Exam : 350-023

Title : CCIEÂ® Written: WAN Switching

Ver : 10-02-07

QUESTION 1:

To eliminate the need for adjacent routers on broadcast networks to form n(n-1)/2 adjacencies, IS-IS defines a pseudonode or Designated Intermediate System, DIS. All routers on the broadcast medium form an adjacency with the DIS. The Backup DIS is called...?

A. Redundant DIS
B. BDR
C. There is no concept of a backup DIS in IS-IS
D. Designated Redundant System

Answer: C
There is no concept of a backup DIS in IS-IS.

QUESTION 2:

For communication systems, what describes the over-all health of the system?

A. Bit-Error-Rate (BER)
B. Synchronous Optical NETwork (SONET)
C. Optical Signal to Noise Ratio (OSNR)
D. None of the above

Answer: D

QUESTION 3:

You work as a network engineer at Certkiller .com. There is a connection routed between two IGXs on a single trunk. That trunk fails, and the connection re-routes via another IGX, so it is now a two-hop connection. The failed trunk is repaired. Absent a preferred route, what happens?

A. The connection stays on the two-hop route and no message is sent.
B. The connection automatically returns to the single-hop route.
C. The connection stays on the two-hop route, but a warning message about extra hops is sent to network management.
D. The connection automatically returns if the repaired route has more bandwidth.

Answer: A
The connection stays on the two-hop route and no message is sent.

QUESTION 4:

A Permanent Virtual Path (PVP) connection switches cells by looking at the:

A. VPI/VCI
B. VCI
C. VPI
D. PTI
E. HEC

Answer: C
A PVP is a virtual path normally used between ATM switches. Using PVPs reduce the switching time in ATM switches because the cells are switched based on their VPIs only.

QUESTION 5:

In Frame Relay, the BECN bit is set by:

A. The Frame Relay network, to inform the DTE receiving the frame that congestion was experienced in the path from source to destination.
B. The Frame Relay network, in frames traveling in the opposite direction from those frames that encountered congestion.
C. The receiving DTE, to inform the Frame Relay network that it is overloaded and that the switch should throttle back.
D. The sending DTE, to inform the Frame Relay network that it is overloaded and that the switch should throttle back.
E. Any device that uses an extended DLCI address.

Answer: B
http://www.cisco.com/univercd/cc/td/doc/cisintwk/ito_doc/frame.htm

---

QUESTION 6:

What is Fast EtherChannel?

A. A feature to bundle multiple Ethernet point-to-point links quickly into one logical high speed link.
B. A feature to bundle multiple Fast-Ethernet point-to-point links into one logical high speed link.
C. Another name for full-duplex Fast Ethernet
D. Another name for Gigabit Ethernet
E. None of the above

Answer: B
http://www.cisco.com/warp/public/cc/techno/media/lan/ether/channel/tech/fetec_wp.htm

---

QUESTION 7:

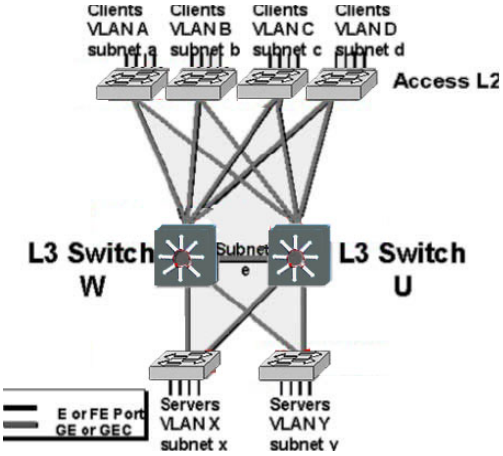
In ATM networks, SVCs: Select two.

A. Need more overhead for setup than PVCs
B. Need less overhead for setup than PVCs
C. Use fixed end-to-end VPI/VCI pairs
D. Are automatically set up upon request by an end user device

Answer: A, D
An SVC is created and released dynamically and remains in use only as long as data is being transferred. In this way it is similar to a telephone call. Dynamic call control requires a signaling protocol between the ATM endpoint and the ATM switch. SVCs provide connection flexibility and call setup that can be automatically handled by a networking device. Setting up the connection requires extra time and overhead.

QUESTION 8:

Exhibit



You work as a network engineer at Certkiller .com. The diagram shows a collapsed L3 switched building backbone consisting of two L3 switches: W and U. Each L3 switch has a routed interface on every subnet (VLAN) in the building. There are no VLAN trunks in the network. In other words the L3 switches are acting as native routers. There are exactly 4 client-side VLANs (subnets): a, b, c, d. There are exactly 2 server-side VLANs (subnets): x and y. There is one routed link (Subnet e) connecting the L3 switches in the core. How many equal-cost paths to Subnet d does L3 Switch W keep in its routing table?

A. 1
B. 2
C. 3
D. 4
E. 5

Answer: A

QUESTION 9:

The dspalm command output indicates an FRP/FTC communication failure. What is the most likely cause?

A. The FRP/FTC failed.
B. The NPC/NPM failed.
C. The FRP/FTC isn't receiving LMI status requests from the CPE.
D. The node has a power outage.

Answer: C

QUESTION 10:

What is true about the DLCI field in the Frame Relay header?

A. It consists of two portions, source and destination, which map data to a logical channel.
B. It generally has significance only between the local switch and the DTE device.
C. It is an optional field in the ITU-T specification.
D. It is present only in data frames sent through the network.

Answer: B
http://www.cisco.com/univercd/cc/td/doc/cisintwk/itg_v1/tr1918.htm#xtocid3

QUESTION 11:

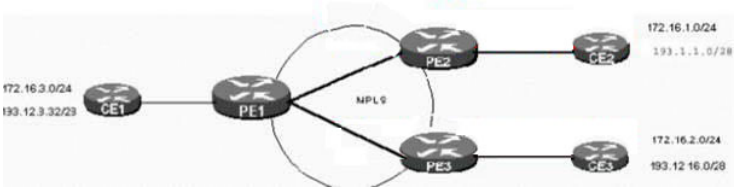
Unlike X.25, Frame Relay is considered an "unacknowledged" protocol. Why?

A. It is older and less sophisticated than X.25.
B. There is no technological way to acknowledge frames.
C. LMI always acknowledges frame reception.
D. It counts on new and better transmission lines and end-device management.

Answer: D

QUESTION 12:

Exhibit



In the MPLS network shown, which subnets would be in the same Forwarding Equivalence Class (FEC) on router PE1:

A. 172.16.3.0/24 and 193.1.1.0/28
B. 172.16.1.0/24 and 172.16.2.0/24

C. 172.16.1.9/24 and 193.1.1.0/28
D. 172.16.1.0/24, 172.16.2.0/24 and 172.16.3.0/24

Answer: D

QUESTION 13:

TCP transports is used for all LDP message exchange categories except...?

A. Update
B. Session
C. Discovery
D. Hello
E. Advertisement
F. Notification

Answer: C
http://www.mplsrc.com/faq2.shtml#MPLS%20Components

QUESTION 14:

The two label distribution protocols that provide support for MPLS traffic engineering are:

A. RSVP and OSPF
B. CR-LDP and IBGP
C. RSVP and CR-LDP
D. LPS and LDS

Answer: C
http://www.mplsrc.com/faq2.shtml

QUESTION 15:

Intelligent Packet Discard Methods work on what premise?

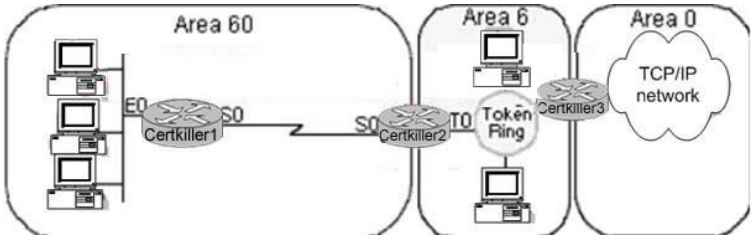
A. That the cells carry non-critical traffic
B. That the VPI/VCI pair is low priority
C. That the cells come from large packets, segmented
D. That the TOS (type of service) field in the IP header prioritizes some cells
E. None of the above

Answer: C
Frame discard techniques embody the concept that if the network element must discard cells, it is far more effective to do so at the frame level rather than at the cell level. An ATM network can detect frame boundaries by evaluating the cell header. Under severe

congestion situations, when a cell is dropped, the switch can immediately drop all cells associated with that specific frame. To improve higher-layer protocol efficiency, the switch should drop all cells except the cell thatsignals the end of the frame. This way, the higher-layer protocol immediately detects a failure and requests retransmission upon receiving an incomplete protocol data unit (PDU), instead of the source ES having to wait for a higher-layer protocol timeout before retransmitting the PDU, or, even worse, the boundary of the next PDU not being correctly identified and the next PDU also being affected.

QUESTION 16:

Exhibit



In a reorganization at Certkiller .com, OSPF areas are realigned. Is this a valid network design? If not, which changes could be made to the network and/or router configurations? (Select two)

A. No changes are necessary.
B. A virtual link could be configured between Area 60 and Area 0.
C. A serial line or other physical connection could be installed between devices in Area 60 and Area 0.
D. Router Certkiller 2 could be configured as an Area Border Router Certkiller Between Area 60 and Area 6.
E. This is not a valid design, and no changes can make it work.

Answer: B, C
All areas must touch Area 0 whether it is via a virtual link or a physical link.

QUESTION 17:

What is the Generic Flow Control (GFC) header in an ATM NNI cell used for?

A. Rate control between the ATM NNI switches
B. Rate control between UNI devices
C. GFC has local significance, only, and the value encoded in the field is not end-to-end.
D. None of the above

Answer: D
http://www.pulsewan.com/data101/atm_basics.htm

QUESTION 18:

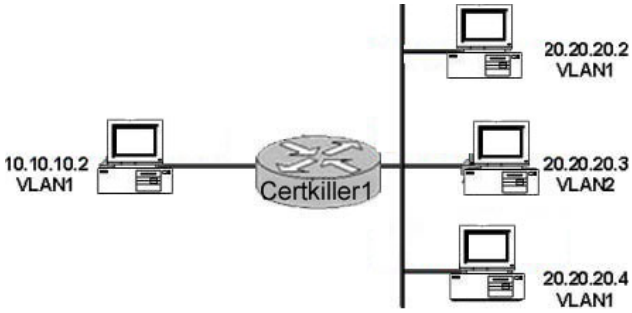
What configuration guarantees a level of Frame Relay service of 512K but reports a guaranteed service of 1024K in LMI?

A. CIR=1024K, QIR=512K, MIR=512K, PIR=512K, percent utilization = 50%
B. CIR=512K, QIR=1024K, MIR=1024K, PIR=2048K, percent utilization = 50%
C. CIR=1024K, QIR=1024K, MIR=512K, PIR=2048K, percent utilization = 100%
D. CIR=512K, QIR=512K, MIR=1024K, PIR=512K, percent utilization = 100%

Answer: C
The IGX guarantees service based on MIR, so in order to guarantee 512K, you need MIR x %util to = 512K
Reference:
http://www.cisco.com/en/US/products/hw/switches/ps525/products_technical_reference_chapter09186a00800d9

QUESTION 19:

Exhibit



You work as a network engineer at Certkiller .com. Host Certkiller D sends a frame to Host Certkiller B at the same time that Host Certkiller B sends a frame to Host Certkiller D. Bridging is enabled on Router Certkiller 1 and the two frames collide into each other. Select the best explanation of why Host Certkiller B will or will not receive the original frame from Host Certkiller D:

A. Host Certkiller B will receive the frame, since Hosts Certkiller B and Certkiller D are in the same VLAN.
B. Host Certkiller B will receive the frame, since Hosts Certkiller B and Certkiller D are in the same routing domain.
C. Host Certkiller B will not receive the frame, since Hosts Certkiller B and Certkiller D are in the same collision domain.
D. Host Certkiller B will not receive the frame, since Hosts Certkiller B and Certkiller D are in different broadcast domains.
E. Host Certkiller B will receive the frame, since Hosts B and D are in the same bridging domain.

