Routing and Switching Essentials (Version 6.00) - RSE 6.0 Chapter 5 Exam

Below is the feedback on items for which you did not receive full credit. Some interactive items may not display your response.

Subscore: Domain Knowledge - Weighted Score

1 Which statement describes the port speed LED on the Cisco Catalyst 2960 switch?

Correct Response	Your Response	
✔	○	If the LED is green, the port is operating at 100 Mb/s.
	○	If the LED is amber, the port is operating at 1000 Mb/s.
	○	If the LED is blinking green, the port is operating at 10 Mb/s.
	◉	If the LED is off, the port is not operating.

The port speed LED indicates that the port speed mode is selected. When selected, the port LEDs will display colors with different meanings. If the LED is off, the port is operating at 10 Mb/s. If the LED is green, the port is operating at 100 Mb/s. If the LED is blinking green, the port is operating at 1000 Mb/s.

This item references content from the following areas:

Routing and Switching Essentials

5.1.1 Configure a Switch with Initial Settings

2 Which command is used to set the BOOT environment variable that defines where to find the IOS image file on a switch?

Correct Response	Your Response	
	○	config-register
	○	boot loader
✓	○	boot system
	◉	confreg

The **boot system** command is used to set the BOOT environment variable. The **config-register** and **confreg** commands are used to set the configuration register. The **boot loader** command supports commands to format the flash file system, reinstall the operating system software, and recover from a lost or forgotten password.

This item references content from the following areas:

Routing and Switching Essentials

5.1.1 Configure a Switch with Initial Settings

5 A production switch is reloaded and finishes with a Switch> prompt. What two facts can be determined? (Choose two.)

Correct Response	Your Response	
	☑	There is not enough RAM or flash on this router.
	☐	The boot process was interrupted.
	☐	The switch did not locate the Cisco IOS in flash, so it defaulted to ROM.
✓	☐	A full version of the Cisco IOS was located and loaded.
✓	☐	POST occurred normally.

This item references content from the following areas:

Routing and Switching Essentials

5.1.1 Configure a Switch with Initial Settings

6 Which two statements are true about using full-duplex Fast Ethernet? (Choose two.)

Correct Response	Your Response	
☑	☑	Latency is reduced because the NIC processes frames faster.
☐	☐	Nodes operate in full-duplex with unidirectional data flow.
✔ ☑	☑	Full-duplex Fast Ethernet offers 100 percent efficiency in both directions.
✔ ☐	☐	Performance is improved with bidirectional data flow.
☐	☐	Performance is improved because the NIC is able to detect collisions.

This item references content from the following areas:

Routing and Switching Essentials

5.1.2 Configure Switch Ports

7 In which situation would a technician use the show interfaces switch command?

Correct Response	Your Response	
○	○	to determine if remote access is enabled
○	○	when an end device can reach local devices, but not remote devices

- ◉ to determine the MAC address of a directly attached network device on a particular interface
- ✔ ○ when packets are being dropped from a particular directly attached host

The **show interfaces** command is useful to detect media errors, to see if packets are being sent and received, and to determine if any runts, giants, CRCs, interface resets, or other errors have occurred. Problems with reachability to a remote network would likely be caused by a misconfigured default gateway or other routing issue, not a switch issue. The **show mac address-table** command shows the MAC address of a directly attached device.

This item references content from the following areas:

Routing and Switching Essentials

5.1.2 Configure Switch Ports

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```
Switch# show interface fa0/1
FastEthernet0/1 is up, line protocol is up (connected)
  Hardware is Lance, address is 0050.0f29.2601 (bia 0050.0f29.2601)
 BW 100000 Kbit, DLY 1000 usec,
     reliability 255/255, txload 1/255, rxload 1/255

