Q: 1 Exam Description and Topics

Exam Description

The 640-802 Cisco Certified Network Associate (CCNA) is the composite exam associated with the Cisco Certified Network Associate certification. Candidates can prepare for this exam by taking the Interconnecting Cisco Networking Devices Part 1 (ICND1) v1.0 and the Interconnecting Cisco Networking Devices Part 2 (ICND2) v1.0 courses. This exam tests a candidate's knowledge and skills required to install, operate, and troubleshoot a small to medium size enterprise branch network. The topics include connecting to a WAN; implementing network security; network types; network media; routing and switching fundamentals; the TCP/IP and OSI models; IP addressing; WAN technologies; operating and configuring IOS devices; extending switched networks with VLANs; determining IP routes; managing IP traffic with access lists; establishing point-to-point connections; and establishing Frame Relay connections.

Exam Topics

The following topics are general guidelines for the content likely to be included on the Cisco Certified Network Associate exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

Topic 1 - Describe how a network works (56 Questions)

Describe the purpose and functions of various network devices

Select the components required to meet a network specification

Use the OSI and TCP/IP models and their associated protocols to explain how data flows in a network

Describe common networked applications including web applications

Describe the purpose and basic operation of the protocols in the OSI and TCP models

Describe the impact of applications (Voice Over IP and Video Over IP) on a network

Interpret network diagrams

Determine the path between two hosts across a network

Describe the components required for network and Internet communications

Identify and correct common network problems at layers 1, 2, 3 and 7 using a layered model approach

Differentiate between LAN/WAN operation and features

Topic 2 - Configure, verify and troubleshoot a switch with VLANs and interswitch communications (120 Questions)

Select the appropriate media, cables, ports, and connectors to connect switches to other network devices and hosts

Explain the technology and media access control method for Ethernet networks

Explain network segmentation and basic traffic management concepts

Explain basic switching concepts and the operation of Cisco switches

Perform and verify initial switch configuration tasks including remote access management

Verify network status and switch operation using basic utilities (including: ping, traceroute, telnet, SSH, arp, ipconfig), SHOW DEBUG commands

Identify, prescribe, and resolve common switched network media issues, configuration issues, auto negotiation, and switch hardware failures

Describe enhanced switching technologies (including: VTP, RSTP, VLAN, PVSTP, 802.1q)

Describe how VLANs create logically separate networks and the need for routing between them
Configure, verify, and troubleshoot VLANs
Configure, verify, and troubleshoot trunking on Cisco switches
Configure, verify, and troubleshoot interVLAN routing
Configure, verify, and troubleshoot VTP
Configure, verify, and troubleshoot RSTP operation
Interpret the output of various show and debug commands to verify the operational status of a Cisco switched network.
Implement basic switch security (including: port security, trunk access, management vlan other than vlan1, etc.)

Topic 3 - Implement an IP addressing scheme and IP Services to meet network requirements in a medium-size Enterprise branch office network. (37 Questions)

Describe the operation and benefits of using private and public IP addressing
Explain the operation and benefits of using DHCP and DNS
Configure, verify and troubleshoot DHCP and DNS operation on a router.(including: CLI/SDM)
Implement static and dynamic addressing services for hosts in a LAN environment
Calculate and apply an addressing scheme including VLSM IP addressing design to a network
Determine the appropriate classless addressing scheme using VLSM and summarization to satisfy addressing requirements in a LAN/WAN environment
Describe the technological requirements for running IPv6 in conjunction with IPv4 (including: protocols, dual stack, tunneling, etc).
Describe IPv6 addresses
Identify and correct common problems associated with IP addressing and host configurations

Topic 4 - Configure, verify, and troubleshoot basic router operation and routing on Cisco devices (139 Questions)

Describe basic routing concepts (including: packet forwarding, router lookup process)
Describe the operation of Cisco routers (including: router bootup process, POST, router components)
Select the appropriate media, cables, ports, and connectors to connect routers to other network devices and hosts
Configure, verify, and troubleshoot RIPv2
Access and utilize the router to set basic parameters.(including: CLI/SDM)
Connect, configure, and verify operation status of a device interface
Verify device configuration and network connectivity using ping, traceroute, telnet, SSH or other utilities
Perform and verify routing configuration tasks for a static or default route given specific routing requirements
Manage IOS configuration files. (including: save, edit, upgrade, restore)
Manage Cisco IOS.
Compare and contrast methods of routing and routing protocols
Configure, verify, and troubleshoot OSPF
Configure, verify, and troubleshoot EIGRP
Verify network connectivity (including: using ping, traceroute, and telnet or SSH)
Troubleshoot routing issues

