

## Question 1

Configuration of which option is required on a Cisco switch for the Cisco IP phone to work?

- A. PortFast on the interface
- B. the interface as an access port to allow the voice VLAN ID
- C. a voice VLAN ID in interface and global configuration mode
- D. Cisco Discovery Protocol in global configuration mode

**Answer: B**

### Explanation

When you connect an IP phone to a switch using a trunk link, it can cause high CPU utilization in the switches. As all the VLANs for a particular interface are trunked to the phone, it increases the number of STP instances the switch has to manage. This increases the CPU utilization. Trunking also causes unnecessary broadcast / multicast / unknown unicast traffic to hit the phone link.

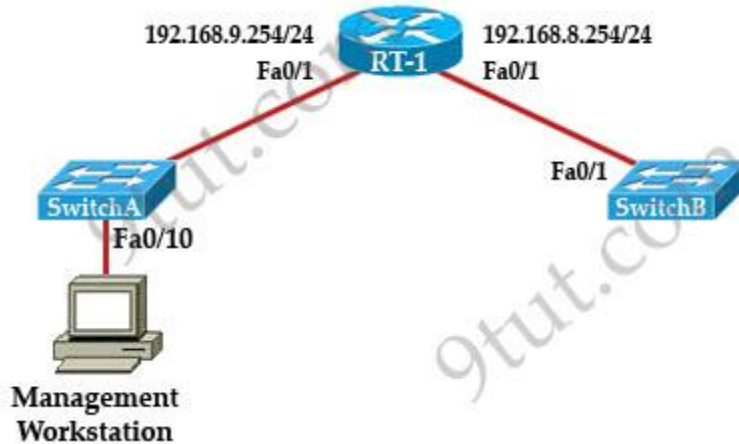
In order to avoid this, remove the trunk configuration and keep the voice and access VLAN configured along with Quality of Service (QoS). Technically, it is still a trunk, but **it is called a Multi-VLAN Access Port (MVAP)**. Because voice and data traffic can travel through the same port, you should specify a different VLAN for each type of traffic. You can configure a switch port to forward voice and data traffic on different VLANs. Configure IP phone ports with a voice VLAN configuration. This configuration creates a pseudo trunk, but does not require you to manually prune the unnecessary VLANs.

The voice VLAN feature enables access ports to carry IP voice traffic from an IP phone. You can configure a voice VLAN with the “switchport voice vlan ...” command under interface mode. The full configuration is shown below:

```
Switch(config)#interface fastethernet0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#switchport voice vlan 20
```

Reference: <http://www.cisco.com/c/en/us/support/docs/switches/catalyst-4500-series-switches/69632-configuring-cat-ip-phone.html>

## Question 2



A technician has installed SwitchB and needs to configure it for remote access from the management workstation connected SwitchA. Which set of commands is required to accomplish this task?

A.

```
SwitchB(config)#interface FastEthernet 0/1
SwitchB(config-if)#ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)#no shutdown
```

B.

```
SwitchB(config)#ip default-gateway 192.168.8.254
SwitchB(config)#interface vlan 1
SwitchB(config-if)#ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)#no shutdown
```

C.

```
SwitchB(config)#interface vlan 1
SwitchB(config-if)#ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)#ip default-gateway 192.168.8.254 255.255.255.0
SwitchB(config-if)#no shutdown
```

D.

```
SwitchB(config)#ip default-network 192.168.8.254
SwitchB(config)#interface vlan 1
SwitchB(config-if)#ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)#no shutdown
```

**Answer: B**

**Explanation**

To remote access to SwitchB, it must have a management IP address on a VLAN on that switch. Traditionally, we often use VLAN 1 as the management VLAN (but in fact it is not secure).

In the exhibit, we can recognize that the Management Workstation is in a different subnet from the SwitchB. For intersubnetwork communication to occur, you must configure at least one default gateway. This default gateway is used to forward traffic originating from the switch only, not to forward traffic sent by devices connected to the switch.

### Question 3

Which three statements accurately describe layer 2 Ethernet switches? (choose three)

- A. Microsegmentation decreases the number of collisions on the network.
- B. If a switch receives a frame for an unknown destination, it uses ARP to resolve the address.
- C. Spanning Tree Protocol allows switches to automatically share vlan information.
- D. In a properly functioning network with redundant switched paths, each switched segment will contain one root bridge with all its ports in the forwarding state. All other switches in that broadcast domain will have only one root port.
- E. Establishing vlans increases the number of broadcast domains.
- F. Switches that are configured with vlans make forwarding decisions based on both layer 2 and layer 3 address information.

