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All other values may be used as VLAN identifiers, allowing up to 4,094 VLANs.http://en.wikipedia.org/wiki/IEEE_802.1Q QUESTION 52What is the maximum number of VLANs that can be assigned to an access switchport without a voice VLAN? A. 0B. 1C. 2D. 1024 Answer: BExplanation:A standard (non-voice VLAN port) access switch port can belong to only a single VLAN. If more than one VLAN is needed, the port should be configured as a trunk port. QUESTION 53Refer to the exhibit. Which option shows the expected result if a show vlan command is issued? A. B. C. D. Answer: AExplanation:In this case, the port has been configured both as a trunk and as a switchport in data vlan 10. Obviously, a port can not be both, so even though Cisco IOS will accept both, the port will actually be used as a trunk, ignoring the switchport access VLAN 10 command. QUESTION 54Which feature is automatically enabled when a voice VLAN is configured, but not automatically disabled when a voice VLAN is removed? A. portfastB. port-securityC. spanning treeD. storm control Answer: AExplanation:Voice VLAN Configuration GuidelinesYou should configure voice VLAN on switch access ports.The voice VLAN should be present and active on the switch for the IP phone to correctly communicate on the voice VLAN. Use the show vlan privileged EXEC command to see if the VLAN is present (listed in the display).The Port Fast feature is automatically enabled when voice VLAN is configured. When you disable voice VLAN, the Port Fast feature is not automatically disabled.Reference: http://www.cisco.com/en/US/docs/switches/lan/catalyst2950/software/ release/12.1_22_ea11x/configuration/guide/swvoip.html QUESTION 55In which portion of the frame is the 802.1q header found? A. within the Ethernet headerB. within the Ethernet payloadC. within the Ethernet FCSD. within the Ethernet source MAC address Answer: AExplanation:Frame format Insertion of 802.1Q tag in an Ethernet frame 802.1Q does not encapsulate the original frame. Instead, for Ethernet frames, it adds a 32-bit field between the source MAC address and the EtherType/length fields of the original frame.Reference: http://en.wikipedia.org/wiki/IEEE_802.1Q QUESTION 56Which VLAN range is eligible to be pruned when a network engineer enables VTP pruning on a switch? A. VLANs 1-1001B. VLANs 1-4094C. VLANs 2-1001D. VLANs 2-4094 Answer: CExplanation:VTP pruning should only be enabled on VTP servers, all the clients in the VTP domain will automatically enable VTP pruning. By default, VLANs 2 1001 are pruning eligible, but VLAN 1 can't be pruned because it's an administrative VLAN. Both VTP versions 1 and 2 supports pruning.Reference: http://www.orbit-computer-solutions.com/VTP-Pruning.php QUESTION 57Which action allows a network engineer to limit a default VLAN from being propagated across all trunks? A. Upgrade to VTP version 3 for advanced feature set support.B. Enable VTP pruning on the VTP server.C. Manually prune default VLAN with switchport trunk allowed vlans remove.D. Use trunk pruning vlan 1. Answer: CExplanation:Manaully pruning the default VLAN (1) can only be done with the "switchport trunk allowed vlans remove" command. VLAN 1 is not VTP pruning eligible so it cannot be done via VTP pruning. The "trunk pruning vlan 1" option is not a valid command. QUESTION 58What is required for a LAN switch to support 802.1q Q-in-Q encapsulation? A. Support less than 1500 MTUB. Support 1504 MTU or higherC. Support 1522 layer 3 IP and IPX packetD. Support 1547 MTU only Answer: BExplanation:The default system MTU for traffic on Catalyst switches is 1500 bytes. Because the 802.1Q tunneling (Q- in-Q) feature increases the frame size by 4 bytes when the extra tag is added, you must configure all switches in the service-provider network to be able to process maximum frames by increasing the switch system MTUsize to at least 1504 bytes.Reference: http://www.cisco.com/en/US/docs/switches/lan/catalyst3550/software/release/12.1_13_ea1/configuration/guide/swtunnel.html QUESTION 59Refer to the exhibit. How many bytes are added to each frame as a result of the configuration? A. 4-bytes except the native VLANB. 8-bytes except the native VLANC. 4-bytes including native VLAND. 8-bytes including native VLAN Answer: AExplanation:In 802.1Q trunking, all VLAN packets are tagged on the trunk link, except the native VLAN. A VLAN tag adds 4 bytes to the frame. Two bytes are used for the tag protocol identifier (TPID), the other two bytes for tag control information (TCI). QUESTION 60A network engineer configured a fault-tolerance link on Gigabit Ethernet links G0/1, G0/2, G0/3, and G0/4 between two switches using Ethernet port-channel. Which action allows interface G0/1 to always actively forward traffic in the port-channel? A. Configure G0/1 as half duplex and G0/2 as full duplex.B. Configure LACP port-priority on G0/1 to 1.C.