Answer: C

QUESTION 20:

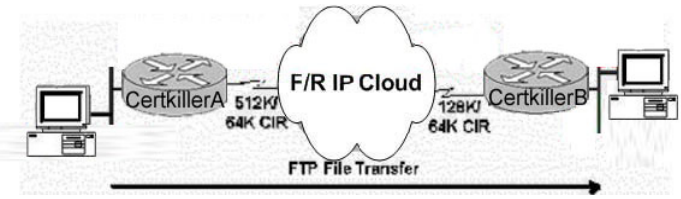
From the LSC perspective, the Label controlled interfaces (LC-ATM) are seen as:

A. ATM interfaces
B. Extended MPLS ATM (XmplsATM) interfaces
C. External Controlled ATM (ExtATM) interfaces
D. Switch interfaces

Answer: B
http://www.cisco.com/univercd/cc/td/doc/product/wanbu/bpx8600/9_3_0/feature.htm#xtocid114752

QUESTION 21:

Exhibit



You work as a network engineer at Certkiller .com. Router Certkiller A has a 512K-access port into the frame relay cloud. Router Certkiller B has 128K-access port into the frame relay cloud. The two routers are connected with symmetrical PVCs that are configured for 64K committed information rate (CIR). What Frame Relay Traffic Shaping map-class sub-command should be entered on Router Certkiller A to prevent workstation Certkiller 1 from overrunning the access port on Router Certkiller B?

A. frame-relay traffic-rate 128000 512000
B. frame-relay traffic-rate 64000 512000
C. frame-relay traffic-rate 512000 64000
D. frame-relay traffic rate 128000 64000
E. frame-relay traffic-rate 64000 128000

Answer: E

QUESTION 22:

Which are mandatory for UNI 4.0? (Select two.)

A. Point to point call
B. Leaf initiated joints
C. Cell delivery notification
D. Signaling of individual QoS
E. Point to cloud call

Answer: A, D

This table outlines support for UNI 4.0 features on Cisco routers and ATM switches:

Number	Capability	Terminal Equipment	Cisco IOS® Router Support	Switching System	Cisco IOS Switch Support
1	Point-to-Point calls	**Mand**	Yes	M	Yes
2	Point-to-Multipoint calls	Opt	Yes	M	Yes
3	Signaling of Individual QoS Parameters	**Mand**	Yes (12.1)	M	Yes (11.3WA4)
4	Leaf-Initiated Join	Opt	No	O	No

QUESTION 23:

In Frame Relay, what devices resent packets that do not transmit correctly?

A. Digital transmission media cabled to monitor ports, as opposed to straight DCE signaling
B. Network end stations
C. Network switches running SNMP management software
D. Special bridging devices within the backbone cloud

Answer: B

QUESTION 24:

Every time a typing mistake is made at the exec prompt of a router, the message from the router indicates a lookup is being performed. Also, there is a waiting period of several seconds before the next can be typed. Can this behavior be changed?

A. No, this is a built in feature of Cisco IOS(r) software.
B. Yes, use the no ip domain-lookup command.
C. Yes, use the no ip helper-address command.
D. Yes, use the no ip multicast helper-map command.
E. Yes, use the no exec lookup command.

Answer: B

QUESTION 25:

Which changes overhead in IMA? (Select two.)

A. PCR configuration

B. Link differential delay
C. Cells per IMA frame
D. MIB2 transfer

Answer: A, C

QUESTION 26:

What statement is true concerning the "Bursty Data B" queue?

A. It contains non-ForeSight Frame Relay data.
B. It acts as overflow for the "Burst Data A" queue.
C. It is the lower-priority bursty data queue.
D. It contains ForeSight Frame Relay data.

Answer: D
ATF (ATM to frame relay connections) use frame-relay trunk queues, and bursty data A is for Non-ForeSight data and bursty data B for ForeSight.

QUESTION 27:

Which compression technique provides near toll quality sound using 8kbps?

A. Pulse Code Modulation
B. Adaptive Differential Pulse Code Modulation
C. Code Excited Linear Predictor
D. It's impossible to achieve near toll quality using less than 64 kbps.

Answer: C
CELP - is a voice codec compression also known as G.729 compression. This takes a voice stream and compresses it to an 8K stream that is comparable quality wise to 32k ADPCM.

QUESTION 28:

EIGRP applies the principle of Feasible Successor (FS) in resolving a new path to a lost route. What statement regarding the FS is correct?

A. Information is stored for the FS as part of the Link-State Routing updated forwarded for EIGRP.
B. EIGRP estimates the FS from each neighbor for each network after an exchange of database information during the normal update process. It uses this information for path selection when a route is lost.
C. When EIGRP is notified that a route is lost, it will always send requests to each neighbor for ways to reach the lost route. The neighbor that returns the best path will qualify as the FS.
D. EIGRP nominates a central Router Certkiller As the FS for all lost routes during configuration.

Answer: B

QUESTION 29:

What best describes ADPCM?

A. It stands for Advanced Duplicate Packet Code Marking.
B. It specifies no transmission of data during silent periods of voice conversation.
C. It allows synchronous data to be carried over voice card technology.
D. It compresses voice from 64K per channel to 32K, 24K or 16K per channel.
E. It compresses voice from 64K to approximately 8K.

Answer: D
ADPCM is a codec compression that takes a 64k voice stream and compresses it down to either an 32k, 24k, 16k stream.

QUESTION 30:

Which pins are controlled by the DTE device?

A. CTS, RXD, DSR, RXC
B. RTS, TXD, DTR, TXC
C. CTS, RXD, CD, RXC
D. RTS, TXD, DTR, XTC

Answer: D
ADPCM is a codec compression that takes a 64k voice stream and compresses it down to either an 32k, 24k, 16k stream.

QUESTION 31:

The time of day on the BPX command screen is determined by:

A. The time of day on the lowest-numbered node
B. The time of day on the highest-numbered node
C. A negotiated time amongst the nodes
D. The time of day on the network management system

Answer: A
User IDs and Time of Day is maintained by the lowest node number in the network.

QUESTION 32:

In BGP, why should a Route Reflector be used?

A. To overcome issues of split-horizon within BGP
B. To reduce the number of External BGP peers by allowing updates to reflect without the need to be fully meshed
C. To allow the router to reflect updates from one Internal BGP speaker to another without the need to be fully meshed
D. To divide Autonomous Systems into mini-Autonomous Systems, allowing the reduction in the number of peers
E. None of the above

Answer: C
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121cgcr/ip_c/ipcprt2/1cdbgp.htm#wp1001965

QUESTION 33:

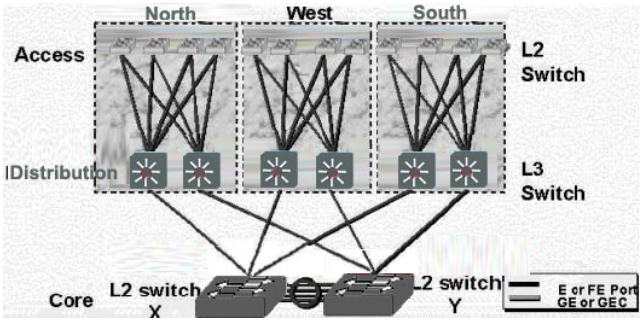
The NNI specification defines communications between:

A. An ATM end system and an ATM switch
B. Two ATM end systems
C. An ATM device and a non-ATM device
D. Two ATM switches from different carriers
E. Two ATM switches

Answer: E

QUESTION 34:

Exhibit



The diagram shows a campus with an L2 switched backbone. The backbone has a single VLAN (= subnet) with no loops. The links into the backbone are routed interfaces, not VLAN trunks. Switch X is the STP root of the core VLAN and switch Y is the standby root. The connection between X and Y is an EtherChannel. The network architect wants to add more redundancy by connection the L3 switches in the distribution layer to both X and Y. What best describes that plan?

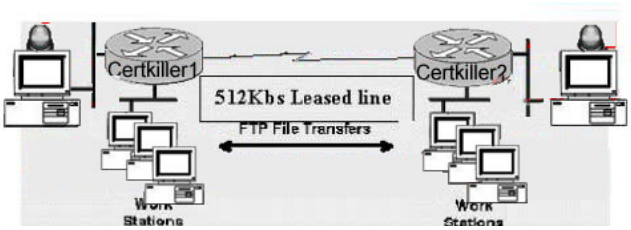
A. It is a sound idea because it increases bandwidth and redundancy.
B. It is not sound financially because the extra links will be blocking.
C. It will cause loops that STP cannot resolve.
D. It is impossible because routers cannot have two interfaces on the same subnet.

E. It is a sound idea because packets take a single L2 hop across the backbone.

Answer:

QUESTION 35:

Exhibit



You work as a network engineer at Certkiller .com. Assume IP Videoconference station Certkiller A places a 384Kb call to IP Videoconference station Certkiller B and the Workstations are transferring files back and forth between themselves during the same time period. What Cisco feature should be used on both routers to avoid unwanted jitter and guarantee the videoconference will get enough bandwidth for the duration of the call?

A. Frame Relay Traffic Shaping (FRTS) with FRF.12 packet fragmentation
B. Generic Traffic Shaping (GTS) with FECN Rate Adaptation activated
C. Bandwidth Guarantee for Videoconferencing (BGV)
D. Resource Reservation Protocol (RSVP)
E. Weighted Fair Queuing (WFQ) with IP Precedence

Answer: D

QUESTION 36:

With TM 4.1 RM cells, which of these are relevant? (Select two)

A. VBR, ABR, CBR, UBR
B. TCR, MCR, PCR, ICR
C. ABR, RIF, TCR ICR
D. VBR, Trm, Nrm, ICR

Answer: A, D

Trm (ATM Forum TM 4.0 term)	An upper boundary on the time between forward RM cells for an active source: an RM cell must be sent at least every *Trm* milliseconds. (In previous software releases, Trm was Min. Adjust.)
Nrm (ATM Forum TM 4.0 term)	Nrm.: maximum number of cells a source may send for each forward RM cell, an RM cell must be sent for every Nrm-1 data cells.
ICR	Initial Cell Rate: the rate at which a source initially transmits after an idle period.

QUESTION 37:

A 1024-byte frame is:

A. Always used for X.25 encapsulation
B. Not allowed under Frame Relay Forum standards
C. The required ANSI standard size
D. Within Frame Relay Forum standards

Answer:

QUESTION 38:

What is an advantage of cell technology?

A. Cell technology simplifies the hardware/software architecture allowing for faster switching fabrics.
B. Cells have less overhead.
C. Cell technology guarantees end-to-end error control.
D. Cell technology allows faster switching of IP packets.

Answer: A

QUESTION 39:

A new Cisco router has no configuration defined. Which methods can be used to configure the router for the first time? (Select four)

A. Using SNMP via a network management station
B. Connecting a terminal to the console port and running the Setup dialogue
C. Connecting a terminal to the console port and directly typing in configuration commands
D. Using BOOTP/SLARP/RARP to download a configuration file that has been created ahead of time
E. Connecting a terminal to the console port, defining a minimal configuration, connecting the router to the network and using TFTP to download a configuration file that has been created ahead of time.

Answer: B, C, E

QUESTION 40:

Given an address of 10.1.1.1 with a subnet mask of 255.255.255.224, how many hosts can be addressed in this subnet?

A. 16
B. 15

C. 30
D. 31
E. 63

Answer: C
Subnetting with a subnet mask of 224 (which is 5 bits) allows for 30 hosts in each subnet.

QUESTION 41:

One advantage of using loop start over ground start is that:

A. It reduces the number pairs between the end device and the PBX.
B. It reduces glare between the end device and the PBX.
C. It reduces connection time.
D. None of the above

Answer: D
Another advantage of groundstart signaling is the ability for incoming calls (network -> CPE) to seize the outgoing channel, thereby preventing a glare situation

---

QUESTION 42:

For an OC-48 signal (2.5Gb/s), what is the BER (bit error rate) if there is 1 bit error every four days?

A. 10E-12
B. 10E-13
C. 10E-14
D. 10E-15
E. 10E-16

Answer: E

QUESTION 43:

The switching function of a Frame Relay switch operates at what layer of the OSI model?

A. Physical Layer
B. Transport Layer
C. Data Link Layer
D. Network Layer

Answer: C

QUESTION 44:

Assume the user has limits of 223 routing nodes, sixteen feeder trunks per node and only one control card per node. What is the largest non-tiered "flat" network the user can build?

A. 2720 total nodes
B. 160 total nodes
C. 1360 total nodes
D. 80 total nodes

Answer: B
Cisco Switches support up to 160 nodes in a single peer group.

QUESTION 45:

ATM switches use the VPI/VCI fields of the cell header:

A. To identify the QOS parameters specified in the traffic contract between the ATM end station and the network
B.
To determine if the cell should be discarded in preference to others that have not exceeded their traffic envelope
C. To identify the next intermediate destination to which the cell should be passed
D. To determine if the header contains a checksum error and should be discarded
E. To determine if the cell contains user data or control data

Answer: C

QUESTION 46:

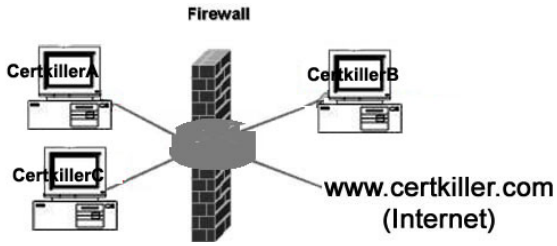
In ATM:

A. Both VPI and VCI have end-to-end significance.
B. VPI has end to end significance while VCI has local significance.
C. VPI has only local significance while VCI has end-to-end significance.
D. Both VPI and VCI have only local significance.

