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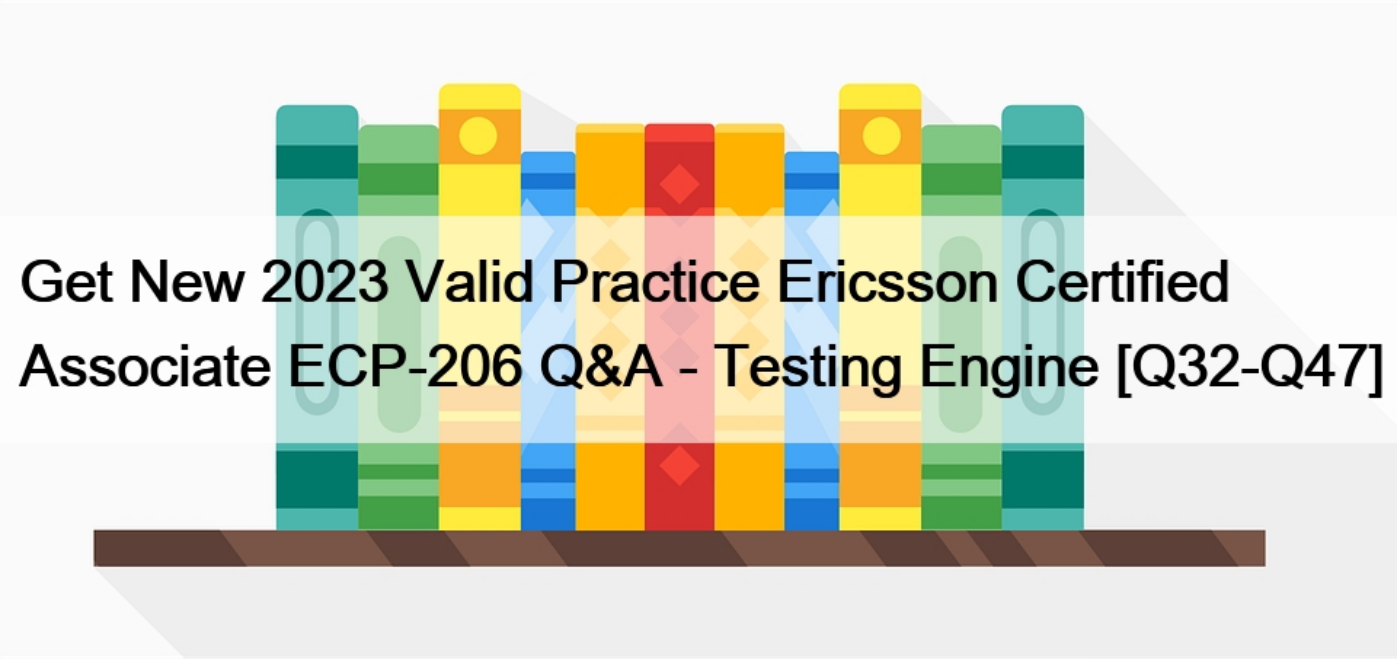

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Q32. Regarding the BGP decision algorithm, which two statements are correct? (Choose two.)
* A higher local-preference attribute will be favored over a lower local-preference attribute.
* The most important criteria is the administrative distance.
* A path cannot be considered if the next-hop is inaccessible.
* A lower local-preference attribute will be favored over a higher local-preference attribute.

Explanation

Regarding the BGP decision algorithm, two statements that are correct are:

A higher local-preference attribute will be favored over a lower local-preference attribute. The local-preference attribute is used by BGP routers within an AS to indicate their preference for an exit point from the AS. A higher value means a more preferred path. The local-preference attribute is exchanged only between iBGP peers and does not leave the AS boundary89.

A path cannot be considered if the next-hop is inaccessible. The next-hop attribute is used by BGP routers to determine where to forward packets for a given destination prefix. The next-hop attribute is usually set to the IP address of the eBGP neighbor that advertises the prefix. If there is no IGP route to reach the next-hop address, the path is marked as invalid and ignored by BGP1011.

