CCNA Interview Questions Page 1

1 As system administrator, you type "debug ipx sap" and receive the following lines as part of the IOS response: type 0x4, "HELLO2", 199.0002.0003.0006 (451), 2 hops type 0x4, "HELLO1", 199.0002.0003.0008 (451), 2 hops What does "0x4" signify?

- A. That is a Get Nearest Server response.

- B. That it is a General query.

- C. That it is a General response.

- D. That it is a Get Nearest Server request.

Ans A

2 To monitor IP igrp traffic, you can use "debug IP igrp transaction" or "debug IP igrp events". How do you display information about IPX routing update packets?

- A. debug routing

- B. debug ipx transaction

- C. debug ipx routing activity

- D. debug ipx events

Ans: C

3 To monitor ipx traffic on a network, what command would you use?

- A. debug ipx transaction

- B. show ipx traffic

- C. show ipx events

- D. display ipx traffic

Ans B

4 What command would you use to find out the names of Novell servers on a network?

- A. show ipx servers

- B. show ipx hosts

- C. show ipx sap

- D. show ipx nodes.

Ans A

5 The "ipx delay number" command will allow an administrator to change the default settings. What are the default settings?

- A. For LAN interfaces, one tick; for WAN interfaces, six ticks

- B. For LAN interfaces, six ticks; for WAN interfaces, one tick

- C. For LAN interfaces, zero ticks; for WAN interfaces, five ticks

- D. For LAN interfaces, five ticks; for WAN interfaces, zero Ticks

Ans A

The default is--for LAN interfaces, one tick; for WAN interfaces, six ticks

6 As a system administrator, you need to set up one Ethernet interface on the Cisco router to allow for both sap and Novell-ether encapsulations. Which set of commands will accomplish this?

- A. interface ethernet 0.1 ipx encapsulation Novell-ether ipx network 9e interface ethernet 0.2 ipx network 6c

- B. interface ethernet 0 ipx encapsulation Novell-ether ipx network 9e interface ethernet 0 ipx encapsulation sap ipx network 6c

- C. interface ethernet 0.1 ipx encapsulation Novell-ether interface ethernet 0.2 ipx encapsulation sap

- D. interface ethernet 0.1ipx encapsulation Novell-ether ipx network 9e interface ethernet 0.2 ipx encapsulation sap ipx network 6c

Ans D

The following commands setup the subinterfaces to allow for two types of encapsulation: interface ethernet 0.1 ipx encapsulation Novell-ether ipx network 9e interface ethernet 0.2 ipx encapsulation sap ipx network 6c

7 What does the "IPX maximum-paths 2" command accomplish?

- A. It enables load sharing on 2 paths if the paths are equal metric paths.

- B. It sets up routing to go to network 2.

- C. It is the default for Cisco IPX load sharing.

- D. It enables load sharing on 2 paths if the paths are unequal metric paths.

Ans A

It enables load sharing on 2 paths if the paths are equal metric paths. The default is 1 path and the maximum is 512 paths.

8 You want to enable both arpa and snap encapsulation on one router interface. How do you do this?

- A. The interface can handle multiple encapsulation types with no extra configuration.

- B. Assign two network numbers, one for each encapsulation type.

- C. Enable Novell-ether to run multiple encapsulation types.

- D. Both arpa and snap are enabled by default so you don't have to configure anything.

Ans B

To assign multiple network numbers, you usually use subinterfaces. A sample configuration follows: ipx ethernet 0.1 ipx encapsulation novell-ether ipx network 9e interface ethernet 0.2 ipx encapsulation sap ipx network 6c

By default, Cisco routers forward GNS SAPs to remote networks.

- A. False

- B. True

Ans A

GNS is Novell's protocol to Get Nearest Server. If there is a server on the local network, that server will respond. If there isn't, the Cisco router has to be configured to forward the GNS SAP.

9 To prevent Service Advertisements (SAPs) from flooding a network, Cisco routers do not forward them. How are services advertised to other networks?

- A. Each router builds its own SAP table and forwards that every 60 seconds.

- B. Each router assigns a service number and broadcasts that.

- C. SAPs aren't necessary with Cisco routers.

- D. Cisco routers filter out all SAPs.

Ans: A

Cisco routers build SAP tables and forward the table every 60 seconds. All SAPs can't be filtered even with 4.x since NDS and time synchronization uses SAPs.

10 Novell's implementation of RIP updates routing tables every _____ seconds.

- A. 60

- B. 90

- C. 10

- D. 30

Ans A

Novell's RIP updates routing tables every 60 seconds, Apple's RTMP is every 10 seconds, routers ARP every 60 seconds, IGRP signal every 90 seconds, and Banyan VINES signals every 90 seconds.

11 In Novell's use of RIP, there are two metrics used to make routing decisions. Select the two metrics.

A. Ticks.

B. Hops

C. Loops

D. Counts

Ans:A &B

It first uses ticks (which is about 1/18 sec.); if there is a tie, it uses hops; if hops are equal, then it uses an administratively assigned tiebreaker.

12 What is the Cisco name for the encapsulation type used on a serial interface?

A. HDLC

B. SDLC

C. SAP

D. SNAP

Ans A

13 "arpa" is used by the Cisco IOS for which encapsulation types?

A. Ethernet_II

B. Ethernet_802.3

C. Ethernet_802.2

D. Ethernet_SNAP

Ans A

Novell's IPX and Cisco's IOS name their protocols differently. Cisco uses sap for Ethernet_802.2, Token-Ring, and Novell's FDDI_802.2. Cisco uses snap for Ethernet_SNAP, Token-Ring_SNAP, and FDDI_SNAP. Cisco uses arpa for Ethernet_II and, finally the default is Novell-ether for Novell's Ethernet_802.3.

14 "snap" is used by the Cisco IOS for which encapsulation types?

A. Ethernet_SNAP

B. Token-Ring_SNAP

C. FDDI_SNAP

D. Novell-SNAP

E. Novell-FDDI.

Ans: A,B &C Novell's IPX and Cisco's IOS name their protocols differently. Cisco uses sap for Ethernet_802.2, Token-Ring, and Novell's FDDI_802.2. Cisco uses snap for Ethernet_SNAP, Token-Ring_SNAP, and FDDI_SNAP. Cisco uses arpa for Ethernet_II and, finally the default is Novell-ether for Novell's Ethernet_802.3.

15"sap" is used by the Cisco IOS for which encapsulation types?

A. Ethernet_802.2

B. Token-Ring

C. FDDI_SNAP

D. Ethernet_802.3

E. FDDI_802.2

Ans A,B &E

Novell's IPX and Cisco's IOS name their protocols differently. Cisco uses sap for Ethernet_802.2, Token-Ring, and Novell's FDDI_802.2. Cisco uses snap for Ethernet_SNAP, Token-Ring_SNAP, and FDDI_SNAP. Cisco uses arpa for Ethernet_II

and, finally the default is Novell-ether for Novell's Ethernet_802.3.

16 Which type of Ethernet framing is used for TCP/IP and AppleTalk?

A. Ethernet 802.3

B. Ethernet 802.2

C. Ethernet II

D. Ethernet SNAP

Ans D

Ethernet 802.3 is used with NetWare versions 2 through 3.11, Ethernet 802.2 is used with NetWare 3.12 and later plus OSI routing, Ethernet II is used with TCP/IP and DECnet, and Ethernet SNAP is used with TCP/IP and AppleTalk.

17 Which type of Ethernet framing is used for TCP/IP and DECnet?

A. Ethernet 802.3

B. Ethernet 802.2

C. Ethernet II

D. Ethernet SNAP

Ans: C

Ethernet 802.3 is used with NetWare versions 2 through 3.11, Ethernet 802.2 is used with NetWare 3.12 and later plus OSI routing, Ethernet II is used with TCP/IP and DECnet, and Ethernet SNAP is used with TCP/IP and AppleTalk.

18 You are a system administrator on a NetWare network, you are running NetWare 4.11 and you cannot communicate with your router. What is the likely problem?

A. NetWare 4.11 defaults to 802.2 encapsulation.

B. NetWare 4.11 defaults to 802.3 encapsulation

C. Cisco routers only work with NetWare 3.11.

D. NetWare 3.11 defaults to 802.2 encapsulation.

Ans A

The default encapsulation on Cisco routers is Novell Ethernet_802.3 and NetWare 3.12 and later defaults to 802.2 encapsulation, 3.11 and earlier defaults to 802.3.

19 NetWare IPX addressing uses a network number and a node number. Which statements are true?

A. The network address is administratively assigned and can be up to 16 hexadecimal digits long.

B. The node address is always administratively assigned.

C. The node address is usually the MAC address.

D. If the MAC address is used as the node address, then IPX eliminates the use of ARP.

Ans A, C &D

The network address can be up to 16 hexadecimal digits in length. The node number is 12 hexadecimal digits. The node address is usually the MAC address. An example IPX address is 4a1d.0000.0c56.de33. The network part is 4a1d. The node part is 0000.0c56.de33. The network number is assigned by the system administrator of the Novell network.

20 Which NetWare protocol works on layer 3--network layer—of the OSI model?

A. IPX

B. NCP

C. SPX

D. NetBIOS

Ans A

IPX (Internetwork Packet Exchange) is a NetWare network layer 3 protocol used for transferring information on LANs.

21 Which NetWare protocol provides link-state routing?

- A. NLSP

- B. RIP

- C. SAP

- D. NCP

Ans: A

NetWare Link Services Protocol (NLSP) provides link-state routing. SAP (Service Advertisement Protocol) advertises network services. NCP (NetWare Core Protocol) provides client-to-server connections and applications. RIP is a distance vector routing protocol.

22 As a system administrator, you want to debug igrp but are worried that the "debug IP igrp transaction" command will flood the console. What is the command that you should use?

- A. debug IP igrp event

- B. debug IP igrp-events

- C. debug IP igrp summary

- D. debug IP igrp events

Ans D

The "debug IP igrp events" is used to only display a summary of IGRP routing information. You can append an IP address onto either command to see only the IGRP updates from a neighbor.

23 What does the following series of commands accomplish? router igrp 71 network 10.0.0.0 router igrp 109 network 172.68.7.0

- A. It isolates networks 10.0.0.0 and 172.68.7.0.

- B. It loads igrp for networks 109 and 71.

- C. It disables RIP.

- D. It disables all routing protocols.

Ans A

It isolates network 10.0.0.0 and 172.68.7.0 and associates autonomous systems 109 and 71 with IGRP. IGRP does not disable RIP, both can be used at the same time.

24 In the command "router igrp 109" what does 109 signify?

- A. an autonomous system

- B. any network number which the router is attached to

- C. the allowable length of the routing table

- D. the network socket number

Ans A

The Cisco IOS global configuration command "router igrp xxx" is used to configure the Interior Gateway Routing Protocol. In this case, the 109 is called the process-id , which can also be used for an autonomous system number.

25 IGRP supports a feature that allows traffic to be distributed among up to 6 (4

default) paths to provide greater overall throughput and reliability. What is this called?

- A. unequal-cost load balancing

- B. equal-cost load balancing

- C. proportionate load balancing

- D. low cost load balancing

Ans A

An unequal-cost load balancing is used to provide alternate paths for data distribution on an internetwork. Cisco developed this method to use unused or under utilized links to increase bandwidth and network availability.

26 IGRP uses flash updates, poison reverse updates, holddown times, and split horizon. How often does it broadcast its routing table updates?

- A. 90 seconds

- B. 10 seconds

- C. 30 seconds

- D. 45 seconds

Ans A

27 The command "show IP protocol" displays which information?

- A. routing timers

- B. network information

- C. contents of the IP routing table

- D. information about all known network and subnetworks

Ans A & B

"show IP protocol" displays routing timers and network information. "show IP route" displays the routing table with information about all known networks and subnetworks.

28 When using RIP, routing updates are broadcast every ____ seconds.

- A. 30

- B. 10

- C. 60

- D. 90

Ans: A

Novell's RIP updates routing tables every 60 seconds, Apple's RTMP is every 10 seconds, routers ARP every 60 seconds, DECnet hosts and IGRP signal every 15 seconds, and Banyan VINES signals every 90 seconds.

29 An autonomous system can only exist if all routers in that system meet which criteria?

- A. interconnected

- B. run the same routing protocol

- C. assigned same autonomous system number

- D. run IGRP only

- E. run RIP only

Ans A,B &C

An autonomous system is a set of routers and networks under the same administration. Each router must be interconnected, run the same routing protocol, and assigned the same autonomous system number. The network Information Center (NIC) assigns a unique autonomous system number to enterprises.

30 A default route is analogous to a _____.

- A. default gateway

- B. static route

- C. dynamic route

- D. one-way route

Ans: A

A default route is analogous to a default gateway. It is used to reduce the length of routing tables and to provide complete routing capabilities when a router might not know the routes to all other networks.

31 Routers can learn about destinations through static routes, default, or dynamic routing. By default, a router will use information derived from _____.

- A. IGRP

- B. RIP

- C. IP

- D. TCP

Ans A

The quality of information is rated:

- Connected interface 0

- Static route 1

- IGRP 100

- RIP 120

- Unknown 255

The lower the value, the more reliable the source with 255 signifying information that the router will ignore. So, the router will use IGRP, rated at 100, before RIP, rated at 120.

32 You are logged into a router, what command would show you the IP addresses of routers connected to you?

- A. show cdp neighbors detail

- B. show run

- C. show neighbors

- D. show cdp

Ans A

33 As a system administrator, you perform an extended ping at the privileged EXEC prompt. As part of the display, you see "Set DF bit in IP header? [yes] :" What would happen if you answered no at the prompt.

- A. This lets the router fragment the packet.

- B. It tells the router not to fragment the packet.

- C. This lets the router direct the packet to the destination it finds in its routing table.

- D. It tell the router to send the packet to the next hop router

Ans A

"Set DF bit in IP header?" is a response to an extended ping at the router. If you answer

yes (the default) the router will not fragment the packet. If you answer no, the router will fragment the packet.

34 You have typed "ping" 172.16.101.1 and get the following display: Type escape sequence to abort. Sending 5, 100-byte ICMP Echoes to 172.16.101.1, timeout is 2 seconds:

.!!!!

What does the "." signify?

- A. That one message timed out.

- B. That all messages were successful.

- C. That one message was successful.

- D. That one message completed in under the allotted timeframe.

Ans A

The possible responses from the ping command are: ! Successful receipt of an echo reply. Timed out waiting for a reply U Destination unreachable C Congestion-experienced packet I Ping interrupted ? Packet type unknown & Packet TTL exceeded

35 Which command, that is used to test address configuration, uses Time-To-Live (TTL) values to generate messages from each router.

- A. trace

- B. ping

- C. telnet

- D. bootp

Ans: A

The Cisco IOS EXEC command "trace [protocol] [destination]" is used to discover routes that packets will travel to their destination hosts. Trace uses TTL (Time to Live) values to report destination route information.

36 What does the command "IP name-server 255.255.255.255" accomplish?

- A. It sets the domain name lookup to be a local broadcast.

- B. This is an illegal command.

- C. It disables domain name lookup.

- D. The command is now defunct and has been replaced by "IP server-name ip any"

Ans A

By default DNS is enabled on a router with a server address of 255.255.255.255, which provides for a local broadcast.

37 As a system administrator, you need to provide your routers with a Domain Name System (DNS) server. How many DNS servers can you specify with one command?

- A. 6
- B. 1
- C. 2
- D. 4

Ans A

You can only specify six name servers in one command. The syntax is "IP name-server server-address1 [[server-address2]...server-address6]. You must also enable

DNS.

38 How would you configure one host name that points to two IP addresses?

- A. IP host jacob 1.0.0.5 2.0.0.8
- B. IP jacob 1.0.0.5 2.0.0.8
- C. IP host jacob 1.0.0.5
- D. IP host duplicate "all"

Ans A

The correct syntax is IP host name [TCP-port-number] address [address]..... So, "IP host P1R1 1.0.0.5 2.0.0.8" is the correct choice. "IP host jacob 1.0.0.5" only points the host name jacob to one IP address--1.0.0.5.

39 The following selections show the command prompt and the configuration of the IP network mask. Which two are correct?

- A. Router#term IP netmask-format { bitcount | decimal | hexadecimal }
- B. Router(config-if)#IP netmask-format { bitcount | decimal | hexadecimal }
- C. Router(config-if)#netmask-format { bitcount | decimal | hexadecimal }

- D. Router#ip netmask-format { bitcount | decimal | hexadecimal }

Ans A & B

Router#term IP netmask-format { bitcount | decimal | hexadecimal } and Router(config-if)#IP netmask-format { bitcount | decimal | hexadecimal } are correct. You can configure the mask for the current session and you can configure it for a specific line.

40 When configuring the subnet mask for an IP address, which formats can be used?

- A. dotted-decimal.

- B. Hexadecimal

- C. Bit-count

- D. Octal

- E. Binary

Ans A, B &C**CCNA Interview Questions Page 5**

41 You are given the following address: 153.50.6.27/25. Determine the subnet mask, address class, subnet address, and broadcast address.
A. 255.255.255.128, B,153.50.6.0, 153.50.6.127
B. 255.255.255.128, C,153.50.6.0, 153.50.6.127
C. 255.255.255.128, C,153.50.6.127, 153.50.6.0
D. 255.255.255.224, C,153.50.6.0, 153.50.6.127
Ans A

42 You are given the following address: 128.16.32.13/30. Determine the subnet mask, address class, subnet address,
and broadcast address.
A. 255.255.255.252, B,128.16.32.12, 128.16.32.15
B. 255.255.255.252, C,128.16.32.12, 128.16.32.15
C. 255.255.255.252, B,128.16.32.15, 128.16.32.12
D. 255.255.255.248, B,128.16.32.12, 128.16.32.15
Ans A

43 You are given the following address: 15.16.193.6/21. Determine the subnet mask, address class, subnet address,
and broadcast address.
A. 255.255.248.0, A, 15.16.192.0, 15.16.199.255
B. 255.255.248.0, B, 15.16.192.0, 15.16.199.255
C. 255.255.248.0, A, 15.16.199.255, 14.15.192.0
D. 255.255.242.0, A, 15.16.192.0, 15.16.199.255
Ans A

44 You have an IP host address of 201.222.5.121 and a subnet mask of 255.255.255.248.

What is the broadcast address?
A. 201.222.5.127
B. 201.222.5.120
C. 201.222.5.121
D. 201.222.5.122

Ans A
The easiest way to calculate this is to subtract 255.255.255.248 (subnet mask) from 255.255.255.255, this
equals 7. Convert the address 201.222.5.121 to binary--11001001 11011110 00000101 01111001. Convert the
mask 255.255.255.248 to binary--11111111 11111111 11111111 11111000. AND them together to get: 11001001 11011110
00000101 01111000 or 201.222.5.120. 201.222.5.120 is the subnet address, add 7 to this address for 201.222.5.127 or
the broadcast address. 201.222.5.121 through 201.222.5.126 are the valid host addresses.

45 Given the address 172.16.2.120 and the subnet mask of 255.255.255.0. How many hosts are available?
A. 254
B. 510
C. 126
D. 16,372

Ans A
172.16.2 120 is a standard Class B address with a subnet mask that allows 254 hosts. You are a network administrator and have been assigned the IP address of 201.222.5.0. You need to have 20 subnets with 5 hosts per subnet. The subnet mask is 255.255.255.248.

46 Which addresses are valid host addresses?
A. 201.222.5.17
B. 201.222.5.18
C. 201.222.5.16
D. 201.222.5.19
E. 201.222.5.31

Ans A,B & D
Subnet addresses in this situation are all in multiples of 8. In this example, 201.222.5.16 is the subnet, 201.22.5.31 is the broadcast address. The rest are valid host IDs on subnet 201.222.5.16.

47 You are a network administrator and have been assigned the IP address of 201.222.5.0. You need to have 20 subnets with
5 hosts per subnet. What subnet mask will you use?
A. 255.255.255.248
B. 255.255.255.128
C. 255.255.255.192
D. 255.255.255.240

Ans A
By borrowing 5 bits from the last octet, you can. have 30 subnets. If you borrowed only 4 bits you could only have 14 subnets. The formula is (2 to the power of n)-2. By borrowing 4 bits, you have (2x2x2x2)-2=14. By borrowing 5 bits, you have (2x2x2x2x2)-2=30. To get 20 subnets, you would need to borrow 5 bits so the subnet mask would be 255.255.255.248.

48 You are given the IP address of 172.16.2.160 with a subnet mask of 255.255.0.0. What is

the network address in binary?
A. 10101100 00010000
B. 00000010 10100000
C. 10101100 00000000
D. 11100000 11110000

Ans: A
To find the network address, convert the IP address to binary--10101100 000100000 00000010
10100000--then ANDed it with the subnet mask--11111111 11111111 00000000 00000000. The
rest is 10101100 00010000 00000000 00000000, which is 172.16.0.0 in decimal.
The first octet rule states that the class of an address can be determined by the numerical value
of the first octet.

49 Which addresses are INCORRECTLY paired with their class?
A. 128 to 191, Class B
B. 192 to 223 Class B
C. 128 to 191, Class C
D. 192 to 223, Class C

Ans B & C
Address classes are: 1 to 126, Class A; 128 to 191, Class B, 192 to 223, Class C; 224 to 239,
Class D; and
240 to 255, Class E. The first octet rule states that the class of an address can be determined by
the numerical value of the first octet.

50 Which addresses are INCORRECTLY paired with their class?
A. 1 to 126, Class A
B. 128 to 191, Class A
C. 1 to 126, Class B
D. 128 to 191, Class B

Ans:B & C.
Address classes are: 1 to 126, Class A; 128 to 191, Class B, 192 to 223, Class C; 224 to 239,
Class D; and
240 to 255, Class E. The first octet rule states that the class of an address can be determined by
the numerical value of the first octet

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51 Which addresses are INCORRECTLY paired with their class?
A. 240 - 255, Class D
B. 240 - 255, Class E
C. 224 - 239, Class D
D. 224 - 239, Class E

Ans A & D
Address classes are: 1 to 126, Class A; 128 to 191, Class B, 192 to 223, Class C; 224 to 239,
Class D; and 240 to 255, Class E.

52 Which IP Address Class is INCORRECTLY paired with its range of network numbers?
A. Class A addresses include 192.0.0.0 through 223.255.255.0
B. Class A addresses include 1.0.0.0 through 126.0.0.0
C. Class B addresses include 128.0.0.0 through 191.255.0.0
D. Class C addresses include 192.0.0.0 through 223.255.255.0

E. Class D addresses include 224.0.0.0 through 239.255.255.0

Ans A
Class A addresses include 1.0.0.0 through 126.0.0.0
Class B addresses include 128.0.0.0 through 191.255.0.0
Class C addresses include 192.0.0.0 through 223.255.255.0
Class D addresses include 224.0.0.0 through 239.255.255.0

53 Which IP Address Class can have 16 million subnets but support 254 hosts?
A. Class C
B. Class A
C. Class B
D. Class D

Ans A
Possible Subnets IP Address Class Possible Hosts
254 A 16M.
64K B 64K
16M C 254

54 Which IP Address Class can have 64,000 subnets with 64,000 hosts per subnet?
A. Class B
B. Class A
C. Class C
D. Class D

Ans A
IP Address Class Possible Subnets Possible Hosts
254 A 16M
64K B 64K
16M C 254

55 There are two processes to pair MAC address with IP addresses. Which process finds an IP address from a MAC address?
A. RARP
B. ARP
C. RIP
D. IGRP

Ans A
ARP (Address Resolution Protocol) maps an IP address to the MAC address, RARP (Reverse Address Resolution Protocol) maps the MAC address to the IP address. ARP and RARP work at the internet layer of the Internet Model or the network layer of the OSI model.