Answer: D
The most important fields in all three ATM cell header types are:
* Virtual Path Identifier (VPI)
The VPI identifies the route (path) to be taken by the ATM cell
* Virtual Circuit Identifier (VCI)
the VCI identifies the circuit or connection number on that path.
The VPI and VCI are translated at each ATM switch, they are unique only for a given physical link.

QUESTION 47:

Exhibit



You are a network engineer at Certkiller .com. You are troubleshooting a connectivity problem between Hosts Certkiller A and Certkiller B. The following conditions exist:
- Host Certkiller A can ping the firewall, but cannot ping Host Certkiller B.
- Host Certkiller B can ping both the firewall and www. Certkiller .com.
- The firewall can ping www. Certkiller .com.
- Host Certkiller C can ping the firewall and www. Certkiller .com.
- Host Certkiller A and Host Certkiller C have the same permissions on the firewall.
What is the most likely problem?

A. Routing protocols in the network are not set up properly, and not propagating across the firewall.
B. Host Certkiller A has an incorrect default gateway configured.
C. Host Certkiller B has an incorrect default gateway configured.
D. Host Certkiller C has an incorrect default gateway configured.
E. The firewall has an incorrect default gateway configured.

Answer: B

QUESTION 48:

What statement is true?

A. All nodes in a Multiple Peer Group PNNI Network have the same topology database.
B. In a Single Peer Group PNNI Network, only the Peer Group Leader has a copy of the topology database.
C. PNNI always calculates an optimal route.
D. None of the above

Answer: C
The PNNI protocol communicates the state of a PNNI network in PNNI Topology State Elements (PTSEs). PTSEs are discrete messages that contain information about one of the following types of network components:
PNNI nodes
Reachable addresses
PNNI links between nodes
To enable communications with other nodes, each switch needs to have all the PTSE information for each switch in the network. Each node is responsible for flooding out its own PTSE information to all the other switches in the network.

Since up-to-date PTSE information is required for optimal routing decisions to be made, there are several different mechanisms in place to help ensure that all nodes have reasonably accurate PTSE information.

QUESTION 49:

When using IS-IS for IP routing, Dual IS-IS defined by RFC 1195, what is true? (Select two.)

A. It is necessary to configure a NSAP address.
B. It is not possible to perform both IP and CLNS routing with the same process.
C. IP address and subnet information is carried in the TLV field on the L-1/L-1 LSPs.
D. Dual IS-IS does not support VLSM information.

Answer: A, C
IS-IS supports only the Connectionless Network Protocol (CLNP). However, IS-IS was extended for IP routing in
RFC 1195 with the registration of TLV 128 which contains a set of 12-octet fields to carry IP information.

QUESTION 50:

Noise generated during analog-to-digital conversion is called:

A. White noise
B. Impulse noise
C. Quantization noise
D. Random noise

Answer: C
The analog-to-digital conversion introduces noise on the connection known as quantization noise.

QUESTION 51:

In a PNNI networks, the hierarchical level is:

A. Defined by the last byte of the address
B. The first 6 bytes of the address
C. The number of addressing bits that define a node's peer group
D. None of the above

Answer: C

QUESTION 52:

What is not a PNNI Signaling Message?

A. CONNECT
B. STATUS ENQUIRY
C. CALL PROCEEDING
D. DELETING
E. ALERTING
F. NOTIFY

Answer: D
PNNI Messages include:
ALERTING, CALL PROCEEDING, CONNECT, SETUP, RELEASE, RELEASE COMPLETE, NOTIFY, STATUS, STATUS ENQUIRY, RESTART, RESTART ACKNOWLEDGE, STATUS, ADD PARTY, ADD PARTY ACKNOWLEDGE, PARTY ALERTING, ADD PARTY REJECT, DROP PARTY, DROP PARTY ACKNOWLEDGE.

QUESTION 53:

What ISDN timer is started after Q.931 SETUP msg is sent?

A. T301
B. T303
C. T302
D. T310
E. T305

Answer: B
http://www.net.com/support/manuals/html/isdnx/prsw601/prsw_33.html

---

QUESTION 54:

When connected to a T1 ISDN line from a PBX, how can the on-hoof/off-hook status be monitored on a CDP/CVM?

A. Use the dspsig command
B. Use of the dspconst command
C. Use of the dspcln command
D. It is not possible to observe the on-hook/off-hook for this configuration.

Answer: D
ISDN voice circuits normally use CCS(Common Channel Signaling) for signaling as oppsed to CAS(Channel Associated Signaling). CCS circuits do not allow for individual timeslot or signaling state monitoring using the dspconst or dspsig commands on the IGX.

QUESTION 55:

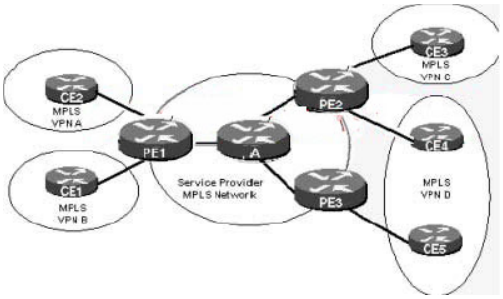
Trunk transmission between two NTM cards consists of:

A. FastPackets
B. ATM cells
C. Either FastPackets or ATM cells
D. Neither FastPackets nor ATM cells

Answer: A
The Network Trunk Module (NTM) enables FastPacket transmission on a trunk.

QUESTION 56:

Exhibit



In the MPLS network shown, how many routing tables are on Router PE1?

A. 1
B. 2
C. 3
D. 4
E. 5

Answer: C
The PE1 router has one routing table for the SP network and creates a separate VRF for each of the CE routers, that is two routing tables equaling 3 routing tables all together.
http://www.cisco.com/en/US/tech/ CK4 36/ CK4 28/technologies_configuration_example09186a00800a6c11.shtml

---

QUESTION 57:

The usage control parameter (UPC):

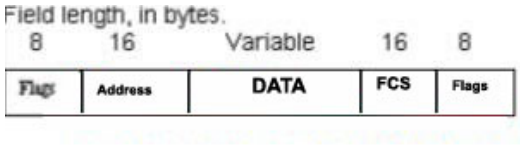
A. Protects the network and its service guarantees from sources which violate their traffic contract
B. Sets up SVC's usage control for an ATM switch
C. Shapes traffic usage so that the ATM switch will not discard cells
D. All of the above

Answer: A
UPC enforces a contract between the user and the network about the nature of the connection. This prevents any one user from causing excessive congestion that would degrade the quality of service provided to the other users. It is necessary to determine

what is the worst traffic a user can inflict on the network while still abiding by UPC. The Leaky Bucket Algorithm is commonly used to implement the UPC function.

QUESTION 58:

Exhibit



The exhibit shows the format of the standard Frame Relay frame.
The address field contains: (multiple answer)

A. The DLCI Value
B. The Extended Address (EA)
C. Congestion Control
D. FCS

Answer: A, B, C

QUESTION 59:

The Nyquist theorem is important for voice connection because:

A. It specifies that the digital sampling frequency is twice the maximum frequency used.
B. It is the algorithm used for E&M signaling between PBXs.
C. It helps prevent echo on voice circuits.
D. It specifies that the digital sampling frequency equals the maximum frequency used.
E. It specified that the digital sampling frequency is 4 times the maximum frequency used.

Answer: A
When sampling a signal , the sampling frequency must be greater than twice the bandwidth of the input signal in order to be able to reconstruct the original signal.

QUESTION 60:

Which are characteristics of VAD?

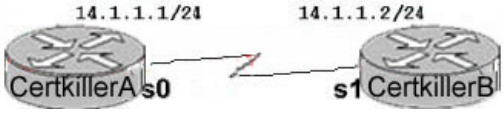
A. VAD is used with ADPCM voice connections only.
B. VAD makes voice traffic bursty.
C. VAD will add delay to a voice connection.
D. VAD connections use less bandwidth on the trunks.

Answer: D
With VAD, voice data packets fall into three categories: speech, silence, and unknown. Speech and degraded with VAD, but the connection monopolizes much less bandwidth

---

QUESTION 61:

Exhibit



Based on the information above, which OSPF configurations listed are valid? (Select two)

A. router Certkiller A
router ospf 1
network 14.0.0.0.0.255.255.255 area 0
router Certkiller B
router ospf 1
network 14.0.0.0.0.255.255.255 area 0
B. router Certkiller A
router ospf 1
network 14.1.1.0.0.0.0.255 area 0
router Certkiller B
router ospf 2
network 14.1.1.0.0.0.0.255 area 0
C. router Certkiller A
router ospf 1
network 14.0.0.0.0.0.255.255 area 0
router Certkiller B
router ospf 1
network 14.1.0.0.0.0.0.255 area 0
D. router Certkiller A
router ospf 1
network 14.1.1.0.0.0.0.255 area 1
router Certkiller B
router ospf 1
network 14.1.0.0.0.0.255.255 area 0

Answer: A, B

QUESTION 62:

What command is used to clear the database corruption on an FRSM?

A. clrsmcnf
B. switchcc
C. clrcnf
D. resetcd

Answer: A

QUESTION 63:

What command allows the user to configure the V.25 (fast modem) upgrade rate?

A. cnfvchparm
B. cnfsysparm
C. cnfchec
D. cnfsigparm

Answer: A
The V.25 modem detector recognizes the steady 2100 Hz tone output by V.25 compliant modems and FAX machines to disable echo cancellers at the beginning of transmission. When a channel is declared V.25 modem, a message is sent to the controller card, and software coordinates upgrade the connection at both ends from ADPCM to PCM (unless already PCM, or otherwise configured in the "cnfvchparm V.25 Detect" field). Therefore, the connection effectively becomes "p" until the modem removal criteria (bi-directioinal power below "MDM Low Pwr Thrsh" for a duration greater than "MDM Detect Silence Max") are met, at both ends, when it returns to the configured state. Software attempts to synchronize changes at both ends to within 100 msec, but there is a short silence on the channel while reconfiguration takes place.

QUESTION 64:

Cisco/StrataCom (Gang of four) LMI uses what DLCI for messages?

A. 0
B. 1023
C. It should be configurable, as per the specification.
D. It is negotiated when the ports become active.

Answer: B
Cisco lmi = 1023, Ansi = 0

QUESTION 65:

A channelized E1 frame carries 30 data slots and:

A. A time slot for signaling
B. Two channels for control functions
C. Framing bit for mark sequence start
D. Synchronizing multiframe

Answer: A
An E1/PRI line typically supports 30 B channels and one D channel

---

QUESTION 66:

If a host sends a TCP segment with the RST flag set, it means:

A. The receiver should send all data in the reassembly buffer to the application receiving it immediately.
B. The receiver should reset the session.
C. Any routers between the source and destination hosts should reset the state of the connection in their buffers.
D. The receiver should make certain its send buffer is pushed onto the wire.

Answer: B
http://hhi.corecom.com/tcp-operation.htm

QUESTION 67:

What statement is correct regarding Virtual LANs (VLANs)?

A. It is permissible to bridge inside a VLAN, but not to route between VLANs.
B. It is not permissible to bridge inside a VLAN, but it is valid to route between VLANs.
C. It is permissible to bridge inside a VLAN and to route between VLANs.
D. It is not permissible to bridge inside or route between VLANs.

Answer: A
http://net21.ucdavis.edu/newvlan.htm

QUESTION 68:

The ATM reference model is composed of which ATM layers? (Select three)

A. ATM layer
B. Physical layer
C. Modular layer
D. ATM adaptation layer

Answer: A, B, D
http://www.cs.ucl.ac.uk/staff/S.Bhatti/D51-notes/node39.html

QUESTION 69:

Which OSI layer is used for synchronous clocking?

A. Signaling layer
B. Physical layer
C. Data link layer
D. Framing layer

Answer: B

QUESTION 70:

What is the primary benefit of the "time-to-live" field in the IP header?

A. To improve buffer utilization
B. To reduce the impact of routing loops
C. To allow calculation of round-trip delays
D. To remind us that all earthly joys are fleeting
E. To avoid delivery of packets that are no longer useful

Answer: B
http://searchnetworking.techtarget.com/sDefinition/0,,sid7_gci214184,00.html

---

QUESTION 71:

Which are the correct ways to release IBGP from the condition that all IBGP neighbors need to be fully meshed? (Select two.)