**Answer:** A D E

### Explanation

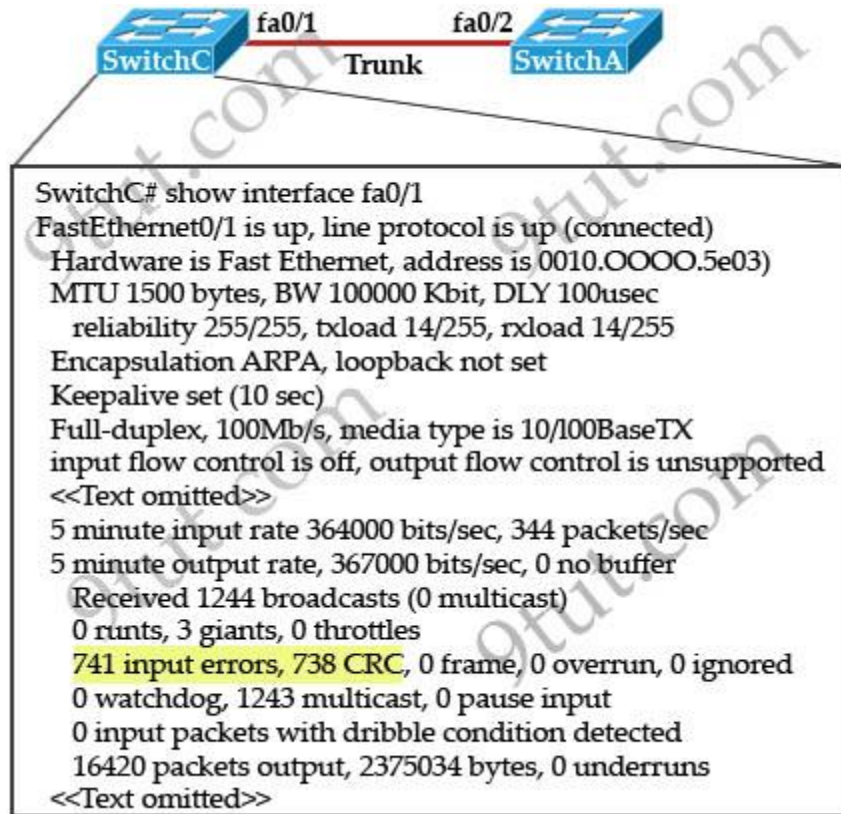
Microsegmentation is a network design (functionality) where each workstation or device on a network gets its own dedicated segment (collision domain) to the switch. Each network device gets the full bandwidth of the segment and does not have to share the segment with other devices. Microsegmentation reduces and can even eliminate collisions because each segment is its own collision domain -> A is correct.

Note: Microsegmentation decreases the number of collisions but it increases the number of collision domains.

D and E are correct based on the theory of STP and VLAN.

### Question 4

Refer to the exhibit. Give this output for SwitchC, what should the network administrator's next action be?



- A. Check the trunk encapsulation mode for SwitchC's fa0/1 port.
- B. Check the duplex mode for SwitchC's fa0/1 port.
- C. Check the duplex mode for SwitchA's fa0/2 port.
- D. Check the trunk encapsulation mode for SwitchA's fa0/2 port.

**Answer:** C

### Question 5

Refer to the exhibit.

```
Switch-1# show mac address-table
Dynamic Addresses Count:          3
Secure Addresses (User-defined) Count: 0
Static Addresses (User-defined) Count: 0
System Self Addresses Count:     41
Total Mac addresses:             50
Non-static Address Table:
Destination Address  Address Type  VLAN  Destination Port
-----
0010.0de0.e289      Dynamic      1     FastEthernet0/1
0010.7b00.1540      Dynamic      2     FastEthernet0/3
0010.7b00.1545      Dynamic      2     FastEthernet0/2
```

Switch-1 needs to send data to a host with a MAC address of 00b0.d056.efa4. What will Switch-1 do with this data?

- A. Switch-1 will drop the data because it does not have an entry for that MAC address.
- B. Switch-1 will forward the data to its default gateway.
- C. Switch-1 will flood the data out all of its ports except the port from which the data originated.
- D. Switch-1 will send an ARP request out all its ports except the port from which the data originated.

**Answer: C**

**Explanation**

The MAC address of 00b0.d056.efa4 has not been learned in its MAC address table so Switch-1 will broadcast the frame out all of its ports except the port from which the data originated.

**Question 6**

Which utility can you use to determine whether a switch can send echo requests and replies?

- A. ping
- B. traceroute
- C. ssh
- D. telnet

**Answer: A**

**Explanation**

“ping” command is used to send echo requests and receive echo replies.

**Question 7**

On which type of port can switches interconnect for multi-VLAN communication?

- A. interface port
- B. access port
- C. switch port
- D. trunk port

**Answer: D**

**Question 8**

Which two types of information are held in the MAC address table? (Choose two)

- A. MAC address
- B. source IP address
- C. destination IP address
- D. Protocols
- E. Port numbers

**Answer: A E**

**Explanation**

We can check the MAC address table with the command “show mac address-table”:

```

Switch1# show mac address-table
System Self Addresses Count: 41
Total MAC addresses: 50
Non-static Address Table:
Destination Address    AddressType    VLAN    Destination Port
-----
00A0.0de0.e289        Dynamic        1        FastEthernet0/1
00A0.7b00.1540        Dynamic        2        FastEthernet0/5
00A0.7b00.1545        Dynamic        2        FastEthernet0/5
00A0.5c74.0076        Dynamic        1        FastEthernet0/1
00A0.5cf4.0077        Dynamic        3        FastEthernet0/1
00A0.5cf4.1315        Dynamic        1        FastEthernet0/1

```

As we can see here, the “MAC address” field is the source MAC address and the “Ports” field are the ports of the switch from which the frames (with corresponding source MAC address) were received.

### Question 9

What type of MAC address is aged automatically by the switch?

- A. Dynamic
- B. Static
- C. Auto

**Answer: A**

### Explanation

To switch frames between LAN ports efficiently, the switch maintains an address table. When the switch receives a frame, it associates the media access control (MAC) address of the sending network device with the LAN port on which it was received.