Verify router hardware and software operation using SHOW DEBUG commands.
Implement basic router security

Topic 5 - Explain and select the appropriate administrative tasks required for a WLAN (11 Questions)

Describe standards associated with wireless media (including: IEEE WI-FI Alliance, ITU/FCC)
Identify and describe the purpose of the components in a small wireless network. (Including: SSID, BSS, ESS)
Identify the basic parameters to configure on a wireless network to ensure that devices connect to the correct access point
Compare and contrast wireless security features and capabilities of WPA security (including: open, WEP, WPA-1/2)
Identify common issues with implementing wireless networks. (Including: Interface, missconfiguration)

Topic 6 - Identify security threats to a network and describe general methods to mitigate those threats (5 Questions)

Describe today's increasing network security threats and explain the need to implement a comprehensive security policy to mitigate the threats
Explain general methods to mitigate common security threats to network devices, hosts, and applications
Describe the functions of common security appliances and applications
Describe security recommended practices including initial steps to secure network devices

Topic 7 - Implement, verify, and troubleshoot NAT and ACLs in a medium-size Enterprise branch office network. (35 Questions)

Describe the purpose and types of ACLs
Configure and apply ACLs based on network filtering requirements.(including: CLI/SDM)
Configure and apply an ACLs to limit telnet and SSH access to the router using (including: SDM/CLI)
Verify and monitor ACLs in a network environment
Troubleshoot ACL issues
Explain the basic operation of NAT
Configure NAT for given network requirements using (including: CLI/SDM)
Troubleshoot NAT issues

Topic 8 - Implement and verify WAN links (26 Questions)

Describe different methods for connecting to a WAN
Configure and verify a basic WAN serial connection
Configure and verify Frame Relay on Cisco routers
Troubleshoot WAN implementation issues
Describe VPN technology (including: importance, benefits, role, impact, components)
Configure and verify a PPP connection between Cisco routers

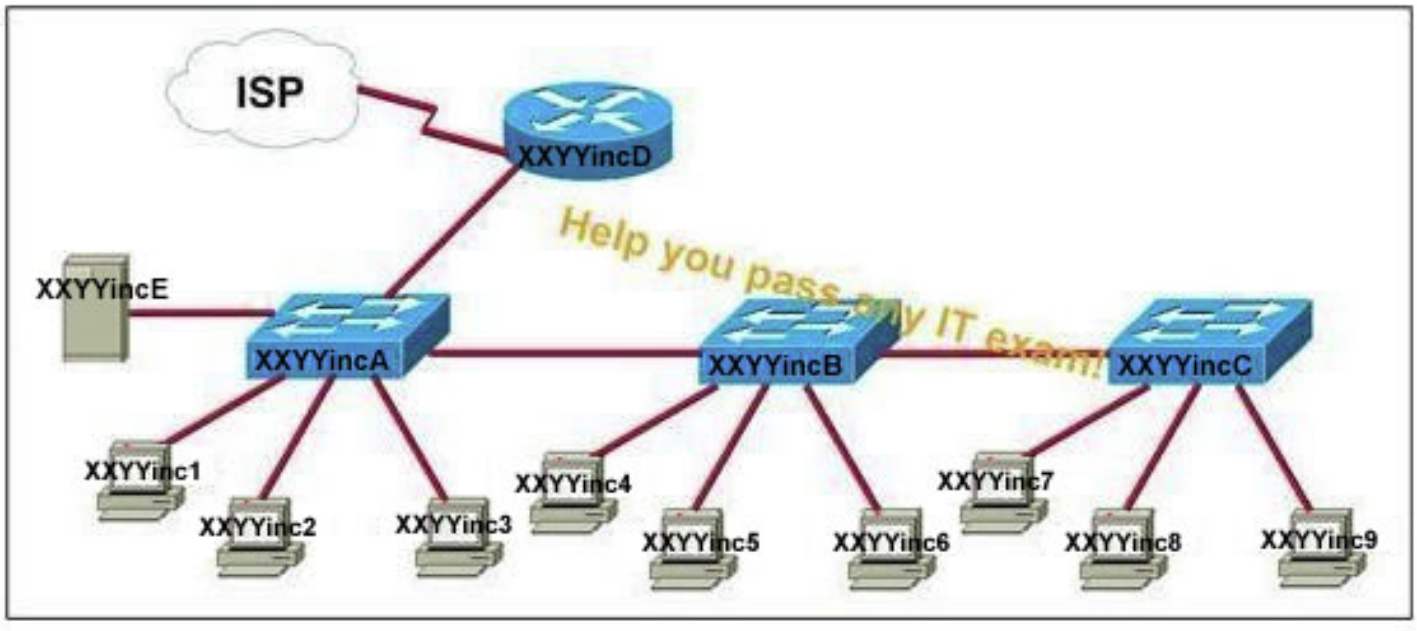
Topic 9 - XXYYinc Network Case (18 Questions)