A. Configure local preference
B. Configure route reflectors
C. Configure IBGP neighbors several hops away
D. Configure confederations

Answer: B, D

QUESTION 72:

What IE is not mandatory in a Q.931 Service msg?

A. Bearer capability
B. Channel ID
C. Message Type
D. Change Status
E. Call Reference

Answer: B

QUESTION 73:

While entering commands on a console, the break key is pressed accidentally and the router reboots. What action could disable this problem?

A. In configuration mode, enter disable break.

B. In configuration mode, enter no service break.
C. Change the configuration register.
D. Replace the router - this is an invalid response to pressing the break key when past 60 seconds after boot.

Answer: C

QUESTION 74:

What is RPF?

A. Reverse Path Forwarding
B. Reverse Path Flooding
C. Router Protocol Filter
D. Routing Protocol File
E. None of the above

Answer: A

QUESTION 75:

In PNNI networks, Crankback is a mechanism that:

A. Reroutes a call that is rejected at any point in the path specified because the path cannot meet the QoS requirements.
B. Provides immediate routing without the delay inherent in waiting for topological updates that can take time to propagate through the network.
C. Reruns a message to the node that generated the DTL, that includes information about the cause and location of the problem.
D. All of the above.
E. None of the above.

Answer: D
PNNI employs a crankback mechanism to reroute a call that fails CAC at any point in the path specified by the DTL. Crankback improves the call setup success rate, which can be limited by the lack of a complete view of the network topology, due to summarization of information. Crankback also provides immediate alternate rerouting without the delay inherent in waiting for topological updates that can take time to propagate through the network. For crankback, a message is returned to the node that generated the DTL, which includes crankback information about the cause and location of the problem. If the call is retried, PNNI prevents the failing node or link from being considered when it generates an alternate path. This process might occur several times before a successful path is found, or a determination is made that there is no suitable path.

QUESTION 76:

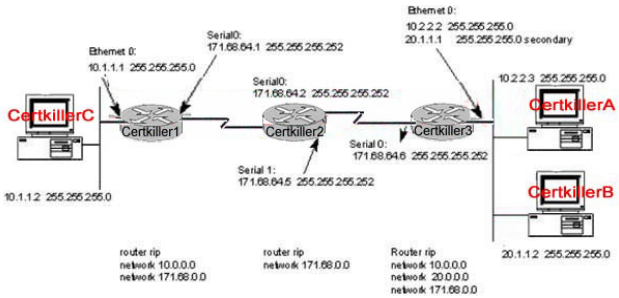
Which bits or sets of bits are not found in a Frame Relay header?

A. Forward Explicit Congestion Notification
B. Backward Explicit Congestion Notification
C. Data Link Connection Identifier
D. Committed Information Rate

Answer: D

QUESTION 77:

Exhibit



You work as a network engineer at Certkiller .com. With RIP running, what command would be used to set the default route on Router 2 to 171.68.64.6 (Router 3)?

A. ip default-network 171.68.64.6
B. ip route 0.0.0.0.255.255.255.255 171.68.64.6
C. ip route 0.0.0.0.0.0.0.0 171.68.64.6
D. None of the above

Answer: A

QUESTION 78:

What statement is true about the statistical reserve?

A. It is used only by high-priority traffic, control-card traffic, network IP traffic and network management traffic.
B. Frame Relay connections cannot burst into the space allocated for the statistical reserve.
C. It applies only to the load model in that connections cannot be added in which the minimum allocation would take up any of that configured space.
D. Its size changes depending upon the amount of load on the trunk.

Answer: A
By using cnftrk, you can reserve a potion of bandwidth on a trunk. Statistical reserve is available for only high priority packets (PCC traffic, for example). The node cannot route connections using this bandwidth. The reserved bandwidth is the sum of the statistical reserve and the SVC bandwidth. The following loading, in packets per second, is calculated for each trunk in each direction:

QUESTION 79:

Which statements are true? (Select three.)

A. In OAM F4 Flow cells, the VCI defines if segment or end-to-end.
B. In OAM F5 Flow cells, the VCI defines if segment or end-to-end.
C. VCI = 3 is used for segment OAM F4 and VCI = 4 is used for end-to-end OAM F4.
D. VCI = 4 is used for segment OAM F4 and VCI = 3 is used for end-to-end OAM F4.
E. The OAM Type is included in the ATM Cell payload.

Answer: A, C, E
When you create a PVP, the router creates two PVCs for end-to-end loopback and segment loopback operations, administration and maintenance (OAM) cells. OAM cells at the VP level use the same VPI value as the user cells of the PVP and use defined or "well-known" VCI values. These VCI values are 3 for segment OAM F4 flow and 4 for end-to-end OAM F4 flow.

QUESTION 80:

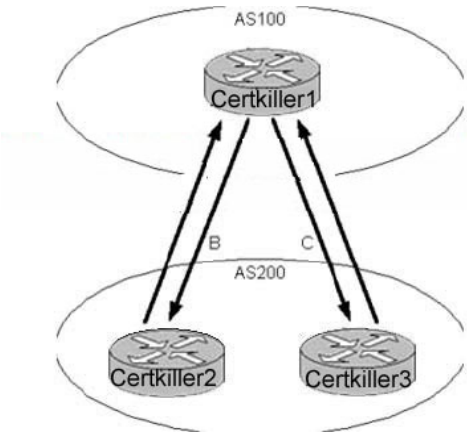
A device reporting a blue alarm:

A. Indicates an intermediate device is in alarm
B. Indicates the remote end is in red alarm
C. Is transmitting a red alarm
D. Is receiving both yellow and red alarms
E. None of the above

Answer: E
Blue alarm indicates the absence of an incoming signal.

QUESTION 81:

Exhibit



You work as a network engineer at Certkiller .com. According to the diagram, what attribute is initiated by AS200 (IBGP) to give preference to the path A or D traffic will take

when going from AS200 to AS100? What attribute is initiated by AS200 (EBGP) to give preference to the path B or C traffic will take when going from AS100 to AS200?

A. MED; Origin
B. MED; Local Preference
C. Community; Origin
D. Local Preference; MED
E. Origin Community

Answer: D

QUESTION 82:

Which are valid combinations?

A. ESF and B8ZS
B. SF (D4) and B8ZS
C. ESF and AMI
D. All of the above

Answer: D

QUESTION 83:

What type of signaling is most relevant to ATM networks supports SVCs?

A. H.323
B. Q.2931
C. ETSI.761
D. G.723

Answer: B
http://www.cisco.com/en/US/products/hw/switches/ps718/products_technical_reference_chapter09186a00800eb

---

QUESTION 84:

Exhibit

Certkiller.com has been assigned the Class B address of 191.8.0.0 by the NIC. Certkiller.com have decided to use a subnet maks of 255.255.255.0 and an autonomous system number of 1.

The configuration for Router CertkillerA is as follows:

```
CertkillerA#show running-config
Current configuration:
version 11.3
1.)  hostname CertkillerA
2.)  enable-password enablepassword
3.)  interface ethernet 0
4.)  ip address 191.8.1.1 255.255.255.0
5.)  no mop enabled
6.)  interface serial 0
7.)  ip address 191.8.150.1 255.255.255.0
8.)  ip name-server 255.255.255.255
9.)  ip host CertkillerB 191.8.150.2 191.8.2.1
10.) snmp-server community ccie
11.) line vty 0 4
12.) login
13.) line con 0
14.) line aux 0
15.) line vty 0
16.) password vtypassword
17.) line vty 1
18.) password vtypassword
19.) line vty 2
20.) password vtypassword
21.) line vty 3
22.) password vtypassword
23.) line vty 4
24.) password vtypassword
25.) end
CertkillerA#
```

The configuration for Router CertkillerB is as follows:

```
CertkillerB#show running-config
Current configuration:
version 11.3
1.)  hostname CertkillerB
2.)  enable-password san-fran
3.)  interface tokenring 0
4.)  ip address 191.8.2.1 255.255.255.0
5.)  ring-speed 16
6.)  interface serial 0
7.)  ip address 191.8.150.2 255.255.255.0
8.)  ip name-server 255.255.255.255
9.)  ip host CertkillerA 191.8.2.1 191.8.150.1
10.) snmp-server community ccie
11.) logging buffered
12.) line vty 0 4
13.) login
14.) line con 0
15.) line aux 0
16.) line vty 0
17.) password cisco
18.) line vty 1
19.) password cisco
20.) line vty 2
21.) password cisco
22.) line vty 3
23.) password cisco
24.) line vty 4
25.) password cisco
26.) end
CertkillerB#
```

The network associated with Router Certkiller A's Ethernet 0 port is designed to be publicly accessible. However, Router Certkiller B's Token Ring 0 network should be accessible only to hosts from Router Certkiller A's Ethernet 0 network. What access list for Router Certkiller B would accomplish?

A. access-list 99 permit 191.8.1.0.0.0.0.255
access-list 99 deny 0.0.0.0.255.255.255.255
B. access-list 103 permit 191.8.1.0.0.0.0.255
access-list 103 deny 0.0.0.0.255.255.255.255
C. access-list 88 deny 0.0.0.0.255.255.255.255
access-list 88 permit 191.8.1.0.0.0.0.255
D. access-list 3 permit 191.8.1.0.255.255.255.0
access-list 3 deny 0.0.0.0.0.0.0.0
E. access-list 99 permit 191.9.10.0.0.0.0.0
access-list 99 deny 0.0.0.0.255.255.255.255

Answer: A

QUESTION 85:

With regard to PNNI: (multiple answer)

A. For interoperability, PNNI standardizes how each node should perform CAC.
B. A PTSE might be triggered when a node accepts a connection.
C. A border node is a node that has at least one link that crosses its peer group boundary.
D. The AESA selector octet is ignored by PNNI routing.
E. As part of the hello protocol, a PNNI node will advertise its newest and oldest version of PNNI versions that are supported by the node.

Answer: B, C, D
Once database synchronization has occurred, further topology changes must be

distributed throughout the network. PNNI does this by exchanging PNNI Topology State Packets (PTSPs), which contain one or more PNNI Topology State Elements (PTSEs). PTSPs are disseminated using a flooding mechanism and ensure that the network is updated when significant changes occur

---

QUESTION 86:

When using Frame Relay network interworking, what is true for the Switch that performs the Interworking Function?

A. One side uses native Frame Relay (IETF) and the far side uses native ATM with SNAP or NLPID encapsulation.
B. Both sides use native Frame Relay
C. One side expects frames and the other side expects Frame Relay frames segmented into ATM cells (FR-SSCS).
D. There is no such things as Frame Relay network interworking.

Answer: C
http://www.cisco.com/en/US/products/hw/switches/ps525/products_configuration_guide_chapter09186a00800ec

---

QUESTION 87:

Typically, if a 1024 byte AAL5 SDU is segmented and sent as an unconforming burst towards the switch configured as PPD, what cell reaches the far end?

A. Only the first cell makes it through.
B. Only the last cell makes it through.
C. All of the cells make it through, but they have the DE bit set.
D. None of the above.

Answer: B

Explanation: The last cell with have a PTI that indicates end of user data.

QUESTION 88:

In MPLS, what is an LSP?

A. Label Selection Pair
B. Label Switched Path
C. Lightweight Signaling Protocol
D. Large Sampling Path

Answer: B

QUESTION 89:

Which of the following CGMP (Cisco Group Management Protocol) statements are correct? (Select two.)

A. CGMP manages multicast traffic in Catalyst 5000 series switched by allowing directed switching of IP multicast traffic.
B. CGMP will switch IP multicast packets to all ports in one specific VLAN.
C. CGMP filtering required a network connection from the Catalyst 5000 series switch to a router running CGMP.
D. CGMP handles ARP, SAP, UDP, SSAP and DSAP.

Answer: B, C

QUESTION 90:

If two time-stamped FastPackets fit into one ATM cell, how many bytes will be allocated to header overhead?

A. 5 bytes
B. 11 bytes
C. 13 bytes
D. 15 bytes

Answer: A
http://www.cisco.com/en/US/products/hw/switches/ps525/products_installation_guide_chapter09186a008007fe7

QUESTION 91:

In order to avoid loops when sending routing updates, what is the correct technique to prevent a network from being forwarded on the same interface it is learned?

A. Poison Reverse
B. The use of access-lists used with distribute-list
C. Split Horizon
D. This is not a problem, since this cannot happen.