56 When the router runs out of buffer space, this is called _____.
A. Source Quench
B. Redirect
C. Information Request
D. Low Memory

Ans A
Source quench is the process where the destination router, or end internetworking device will "quench" the date from the "source", or the source router. This usually happens when the destination router runs out of buffer space to process packets.

57 Which protocol carries messages such as destination Unreachable, Time Exceeded,

Parameter Problem, Source Quench, Redirect, Echo, Echo Reply, Timestamp, Information Request, Information Reply, Address Request, and Address Reply?
A. ICMP
B. UDP
C. TCP
D. TFTP
E. FTP

Ans A
ICMP (Internet Control Message Protocol) is a network layer internet protocol described in RFC # 792. ICMP reports IP packet information such as destination Unreachable, Time Exceeded, Parameter Problem, Source Quench, Redirect, Echo, Echo Reply, Timestamp, Information Request, Information Reply, Address Request, and Address Reply.

58 Two of the protocols that can be carried in the Protocol field of an IP packet are?
A. TCP
B. UDP
C. FTP
D. TFTP

Ans A & B
The following are the fields in an IP segment,
their length, and their definitions:
VERS (Version number - 16 bits)
HLEN (Number of 32-bit words in the header - 4 bits)
Type of Server (How the datagram should be handled - 32 bits)
Total Length (Total length of header and data - 32 bits)
Identification (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Flags (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Frag Offset (Provide fragmentation of datagrams to allow different MTUs in the internet - 6 bits)
TTL (Time-To-Live - 6 bits)
Protocol (Upperlayer protocol sending the datagram - 16 bits)
Header Checksum)Integrity check on the header - 16 bits)
Source IP Address (32 bits)
Destination IP Address (32 bits)
IP Options (network testing, debugging, security and others - 4 bits)
Data (4 bits).

59 Where would network testing be included in an IP packet?
A. IP Options field
B. Identification field
C. Type of Service field
D. Reservation field

Ans A
The following are the fields in an IP segment, their length, and their definitions:
VERS (Version number - 16 bits)
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Identification (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Flags (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Frag Offset (Provide fragmentation of datagrams to allow different MTUs in the internet - 6 bits)
TTL (Time-To-Live - 6 bits)
Protocol (Upperlayer protocol sending the datagram - 16 bits)
Header Checksum)Integrity check on the header - 16 bits)

Source IP Address (32 bits)
Destination IP Address (32 bits)
IP Options (network testing, debugging, security and others - 4 bits)
Data (4 bits).

60 What field tells the Internet layer how to handle an IP packet?
A. Type of Service
B. Identification
C. Flags
D. Frag Offset

Ans A
The following are the fields in an IP segment, their length, and their definitions:
VERS (Version number - 16 bits)
HLEN (Number of 32-bit words in the header - 4 bits)
Type of Server (How the datagram should be handled - 32 bits)
Total Length (Total length of header and data - 32 bits)
Identification (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Flags (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Frag Offset (Provide fragmentation of datagrams to allow different MTUs in the internet - 6 bits)
TTL (Time-To-Live - 6 bits)
Protocol (Upperlayer protocol sending the datagram - 16 bits)
Header Checksum)Integrity check on the header - 16 bits)
Source IP Address (32 bits)
Destination IP Address (32 bits)
IP Options (network testing, debugging, security and others - 4 bits) Data (4 bits).

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61 Which fields of an IP packet provide for fragmentation of datagrams to allow differing MTUs in the internet?

A.   Identification
B.   Flags
C.   Frag   Offset
D.   Type   of   Service
E.   Total   Length

Ans   A,   B   &   C
The following are the fields in an IP segment, their length, and their definitions:
VERS   (Version   number   -   16   bits)
HLEN   (Number   of   32-bit   words   in   the   header   -   4   bits)
Type   of   Server   (How   the   datagram   should   be   handled   -   32   bits)
Total   Length   (Total   length   of   header   and   data   -   32   bits)
Identification (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Flags (Provide fragmentation of datagrams to allow different MTUs in the internet - 4 bits)
Frag Offset (Provide fragmentation of datagrams to allow different MTUs in the internet - 6 bits)
TTL   (Time-To-Live   -   6   bits)
Protocol   (Upperlayer   protocol   sending   the   datagram   -   16   bits)
Header   Checksum   )Integrity   check   on   the   header   -   16   bits)
Source   IP   Address   (32   bits)
Destination   IP   Address   (32   bits)
IP   Options   (network   testing,   debugging,   security   and   others   -   4   bits)
Data   (4   bits).

62 Which processes does TCP, but not UDP, use?
A.   Windowing
B.   Acknowledgements
C.   Source   Port
D.   Destination   Port

Ans   A   &   B
UDP (User Datagram Protocol) does not use sequence or acknowledgement fields in transmission.
UDP is a connectionless and unreliable protocol, since there is no delivery checking mechanism in   the   UDP   data   format.

63   What   is   the   UDP   datagram   format?
A. Source Port - 16 bits, Destination Port - 16 bits, Length - 16 Bits, Checksum - 16 bits, Data
B. Destination Port - 16 bits, Source Port - 16 bits, Length - 16 Bits, Checksum - 16 bits, Data
C. Source Port - 16 bits, Destination Port - 16 bits, Checksum - 16 Bits, Length - 16 bits, Data
D. Source Port - 8 bits, Destination Port - 8 bits, Length -8 Bits, Checksum - 8 bits, Data

Ans   A
The   UDP   format   for   a   segment   is   as   follows:
Source   Port   16   bits
Destination   Port   16   bits
Length   16   bits
Checksum   16   bits
Data   xx   bits

64   What   is   the   function   of   DDR   on   Cisco   routers?
A. DDR is dial--on-demand routing. It provides a continuous LAN only connection.
B. DDR is dial-on-demand routing. It provides routing for high volume traffic.
C. DDR is dial--on-demand routing. It provides a continuous WAN connection.
D. DDR is dial-on-demand routing. It provides routing for low volume and periodic traffic.

Answer: D
DDR is dial-on-demand routing. It provides routing for low volume and periodic traffic. It initiates a
call   to   a   remote   site   when   there   is   traffic   to   transmit.

65 What are the two types of access lists that can be configured on a Cisco router?
A.   Standard
B.   Extended
C.   Filtering
D.   Packet

Ans: A   &   B
The access lists are standard and extended. Standard access lists for IP check the source
address of packets that could be routed. Extended access lists can check the source and
destination   packet   plus   check   for   specific   protocols,   port   numbers,   etc.

66   When   using   access   lists,   what   does   a   Cisco   router   check   first?
A.   To   see   if   the   packet   is   routable   or   bridgeable
B.   The   destination   address
C.   The   source   address
D.   The   packet   contents

Ans   A
The first thing checked is to see if the packet is routable or bridgeable. If it is not, the packet will

be dropped.

67 How many access lists are allowed per interface?
A. One per port, per protocol
B. Two per port, per protocol
C. Unlimited
D. Router interface +1 per port.

Ans: A
Only one access list is allowed per interface. An access list must have conditions that test true for all packets that use the access list.

68 What do the following commands accomplish?
access-list 1 deny 172.16.4.0 0.0.0.255
access-list 1 permit any interface ethernet 0
IP access-group 1 out

A. This will block traffic from subnet 172.16.4.0 and allow all other traffic.
B. This will allow traffic from subnet 172.16.4.0 and block all other traffic.
C. All traffic is allowed.
D. All traffic is blocked.

Ans: A
This will block traffic from subnet 172.16.4.0 and allow all other traffic. The first statement "access-list 1 deny 172.16.4.0 0.0.0.255" will deny access to the subnet 172.16.4.0.

69 What do the following statements in an extended access list accomplish?
access-list 101 deny TCP 172.16.4.0 0.0.0.255 172.16.3.0 0.0.0.255 eq 21
access-list 101 deny TCP 172.16.4.0 0.0.0.255 172.16.3.0 0.0.0.255 eq 20
access-list 101 permit TCP 172.16.4.0 0.0.0.255 0.0.0.0 255.255.255.255
A. This will block ftp traffic.
B. This will block http traffic.
C. This will permit ftp traffic.
D. This will permit tftp traffic.

Ans: A
This will block ftp traffic since ftp uses ports 20 and 21.

70 Access lists are numbered. Which of the following ranges could be used for an IP access list?
A. 600 - 699
B. 100 - 199
C. 1 - 99
D. 800 - 899
E. 1000 - 1099

Answer: B & C
AppleTalk access lists use numbers in the 600 - 699 range. IP uses 1 - 99 for standard access lists or 100-199 for extended access lists. IPX uses 800 - 899 or 900 - 999 for extended access lists. IPX SAP filters use 1000 - 1099.

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71 Cisco routers use wildcard masking to identify how to check or ignore corresponding

IP address bits. What does setting a wildcard mask bit to 0 cause the router to do?
A. It tells the router to check the corresponding bit value.
B. It tells the router to ignore the corresponding bit value.
C. It tells the router to check its alternate routing list.
D. It tells the router to use its primary routing list.

Ans A
It tells the router to check the corresponding bit value.

72 You are a system administrator and you want to deny access to a group of computers with addresses 172.30.16.0 to 172.30.31.0. Which wildcard mask would you use?
A. 0.0.15.255
B. 0.0.255.255
C. 0.0.31.255
D. 0.0.127.255
E. 0.0.255.255

Ans: A
0.0.15.255 will check the last 13 bits of an address so that computers 172.30.16.0 to 172.30.31.0 will be denied access. 0.0.31.255 would check the last 6 binary digits and deny access to addresses 172.30.32.0 to 172.30.63.0. 0.0.127.255 would check the last 7 binary digits and deny access to addresses 172.30.64.0 to 172.30.127.0. 0.0.255.255 would deny 172.30.0.0 to 172.30.254.0. If you write decimal 15 in binary, you have 0001111, the 1's tell the router to ignore address with these bits set; 0's tell the router to check the bits. The third octet for 172.30.16.0 is 00010000. The third octet for 172.30.31.0 would be 00011111. So, traffic from these addresses would be denied.

73 In order to limit the quantity of numbers that a system administrator has to enter, Cisco can use which abbreviation to indicate 0.0.0.0?
A. host
B. any
C. all
D. include

Ans: A
Cisco uses host to specify 0.0.0.0. This tells the router to check all. Cisco uses any to specify 255.255.255.255. This tells the router to ignore all and permit any address to use an access list test.

74 What do the following commands accomplish?
access-list 1 permit 172.16.0.0 0.0.255.255
interface ethernet 0
IP access-group 1 out
interface ethernet 1
IP access-group 1 out
A. Only traffic from the source network 172.16.0.0 will be blocked.
B. Only traffic from the source network 172.16.0.0 will be forwarded. Non-172.16.0.0 network traffic is blocked.
C. Non-172.16.0.0 traffic will be forwarded.
D. All traffic will be forwarded.

Ans: B
Only traffic from the source network 172.16.0.0 will be forwarded. Non-172.16.0.0 network traffic is blocked. The wildcard mask 0.0.255.255 tells the router to check the first 2 octets and to ignore the last 2 octets.

75 When using access lists, it is important where those access lists are placed. Which statement best describes access list placement?
A. Put standard access lists as near the destination as possible. Put extended access lists as close to the source as possible.
B. Put extended access lists as near the destination as possible. Put standard access lists as close to the source as possible.
C. It isn't import where access lists are placed since the router will read and cache the whole list.
D. Put access lists as close to corporate headquarters as possible.

Ans A
Put standard access lists as near the destination as possible. Put extended access lists as close to the source as possible. Standard access lists don't specify the destination address.

76 As the system administrator, you enter the following commands at the command prompt:
ipx routing
access-list 800 permit 2b 4d
int e0
ipx network 4d
ipx access-group 800 out
int e1
ipx network 2b
int e2
ipx network 3c
What did these command accomplish?
A. Traffic from network 4c destined for network 4d will be forwarded out Ethernet0.
B. Traffic from network 3c destined for network 4d will be forwarded out Ethernet0.
C. Traffic from network 2b destined for network 4d will be forwarded out Ethernet0.
D. Traffic from network 4d destined for network 2d will be forwarded out Ethernet0.

Ans C
Traffic from network 2b destined for network 4d will be forwarded out Ethernet0. The other interfaces E1 and E2 are not subject to the access list since they lack the access group statement to link them to access list 800.

78 The following commands were entered at the command prompt of a Cisco router. What do they accomplish?
access-list 1000 deny 9e.1234.5678.1212 4
access-list 1000 permit -1
interface ethernet 0
ipx network 9e
interface ethernet 1
ipx network 4a
interface serial 0
ipx network 1
ipx output-sap-filter 1000
A. File server advertisements from server 9e.1234.5678.1212 will not be forwarded on interface S0.
B. All other SAP services, other than file server, from any source will be forwarded on S0.
C. All other SAP services, other than print server, from any source will be forwarded on S0.
D. Print server advertisements from server 9e.1234.5678.1212 will not be forwarded on interface S0.

Ans A & B
File server advertisements from server 9e.1234.5678.1212 will not be forwarded on interface S0.
All other SAP services, other than file server, from any source will be forwarded on S0.

79 You receive "input filter list is 800 and output filter list is 801" as part of the output from a show interfaces command. What kind of traffic are you filtering?
A. IPX/SPX
B. TCP/IP
C. LocalTalk
D. DDR

Ans: A
Because the access list is numbered in the 800 range, you are filtering IPX/SPX traffic.

80 Which service uses telephone control messages and signals between the transfer points along the way to the called destination?
A. Signaling System 7 (SS7)
B. Time-division Multiplexing (TDM)
C. X.25
D. Frame relay

Ans: A
Signaling System 7 (SS7) uses telephone control messages and signals between the transfer points along the way to the called destination. Time-division Multiplexing (TDM) has information from multiple sources and allocates bandwidth on a single media. Circuit switching uses signaling to determine the call route, which is a dedicated path between the sender and the receiver. Basic telephone service and Integrated Services Digital Network (ISDN) use TDM circuits. X.25 and Frame Relay services have information contained in packets or frames to share non-dedicated bandwidth. X.25 avoids delays for call setup. Frame Relay uses permanent virtual circuits (PVCs).

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81 Which service takes information from multiple sources and allocates bandwidth on a single media?
A. Time-division Multiplexing (TDM)
B. Signaling System 7 (SS7)
C. X.25
D. Frame relay

Ans A

82 Which three devices can be used to convert the user data from the DTE into a form acceptable to the WAN service's facility?
A. Modem
B. CSU/DSU
C. TA/NT1
D. CO
E. SS7

Ans A, B & C
A modem, CSU/DSU (Channel Service Unit/Data Service Unit), or TA/NT1 (Terminal Adapter/Network Termination 1) can be used to convert the user data from the DTE into a form acceptable to the WAN service's facility.

83 What is the juncture at which the CPE ends and the local loop portion of the service begins?

A. Demarc
B. CO
C. Local loop
D. Last-mile

Ans A
The demarcation or demarc is the juncture at which the CPE ends and the local loop portion of the service begins. The CO (Central Office) is the nearest point of presence for the provider's WAN service. The local loop or "last-mile" is the cabling that extends from the demarc into the WAN service provider's central office.

84 You can access three forms of WAN services with Cisco routers. Select the three forms:
A. Switched or relayed services
B. Interface front end to IBM enterprise data center computers
C. Using protocols that connect peer-to-peer devices like HDLC or PPP encapsulation.
D. IPX/SPX
E. NetBEUI

Ans: A, B & C
You can access three forms of WAN services with Cisco routers. Switched or relayed services include X.25, Frame Relay, and ISDN. An interface front end to IBM enterprise data center computers includes SDLC. And, you can access the services of WAN providers using protocols that connect peer devices such as HDLC and PPP encapsulation. IPX/SPX and NetBEUI are LAN protocols.

85 Select the fields for the Cisco HDLC protocol:
A. Flag, Address, Control
B. Flag, Address, Control, Protocol, LCP (Code, Identifier, Length, Data), FCS, Flag
C. Flag, Address, Control, Data, FCS, Flag
D. Flag, Address, Control, Proprietary, Data, FCS, Flag

Ans D
The Cisco HDLC frame format is Flag, Address, Control Proprietary, Data, FCS, Flag. The PPP frame format is Flag, Address, Control, Protocol, LCP (Code, Identifier, Length, Data), FCS, Flag. The SDLC and LAPB format is Flag, Address, Control, Data, FCS, Flag.

85: Select the physical interfaces that PPP can be configured on a Cisco router:
A. Asynchronous serial
B. HSSI
C. ISDN
D. Synchronous serial

Ans A, B, C & D
All four of them can carry PPP traffic. HSSI is High Speed Serial Interface.

86 Select the correct statements about PPP and SLIP for WAN communications?
A. PPP uses its Network Control Programs (NCPs) component to encapsulate multiple protocols.
B. PPP can only transport TCP/IP
C. SLIP can only transport TCP/IP.
D. SLIP uses its Network Control Programs (NCPs) component to encapsulate multiple protocols.

Ans A & C

87a Which protocol for PPP LCP (Link Control Protocol) performs a challenge handshake?
A. CHAP

B. PAP
C. UDP
D. IPX

Ans: A

87b Which form of PPP error detection on Cisco routers monitors data dropped on a link?
A. Quality
B. Magic Number
C. Error Monitor
D. Droplink

Ans: A
The Quality protocol monitors data dropped on a link. Magic Number avoids frame looping.

88 Which protocol for PPP provides load balancing across multiple links?
A. Multilink Protocol (MP)
B. Quality
C. Magic Number
D. Stacker
E. Predictor

Ans A

89 As the system administrator, you type "ppp authentication chap pap secret". Which authentication method is used first in setting up a session?
A. secret
B. PAP
C. CHAP
D. PPP/SLIP

Ans C

90 Select the compression protocols for PPP?
A. Stac
B. Predictor
C. Quality
D. Magic Number

Ans: A & B

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91 What are the three phases of PPP session establishment?

A. Link establishment phase
B. Authentication phase
C. Network layer protocol phase
D. Handshake phase

E. Dial-in phase

Ans A, B & C

92 What is the default IPX Ethernet encapsulation?

A.) SNAP
B.) Arpa
C.) 802.2
D.) Novell-Ether
E.) SAP

Ans D

93 What must be true for two Routers running IGRP to communicate their routes?

A.) Same autonomous system number
B.) Connected using Ethernet only
C.) Use composite metric
D)Configured for PPP

Ans A

94 The following is partial output from a routing table, identify the 2 numbers in the square brackets; '192.168.10.0 [100/1300] via 10.1.0.1, 00:00:23, Ethernet1'

A.) 100 = metric, 1300 = administrative distance
B.) 100 = administrative distance, 1300 = hop count
C.) 100 = administrative distance, 1300 = metric
D.) 100 = hop count, 1300 = metric

Ans C

95 Identify 3 methods used to prevent routing loops?

A.) Split horizon
B.) Holddown timers
C.) Poison reverse
D.) SPF algorithm
E.) LSP's
Ans A B C

96 Which statement is true regarding full duplex?
A.) Allows for transmission and receiving of data simultaneously
B.) Only works in a multipoint configuration
C.) Does not affect the bandwidth
D.) Allows for transmission and receiving of data but not a the same time

Ans A
Full duplex is just the opposite of half duplex. It handles traffic in both directions simultaneously.

97 Identify the switching method that receives the entire frame then dispatches it?

A.) Cut-through
B.) Receive and forward
C.) Store and forward

D.) Fast forward

Ans C
Store and forward switching receives the entire frame before dispatching it.

98Identify the purpose of ICMP?

A.) Avoiding routing loops
B.) Send error and control messages
C.) Transporting routing updates
D.) Collision detection

Ans B
ICMP is used to send error and control messages. Ping uses ICMP to carry the echo-request and echo-reply.

99Which statement is true regarding the user exec and privileged exec mode?

A.) The '?' only works in Privileged exec
B.) They are identical
C.) They both require the enable password
D.) User exec is a subset of the privileged exec

Ans D
The user exec mode is a subset of the privileged exec mode. Only a certain number of commands are available at the user exec mode.

100 Which OSI layer end to end communication, segmentation and re-assembly?

A.) Network
B.) Transport
C.) Physical
D.) Application
E.) Data-Link
F.) Presentation

Ans B**CCNA Interview Questions Page 11**

101 What IP command would you use to test the entire IP stack?

A.) Stack-test
B.) Arp
C.) Telnet
D.) Ping
E.) Trace

Ans C
Because Telnet is an application and it resides at the top of the stack it traverses down the stack and up the stack at the receiving end.

102 Identify the 2 hardware components used to manage and/or configure a router?

A.) Auxiliary port
B.) ROM port

C.) Management port
D.) Console port

Ans A D
The 2 hardware ports used to configure the router are the console and auxiliary ports.

103 What is the default bandwidth of a serial connection?

A.) 1200 baud
B.) 1.544 Mbps (T1)
C.) 10 Mbps
D.) 96Kpbs

Ans B
The default bandwidth is T1.

104 Identify 2 functions of IPX access-lists?

A.) Control SAP traffic
B.) Limit number of Novell servers on a network
C.) Limit number of workstations on a network
D.) Block IPX traffic

Ans A D
IPX access lists are used to restrict IPX traffic and SAP broadcasts.

105 Identify 2 HDLC characteristics?

A.) Default serial encapsulation
B.) Open standard
C.) Supports Stacker compression
D.) Supports point-to-point and multipoint

Ans A D
HDLC is the default serial encapsulation and supports point-to-point and multipoint. It is not an open standard and does not support compression.

106 Identify 3 IP applications?

A.) AURP
B.) ARP
C.) Telnet
D.) SMTP
E.) DNS
F.) RARP

Ans C D E
ARP and AURP are not part the application layer of the TCP/IP stack. SMTP - Simple Mail Transfer Protocol, Telnet, DNS - Domain Name Services (name to IP resolution).

107 Identify 3 LAN technologies?

A.) FDDI
B.) HDLC
C.) HSSI

D.) X.25
E.) 802.3
F.) 802.5

Ans A E F
The question is asking for 3 LAN technologies, HDLC, HSSI and X.25 are all WAN technologies.

108 Identify the 4 that are not LAN technologies?

A.) HDLC
B.) FDDI
C.) 802.5
D.) HSSI
E.) SDLC
F.) Frame Relay

Ans A D E F
802.5 and FDDI are LAN technologies

109 Which OSI layer supports the communication component of an application?

A.) Data-Link
B.) Physical
C.) Session
D.) Presentation
E.) Application
F.) Transport

Ans E
Layer 7 the Application layer performs this function.

110 Identify the length of an IPX address and it's components?

A.) 80 bits, 48 bits network and 32 bits node
B.) 32 bits, 16 bits network and 16 bits node
C.) None of the above
D.) 80 bits, 32 bits network and 48 bits node

Ans D
IPX address has 2 components; network and node. The network address is 32 bits and the node is 48 bits, total of 80 bits.

Layer 4 the Transport layer performs this function.