Answer & Explanation
Correct Answer
Explanations

No more information available

Answer the following questions:

Q: 2 Part of the xxyyinc network is shown below:
You work as a network technician for xxyyinc and are responsible for this network. xxyyinc is concerned about unauthorized access to the xxyyincE server. The xxyyinc1, xxyyinc2, xxyyinc6 and xxyyinc9 PCs should be the only computers with access to the xxyyincE server. What two technologies should be implemented to help prevent unauthorized access to this server? (Choose two)



A. access lists

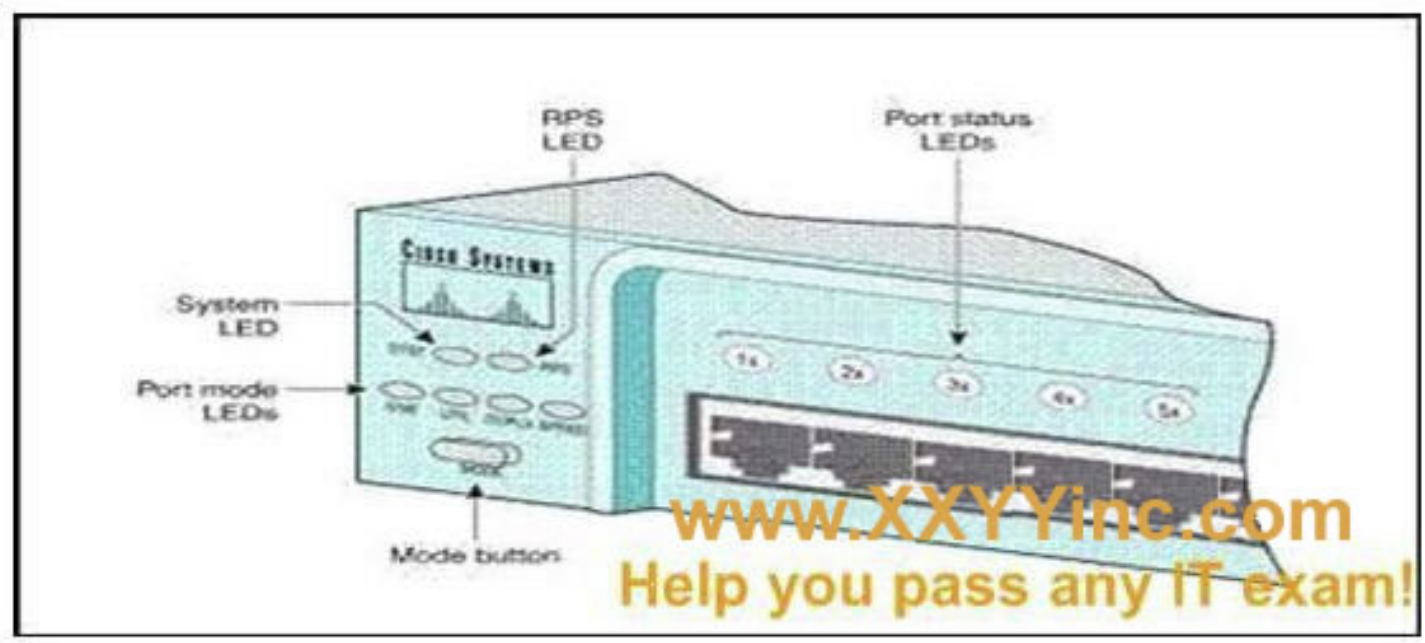
B. STP

C. wireless LANs

D. VLANs

Answer: A, D

Q: 3 Refer to the exhibit. After the power-on self test (POST), the system LED of a Cisco 2950 switch turns amber. What is the status of the switch?