Answer: C
http://distancelearning.ksi.edu/demo/520/ch06a.html

QUESTION 92:

A router interface address is 180.60.45.96 with a mask of 255.255.255.224. What configuration statement will allow this interface to participate in OSPF Area 0?

A. router ospf 1

network 180.60.45.96 255.255.255.32 area 0
B. router ospf 1
network 180.60.45.96.0.255.255.224 area 0
C. router ospf 1
network 180.60.45.96.0.255.255.224 area 0
D. router ospf 1
network 180.60.45.96.0.0.0.224 area 0

Answer:

QUESTION 93:

What is true about Cisco IGX transmit queues for Frame Relay?

A. There is a queue for every Frame Relay connection going from the CPE to the Cisco IGX switch
B. They do not apply to ForeSight connections.
C. There is a queue for every Frame Relay port going from the Cisco IGX switch to the CPE.
D. It is recommended that these queues be no larger than 100 bytes.

Answer: A

QUESTION 94:

The Hold-Down Timer used in Distance Vector protocols:

A. Sets the time limit of how long a router may keep a packet in its buffer, if the routing protocol is in the process of converging.
B. Determines the number of seconds a router will wait before sending another update to neighbor routers.
C. Sets a specific period for routers to neither accept nor advertise a route from a destination where an original route was recently lost.
D. Sets a duration where routes are not accepted from the neighbor router that caused a routing loop.

Answer: C
http://distancelearning.ksi.edu/demo/520/ch06a.html

QUESTION 95:

What is not transported on a FastPacket-based trunk?

A. Non-time-stamped data
B. Voice
C. ATM data
D. High-priority data

Answer: C
The following packet types are used with FastPacket: High priority, not-time-stamped data, time-stamped data, voice, foresight

---

QUESTION 96:

Exhibit

```
stllab-8510>sh bootflash
-#- ED --type-- --crc------CTC ------Len------month------date/time------ name
1   .. unknown  9DA13DA5  3576AC   31 sh:241516 Aug 22 1998 08:34:22 cat8510c-in
2   .D unknown  8CDE134F  453BA3   22  2494584 Jul 20 1997 09:33:02 cat8510b-in
```

You work as a network engineer at Certkiller .com. Upon deleting an IOS image file from flash, an execution of show flash shows the file still in flash, with a 'D' preceding it (as shown in the exhibit). What step must be taken in order to remove the file completely?

A. Erase the file from flash
B. Format the flash device
C. Replace the flash card - it is defective
D. Execute a squeeze command on the flash device

Answer: D
http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121cgcr/fun_r/frprt2/frd2001.htm#1033959

QUESTION 97:

The configuration register does NOT retain settings for:

A. An enabled 'Break' key
B. The console baud rate
C. The boot method
D. An enabled AUX port

Answer: D
http://www.cisco.com/en/US/products/hw/routers/ps274/products_installation_guide_chapter09186a008007de4c

---

QUESTION 98:

Exhibit

```
S    0.0.0.0/0 [1/0] via 172.91.116.65
D    172.16.0.0/24 [90/48609] via 10.1.1.1
R    172.16.0.0/16 [120/4] via 192.168.1.4
```

A router has the above routes listed in its routing table and receives a packet destined for 172.16.0.45. What will happen?

A. The router will not forward this packet, since it is destined for the 0 subnet.

B. The router will forward the packet through 172.31.116.65, since it has the lowest metric.
C. The router will forward the packet through 10.1.1.1.
D. The router will forward the packet through 172.31.116.65, since it has the lowest administrative distance.
E. The router will forward the packet through 192.168.1.4.

Answer: C

QUESTION 99:

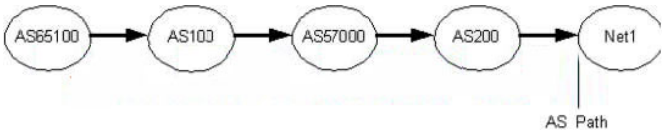
What is the best definition of the use of "Area 0" in OSPF?

A. Area 0 is used for administrative reasons, and is restricted from user definition.
B. Area 0 is defined as the backbone, designed to be at the center of all routing updates and controls the dissemination of updates between areas.
C. Area 0 is used to authenticate messages received from other routers in the same area.
D. Area 0 is used for forwarding all routing updates received within the same Autonomous System from directly connected areas only.
E. Area 0 allows for routing updates to be forwarded between different Autonomous Systems.

Answer: B

QUESTION 100:

Exhibit



Using the above diagram, which are valid BGP AS_Path Attributes received at Net1 for a route originating from AS65100? (Select three.)

A. 200 5700 100 65100
B. 200 57000 100100
C. 100 57000 200
D. 200 57000 100
E. 65100 100 57000 200

Answer: A, B, D

QUESTION 101:

The default network clocking source in a BPX network is:

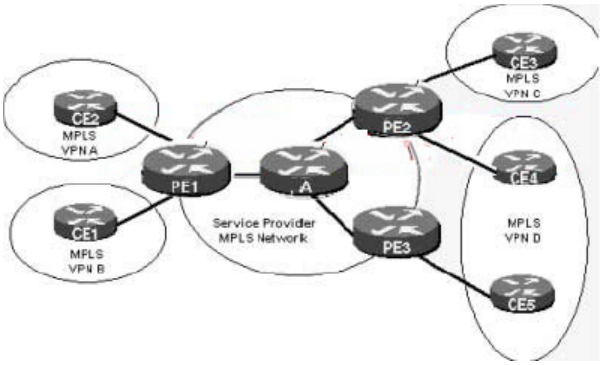
A. The internal oscillator of the lowest-numbered node
B. The internal oscillator of the highest-numbered node
C. Each node's own internal oscillator

D. The clock chip on the network management system

Answer: B

QUESTION 102:

Exhibit



Examine the exhibit to view the topology.
0011
In the MPLS network shown, how many routing tables are on Router A?

A. 1
B. 2
C. 3
D. 4
E. 5

Answer: A

QUESTION 103:

Which mechanism maximize "Goodput?"

A. Payload Type Identifier - PTI
B. Partial Packet Discard - PPD
C. Constant Bit Rate - CBR
D. Statistical Packet Discard - SPD
E. Early Packet Discard - EPD

Answer: E
A more performant mechanism can be implemented with early packet discard (EPD). In this case, upon reaching a certain congestion threshold, a switch starts dropping complete PDUs, including the first, all intermediate cells, andthe last cell, avoiding less efficient partial drops.

QUESTION 104:

The network administrator has forgotten the enable password of the router. Luckily, no one is currently logged into the router, but all passwords on the router are encrypted. What should the administrator do to recover the enable password?

A. Call the Cisco Technical Assistance (TAC) for a special code that will erase the existing password.
B. Reboot the router, press the break key during bootup, boot the router into ROM Monitor mode, and modify the configuration register so that the current configuration is ignored during normal bootup
C. Reboot the router, press the BREAK key during bootup, and boot the router into ROM Monitor mode to erase the configuration, and re-install the entire configuration as it was saved on a TFTP server
D. Erase the configuration, boot the router into ROM Monitor mode, press the BREAK key, and overwrite the previous enable password with a new one.

Answer: C

QUESTION 105:

What mechanism enables cut-through switches to process a frame with reduced latency?

A. The destination address is at or near the beginning of the frame
B. The CRC is at the end of the frame
C. The CRC is at or near the beginning of the frame
D. The source address is at or near the beginning of the frame
E. The data is compressed in the middle of the frame

Answer: A
http://www.ciscopress.com/articles/article.asp?p=357103&seqNum=5&rl=1

QUESTION 106:

What command cannot be used when a user is logged into another node via VT?

A. vt
B. bye
C. dspbuses
D. runrev

Answer: A
You can only use the " vt " command once per node.

QUESTION 107:

A device reporting a red alarm

A. Indicates a problem on its receive
B. Indicates a problem on its transmit
C. Is receiving a yellow alarm
D. All of the above

Answer: A
It indicates that the incoming signal has been corrupted for a number of seconds, which also indicates problems on its receive pair.

QUESTION 108:

In ATM, Well Known VCIs are:

A. 6 for Signaling, 10 for ILMI and 18 for PNNI
B. 18 for Signaling, 5 for ILMI and 16 for PNNI
C. 5 for Signaling, 16 for ILMI and 18 for PNNI
D. 6 for Signaling, 18 for ILMI and 16 for PNNI
E. there are no Well Known VCIs

Answer: C

QUESTION 109:

A fast Ethernet connection supporting multiple VLANs is referred to as:

A. A circuit group
B. An emulated LAN (LANE)
C. A trunk
D. All of the above

Answer: C

QUESTION 110:

Regarding PNNI, what statement is true?

A. PNNI Routing and PNNI Signaling use the same Virtual Circuit
B. PNNI needs ILMI in order to discover the Peer Node
C. PTSEs age; Expired PTSEs need to be flushed or refreshed
D. The final State of a PNNI Node after database synchronization is 'Updated'
E. SSCOP is only needed for UNI signaling and not PNNI signaling; PNNI Signaling does not use SAAL

Answer: B
Using the switch default ATM address, hierarchy configuration, and ILMI address

autoconfiguration, PNNI automatically determines the addresses and links in the ATM network.

QUESTION 111:

If a Dialer Profile exists in the local configuration of a router, what is true?

A. A virtual-access password is configured automatically
B. A virtual-access interface will inherit all configuration from the dialer profile
C. AAA parameters cannot be applied to an interface
D. None of the above

Answer: D

QUESTION 112:

In the internet core, routers communicating over ATM typically use:

A. SVCs
B. HFCs
C. PVCs
D. SUVs
E. None of the above

Answer: C

QUESTION 113:

To restrict SNMP access to a router, what configuration command could be used?

A. snmp-server community
B. snmp-server enable
C. snmp-server log
D. snmp-server host

Answer: A

QUESTION 114:

Intelligent Packet Discard Methods works on what premise?

A. That the cells carry non-critical traffic
B. That the VPI/VCI pair is low priority
C. That the cells come from large packets, segmented
D. That the TOS (type of service) field in the IP header prioritizes some cells
E. None on the above

Answer: C
Frame discard techniques embody the concept that if the network element must discard cells, it is far more effective to do so at the frame level rather than at the cell level. An ATM network can detect frame boundaries by evaluating the cell header. Under severe congestion situations, when a cell is dropped, the switch can immediately drop all cells associated with that specific frame. To improve higher-layer protocol efficiency, the switch should drop all cells except the cell thatsignals the end of the frame. This way, the higher-layer protocol immediately detects a failure and requests retransmission upon receiving an incomplete protocol data unit (PDU), instead of the source ES having to wait for a higher-layer protocol timeout before retransmitting the PDU, or, even worse, the boundary of the next PDU not being correctly identified and the next PDU also being affected.

QUESTION 115:

What statement is false?

A. A topology change triggers PTSE flooding
B. For PNNI routing, QoS and link resources are significant
C. PNNI Signaling is based on UNI 3.0
D. PNNI signaling uses information from PNNI routing

Answer: A
Once database synchronization has occurred, further topology changes must be distributed throughout the network. PNNI does this by exchanging PNNI Topology State Packets (PTSPs), which contain one or more PNNI Topology State Elements (PTSEs). PTSPs are disseminated using a flooding mechanism and ensure that the network is updated when significant changes occur.

QUESTION 116:

An ATM cell, as defined by the PTI, cannot be:

A. User data cell
B. Idle cell
C. OAM segment flow cell
D. OAM segment flow cell
E. RM cell
F. OAM end-to-end flow cell
G. AAL2 cell

Answer: B
A 3-bit Payload Type Indicator (PTI) field indicates the type of data being carried in the payload. The high-order bit is a "0" if the payload contains user information and is a "1" if it carries connection management information. The second bit indicates if the cell

experienced congestion over a path. If the payload is user information, the third bit indicates if the information is from Customer Premises Equipment. The PTI field is identical for UNI/NNI/STI.

QUESTION 117:

In Frame Relay, the FECN bit is set by:

A. The Frame Relay Network, to inform the DTE receiving the frame that congestion was experienced in the path from source to destination
B. The Frame Relay network, in frames traveling in the opposite direction from those frames that encountered congestion
C. The receiving DTE, to inform Relay network that it is overloaded and that the switch should throttle back
D. The Sending DTE, to inform the Frame Relay network that it is overloaded and that the switch should throttle back
E. Any device that uses an extended DLCI address

Answer: A
The FECN bit is part of the Address field in the Frame Relay frame header. The FECN mechanism is initiated when a DTE device sends Frame Relay frames into the network. If the network is congested, DCE devices (switches) set the value of the frames' FECN bit to 1. When the frames reach the destination DTE device, the Address field (with the FECN bit set) indicates that the frame experienced congestion in the path from source to destination. The DTE device can relay this information to a higher-layer protocol for processing. Depending on the implementation, flow control may be initiated, or the indication may be ignored.