<output omitted>

Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     956 packets input, 193351 bytes, 0 no buffer
     Received 956 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 15890 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     0 watchdog, 0 multicast, 0 pause input
     0 input packets with dribble condition detected
     2357 packets output, 263570 bytes, 0 underruns
```

Refer to the exhibit. What media issue might exist on the link connected to Fa0/1 based on the show interface command?

Correct Response	Your Response	
	○	The interface might be configured as half-duplex.
	◉	The cable attaching the host to port Fa0/1 might be too long.
	○	There could be an issue with a faulty NIC.
✔	○	There could be too much electrical interference and noise on the link.
	○	The bandwidth parameter on the interface might be too high.

Escalating CRC errors usually means that the data is being modified during transmission from the host to the switch. This is often caused by high levels of electromagnetic interference on the link.

This item references content from the following areas:

Routing and Switching Essentials

5.1.2 Configure Switch Ports

10 If one end of an Ethernet connection is configured for full duplex and the other end of the connection is configured for half duplex, where would late collisions be observed?

Correct Response **Your Response**

- ✔ ○ on the half-duplex end of the connection
- ◉ on the full-duplex end of the connection
- ○ on both ends of the connection
- ○ only on serial interfaces

Full-duplex communications do not produce collisions. However, collisions often occur in half-duplex operations. When a connection has two different duplex configurations, the half-duplex end will experience late collisions. Collisions are found on Ethernet networks. Serial interfaces use technologies other than Ethernet.

This item references content from the following areas:

Routing and Switching Essentials

5.1.2 Configure Switch Ports

13 What is the effect of using the switchport port-security command?

Correct Response **Your Response**

- ○ detects the first MAC address in a frame that comes into a port and places that MAC address in the MAC address table

- ✔ ○ enables port security on an interface
- ○ automatically shuts an interface down if applied to a trunk port
- ◉ enables port security globally on the switch

Port security cannot be enabled globally. All active switch ports should be manually secured using the **switchport port-security** command, which allows the administrator to control the number of valid MAC addresses allowed to access the port. This command does not specify what action will be taken if a violation occurs, nor does it change the process of populating the MAC address table.

This item references content from the following areas:

Routing and Switching Essentials

5.2.2 Switch Port Security

16 Which two statements are true regarding switch port security? (Choose two.)

Correct Response **Your Response**

- ☐ The three configurable violation modes all require user intervention to re-enable ports.
- ☑ After entering the **sticky** parameter, only MAC addresses subsequently learned are converted to secure MAC addresses.
- ✔ ☐ Dynamically learned secure MAC addresses are lost when the switch reboots.
- ✔ ☑ If fewer than the maximum number of MAC addresses for a port are configured statically, dynamically learned addresses are added to CAM until the maximum number is reached.
- ☐ The three configurable violation modes all log violations via SNMP.

This item references content from the following areas:

Routing and Switching Essentials

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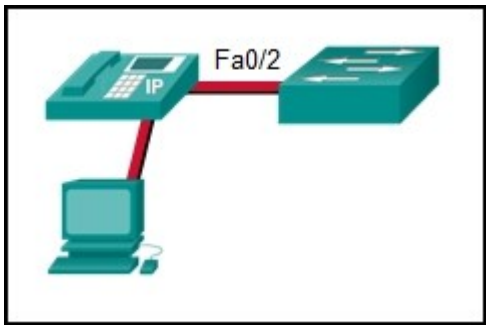

Refer to the exhibit. Port Fa0/2 has already been configured appropriately. The IP phone and PC work properly. Which switch configuration would be most appropriate for port Fa0/2 if the network administrator has the following goals?

No one is allowed to disconnect the IP phone or the PC and connect some other wired device.

If a different device is connected, port Fa0/2 is shut down.

The switch should automatically detect the MAC address of the IP phone and the PC and add those addresses to the running configuration.

Correct Response	Your Response	
✔	○	SWA(config-if)# **switchport port-security** SWA(config-if)# **switchport port-security maximum 2** SWA(config-if)# **switchport port-security mac-address sticky**
	○	SWA(config-if)# **switchport port-security mac-address sticky** SWA(config-if)# **switchport port-security maximum 2**
	◉	SWA(config-if)# **switchport port-security** SWA(config-if)# **switchport port-security mac-address sticky**
	○	SWA(config-if)# **switchport port-security** SWA(config-if)# **switchport port-security maximum 2** SWA(config-if)# **switchport port-security mac-address sticky** SWA(config-if)# **switchport port-security violation restrict**

The default mode for a port security violation is to shut down the port so the **switchport port-security violation** command is not necessary. The **switchport port-security** command must be entered with no additional options to enable port security for the port. Then, additional port security options can be added.

This item references content from the following areas:

Routing and Switching Essentials

5.2.2 Switch Port Security

22 Question as presented:

Match the step to each switch boot sequence description. (Not all options are used.)

step 1

step 2

step 3

step 4

step 5

step 6

CPU register initializations

enter global configuration mode

load the IOS

transfer switch control to the IOS

The steps are:
1. execute POST
2. load the boot loader from ROM
3. CPU register initializations
4. flash file system initialization
5. load the IOS
6. transfer switch control to the IOS

This item references content from the following areas:

Routing and Switching Essentials

5.1.1 Configure a Switch with Initial Settings

Your response:

Match the step to each switch boot sequence description. (Not all options are used.)

step 1

step 2

step 3

step 5

step 6

execute POST

step 1

flash file system initialization

step 5

load the boot loader from ROM

step 2

load the IOS

step 6

transfer switch control to the IOS

step 4

23 Question as presented:

Identify the steps needed to configure a switch for SSH. The answer order does not matter. (Not all options are used.)

Create a local user.

Generate RSA keys.

Use the **login** command.

Configure a domain name.

Use the **login local** command.

Use the **password cisco** command.

Use the **transport input ssh** command.

required steps for SSH configuration

SSH configuration step

SSH configuration step

SSH configuration step

SSH configuration step

The login and password cisco commands are used with Telnet switch configuration, not SSH configuration.

This item references content from the following areas:

Routing and Switching Essentials

5.2.1 Secure Remote Access

Your response:

Identify the steps needed to configure a switch for SSH. The answer order does not matter. (Not all options are used.)

Create a local user.

Generate RSA keys.

Use the **login** command.

Configure a domain name.

Use the **login local** command.

Use the **password cisco** command.

Use the **transport input ssh** command.

required steps for SSH configuration

Generate RSA keys.