A. The POST was successful.

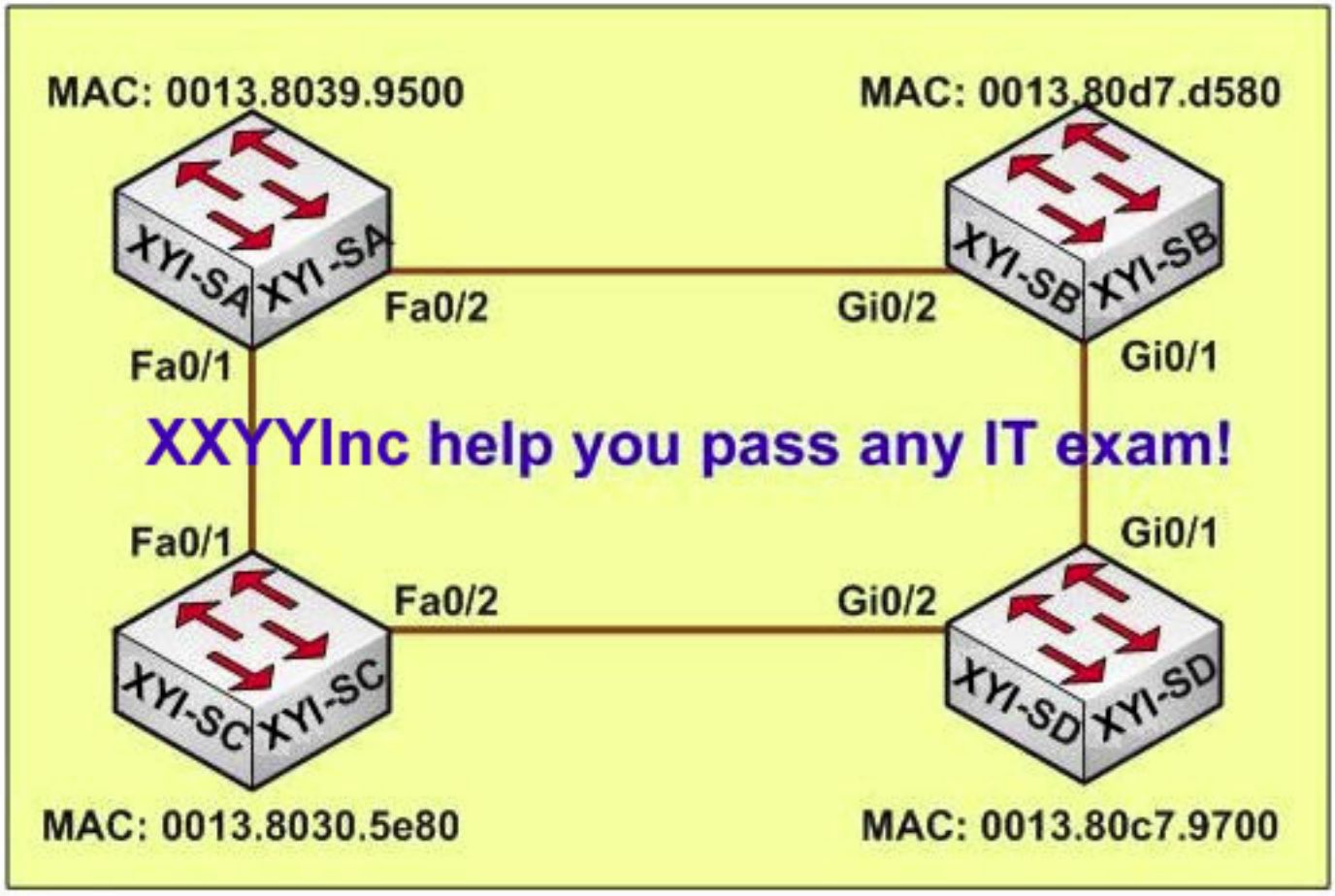
B. The switch has a problem with the internal power supply and needs an external power supply to be attached.

C. POST failed and there is a problem that prevents the operating system of the switch from being loaded.

D. The switch has experienced an internal problem but data can still be forwarded at a slower rate.

Answer: C

Q: 4 Study the exhibit carefully. Each of these four xxyyinc switches has been configured with a hostname, as well as being configured to run RSTP. No other configuration changes have been made.
Which switch will have only one forwarding interface?