QUESTION 118:

What statement is true?

A. OAM cells are only used in VCCs and not VPCs
B. F5 Flows are used in VPCs and F4 Flows in VCCs
C. For F4 Floe cells, the PTI defines if segment or end-to-end
D. For F4 Flow cells, the PTI defines that the cell is an OAM cell
E. All of the above

Answer:

QUESTION 119:

Select the group of technologies which are listed in descending order of bandwidth scale:

A. SDH, X.25, ATM
B. DWDM, SDH, FrameRelay
C. DWDM, SDH, ATM

D. ATM, DWFM, Frame Relay

Answer: B

QUESTION 120:

What is NOT a reason to deploy MPLS?

A. Ubiquitous acceptance and firm standards
B. Traffic engineering capabilities
C. Simplify lookups in software-based routers
D. Potential use in VPN services

Answer: A

QUESTION 121:

A frame Relay switch will send a long status notification:

A. Every 60 seconds
B. When requested by the CPE
C. 6 times the T391 timer
D. When there is a status change

Answer: B

QUESTION 122:

In the context of a PNNI network, the aggregation token in uplinks:

A. In 4 bytes
B. In 6 bytes
C. In 13 bytes
D. Has the same number of bytes as the PGID
E. Does not exist

Answer: A

Explanation:
To specify the aggregation token for a PNNI interface, use the atm pnni aggregation-token PNNI interface configuration command.
atm pnni aggregation-token value
The aggregation token on this interface, in the range of 0 to 4294967295

QUESTION 123:

What statement concerning voice connections is true?

A. Inband dialing format generally requires a greater number of signaling transitions than pulse dialing
B. Circuit lines utilizing common channel signaling (CCS) use on-hook/off-hook bit mechanisms to notify PBX of connection failures
C. Single bit errors in PCM samples result in significantly distorted connections
D. T1 circuits using extended superframe (ESF) can use ABAB signaling or ABCD signaling

Answer: D

QUESTION 124:

An IGX FRM connection's local end is defined by:

A. <DLCI>.<port>.<slot>
B. <port>.<DLCI>.<slot>
C. <slot>.<port>.<DLCI>
D. <port>.<slot>.<DLCI>

Answer: C

QUESTION 125:

How would a Central Office telephone switch instruct a D4 channel bank to ring an analog phone?

A. The central office telephone switch toggles the A/B bits in the direction of the CPE
B. The central office telephone switch sends a digital ring pattern in-band on the channel
C. The central office telephone switch toggles the R bit in the direction of the CPC
D. The central office telephone switch uses a separate channel reserved just for ringing the phone

Answer: A
For D4 channel banks, a four-state signaling scheme is implemented through the use of an 'A-bit' (transmitted in the 6th frame), and a 'B-bit' (transmitted in the 12th frame).

QUESTION 126:

The network should always be timed from:

A. A stratum 1 clock
B. The source with the best stratum rating in the network
C. A circuit with timing provided from the carrier
D. A single source

Answer: A

QUESTION 127:

What statement is true?

A. ILMI is SNMP Based (SNMP/AAL5), and has an ILMI MIB
B. ILMI is only used for Address Registration
C. ILMI is SNMP Based, but does not support Trap Messages
D. There is no such thing as ILMI

Answer: C

QUESTION 128:

MPLS does not support:

A. Multicast
B. OSPF
C. BGP
D. Multicast and OSPF

Answer: C
MPLS supports running OSPF and Multicast. BGP supports extensions for MPLS.

QUESTION 129:

If a media kit contains firmware labeled "N.E.C.", this indicates:

A. Firmware model N, revision E for the CDP
B. Firmware model E, revision C for the NTC
C. Firmware model N, revision E, subrevision C for processor cards
D. Firmware model C, revision E for the NPC

Answer: B

QUESTION 130:

If there is a network with a combination of 15 PEs and LSCs, how many LVCs will be generated in the whole network? (Assume no VC-merge, no CoS, no LVC reduction methods and only a single loopback address per router all of which participate in the IGP)

A. 225
B. 210
C. 113
D. 90
E. 14

Answer: B

QUESTION 131:

What is the advantage(s) of B8ZS over ZCS on a DS1 facility?

A. B8ZS ensures the line's density and ZCS does not
B. B8ZS does not require repeaters for long distances
C. B8ZS allows for "clear channel" configurations to support data applications
D. B8ZS has no advantages over ZCS

Answer: A
B8ZS is similar to AMI, but uses intentional BPV's to break up long strings of zeros, allowing transmission through the link without violating the ones density standard. The equipment does this by replacing any string of eight zeros with two intentional BPV's. The first BPV replace the fourth zero with a pulse in the same pole as the last pulse in the previous word. The second BPV replaces the fifth and seventh zeros. Additionally, the eight zero is assigned a pulse.

QUESTION 132:

OSPF is defined on a Frame Relay interface providing point-to-point connections. The remote neighbors can reach this central site, but are complaining of routing failures between each of the remote sites. The central router has all the routers for each remote site. Based on this information, what can be diagnosed as the biggest potential problem?

A. An over-subscribed Frame Relay switch will cause some packet loss
B. There are problems in the use of OSPF Authentication
C. There is an incorrect selection of the Designated Router
D. There is an incorrect DLCI assigned on a point-to-point sub-interface

Answer: C

QUESTION 133:

ATM Point to Multipoint connections:

A. Are always bi-directional because they use amendments to AAL5
B. Are unidirectional
C. Do not exist
D. Are only supported in Service Interworking

Answer: B
Point-to-point connects two ATM end systems and can be unidirectional (one-way communication) or bidirectional (two-way communication). Point-to-multipoint connects

a single-source end system (known as the root node) to multiple destination end systems (known as leaves). Such connections are unidirectional only. Root nodes can transmit to leaves, but leaves cannot transmit to the root or to each other on the same connection. Cell replication is done within the ATM network by the ATM switches where the connection splits into two or more branches.

QUESTION 134:

If the Frame Relay switch receives data from the CPE device above the configured CIR, frames will be discarded:

A. On all frames above the CIR
B. When the rate exceeds the CIR and is less than Bc
C. When the rate exceeds Bc and is less than Be + Bc
D. When the rate exceeds Bc + Be

Answer: D

QUESTION 135:

BGP can implement a policy of 'Route Dampening' to control route instability. What statement about route dampening is NOT correct?

A. A numeric penalty is applied to a route each time it flaps
B. The penalty is exponentially decayed according to parameters, such as half-life-time
C. The history of unstable routes is forwarded back to the sender to control future updates
D. The route is eventually suppressed based on a configurable 'suppress limit'

Answer: B

QUESTION 136:

LDP uses a TLV encoding scheme, what is TLV?

A. Transport Load Variance
B. Type of Line Variance
C. Type Length Value
D. Tolerance, Latitude and Variance
E. Tolerance Level Value
F. TDP Load value

Answer: C

QUESTION 137:

With CGMP enabled, which are unique about the following MAC address range:

01-00-5E-00-00-00 to 01-00-5E-00-00-FF? (Multiple answer)

A. CGMP does not prune those MAC addresses
B. They contain the CGMP Multicast addresses for the IGMP Leaves and IGMP Queries
C. CGMP filters those MAC addresses when they arrive at the processor
D. They are the reserved IP addresses of 224.0.0.0 to 224.0.0.255 for forwarding local IP multicast traffic in a single Layer 3 hop

Answer: A, D

QUESTION 138:

What statement is false about RIP v1?

A. RIP v1 is a classful routing protocol
B. RIP v1 does not carry subnet information in its routing updates
C. RIP v1 does not support Variable Length Subnet Masks (VLSM).
D. RIP v1 can support discontiguous networks

Answer: D

QUESTION 139:

Which are the primary roles of Network Traffic Management?

A. Ensure correct network shaping
B. Govern the use of resources management cells
C. Protect the network and the end-system from congestion
D. Promote the efficient use of network resources

Answer: C

QUESTION 140:

What is not a function of the F-bit on DS1 using Extended Super Frame (ESF)?

A. It is used for signaling on-hook and off-hook status
B. It is used for a frame's synchronization and alignment
C. It is used for control and performance information
D. It carries CRC information for error detection

Answer: A
ESF extends the DS1 framing from 12 to 24 frames so that an 8-kbps F-Bit pattern can be used for three separate functions: Framing, CRC and data link.

QUESTION 141:

How many FastPackets (with headers) can be contained within a single ATM cell?

A. 1
B. 2
C. 3
D. 4

Answer: B

QUESTION 142:

The two protocol categories defined by PNNI are:

A. PNNI Signaling and NNI Signaling
B. PNNI Signaling and ILMI Signaling
C. PNNI Signaling and Topology State Routing
D. PNNI Signaling and IISP Signaling

Answer: D

Explanation:
The Interim Interswitch Signaling Protocol (IISP) and Private Network-Node Interface (PNNI). IISP provides a static routing solution that is not easily scalable and has no with dynamically determined routing paths and support for QoS requirements.

QUESTION 143:

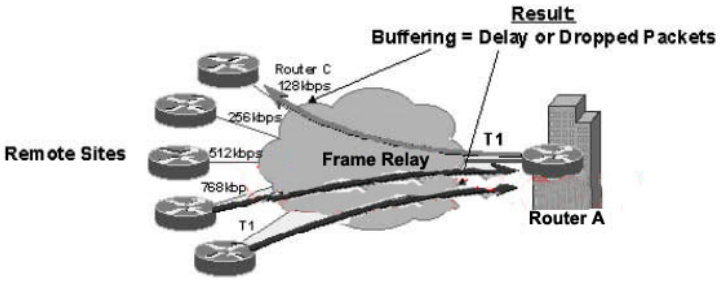
What is Forwarding Equivalence Class assignment NOT likely to be based upon?

A. Fragment offset
B. Destination address
C. Application protocol
D. Class of service

Answer: A

QUESTION 144:

Exhibit



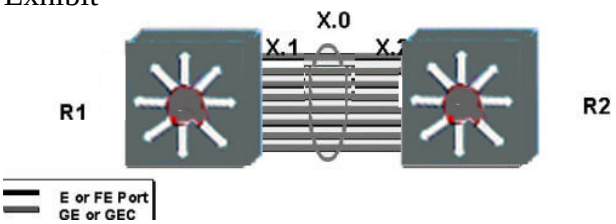
Examine the exhibit to view the configuration.
In the diagram shown, what mechanism needs to be employed on the remote site routers to aid congestion avoidance in the core, based on traffic priorities?

A. IP Precedence Tagging
B. Weighted Random Early Detection
C. Random Early detection
D. Class Based Weighted Fair Queuing

Answer: D

QUESTION 145:

Exhibit



Examine the exhibit to view the topology.
0066
L3 switches R1 and R2 are in the backbone of the network. They are connected by a routed EtherChannel bundle consisting of eight Gigabit Ethernet ports. The routed link is represented as subnet X.0 in the diagram. Since X.0 is routed, it is not VLAN trunk. How can spanning tree loops be prevented in the backbone of this network?

A. Since EtherChannel X is routed there are no spanning tree loops
B. Configure seven of the eight ports in the bundle as passive interfaces
C. Configure UplinkFast on R1 and R2
D. Disable Spanning Tree Protocol (STP) on R1 and R2
E. Disable VLAN X on seven of the eight ports in the bundle

Answer: A

QUESTION 146:

What is not true concerning ATM to FR Service interworking?

A. The ATM CPE uses AAL5 SAR and AAL5 common part convergence sublayer
B. The IWF supports the mode of setting the ATM CLP to 'congestion not experienced' regardless of the FR DE setting
C. In the ATM to FR direction, it the EFCI field in the last cell of a segmented frame received is set to 'congestion experienced,' then FECN is set to 'congestion experienced.'
D. In the ATM to FR direction, it the EFCI field in the first cell of a segmented frame received is set to 'congestion experienced,' then FECN is set to 'congestion experienced.'

Answer: D

ATM to Frame Relay	
Dyamic	If EFCI=1 on the last cell of a fragmented frame, then FECN=1 in the resulting frame.
Static	IWF always sets FECN=1 on FECN=0, depending on the configuration.

QUESTION 147:

A network administrator is using debug commands to check the performance of a network. What steps can the administrator take to ensure that the "debug" will not require too much CPU, or at least that she will not have to reboot the router to disable debug? (Multiple answer)

A. Make the debug command as specific as possible
B. Use the max-time parameter of the debug command
C. In configuration mode, enter scheduler interval 15.
D. Configure a loopback to channel debug traffic

Answer: A, D
There is not debug max-time command and the minimum for scheduler interval is 500 milliseconds, not 15

QUESTION 148:

What is the highest possible frequency that can be used over a standard voice connection?