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111 Identify the administrative distance and appropriate routing protocol?

A.) RIP = 255, IGRP = 100
B.) RIP = 100, IGRP = 120

C.) RIP = 1, IGRP = 0
D.) RIP = 120, IGRP = 100

Ans D
The administrative distance for RIP is 120 and IGRP is 100. The lower the AD the better the routing information.

112 Which OSI layer incorporates the MAC address and the LLC?

A.) Data link
B.) Network
C.) Physcial
D.) Transport

Ans): A
Layer 2 the Data-Link layer incorporates the MAC and LLC sublayers

113 If configuring a Cisco router to connect to a non-Cisco router across a Frame Relay network, which encapsulation type would you select?

A.) Q933a
B.) ISDN
C.) IETF
D.) CISCO
E.) ANSI

Ans C
There are two types of Frame Relay encapsulations; Cisco and IETF. IETF is required when connecting a Cisco to a non-Cisco router.

114 Identify the 2 items that TCP and UDP share in common?

A.) Both use port numbers to identify upper level applications
B.) Operate at the Network layer
C.) Both are Transport protocols
D.) Both are reliable communications

Ans A C
TCP and UPD are both layer 4 Transport protocols and both use port number to identify upper level applications.

115 Identify 3 characteristics of IP RIP?

A.) Distance vector
B.) Administrative distance is 120
C.) Periodic updates every 60 seconds
D.) Uses a composite metric
E.) Can load balance

Ans A B E
IP RIP is a distance vector protocol, it can load balance up to 4 equal cost paths and it's rating of trustworthiness is 120.

116 Which of the following is a layer 2 device?

A.) Switch

B.) Router
C.) Repeater
D.) Hub

Ans A
A Hub and Repeater are layer 1 devices. A Router is a layer 3 device.

117 Identify the definition of demarcation?

A.) Date in which the WAN service contract expires
B.) Cabling which extends from the WAN service provider to the customer
C.) Division of responsibility, where the CPE ends and the local loop begins
D.) Equipment which is located at the customer premises

Ans C
Demarcation is the point in which responsibility changes hands.

118 Identify the 3 key features of the Cisco Discovery Protocol?

A.) Off by default
B.) Will allow for the discovery of layer 3 addresses on neighbor routers
C.) Verify connectivity
D.) Open standard
E.) Does not require any layer 3 protocols to be configured

Ans B C E
CDP is used for 2 basic reasons; neighbor connectivity and layer 3 discovery if configured. It is proprietary and is on by default.

119 Identify the 3 characteristics of IPX RIP?

A.) Distance vector
B.) Does not support multiple paths
C.) 60 second updates
D.) Default encapsulation is SAP
E.) Uses ticks and hop count as a metric

Ans A C E
IPX RIP is a distance vector routing protocol, it does support multiple paths, the default encapsulation is 'novell-ether', it uses tick count as a primary metric and hop count as a tie breaker and it sends it's updates every 60 seconds.

120 Identify the access-list range for an extended IP access-list?

A.) 800 - 899
B.) 1 - 99
C.) 1000 - 1099
D.) 100 - 199

Ans D
IP extended access-lists use the number range of 100-199.

121 Identify the X.25 addressing standard?

A.) X.121
B.) X.25a
C.) ITU-1
D.) Q933a

Ans A
The X.25 layer 3 addressing standards is X.121.

122 Identify 3 features of IGRP?

A.) Composite metric
B.) New horizon
C.) Flash updates
D.) 60 periodic updates
E.) Poison reverse

Ans A C E
IGRP uses a composite metric made up of bandwidth and delay by default, it updates every 60
seconds and will trigger an update if the topology changes.

123 Where is the backup configuration file stored?

A.) RAM
B.) ROM
C.) Console
D.) NVRAM

Ans D
One location to store the backup configuration is NVRAM.

124 Identify the correct pair of Novell Ethernet encapsulation and Cisco terminology?

A.) Ethernet II, Snap
B.) Ethernet 802.3, Novell-Ether
C.) Ethernet SNAP, Arpa
D.) Ethernet 802.2, Snap

Ans B
The default IPX LAN encapsulation is Novell-Ether which is 802.3

125 Identify 3 characteristics regarding IP access-lists?

A.) Can be configured as a standard access-list
B.) Can be run from another router running IP
C.) Can be configured as a named access-list
D.) Are the same as IPX access-lists
E.) Can be configured as an extended access-list

Ans A C E
There are 3 types of IP access-lists; standard, extended and named. Named access-lists can be

either standard or extended depending on how they are configured.

126 Identify 3 ways in which a router can be configured?

A.) TFTP
B.) Nvram
C.) Ping
D.) Console
E.) Trace

Ans A B D
Changes to the configuration can be entered via the console, a config stored in NVRAM or on a TFTP server. Trace and ping are tools to verify connectivity.

127 A traffic light is an example of what type of mechanism?

A.) Collision detection
B.) Flow control
C.) Sequence numbering
D.) Network management

Ans B
A Traffic light is an example of flow control.

128 Windowing is a type of?

A.) Negative acknowledgement
B.) Address resolution
C.) Layer transition mechanism
D.) Flow control

Ans D
Windowing allow the sender and receiver to dictate how much information that can be received prior to an acknowledgement. It is a form of flow control.

129 Identify the 2 types of access-list filters that control SAP traffic?

A.) Novell-ether
B.) Arpa
C.) Input-sap-filter
D.) Round-robin
E.) Output-sap-filter

Ans C E
SAP's can be blocked by 2 methods; inbound and outbound.

130 Identify the 3 guidelines for routers in the same autonomous system?

A.) Must be configured for IGRP or RIP
B.) Interconnected
C.) Assigned the same autonomous system number
D.) Configured for the same routing protocol
E.) Must be same model of router

Ans B C D
Autonomous system must be interconnected, assigned the same AS # and configured with the

same routing protocol.

131 Identify the hardware component used to store buffers, tables, running-configuration etc?

A.) NVRAM
B.) ROM
C.) RAM
D.) Flash

Ans C
RAM is the dynamic memory area. ROM contains the boot strap code, NVRAM contains the startup-config and Flash contains the IOS.

132 Identify 3 UDP characteristics?

A.) Reliable communication protocol
B.) Applications that use UDP must incorporate reliability
C.) Connection-less oriented
D.) Incorporates no handshaking

Ans B C D
UPD is a layer 4 Transport protocol. It is connection-less because it does establish a connection therefore the 3 step handshake is not needed, it does NOT implement any flow control or acknowledgments. Any application that uses UDP must incorporate any needed reliability.

133 Identify the IPX standard access-list number range?

A.) 600 - 699
B.) 1000 - 1099
C.) 1 - 99
D.) 100 - 199
E.) 800 - 899

Ans E
IPX standard access-list range is 800-899.

134 Which OSI layer provides best effort end to end packet delivery?

A.) Data-Link
B.) Presentation
C.) Network
D.) Transport
E.) Physical
F.) Application

Ans C
Layer 3 the Network layer performs this function.

135 Identify the 2 methods to modify the routers boot sequence?
A.) Setup program
B.) Boot system commands

C.) RXBoot
D.) Config-register

Ans B D
'Boot system' command the 'config-register' are used to manipulate the boot sequence.

136 Identify the 3 pieces of hardware you would not install to prevent broadcasts?

A.) Switch
B.) Repeater
C.) Bridge
D.) Router

Ans A B C
Router are implemented not only to break up networks into smaller segments but they are used to block broadcasts.

137 Identify 2 features of PPP PAP authentication?

A.) Username and password is sent in clear text
B.) Authentication messages are sent periodically during the connection
C.) More secure than CHAP
D.) Remote node is control of authentication process

Ans A D
PPP PAP authentication sends the username and passwords in clear text and the remote node initiates the authentication process.

138 Identify the switching method that examines the destination MAC address as the frame is being received then begins forwarding the frame prior to receiving the entire frame?

A.) Fragment-free
B.) Store and Forward
C.) Cut-through
D.) Fast forward

Ans C
Cut through examines the destination MAC address and begins forwarding the frame prior to receiving the entire frame.

139 Identify 1 characteristic of RARP?

A.) IP to MAC address translation
B.) Connectionless delivery of packets
C.) Can be used to initiate remote O/S load sequence
D.) Generates error and control messages

Ans C
Reverse Address Resolution Protocol is used to obtain a layer 3 address if the MAC address is known which then facilitates the loading of the O/S.

140 Identify the protocol to test connectivity without configuring any layer 3 protocols?

A.) TCP
B.) Ping

C.) IP
D.) CDP
E.) Telnet

Ans D**CCNA Interview Questions Page 15**

141 LMI operates between the Frame Switch and what other device?

A.) CPE device
B.) Another Frame Switch
C.) X.25 switch
D.) Novell File Server

Ans A
LMI stands for local management interface. It operates between the Frame Relay switch and the customer equipment.

142 Identify IPX SAP and it's purpose?

A.) Sonet Access Pipe - interface to Sonet ring
B.) Service Advertising Protocol - advertise services
C.) Server Appletalk Protocol - appletalk directory services
D.) Service Access Point - identify upper layer protocols

Ans B
SAP is an Novell protocol to advertise services.

143 Identify the default values that make up IGRP's composite metric?

A.) Bandwidth
B.) Load
C.) Reliability
D.) MTU
E.) Delay

Ans A E
IGRP can be configured to use all 5 within it's metric. By default it uses bandwidth and delay.

144 Identify the default serial encapsulation?
A.) ISDN
B.) HDLC
C.) SDLC
D.) Frame Relay
E.) PPP

Ans B
The default serial encapsulation is HDLC.

145 Identify the purpose of ARP?

A.) Avoiding routing loops
B.) Determining a workstation's IP address
C.) Sending a directed broadcast
D.) Determining a workstation's MAC address

Ans D
ARP is used to find a devices MAC address given an IP address.

146 What is the purpose of the DLCI?

A.) Identifies the remote routers
B.) Contained with a 802.2 frame for routing purposes
C.) Used with PPP during authentication
D.) Identifies the PVC in a Frame Relay network

Ans D
DLCI stands for Data Link Connection Identifier. It identifies the local PVC.

147 Identify 3 characteristics of the Network layer (OSI layer 3)?

A.) Connection oriented
B.) Path determination
C.) Supports multiplexing
D.) Manages sessions
E.) Packet forwarding

Ans B C E
The network layer is responsible for routing which entails learning the paths, selecting the best path and forwarding the packet. Because it services multiple layer 4 protocols it multiplexes.

148 Identify 3 characteristics of switches?

A.) Increase available bandwidth
B.) Decrease broadcast traffic
C.) Support full duplex in a multipoint topology
D.) Make forwarding decision using MAC address
E.) Create collision domains

Ans A D E
Switches operate at layer 2. They increase bandwidth by reducing the number of devices sharing the media. They isolate collisions. Like a bridge they forward traffic based upon layer 2 address/ MAC address.

149 Which OSI layer handles physical address, network topology?

A.) Presentation
B.) Physical
C.) Transport
D.) Application
E.) Data-Link
F.) Network

Ans E
Layer 2 the Data-Link layer performs this function.

150 Identify 2 reasons for disabling CDP?

A.) If the router is not configured for RIP
B.) Save bandwidth by eliminating overhead
C.) If the router is configured for Appletalk

D.) When connected to a non-Cisco router

Ans B D
CDP can be disabled here are a couple of reasons. Connecting a Cisco router to a non-Cisco router. Don't want to exchange CDP information to save bandwidth.

CDP can be used to verify connectivity prior to any layer 3 protocols being configured.

151 Identify 3 characteristics of ISDN?

A.) Transports voice and data
B.) Transports voice only
C.) Support both BRI and PRI
D.) Runs over existing phone lines
E.) Same as X.25

Ans A C D
ISDN supports voice, data, and video. It runs over existing phone lines and supports 128K (BRI) and T1 (PRI).

152 Identify the 3 characteristics of IGRP?
A.) Uses hop count as a metric
B.) Supports multiple unequal paths
C.) Administrative distance is 100
D.) Configured with an Autonomous system number
E.) Link state

Ans B C D
IGRP is a distance vector routing protocol, it's degree of trustworthiness is 100, it can support up to 6 un-equal paths and must be configured with an autonomous system number.

153 Identify 2 features of PPP CHAP authentication?

A.) Username and password is sent in clear text
B.) Authentication messages are sent periodically during the connection
C.) Less secure then PAP
D.) Local router 'challenges' the remote router

Ans B D
PPP CHAP authentication message are sent periodically during the connection by challenging the other end of the connection.
It is more secure than PAP and passwords and username are encrypted.

154 Identify the default IPX serial encapsulation?

A.) Novell-Ether
B.) SDLC
C.) SNAP

D.) HDLC
Ans D
The default IPX serial encapsulation is HDLC.

155 Identify the hardware component that stores the backup configuration?

A.) RAM
B.) NVRAM
C.) Flash
D.) ROM

Ans B
NVRAM contains the backup config. RAM is the dynamic memory area, ROM contains the boot strap code and Flash contains the IOS.

156 Identify the extended IP access-list number range?

A.) 600 - 699
B.) 1 - 99
C.) 900 - 999
D.) 100 - 199

Ans D
The extended IP access-list range is 100-199.

157 Identify 3 Fast Ethernet technologies?
A.) 100 Base FastEther
B.) 100 Base FX
C.) 100 Base T4
D.) 100 Base TX

Ans B C D
100 BaseFastEther is false. 100 Base FX, TX and T4 are all valid.

158 Identify the OSI layer which is responsible for end-to-end connections?

A.) Network
B.) Transport
C.) Session
D.) Data link
E.) TCP

Ans B
Layer 4 is the Transport layer and is responsible for end-to-end connections.

159 Identify the 2 characteristics regarding MAC addresses?

A.) Contains a network portion and host portion
B.) Always assigned by System Administrator
C.) 48 bits long
D.) Contains a vendor code and serial number

Ans C D
MAC addresses are assigned by the vendor. Each MAC address is 48 bits long and made up of 24 bits vendor code and 24 bits serial number.

160 Identify the number range for IPX SAP filters?

A.) 900 - 999
B.) 1000 - 1099
C.) 800 -899
D.) 100 - 199

Ans B
The IPX SAP filtering range is 1000-1099.

161 What is the purpose of ARP?

A.) IP to host name resolution
B.) Host name to IP address resolution
C.) Mac to IP address resolution
D.) IP to Mac address resolution

Ans D
Address Resolution Protocol resolves the MAC address if the IP address is known. It is a layer 3 protocol.

162 Which OSI layer establishes, maintains and terminates sessions between hosts?

A.) Application
B.) Physical
C.) Data-Link
D.) Presentation
E.) Network
F.) Session

Ans F
Layer 5 the Session layer performs this function.

163 Which statement is true regarding Administrative distance?

A.) It is a metric
B.) Number of hops between two routers
C.) Trustworthiness of the routing information
D.) RIP Administrative distance is 100

Ans C
Administrative distance is rating of trustworthiness of the routing information. The lower the AD the better the information.

164 Identify the purpose of the Ping command?

A.) Share routing information with a neighbor router
B.) Transmit user data when buffers are full
C.) Test connectivity at layer 3
D.) Test entire protocol stack

Ans C
The ping command tests layer 3 connectivity.

165 Identify the order of the 5 step encapsulation?

1. Create the segment
2. Convert the frame to bits
3. Create the packet
4. Create the frame
5. User creates the data
A.) 1,2,4,2,5
B.) 2,1,3,4,5
C.) 5,1,3,4,2
D.) 5,3,4,1,2

Ans C
Cisco 5 step encapsulation.
1) User creates Data
2) Data is converted into a segment at layer 4
3) The segment is converted to packet at layer 3
4) The packet it converted into a frame at layer 2
5) The frame is converted into bits at layer 1

166 The Cisco IOS is stored where?

A.) ROM
B.) CD
C.) Flash
D.) NVRAM

Ans C
By default the Cisco IOS is stored in flash.

167 Sequence and acknowledgement numbers are used for?

A.) Layer transitioning
B.) Flow control
C.) Port number addressing
D.) Reliability

Ans D
TCP uses sequence numbers and acknowledgements to implement reliability.

168 Identify IPX GNS and it's purpose?

A.) Go Network Server - sends a print job to a network server
B.) Get Nearest Server - locate the nearest server
C.) Guaranteed Network Services - allocates resources to users
D.) Get Notes Server - locates Domino Server

Ans B
GNS stands for Get Nearest Server, initiated by a workstation.

169 Identify the true statement regarding subnetting?

A.) Allows for more host address
B.) Borrow bits from the network portion of the address
C.) Allows for unlimited number of networks
D.) Borrow bits from the host portion of the address

Ans D
Subnetting involves borrowing bits for the host portion of the address to be used to subnet addressing.

170 Inverse ARP serves what purpose?

A.) Method for a local router to introduce itself to the remote end of the connection
B.) Broadcast a routing table update
C.) Identify MAC addresses if the IP address is known
D.) Sent every 10 seconds used to verify the Frame Switch is still active

Ans A
Inverse ARP operates in a Frame Relay network so the two end points can identify themselves to each other.

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171 Identify 3 characteristics of a MAC address?

A.) Burned into the NIC
B.) 48 bits long
C.) Length is 32 bits
D.) Used to deliver the frame to the end device
E.) Contains a network portion and a host portion

Ans A B D
The MAC address is 48 bits long not 32. It does NOT contain a network and host portion with the address. It is used to deliver the frame to the destination device.

172 Identify 3 IP routing protocols?

A.) RIP
B.) AURP
C.) OSPF
D.) IGRP
E.) ARP
F.) ICMP

Ans A C D
AURP and ICMP are not routing protocols.

173 Identify the type of routing protocol that exchanges entire routing tables at regular intervals?

A.) Link state
B.) Interior gateway protocols
C.) Appletalk routing
D.) Distance vector

Ans D

Distance Vector routing protocols exchange entire routing tables with it's neighbors. Link State routing protocols exchange LSP's to share information regarding the networks they know.

174 Identify the type of hardware required to connect a Token ring network to an Ethernet network?

A.) Repeater
B.) TR-Enet
C.) Router
D.) Token Ring to Ethernet translation hub

Ans C

Routers are used to connect dissimilar networks with different access-methods, like connecting Token Ring to Ethernet.

175 Identify 3 characteristics regarding CDP?

A.) On by default
B.) Shows only directly connected neighbors
C.) Requires IP or IPX
D.) 60 second update interval by default
E.) 30 second updates interval by default

Ans A B D

CDP stands for Cisco Discovery Protocol. It is used to discover directly connected neighbors, it is on by default and has a 60 second update interval by default.

176 Identify 2 transport layer protocols?

A.) IP
B.) TCP
C.) CDP
D.) ARP
E.) UDP

Ans B E

TPC and UDP are 2 layer4 Transport protocols.

177 Identify 2 features of X.25?

A.) Supports only IP
B.) Utilizes switched and permanent virtual circuits
C.) Contains minimal flow control and error recovery
D.) Utilizes LAPB as it's data-link protocol

Ans B D

X.25 utilizes LAPB and uses switched and permanent VC's. It supports multiple layer protocols and is heavy laden with error detection and correction mechanisms.

180 Identify the purpose of the Trace command?

A.) Explorer packet transmitting routing information
B.) Test connectivity
C.) Determine the path a packet is taking through the network
D.) Transmits user data when buffers are full

Ans C
The trace command is used to determine the path a packet has taken through the network.

190 Identify the purpose of the TCP 3 step handshake?

A.) Setup a un-reliable connection
B.) Initialize routing tables
C.) Synchronize sequence numbers between hosts
D.) Connection tear down process

Ans C
The 3 step handshake establishes the parameters required for a TCP connection. During the handshake process sequence numbers are synchronized allowing for the end points to properly acknowledge and re-assemble the segments.

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191 Identify 2 PPP characteristics?

A.) Is proprietary to Cisco
B.) Supports authentication
C.) Support compression
D.) Run on a multi-access network

Ans B C
PPP supports authentication; PAP and CHAP. It also supports compression; Stacker and Predictor.

192 Which statement is true regarding half duplex?

A.) Only works in a point-to-point configuration
B.) Allows for transmitting and receiving but not a the same time
C.) Allow for transmitting and receiving of data simultaneously
D.) Doubles the bandwidth

Ans B
Half duplex is analogous to a single a lane bridge, it can handle traffic in both directions but no at the same time.

193 Identify the purpose of the wildcard mask?

A.) Match a certain portion of the IP address while ignoring the rest of the address
B.) Determine the class of the IP address
C.) Determine the network portion of an IP address
D.) Hide the host portion of an IP address

Ans A
The purpose of the wildcard mask to match a certain portion of the IP address while ignoring the rest.

194 Identify the OSI layer associated with bits?

A.) Physical

B.) Network
C.) Binary
D.) Data link

Ans A
The Physical layer converts the frames to bits.

195 Identify the type of routing protocol that maintains a topological database of the network?

A.) Topological state
B.) Shortest Path First
C.) Link state
D.) Distance vector

Ans C
Link State routing protocols maintain a database that lists all the networks in the internetwork.

196 Identify the 3 major functions at layer 3 of the OSI model?

A.) Forwarding process
B.) Logical addressing
C.) End-to-end connections
D.) Path selection
E.) MAC address examination
F.) Network monitoring

Ans A B D
Layer 3 determines the path, forwards the packet and implements software or logical addressing.

197 Identify the 2 rules used when configuring a Distance Vector routing protocol?

A.) Physically connected network(s)
B.) Configure the classful address, no subnets
C.) Enable CDP so neighbors can be detected
D.) Configure all networks in Area0

Ans A B
When configuring a Distance Vector routing protocol only assign the physically connected networks with the classful address only.

198 Identify 3 characteristics of an IP address?

A.) Contains a network portion and a host portion
B.) 32 bits long
C.) Unique to each network
D.) Part of the default Cisco configuration
E.) Referred to as the hardware address

Ans A B C
An IP address is 32 bits long, it is referred as the logical or software address. It contains a network and host portion. Each IP address is unique.

199 Identify 3 feature of access-lists?

A.) Implicit deny will deny any packets not matched

B.) Processed sequentially from bottom to top
C.) Processed sequentially from top to bottom
D.) If a packet is denied it would be tested against the remaining statements in the access-list
E.) Once a match is made the packet is either denied or permitted
F.) Enabled on all interfaces by default

Ans A C E
Access-list are processed from top to bottom, once a match occurs the packet is either denied or permitted and is no longer tested and if no match occurs the packet is denied via the implicit deny.

200 Which OSI layer performs code conversion, code formatting and encryption?

A.) Physical
B.) Data-Link
C.) Application
D.) Transport
E.) Presentation
F.) Network

Ans E

201 Identify the 3 methods routers learn paths to destinations?

A.) Dynamic routing
B.) None of the above, configured by default
C.) Default routes
D.) Administrative distance
E.) Static routes

Ans A C E
Routers can learn paths via 3 different sources; static routes, dynamic routing protocols (i.e. RIP) and default routes.