A. XYI-SA

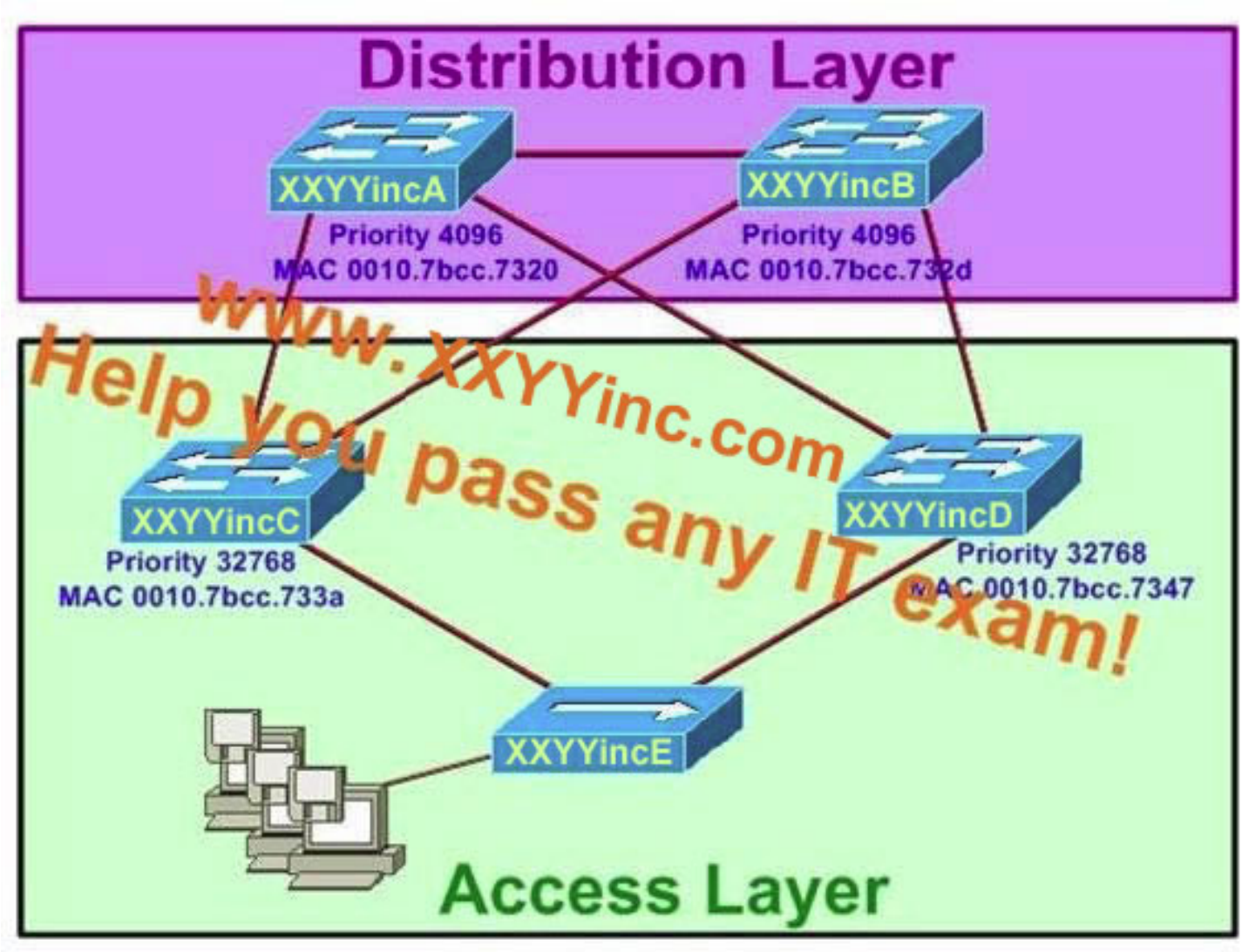
B. XYI-SB

C. XYI-SC

D. XYI-SD

Answer: B

Q: 5 Part of the xxyyinc switched LAN is shown below:
Based on the information show above, which device will provide the spanning-tree designated port role for the xxyyinc network segment that services the printers?



A. Switch xxyyincA

B. Hub xxyyincE

C. Switch xxyyincC

D. Switch xxyyincB

Answer: C

Q: 6 A virtual LAN, commonly known as a VLAN, is a group of hosts with a common set of requirements that communicate as if they were attached to the Broadcast domain, regardless of their physical location. Which three of the following items are objectives to designate ports to VLANs on a switch? (Choose three.)

A. to allow more devices to connect to the network

B. to isolate broadcast traffic

C. to logically group hosts according to function

D. to increase network security

Answer: B, C, D

Q: 7 If you are a network administrator, how will you explain VTP configuration to a new technician? (Choose three.)