A. 4 Khz
B. 20 Khz
C. 8 Khz
D. It varies depending on the compression used

Answer: A
A more common understanding of how the rate of 1.544 Mbit/s was achieved is as follows. (This explanation glosses over T1 voice communications, and deals mainly with the numbers involved.) Given that the highest frequency at which voice communications occurs is at 4000 Hz, one needs, when converting analog voice to digital data, at least double that frequency for the sample rate. This yields the number 8000. Since each T1

frame contains 1 byte of voice data for each of the 24 channels, that system needs then 8000 frames per second to maintain those 24 simultaneous voice channels. Since each frame of a T1 is 193 bits in length (24 channels X 8 bits per channel + 1 control bit = 193 bits), 8000 frames per second is multiplied by 193 bits to yield a transfer rate of 1.544 Mbit/s (8000 X 193 = 1544000).

QUESTION 149:

In a Distance Vector Protocol, "counting to infinity":

A. Calculates the time taken for a protocol to converge
B. Checks to make sure the number of route entries do not exceed a set upper limit
C. Counts the packets dropped during a routing loop
D. Sets an upper limit for hop count, so that routing loops can be broken if this limit is reached
E. Causes the router to enter an infinite loop and requires the router to be restarted

Answer: D

QUESTION 150:

What is a difference between an UNI and a NNI cell header?

A. NNI has 8 bits allocated to the VCI
B. NNI has 8 bits allocated to the VPI
C. UNI has 8 bits allocated to the VCI
D. UNI has 8 bits allocated to the VPI
E. NNI has 4 bits reserved for GFC

Answer: D

QUESTION 151:

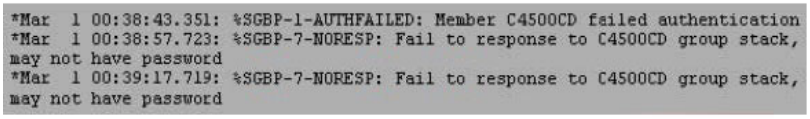
A CSU/DSU usually has two separate functions built into a single unit. Which statements are true?

A. The network is plugged into the CSU
B. The network is plugged into the DSU
C. The CPE is plugged into the CSU
D. The CPE is plugged into the DSU

Answer: C

QUESTION 152:

Exhibit



Examine the exhibit to view the configuration.
Using the shown debugging excerpt, what option best describes the problem?

A. An ISDN router has misconfigured username password pair
B. An ISDN router is missing the stack password
C. The offload server does not offload calls from ISDN routers not using PPP Multilink
D. The offload server has a bad password

Answer: B

QUESTION 153:

What establishes routing table precedence in a routing table?

A. Default metrics
B. Routing priority
C. Type of service
D. Lambic pentameter
E. Administrative distance

Answer: E

QUESTION 154:

What is NOT an ATM class of service?

A. CBR
B. VBR-t
C. ABR
D. UBR
E. CAR

Answer: E

QUESTION 155:

What network is a supernet?

A. 134.176.64.0 255.255.192.0
B. 16.0.1.0 255.255.255.0
C. 134. 176.0.16 255.255.255.240
D. 195.97.16.0 255.255.254.0

Answer: D

QUESTION 156:

A router is receiving updates for a subnet from different routing protocols. The administrator wishes to take advantage of a path via a route with a less favorable Administrative Distance. What can be done to effect this without losing any of the updates?

A. Configure a static rout with an Administrative Distance of 120
B. Use the Router Configuration mode command distance with an appropriate 'weight' for this subnet
C. Create a distribute-list to block this subnet
D. Modify the default-metric weight of the routing protocol offering the more favorable Administrative Distance

Answer: D

QUESTION 157:

An IGX-8 identifies itself as an IGX-32 on the configuration screen. What has gone wrong?

A. The NPM was originally in an IGX-32
B. Database corruption has occurred
C. The user must physically set a jumper on the SCM to correct this
D. Use the setnovram command to change the switch type

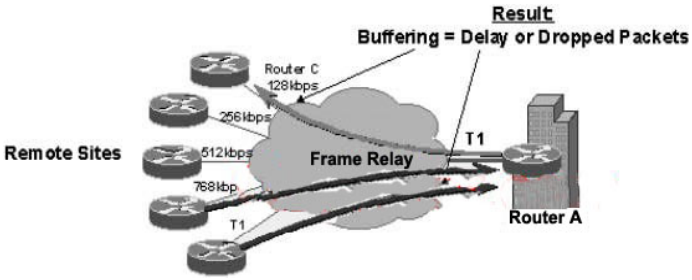
Answer: C

Explanation:
The SCM card determines whether the IGX node is an IGX 8410 (which has 8 slots), an IGX 8420 (which has 16 slots), or an IGX 8430 (which has 32 slots). Before installing cards in the node or replacing the SCM, verify that the jumpers are set properly. The two jumpers, W5 and W6, are located near the P2 connector and the strengthening bar on the SCM card. (See Figure 3-1.) Record your setting, so that you don't have to remove the SCM card later to verify the setting.
Reference:
http://www.cisco.com/univercd/cc/td/doc/product/wanbu/igx8400/9_1/install/igxicdnd.htm

---

QUESTION 158:

Exhibit



Examine the exhibit to view the topology.
What mechanism should be employed to limit the "transmit rate" from Router A to Router C?

A. Committed Access Rate
B. Traffic Shaping
C. Weighted Fair Queuing
D. Packet Classification w/Weighted Fair Queuing
E. None of the Above

Answer: B

QUESTION 159:

Which physical interfaces do the ATM Forum specification cover?

A. ATM only uses fiber and coax interfaces
B. Nx64 Kbps is defined only for E1 and not T1
C. The slowest ATM link is T1
D. ATM at 25 Mbps over UTP is specified

Answer: C

QUESTION 160:

What is the purpose of using a null timing (dejitter buffer)?

A. To hold the data temporarily so a CRC can be performed
B. To queue incoming traffic from the CPE so that the SAR function can be performed
C. To accommodate statistic collection on the interface card
D. To smooth out any artificial gaps in the traffic before delivering the bits to the CPE device

Answer: D

QUESTION 161:

Exhibit

```
10.1.0.0/24 through OSPF
10.1.0.0/16 through EIGRP
10.1.0.0/16 static
```

Examine the exhibit to view the routing table
If a router has the three routers listed, which one of the routes would forward a packet destined for 10.1.1.1?

A. 10.1.0.0/16 through EIGRP, because EIGRP routes are always preferred over OSPF or static routes
B. 10.1.0.0/16 static, because static routes are always preferred over OSPF or EIGRP routes
C. 10.1.1.0/24 through OSPF because the route with the longest prefix is always chosen
D. Whichever route appears in the routing table first
E. The router will load share between the 10.1.0.0/16 route through EIGRP and the 10.1.0.0/16 static route

Answer: C

QUESTION 162:

The output from the dspcds command indicates an FRM at revision "EJV." What does this mean?

A. Hardware revision E, firmware model J, firmware revision V
B. Hardware revision J, firmware model E, firmware revision V
C. Hardware revision V, firmware model E, firmware revision J
D. Hardware revision E, firmware model V, firmware revision J

Answer: B

QUESTION 163:

What command must be executed in order to ensure that configuration images will be saved cleanly?

A. savecnf clear *
B. loadrev 0.0 *
C. getfwrev 0.0 *
D. ciralicnf

Answer: A

QUESTION 164:

In ATM, the physical layer:

A. Is responsible for HEC Generation and Verification.

B. Has twp sublayers: Segmentation and Reasembly, and Line Coding.
C. Has two sublayers: Transmission Convergence, and Physical Media Dependent.
D. Does not have sublayers.
E. Is responsible for Time Recovery.

Answer: C
The physical layer is divided into two parts: The Physical Medium sub-layer (PMD) and
The Transmission Convergence sub-layer (TC)

QUESTION 165:

The difference between the CAS and CCS signaling modes is that for signaling:

A. CAS uses the same channel as for data, while CCS uses a separate channel.
B. CCS uses interpretive mode, while CAS uses transparent mode.
C. CAS uses a separate channel, while CCS uses the same channel as data.
D. CAS uses master/slave dissemination, while CCS uses a single master reference.

Answer: A

QUESTION 166:

Which statement is true?

A. IGX can be a feeder node.
B. AXIS can be a routing node.
C. AXIS can connect to an IGX using a BNI trunk.
D. All of the above is true.

Answer: A

QUESTION 167:

Exhibit:

Certkiller 1 and Certkiller 2 are on Ethernet LANs in different buildings. A serial line is installed between two Cisco routers using Cisco HDLC serial line encapsulation. Routers A and B are configured to route IP traffic. Certkiller 1 sends a packet to Certkiller 2.
What is the destination MAC address of the packet on Certkiller 's 1 Ethernet?

A. Certkiller 1
B. Certkiller 2
C. Router A

D. Router B
E. The broadcast address

Answer: C

QUESTION 168:

The TCP PUSH flag indicates:

A. The data in the TCP receive buffer should be sent to the application listening to this TCP connection without waiting for further data.
B. Any data buffered by routers between the source and destination for this connection should be sent immediately.
C. The sender should make certain its send buffer is pushed onto the wire.
D. This session is about to end.

Answer: A

QUESTION 169:

What statement is true concerning Frame Relay UNI LMI?

A. LMI is not carried across the network and has local significance only.
B. LMI is transmitted across the network using high-priority packets.
C. LMI does not use a DLCI.
D. LMI exists on all Frame Relay connections.

Answer: A

QUESTION 170:

Which statements are true?

A. The control-vc default VCI is 34.
B. For VP Tunnel interfaces the default control-vc VPI/VCI is 0/32.
C. On ATM MPLS the two peers negotiate an allocation scheme; the negotiated scheme will be unidirectional only if both peers are unidirectional.
D. On a bidirectional allocation scheme, one peer will allocate ODD VCIs and the other EVEN VCIs.
E. Vc-merge is negotiated network wide. All LSRs need to support vc-merge in order to enable it.

Answer: D

Alloc Scheme	Indicates the applicable allocation scheme, as follows: ▪ UNIDIR—Unidirectional capability indicates that the peer can, within a single VPI, support binding of the same VCI to different prefixes on different directions of the link. ▪ BIDIR—Bidirectional capability indicates that within a single VPI, a single VCI can appear in one binding only. In this case, one peer allocates bindings in the even VCI space, and the other in the odd VCI space. The system with the lower LDP identifier assigns even-numbered VCIs. The negotiated allocation scheme is UNIDIR, only if, both peers have UNIDIR capability. Otherwise, the allocation scheme is BIDIR. **Note** These definitions for *unidirectional* and *bidirectional* are consistent with normal ATM usage of the terms; however, they are exactly opposite from the definitions for them in the IETF LDP specification.

QUESTION 171:

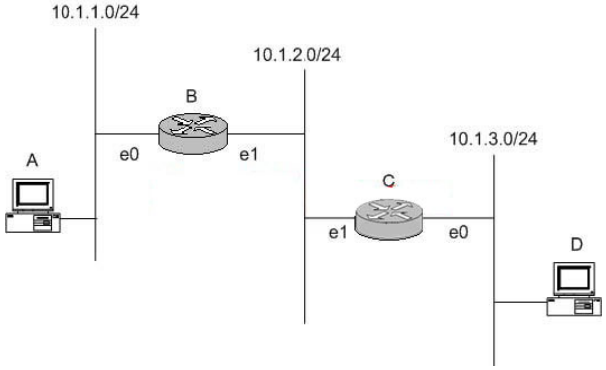
m-law and A-law coding are designed to:

A. Help lower the signal-to-noise ratio when coding from analog to digital.
B. Provide a standard method of representing voice samples.
C. Use more bits for smaller amplitude signals.
D. All of the above.

Answer: D

QUESTION 172:

Exhibit:



In this network, Host A is trying to reach Host D. There is no routing protocol running, but Router B and C have the following static routes configured:
Router B: ip route 10.1.3.0 255.255.255.0 ethernet 1
Router C: ip route 10.1.1.0 255.255.255.0 ethernet 1

A. This will not work because Router B has no idea of how to forward traffic to the 10.1.3.0/24 network.
B. This will work because Router B will recognize that Router C is on the 10.1.2.0/24 network through a router discovery protocol and will forward traffic for 10.1.3.0/24 to Router C.
C. This will not work because a broadcast interface in a static route command cannot be specified.
D. This will work because Router B will ARP for Host D's IP address on the 10.1.2.0/24 network and Router C will answer.