The switch dynamically builds the address table by using the MAC source address of the frames received. When the switch receives a frame for a MAC destination address not listed in its address table, it floods the frame to all LAN ports of the same VLAN except the port that received the frame. When the destination station replies, the switch adds its relevant MAC source address and port ID to the address table. The switch then forwards subsequent frames to a single LAN port without flooding all LAN ports.

Reference:

<http://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus5000/sw/configuration/guide/cli/CLIConfigurationGuide/MACAddress.html>

When the switch dynamically builds the MAC address table, it also specifies the time before an entry ages out and is discarded from the MAC address table. The default is 300 seconds.

### Question 10

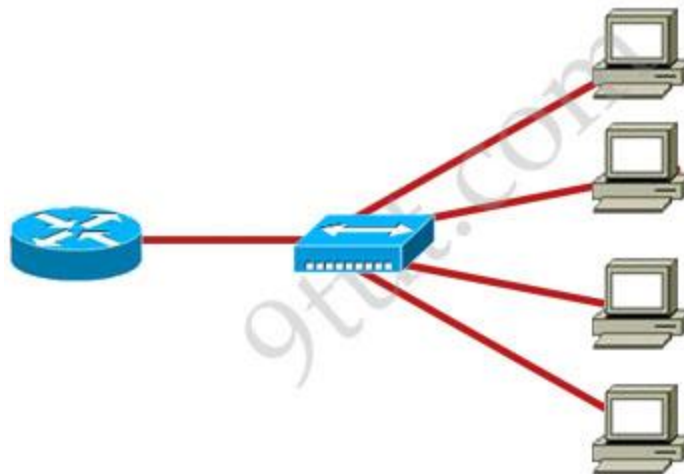
Which of the three options are switchbox configurations that can always avoid duplex mismatch errors between two switches? (Choose three)

- A. Set one side of the connection to the full duplex and the other side to half duplex
- B. Set both sides of the connection to full duplex
- C. Set one side of the connection to auto-negotiate and the other side to half duplex
- D. Set one side of the connection to auto-negotiate and the other side to full duplex
- E. Set both sides of the connection to auto-negotiate
- F. Set both sides of the connection to half duplex

**Answer:** B E F

### Question 11

Refer to the exhibit.



What two results would occur if the hub were to be replaced with a switch that is configured with one Ethernet VLAN? (Choose two)

Note: This question may or may not have the exhibit.

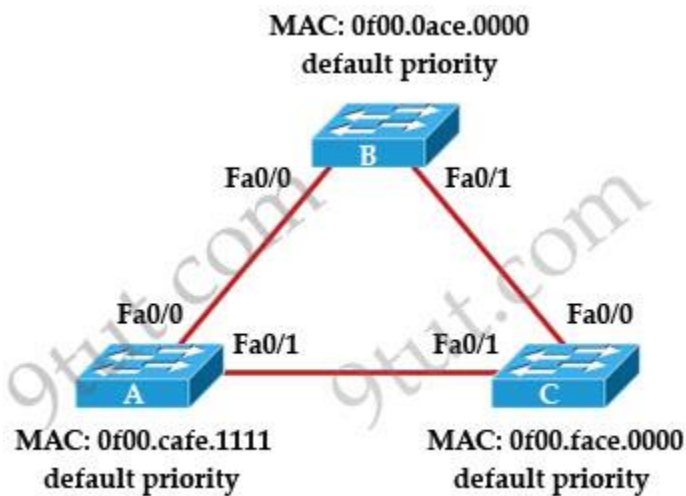


- A. The number of collision domains would remain the same.
- B. The number of collision domains would decrease.
- C. The number of collision domains would increase.
- D. The number of broadcast domains would remain the same.
- E. The number of broadcast domains would decrease.
- F. The number of broadcast domains would increase.

**Answer:** C D

### Question 12

Refer to the topology shown in the exhibit. Which ports will be STP designated ports if all the links are operating at the same bandwidth? (Choose three)



- A. Switch A – Fa0/0
- B. Switch A – Fa0/1
- C. Switch B – Fa0/0
- D. Switch B – Fa0/1
- E. Switch C – Fa0/0
- F. Switch C – Fa0/1

**Answer:** B C D

### Explanation

First by comparing their MAC addresses we learn that switch B will be root bridge as it has lowest MAC. Therefore all of its ports are designated ports -> C & D are correct.

On the link between switch A & switch C there must have one designated port and one non-designated (blocked) port. We can figure out which port is designated port by comparing their MAC address again. A has lower MAC so Fa0/1 of switch A will be designated port while Fa0/1 of switch C will be blocked -> B is correct.

### Question 13

If the primary root bridge experiences a power loss, which switch takes over?

- A. switch 0040.0BC0.90C5
- B. switch 00E0.F90B.6BE3
- C. switch 0004.9A1A.C182
- D. switch 00E0.F726.3DC6

**Answer: C**

### Explanation

The switches compare their Bridge ID with each other to find out who will be the root bridge. The root bridge is the bridge with the lowest bridge ID.

Bridge ID = Bridge Priority + MAC Address

In this question the bridge priority was not mentioned so we suppose they are the same. Therefore the switch with lowest MAC address will become the new root bridge.

### Question 14

If primary and secondary root switches with priority 16384 both experience catastrophic losses, which tertiary switch can take over?