Configure LACP port-priority on G0/1 to 65535.D. LACP traffic goes through G0/4 because it is the highest interface ID. Answer: BExplanation:A LACP port priority is configured on each port using LACP. The port priority can be configured automatically or through the CLI. LACP uses the port priority with the port number to form the port identifier. The port priority determines which ports should be put in standby mode when there is a hardware limitation that prevents all compatible ports from aggregating. The higher the number, the lower the priority. The valid range is from 1 to 65535. The default is 32768.Reference: http://www.cisco.com/c/en/us/td/docs/ios/12_2sb/feature/guide/gigeth.html#wp1081491 QUESTION 61Which statement about the use of PAgP link aggregation on a Cisco switch that is running Cisco IOS Software is true? A. PAgP modes are off, auto, desirable, and on. Only the combinations auto-desirable, desirable-desirable, and on-on allow the formation of a channel.B. PAgP modes are active, desirable, and on. Only the combinations active-desirable, desirable-desirable, and on-on allow the formation of a channel.C. PAgP modes are active, desirable, and on. Only the combinations active-active, desirable-desirable, and on-on allow the formation of a channel.D. PAgP modes are off, active, desirable, and on. Only the combinations auto-auto, desirable-desirable, and on-on allow the formation of a channel. Answer: AExplanation:PAgP modes are off, auto, desirable, and on. Only the combinations auto-desirable, desirable- desirable, and on-on will allow a channel to be formed.The PAgP modes are explained below.1.on: PAgP will not run. The channel is forced to come up.2.off: PAgP will not run. The channel is forced to remain down.3.auto: PAgP is running passively. The formation of a channel is desired; however, it is not initiated.4.desirable: PAgP is running actively. The formation of a channel is desired and ini- tiated.Only the combinations of auto-desirable, desirable-desirable, and on-on will allow a channel to be formed.If a device on one side of the channel does not support PAgP, such as a router, the device on the other side must have PAgP set to on.Reference: http://www.cisco.com/c/en/us/support/docs/switches/catalyst-2900-xl-series-switches/21041-131.html QUESTION 62Refer to the exhibit. Which EtherChannel negotiation protocol is configured on the interface f0/13 - f0/15? A. Link Combination Control ProtocolB. Port Aggregation ProtocolC. Port Combination ProtocolD. Link Aggregation Control Protocol Answer: BExplanation:PAgP modes are off, auto, desirable, and on. Only the combinations auto-desirable, desirable- desirable, and on-on will allow a channel to be formed. .1.on: PAgP will not run. The channel is forced to come up.2.off: PAgP will not run. The channel is forced to remain down.3.auto: PAgP is running passively. The formation of a channel is desired; however, it is not initiated.4.desirable: PAgP is running actively. The formation of a channel is desired and ini- tiated.The Link Aggregate Control Protocol (LACP) trunking supports four modes of operation:On: The link aggregation is forced to be formed without any LACP negotiation .In other words, the switch neither sends the LACP packet nor processes any inbound LACP packet. This is similar to the on state for PAgP.Off: The link aggregation is not formed. We do not send or understand the LACP packet.This is similar to the off state for PAgP.Passive: The switch does not initiate the channel but does understand inbound LACP packets. The peer (in active state) initiates negotiation (when it sends out an LACP packet) which we receive and answer, eventually to form the aggregation channel with the peer. This is similar to the auto mode in PAgP.Active: We can form an aggregate link and initiate the negotiation. The link aggregate is formed if the other end runs in LACP active or passive mode. This issimilar to the desir- able mode of PAgP. In this example, we see that fa 0/13, fa0/14, and fa0/15 are all in Port Channel 12, which is operating in desirable mode, which is only a PAgP mode. QUESTION 63Refer