The other two statements are incorrect because:

The most important criteria is not the administrative distance, but rather the weight attribute. The administrative distance is used by

routers to choose between routes from different routing protocols, not within BGP. The weight attribute is a Cisco-specific attribute that is used by BGP routers to prefer one path over another within the same router. The weight attribute is local to the router and not advertised to any peers1213.

A lower local-preference attribute will not be favored over a higher local-preference attribute, as explained above.

References: BGP Best Path Selection Algorithm – Cisco, Understanding BGP Local Preference Attribute – NetworkLessons.com, BGP Next Hop Attribute Explained – NetworkLessons.com, BGP Next Hop Processing

– Cisco Press, BGP Weight Attribute Explained – NetworkLessons.com, Understanding BGP Weight Attribute

– Cisco Community

Q33. Which protocol would be used to bundle multiple Ethernet ports into a virtual link with an aggregated bandwidth?
* RSTP
* LACP
* ERP
* VRRP

Explanation

The protocol that would be used to bundle multiple Ethernet ports into a virtual link with an aggregated bandwidth is LACP, which stands for Link Aggregation Control Protocol. LACP is a protocol that allows two or more devices to negotiate the formation of a link aggregation group (LAG), also known as an EtherChannel or a port channel. A LAG combines multiple physical links into one logical link that provides increased bandwidth, load balancing, and redundancy. LACP is defined in IEEE 802.3ad and 802.1AX standards12.

References: Link Aggregation Control Protocol – Wikipedia, What is “link aggregation” and how does it benefit your network? | PC Gamer

Q34. Which statement about IPv6 is correct?
* An interface can only be configured with one IPv6 address.
* Broadcast has been replaced with multicast.
* There are four billion available addresses.
* Addresses are not hierarchical and are assigned at random.

Explanation

The statement about IPv6 that is correct is that broadcast has been replaced with multicast. IPv6 is the most recent version of Internet Protocol (IP), which provides an identification and location system for computers on networks and routes traffic across the Internet. IPv6 has several improvements over IPv4, such as a larger address space, simplified header format, enhanced security, and better support for mobility and QoS.One of the changes in IPv6 is that it does not support broadcast, which is a method of sending a packet to all nodes on a network segment. Instead, IPv6 uses multicast, which is a method of sending a packet to a group of nodes that have joined a multicast address34.

References: IPv6 – Wikipedia, What Is IPv6? – Cisco

Q35. Which two statements are true about the Ericsson Router 6000 series? (Choose two.)
* The Router 6000 uses the same building practice and accessories as the Ericsson Radio System.
* The Router 6000 can host containerized applications such as firewalls.
* The Router 6000 is solely built as a radio cell site router.
* The Router 6000 products range from all-outdoor small site routers to large aggregation routers.

Explanation

Two statements that are true about the Ericsson Router 6000 series are:

The Router 6000 uses the same building practice and accessories as the Ericsson Radio System. The Ericsson Radio System is a modular and scalableradio access network solution that supports multiple standards, bands, and layers. The Router 6000 series is fully integrated into the Ericsson Radio System, using the same building practice and accessories such as mounting kits, cables, power supplies, etc. This simplifies installation, operation, and maintenance of both radio and transport equipment78.

The Router 6000 products range from all-outdoor small site routers to large aggregation routers. The Router 6000 series consists of three main products: the Router 6672 for access, the Router 6675 for pre-aggregation, and the Router 6274 for metro aggregation. The Router 6672 is an all-outdoor small cell site router with high-capacity and low-power consumption. The Router 6675 is a combined access and E-RAN switch with hardware-accelerated IPSec and high-accuracy internal clock. The Router 6274 is a high-capacity metro aggregation router with SDN functionality and flexible interface options78.

