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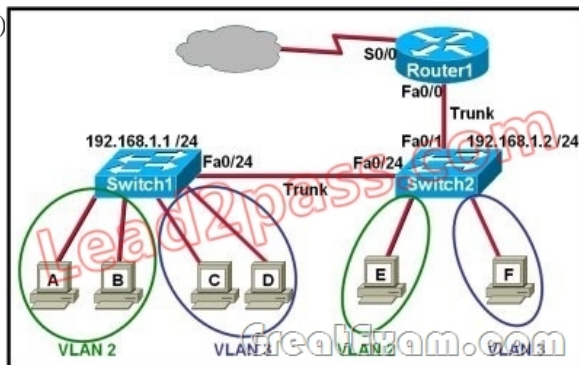
QUESTION 51Refer to the exhibit. Which two statements are true about interVLAN routing in the topology that is shown in the exhibit? (Choose two.)


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 DD.   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 the FastEthernet 0/1 interface on Switch2 trunk ports must be configured using the same encapsulation type. Answer: DF QUESTION 52Which two of these are characteristics of the 802.1Q protocol? (Choose two.) A.   It is used exclusively for tagging VLAN frames and does not address network reconvergence following switched network topology changes.B.   It modifies the 802.3 frame header, and thus requires that the FCS be recomputed.C.   It is a Layer 2 messaging protocol which maintains VLAN configurations across networks.D.   It includes an 8-bit field which specifies the priority of a frame.E.   It is a trunking protocol capable of carrying untagged frames. Answer: BEExplanation:802.1Q protocol, or Virtual Bridged Local Area Networks protocol, mainly stipulates the realization of the VLAN. 802.1Q is a standardized relay method that inserts 4 bytes field into the original Ethernet frame and re-calculate the FCS. 802.1Q frame relay supports two types of frame: marked and non-marked. Non-marked frame carries no VLAN identification information. QUESTION 53Refer 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.)
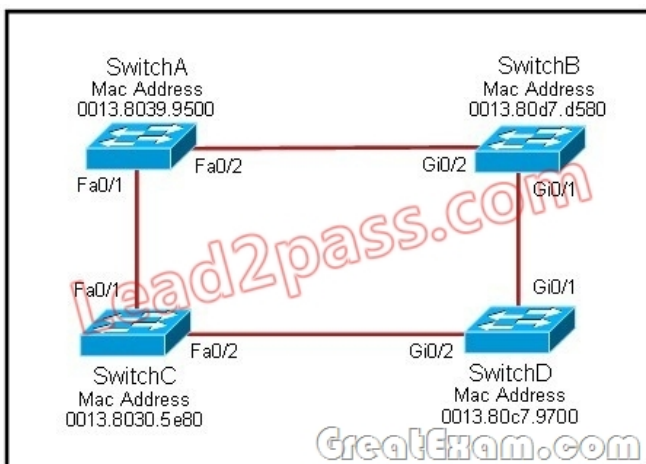

A.   SwitchA, Fa0/2, designatedB.   SwitchA, Fa0/1, rootC.   SwitchB, Gi0/2, rootD.   SwitchB, Gi0/1, designatedE.   SwitchC, Fa0/2, rootF.   SwitchD, Gi0/2, root Answer: ABFExplanation:The question says "no other configuration changes have been made" so we can understand these switches have the same 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. Because SwitchC is the root bridge so the 2 ports nearest SwitchC on SwitchA (Fa0/1) and SwitchD (Gi0/2) will be root ports..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
1Gbps	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.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
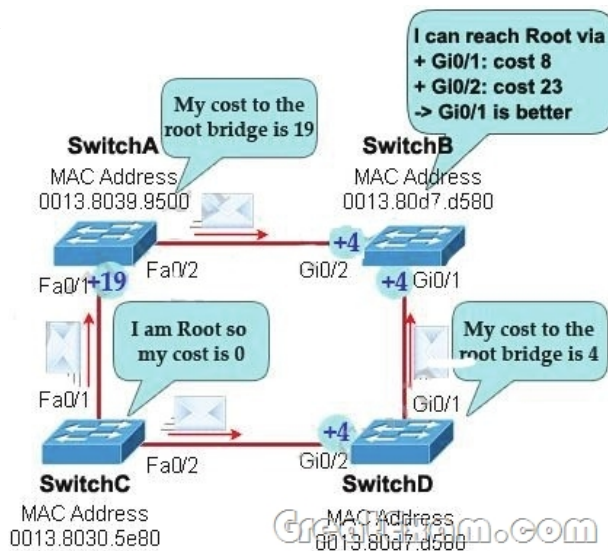