to the exhibit. Users of PC-1 experience slow connection when a webpage is requested from the server. To increase bandwidth, the network engineer configured an EtherChannel on interfaces Fa1/0 and Fa0/1 of the server farm switch, as shown here: Server_Switch#sh etherchannel load-balanceEtherChannel Load-Balancing Operational State (src-mac):Non-IP: Source MAC addressIPv4: Source MAC addressIPv6: Source IP addressServer_Switch# However, traffic is still slow. Which action can the engineer take to resolve this issue? A. Disable EtherChannel load balancing.B. Upgrade the switch IOS to IP services image.C. Change the load-balance method to dst-mac.D. Contact Cisco TAC to report a bug on the switch. Answer: CExplanation:Since this traffic is coming from PC-1, the source MAC address will always be that of PC-1, and since the load balancing method is source MAC, traffic will only be using one of the port channel links. The load balancing method should be changed to destination MAC, since the web server has two NICs traffic will be load balanced across both MAC addresses. QUESTION 64A network engineer changed the port speed and duplex setting of an existing EtherChannel bundle that uses the PAgP protocol. Which statement describes what happens to all ports in the bundle? A. PAgP changes the port speed and duplex for all ports in the bundle.B. PAgP drops the ports that do not match the configuration.C. PAgP does not change the port speed and duplex for all ports in the bundle until the switch is rebooted.D. PAgP changes the port speed but not the duplex for all ports in the bundle. Answer: AExplanation:PAgP aids in the automatic creation of EtherChannel links. PAgP packets are sent between EtherChannel- capable ports in order to negotiate the formation of a channel. Some restrictions are deliberately introduced into PAgP. The restrictions are: PAgP does not form a bundle on ports that are configured for dynamic VLANs. PAgP requires that all ports in the channel belong to the same VLAN or are configured as trunk ports. When a bundle already exists and a VLAN of a port

is modified, all ports in the bundle are modified to match that VLAN.PAgP does not group ports that operate at different speeds or port duplex. If speed and duplex change when a bundle exists, PAgP changes the port speed and duplex for all ports in the bundle.PAgP modes are off, auto, desirable, and on. Only the combinations auto-desirable, desirable- desirable, and on-on allow the formation of a channel. The device on the other side must have PAgP set to on if a device on one side of the channel does not support PAgP, such as a router. Reference: http:// www.cisco.com/c/ en/us/support/docs/lan-switching/etherchannel/12023-4.html QUESTION 65Which statement about using EtherChannel on Cisco IOS switches is true? A. A switch can support up to eight compatibly configured Ethernet interfaces in an EtherChannel. The EtherChannel provides full-duplex bandwidth up to 800 Mbps only for Fast EtherChannel or 8 Gbps only for Gigabit EtherChannel.B. A switch can support up to 10 compatibly configured Ethernet interfaces in an EtherChannel. The EtherChannel provides full-duplex bandwidth up to 1000 Mbps only for Fast EtherChannel or 8 Gbps only for Gigabit EtherChannel.C. A switch can support up to eight compatibly configured Ethernet interfaces in an EtherChannel. The EtherChannel provides full-duplex bandwidth up to 800 Mbps only for Fast EtherChannel or 16 Gbps only for Gigabit EtherChannel.D. A switch can support up to 10 compatibly configured Ethernet interfaces in an EtherChannel. The EtherChannel provides full-duplex bandwidth up to 1000 Mbps only for Fast EtherChannel or 10 Gbps only for Gigabit EtherChannel. Answer: AExplanation:An EtherChannel consists of individual Fast Ethernet or Gigabit Ethernet links bundled into a single logical link. The EtherChannel provides full-duplex bandwidth up to 800 Mbps (Fast EtherChannel) or 8 Gbps (Gigabit EtherChannel) between your switch and another switch or host. Each EtherChannel can consist of up to eight compatibly configured Ethernet interfaces. All interfaces in each