References: Router 6000 Series – Ericsson, New Ericsson Router 6000 series couples radio and IP transport for 5G future – Global Brands Magazine

Q36. Which protocol would be used to bundle multiple Ethernet ports into a virtual link with an aggregated bandwidth?
* LACP
* ERP
* VRRP
* RSTP

Explanation

The protocol that would be used to bundle multiple Ethernet ports into a virtual link with an aggregated bandwidth is LACP, which stands for Link Aggregation Control Protocol. LACP is a protocol that allows two or more devices to negotiate the formation of a link aggregation group (LAG), also known as an EtherChannel or a port channel. A LAG combines multiple physical links into one logical link that provides increased bandwidth, load balancing, and redundancy. LACP is defined in IEEE 802.3ad and 802.1AX standards12.

References: Link Aggregation Control Protocol – Wikipedia, What is “link aggregation” and how does it benefit your network? | PC Gamer

Q37. A network operator wants to make sure voice data is prioritized.

In this scenario, to which Ethernet traffic class should it be assigned.
* 0
* 2
* 4
* 6

Explanation

A network operator who wants to make sure voice data is prioritized should assign it to Ethernet traffic class 6.

Ethernet traffic class is a term used to refer to the priority code point (PCP) field in the VLAN header of an Ethernet frame. The PCP field is a 3-bit field that can encode up to eight different priority levels, ranging from

0 (lowest) to 7 (highest). The PCP values can be mapped to different types of traffic according to their QoS requirements. The recommended mapping is as follows :

PCP 0: Best effort (default)

PCP 1: Background

PCP 2: Spare

PCP 3: Excellent effort

PCP 4: Controlled load

PCP 5: Video

PCP 6: Voice

PCP 7: Network control

Voice data is a type of real-time traffic that requires the highest priority and lowest delay in the network.

Therefore, it should be assigned to PCP 6, which corresponds to Ethernet traffic class 6 .

References: [IEEE 802.1Q – Wikipedia], [What is “link aggregation” and how does it benefit your network? | PC Gamer]

Q38. What is used for Ethernet loop avoidance?
* Time-to-Live (TTL)
* Poison-Reverse
* Split-Horizon
* Spanning-Tree

Explanation

Spanning-Tree is used for Ethernet loop avoidance. Spanning-Tree is a protocol that prevents loops in Ethernet networks by creating a logical tree topology of the network switches. Spanning-Tree blocks some of the redundant links between switches to ensure that there is only one active path between any two nodes in thenetwork. Spanning-Tree also detects and recovers from link failures by activating alternative paths when needed56.

References: Network loops and loop avoidance – Medium, Spanning Tree Protocol – Wikipedia

Q39. IPv6 link-local addresses are designed to be used in which three situations? (Choose three.)
* for neighbor discovery
* for local IP communication on the IPv6 capable routers
* addressing on a single link for purposes such as auto-address configuration
* by routers to forward packets with link-local source addresses to other links
* when routers are not present

Explanation

IPv6 link-local addresses are designed to be used in three situations: for neighbor discovery, for local IP communication on the IPv6 capable routers, and for addressing on a single link for purposes such as auto-address configuration. Neighbor discovery is a protocol that allows IPv6 nodes to discover each other and learn their link-layer addresses on a local network. Neighbor discovery uses link-local addresses to send and receive messages such as router advertisements, router solicitations, neighbor advertisements,

and neighbor solicitations34. Local IP communication on the IPv6 capable routers refers to the ability of routers to exchange routing information or management traffic using their link-local addresses as source and destination addresses. This reduces the need for global unicast addresses on router interfaces that are not reachable from outside the local network35. Addressing on a single link for purposes such as auto-address configuration refers to the use of link-local addresses to enable IPv6 nodes to obtain an address without manual configuration or a DHCP server. Link-local addresses can be automatically derived from the interface identifier in the modified EUI-64 format or randomly generated. Link-local addresses can also be used to test the connectivity of a link before obtaining a global unicast address36.