Answer: B

QUESTION 173:

The DE bit is used for what purpose?

A. To identify congestion in the network.
B. To inform the CPE that frames have been discarded because of congestion.
C. To identify a frame that should be transmitted through the network on a best effort case.
D. All of the above.

Answer: C
Discard eligibility (DE) is set by the DTE device, such as a router, to indicate that the marked frame is of lesser importance relative to other frames being transmitted. Frames that are marked as "discard eligible" should be discarded before other frames in a congested network. This allows for a basic prioritization mechanism in Frame Relay networks.

QUESTION 174:

What situation would never cause an FRP port communication failure by itself?

A. Disconnecting or turning off the device connected to a Frame Relay port.
B. Setting the port to transmit LMI differently from the connected device.
C. Setting the port to not use LMI.
D. Setting the port to use LMI with a non-LMI device.

Answer: C

QUESTION 175:

ITU-T I.371 'Statistical Bit Rate (SBR)' ATM Transfer Capability is equivalent to what ATM Forum TM4.0 ATM Service Category?

A. Statistical Multiplexing
B. Available Bit Rate
C. Statistical Reverse

D. Real Time Variable Bit Rate
E. Non Real Time Variable Bit Rate
F. Any Bit Rate

Answer: E

Table ATM Forum Traffic Services

ATM Forum Traffic Management 4.0 ATM Service Category	ITU-T I.371 ATM Transfer Capability	Typical Use
Constant Bit Rate (CBR)	Deterministic Bit Rate (DBR)	Real-time, QoS guarantees
Real-Time Variable Bit Rate (rt-VBR)	(for further study)	Statistical mux, real tme
Non-Real-Time Variable Bit Rate (nrt-VBR)	Statistical Bit Rate (SBR)	Statistical mux
Available Bit Rate (ABR)	Available Bit Rate (ABR)	Resource exploitations, feedback control
Unspecified Bit Rate (UBR)	(No equivalent)	Best effort, no guarantees
(No equivalent)	ATM Block Transfer (ABT)	Burst level feedback control

---

QUESTION 176:

The purpose of Administrative Distance, as used by Cisco routers, is:

A. To choose between routes from different routing protocols when receiving updates for the same network.
B. To identify which routing protocol forwarded the update.
C. To define the distance to the destination used in deciding the best path.
D. To be used only for administrative purposes.

Answer: A

Explanation:
Note: Answers to the unanswered questions will be provided shortly. First customer, if any, faster than us in providing answers will receive credit for each answer provided.

QUESTION 177:

What is the total length of a Frame Relay header without extended addressing?

A. 4 bytes
B. 2 bytes
C. 3 bytes
D. 5 bytes

Answer: B

QUESTION 178:

What is true concerning X.21 control leads?

A. The DTE controls the I lead.
B. The DCE controls the C lead.
C. The DCE controls the I lead.
D. The DTE controls the RTS lead.

Answer: C

QUESTION 179:

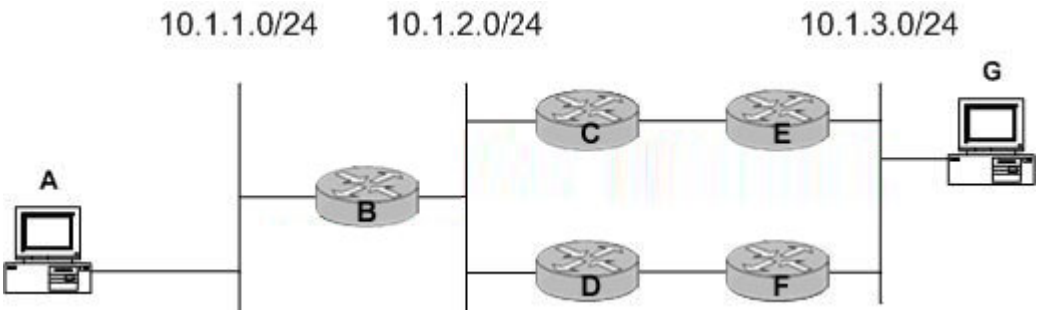
In standard ATM ABR network congestion control, the ICR is:

A. The internal cell rate the switch is allowing the CPE to send
B. The rate at which the source should send initially or after an idle period
C. The amount at which the source increments its cell rate in case no congestion is experienced
D. None of the above

Answer: B

QUESTION 180:

Click the Exhibit button to view the topology. In this diagram, Host G is attempting to send a packet to Host A through Router E. All routers are running EIGRP, and Router E has installed the following route in its routing table: 10.1.1.0/24 via router F What will occur when Router E receives packets from Host G that are destined for Host A?
Exhibit:



A. Router E will forward the traffic to Router F.
B. This is a routing loop; E will forward the traffic to F, and F will send the traffic back to E.

C. E can not have a route to 10.1.1.0/24 through F; so it will always choose the path through C.
D. Router E will forward the traffic to Router F and send an ICMP redirect to Host G.
E. Router E will forward the traffic to Router F and send a 'host not reachable this direction' ICMP packet to Host G.

Answer: D

QUESTION 181:

When a TCP segment is lost, the TCP sender reacts by: (multiple answer)

A. Resetting the session
B. Increasing the window size
C. Resending the segment
D. Increasing the amount of time it will wait when timing out the next segment that is sent

Answer: C,D

QUESTION 182:

What Q.931 message cannot be received in response to sending a Q.931 SETUP message?

A. Progress
B. USER Information
C. Call Proceeding
D. Alerting
E. Connect

Answer: B

QUESTION 183:

MPLS traffic engineering routing information is carried by:

A. OSPF Opaque LSAs or IS-IS TLVs
B. MP-BGP
C. RTP or RTCP packets
D. BGP MEDs

Answer: A

QUESTION 184:

What is the CIR on an IGX used for?

A. Both B and C
B. To set the BECN bit for the traffic that exceeds the CIR
C. To calculate the required load on the trunks
D. Both A and B
E. To report PVC's committed information rate to the CPE

Answer: E

QUESTION 185:

The load model:

A. Does not change when connections are deleted but changes when ports are downed
B. Is a dynamic measurement of trunk loading that is based on a trunk's current utilization
C. Can be viewed using the dsptrkutl command
D. Is a static measurement of loading on trunks based on the minimum packets per second
E. Is a static measurement of loading on trunks based on the PCR times percent util

Answer: D

QUESTION 186:

With VAD set, a utilization rate of 40%, and 16K ADPCM set, how many voice channels can be routed on a T1 trunk?

A. 96
B. More than 200
C. 48
D. 24

Answer: B

QUESTION 187:

Regarding AAL5:

A. An AAL3/4 cell has more payload per cell than an AAL5 cell.
B. The AAL5 Cell has 47 bytes of payload. An extra byte is used to determine the EOF.
C. The trailer in an AAL5 frame has a 4 byte CRC.
D. An AAL5 Frame is padded to nx48 bytes to ease SAR.
E. An AAL5 Frame has a trailer and a header .

Answer: C,D

QUESTION 188:

The IMA Control Protocol (ICP) cells:

A. Uses RM cells
B. Are only sent over the major IMA link, which is the first Link added to the IMA group
C. Uses OAM cells
D. Allows the receiver to adjust to differential link delays
E. Defines the boundary of IMA frames

Answer: C,D,E

QUESTION 189:

What do the V-bits represent in ATM Label TLVs?

A. V stands for Varification bits; they represent a varified label.
B. If either the VPI or VCI or both are significant
C. The additional security bits required for VPN SC access
D. Used to transmit an alert to the receiving LSR of a "Loop Detected"
E. MPLS domain number

Answer: B

QUESTION 190:

In PNNI networks, AESA has the following general format:

A. 7-byte network prefix plus a 12-byte End System Identifier plus 1 byte Selector.
B. 13-byte network prefix, a 6-byte End System Identifier plus 1 byte Selector
C. 12-byte network prefix plus a 7-byte End System Identifier plus 1 byte Selector
D. 11-byte network prefix plus an 8-byte End System Identifier plus 1 byte Selector

Answer: B

QUESTION 191:

When using Frame Relay service interworking, what is true when building a connection?

A. One side expects Frame Relay frames and the other side expects Frame Relay frames segmented into ATM cells (FR-SSCS).
B. There is no such thing as Frame Relay service interworking.

C. Both sides use native Frame Relay.
D. One side uses native Frame Relay (IETF) and the far side uses native ATM with SNAP or NLPID encapsulation.

Answer: D

QUESTION 192:

What ATM cell header contains a generic flow control (GFC) field?

A. The NNI ATM cell
B. None of the above
C. Both UNI and NNI
D. The UNI ATM cell

Answer: D

QUESTION 193:

A Peer group leader is chosen by:

A. All nodes in the peer group
B. The highest node ID as a tiebreaker
C. Dynamic process within a peer group
D. Selecting the node that is physically connected to a different peer group
E. The lowest node ID as a tiebreaker

Answer: A,B,C

QUESTION 194:

There is a 72kbps connection, with normal EIA and no DFM, packet generation delay = 3 ms, and the distance from SJ to NY is 2500 miles. For a terrestrial packet line, the transmission delay is approximately .01 ms for every mile. The null time delay buffer is 2.5 ms. What type of connection is this?

A. Frame Relay connection
B. Time-stamped data connection
C. Frame forwarding connection
D. C and D
E. Non-time-stamped data connection

Answer: E

QUESTION 195:

In an ATM SVC:

A. The cells from each session will follow different routes due to load balancing.
B. The WAN Manager will dynamically route each cell over the current best path.
C. The cells for one session will typically route dynamically over different paths following the path with least current delay.
D. The cells for one session will randomly follow different paths.
E. The cells for one session will typically follow the same path in the network.

Answer: E

QUESTION 196:

What is the overhead required to encapsulate a 100-byte Frame Relay frame into FastPackets?

A. 44%
B. One sixth (about 17%)
C. 2.5%
D. None of the above
E. None

Answer: D

QUESTION 197:

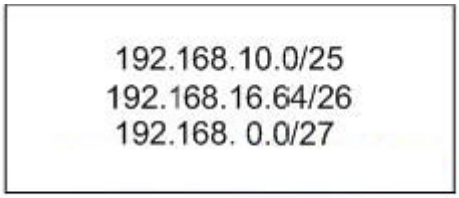
What is not true concerning ATM to FR Service Interworking?

A. The VPI/VCI is mapped to the FR DLCI.
B. The IWF supports the mode of mapping FR DE to the CLP of each ATM cell belonging to that frame.
C. The IWF supports the mode of mapping FR FECN to the EFCI of each ATM cell belonging to that frame.
D. The FR Command/Response fields are mapped to the corresponding ATM PTI fields.
E. On the egress towards the FR CPE, the DE is set ONLY if all cells belonging to that frame are set.

Answer: D

QUESTION 198:

Which addresses below are appropriate supernets to contain the addresses shown in the exhibit? (multiple answer)
Exhibit:



A. 192.168.0.0/16
B. 192.168.32.0/19
C. 192.168.1.0/24
D. 192.168.0.0/19

Answer: A,D

QUESTION 199:

PNNI node ID consists of:

A. 22 bytes
B. 19 bytes
C. 24 bytes
D. 48 bytes

Answer: A

QUESTION 200:

An inverse ARP is sent:

A. To map an IP address to a MAC address
B. To map a MAC address to a hostname
C. To map an IP address to a hostname
D. To map a hostname to an IP address
E. To map an MAC address to an IP address

Answer: E

QUESTION 201:

What does NOT contribute to lowered throughput in practical IP over ATM networks?

A. SAR delay
B. ILMI overhead
C. Cell padding

D. Cell tax

Answer: B

QUESTION 202:

The CLP can be set to 1:

A. By the Network Management Station
B. By the switch to inform the ATM network that this cell is not conforming and MUST be discarded.
C. By the switch to inform the end user that it is sending too much data.
D. By the switch to inform the ATM network that this cell is not conforming and MAY be discarded.
E. By the CPE to tell the switch that this cell has lower priority.

Answer: D,E

QUESTION 203:

In AAL1:

A. There is a 1 bit CS indicator, a 3 bit Sequence Count, and a 4 bit Sequence Number Protection.
B. There is an extra byte for CRC to protect the payload.
C. There are no extra fields.
D. There is an 8 bit Clocking Information Field.

Answer: A

QUESTION 204:

On each LAN segment with multiple bridges running spanning tree, the bridge closest to the:

A. Designated bridge is selected as root bridge
B. Root bridge is not selected as designated bridge
C. Designated bridge is not selected as root bridge
D. Root bridge is selected as designated bridge

Answer: D