202 Identify the purpose of the following command 'ip route 192.168.100.0 255.255.255.0 10.1.0.1'

A.) Enabling a dynamic routing protocol
B.) Creating a static route to the 10.1.0.0 network
C.) Teaches the router about the distant network 192.168.100.0 and how it can be reached via 10.1.0.1
D.) Assigning the IP address 192.168.100.0 to an interface

Ans C
A static routes teaches the router about a distant network and the next hop to reach that network.
Command syntax:
ip route network-address subnet-mask next-hop-address

203 Based upon the 1st octet rule identify the range for a Class A address?

A.) 1 - 126
B.) 192 - 223
C.) 128 - 191
D.) 1 - 191

Ans A
Class A address has the 1st octet between 1 - 126. Class B between 128 - 191 and Class C between 192 - 223.

204 What does a Standard IP Access-list use as test criteria?

A.) IP source address
B.) IP source and destination address, protocol numbers and port numbers
C.) IPX source and destination address
D.) Source MAC address

Ans A
Standard IP access list use only source address.

205 What is the function of the Transport layer and which protocols reside there?

A.) MAC addressing - IP
B.) Interhost communication - SQL, NFS
C.) Best effort Packet delivery - TCP, UDP
D.) End-to-end connections - TCP, UDP

Ans D
Layer 4, the Transport layer, is responsible for end-to-end connections. The two TCP/IP protocols that reside there are TCP and UDP.

206 Identify the 3 Internet layer IP protocols?

A.) NetBios
B.) IPX
C.) ARP
D.) IP
E.) RARP

Ans C D E
NetBios and IPX are not layer 3 IP protocols. IP - Internet Protocol, ARP - Address Resolution Protocol and RARP - Reverse Address Resolution Protocol.

207 IPX routing updates occur how often?

A.) Every 30 seconds
B.) Every 60 seconds
C.) Only as needed
D.) When the remote router asks for an update

Ans B
IPX RIP updates are exchanged every 60 seconds.

208 Identify 3 methods not used to prevent routing loops?

A.) Holddown timers
B.) Sequence numbers
C.) Triggered updates
D.) Split horizon

E.) Area hierarchies
F.) Order of router startup

Ans B E F
Area hierarchies, sequence numbers and order of router startup all relate to Link State routing
protocols which do NOT incur routing loops.

209 Identify the hardware component that stores the bootstrap program?

A.) ROM
B.) NVRAM
C.) Booter load
D.) RAM
E.) Flash

Ans A
ROM contains the boot strap code.

210 Which OSI layer provides mechanical, electrical, procedural for activating, maintaining physical link?

A.) Presentation
B.) Network
C.) Application
D.) Physical
E.) Transport
F.) Data-Link

Ans D
Layer 1 the Physical layer performs this function.

Layer 6 the Presentation layers performs this function.

211 Identify 2 characteristics of PPP?

A.) Uses LLC to establish the link
B.) Default serial encapsulation
C.) Support multiple layer 3 protocols
D.) Offers two types of authentication; PAP and CHAP

Ans C D
PPP is not the default encapsulation and uses LCP not LLC to establish the link. It support
multiple layer 3 protocols and supports authentication.

212 Identify 3 characteristics of a connection oriented protocol?

A.) Path determination
B.) Flow control
C.) Acknowledgements

D.) Uses hop count as metric
E.) 3 step handshake

Ans B C E
Connection oriented protocols must first establish the connection (3 step handshake), employ methods to acknowledge the receipt of data (acknowledgements) and slow down the flow of data if required (flow control).

213 What is the maximum hop count for IP RIP?

A.) Infinity
B.) 16
C.) 15
D.) 1

Ans C
15 is the maximum hop count, underscoring the size limitation of RIP.

214 What is Cisco's default encapsulation method on serial interfaces?

A.) ANSI
B.) Cisco
C.) Q933a
D.) HDLC

Ans D
Cisco's implementation of HDLC is only compatible with Cisco routers. It is the default encapsulation type for serial interfaces.

215 Which of the following is a characteristic of a switch, but not of a repeater?

A.) Switches forward packets based on the IPX or IP address in the frame
B.) Switches forward packets based on the IP address in the frame
C.) Switches forward packets based on the MAC address in the frame
D.) Switches forward packets based only on the IP address in the packet

Ans C
A repeater regenerates the signal it receives, a switch makes decisions based upon MAC addresses to determine whether a frame should be forwarded. Repeaters forward all packets.

216 Ping uses which Internet layer protocol?

A.) RARP
B.) ICMP
C.) ARP
D.) FTP

Ans B
Internet Control Message Protocol - ICMP is a management protocol and messaging service provider for IP. Its messages are carried as IP datagrams.

ICMP is used in the following events:

Destination Unreachable - If a router cannot send an IP packet any further, it uses an ICMP echo to send a message back to the sender notifying it that the remote node is unreachable.

Buffer Full - If a routers memory buffer is full ICMP will send out a message to the originator.

Hops - Each IP datagram is assigned a path. This consists of hops. If it goes through the maximum number of hops, the packet is discarded and the discarding router sends an ICMP echo to the host.

Ping - Ping use ICMP echo message to check connectivity.

217 Which is true regarding store-and-forward switching method?

A.) Latency varies depending on frame-length
B.) Latency is constant
C.) It is default for all Cisco switches
D.) It only reads the destination hardware address before forwarding the frame

Ans A
Store-and-Forward switching copies the entire frame into its buffer and computes the CRC. If a CRC error is detected, the frame is discarded, or if the frame is a runt (less than 64 bytes including the CRC) or a giant (more than 1518 bytes including the CRC). The LAN switch then looks up the destination address in its switching table and determines the outgoing interface. The frame is then forwarded to the outgoing interface. Cisco Catalyst 5000 switches uses the Store-and-Forward method. The problem with Store-and-Forward switching is latency is increased. Latency also varies with the size of the frame. The larger the frame, the more latency associated. This of course is due to the fact that the entire frame is copied into its buffer before being forwarded.

218 Which three of the following are true statements about connection-oriented sessions?

A.) The segments delivered are acknowledged back to the sender upon their reception
B.) Any segments not acknowledged the are retransmitted by the receiver
C.) A manageable data flow is maintained in order to avoid congestion, overloading and loss of any data
D.) Segments are sequenced back into their proper order upon arrival at their destination

Ans A C D
Connection-oriented services are useful for transmitting data from applications that are intolerant of delays and packet re-sequencing. FTP and Telnet applications are based on connection-oriented services as well as some voice and video programs. Any segment that is not acknowledged by the received is retransmitted by the sender.

219 What does a metric of 16 hops represent when using RIP?

A.) Number of hops to the destination
B.) Destination unreachable
C.) Number of routers
D.) Bandwidth

Ans B
Routing Information Protocol (RIP) is a distance vector routing protocol that used hop count as its metric. The maximum hop count is 15, 16 hops is considered unreachable. RIP updates are broadcast every 30 seconds by default. RIP has an administrative distance of 120.

220 You need to come up with a TCP/IP addressing scheme for your company. Which two factors must you consider when you define the subnet mask for the network?

A.) The location of DHCP servers

B.) The volume of traffic on each subnet
C.) The number of subnets on the network
D.) The location of the default gateway
E.) The number of host IDs on each subnet

Ans C E
When determining which subnet mask to use, you must determine how many hosts and how many subnets are required.

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221 What is the difference between TCP and UDP?
A.) TCP is connection-oriented; UDP uses acknowledgements only
B.) TCP is connection-oriented; UDP is connectionless
C.) Both TCP and UDP are connection-oriented, but only TCP uses windowing
D.) TCP and UDP both have sequencing, but UDP is connectionless

The correct answer(s): B
TCP provides guaranteed connection oriented delivery of packets, UDP does not.

222 What does the 'S' mean when looking at the routing table?

A.) Statically connected
B.) Directly connected
C.) Dynamically attached
D.) Shutdown route

Ans A
Statically connected routes are those that an administrator has manually entered into the routing table.

223 Why would you use static routing instead of dynamic routing?
A.) When you want automatic updates of the routing tables
B.) All the time
C.) When you have very few routes and want to conserve bandwidth
D.) When you have a gateway of last resort

Ans C
Static routes are typically used when there are very few routes and you want to conserve bandwidth. Since routing protocols are constantly sending their updates across the wire, it can cause a great deal of congestion.

224 On Cisco catalyst 5000 how would you set the second port on the controller in the first slot to full duplex?
A.) Set port duplex 1/1 full
B.) Set port duplex 1/2 full
C.) Set port duplex 0/1 full
D.) Set port duplex 0/2 full

Ans B
The syntax is: set type duplex slot/port <full/half>

225 What does the acronym ARP stand for?

A.) Address Resolution Phase
B.) ARP Resolution Protocol
C.) Address Resolution Protocol
D.) Address Recall Protocol

Ans C
The Address Resolution Protocol (ARP) resolved IP addresses to MAC addresses.

226 What is the default encapsulation of Netware 3.12?

A.) Ethernet_II
B.) 802.5
C.) 802.2
D.) 802.3

Ans C
The 802.2 Frame Type is the default frame-type for Netware 3.12.

227 Regarding frame relay, which of the following statements are true?

A.) You must use ANSI encapsulation if connecting to non-Cisco equipment
B.) You must use IETF encapsulation if connecting to non-Cisco equipment
C.) You must use Q.933a encapsulation if connecting to non-Cisco equipment
D.) You must use Cisco encapsulation if connecting to non-Cisco equipment

Ans B
Cisco's encapsulation for Frame relay is proprietary. To communicate with non-Cisco equipment when using frame-relay encapsulation, the IETF method must be used.

228 What is required to support full-duplex Ethernet?

A.) Multiple paths between multiple stations on a link
B.) Automatic sensing operation by all connected stations
C.) Loopback and collision detection disabled
D.) Full-duplex NIC cards

Ans C D
Full duplex ethernet requires that the NIC supports full-duplex, and loopback and collision detection are disabled.

229 Which layer is responsible for determining if sufficient resources for the intended communication exists?

A.) Application
B.) Network
C.) Session
D.) Presentation
E.) Transport

Ans A
The Application layer is responsible for determining if sufficient resources for the intended communication exists.

230 What are the 2 functions of the Data Link Mac layer?
A.) Handles access to shared media

B.) Manages protocol access to the physical network medium
C.) Provides SAPs for higher level protocols
D.) Allows multiple devices to uniquely identify one another on the data link layer

Ans B D
Media Access Control (MAC) -The MAC sublayer manages protocol access to the physical network medium. The IEEE MAC specification defines MAC addresses, which allow multiple devices to uniquely identify one another at the data link layer.

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231 Describe End to End network services: (Choose all that apply)

A.) Best Route selection
B.) Accomplished Segment by Segment, each segment is autonomous
C.) Flow Control & Data Integrity
D.) Best efforts packet delivery

Ans A B C D
All of the above End to End network services.

232 Which of the following provide correct information about a protocol at the transport layer of the OSI model?

A.) UDP - Provides Connectionless datagrams service
B.) TCP - Provides Connection Oriented Services
C.) SMTP - Provides Mail Exchange
D.) IP - Route determination
E.) TCP - Provides Flow Control and Error Checking
F.) FTP - Transfers of Files

Ans A B E
Only TCP and UDP work at the Transport layer of the above choices. IP is a Network layer protocol. SMTP and FTP are application layer protocols.

233 Which protocol works at the Internet layer and is responsible for making routing decisions?

A.) UDP
B.) IP
C.) TCP
D.) ARP

Ans B
Internet Protocol - IP provides routing and a single interface to the upper layers. No upper layer protocol and now lower layer protocol have any functions relating to routing. IP receives segments from the transport layer and fragments them into packets including the hosts IP address.

234 Which layer is responsible for providing mechanisms for multiplexing upper-layer application, session establishment, and tear down of virtual circuits?

A.) Session
B.) Network

C.) Physical
D.) Transport
E.) Application
F.) Presentation

Ans D
The Transport layer does the following: Responsible for end-to-end integrity of data transmission. Handles multiplexing upper-layer application, session establishment and tear down of virtual circuits. Hides details of network dependent info from the higher layers by providing transparent data transfer. The 'windows' works at this level to control how much information is transferred before an acknowledgement is required.

235 Which of the following are logged when IP access list logging is enabled?

A.) source address
B.) protocol
C.) source port
D.) destination address
E.) access list number
F.) destination port

Ans A B C D E F
All of the above are logged when IP access list logging is enabled.

236 What's the default CDP holdtime in seconds for Cisco routers?

A.) 30 seconds
B.) 180 seconds
C.) 90 seconds
D.) 60 seconds

Ans B
Cisco Discovery Protocol is a proprietary protocol to allow you to access configuration information on other routers and switches with a single command. It uses SNAP at the Data-Link Layer. By default CDP sends out a broadcast every 60 seconds and it holds this information for 180 seconds. CDP is enabled by default.

237 Which two of the following protocols are used at the Transport layer?

A.) ARP
B.) UDP
C.) ICMP
D.) RARP
E.) TCP
F.) BootP

Ans B E
TCP and UDP operate at the Transport layer.

238 LAN stands for which of the following?

A.) Local Area Network
B.) Local Arena Network
C.) Local Area News
D.) Logical Area Network

Ans A
LAN stands for Local Area Network

239 Choose three reasons why the networking industry uses a layered model:

A.) It facilitates systematic troubleshooting
B.) It allows changes in one layer to occur without changing other layers
C.) It allows changes to occur in all layers when changing one protocol
D.) It clarifies how to do it rather than what general function to be done
E.) It clarifies what general function is to be done rather than how to do it

Ans A B E

Why do we have a Layered Model?
1) It reduces complexity
2) Allows for a standardized interface
3) Facilitates modular engineering
4) Ensures interoperable technology
5) Accelerates evolution
6) Simplifies teaching and learning

240 Which layer is responsible for identifying and establishing the availability of the intended communication partner?
A.) Application
B.) Presentation
C.) Transport
D.) Session
E.) Network

Ans A
The Application layer performs the following: Synchronizing sending and receiving applications. Program-to program communication. Identify and establish the availability of the intended communication partner, and determine if sufficient resources exist for the communication. Popular application protocols include WWW, SMTP, EDI, FTP, Telnet, and SNMP

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241 A ISDN PRI circuit can be described as which of the following?

A.) 24 B channels and 1-64Kbps D channel
B.) 23 B channels and 1-64Kbps D channel
C.) 2-D channels and 1-C channel
D.) 2-64Kbps B channels and 1-16Kbps D channel

Ans B
There are two types of ISDN Channels:
BRI (Basic Rate Interface) - is 2 64Kbps B channels for data and one 16Kbps D channel for link management.
PRI (Primary Rate Interface) - is 23Kbps B channels and 1 64Kbps D channel.

242 What are 3 ways to provide login access to router?

A.) Console
B.) TFTP

C.) Rlogin
D.) Auxiliary Port
E.) X Windows
F.) Telnet

Ans A D F
The three ways to provide login access to the router are via the Console port, auxiliary port, and virtual terminal (Telnet)

243 Which of the following statements are true?

A.) Store and forward switching creates variable latency through the switch
B.) Cut through switching creates variables latency through the switch
C.) Cut through switching works at wire speed
D.) Store and forward switching works at wire speed

Ans A C
The larger the packet, the greater the latency when using a switch with Store and Forward methods. This is due to the fact that Store and Forward switching copies the entire Frame into its buffer before forwarding the frame. Cut Through switching only examines the destination address before forwarding the packet and does not copy the frame into its buffer.

244 Which of the following can reply to a Novell Get Nearest Server (GNS) request?

A.) Local Novell server
B.) Remote Novell Printer
C.) Cisco router
D.) Novell client

Ans A C
Cisco routers can act like Novell servers to an extent. They can answer Get Nearest Server request by clients. Of course, both Local and Remote Novell servers can reply to the GNS request. As with Novell servers, Cisco routers can be configured to either reply, or not reply to GNS request by clients. Since each Novell server and Cisco router builds a dynamic table of resources, they can reply to a clients request for the available resources closest to them.

245 Identify the 3 kinds of routes IGRP advertises?

A.) Interior
B.) Dynamic
C.) System
D.) Exterior

Ans A C D
IGRP is a distance vector routing protocol designed by Cisco. The maximum hop count is 255, and it uses a combination of variables to determine a composite metric. IGRP has an administrative distance of 100. There are three types of routes IGRP advertises: 1) Interior, 2) Exterior, and 3) System.

246 What is the routing metric used by RIP?

A.) Route poisoning
B.) Split horizon
C.) Hop Count
D.) TTL

Ans C
Routing Information Protocol (RIP) is a distance vector routing protocol that used hop count as its metric. The maximum hop count is 15, 16 hops is considered unreachable. RIP updates are broadcast every 30 seconds by default. RIP has an administrative distance of 120.

247 What is the default encapsulation and frame type on an Ethernet interface when enabling Novell?
A.) SNAP
B.) Ethernet_II
C.) 802.2
D.) 802.3
E.) SAP
F.) Token_SNAP

Ans D
By default, when an encapsulation type is not specified, the 802.3 frame type is used.

248 What is true when creating static route?

A.) The mask parameter is optional
B.) The administrative distance is required
C.) The gateway parameter is required
D.) The administrative distance is optional

Ans C D
When creating a static route, the gateway parameter is required, but the administrative distance is optional. The correct syntax is: Router(config)# ip route <network> <mask> <address | interface> <admin distance>

249 Of the following switching types, which one has the highest latency?

A.) Cut-through
B.) None
C.) Store-and-forward
D.) Fragment Free

Ans C
Store-and-Forward switching copies the entire frame into its buffer and computes the CRC. If a CRC error is detected, the frame is discarded, or if the frame is a runt (less than 64 bytes including the CRC) or a giant (more than 1518 bytes including the CRC). The LAN switch then looks up the destination address in its switching table and determines the outgoing interface. The frame is then forwarded to the outgoing interface. Cisco Catalyst 5000 switches uses the Store-and-Forward method. The problem with Store-and-Forward switching is latency is increased. Latency also varies with the size of the frame. The larger the frame, the more latency associated. This of course is due to the fact that the entire frame is copied into its buffer before being forwarded.

250 What does the IPX maximum path command do?

A.) Allows you to disable the TTL on an IPX packet
B.) This parameter is only used in NLSP routing
C.) Sets the maximum metric that can appear in the routing table
D.) Configures round robin load sharing over multiple equal metric paths (parallel paths)

Ans D
The ipx maximum path command allows you to configure parallel paths for load sharing.

251 What does -1 mean in an extended IPX access-list?

A.) Any IP address
B.) Deny all
C.) Deny host
D.) Any host or any network

Ans D
For IPX access lists, the -1 is a wildcard that signifies Any Host or Any Network.

252 What parameter is used with statically assigned routers to tell packets which interface to use to reach a distant network?

A.) Mask
B.) Subnet
C.) Default gateway
D.) Interface

Ans D
The interface parameter tell a packet which interface to use to reach other networks.

253 Which of the following protocols are used to get an IP address from a known MAC address?

A.) BootP
B.) TCP
C.) IP
D.) ARP
E.) RARP
F.) ICMP

Ans A E
Reverse Address Resolution Protocol - RARP is ARP's counterpart, but it resolves IP addresses to MAC addresses typically on diskless workstations. BootP allows a host to resolves it's own MAC address to an IP address.

254 What does the Spanning Tree Algorithm (STA) do?

A.) Restore lost frames
B.) Builds routing tables for routing through an internetwork
C.) Forward packets through a switch
D.) STA is implemented by STP to prevent loops

Ans D
IEEE 8021.d Spanning Tree Protocol (STP) was developed to prevent routing loops in a network. If a router, switch, or hub has more then one path to the same destination, a routing problem could occur. To prevent this, the Spanning Tree Protocol is executed between the devices to detect and logically block redundant paths from the network. The main function of the Spanning Tree Protocol is to allow redundant network paths without suffering the effects of loops in the network.
The Spanning Tree Algorithm (STA) implemented by STP prevents loops by calculating a stable Spanning Tree network topology. When creating fault tolerant internetworks, a loop-free path

must exist between all Ethernet nodes in the network. Spanning Tree frames called Bridge Protocol Data Units (BPDUs) are sent and received by all switches in the network at regular intervals.

255 IP extended access lists use which of the following as a basis for permitting or denying packets?

A.) destination address
B.) all of the above
C.) protocol
D.) source address
E.) port

Ans B
All of the above are basis for permitting or denying IP packets for use with an Extended IP access list.

256 What is the extended IPX access list range?

A.) 901-1000
B.) 100-199
C.) 900-999
D.) 1000-1000

Ans C
Cisco has setup ranges of numbers to signify access lists. 900-999 is the range for the Extended IPX access lists.

257 CPE is an acronym for which of the following?

A.) Customer Premise Equipment
B.) Central Processing Engineering
C.) Customer Process Equipment
D.) Central Processing Equipment

Ans A
Customer Premise Equipment (CPE) are devices physically located at the subscriber's premises. Includes both owned and leased equipment.

258 How often does IP RIP send out routing table updates by default?

A.) They send complete updates every 30 seconds
B.) They send partial updates every 30 seconds
C.) They send complete updates every 60 seconds
D.) They send partial updates every 60 seconds

Ans A
Routing Information Protocol (RIP) is a distance vector routing protocol that used hop count as it's metric. The maximum hop count is 15, 16 hops is considered unreachable. RIP updates are broadcast every 30 seconds by default. RIP has an administrative distance of 120.

259 Which ISDN protocol prefix specifies switching and signaling?

A.) I
B.) E
C.) Q

D.) S

Ans C
These protocols deal with ISDN issues:
E - Specifies ISDN on the existing telephone network.
I - Specifies concepts, terminology, and services.
Q - Specifies switching and signalling.

260 CSMA/CD stand for which of the following?

A.) Carrier Sense, Multiple Access with Collision Detection
B.) Collision Sense, Multiple Access with Collision Detection
C.) Collision Sense, Multiple Access with Carrier Detection
D.) Carrier Sense, MAC address with Collision Detection

Ans A
The IEEE standard for Carrier Sense Multiple Access / Collision Detection is 802.3. Also know as Ethernet.

270 Which of the following are Distant Vector protocols?

A.) IGRP
B.) RIP
C.) OSFP
D.) EIGRP

Ans A B
RIP and IGRP are Distance Vectoring protocols that send their entire routing tables to their neighbors.
In some Cisco literature, EIGRP is listed as an 'advanced distance vector' routing protocol. However, the official curriculum courseware considers EIGRP a 'hybrid' protocol.

271 UDP works at which layer of the DOD model?

A.) Internet
B.) Host-to-Host
C.) Transport
D.) Data Link

Ans B
The TCP/IP Transport Layer (OSI) and Host to Host (DOD) protocols use TCP and UDP.

272 Of the following switching types, which one has the lowest latency?

A.) Cut-through

B.) Fragment Free
C.) None
D.) Store-and-forward

Ans A
Cut-Through switching copies only the destination address which is the first 6 bytes after the frame preamble into its buffer. The LAN switch then looks up the destination address in its switching table and determines the outgoing interface. The frame is then sent to the interface. A cut-through switch provides reduced latency because it begins to forward the frame as soon as it read the destination address and determines the outgoing interface.

273 What is an administrative distance of 0 mean?

A.) 0 means unbelievable
B.) 0 is for EIGRP
C.) 0 is the default distance for directly connected networks
D.) 0 means unreachable

Ans C
Directly connected network have the lowest administrative distance of 0. They are considered the most reliable.