A. In the VTP client mode, a switch is unable to update its local VLAN database.

B. Configure a trunk link between the switches to forward VTP updates.

C. In the VTP server mode, a switch is able to update a switch in the VTP transparent mode.

D. In the VTP transparent mode, a switch will forward the received updates to other switches.

Answer: A, B, D

Q: 8 A xxyyinc switch is configured with all ports assigned to VLAN 2. In addition, all ports are configured as full-duplex FastEthernet. What is the effect of adding switch ports to a new VLAN on this switch?

A. The additions will create more collisions domains.

B. An additional broadcast domain will be created.

C. More bandwidth will be required than was needed previously.

D. IP address utilization will be more efficient.

Answer: B

Q: 9 Which of the protocols operates at Layer 2 of the OSI model, and is used to maintain a loop-free network?

A. RIP

B. STP

C. IGRP

D. VTP

Answer: B

Q: 10 As the xxyyinc network administrator, You need to configure two xxyyinc switched to exchange VLAN information. Which protocol provides a method of sharing VLAN configuration information between these two switches?

A. VTP

B. VLSM

C. 802.1Q

D. STP

Answer: A

Q: 11 Which three of the following are reasons for assigning ports to VLANs on a switch? (Choose three.)

A. to permit more devices to connect to the network

B. to isc

C. to logically group hosts on the basis of function

D. to increase network security

Answer: B, C, D

Q: 12 What is the purpose of Spanning Tree Protocol?

A. to prevent routing loops

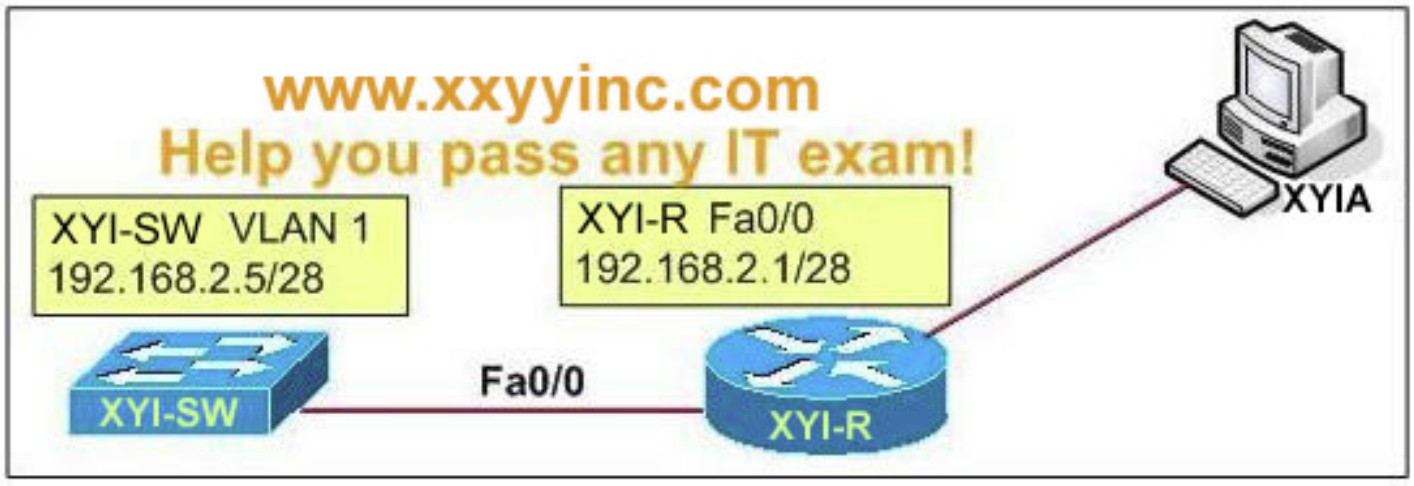
B. to create a default route

C. to provide multiple gateways for hosts

D. to maintain a loop-free Layer 2 network topology

Answer: D

Q: 13 Refer to the exhibit. XYIA must be able to telnet to switch XYI-SW through router XYI-R for management purposes. What must be configured for this connection to be successful?



A. VLAN 1 on XYI-R

B. default gateway on XYI-SW

C. IP routing on XYI-SW

D. cross-over cable connecting XYI-SW and XYI-R

Answer: B

Q: 14 Which three of the following are advantages of VLANs? (Choose three.)