- A. a switch with priority 20480
- B. a switch with priority 8192
- C. a switch with priority 4096
- D. a switch with priority 12288

**Answer: A**

### Explanation

This is a tricky question. We know the switch with lowest value of priority is elected the root switch. Therefore in this question the switches with priority of 4096, 8192, 12288 (which are

lower than the current value of the root bridge 16384) are not joining the root bridge election by somehow. The only suitable answer is the switch with priority 20480 will become the root bridge.

### **Question 15**

Which spanning-tree protocol rides on top of another spanning-tree protocol?

- A. MSTP
- B. RSTP
- C. PVST+
- D. Mono Spanning Tree

**Answer: A**

### **Explanation**

Multiple Spanning Tree (MST) rides on top of RSTP so it converges very fast. The idea behind MST is that some VLANs can be mapped to a single spanning tree instance because most networks do not need more than a few logical topologies.

### **Question 16**

Which IEEE standard does PVST+ use to tunnel information?

- A. 802.1x
- B. 802.1q
- C. 802.1w
- D. 802.1s

**Answer: B**

### **Explanation**

Cisco developed PVST+ to allow strolling numerous STP instances, even over an 802.1Q network via the use of a tunneling mechanism. PVST+ utilizes Cisco gadgets to hook up with a Mono Spanning Tree area to a PVST+ region. No particular configuration is needed to attain this. PVST+ affords assist for 802.1Q trunks and the mapping of a couple of spanning trees to the single spanning tree of popular 802.1Q switches strolling Mono Spanning Tree.

### **Question 17**

Which process is associated with spanning-tree convergence?

- A. determining the path cost
- B. electing designated ports
- C. learning the sender bridge ID
- D. assigning the port ID

**Answer: B**

### Explanation

SPT must perform three steps to provide a loop-free network topology:

1. Elects one root bridge
2. Select one root port per nonroot bridge
3. Select one designated port on each network segment -> Answer B is correct.

### Question 18

Refer to the exhibit. The output that is shown is generated at a switch. Which three of these statements are true? (Choose three)

```
Switch# show spanning-tree vlan 30
VLAN0030
Spanning tree enabled protocol rstp
Root ID Priority 24606
Address 00d0.047b.2800
This bridge is the root
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Bridge ID Priority 24606 (priority 24576 sys-id-ext 30)
Address 00d0.047b.2800
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
Interface Role Sts Cost Prio.Nbr Type
-----
Fa1/1 Desg FWD 4 128.1 p2p
Fa1/2 Desg FWD 4 128.2 p2p
Fa5/1 Desg FWD 4 128.257 p2p
```

- A. All ports will be in a state of discarding, learning or forwarding.
- B. Thirty VLANs have been configured on this switch.
- C. The bridge priority is lower than the default value for spanning tree.
- D. All interfaces that are shown are on shared media.

- E. All designated ports are in a forwarding state.
- F. The switch must be the root bridge for all VLANs on this switch.

**Answer:** A C E

### **Explanation**

From the output, we see that all ports are in Designated role (forwarding state) -> A and E are correct.

The command “show spanning-tree vlan 30” only shows us information about VLAN 30. We don't know how many VLAN exists in this switch -> B is not correct.

The bridge priority of this switch is 24606 which is lower than the default value bridge priority 32768 -> C is correct.

All three interfaces on this switch have the connection type “p2p”, which means Point-to-point environment – not a shared media -> D is not correct.

The only thing we can specify is this switch is the root bridge for VLAN 30 but we can not guarantee it is also the root bridge for other VLANs -> F is not correct.

### **Question 19**

When an interface is configured with PortFast BPDU guard, how does the interface respond when it receives a BPDU?

- A. It continues operating normally.
- B. It goes into an errdisable state.
- C. It goes into a down/down state.
- D. It becomes the root bridge for the configured VLAN.

**Answer:** B

### **Explanation**

PortFast BPDU guard prevents loops by moving a nontrunking port into an errdisable state when a BPDU is received on that port. When you enable BPDU guard on the switch, spanning tree shuts down PortFast-configured interfaces that receive BPDUs instead of putting them into the spanning tree blocking state.

In a valid configuration, PortFast-configured interfaces do not receive BPDUs (because PortFast should only be configured on interfaces which are connected to hosts). If a PortFast-configured interface receives a BPDU, an invalid configuration exists. BPDU guard provides a secure response to invalid configurations because the administrator must manually put the interface back in service.

Reference: [http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4000/8-2glx/configuration/guide/stp\\_enha.html](http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4000/8-2glx/configuration/guide/stp_enha.html)

### Question 20

Which two spanning-tree port states does RSTP combine to allow faster convergence? (Choose two)

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

**Answer:** B C

### Explanation

There are only three port states left in RSTP that correspond to the three possible operational states. The 802.1D blocking, and listening states are merged into the 802.1w discarding state.

\* **Discarding** – the port does not forward frames, process received frames, or learn MAC addresses – but it does listen for BPDUs (like the STP blocking state)

\* **Learning** – receives and transmits BPDUs and learns MAC addresses but does not yet forward frames (same as STP).

