dumb devices. The LWAPs must communicate with a Wireless LAN Controller (WLC) which provides intelligence to the wireless network.

Explanation D. Incorrect. Lightweight Access points (LWAPs) do not use LWAPP to give them network intelligence. LWAPP is the protocol used to communicate with LWAPs.

PrepLogic Question: 12384-1140

115. Review Question p. 55

Answers: A

Explanation A. Correct. The Remote-access VPN is for single mobile users who commonly over the Internet from their homes or on the road. This type of VPN requires that VPN software be installed on the PC which has configuration settings used to connect.

Explanation B. Incorrect. Split-tunnel VPN is a method of requiring clients to send some traffic through the VPN tunnel and other traffic can bypass the tunnel to reach other destinations.

Explanation C. Incorrect. Site-to-site VPNs are not for single mobile users who commonly over the Internet from their homes or on the road.

Explanation D. Incorrect. VRF is not for single mobile users who commonly over the Internet from their homes or on the road.

PrepLogic Question: 12384-1141

116. Review Question p. 56

Answers: C

Explanation A. Incorrect. Marking packets with a DF bit will not prevent packets from being fragmented.

Explanation B. Incorrect. Turning off the DF bit will not prevent packets from being fragmented.

Explanation C. Correct. When packets are encapsulated, it adds 60-80 bytes of overhead to the packet. By default, the MTU for router interfaces is 1500 bytes. If packets are larger than this, they must be fragmented which can cause delays and even drops if the DF bit is set on the packets.

Explanation D. Incorrect. Using NAT over a VPN will not prevent packets from being fragmented.

PrepLogic Question: 12384-1142

117. Review Question p. 56

Answers: D

Explanation A. Incorrect. A remote-access VPN is not the best alternative from the answers given.

Explanation B. Incorrect. A PPTP is not the best alternative from the answers given.

Explanation C. Incorrect. A GRE tunnel is not the best alternative from the answers given.

Explanation D. Correct. A DMVPN design creates dynamic VPN tunnels on an as-needed basis.

PrepLogic Question: 12384-1143

118. Review Question p. 56

Answers: A

Explanation A. Correct. This is not a benefit of using DMVPN over a full-mesh of static VPN tunnels.

Explanation B. Incorrect. DMVPN can overcome suboptimal routing sometimes seen in full-mesh VPN's.

Explanation C. Incorrect. DMVPN can overcome recursive routing sometimes seen in

full-mesh VPN's

Explanation D. Incorrect. DMVPN can overcome processing overhead because the tunnels are only established when needed.

PrepLogic Question: 12384-1144

119. Review Question p. 57

Answers: D

Explanation A. Incorrect. The show crypto map command does not display status and configured settings for VPN tunnels.

Explanation B. Incorrect. The show crypto ipsec sa command does not display status and configured settings for VPN tunnels.

Explanation C. Incorrect. The show crypto engine connections active command does not display status and configured settings for VPN tunnels.

Explanation D. Correct. This command displays status and configured settings for a specific tunnel interface by number.

PrepLogic Question: 12384-1145

120. Review Question p. 57

Answers: B

Explanation A. Incorrect. H.323 is a voice signaling protocol.

Explanation B. Correct. Survivable Remote Site Telephony is a feature used at remote sites to redirect IPT calls out the Public telephone network in the event of a WAN failure.

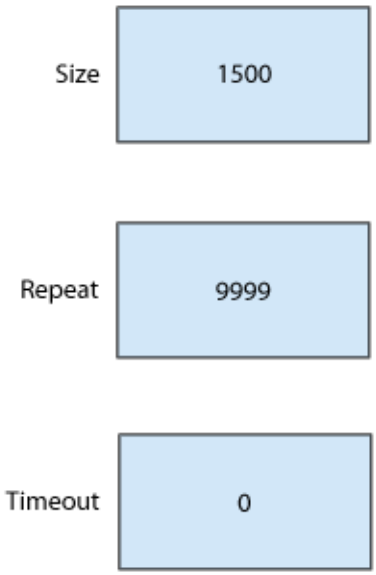
Explanation C. Incorrect. HSRP is a gateway redundancy protocol. It is not commonly used for remote site WAN redundancy.