SwitchC advertises its cost to the root bridge with a value of 0. Switch D adds 4 (the cost value of 1Gbps link) and advertises this value (4) to SwitchB. SwitchB adds another 4 and learns that it can reach SwitchC via Gi0/1 port with a total cost of 8. The same process happens for SwitchA and SwitchB learns that it can reach SwitchC via Gi0/2 with a total cost of 23 -> Switch B chooses Gi0/1 as its root port ->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. Below summaries all the port roles of these switches:
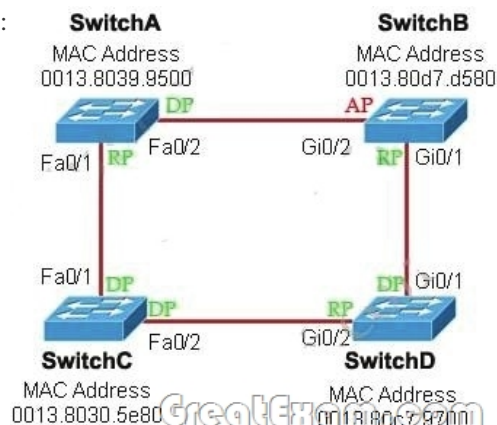
+ DP: Designated Port (forwarding state)+ RP: Root Port (forwarding state) QUESTION 54What is one benefit of PVST+? A.   PVST+ supports Layer 3 load balancing without loops.B.   PVST+ reduces the CPU cycles for all the switches in the network.C.   PVST+ allows the root switch location to be optimized per VLAN.D.   PVST+ automatically selects the root bridge location, to provide optimized bandwidth usage. Answer: CExplanation:The PVST+ provides Layer 2 load-balancing for the VLAN on which it runs. You can create different logical topologies by using the VLANs on your network to ensure that all of your links are used but that no one link is oversubscribed. Each instance of PVST+ on a VLAN has a single root switch. This root switch propagates the spanning-tree information associated with that VLAN to all other switches in the network. Because each switch has the same