References: Understand the IPv6 Link-Local Address – Cisco, Link Local Address – GeeksforGeeks, IPv6 Address Types | Link-Local, Global Unicast, etc. IPCisco, MPLS Label Distribution Protocol Commands – Cisco

Q40. In an Ethernet frame carrying a VLAN tag, where does the VLAN tag appear?
* after the type field
* before the length field
* before the type field
* after the length field

Explanation

In an Ethernet frame carrying a VLAN tag, the VLAN tag appears before the type field. A VLAN tag is a

4-byte field that is inserted into an Ethernet frame to indicate the VLAN membership and priority of the frame.

The VLAN tag consists of two subfields: the tag protocol identifier (TPID) and the tag control information (TCI). The TPID subfield is a 16-bit field that identifies the frame as an IEEE 802.1Q-tagged frame, with a value of 0x8100. The TCI subfield is a 16-bit field that contains the priority code point (PCP), the drop eligible indicator (DEI), and the VLAN identifier (VID). The VLAN tag appears between the source MAC address and the type fields of the original frame, shifting the type field by four bytes. The type field indicates the type of the payload, such as IP or ARP .

References: [IEEE 802.1Q – Wikipedia], [VLAN Tagging Explained with DTP Protocol – GeeksforGeeks]

Q41. An IS-IS router has been assigned the NSAP address: 49.00F0.0100.5012.3010.00.

What is the Area ID to which the router belongs?
* 49.00F0
* 49.00F0.0100
* 5012.3010.00
* 00F0 0100

Explanation

The Area ID to which the router belongs is 49.00F0.0100. The Area ID is a variable-length field in the NSAP address that identifies the area to which the router belongs. The Area ID can be between 1 and 13 bytes long, but it must start and end with an octet (8 bits). The NSAP address is composed of three parts: the authority and format identifier (AFI), the area ID, and the system ID. The AFI is a one-octet field that indicates the format and authority of the rest of the address. The system ID is a fixed-length field of six octets that uniquely identifies the router within an area. The NSAP address also has a network selector (NSEL) field, which is a one-octet field that identifies the network layer service to which a packet should be sent. For IS-IS routers, the NSEL must always be 00.

In this question, the NSAP address is 49.00F0.0100.5012.3010.00. This means that:

The AFI is 49, which indicates a private address.

The Area ID is 00F0.0100, which is four octets long and starts and ends with an octet.

The system ID is 5012.3010, which is six octets long and identifies the router within the area.

The NSEL is 00, which indicates IS-IS.

Therefore, the answer is B.

References: Ericsson IP Networking – Routing Protocols, IS-IS NSAP address – Cisco Community, Understanding IS-IS NSAP Addresses – Todd Lammle, LLC, IS-IS – Nokia, Network service access point address – Wikipedia

Q42. Which operating system is used in Ericsson Router 6000 products?
* SE-OS
* ERS
* ERS
* IPOS
* Junos

Explanation

The operating system used in Ericsson Router 6000 products is ERS (Ericsson Router Software). ERS is based on IPOS (IP Operating System), which is a common operating system for Ericsson’s IP portfolio. ERS provides advanced features and functionality for IP transport, such as MPLS, Segment Routing, QoS, IPSec, synchronization, SDN, and more. ERS also supports seamless integration with Ericsson Radio System and Ericsson Network Manager.

References: Router 6000 Series – Ericsson, Router 6675 Datasheet – Winncom

Q43. Which conceptual table created by routing protocols is used when processing an IP packet?
* management information base
* label information base
* traffic engineering data base
* forwarding information base

Explanation

The conceptual table created by routing protocols that is used when processing an IP packet is the forwarding information base (FIB). The FIB is a table that contains the bestroutes to reach each destination network prefix, along with the outgoing interface and the next-hop address for each route. The FIB is derived from the routing information base (RIB), which is a table that contains all the routes learned from different routing protocols and sources. The FIB is used by the router to make fast forwarding decisions for each incoming packet, based on its destination address12.