274 Which of the following describe full-duplex transmission?

A.) Uses a single wire
B.) Data transmission in only both directions, but only one way at a time
C.) Uses a point-to-point connection from the transmitter of the transmitting station to the receiver of the receiving station
D.) Data transmission in only one direction

Ans C
Full Duplex - Capability for simultaneous data transmission between a sending station and a receiving station. It requires a workstation be attached to a switch, the NIC must support it, and collision detection and loopback must be disabled.

275 Which of the following is a connectionless protocol at the Transport layer?

A.) UDP
B.) ARP
C.) ICMP
D.) RARP
E.) IP
F.) FTP

Ans A
User Datagram Protocol - UDP is a connectionless oriented transport protocol for use when the upper layers provide error-recovery and reliability. UDP does not sequence data or re-assemble it into any order after transmission. This protocol uses Port 17.

276 What is the routing metric used by IGRP?

A.) MTU, delay, bandwidth, reliability, and loading
B.) Count to infinity
C.) TTL
D.) Hop count

Ans A
IGRP is a distance vector routing protocol designed by Cisco. The maximum hop count is 255, and it uses a combination of variables to determine a composite metric. IGRP has an administrative distance of 100.

277 What does 'P' mean when running a Trace?

A.) Good route
B.) Protocol unreachable
C.) Source Quench
D.) Destination unreachable

Ans B
When a P is returned when a Trace is run, it means the Protocol is unreachable.

278 What is the Network Layer of the OSI responsible for?

A.) Bridging
B.) Routing packets through an internetwork
C.) Regenerating the digital signal
D.) Gateway services

Ans B
The Network Layer routes data from one node to another, sends data from the source network to the destination network. The router will use packet switching to move a packet from one interface or port, to another through the network cloud.

279 Which layer is responsible for routing through an internetwork?

A.) Physical
B.) Session
C.) Network
D.) Transport
E.) Application
F.) Data Link

Ans C
The Network layer is responsible for routing. This is the primary job of routers, which operate at the Network layer.

280 What three occurrences will reset the holddown timer after a triggered update?

A.) Infinity is finally defined as some max number
B.) HD Timer expires
C.) Another update is received indicating a better metric
D.) The router receives a processing task proportional to the number of links in the internetwork
E.) The router detects fault LSP's propagating through the internetwork
F.) Another update is received indicating net status changed

Ans B D F
The HD Timer expires, another update is received indicating net status change, or if the router receives a processing task proportional to the number of links in the internetwork, this reset the holddown timer. These are all triggered updates.

281 Which layer is responsible for putting 1s and 0s into a logical group?

A.) Session
B.) Application
C.) Transport
D.) Data Link
E.) Physical
F.) Network

Ans D
Frames are broken down into 1s and 0s and placed onto the physical medium by the Data Link layer.

282 How many LMI types are available on Cisco routers?

A.) Four
B.) Two
C.) Five
D.) Three

Ans D
There are three types of LMI standards:
ANSI - Annex D defined by ANSI standard T1.617
ITU-T (Q.933A) - Annex A defined by Q933A
Cisco (default) - LMI defined by the gang of four

283 Which layer is responsible for framing?
A.) Application
B.) Data Link
C.) Physical
D.) Network
E.) Transport

Ans B
The Data link layer performs the following: Responsible for physically passing data from one node to another. Translates messages from the upper layers into data frames and adds customized headers containing the Hardware destination and source address.

284 What ISDN protocol specifies concepts, terminology, and services?

A.) Q
B.) S
C.) I
D.) E

Ans C
These protocols deal with ISDN issues:
E - Specifies ISDN on the existing telephone network.
I - Specifies concepts, terminology, and services.
Q - Specifies switching and signalling.

285 What is the purpose of Split Horizon?

A.) It prevents the regular update messages from reinstating a route that has gone down
B.) Information received on an interface cannot be sent back out the same interface
C.) Informs all neighbor routers that two routes exist
D.) Tells the router the destination is unreachable

Ans B
Split Horizon - If you learn a protocol's route on an interface, do not send information about that route back out that interface.

286 WAN stands for which of the following?

A.) Wide Arena Network
B.) World Area Network
C.) Wide Area News
D.) Wide Area Network

Ans D
WAN stands for Wide Area Network

287 Which of the following provide connection-oriented transport to upper layer protocols?

A.) SPX
B.) RIP
C.) NLSP
D.) NCP

Ans A
SPX is similar to TCP in that is provides reliable delivery of packets and provides connection-oriented transport to the upper layer protocols.

288 Which two does 100BaseT use?

A.) CSMA/CD
B.) IEEE 802.5
C.) 802.3u
D.) Switching with 53-byte cells

Ans A C
100BaseT - 100BaseT uses two-pair Category 5 UTP cable with an RJ45 connector and the same pin out as in 10BaseT. 100BaseT supports full duplex operation. 100BaseT is limited to 100 meters distance.

289 Which layer is responsible for flow control, acknowledgement, and windowing?

A.) Transport
B.) Network
C.) Application
D.) Session
E.) Physical
F.) Data Link

Ans A
The Transport layer performs the following: Responsible for end-to-end integrity of data transmission. Handles multiplexing upper-layer application, session establishment and tear down

of virtual circuits. Hides details of network dependent info from the higher layers by providing transparent data transfer. The 'windows' works at this level to control how much information is transferred before an acknowledgement is required.

290 Which of the following is used to manage and monitor the network?

A.) SNMP
B.) HTTP
C.) IP
D.) FTP

Ans A
The Simple Network Management Protocol (SNMP) is used to manage and monitor traps.

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291 What is true about Link-State protocols?

A.) They maintain a more complex table than distant vector protocols
B.) They maintain a less complex table than distant vector protocols
C.) They use routing ports
D.) The maintain backup copies of the IOS

Ans A
Whereas the distance vector algorithm has non-specific information about distant networks and no knowledge of distant routers, a link-state routing algorithm maintains full knowledge of distant routers and how they interconnect.

292 The maximum distance on a 10BaseT network from the hub to a workstation is which of the following?
A.) 500 meters
B.) 1000 meters
C.) 100 meters
D.) 1500 meters

Ans C
The standard for 10BaseT networks is 100 meters, or approximately 330 feet.

293 Which of the following use PVCs at layer 2?

A.) X.25
B.) HDLC
C.) Frame relay
D.) ISDN

Ans C
Of the above choices, only Frame relay uses Permanent Virtual Circuits (PVCs) at layer 2. PVC is the key word in this question.

294 What is the routing algorithm used by RIP and IGRP?

A.) OSPF
B.) Link-state
C.) Dynamic

D.) Distance Vector

Ans D
Distance vector-based routing algorithms (also known as Bellman-Ford algorithms) pass periodic copies of a routing table from router to router. Regular updates between routers communicate topology changes. Each router receives a routing table from it's direct neighbor and increments all learned routes by one. By this method, each router learns the internetwork topology via second hand information.

295 Which layer is responsible for negotiating data transfer syntax?

A.) Network
B.) Session
C.) Application
D.) Transport
E.) Presentation

Ans E
The Presentation layer performs the following: Manages data representation conversions, or data transfer syntax. For example, the Presentation layer would be responsible for converting from EDCDIC to ASCII. Data compression, decompression, encryption, and decryption are presentation layer. Presentation layer standards include MPEG, MIDI, PICT, TIFF, JPEG, ASCII, and EBCDIC

296 What are hold-downs used for?

A.) To prevent regular update messages from reinstating a route that has come back up
B.) Information received on an interface cannot be sent back out the same interface
C.) To prevent regular update messages from reinstating a route that has gone down
D.) To hold the routing table from being sent to another router

Ans C
Hold-Down Timers - Routers ignore network update information for some period.

297 Which of the following protocols are used for logical network addressing?

A.) IP
B.) TCP
C.) ARP
D.) ICMP
E.) RARP
F.) BootP

Ans A
Internet Protocol - IP provides routing and a single interface to the upper layers. No upper layer protocol and now lower layer protocol have any functions relating to routing. IP receives segments from the transport layer and fragments them into packets including the hosts IP address. IP addressing is logical, not physical.

298 Which can be logged by IPX extended access lists?

A.) source address
B.) protocol
C.) source socket
D.) access list number
E.) destination socket

F.) destination address

Ans A B C D E F
All of the above can be logged by IPX extended access lists.

299 Put the following steps of encapsulation into the correct order:
1) The data is broken into segments to be organized
2) Frames are converted to 1s and 0s to be put on the wire
3) Packets are converted into frames
4) Information that users enter is converted into data
5) The segments are changed to packets to be routed

A.) 4, 1, 3, 2, 5
B.) 4, 5, 1, 3, 2
C.) 2, 3, 1, 4, 5
D.) 4, 1, 5, 3, 2

Ans D
Follow the steps through the Layers of the OSI model to get the answer. Watch the key words in each line to help you determine the steps.

300 Which port numbers are used by TCP and UDP to set up sessions with other hosts?

A.) 1024 and above
B.) 6 and 17 respectively
C.) 1-25
D.) 6-17

Ans A
TCP and UDP use random port number above 1023 for establishing communications.

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301 Repeaters work at which layer of the OSI model?

A.) Network
B.) Session
C.) Transport
D.) Physical

Ans D
Repeaters work at the Physical layer of the OSI model by regenerating the signal to extend the distance it can travel.

302 What protocols can you use while testing Trace?

A.) DECnet
B.) CLNS
C.) IP
D.) Old Vines
E.) Vines
F.) Chaos

Ans B C D E

Type Trace ? At the router command prompt to see a list of available supported protocols for tracing routes to IP addresses or Name addresses.

303 What utility can you use to see the path a packet takes through an internetwork?

A.) Route
B.) SNMP
C.) Trace
D.) Ping

Ans C
Trace - Uses Time-To-Live (TTL) values to generate messages from each router used along the path. This is very powerful in its ability to locate failures in the path from the source to the destination.

304 What is true about frame-relay DLCI?

A.) DLCI represents a single physical circuit
B.) DLCI is optional in all frame-relay networks
C.) DLCI identifies a logical connection between DTE devices
D.) DLCI is used to tag the beginning of a frame with VLAN information

Ans C
Data Link Connection Identifier (DLCI). A frame-relay service provider typically assigns DLCI values that are used by frame-relay to distinguish between different virtual circuits on the network. For the IP devices at each end of a virtual circuit to communicate, their IP addresses are mapped to Dlci. Every DLCI value can have a global or local meaning.

305 Which frame has a Type field to identify the upper-layer protocol?

A.) 802.3
B.) 802.2
C.) 802.5
D.) Ethernet_II

Ans D
Ethernet_II has a Type field to identify the upper-layer protocol. This is best seen by capturing packets with a sniffer and examining the packet.

306 Which protocol will let neighbor routers know if your internetwork experienced congestion on a serial port?

A.) BootP
B.) IP
C.) ICMP
D.) ARP
E.) FTP
F.) RARP

Ans C
Internet Control Message Protocol - ICMP is a management protocol and messaging service provider for IP. Its messages are carried as IP datagrams.

ICMP is used in the following events:

Destination Unreachable - If a router cannot send an IP packet any further, it uses an ICMP echo to send a message back to the sender notifying it that the remote node is unreachable.

Buffer Full - If a routers memory buffer is full ICMP will send out a message to the originator.

Hops - Each IP datagram is assigned a path. This consists of hops. If it goes through the maximum number of hops, the packet is discarded and the discarding router sends an ICMP echo to the host.

Ping - Ping use ICMP echo message to check connectivity.

307 What do you use the Aux port for?

A.) Console
B.) Terminal editing
C.) Modem
D.) Backup logging

Ans C
The auxiliary port is used to connect a modem to for dial backups.

308 The CSMA/CD Ethernet IEEE committee is defines as which of the following?

A.) 802.2
B.) 802.3
C.) 802.4
D.) 802.5

Ans B
The IEEE standard for Carrier Sense Multiple Access / Collision Detection is 802.3. Also know as Ethernet.

309 How many Frame-relay encapsulation types are available with Cisco routers?

A.) Four
B.) Two
C.) Five
D.) Three

Ans B
The two types of Frame relay encapsulation are Cisco and IETF.

310 What is the maximum hop count for Link-State protocols?

A.) 15
B.) there is no hop count limit
C.) 256
D.) 16

Ans B
Link-state-based routing algorithms – also known as shortest path first (SPF) algorithms, maintain a complex database of topology information. Whereas the distance vector algorithm has non-specific information about distant networks and no knowledge of distant routers, a link-state routing algorithm maintains full knowledge of distant routers and how they interconnect.

311 What information can you get from CDP info: (choose all that apply)

A.) Hardware platform
B.) One address per protocol
C.) Software platform
D.) Hostname
E.) The same info as show version
F.) Incoming/outgoing port

Ans A B D E F
All of the above except the software platform can be seen with the CDP information.

312 How does the cut-through switching technique work?

A.) By using broadcast address as source addresses
B.) The switch waits only for the header to be received before it checks the destination address and starts forwarding the packets
C.) The LAN switch copies the entire frame into its onboard buffers and then looks up the destination address in its forwarding, or switching, table and determines the outgoing interface
D.) By using a Class I repeater in a collision domain

Ans B
Cut-Through switching copies only the destination address which is the first 6 bytes after the frame preamble into its buffer. The LAN switch then looks up the destination address in its switching table and determines the outgoing interface. The frame is then sent to the interface. A cut-through switch provides reduced latency because it begins to forward the frame as soon as it read the destination address and determines the outgoing interface.

313 What is the protocol number for TCP?

A.) 80
B.) 21
C.) 11
D.) 6

Ans D
Transmission Control Protocol - TCP is a connection oriented transport layer protocol with built in reliability. It takes a large block of data and breaks it down into segments. It numbers and sequences each segment so the destination's TCP protocol can re-assemble it back into the original order. TCP uses acknowledgements via sliding windows. It has a large overhead due to built in error checking. The protocol use protocol # 6.

314 Which of the following are Presentation Layer standards?

A.) JPEG and PICT
B.) MPEG and MIDI
C.) ASCII and EBCDIC
D.) NFS and SQL

Ans A B C
For example, the Presentation layer would be responsible for converting from EDCDIC to ASCII. Data compression, decompression, encryption, and decryption are presentation layer. Presentation layer standards include MPEG, MIDI, PICT, TIFF, JPEG, ASCII, and EBCDIC.

315 What is the administrative distance for RIP?

A.) 100
B.) 90
C.) 120
D.) 110

The correct answer(s): C
Routing Information Protocol (RIP) is a distance vector routing protocol that uses hop count as its metric. The maximum hop count is 15, 16 hops is considered unreachable. RIP updates are broadcast every 30 seconds by default. RIP has an administrative distance of 120.

316 IP standard access lists use which of the following as a basis for permitting or denying packets?

A.) destination address
B.) port
C.) protocol
D.) source address

Ans D
For Standard access lists, only the source address is used as a basis for permitting or denying packets.

317 If a frame is received at a switch and only the destination hardware address is read before the frame is forwarded, what type of switching method is this?

A.) Store-and-drop
B.) Latency
C.) Store-and-forward
D.) Cut-through

Ans D
Cut-Through switching copies only the destination address which is the first 6 bytes after the frame preamble into its buffer. The LAN switch then looks up the destination address in its switching table and determines the outgoing interface. The frame is then sent to the interface. A cut-through switch provides reduced latency because it begins to forward the frame as soon as it read the destination address and determines the outgoing interface.

318 What is the purpose and default value of the CDP timer command?

A.) 90 seconds; interval before an entry expires
B.) 60 seconds; interval between updates
C.) 60 seconds; interval before an entry expires
D.) 90 seconds; interval between updates

Ans B
The CDP timer controls when the update of CDP information should be sent to the neighbor router.

319 Choose the following that are benefits to segmenting with router:

A.) Flow Control
B.) Manageability
C.) Multiple Active Paths
D.) Explicit packet lifetime control

Ans A B C D
All of the above are benefits of segmenting with a router.

320 When discussing static routes, what is the gateway parameter used for?

A.) Determining the dynamic route
B.) Defining the subnet
C.) Defining the Administrative Distance
D.) Determining the next hop

Ans D
The gateway parameter determines the path to the next router.

321 Which layer hides details of network dependent information from the higher layers by providing transparent data transfer?
A.) Transport
B.) Physical
C.) Data Link
D.) Session
E.) Application
F.) Network

Ans A
The Transport layer does the following: Responsible for end-to-end integrity of data transmission. Handles multiplexing upper-layer application, session establishment and tear down of virtual circuits. Hides details of network dependent info from the higher layers by providing transparent data transfer. The 'windows' works at this level to control how much information is transferred before an acknowledgement is required.

322 What information is provided by the local management interface (LMI)?

A.) LMI encapsulation type
B.) The current DLCI values
C.) The status of virtual circuits
D.) The global or local significance of the DLCI values

Ans B C D
LMI is a standard related to Frame Relay. It provides information related to PVCs.

323 Which layer defines the physical topology?

A.) Application
B.) Transport
C.) Network
D.) Data Link
E.) Physical
F.) Session

Ans E
The Physical layer deals with the actual physical medium and the method of transporting 1s and 0s.

324 What key do you use to view the last command?

A.) Left Arrow
B.) Space Bar
C.) Up Arrow
D.) Right Arrow

Ans C
CTRL+P as well as the Up Arrow keyboard commands will show the last command.

325 Which of the follow do not belong to the customer?

A.) CO
B.) DCE
C.) Router
D.) CPE
E.) Demarc
F.) DTE

Ans A E
Central Office (CO) - A switching facility that provides the nearest point of presence for a provider's WAN service.

Demarcation (Demarc) - The point at which the CPE ends and the local loop portion of the service begins. Usually the telecommunications closet at the subscriber's location.

CPE, DTE, DCE, and the router are all typically owned by the customer. DTE devices are usually routers, DCE devices are CSUs/DSUs, or WAN interfaces that have a built in CSU/DSU in the router. CPE stands for Customer Premise Equipment.

326 What is the IEEE specification for Spanning Tree Protocol?

A.) 802.9
B.) 803.ud
C.) 803
D.) 802.1d

Ans D
IEEE 8021.d Spanning Tree Protocol (STP) was developed to prevent routing loops in a network. If a router, switch, or hub has more then one path to the same destination, a routing problem could occur. To prevent this, the Spanning Tree Protocol is executed between the devices to detect and logically block redundant paths from the network. The main function of the Spanning Tree Protocol is to allow redundant network paths without suffering the effects of loops in the network.

The Spanning Tree Algorithm (STA) implemented by STP prevents loops by calculating a stable Spanning Tree network topology. When creating fault tolerant internetworks, a loop-free path must exist between all Ethernet nodes in the network. Spanning Tree frames called Bridge Protocol Data Units (BPDUs) are sent and received by all switches in the network at regular intervals.

327 CO is an acronym for which of the following?

A.) Central Office
B.) Capital Office

C.) Central Operator
D.) Company Office

Ans A
Central Office (CO) - A switching facility that provides the nearest point of presence for a provider's WAN service.

328 What is convergence time?

A.) The update time
B.) The time it takes to reload a router
C.) The time it takes for a packet to reach its destination
D.) The time is takes for all routers update their tables after a change takes place

Ans D
Convergence is slower for Distant Vector routing and is faster for Link State routing.

329 Which of the following are Session Layer standards?

A.) ASCII and EBCDIC
B.) MPEG and MIDI
C.) NFS and SQL
D.) JPEG and PICT

Ans C
Session layer protocols include NFS, SQL, RPC, Appletalk Session Protocol (ASP), XWindows, and NetBEUI.

330 What is the IP extended access list range?

A.) 1000-1099
B.) 100-199
C.) 1-99
D.) 101-200

Ans B
100-199 is the range for Extended IP access lists.

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331 Define Poison Reverse?

A.) To prevent regular update messages from reinstating a route that has gone down
B.) Packets sent out that are not destined for a network go to the default network
C.) Information received on an interface cannot be sent back out the same interface
D.) When a network goes down, the router enters in its table the number 16 to signify destination unreachable

Ans D
By entering a 16 as the hop count, the other routers know that the destination is unreachable.

332 What is the default interval for SAP updates?

A.) 60 seconds

B.) 15 seconds
C.) 30 seconds
D.) 120 seconds

Ans A
By default, the SAP (Service Access Protocol) sends out updates every 60 seconds. This value can be changed to alter the update interval. To decrease WAN traffic, the update interval could be increased to every 5 minutes.

333What does a router do with a packet that it does not have a destination network for?

A.) Sends it to the Serial port
B.) Drops the packet
C.) Sends it back out the same interface it received it in
D.) Forwards the packet to the next hop

Ans B
When a router does not have a destination for a packet, it drops the packet into the bit bucket.

334 What type of frame does CDP use to gather information about it's neighbors?

A.) TCP/IP
B.) Novell-ether
C.) Subnetwork Access Protocol (SNAP)
D.) Ethernet_II

Ans C
Cisco Discovery Protocol is a proprietary protocol to allow you to access configuration information on other routers and switches with a single command. It uses SNAP at the Data-Link Layer. By default CDP sends out a broadcast every 60 seconds and it holds this information for 180 seconds. CDP is enabled by default.

335 Which protocol is used for booting diskless workstations?

A.) IP
B.) ARP
C.) RARP
D.) TCP
E.) SNMP

Ans C
Reverse Address Resolution Protocol - RARP is ARP's counterpart, but it resolves IP addresses to MAC addresses typically on diskless workstations.

336 Which layer is responsible for synchronizing sending and receiving applications?

A.) Presentation
B.) Session
C.) Transport
D.) Application
E.) Network

Ans D
The Application layer performs the following: Synchronizing sending and receiving applications. Program-to program communication. Identify and establish the availability of the intended communication partner, and determine if sufficient resources exist for the communication.

Popular application protocols include WWW, SMTP, EDI, FTP, Telnet, and SNMP

337 Which protocol gets a hardware address from a known IP address?
A.) RARP
B.) TCP
C.) IP
D.) BootP
E.) ARP
F.) ICMP

Ans E
Address Resolution Protocol - ARP is responsible for resolving MAC addresses to IP address. It stores these in its arp cache for later use. It does this to inform a lower layer of the destination's MAC address.

338 Which layer defines bit synchronization?

A.) Application
B.) Network
C.) Transport
D.) Physical
E.) Session
F.) Session

Ans D
The Physical layers deals with synchronizing the 1s and 0s on the wire.

339 Which is true regarding half duplex Ethernet operation?

A.) Half Duplex ethernet technology provides a transmit circuit connection wired directly to the receiver circuit at the other end
B.) Half duplex transmission between stations is achieved by using point to multipoint Ethernet and Fast Ethernet
C.) With Half Duplex transmission logically circuits feed into a single cable creating a situation similar to a one way bridge
D.) Half Duplex transmission between stations is achieved using Point to Point Ethernet & Fast Ethernet

Ans C
Half-Duplex - Capability for data transmission in only one direction at a time between sending station and a receiving station.

340 When would you use ISDN?

A.) To connect LANs using POTS
B.) To support applications requiring voice, data, and video
C.) When you need a consistent and very high rate of data speed
D.) To connect to IBM mainframes

Ans B
IDSN supports high speed voice, data and video and is a good choice for many small businesses.

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350 Which protocol will send a message to routers if a network outage or congestion occurs?

A.) ARP
B.) TCP
C.) IP
D.) ICMP

Ans D
Internet Control Message Protocol - ICMP is a management protocol and messaging service provider for IP. Its messages are carried as IP datagrams.