A. VLANs create broadcast domains in switched networks.

B. VLANs offer a low-latency internetworking alternative to routed networks.

C. VLANs allow access to network services on the basis of department, not physical location.

D. VLANs are able to greatly simplify adding, moving, or changing hosts on the network.

Answer: A, C, D

Q: 15 Which three features are of VLAN arrangements? (Choose three.)

A. VLANs typically reduce the number of collision domains.

B. A Layer 3 device is required to establish connectivity between VLANs.

C. Each VLAN utilizes a separate address space.

D. A switch maintains a separate bridging table for each VLAN.

Answer: B, C, D

Q: 16 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 compatible with the original IEEE 802.1D STP.

Answer: B, D

Q: 17 Which two benefits can be obtained by using VTP in a switching environment? (Choose two.)

A. Allowing frames from multiple VLANs to use a single interface.

B. Allowing switches to read frame tags.

C. Maintaining VLAN consistency across a switched network.

D. Allowing VLAN information to be automatically propagated throughout the switching environment.

Answer: C, D

Q: 18 Which three benefits are of VLANs? (Choose three.)

A. To increase the size of collision domains.

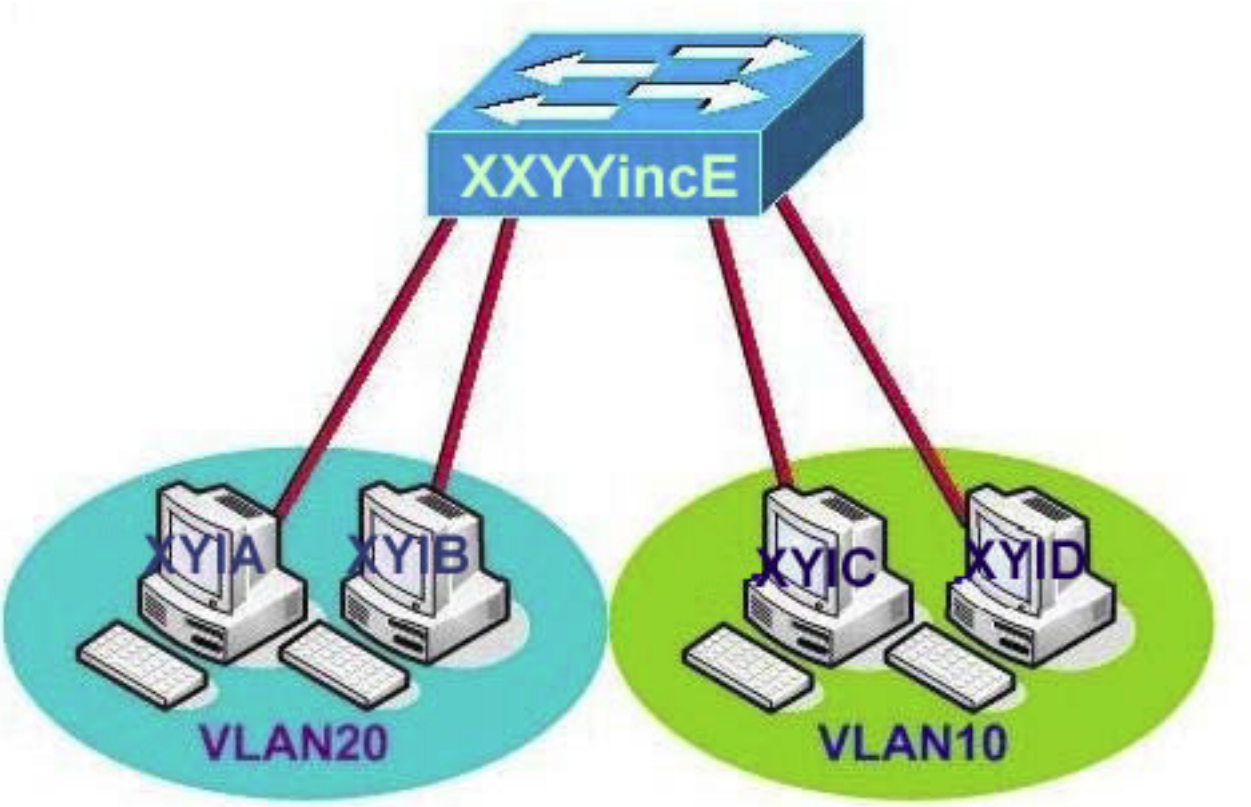
B. To allow logical grouping of users by function.