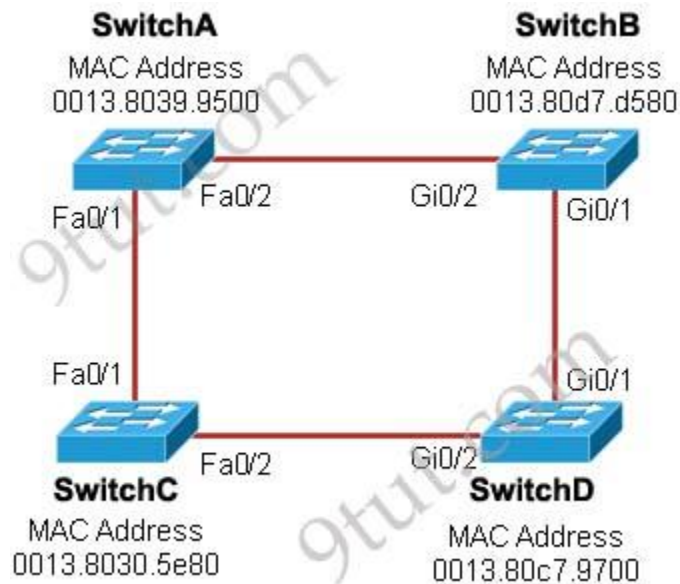
\* **Forwarding** – receives and sends data, normal operation, learns MAC address, receives and transmits BPDUs (same as STP).

STP State (802.1d)	RSTP State (802.1w)
Blocking	Discarding
Listening	Discarding
Learning	Learning
Forwarding	Forwarding

Although the learning state is also used in RSTP but it only takes place for a short time as compared to STP. RSTP converges with all ports either in forwarding state or discarding state.

## Question 21

Refer to the exhibit. Each of these four switches has been configured with a hostname, as well as being configured to run RSTP. No other configuration changes have been made. Which three of these show the correct RSTP port roles for the indicated switches and interfaces? (Choose three)



- A. SwitchA, Fa0/2, designated
- B. SwitchA, Fa0/1, root
- C. SwitchB, Gi0/2, root
- D. SwitchB, Gi0/1, designated
- E. SwitchC, Fa0/2, root
- F. SwitchD, Gi0/2, root

**Answer:** A B F

### Explanation

The question says “no other configuration changes have been made” so we can understand these switches have the same bridge priority. Switch C has lowest MAC address so it will become root bridge and 2 of its ports (Fa0/1 & Fa0/2) will be designated ports -> E is incorrect.

Because SwitchC is the root bridge so the 2 ports nearest SwitchC on SwitchA (Fa0/1) and SwitchD (Gi0/2) will be root ports -> B and F are correct.

Now we come to the most difficult part of this question: SwitchB must have a root port so which port will it choose? To answer this question we need to know about STP cost and port cost.

In general, “cost” is calculated based on bandwidth of the link. The higher the bandwidth on a link, the lower the value of its cost. Below are the cost values you should memorize:

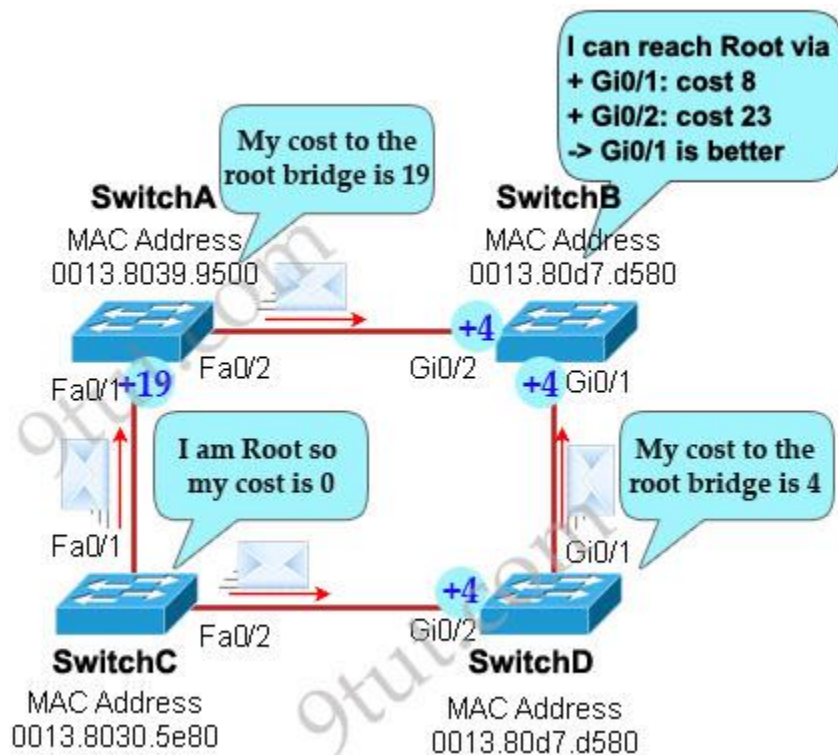
Link speed	Cost
10Mbps	100
100Mbps	19
1 Gbps	4

SwitchB will choose the interface with lower cost to the root bridge as the root port so we must calculate the cost on interface Gi0/1 & Gi0/2 of SwitchB to the root bridge. This can be calculated from the “cost to the root bridge” of each switch because **a switch always advertises its cost to the root bridge** in its BPDU. The receiving switch will **add its local port cost value to the cost** in the BPDU.

In the exhibit you also see FastEthernet port is connecting to GigabitEthernet port. In this case GigabitEthernet port will operate as a FastEthernet port so the link can be considered as FastEthernet to FastEthernet connection.

One more thing to notice is that a root bridge always advertises the cost to the root bridge (itself) with an initial value of 0.