ICMP is used in the following events:

Destination Unreachable - If a router cannot send an IP packet any further, it uses an ICMP echo to send a message back to the sender notifying it that the remote node is unreachable.

Buffer Full - If a routers memory buffer is full ICMP will send out a message to the originator.

Hops - Each IP datagram is assigned a path. This consists of hops. If it goes through the maximum number of hops, the packet is discarded and the discarding router sends an ICMP echo to the host.

Ping - Ping use ICMP echo message to check connectivity.

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351 What are the 2 functions of the Data Link Mac layer?

A.) Handles access to shared media
B.) Manages protocol access to the physical network medium
C.) Provides SAPs for higher level protocols
D.) Allows multiple devices to uniquely identify one another on the data link layer

Ans B D
These are the two primary functions of the MAC layer.

352 Which layer is responsible for coordinating communication between systems?

A.) Application
B.) Network
C.) Session
D.) Transport
E.) Physical
F.) Data Link

Ans C
The Session layer performs the following: Responsible for establishing and maintaining communications channels. In practice, this layer is often combined with the Transport Layer. Dialog control between devices or nodes. Organizes the communication through simplex, half and full duplex modes. Deals with connection establishment, data transfer, and connection release.

353 What is the default CDP broadcast update rate for Cisco routers?

A.) 120 seconds
B.) 60 seconds
C.) 30 seconds
D.) 90 seconds

Ans B
Cisco Discovery Protocol is a proprietary protocol to allow you to access configuration information on other routers and switches with a single command. It uses SNAP at the Data-Link Layer. By default CDP sends out a broadcast every 60 seconds and it holds this information for 180 seconds. CDP is enabled by default.

354 You need to come up with a TCP/IP addressing scheme for your company. How many network IDs must you allow for when you define the subnet mask for the network?

A.) One for each WAN link
B.) One for each router interface
C.) One for each NIC installed in each client
D.) One for each subnet with hosts
E.) One for each host ID

Ans A D
When determining Network Ids, you need to take into account each Subnet and Each WAN link you will have. Add these numbers up and you will find the answer to which Network ID you can use.

355 What is the protocol number for UDP?
A.) 6
B.) 17
C.) 25
D.) 21

Ans B
User Datagram Protocol - UDP is a connectionless oriented transport protocol for use when the upper layers provide error-recovery and reliability. UDP does not sequence data or re-assemble it into any order after transmission. This protocol uses Port 17.

356 What is the default LMI type?

A.) Cisco
B.) ANSI
C.) IETF
D.) Q933a

Ans A
Local Management Interface (LMI) was developed in 1990. LMI messages provide information about the current DLCI values, the global or local significance of the DLCI value, and the status of virtual circuits.

There are three types of LMI standards:
ANSI - Annex D defined by ANSI standard T1.617
ITU-T (Q.933A) - Annex A defined by Q933A
Cisco (default) - LMI defined by the gang of four

357 You have two Cisco routers setup back-to-back in a lab using DTE/DCE cables. To which router would you add the clockrate command?

A.) The serial port on the DCE router
B.) The Ethernet port on the DTE router
C.) The Ethernet port on the DCE router
D.) The serial port on the DTE router

Ans A
In order to connect routers back-to-back, a clock rate must be set on the router with the DCE cable. This will provide the clocking usually performed by a DSU/CSU. It is recommended that a bandwidth statement be added to the interface because some routing protocols, such as IGRP, use this to make routing decisions.

358 How does a switch use store and forward?

A.) By using a Class I repeater in a collision domain
B.) The LAN switch copies the entire frame into its onboard buffers and then looks up the destination address in its forwarding, or switching, table and determines the outgoing interface
C.) By using broadcast addresses as source addresses
D.) The switch waits only for the header to be received before it checks the destination address and starts forwarding the packets

Ans B

Store-and-Forward switching copies the entire frame into its buffer and computes the CRC. If a CRC error is detected, the frame is discarded, or if the frame is a runt (less than 64 bytes including the CRC) or a giant (more than 1518 bytes including the CRC). The LAN switch then looks up the destination address in its switching table and determines the outgoing interface. The frame is then forwarded to the outgoing interface. Cisco Catalyst 5000 switches uses the Store-and-Forward method. The problem with Store-and-Forward switching is latency is increased. Latency also varies with the size of the frame. The larger the frame, the more latency associated. This of course is due to the fact that the entire frame is copied into its buffer before being forwarded.

359 Which of the following are valid WAN terms?

A.) DTE
B.) DCE
C.) Demarc
D.) CPE

Ans A B C D
All of the above are valid WAN terms.

360 Which two describe frame tagging?

A.) Examines particular info about each frame
B.) A unique ID placed in the header of each frame as it traverses the switch fabric
C.) A user- assigned ID defined to each frame
D.) The building of filter tables

Ans B C
Frame identification (frame tagging) uniquely assigns a user-defined ID to each frame. This technique was chosen by the IEEE standards group because of its scalability.

In this approach, a unique user-defined identifier is placed in the header of each frame as it's forwarded throughout the switch fabric. The identifier is understood and examined by each switch

prior to any broadcasts or transmissions to switch ports of other switches, router, or end-station devices. When the frame exits the switch fabric, the switch removes the identifier before the frame is transmitted to the target end-station.

The following points summarize frame tagging:
Used by Catalyst 3000 and 5000 series switches
Specifically developed for multi-VLAN, inter-switch communication
Places a unique identifier in the header of each frame
Functions at layer 2
Requires little processing or administrative overhead

361 A ISDN BRI circuit can be described as a which of the following?

A.) 3B channels
B.) 2-64Kbps B channels and 1-16Kbps D channel
C.) none of the above
D.) 2-64Kbps B channels and 1-16Kbps C channel

Ans B
There are two types of ISDN Channels :
BRI (Basic Rate Interface) - is 2 64Kbps B channels for data and one 16Kbps D channel for link management.
PRI (Primary Rate Interface) - is 23Kbps B channels and 1 64Kbps D channel.

362 The two sublayers of the IEEE Data Link Layer are which of the following?

A.) Link and Logical Control
B.) Data Link and LLC
C.) Logical Link Control and Media Access Control
D.) Data Link and MAC

Ans C
Logical Link Control Sublayer - Acts as a managing buffer between the upper layers and the lower layers. Uses Source Service Access Points (SSAPs) and Destination Service Access Points (DSAPs) to help the lower layers talk to the Network Layer.

Media Access Control (MAC) -The MAC sublayer manages protocol access to the physical network medium. The IEEE MAC specification defines MAC addresses, which allow multiple devices to uniquely identify one another at the data link layer.

363 The -- terminal no editing -- command will perform what function?

A.) Edit the contents of NVRAM
B.) Allows access to the terminal port
C.) Stops the advanced editing feature
D.) Enable password functions

Ans C
The command to disable advanced editing feature is: Router(config)# terminal no editing

364 Which two of the following are valid ways to have multiple encapsulation types on a single interface?

A.) This is not possible
B.) subinterfaces
C.) additional physical interfaces
D.) secondary addresses

Ans B D
Cisco routers do not allow multiple encapsulation types on a single interface. Therefore, it is necessary to create either a Secondary Network, or a Subinterface and assign a new encapsulation type.

365 Which 3 statements describe default encapsulation and LMI type configuration?

A.) There are only four encapsulations and 3 LMI type options
B.) The LMI type config term options
C.) In release 11.3 the LMI type is autosensed
D.) The default LMI is Cisco
E.) IETF encap must be configured unless the connecting routers are both cisco

Ans C D E
The above 3 statements best describe default encapsulation and LMI type configuration for Cisco routers.

366 Which can be true regarding VLANs?

A.) They are created by location
B.) They are created by function
C.) They are created by department
D.) They are created by group

Ans A B C D
A Virtual LAN (VLAN) is a switched network that is logically segmented by communities of interest without regard to the physical location of the users. Each port on the switch can belong to a VLAN. Ports in a VLAN share broadcasts. A VLAN looks like, and is treated like, it's own subnet.
The benefits of VLANs are as follows:
Simplify moves, adds, and changes
Reduce administrative costs
Have better control of broadcasts
Tighten network security
Microsegment with scalability
Distribute traffic load
Relocate server into secured locations

367 What is true when using DDR?

A.) HDLC is the preferred encapsulation
B.) You must use static routing
C.) You should use dynamic routing
D.) You should use ISDN

Ans B
When using Dial Demand Routing (DDR), static routes must be specified in order to route packets.

368 If you are running Token Ring with Novell IPX routing, which encapsulation should

you use?

A.) SAP
B.) SNAP
C.) 802.5
D.) 802.2

Ans B
Token Ring with Novell IPX routing uses the SNAP protocol, not 802.5.

369 What are the 3 ways routers learn paths to destination networks?

A.) Dynamic
B.) Static
C.) Routing tables
D.) Default

Ans A B D
There are three methods in which routers can learn paths to destination networks, they are:
1) Static - The administrator manually enters the routes.
2) Dynamic - A routing protocol is used.
3) Default - A gateway of last resort is set.

370 Bridges work at what layer of the OSI model?

A.) Data Link
B.) Network
C.) Physical
D.) Application

Ans A
Bridges work at Layer 2 (Data Link) because they examine the MAC address of the packet which they base decisions upon.

371 What is the default switching method for the Cisco 5000 series?

A.) Cut-through
B.) Store-and-splice
C.) Latency
D.) Store-and-forward

Ans D
Store-and-Forward switching copies the entire frame into its buffer and computes the CRC. If a CRC error is detected, the frame is discarded, or if the frame is a runt (less than 64 bytes including the CRC) or a giant (more than 1518 bytes including the CRC). The LAN switch then looks up the destination address in its switching table and determines the outgoing interface. The frame is then forwarded to the outgoing interface. Cisco Catalyst 5000 switches uses the Store-and-Forward method. The problem with Store-and-Forward switching is latency is increased. Latency also varies with the size of the frame. The larger the frame, the more latency associated. This of course is due to the fact that the entire frame is copied into its buffer before being forwarded.

372 The benefits to segmenting with Bridges are which of the following?

A.) Scalability
B.) Datagram filtering
C.) Manageability
D.) Reliability

Ans A C D
Manageability, reliability and scalability are all benefits to segmenting with bridges.

373 What is the administrative distance for IGRP?

A.) 90
B.) 120
C.) 110
D.) 100

Ans D
IGRP is a distance vector routing protocol designed by Cisco. The maximum hop count is 255, and it uses a combination of variables to determine a composite metric. IGRP has an administrative distance of 100.

374 On an ISDN BRI interface, the control channel is the 'D' channel. What is the rate of this channel?

A.) 64 Kbps
B.) 1.544 Mbps
C.) 128 Kbps
D.) 2.048 Mbps
E.) 16 Kbps

Ans E
16K for the D channel (control)
64K for the two B channels (data)

375 MIDI and MPEG are examples of what layer of the OSI seven layer model?
A.) Session
B.) Network
C.) Datalink
D.) Transport
E.) Application
F.) Presentation

Ans F
The OSI Presentation layer includes EBCIDIC, ASCII, PICT, GIF, MIDI, and MPEG. Encryption can also occur at this layer.

376 Which ISDN specification series deals with Concepts and Terminology?

A.) World Series
B.) I- Series
C.) Q-Series
D.) 911-Series
E.) J-Series
F.) F-Series
Ans B

The 2 most important ISDN specifications are Q & I:
Q - Call setup and teardown.
I - Concepts and terminology.

377 Which of the following is an example of the Physical Layer?

A.) SQL
B.) IP
C.) LLC
D.) DDP
E.) Ethernet

Ans E
FDDI, Token Ring and Ethernet are all physical layer framing standards.

378 In regards to the ISDN BRI standard, which channel is used for control?

A.) B
B.) D
C.) E
D.) I
E.) Q

Ans B
B is Bearer for Data (2 channels at 64kb each).
D is for Control (16kb).

379 Which protocol resolves an IP address to a MAC address?

A.) DHCP
B.) RARP
C.) ARP
D.) NBP
E.) DNS

Ans C
The Address Resolution Protocol (ARP) sends out a broadcast to determine the MAC address
from the IP address.

380 Which of the following is an example of the Network Layer?

A.) TCP
B.) IP
C.) SQL
D.) Token Ring
E.) LLC

Ans B
Most protocol suites have different OSI layer protocols within them. At layer 3,
IP is for TCP/IP. TCP is layer 4.
IPX is for IPX/SPX. SPX is layer 4.
DDP is for Appletalk

381 The Internet Control Message Protocol occurs at what layer of the seven layer model?

A.) Physical
B.) Transport
C.) Session
D.) Datalink
E.) Presentation
F.) Network

Ans F
ICMP is used for error handling and testing at layer 3. Ping and traceroute are examples of ICMP.

382 Which of the following are examples of the Session Layer?

A.) IP
B.) Netbios Names
C.) NFS
D.) Token Ring
E.) SQL
F.) TCP

Ans B C E
Session layer examples include Netbios Names, SQL, NFS, X Windows, and RPC.

383 What is the regional telco office called, where the customers local loop terminates?

A.) Demarc
B.) DTE
C.) DCE
D.) CO
E.) CPE

Ans D
The Central Office (CO) is the Telephone Company (Telco) location nearest you.

384 What is the default LMI type for Cisco Routers that are using Frame-Relay?

A.) Gandalf5
B.) Q933A
C.) Cisco
D.) IETF
E.) ARPA
F.) SAP

Ans C
Local Management Interface (LMI) types are Cisco, ANSI, and Q933A.

385 Most routing protocols recognize that it is never useful to send information about a route back out the direction from which the original packet came. This is an example of which routing technology?

A.) Split Horizon

B.) LMI
C.) Triggered Updates
D.) Poison Reverse
E.) SYN, ACK
F.) DLCI

Ans A
The golden rule of Split Horizon: Do not send any update packet back out the same interface that it was received or learned from. Poison Reverse is typically used on larger networks, where a more aggressive routing loop solution is required.

386 Which layer of the 7 layer model is responsible for representing the application information between 2 different OS's? For example, converting ASCII to EBCIDIC.

A.) Transport
B.) Application
C.) Physical
D.) Session
E.) Presentation
F.) Network

Ans E
The OSI Presentation layer formats the data, which includes encryption services.

387 Which type of switching reads in the entire frame before forwarding it?

A.) Tabling
B.) Store-and-Forward
C.) Inverse ARP
D.) Fast Forward
E.) Cut-Through
F.) Routing

Ans B
Store-and-Forward is slower, but it checks the frame for errors before forwarding. This can actually help to improve overall network performance on noisy lines.

388 Which OSI Reference Layer is concerned with path determination?

A.) Datalink
B.) Physical
C.) Network
D.) Transport
E.) Session

Ans C
The Network layer is where routing occurs.

389 Which of the following are examples of the Datalink Layer?

A.) LLC
B.) SQL
C.) TCP
D.) Token Ring
E.) IP

Ans A
MAC and LLC are the sublayers of the Datalink layer.

390 What is the standard ISDN term for a non-native analog telephone?

A.) TE1
B.) TA
C.) LE
D.) TE2
E.) ET

Ans D
Terminal Equipment 2 (TE2) does not support native digital ISDN. The analog device will require an external analog to digital converter.

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391 Which Distance Vector characteristic can help to speed up convergence?

A.) Triggered Updates.
B.) Split Horizon.
C.) Poison Reverse.
D.) Hold Down timers.
E.) Inverse ARP.

Ans A
Instead of waiting on a pre-set periodic interval (before sending the routing table), DV routing protocols can send triggered updates to immediately notify the neighbor routers. Hold down timers, Poison Reverse, and Split Horizon are features that are used to avoid routing loops.

392 Which type of switching is considered to be 'wire speed?'

A.) Cut-Through
B.) Multiplexed
C.) Inverted
D.) Layer 4
E.) Store and Forward
F.) Layer 3

Ans A
Cut-Through is the fastest mode of switching. Store and Forward reads in the entire frame, confirms the frame is valid, and then forwards the frame onto the wire. Cut-Through only checks the destination header in the frame and immediately forwards the frame onto the wire, without checking the frame to be valid. Layer-3 switching is actually routing.

393 The Datalink layer works with which of the following:
A.) Packets
B.) Bits
C.) Globules
D.) Frames
E.) Segments

Ans D
Physical - bits

Datalink - frames
Network - packets

394 What is a characteristic of Store and Forward switches?

A.) They forward the frame before it is completely read.
B.) They work at wire speed.
C.) They are the same a Cut-Through switching.
D.) They read the entire frame and check CRC before forwarding.
E.) They decrease latency.

Ans D
Store and Forward switch will not forward fragments.
The longer the frame, the longer the delay (latency) before the switch can forward.

395 Station A is transmitting data to station B, and expects an acknowledgment after every 400 bytes. After transmitting data for a while, the two stations determine the line is reliable and change to expecting and acknowledgement every 600 bytes.
This is an example of (pick the best answer only):

A.) BECN
B.) Sliding Windows
C.) Poison Reverse
D.) Countdown timers
E.) Split Horizon
F.) Count to infinity

Ans B
A TCP/IP 'window' is the amount of data (number of bytes) that the sending station will transmit before expecting an acknowledgement back.
If the stations can change that window size on the fly, that is called a sliding window. This is done to optimize performance.

396 Which device listed below provides clocking for the line?

A.) DCE
B.) CPE
C.) CO
D.) DTE
E.) Demarc

Ans A
The Data Circuit-terminating Equipment (DCE) is responsible for providing the clocking on the wire.
HINT: When You see the 'C' in 'DCE', think 'Clocking' t.

397 Which OSI Reference Layer controls application to application communication?

A.) Datalink
B.) Network
C.) Transport
D.) Session
E.) Physical

Ans D
The Session layer controls a conversation between applications.

The Transport layer controls communications between hosts.

398 The Datalink Layer is broken down into 2 layers, LLC and MAC. The LLC establishes media independence and what else?

A.) Provides Windowing.
B.) Provides flow control.
C.) Provides SAP's (Service Access Points).
D.) The Datalink layer does not have sublayers.
E.) Provides SAP's (Service Advertising Protocol).
F.) RIP Updates.

Ans B C
OSI layer-2 SAP allows the upper layers to encapsulate multiple layer 3 protocols.
IPX SAP is a protocol used to advertise NetWare services every 60 seconds.

399 When a Distance Vector routing protocol detects that a connected network has gone down, it sends out a special routing update packet, telling all directly connected routers that the distance to the dead network is infinity. This is an example of which routing technology?

A.) ICMP.
B.) Only Link State routing protocols have this intelligence.
C.) Triggered updates.
D.) Garrison-4.
E.) Split Horizon.
F.) Poison Reverse.

Ans F
Instead of just removing the route from the routing update, Poison Reverse sets the distance to 'infinity' (for IP RIP this is a hop count of 16). This immediately makes the route invalid for all neighboring routers.

400 Which of the following would be displayed by the command 'SHOW CDP NEIGHBOR DETAIL'?

A.) The incoming/outgoing port.
B.) The hardware platform.
C.) One address per protocol.
D.) Amount of Flash Memory Available
E.) The routers hostname.
F.) The subnet mask, if IP is configured.

Ans A B C E
CDP shows a lot of the same info that 'show version' does locally, but FLASH memory is not part of it. The 'detail' keyword is optional, but even when used, IP subnet mask information is not displayed by CDP for IP interfaces.

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401 Which of the following are characteristics of UDP?

A.) UDP is connection oriented.
B.) UDP is used with TFTP.

C.) UDP is unreliable.
D.) UDP is connectionless.
E.) UDP is at the transport layer.
F.) UDP uses no acknowledgements.

Ans B C D E F
UDP sends packets 'blind' down the network, and relies on upper-layer protocols to form connections and detect errors. TCP is a connection-oriented protocol that can provide reliable transport.

402 What is a characteristic of Store and Forward switches?

A.) They work at wire speed.
B.) They are the same as Cut-Through switching in 'prune' mode.
C.) They forward based on transport layer info.
D.) They forward the frame before it is completely read.
E.) They increase latency.

Ans E
Store and froward will not forward fragments. The longer the packet, the longer the delay (latency) in the switch. There is no such thing as 'prune' mode.

403 The Internet Protocol (IP) occurs at what layer of the seven layer model?

A.) Physical
B.) Presentation
C.) Network
D.) Datalink
E.) Session
F.) Transport

Ans C
IP is a routed protocol that occurs at layer 3. Other layer 3 protocols include IPX, APPLETALK, and DECNET.

404 In regards to TCP/IP, which class of address allows for the fewest valid Internet hosts?

A.) D
B.) E
C.) Classes are not used in TCP/IP.
D.) B
E.) C
F.) A

Ans E
Class A = 16.7 million hosts
Class B = 65,534 hosts
Class C = 254 hosts

405 For IPX, what is the DEFAULT Cisco Encapsulation on an Ethernet interface?

A.) novell-ether
B.) gns
C.) snap
D.) arpa
E.) sap

F.) dix

Ans A
At the time when Cisco first supported IPX, Novell-Ether (Novell proprietary 802.3 'raw') was the default frame type for NetWare 2.x and 3.x file servers. Now, Novell has changed their default frame type to 802.2 (which is really IEEE 802.3 Ethernet, with LLC 802.2 headers).

406 Novell NetWare has an Ethernet frame type called Ethernet_II. What is the matching Cisco command line keyword for this encapsulation method?

A.) dix
B.) sap
C.) arpa
D.) gns
E.) snap
F.) novell-ether

Ans C
Novell 802.2 = sap (contains 802.2 LLC headers)
Novell 802.3 = novell-ether (NetWare proprietary)
Ethernet_II = arpa (the Internet standard)
snap = snap (field type set to 'AA')

407 There are 2 types of PPP authentication supported by the Cisco IOS. What are they?

A.) PAP
B.) PREDICTOR
C.) MD5
D.) CHAP
E.) STACKER
F.) MSCHAP

Ans A D
Router(config-if)#ppp authentication ?
chap Challenge Handshake Authentication Protocol (CHAP)
pap Password Authentication Protocol (PAP)

408 Which of the following are examples of the Transport Layer?

A.) Token Ring
B.) UDP
C.) TCP
D.) IP
E.) SQL
F.) LLC

Ans B C
TCP is connection oriented.
UDP is connectionless.

409 Which of the following describe SMTP?

A.) Used for downloading files to the router.
B.) Used for sending e-mail.
C.) Uses TCP.
D.) Uses UDP.

E.) Uses port 25.
F.) Used for managing IP devices.

Ans B C E
Send / Simple (depending on literature) Mail Transport Protocol (SMTP) is used for delivering mail to other mail servers. It uses port 25, and relies on TCP.
POP 3 (Post Office Protocol version 3) is used for retrieving mail from mail servers to clients.

410 What is the standard ISDN term for a native ISDN modem?

A.) ET
B.) LE
C.) TE2
D.) TE3
E.) TA

Ans E
The marketing term 'ISDN modem' was created to help sell the ISDN idea to America. There is no such thing as an analog modulator demodulator for digital ISDN. The Terminal Adapter (TA) allows you to connect a PC to a digital ISDN line directly. In the real world, ISDN is digital, modems are analog.

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411Which of the following are Transport layer protocols?

A.) UDP
B.) TCP
C.) NBP
D.) IP
E.) SPX

Ans A B C E
TCP (Transmission Control Protocol) and UDP are used by TCP/IP.
SPX (Sequenced Packet Exchange) is used with IPX.
NBP (Name Binding Protocol) is used with Appletalk.