EtherChannel must be the same speed, and all must be configured as either Layer 2 or Layer 3 interfaces.Reference: http://www.cisco.com/c/en/us/support/docs/lan-switching/etherchannel/12023-4.html QUESTION 66Refer to the exhibit. Which statement about switch S1 is true? A. Physical port Fa0/13, Fa0/14, and Fa0/15 successfully formed a Layer 2 port-channel interface using an open standard protocol.B. Logical port Fa0/13, Fa0/14, and Fa0/15 successfully formed a Layer 2 physical port- channel interface using a Cisco proprietary protocol.C. Physical port Fa0/13, Fa0/14, and Fa0/15 successfully formed a Layer 3 port-channel interface using a Cisco proprietary protocol.D. Logical port Fa0/13, Fa0/14, and Fa0/15 successfully formed a Layer 3 physical port- channel interface using an open standard protocol. Answer: AExplanation:These three ports show that they are in Port Channel 1, and the (SU) means they are in use and operating at layer 2. The protocol used for this port channel shows as LACP, which is a standards based protocol, as opposed to PAgP, which is Cisco proprietary. QUESTION 67What happens on a Cisco switch that runs Cisco IOS when an RSTP-configured switch receives 802.1d BPDU? A. 802.1d does not understand RSTP BPDUs because they are different versions, but when a RSTP switch receives an 802.1d BPDU, it responds with a 802.1d BPDU and eventually the two switches run 802.1d to communicate.B. 802.1d understands RSTP BPDUs because they are the same version, but when a RSTP switch receives a 802.1d BPDU, it responds with a 802.1d BPDU and eventually the two switches run 802.1d to communicate.C. 802.1d does not understand RSTP BPDUs because they are different versions, but when a RSTP switch receives a 802.1d BPDU, it does not respond with a 802.1d BPDU.D. 802.1d understands RSTP BPDUs because they are the same version, but when a RSTP switch receives a 802.1d BPDU, it does not respond with a 802.1d BPDU and eventually the two switches run 802.1d to communicate. Answer: AExplanation:For backward compatibility with 802.1D switches, RSTP selectively sends 802.1D configuration BPDUs and TCN BPDUs on a per-port basis. When a port is initialized, the migrate-delay timer is started (specifies the minimum time during which RSTP BPDUs are sent), and RSTP BPDUs are sent. While this timer is active, the switch processes all BPDUs received on that port and ignores the protocol type. If the switch receives an 802.1D BPDU after the port migration-delay timer has expired, it assumes that it is connected to an 802.1D switch and starts using only 802.1D BPDUs. However, if the RSTP switch is using 802.1D BPDUs on a port and receives an RSTP BPDU after the timer has expired, it restarts the timer and starts using RSTP BPDUs on that port. Reference: http://www.cisco.com/c/en/us/td/ docs/switches/lan/catalyst6500/ios/12-2SX/configuration/guide/book/spantree.html QUESTION 68When two MST instances (MST 1 and MST 2) are created on a switch, what is the total number of spanning-tree instances running on the switch? A. 1B. 2C. 3D. 4 Answer: CExplanation:Unlike other spanning tree protocols, in which all the spanning tree instances are independent, MST establishes and maintains IST, CIST, and CST spanning trees:An IST is the spanning tree that runs in an MST region.Within each MST region, MST maintains multiple spanning tree instances. Instance 0 is a special instance for a region, known as the IST. All other MST instances are numbered from 1 to 4094. In the case for this question, there will be the 2 defined MST instances, and the special 0 instance, for a total of 3 instances.The IST is the only spanning tree instance that sends and receives BPDUs. All of the other span- ning tree instance information is contained in MSTP records (M-records), which are encapsu- lated within MST BPDUs. Because the MST BPDU carries information for all instances, the number of BPDUs that need to be processed to support multiple spanning tree instances is signifi- cantly reduced.All MST instances within the same region share the same protocol timers, but each MST in- stance has its own topology parameters, such as root bridge ID, root path