Now let’s have a look at the topology again

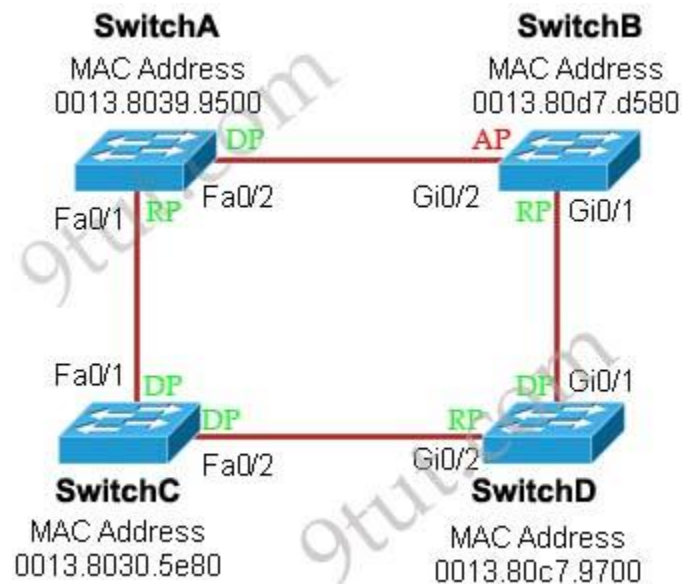




SwitchC advertises its cost to the root bridge with a value of 0. Switch D adds 19 (the cost value of 100Mbps link although the port on Switch D is GigabitEthernet port) and advertises this value (19) to SwitchB. SwitchB adds 4 (the cost value of 1Gbps link) and learns that it can reach SwitchC via Gi0/1 port with a total cost of 23. The same process happens for SwitchA and SwitchB learns that it can reach SwitchC via Gi0/2 with a total cost of 38 -> Switch B chooses Gi0/1 as its root port -> D is not correct.

Now our last task is to identify the port roles of the ports between SwitchA & SwitchB. It is rather easy as the MAC address of SwitchA is lower than that of SwitchB so Fa0/2 of SwitchA will be designated port while Gi0/2 of SwitchB will be alternative port -> A is correct but C is not correct.

Below summaries all the port roles of these switches:



- + DP: Designated Port (forwarding state)
- + RP: Root Port (forwarding state)
- + AP: Alternative Port (blocking state)

## Question 22

Which two switch states are valid for 802.1w? (Choose two)

- A. listening
- B. backup
- C. disabled
- D. learning
- E. discarding

**Answer:** D E

### **Explanation**

IEEE 802.1w is Rapid Spanning Tree Protocol (RSTP). There are only three port states left in RSTP that correspond to the three possible operational states. The 802.1D disabled, blocking, and listening states are merged into the 802.1w discarding state.

\* **Discarding** – the port does not forward frames, process received frames, or learn MAC addresses – but it does listen for BPDUs (like the STP blocking state)

\* **Learning** – receives and transmits BPDUs and learns MAC addresses but does not yet forward frames (same as STP).

\* **Forwarding** – receives and sends data, normal operation, learns MAC address, receives and transmits BPDUs (same as STP).

### **Question 23**

Which two states are the port states when RSTP has converged? (choose two)

- A. discarding
- B. learning
- C. disabled
- D. forwarding
- E. listening

**Answer:** A D

### **Explanation**

RSTP only has 3 port states that are discarding, learning and forwarding. When RSTP has converged there are only 2 port states left: discarding and forwarding.

### **Question 24**

Which three statements about RSTP are true? (choose three)

- A. RSTP significantly reduces topology reconverging time after a link failure.
- B. RSTP expands the STP port roles by adding the alternate and backup roles.
- C. RSTP port states are blocking, discarding, learning, or forwarding.
- D. RSTP also uses the STP proposal-agreement sequence.
- E. RSTP use the same timer-based process as STP on point-to-point links.
- F. RSTP provides a faster transition to the forwarding state on point-to-point links than STP does.

**Answer:** A B F

**Question 25**

Which command enables RSTP on a switch?

- A. spanning-tree mode rapid-pvst
- B. spanning-tree uplinkfast
- C. spanning-tree backbonefast
- D. spanning-tree mode mst

**Answer:** A

**Question 26**

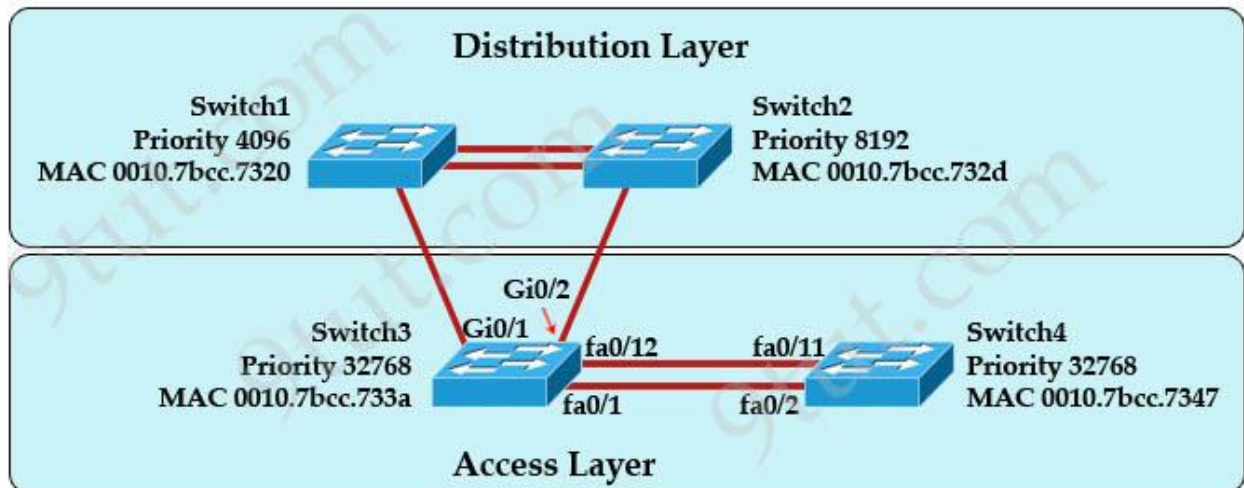
Which two of these statements regarding RSTP are correct? (Choose two)