412 When determining whether or not to route a LAN segment, which rule of thumb do you use?

A.) 60/40
B.) 50/50
C.) 80/20
D.) 90/10
E.) 70/30

Ans E
The industry standard rule is 80/20, which means 80% local, 20% over the router.
However, according to Cisco's online documentation, the answer is 70/30.
This makes sense, considering more and more traffic is starting to go from the desktop to an ultimate destination outside the local are network, such as the Internet.

413 Which of the following are examples of the Session Layer?

A.) TCP
B.) LLC
C.) SQL
D.) NFS
E.) Token Ring

Ans C D
Session layer examples include Netbios Names, SQL, NFS, X Windows, and RPC.

414 Which layer of the 7 layer model provides services to the Application layer over the Session layer connection?

A.) Transport
B.) Application
C.) Session
D.) Network
E.) Datalink
F.) Presentation

Ans F
The OSI Presentation layer is sandwiched between the Application and Session layers.

415 What type of switching creates variable latency through the switch?
A.) Cut-Through
B.) Inverted
C.) Layer 4
D.) Multiplexed
E.) Store and Forward

Ans E
DEFINITION: Latency = Delay.
Because a store and forward switch reads the whole frame before forwarding,a larger frame takes longer than a shorter frame.

416 The network portion of an address typically represents a:

A.) Router
B.) Ethernet MAC address.
C.) Computer
D.) Host
E.) Segment

Ans E
Every network segment is represented by a network or subnetwork address.

417 The Physical layer works with which of the following:

A.) Segments
B.) Datagrams
C.) Packets
D.) Bits
E.) Frames

The correct answer(s): D
Physical - bits
Datalink - frames

Network - packets

418 Which of the following is an example of the Network Layer?

A.) LLC
B.) SQL
C.) Token Ring
D.) IPX
E.) SPX

Ans D
Most protocol suites have different OSI layer protocols within them. At layer 3,
IP is for TCP/IP. TCP is layer 4.
IPX is for IPX/SPX. SPX is layer 4.
DDP is for Appletalk

419 When setting up a frame-relay network between a Cisco router and a non-Cisco router, what encapsulation type should you use?

A.) SAP
B.) CISCO
C.) IANA
D.) Apollo
E.) IETF
F.) Q933A

Ans E
The Internet Engineering Task Force (IETF) encapsulation method is the standard encapsulation type for Frame Relay. Cisco routers default to the CISCO encapsulation method, because it was created before there was a standard.

420 A user device that connects to a DCE must be which of the following?

A.) DTE
B.) CPE
C.) Demarc
D.) DCE
E.) CO

Ans A
DTE's are the router side, and receive clocking.
DCE's are the DSU/CSU side, and provide clocking.
It may or may not be Customer Premises equipment.

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421 What does the parameter -- LOG -- do on an IPX access list?

A.) The log keyword is not a valid option.
B.) Read the LOG to figure out what traffic to deny.
C.) Logs the creation of the access list.
D.) Logs IPX access control list violations whenever a packet matches a particular access list entry.
E.) Ensures the IPX protocol places a log in the fireplace.

Ans D
Router(config)#access-list 900 deny any ?
log Log matches against this entry

422 Given the global configuration commands:
'banner motd #'
'Hello #'
When would the message be displayed?

A.) The message of the day banner shows up before login.
B.) The message of the day banner shows up during logoff.
C.) These commands are not the right syntax for MOTD.
D.) Message of the day banners are displayed upon entering global config mode.
E.) Message of the day banners are not possible.
F.) The message of the day would be, 'Hello #'

Ans A
Message of the day banners are displayed when a user logs on to the router. In the example above, the '#' is the unique delimiting (terminating) character. In this way, banners can have multiple lines, terminated not by hitting <ENTER>, but rather by the chosen (unique) delimiting character.

423 Which ISDN specification deals with call Setup and Teardown?

A.) Q-Series
B.) J-Series
C.) I- Series
D.) C- Series
E.) F-Series

Ans A
The 2 most important ISDN specifications are Q & I:
Q = Call setup and teardown.
I = Concepts and terminology.

424 All equipment located at the customers site is called:

A.) CPE
B.) CO
C.) DCE
D.) Demarc
E.) DTE

Ans A
CPE - Customer Premise Equipment

425 Which layer allows multiple Ethernet devices to uniquely identify one another on the Datalink layer?

A.) Transport
B.) Session
C.) Network
D.) Datalink - MAC Sublayer
E.) Datalink - LLC Sublayer

Ans D
Ethernet MAC addresses are 48 bits long, and provide a unique hardware identifier.

426 Which of the following are examples of ICMP?

A.) Traceroute
B.) Web Browsing
C.) Ping
D.) Telnet
E.) Destination Unreachable message from a router
F.) Inverse Tunnels

Ans A C E
Ping and Traceroute are used by ICMP for Testing.
Destination Unreachable messages are generated by a router when it does not have a route to the network.

427 Novell NetWare has an Ethernet frame type called Ethernet_SNAP. What is the matching Cisco command line keyword for this encapsulation method?

A.) arpa
B.) sap
C.) snap
D.) gns
E.) dix
F.) novell-ether

Ans C
Novell 802.2 = sap (contains 802.2 LLC headers)
Novell 802.3 = novell-ether (NetWare proprietary)
Ethernet_II = arpa (the Internet standard)
snap = snap (field type set to 'AA')

428 Given the Novell IPX address 1aceb0b.0000.0c12.3456 which part is the network portion of the address?

A.) 0000
B.) 1
C.) 3456
D.) 1ace
E.) 0000.0c12.3456
F.) 1aceb0b

Ans F
IPX addresses are 80 bits total: The first section of the address is the network portion, the last 3 groups of numbers are the host.

429 In version 11.2 of the IOS, a Cisco router configured for frame-relay can automatically detect the LMI type. What is this known as?

A.) Psychic
B.) ESP
C.) Inverse ARP
D.) Hello
E.) Reverse ARP
F.) Autosense

Ans F
Autosense allows the router to determine which LMI type the frame relay switch is using. Options include CISCO, ANSI, and Q933A.

430 What type of Ethernet operation allows only one entity to transmit at a time? For example, if someone else is transmitting, they must wait.

A.) Full-Duplex
B.) Dual-Duplex
C.) Half-Duplex
D.) Latex
E.) Quarter-Duplex
F.) Suplex

Ans C
Half-Duplex is like a one-lane bridge. If one car is going over the bridge, all other cars must wait on the other side before crossing

431 Which of the following are examples of the Application Layer?

A.) LLC
B.) Token Ring
C.) Spreadsheet
D.) TCP
E.) IP
F.) Word Processor

Ans C F
Pretty much any end-user program is an example of the Application Layer.

432 Which technologies listed below help prevent network loops in a switched (bridged) environment?

A.) Store-and-Forward
B.) IEEE 802.1d
C.) Diikjstra Algorithm
D.) Cut-Through
E.) Spanning Tree Protocol
F.) Routing

Ans B E
The Spanning Tree Protocol (STP) eliminates loops by disabling the port(s) that are causing the bridging loop. This is also called putting a port into 'blocking' mode. The industry standard for STP is IEEE 802.1d

433 Which OSI Reference Layer controls end-to-end (host to host) communication?

A.) Transport
B.) Physical
C.) Datalink
D.) Network

E.) Session

Ans A
The Session layer controls a conversation between applications.
The Transport layer controls communications between hosts.

434 What is the first step in data encapsulation?

A.) User information is converted into data.
B.) Frames are put into bits.
C.) Data is converted into segments.
D.) Segments are converted into datagrams and packets.
E.) Packets are put into logical frame.

Ans A
The Five steps to data encapsulation (IN ORDER):
1) User information is converted into data.
2) Data is converted into segments.
3) Segments are converted into datagrams and packets.
4) Packets are put into logical frame.
5) Frames are put into bits.

435 We know that TCP provides connection oriented services, what else does it provide?

A.) FECN & BECN
B.) Path discovery.
C.) Flow control and error checking.
D.) Name resolution.
E.) File manipulation.

Ans C
The transmission control protocol uses acknowledgements and windowing to handle flow control
and error checking.

**436 With distance vector routing protocols, it is never useful to send the same routing
update packet back out the same interface that it was learned. This concept is called
what?**

A.) Holddown timers
B.) Poison Reverse
C.) Count to infinity
D.) Split Horizon
E.) Link State

Ans D
Split horizon is the concept of: 'Don't tell me what I just told you.'

437 Which of the following are ways to provide login access to a router?

A.) HTTP
B.) Console
C.) Telnet
D.) Aux Port
E.) SNMP
F.) LLC

Ans A B C D
You can connect via Aux, Console, Telnet, or HTTP to a Cisco router.
SNMP can support Community (password protected) SET and PUT commands, but you can not issue a command line interface command with it.

438 What two types of PPP data compression are available using Cisco IOS?

A.) Predictor
B.) DoubleSpace
C.) Stacker
D.) PAP
E.) ZIP
F.) CHAP

Ans A C
Stacker and predictor have similar compression rates.
Stacker uses more CPU, while predictor uses more RAM.

439 In regards to the OSI seven-layer model, at which layer is EBCDIC and ASCII?

A.) Presentation
B.) Application
C.) Transport
D.) Session
E.) Datalink
F.) Network

Ans A
The OSI Presentation layer includes EBCIDIC, ASCII, PICT, GIF, MIDI, and MPEG.
Encryption can also occur at this layer.

440 Which of the following are examples of the Transport Layer?

A.) SQL
B.) UDP
C.) IP
D.) LLC
E.) ARP

Ans B
TCP is connection oriented.
UDP is connectionless.

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441 Given the global configuration command 'banner motd #7 Hello #', what do the '#' symbols represent?

A.) Escape sequence to exit the menu.
B.) Nothing, just part of the banner.
C.) Tic Tac Toe Macro.
D.) Delimiting Character
E.) Message border character.
F.) Number of times message to be displayed.

Ans D
Delimiting characters allow you to have a message the is more than one line. You simply type as many lines as you want, ending with the delimiting (terminating) character.

442 There is a process in Frame-Relay where LMI resolves an IP address from a DLCI number. What is this called?

A.) arp
B.) inverse arp
C.) rarp
D.) automap
E.) reverse arp
F.) arp

Ans B
Inverse Arp maps the Local DLCI number to the remote IP address.
Inverse Arp is a function of LMI.

443 When setting up a WAN network, everything outside of the Demarc is not owned by the customer. Which of the following are not owned by the customer?

A.) The T1 line.
B.) LAN
C.) The Router
D.) DTE
E.) PC's
F.) CO

Ans A F
The Central Office is the where phone people work.
The Telco maintains ownership of its physical wiring, and leases their use to their customers.

444 You want to segment a network. The network is running SNA and Netbios. Which device should NOT be used to segment the network?

A.) A store and forward switch.
B.) A router.
C.) A Catalyst 5000.
D.) A cut-through switch.
E.) A bridge.

Ans B
SNA and Netbios are non-routable, you should bridge them.
The most correct answer for this question is 'A Router.'
The purpose here is to recognize that Layer 2 protocols can not be routed.
However, there are ways to turn a non-routable protocol into a routable protocol via a protocol gateway, DLSW+, RSRB and other technologies.

445 Name a major component of the Point-to-Point Protocol (PPP) to negotiate and set up control options on the WAN data link.

A.) RFC 1661
B.) High Level Datalink Protocol (HDLC)
C.) Challenge Handshake Authentication Protocol (CHAP)
D.) SS7

E.) Link Control Protocol (LCP)

Ans E
LCP negotiates many of the PPP settings during call setup.

446 Which of the following is an example of the Physical Layer?

A.) SQL
B.) IP
C.) LLC
D.) Token Ring
E.) FDDI
F.) TCP

Ans D E
FDDI, Token Ring and Ethernet are all physical layer framing standards.

447 Cisco's implementation of ISDN BRI has multi protocol support, SNMP MIB support, and what other features?

A.) Call waiting
B.) Compression
C.) ADSL
D.) 1.544 Mbps
E.) Call screening
F.) Negative 'G' support

Ans B E
Caller ID is part of ISDN and you can screen calls based on it.
Cisco can compress with Stacker or Predictor.

448 The Network layer works with which of the following:

A.) Globules
B.) Bits
C.) Packets
D.) Segments
E.) Frames

Ans C
Physical - bits
Datalink - frames
Network - packets

449 An optional parameter on an IPX access is the 'LOG' parameter. This records access-list violations when a packet matches. What else does the 'LOG' option do?

A.) Records the number of times that a packet matches the list.
B.) Return a message to user who is denied access the by list.
C.) Notifies an SNMP Agent.
D.) Saves the log to NVRAM.
E.) Send an SNMP Trap.

Ans A
It will record to the log. By default a Cisco router logs to RAM and can display the offense to the console, which is not recommended. It is suggested that you log to a syslog server, for less router

CPU impact.

450 Which is not a common problem with Distance-Vector routing?

A.) Slow convergence.
B.) Complex configuration.
C.) Routing loops.
D.) Periodic updates can slow convergence.
E.) Counting to infinity.

Ans B
Easy Config:
Router(config)#router rip
Router(config-router)#network 10.0.0.0
Router(config-router)#
That's it! (Remember that the network is followed by the CLASSFUL address.)

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451 Which routing protocols uses connection-oriented routing updates?

A.) IGRP
B.) UDP
C.) RIP
D.) IP
E.) BGP

Ans E
Sybex CCNA Study Guide: Chapter 7, page 228-229
BGP (Border Gateway Protocol) uses TCP to reliably deliver its routing updates.

452 At which layer of the OSI Reference Model do bridges operate?

A.) Physcial
B.) Session
C.) Datalink
D.) Transport
E.) Network

Ans C
Bridges and switches work at layer 2 and forward frames based on the MAC address.
Repeaters work at the physical layer.

453 Where is the point between the customers site and the phone carrier that responsibility changes?

A.) CO
B.) Demarc
C.) DCE
D.) DTE
E.) CPE

Ans B
The DEMARCATION POINT (Demarc) in North America is between the customers CSU/DSU

and the Local Telco Office, because Americans own the DSU/CSU.
Elsewhere in the world, the Demarc is between the Router and the CSU/DSU, because outside the USA the Telco owns the DSU/CSU.

454 Novell NetWare has an Ethernet frame type called Ethernet_802.2. What is the matching Cisco command line keyword for this encapsulation method?

A.) gns
B.) arpa
C.) snap
D.) sap
E.) novell-ether
F.) dix

Ans D
Novell 802.2 = sap (contains 802.2 LLC headers)
Novell 802.3 = novell-ether (NetWare proprietary)
Ethernet_II = arpa (the Internet standard)
snap = snap (field type set to 'AA')

455 Which of the following is an example of the Physical Layer?

A.) TCP
B.) ARP
C.) IP
D.) FDDI
E.) LLC
F.) Fast Ethernet

Ans D F
FDDI, Token Ring and Ethernet are all physical layer framing standards.

456 Which of the following is true regarding standard ISDN BRI service?

A.) ISDN BRI B channels are typically 64K.
B.) ISDN BRI can handle only voice.
C.) ISDN BRI can handle only data.
D.) ISDN BRI has 2B and 1D channels.
E.) ISDN BRI D channels are 16K.
F.) ISDN BRI can handle voice and data.

Ans A D E F
2 64K B channels carry the data.
1 16K D channel is used for control.
Note: In certain parts of the world, it is possible that the 'B' channels are only 56k each instead of 64k each.

457 In distance-vector routing, there is a problem known as the 'count to infinity' problem. What is the most direct solution to this?

A.) Defining a Maximum.
B.) You can not solve the 'count to infinity' problem with a distance vector protocol.
C.) Poison Reverse.
D.) Triggered Updates.
E.) Split Horizon.

Ans A
The most direct solution to the count to infinity problem is to lower what infinity is.
For RIP, the default maximum number of hops is 16. It takes a lot less time to count to 16 than infinity.

458 Which of the following are examples of the Network Layer?

A.) Token Ring
B.) LLC
C.) SQL
D.) IP
E.) TCP
F.) IPX

Ans D F
Other Network Layer protocols also include Appletalk and DECnet. TCP is considered to be at a higher Layer, because it provides guaranteed data delivery.

459 Which type of switching reads just the address portion of the frame and then immediately starts forwarding it?

A.) Cut-Through
B.) Store-and-Forward
C.) Tabling
D.) Routing
E.) Inverse ARP
F.) Fast Forward

Ans A
Cut-Through is fast, but it does not read the entire frame and perform any error checking before forwarding. This can result in forwarding errors, such as fragments.

460 Which feature of PPP (Point to Point Protocol) allows the router to bind multiple channels together, to form a single logical channel?

A.) multi-link ppp
B.) multi-channel ppp
C.) can't be done
D.) omni-ppp
E.) plp

Ans A
Multilink PPP binds separate physical lines into one logical line. This feature is especially useful for ISDN BRI, where you are provided 2 different circuits at 64k each (so you can bind them together for 128k).

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461 Which of the following are solutions to the problems encountered with Distance-Vector routing?

A.) Defining a Maximum
B.) Poison Reverse
C.) Triggered Updates

D.) Shortest path first algorithm.
E.) Split Horizon

Ans A B C E
The Shortest Path First (SPF) algorithm is used only with Link-State protocols such as OSPF.

462 Classful routing protocols do not include subnet masks in their routing updates. Which of the following routing protocols are considered classful?

A.) EIGRP
B.) OSPF
C.) TCP
D.) IGRP
E.) RIP
F.) IP

Ans D E
IGRP & RIP do NOT includes the subnet mask in their routing updates.
OSPF & EIGRP are classless routing protocols and DO INCLUDE the subnet mask in updates.
TCP and IP are not routing protocols.

463 What is the standard ISDN term for a native ISDN telephone?

A.) ET
B.) TE1
C.) TE2
D.) LE
E.) TA

Ans B
Terminal Equipment 1 (TE1) understands what native digital ISDN is, and has built-in analog to digital converters.

464 PICT & JPEG are examples of what layer in the OSI seven layer model?

A.) Transport
B.) Presentation
C.) Application
D.) Datalink
E.) Network
F.) Session

Ans B
The OSI Presentation layer includes EBCIDIC, ASCII, PICT, GIF, MIDI, and MPEG.
Encryption can also occur at this layer.

465 Which of the following is an example of the Session Layer?

A.) TCP
B.) SQL
C.) IP
D.) X-Windows
E.) Token Ring
F.) LLC

Ans B D

Netbios Names, SQL, NFS, X-Windows are examples of the Session layer.

466 Which global configuration command will tell the router to load the IOS file 'IOS_filename' from the Network File server at 1.2.3.4 during the next boot?

A.) boot system flash IOS_filename 1.2.3.4
B.) boot system tftp IOS_filename 1.2.3.4
C.) config-register 0x0 1.2.3.4
D.) boot system rom 1.2.3.4
E.) This can not be done, only the first file in flash can be used.

Ans B
Router(config)#boot system ?
WORD TFTP filename or URL
flash Boot from flash memory
mop Boot from a Decnet MOP server
rcp Boot from a server via rcp
rom Boot from rom
tftp Boot from a tftp server

467 At what layer of the OSI reference model does FRAME-RELAY map to?

A.) Session
B.) Physical
C.) Network
D.) Presentation
E.) Transport
F.) Datalink

Ans F
Remember, layer 2 deals with 'frames', and Frame-Relay is purely a layer 2 protocol.

468 X.25 is characterized by layer 2 identifiers, and what else?

A.) Virtual Lan's
B.) Session Layer
C.) Transport Layer
D.) Routing Updates
E.) PVC's

Ans E
Permanent Virtual Circuits and Layer 2 identifies are typical in X.25.

469 Which of the following is an example of the Network Layer?

A.) Token Ring
B.) RARP
C.) LLC
D.) DDP
E.) TCP

Ans B D
The following two are layer 3 protocols:
DDP - Datagram Delivery Protocol. AppleTalk network layer protocol that is responsible for delivery of datagrams.
RARP - Reverse Address Resolution Protocol. Protocol in the TCP/IP the allow a client to get

assigned an IP address based on it's own MAC address.

470 What is an advantage of LAN segmentation?

A.) Increases broadcasts.
B.) Increases collisions.
C.) Provides more protocol support.
D.) Decreases broadcasts.
E.) Routing protocol support.

Ans D
Broadcast containment is a primary motive for LAN segmentation.

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471 What does the User Datagram Protocol (UDP) provide?

A.) Connectionless datagram service.
B.) FECN & BECN
C.) Flow control and error checking.
D.) Name resolution.
E.) Path discovery.

Ans A
UDP is connectionless, and does not provide error checking. But remember, error checking can occur at other layers too.

472 Which OSI Reference Layer is concerned with logical addressing?

A.) Network
B.) Transport
C.) Datalink
D.) Physical
E.) Session

Ans A
Datalink is physical (hardware) addressing.
Network is logical (software) addressing.

473 What layer can optionally support reliability?

A.) Transport
B.) IP
C.) Physical
D.) Network
E.) Sub-physical layer

Ans A
The Transport Layer:
Segments upper-layer applications.
Establishes an end-to-end connection.
Sends segments from one end host to another.
Optionally, ensures data reliability.

474 Which of the following is an example of the Datalink Layer?

A.) LLC
B.) TCP
C.) SQL
D.) IPX
E.) Token Ring
F.) MAC

Ans A F
MAC (media access control) and LLC (logical link control) are both layer 2 protocols.

475 What is the last step in data encapsulation?

A.) User information is converted into data.
B.) Segments are converted into datagrams and packets.
C.) Frames are put into bits.
D.) Data is converted into segments.
E.) Packets are put into logical frame.

Ans C
The Five steps to data encapsulation (IN ORDER):
1) User information is converted into data.
2) Data is converted into segments.
3) Segments are converted into datagrams and packets.
4) Packets are put into logical frame.
5) Frames are put into bits

476 Which switching technology can reduce the size of a broadcast domain?

A.) Cut-Through
B.) Store-and-Forward
C.) Spanning Tree Protocol
D.) RARP
E.) ARP
F.) VLAN

Ans F
VLAN's are logical ways to break up a large broadcast domain.
To get from VLAN to VLAN you must have a router.

477 Station A is transmitting data to station B faster that station B can handle it. When station B's buffer fills up, it send out a message to station A to stop sending data. After B empties out its buffer, station B sends a message to station A to start sending data again.This is most directly an example of (pick the best answer only):

A.) Poison Reverse
B.) Connectionless protocol
C.) Windowing
D.) Connection oriented protocol
E.) Flow Control
F.) Split Horizon

Ans E
Flow control is when a station is being overloaded with data and tells the other station to stop for a while, so the receiving station can process the data that it has in its buffer.

478The Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI) provides which of the following?

A.) 1.544 Mbps
B.) 23B + 1D Channel
C.) 24B + 1D Channel
D.) 2B + 1D Channel
E.) 23B + the Disney Channel

Ans D
Each B (Bearer) Data channel is 64K
The D (Control) channel is 16K

479 Which layer manages protocol access to the Network layer?

A.) Datalink - MAC Sublayer
B.) Datalink - LLC Sublayer
C.) Transport
D.) Session
E.) Network

Ans B
Having two Datalink sublayers provides physical media independence.
The MAC sublayer encapsulates to the Physical Layer.
The LLC sublayer encapsulates to the Network Layer.