cost, and so forth. By default, all VLANs are assigned to the IST.An MST instance is local to the region; for example, MST instance 1 in region A is independent of MST instance 1 in region B, even if regions A and B are interconnected.A CIST is a collection of the ISTs in each MST region.The CST interconnects the MST regions and single spanning trees.Reference: http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/ios/12-2SX/configuration/guide/book/spantree.html QUESTION 69Refer to the exhibit. f1/0 and f1/1 have the same end-to-end path cost to the designated bridge. Which action is needed to modify the Layer 2 spanning-tree network so that traffic for PC1 VLAN from switch SW3 uses switchport f1/1 as a primary port? A. Modify the spanning-tree port-priority on SW1 f1/1 to 0 and f1/0 to 16.B. Modify the spanning-tree port-priority on SW1 f1/1 to 16 and f1/0 to 0.C. Modify the spanning-tree port-priority on SW2 f1/1 to 0 and f1/0 to 16.D. Modify the spanning-tree port-priority on SW2 f1/1 to 16 and f1/0 to 0. Answer: CExplanation:If a loop occurs, STP considers port priority when selecting a LAN port to put into the forwarding state. You can assign higher priority values to LAN ports that you want STP to select first and value, STP puts the LAN port with the lowest LAN port number in the forwarding state and blocks other LAN ports. The possible priority range is 0 through 240 (default 128), configurable in increments of 16. A lower path cost represents higher-speed transmission and is preferred. Reference: http://www.cisco.com/en/US/docs/switches/lan/catalyst2950/software/release/12.1_9_ea1/configuration/guide/swstp.html#wp1105354 QUESTION 70Refer to the exhibit. Why would the switch be considered as a root bridge? A. The bridge priority is 1 and all ports are forwarding.B. The switch priority for VLAN 1 and the macro specifies "This Bridge is the root".C. The bridge priority is 128.19 and all ports are forwarding.D. The switch priority value is zero, it has the lowest priority value for VLAN 1. Answer: DExplanation:For priority, the range is 0 to 61440 in increments of 4096; the default is 32768. The lower the number, the more likely the switch will be chosen as the root switch.Reference: http://www.cisco.com/en/US/docs/switches/lan/catalyst2950/software/release/12.1_9_ea1/configuration/guide/swstp.html#wp1020666 QUESTION 71A network engineer is trying to deploy a PC on a network. The engineer observes that when the PC is connected to the network, it takes 30 to 60 seconds for the PC to see any activity on the network interface card. Which Layer 2 enhancement can be used to eliminate this delay? A. Configure port duplex and speed to auto negotiation.B. Configure port to duplex full and speed 1000.C. Configure spanning-tree portfast.D. Configure no switchport. Answer: CExplanation:first powered on, each port goes through 4 states to ensure that there are no physical loops in the layer 2 broadcast domain. These steps are outlined as follows. With the initial version of spanning tree, this process could take from 30-60 seconds.1.Blocking - A port that would cause a switching loop, no user data is sent or received but it may go into forwarding mode if the other links in use were to fail and the spanning tree algorithm determines the port may transition to the forwarding state. BPDU data is still received in blocking state.2.Listening - The switch processes BPDUs and awaits possible new information that would cause it to return to the blocking state.3.Learning - While the port does not yet forward frames (packets) it does learn source addresses from frames received and adds them to the filtering database(switching database)4.Forwarding - A port receiving and sending data, normal operation. STP still monitors incoming BPDUs that would indicate it should return to the blocking state to prevent a loop.STP PortFast causes a Layer 2 LAN interface configured as an access port to enter the forwarding state immediately, bypassing the listening and learning states.Reference: http://net.cmed.us/Home/ethernet-and-ip/spanning-tree-protocol