- A. RSTP cannot operate with PVST+.
- B. RSTP defines new port roles.
- C. RSTP defines no new port states.
- D. RSTP is a proprietary implementation of IEEE 802.1D STP.
- E. RSTP is compatible with the original IEEE 802.1D STP.

**Answer:** B E

**Question 27**

Refer to the exhibit. At the end of an RSTP election process, which access layer switch port will assume the discarding role?



- A. Switch3, port fa0/1
- B. Switch3, port fa0/12
- C. Switch4, port fa0/11
- D. Switch4, port fa0/2
- E. Switch3, port Gi0/1

**Answer: C**

### Explanation

In this question, we only care about the Access Layer switches (Switch3 & 4). Switch 3 has a lower bridge ID than Switch 4 (because the MAC of Switch3 is smaller than that of Switch4) so both ports of Switch3 will be in forwarding state. The alternative port will surely belong to Switch4.

Switch4 will need to block one of its ports to avoid a bridging loop between the two switches. But how does Switch4 select its blocked port? Well, the answer is based on the BPDUs it receives from Switch3. A BPDU is superior than another if it has:

1. A lower Root Bridge ID
2. A lower path cost to the Root
3. A lower Sending Bridge ID
4. A lower Sending Port ID

These four parameters are examined in order. In this specific case, all the BPDUs sent by Switch3 have the same Root Bridge ID, the same path cost to the Root and the same Sending Bridge ID. The only parameter left to select the best one is the Sending Port ID (Port ID = port priority + port index). In this case the port priorities are equal because they use the default value, so Switch4 will compare port index values, which are unique to each port on the switch, and because Fa0/12 is inferior to Fa0/1, Switch4 will select the port connected with Fa0/1 (of

Switch3) as its root port and block the other port -> Port fa0/11 of Switch4 will be blocked (discarding role).

If you are still not sure about this question, please read my [RSTP tutorial](#).

### Question 28

Which option describes how a switch in rapid PVST+ mode responds to a topology change?

- A. It immediately deletes dynamic MAC addresses that were learned by all ports on the switch.
- B. It sets a timer to delete all MAC addresses that were learned dynamically by ports in the same STP instance.
- C. It sets a timer to delete dynamic MAC addresses that were learned by all ports on the switch.
- D. It immediately deletes all MAC addresses that were learned dynamically by ports in the same STP instance.

**Answer: D**

### Explanation

Rapid PVST+—This spanning-tree mode is the same as PVST+ except that it uses a rapid convergence based on the IEEE 802.1w standard. **To provide rapid convergence, the rapid PVST+ immediately deletes dynamically learned MAC address entries on a per-port basis upon receiving a topology change.** By contrast, PVST+ uses a short aging time for dynamically learned MAC address entries.

Reference:

[https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960/software/release/12-2\\_53\\_se/configuration/guide/2960scg/swstp.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960/software/release/12-2_53_se/configuration/guide/2960scg/swstp.html)

### Question 29

Which RPVST+ port state is excluded from all STP operations?

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

**Answer: D**

### Question 30

Which port state is introduced by Rapid-PVST?

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

**Answer: C**

### **Explanation**

PVST+ is based on IEEE802.1D Spanning Tree Protocol (STP). But PVST+ has only 3 port states (discarding, learning and forwarding) while STP has 5 port states (blocking, listening, learning, forwarding and disabled). So discarding is a new port state in PVST+.

### **Question 31**

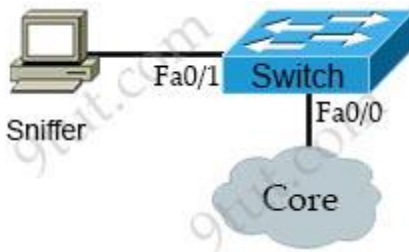
Which feature can you use to monitor traffic on a switch by replicating it to another port or ports on the same switch?