C. To enhance network security.

D. To increase the number of broadcast domains while decreasing the size of the broadcast domains.

Answer: B, C, D

Q: 19 Two VLANs are connected to a switch as follows:
In this xxyyinc network segment, hosts on the same VLAN can communicate with each other but are unable to communicate with hosts on different VLANs. What is needed to allow communication between these two xxyyinc VLANs?



A. a switchs with an access link that is configured between the switches

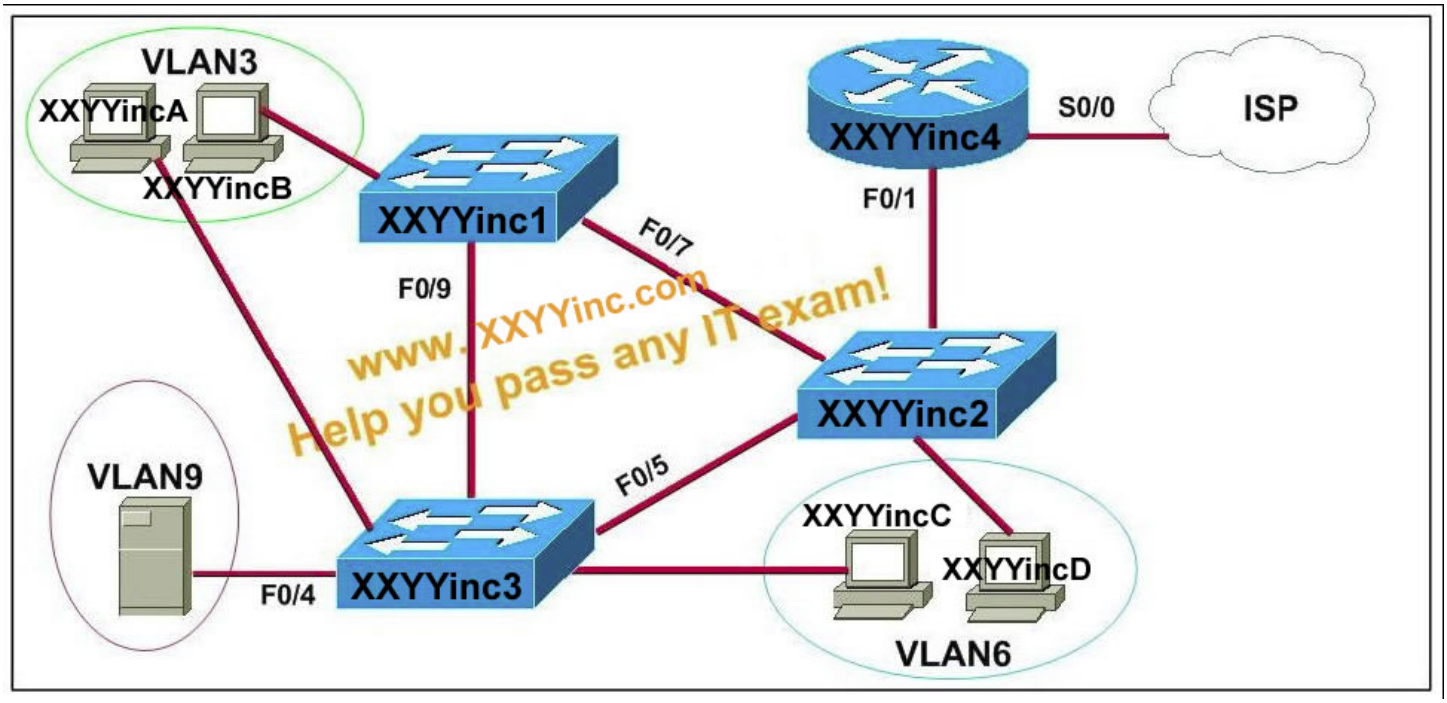
B. a router with an IP address on the physical interface that is connected to the switch

C. a switch with a trunk link that is configured between the switches

D. a router with subinterfaces configured on the physical interface that is connected to the switch

Answer: D

Q: 20 Refer to the exhibit. A technician is investigating a problem with the network that is shown. The router is a 2800 model and all switches are 2950 models. These symptoms have been observed:
- All of the user hosts can access the Internet.
- None of the user hosts can access the server located in VLAN 9.
- All of the hosts can ping each other.
What could cause these symptoms?



A. Interface Fa0/4 on xxyyinc3 is down.

B. Interface S0/0 on the xxyyinc4 is down.

C. Interface Fa1/0 on the xxyyinc4 is down.

D. Trunking is not enabled on the link between xxyyinc1 and xxyyinc3.

Answer: A