References: Security Hardening Checklist Guide for Cisco Routers/Switches in 10 Steps, VLAN – Wikipedia

Q44. What network information is, without additional configuration, shared between two iBGP neighbors by default?
* BGP routes learned from an OSPF neighbor
* IP address information of loopback interfaces
* BGP routes learned from eBGP neighbors
* IP address information from all directly connected interfaces

Explanation

iBGP works by exchanging routing information between two or more routers within an AS. Each router sends its own routing table to its neighbors, which contains information about the networks it knows and how they can be reached from that router. By default, iBGP neighbors only share BGP routes learned from eBGP neighbors, which are routers in different ASes. This is because iBGP assumes that all routers within an AS have consistent internal routing information provided by an IGP, such as OSPF or IS-IS. Therefore, iBGP neighbors do not need to share IP address information of loopbackinterfaces or directly connected interfaces, unless explicitly configured to do so by using commands such as neighbor update-source or network.

References: iBGP Ultimate Guide | How iBGP Is Different From eBGP, Ericsson IP Networking – Routing Protocols

Q45. What does an LDP implicit null label cause?
* swapping with a new label
* penultimate hop popping by a downstream router
* forwarding the packet unchanged
* penultimate hop popping by an upstream router

Explanation

An LDP implicit null label causes penultimate hop popping by a downstream router. LDP is a protocol that distributes labels for MPLS forwarding along the shortest path calculated by an IGP. An implicit null label is a special label value of 3 that indicates that the downstream router does not need a label to forward the packet to its destination. When an upstream router receives an implicit null label from a downstream router, it removes (or pops) the label from the packet before sending it to the downstream router. This process is called penultimate hop popping (PHP) and it reduces the load on the downstream router, which can forward the packet based on its IP header or another label in the stack59.

References: MPLS Label Distribution Protocol Commands – Cisco, Solved: Implicit null and Explicit null – Cisco Community

Q46. What is the purpose of the RT attribute?
* to identify the destination VPN on the efress PE
* to prevent OSPF routing loops in an L3VPN environment
* to indicate an MPLS LSP as the next hop routing target
* to request BGP neighbors to avoid routing through a private AS

Explanation

The purpose of the RT attribute is to identify the destination VPN on the egress PE. RT stands for route target, which is a BGP extended community attribute that is used in MPLS VPNs. RT is attached to VPN routes by the ingress PE router and is used to control the import and export of routes between different VPNs. The egress PE router uses the RT value to determine which VPN routes belong to which VPN customers and installs them in the appropriate VRF table56.

References: IP Routing: BGP Configuration Guide – BGP-RT and VPN … – Cisco, <rt>: The Ruby Text element – MDN Web Docs

Q47. Which two label actions are performed by a P router? (Choose two.)
* push
* php
* drop
* swap

Explanation

A P router is a provider router that is part of the service provider’s core network in an MPLS environment. A P router does not have any customer routes or VPN information, but only has information about how to reach other P routers and PE routers in the

same MPLS domain. A P router performs label switching, which means that it forwards labeled packets based on their top label in the label stack. A P router can perform two possible label actions:

Swap: The P router replaces the incoming label with a new label that corresponds to the next hop along the label-switched path (LSP). The new label is determined by looking up the label forwarding information base (LFIB) based on the incoming label and interface.

PHP: The P router removes the top label from the packet at the penultimate hop before reaching the egress PE router. This is done to avoid an extra lookup on the egress PE router, which can forward the packet based on its IP header or another label in the stack.

A P router does not perform push or drop actions on labels. A push action means adding one or more labels to the packet, which is done by an ingress PE router when initiating an LSP. A drop action means discarding a packet, which is done by any router when there is no matching entry in its LFIB or routing table. References: Provider (P) Router in IP MPLS Network – Cisco Community, MPLS Fundamentals: Forwarding Labeled Packets – Cisco Press, MPLS Label Switching | MPLS Operation | Push, Swap,Push IPCisco