- A. copy run start
- B. traceroute
- C. the ICMP Echo IP SLA
- D. SPAN

**Answer: D**

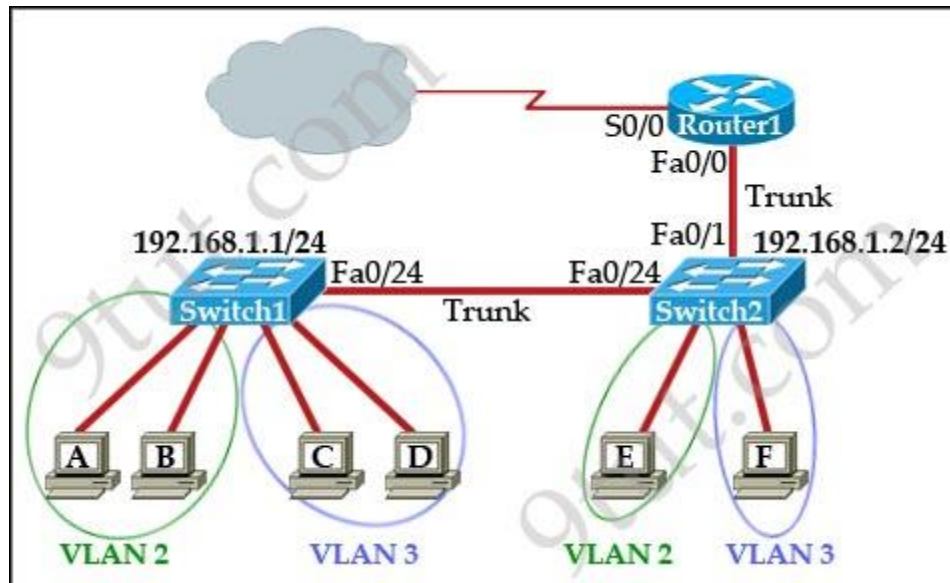
### **Explanation**

Switched Port Analyzer (SPAN) is used to analyze network traffic passing through ports on a switch. For example we can configure the Switch to monitor its interface Fa0/0, which connects to the Core, by sending all traffic to/from Fa0/0 to its Fa0/1 interface. At Fa0/1 interface we connect to a computer and use such a software like Wireshark to capture the packets.



### Question 32

Refer to the exhibit:



Which two statements are true about interVLAN routing in the topology that is shown in the exhibit? (Choose two)

- A. Host E and host F use the same IP gateway address.
- B. Router1 and Switch2 should be connected via a crossover cable.
- C. Router1 will not play a role in communications between host A and host D.
- D. The FastEthernet 0/0 interface on Router1 must be configured with subinterfaces.
- E. Router1 needs more LAN interfaces to accommodate the VLANs that are shown in the exhibit.
- F. The FastEthernet 0/0 interface on Router1 and Switch2 trunk ports must be configured using the same encapsulation type.

**Answer: D F**

### Question 33

Which two steps must you perform to enable router-on-stick on a switch?

- A. connect the router to a trunk port
- B. configure the subinterface number exactly the same as the matching VLAN
- C. configure full duplex
- D. configure an ip route to the vlan destination network
- E. assign the access port to the vlan

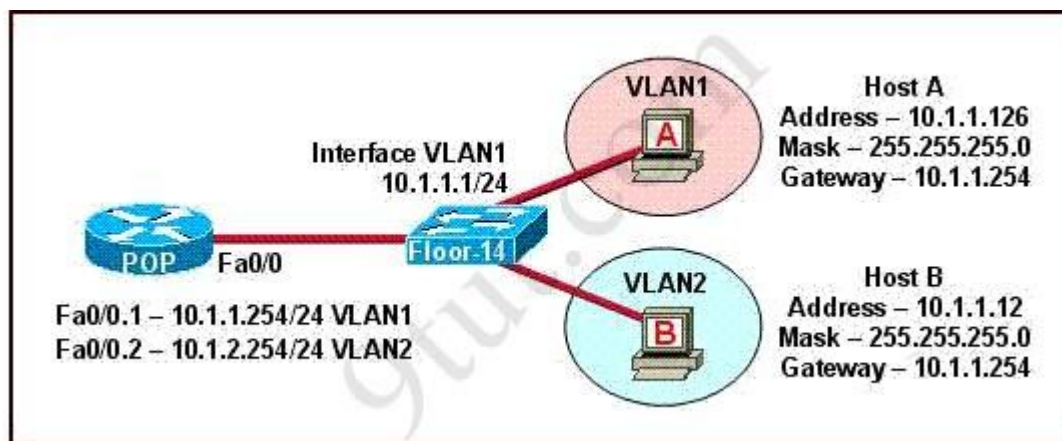
**Answer:** A E

### Explanation

This question only asks about enable router-on-stick on a switch, not a router. We don't have subinterface on a switch so B is not a correct answer.

### Question 34

The network shown in the diagram is experiencing connectivity problems. Which of the following will correct the problems? (Choose two)



- A. Configure the gateway on Host A as 10.1.1.1.
- B. Configure the gateway on Host B as 10.1.2.254.
- C. Configure the IP address of Host A as 10.1.2.2.
- D. Configure the IP address of Host B as 10.1.2.2.
- E. Configure the masks on both hosts to be 255.255.255.224.
- F. Configure the masks on both hosts to be 255.255.255.240.

**Answer:** B D

### Question 35

Under which circumstance is a router on a stick most appropriate?

- A. When a router have multiple subnets on a single physical link
- B. When a router have single subnet on multiple physical links
- C. When a router have multiple interface on single physical links
- D. When a router have single interface on multiple physical links



**Answer: A**

**Question 36**

Which functionality does an SVI provide?

- A. OSI Layer 2 connectivity to switches
- B. remote switch administration
- C. traffic routing for VLANs
- D. OSI Layer 3 connectivity to switches

**Answer: C**

**Question 37**

To enable router on a stick on a router subinterface, which two steps must you perform? (Choose two)

- A. configure full duplex and speed
- B. configure a default to route traffic between subinterfaces
- C. configure the subinterface with an IP address
- D. configure encapsulation dot1q
- E. configure an ip route to the vlan destination network

**Answer: C D**