information about the network, this process ensures that the network topology is maintained and optimized per VLAN.Reference: http://www.cisco.com/en/US/docs/switches/lan/catalyst3750x_3560x/software/release/12.2_55_se /configuration/guide/swstp.html QUESTION 55Refer to the exhibit. The network administrator normally establishes a Telnet session with the switch from host A . However, host A is unavailable. The administrator's attempt to telnet to the switch from host B fails, but pings to the other two hosts are successful. What is the issue?
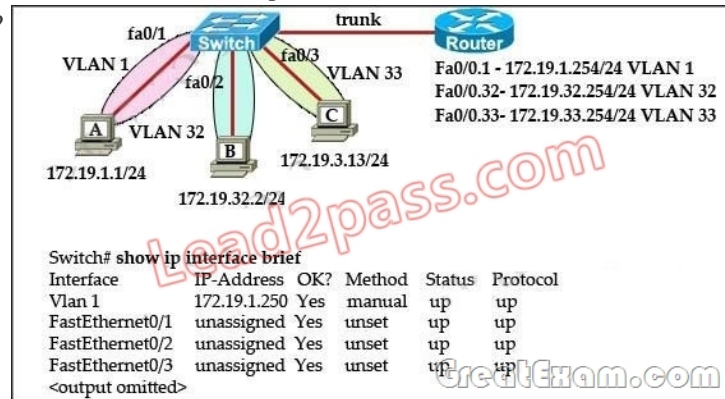
A.   Host B and the switch need to be in the same subnet.B.   The switch interface connected to the router is down.C.   Host B needs to be assigned an IP address in VLAN 1.D.   The switch needs an appropriate default gateway assigned.E.   The switch interfaces need the appropriate IP addresses assigned. Answer: DExplanation:Ping was successful form host B to other hosts because of intervlan routing configured on router. But to manage switch via telnet the VLAN32 on the switch needs to be configured interface vlan32 along with ip address and its appropriate default-gateway address. Since VLAN1 interface is already configure on switch Host A was able to telnet switch. QUESTION 56Which are valid modes for a switch port used as a VLAN trunk? (Choose three.) A.   transparentB.   autoC.   onD.   desirableE.   blockingF.   forwarding Answer: BCD QUESTION 57Refer to the exhibit. Which switch provides the spanning-tree designated port role for the network segment that services the printers?

A.   Switch1B.   Switch2C.   Switch3D.   Switch4 Answer: CExplanation:Printers are connected by hubs. Decide the switch that provides the spanning-tree designated port role between Switch3 and Switch4. They have the same priority 32768. Compare their MAC addresses. Switch3 with a smaller MAC address will provide a designated port for printers. QUESTION 58Refer to Exhibit. How many broadcast domains are shown in the graphic assuming only the default VLAN is configured on the switches?
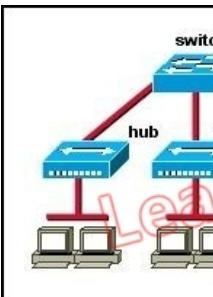
A.   oneB.   twoC.   sixD.   twelve Answer: AExplanation:Only router can break up broadcast domains but in this exhibit no router is used so there is only 1 broadcast domain.For your information, there are 7 collision domains in this exhibit (6 collision

domains between hubs & switches + 1 collision between the two switches). QUESTION 59Which three of these statements regarding 802.1Q trunking are correct? (Choose three.) A.   802.1Q native VLAN frames are untagged by default.B.   802.1Q trunking ports can also be secure ports.C.   802.1Q trunks can use 10 Mb/s Ethernet interfaces.D.   802.1Q trunks require full-duplex, point-to-point connectivity.E.   802.1Q trunks should have native VLANs that are the same at both ends. Answer: ACE Explanation:By default, 802.1Q trunk defined Native VLAN in order to forward unmarked frame. Switches can forward Layer 2 frame from Native VLAN on unmarked trunks port. Receiver switches will transmit all unmarked packets to Native VLAN. Native VLAN is the default VLAN configuration of port. Note for the 802.1Q trunk ports between two devices, the same Native VLAN configuration is required on both sides of the link. If the Native VLAN in 802.1Q trunk ports on same trunk link is properly configured, it could lead to layer 2 loops. The 802.1Q trunk link transmits VLAN information through Ethernet. QUESTION 60 Refer to the exhibit. The output that is shown is generated at a switch. Which three statements are true? (Choose three.)

   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.   This switch must be the root bridge for all VLANs on this switch. Answer: ACE Explanation:From the output, we see that all ports are in Designated role (forwarding state). 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 ->The bridge priority of this switch is 24606 which is lower than the default value bridge priority 32768 -> .All three interfaces on this switch have the connection type "p2p", which means Point-to-point environment ?not a shared media >;The only thing we can specify is this switch is the root bridge for VLAN 3o but we can not guarantee it is also the root bridge for other VLANs ?> If you want to pass the Cisco CCNA 200-120 exam sucessfully, recommend to read latest Cisco 200-120 dumps full version.