QUESTION 72Refer to the exhibit. All ports are members of VLAN 10. Considering the default cost of upstream bridges to the root bridge is equal, which option will be the new root port for VLAN 10? A. interface f0/13B. interface f0/14C. interface f0/15D. interface f0/21 Answer: DExplanation:Root Port election on each bridge Each (non-Root) bridge has exactly one Root Port, which represents the best path to the Root Bridge. Total Path Cost to root - lowest prevails (local Root Port cost added o upon receipt of Configuration BPDUs on that port, from the direction of Root Bridge) Connected Bridge ID - lowest prevails o Connected Port ID (Port Priority + Port#) - lowest prevails o Local Port ID - lowest prevails o In this case, fa0/21 has the lowest cost, so it will be the root port.Reference: https://community.extremenetworks.com/extreme/topics/802_1d_spanning_tree_election_rules QUESTION 73A network engineer configured an Ethernet switch using these commands. Switchone(config) # Spanning-tree portfast bpdufilter default Which statement about the spanning-tree portfast feature on the switch is true? A. If an interface is enabled for portfast receives BDPU, the port goes through the spanning-tree listening, learning, and forwarding states.B. If an interface is enabled for portfast receives BDPU, the port does not go through the spanning-tree listening, learning, and forwarding states.C. If an interface is enabled for portfast receives BDPU, the port is shut down immediately.D. If an interface is enabled for portfast receives BDPU, the port goes into the spanning- tree inconsistent state. Answer: AExplanation:STP PortFast causes a Layer 2 LAN interface configured as an access port to enter the forwarding state immediately, bypassing the listening and learning states.However, the "Spanning-tree portfast bpdufilter default" command specifies that if a BPDU is received on that port, then the default action of STP of listening, learning, and forwarding states should be used. QUESTION 74Which statement describes what happens when a port configured

with root guard receives a superior BPDU? A. The port goes into errdisabled state and stops forwarding traffic.B. The port goes into BPDU-inconsistent state and stops forwarding traffic.C. The port goes into loop-inconsistent state and stops forwarding traffic.D. The port goes into root-inconsistent state and stops forwarding traffic. Answer: DExplanation:The root guard ensures that the port on which root guard is enabled is the designated port.Normally, root bridge ports are all designated ports, unless two or more ports of the root bridge are connected together. If the bridge receives superior STP Bridge Protocol Data Units (BPDUs) on a root guard-enabled port, root guard moves this port to a root-inconsistent STP state. This root-inconsistent state is effectively equal to a listening state. No traffic is forwarded across this port. In this way, the root guard enforces the position of the root bridge.Reference: http://www.cisco.com/en/US/tech/tk389/tk621/technologies_tech_note09186a00800ae96b.shtml QUESTION 75Refer to the exhibit. An engineer has run the show EtherChannel summary command and the output is displayed. Which statement about the status of the EtherChannel is true? A. The EthcrChannel is operational and configured for PAgPB. The EttherChannel is down because of a mismatched EtherChannel protocolC. The EttherChannel is down and configured for LACPD. The EttherChannel is operational and is usig no EtherChannel protocol Answer: D Lead2pass guarantees your 300-115 exam success with our exam resources. Our 300-115 braindumps are the latest and developed by experienced IT certification professionals working in today's prospering companies and data centers. All our 300-115 braindumps include 300-115 real exam questions which guarantee your 100% success of 300-115 exam in your first try. 300-115 new questions on Google Drive: https://drive.google.com/open?id=0B3Syig5i8gpDUFIySDhBLWlPcmc 2017 Cisco 300-115 exam dumps (All 401 Q&As) from Lead2pass: http://www.lead2pass.com/300-115.html [100% Exam Pass Guaranteed]