Explanation D. Incorrect. SIP is a voice signaling protocol.

PrepLogic Question: 12384-1146

121. Review Question p. 58

Answer:

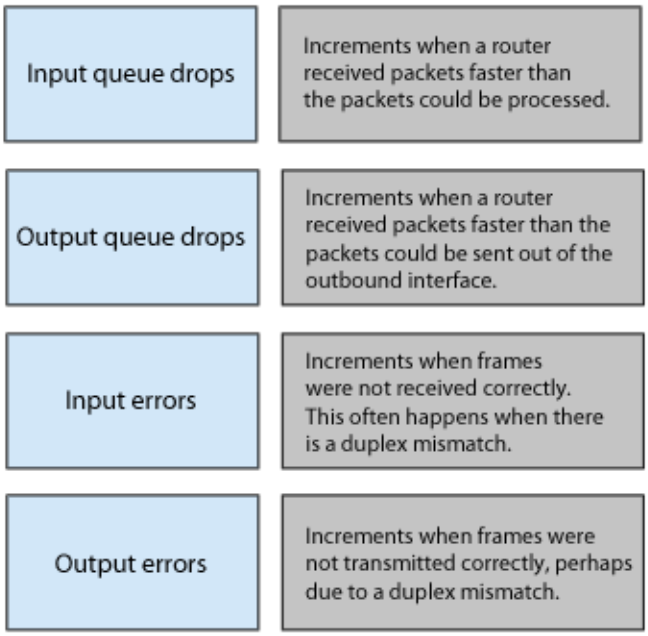


Explanation:

PrepLogic Question: 12384-11

122. Review Question p. 59

Answer:

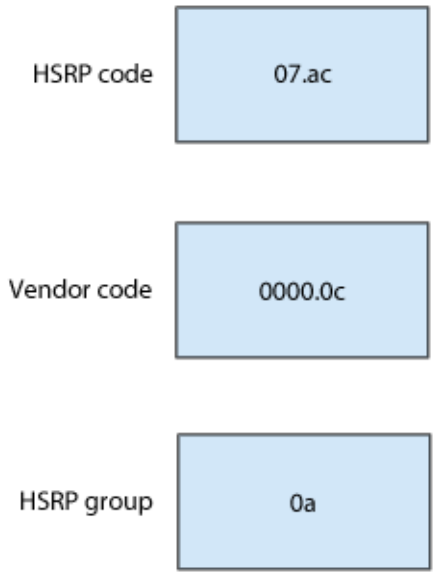


Explanation:

PrepLogic Question: 12384-12

123. Review Question p. 60

Answer:

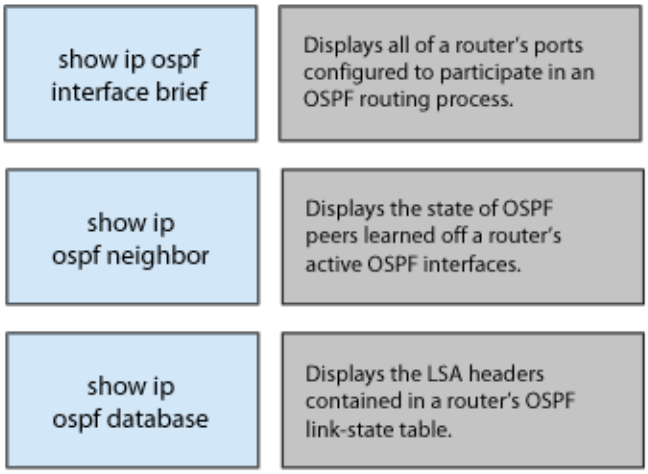


Explanation:

PrepLogic Question: 12384-13

124. Review Question p. 61

Answer:

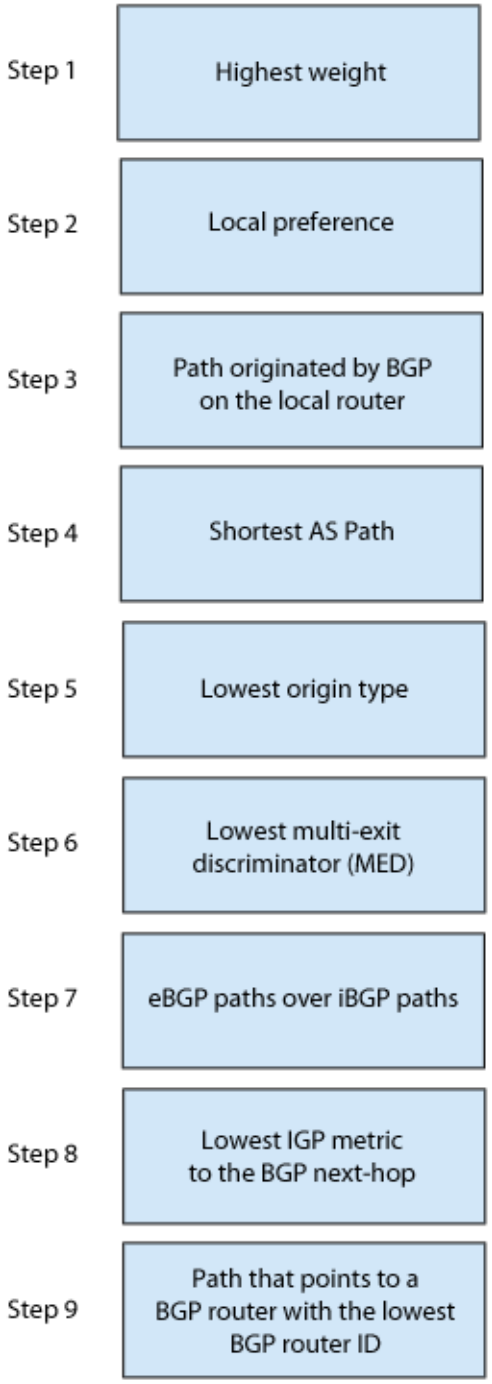


Explanation:

PrepLogic Question: 12384-14

125. Review Question p. 63

Answer:

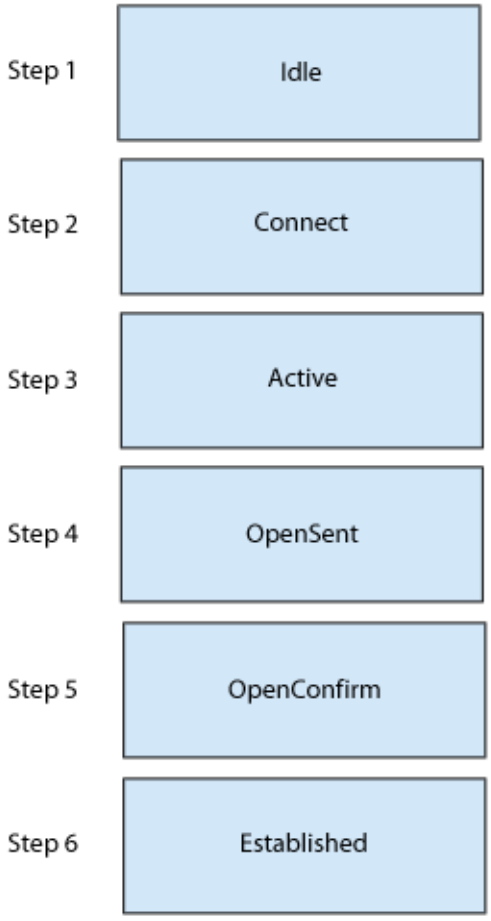


Explanation:

PrepLogic Question: 12384-15

126. Review Question p. 65

Answer:

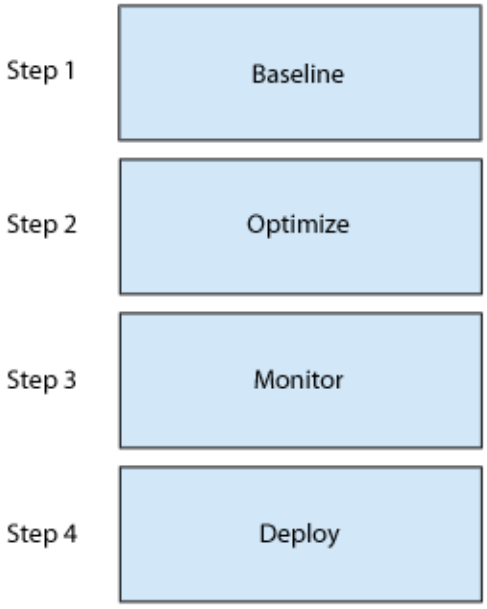


Explanation:

PrepLogic Question: 12384-18

127. Review Question p. 65

Answer:

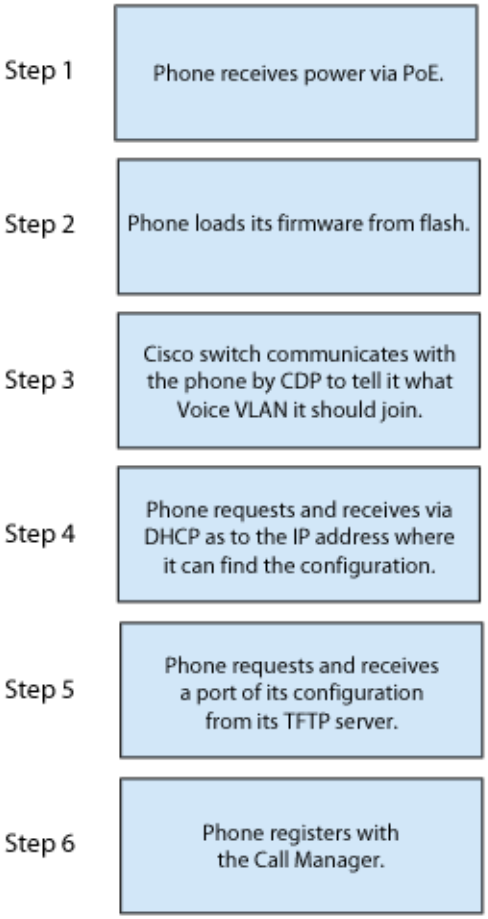


Explanation:

PrepLogic Question: 12384-21

128. Review Question p. 67

Answer:

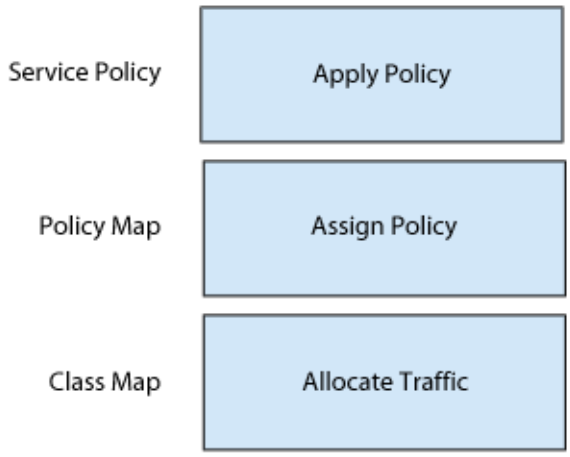


Explanation:

PrepLogic Question: 12384-19

129. Review Question p. 67

Answer:



Explanation:

PrepLogic Question: 12384-20