480Identify the command to display the IP routing table?

A.) show route
B.) show ip route
C.) show ip table route
D.) show ipx route

Ans B

CCNA Interview Questions Page 48

481 Identify the command to display all the valid commands at the given mode?

A.) Help all
B.) Help
C.) All commands
D.) ?

Ans D

482Identify the keystroke used to terminate the setup mode?

A.) Ctrl-K
B.) Crtl-C
C.) Ctrl-Z
D.) Crtl-End

Ans B

483 Identify the command to display the IP host table?

A.) show ip hostnames
B.) show ip names
C.) show hosts
D.) show ip hosts

Ans C

484 Identify the command to display the configured IP routing protocols?

A.) show protocols
B.) show protocols all
C.) show routing-protocols
D.) show ip protocols
?

485 Identify the command to configure ALL the default VTY ports?

A.) Router(config)# line vty 0 4
B.) Router# line vty 0 4
C.) Router(config)# line vty
D.) Router(config)# line vty 0

Ans A

486 Identify the command to reload the router?

A.) Router(config)# reload
B.) Router# reset
C.) Router# reload
D.) Router> reload

Ans C

487 Identify command that configures 'Cisco1' as a secret password?

A.) Router(config)# enable secret password Cisco1
B.) Router(config)# enable secret cisco1
C.) Router(config)# enable password Cisco1
D.) Router(config)# enable secret Cisco1

Ans C

488 Identify the statement which connects access-list 101 inbound to interface e0?

A.) Router(config-if)# ip access-group 101 in
B.) Router(config-if)# ip access-group 101
C.) Router(config)# ip access-group 101 e0 in
D.) Router(config)# ip access-group 101 e0 in

Ans A

489 Identify the command that displays ethernet0/1 interface status?

A.) show interface ethernet0/1
B.) show interface ethernet e0/1
C.) show interface ethernet0.1
D.) show ethernet0/1

Ans C

490 Identify the command that saves the configuration stored in RAM to NVRAM?

A.) copy running-config startup-config
B.) copy tftp running-config
C.) copy startup running
D.) copy active to backup

Ans A

491 Identify the command that displays the SAP table?

A.) show ipx servers
B.) display SAP table
C.) display SAP's
D.) show sap table

Ans A

492 Identify the command to configure the IP address 172.16.100.5 255.255.255.0?

A.) Router(config-if)# ip address 172.16.100.5 255.255.255.0
B.) Router(config)# ip address 172.16.100.5
C.) Router# ip address 172.16.100.5 255.255.255.0
D.) Router(config)# ip address 172.16.100.5 255.255.255.0

Ans A

493 Identify the command to configure the router to boot from an IOS located on a TFTP server?

A.) boot system tftp IOS.exe 172.16.5.1
B.) boot system tftp 172.16.5.1 IOS.exe
C.) boot system flash tftp 172.16.5.1
D.) boot system IOS.exe 172.16.5.1

Ans B

494 Identify the command to display the hardware platform information?

A.) show all
B.) show platform
C.) display hardware
D.) show version

Ans D

495 Identify the command to display the Frame Relay map table?

A.) Router# display frame-relay map
B.) Router# show frame-relay map
C.) Router(setup)# show frame-relay map
D.) Router# show map frame-relay

Ans B

496 Given the command 'cl?', what will it display?

A.) Syntax of the 'clock' command
B.) Syntax of the 'clear' command
C.) All commands that begin with 'cl'
D.) All commands that begin with 'c'

Ans C

497 Identify the 2 commands that copies the configuration in NVRAM to RAM?

A.) copy backup-config running-config
B.) configure nvram
C.) copy startup-config running-config
D.) configure memory

Ans C D

498 Identify the 2 commands the saves the running-config to NVRAM?
A.) write memory
B.) copy running-config startup-config
C.) write network
D.) write backup

Ans B A

499 Identify the command that displays traffic statistics on serial0/1?

A.) display interface serial0/1
B.) show interface serial0/1
C.) show seria0/1 stats
D.) show interface serial0/1 stats

Ans B

500Identify the command to determine if CDP is enabled?

A.) show enable cdp
B.) show cdp enabled
C.) show cdp run
D.) show cdp

Ans D

CCNA Interview Questions Page 50

501 Which 2 commands shows the Cisco IOS filename?

A.) show IOS
B.) show ver
C.) show flash
D.) show mem
E.) show NVRAM

Ans B C

502 Identify the command to copy a configuration file from a TFTP server to a routers active configuration?

A.) Router# copy running-config tftp
B.) Router# copy tftp running-config
C.) Router# copy tftp 172.16.0.1 running-config
D.) Router(config)# copy tftp running-config

Ans D

503 Identify the command mode necessary to enter the extended ping command?

A.) Router#
B.) Router>
C.) Router(config)#
D.) Router(ext-ping)#

Ans A

504 Identify the command to configure the router for IGRP autonomous system 100?

A.) Router(config)# router igrp 100
B.) Router> router igrp 100
C.) Router# router igrp 100
D.) Router(config)# router igrp

Ans A

505 Identify the command that forces the router to load into ROM mode upon a reload?

A.) boot system rom
B.) rom boot
C.) boot system flash rom
D.) boot router rom

Ans A

506 Identify the command that specifies Serial 0 in slot 1?
A.) Router(config)# interface serial1/1
B.) Router(config)# interface serial1/0
C.) Router(config)# interface serial0.1
D.) Router(config)# interface serial0/1
Ans B

507 Identify the command to configure the configuration-register?

A.) Router# config-register 0x2102
B.) Router(config)# config-register 0x2102
C.) Router(config-reg)# 0x2102
D.) Router> config-register 0x2102

Ans B

508 Identify the command to disable CDP on an interface?

A.) Router(config-if)# no cdp enable
B.) Router(config-if)# no cdp run
C.) Router# no cdp enable
D.) Router(config-if)# no cdp

Ans A

509 Identify the command that will display the RIP routes entering and leaving the router?

A.) Router(config)# debug ip rip
B.) Route# debug ip rip
C.) Router>debug ip rip
D.) Router# debug rip routes

Ans B

510Identify the prompt displayed if in privileged exec mode?

A.) Router(config)#
B.) Router#
C.) Router>
D.) Router(priv)#

Ans B

CCNA Interview Questions Page 51

511 'Show cdp neighbors detail' show the following 3 pieces of information?

A.) Hardware platform
B.) Software version
C.) Same as 'show version' command
D.) Up to 1 address for each protocol
E.) Non-direct connected routers

Ans A B D

512 Identify the command mode necessary to enter the standard ping command?

A.) Router(config)#
B.) Router>
C.) Router(std-ping)#
D.) Router(config-if)#

Ans B

513 Identify the command to run 'setup'?

A.) Router(config)#setup
B.) Router?setup
C.) Router#setup
D.) Router>setup

Ans C

514 Identify the command that configures serial0 for PPP encapsulation?

A.) Router(config)# encapsulation ppp
B.) Router(config-if)# encapsulation serial ppp
C.) Router(config-if)# encapsulation ppp
D.) Router# encapsulation ppp

Ans C

515 Identify the command to display the status of the Frame Relay virtual circuit?

A.) Router# show frame-relay virtual-circuit
B.) Router(config)# show frame-relay pvc
C.) Router# show frame-relay pvc
D.) Router# show virtual

Ans C

516 Identify the command that disables name-to-address translation?

A.) Router(config-dns)# no ip domain-lookup
B.) Router(config)# no address translation
C.) Router(config)# no ip domain-lookup
D.) Router(config)# ip domain-lookup

Ans C

517 What command will not display the status of to1?
A.) show int to1
B.) show to1
C.) show interface to1
D.) show interface

Ans B

518 Identify the 2 commands to copy a configuration from a TFTP server to RAM?

A.) configure network
B.) configure overwrite
C.) copy backup-config running-config
D.) copy tftp running-config

Ans A D

519 Identify the following command to configure a secret password to 'cisco'?

A.) Router(config)#enable password cisco secret
B.) Router(config)#enable secret cisco
C.) Router(config)#enable secret password cisco
D.) Router(config)#set secret = cisco

Ans B

520Identify the effect of Ctrl-Z?

A.) Exits back to privileged exec mode
B.) Disconnect from the router
C.) Abort the ping operation
D.) Exits privileged exec mode

Ans A

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521 Given an IPX network with redundant paths, what command will configure load balancing?

A.) ipx load-balance
B.) ip maximum-paths 2
C.) ipx maximum-paths 2
D.) ipx load-share

Ans C

522 Identify the correct IGRP configuration?

A.) Router# router igrp 100
Router# network 10.0.0.0
B.) Router(config)# router igrp 100
Router(config-router)# network 10.0.0.0
C.) Router(config)# router igrp
Router(config-router)# network 10.0.0.0

Ans B

523 Identify the components in the following command 'interface serial0/1/1'

A.) Serial interface, port number 0, slot 1, port adapter 1
B.) Serial interface, slot 1, port number 1, port adapter 0
C.) Serial interface, slot 0, port adapter 1, port number 1

Ans C

524 Identify the command to view the configuration-register value?

A.) show register
B.) display config-register
C.) show config

D.) show version

Ans D

525 Identify the 2 commands that save the running-config to a TFTP server?

A.) write running tftp
B.) copy running network
C.) copy running tftp
D.) write network

Ans C D

526 Identify the mode reflected by the following prompt 'Router<boot>'?

A.) Setup
B.) RXBoot
C.) Boot mode
D.) Privileged exec mode

Ans B

527 How do you disable CDP on the entire Router?

A.) Router#no cdp run
B.) Router(config-if)# no cdp enable
C.) Router(config)# no cdp enable
D.) Router(config)# no cdp run

Ans D

528 What command can be used to test IPX connectivity?

A.) Ping 2e.000.0045.8923
B.) Ping 192.168.100.1
C.) Ping ipx 2e.0000.0045.8923
D.) Ipx ping 2e.0000.0045.8923

Ans D

529 Identify the 2 commands that display the clock rate configured on the serial0 interface?

A.) show serial0
B.) show interface serial0
C.) Show clock rate serial 0
D.) show controllers serial 0
E.) show running-config

Ans B D

530 What is the command to copy the IOS image to a TFTP server?

A.) copy flash tftp
B.) copy running-config tftp
C.) copy ios tftp

D.) copy startup-config tftp

Ans A

531 Identify the command that configures the bandwidth to 56K?

A.) Router(config-if)# bandwidth 56000
B.) Router(config-if)# bandwidth 56k
C.) Router(config)# bandwidth 56
D.) Router(config-if)# bandwidth 56

Ans D

532 Identify the command to configure DLCI 100 on an interface e0?

A.) Router(config)# frame-relay local-dlci 100
B.) Router(config)# frame-relay local-dlci 100 int e0
C.) Router(config-if)# frame-relay local-dlci 100
D.) Router(config-if)# frame-relay local-dlci 100 int e0

Ans C

533 Identify the command to configure the router to boot from an alternate IOS located in flash?

A.) boot system flash IOS.exe
B.) boot system tftp IOS.exe 172.16.5.1
C.) boot system alternate IOS.exe
D.) boot system rom IOS.exe

Ans A

534 Identify the command to configure a description on an interface?

A.) Router> description Finance department
B.) Router(config)# description Finance department
C.) Router(config-if)# description Finance department
D.) Router# description Finance department

Ans C

535 Identify the 2 commands that will display the status and information about interface E0 only?

A.) show interface ethernet E0
B.) show interface E0
C.) show E0
D.) show int E0
E.) show interface

Ans B D

536 In order to configure a Frame Relay subinterface with IP identify the 2 commands that must be configured on the physical interface?

A.) Router(config-if)# encapsulation frame-relay
B.) Router(config-if)# no ip address
C.) Router(config-if)#encapsulation subinterface frame-relay
D.) Router(config)# subinterface s0 encapsulation frame-relay

Ans A B

537 Identify the command to determine if an IP access-list is grouped on interface e0?

A.) Router(config)# show ip interface e0
B.) Router> show ip interface e0
C.) Router# show interface e0
D.) Router# show ip interface e0

Ans C

538 Identify the keystroke to position the cursor to the beginning of a command line?

A.) Ctrl-A
B.) Ctrl-Ins
C.) Ctrl-B
D.) Ctrl-Z

Ans A

539 Identify the following components of the IPX address 2e.0000.0065.ed43

A.) Not a valid IPX address
B.) Network = 2e, Subnet = 0000, Node = 0065.ed43
C.) Network = 2e.0000, Node = 0065.ed43
D.) Network = 2e, Node = 0000.0065.ed43

Ans D

540 What is the syntax to add a banner to the Cisco router?

A.) motd banner #
B.) banner
C.) banner motd #
D.) banner #

Ans C

541 What is the command to allow you to type Tokyo instead of the IP address 172.16.30.1 to access a router named Tokyo?

A.) config t, ip host Tokyo 172.16.30.1
B.) config t, ip hostname Tokyo 172.16.30.1
C.) config t, hostname Tokyo 172.16.30.1

D.) config t, ip hostname 172.16.30.1 Tokyo

Ans A

542 How do you disable advanced editing?

A.) terminal editing
B.) terminal no editing
C.) disable editing
D.) no terminal editing

Ans B

543 Which of the following will show an extended access list 150?

A.) sh access-list 150
B.) sh ip int
C.) sh ip access-list
D.) sh access-list 150 extended

Ans A C

544 You have a Class B network address divided into 30 subnets. You will add 25 new subnets within the next year. You need 600 host IDs for each subnet. Which subnet mask should you use?

A.) 255.254.0.0
B.) 255.192.0.0
C.) 255.255.252.0
D.) 255.255.248 0

Ans C

545What is the syntax to use to configure the port on a Catalyst 5000 switch?

A.) slot port/type
B.) type slot/port
C.) port slot/type
D.) port type/slot

546 What 3 sources can configuration commands be placed into RAM?

A.) HP Openview
B.) Console
C.) Vterminal
D.) TFTP server
E.) NVRAM

Ans B D E

547 Identify the true statements about the following access list:
Access-list 101 deny tcp 192.10.172.0 0.0.0.255 any eq 23
Access-list 101 permit ip any any

A.) This access list prevents the host 192.10.172.0 from telneting
B.) This access list prevents any telnet traffic from subnet 192.10.172.0/24

C.) This access list filters some telnet access
D.) This access list denies any telnet traffic to subnet 192.10.172.0/24
E.) This access list is invalid
F.) The netmask on the this access list is reversed

Ans B C

548 Given the IPX address 4a.0002.1111.a999, what is the network ID and what is the node ID?

A.) net 4a host 0002.1111.a999
B.) net a999 node 0002.1111
C.) net 0002.1111.a999 node 4a
D.) net 0002.1111 node a999

Ans A

549 What command do you use to disable domain lookup?

A.) no domain-lookup
B.) domain no-lookup
C.) lookup no-domain
D.) no ip domain-lookup

Ans D

550 Which of the following are valid Cisco encapsulation type names?

A.) arpa = IPX Ethernet
B.) novell-ether = IPX Ethernet_802.3
C.) snap = IEEE 802.2 SNAP on Ethernet, FDDI, and Token Ring
D.) novell-fddi = IPX Fddi_Raw
E.) sap = IEEE 802.2 on Ethernet, FDDI, and Token Ring
F.) hdlc = HDLC on serial interfaces

Ans B C E F

551 Which of the following is an invalid host address using a netmask of 255.255.255.192?

A.) 10.1.1.1
B.) 10.1.1.66
C.) 10.1.1.130
D.) 10.1.1.127

Ans D

552 Which of the following will apply IPX sap access list 1010 for incoming traffic, assume you are at the interface configuration?

A.) ipx input-sap-filter 1010 in
B.) ipx input-sap-filter 1010
C.) ipx access-group 1010 in
D.) ipx access-list 1010 in

Ans C

553 What command can you type to view the connections after telneting into multiple routers simultaneously?

A.) sh users
B.) sh ports
C.) sh host
D.) sh sessions

Ans D

554 Which of the following is a valid extended IP access-list?

A.) router(config)# access-list 101 permit tcp host 172.16.30.0 any eq 21 log
B.) router# access-list 101 permit tcp host 172.16.30.0 any eq 21 log
C.) router(config)# access-list 101 permit any any 172.16.30.0
D.) router(config)# access-list 101 permit ip host 172.16.30.0 any eq 21 log

Ans A

555 What is the command to manually enter a static route?

A.) IP route <default gateway> <subnet mask> network
B.) IP route <destination network> <default gateway>
C.) IP route < destination network> <subnet mask> <default gateway>
D.) IP route <destination network> <subnet mask> <source network>

Ans C

556 What key do you use to view the last command?

A.) Ctrl+X
B.) Ctrl+Z
C.) Ctrl+E
D.) Ctrl+P

Ans D

557 What 2 commands verify end to end communications?

A.) Trace
B.) debug ip session
C.) Ping
D.) Route

Ans A C

558 Your Ethernet interface currently has the IP address of 1.1.1.1/24. You would like it to have a second IP address of 2.2.2.2/24. Which command will do that?

A.) ip address 1.1.1.1 2.2.2.2 255.255.255.0
B.) ip address 2.2.2.2 255.255.255.0 secondary
C.) ip address 2.2.2.2 255.255.255.0
D.) This cannot be done, you can only have 1 IP address per physical interface.
E.) ip address 2.2.2.2 /24

Ans B

559 Which command listed below sets the banner message when someone connects to the router?

A.) message #
B.) banner #
C.) login banner #
D.) description #
E.) login description #
F.) banner motd #

Ans F

560 What should be the first command to create an access-list that prevents all users on subnetwork 10.10.128.0, using subnet mask 255.255.192.0, from being able to telnet anywhere?

A.) access-list 101 deny tcp 10.10.128.0 0.0.63.255 any eq telnet
B.) access-list 101 deny tcp 10.10.128.0 255.255.0.0 any eq telnet
C.) access-list 101 deny tcp 10.10.128.0 255.255.192.0 any eq telnet
D.) access-list 101 deny tcp 10.10.128.0 0.0.192.255 any eq telnet
E.) access-list 101 deny tcp 10.10.128.0 0.0.128.255 any eq telnet
F.) access-list 101 deny tcp 10.10.128.0 0.0.127.255 any eq telnet

Ans A

CCNA Interview Questions Page 56

561 Identify the command to display the IP routing table?

A.) show route
B.) show ip route
C.) show ip table route
D.) show ipx route

Ans B

562 Identify the command to display all the valid commands at the given mode?

A.) Help all
B.) Help
C.) All commands
D.) ?

Ans D

563. Identify the keystroke used to terminate the setup mode?

A.) Ctrl-K
B.) Crtl-C
C.) Ctrl-Z
D.) Crtl-End

Ans C

564 Identify the command to display the IP host table?

A.) show ip hostnames
B.) show ip names
C.) show hosts
D.) show ip hosts

Ans C

565 Identify the command to display the configured IP routing protocols?

A.) show protocols
B.) show protocols all
C.) show routing-protocols
D.) show ip protocols

Ans D

566. Identify the command to configure ALL the default VTY ports?

A.) Router(config)# line vty 0 4
B.) Router# line vty 0 4
C.) Router(config)# line vty
D.) Router(config)# line vty 0

Ans A

567. Identify the command to reload the router?

A.) Router(config)# reload
B.) Router# reset
C.) Router# reload
D.) Router> reload

Ans C

568. Identify command that configures 'Cisco1' as a secret password?

A.) Router(config)# enable secret password Cisco1
B.) Router(config)# enable secret cisco1
C.) Router(config)# enable password Cisco1
D.) Router(config)# enable secret Cisco1

Ans D

569. Identify the statement which connects access-list 101 inbound to interface e0?

A.) Router(config-if)# ip access-group 101 in
B.) Router(config-if)# ip access-group 101
C.) Router(config)# ip access-group 101 e0 in
D.) Router(config)# ip access-group 101 e0 in

Ans A

570. Identify the command that displays ethernet0/1 interface status?

A.) show interface ethernet0/1
B.) show interface ethernet e0/1
C.) show interface ethernet0.1
D.) show ethernet0/1

Ans A

<<Previous Next>>

571. Based upon the exhibit, create a static route to 172.16.10.0 on Router A

A.) Router# ip route 172.16.10.0 255.255.255.0 10.1.0.2
B.) Router(config)# ip static route 172.16.10.0 255.255.255.0 10.1.0.2
C.) Router(config)# ip route 172.16.10.0 10.1.0.2
D.) Router(config)# ip route 172.16.10.0 255.255.255.0 10.1.0.2

Ans D

572. Identify the command that saves the configuration stored in RAM to NVRAM?
A.) copy running-config startup-config
B.) copy tftp running-config
C.) copy startup running
D.) copy active to backup

Ans A

573. Identify the command that displays the SAP table?

A.) show ipx servers
B.) display SAP table
C.) display SAP's
D.) show sap table

Ans A

574 Identify the command to configure the IP address 172.16.100.5 255.255.255.0?

A.) Router(config-if)# ip address 172.16.100.5 255.255.255.0
B.) Router(config)# ip address 172.16.100.5
C.) Router# ip address 172.16.100.5 255.255.255.0
D.) Router(config)# ip address 172.16.100.5 255.255.255.0

Ans A

575. Identify the command to configure the router to boot from an IOS located on a TFTP server?

A.) boot system tftp IOS.exe 172.16.5.1
B.) boot system tftp 172.16.5.1 IOS.exe
C.) boot system flash tftp 172.16.5.1
D.) boot system IOS.exe 172.16.5.1

Ans A

576. Identify the command to display the hardware platform information?

A.) show all
B.) show platform
C.) display hardware
D.) show version

Ans D

577. Identify the command to display the Frame Relay map table?

A.) Router# display frame-relay map
B.) Router# show frame-relay map
C.) Router(setup)# show frame-relay map
D.) Router# show map frame-relay

Ans B

578 Given the command 'cl?', what will it display?

A.) Syntax of the 'clock' command
B.) Syntax of the 'clear' command
C.) All commands that begin with 'cl'
D.) All commands that begin with 'c'

Ans C

579 Identify the 2 commands that copies the configuration in NVRAM to RAM?
A.) copy backup-config running-config
B.) configure nvram
C.) copy startup-config running-config
D.) configure memory

Ans C D

580. Identify the 2 commands the saves the running-config to NVRAM?
A.) write memory
B.) copy running-config startup-config
C.) write network
D.) write backup

Ans A B

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581. Identify the command that displays traffic statistics on serial0/1?

A.) display interface serial0/1
B.) show interface serial0/1
C.) show seria0/1 stats
D.) show interface serial0/1 stats

Ans B

582. Identify the command to determine if CDP is enabled?

A.) show enable cdp
B.) show cdp enabled
C.) show cdp run
D.) show cdp

Ans D

583. Which 2 commands shows the Cisco IOS filename?

A.) show IOS
B.) show ver
C.) show flash
D.) show mem
E.) show NVRAM

Ans B C

584. Identify the command to copy a configuration file from a TFTP server to a routers active configuration?

A.) Router# copy running-config tftp
B.) Router# copy tftp running-config
C.) Router# copy tftp 172.16.0.1 running-config
D.) Router(config)# copy tftp running-config

Ans B

585. Identify the command mode necessary to enter the extended ping command?

A.) Router#
B.) Router>
C.) Router(config)#
D.) Router(ext-ping)#

Ans A

586 Identify the command to configure the router for IGRP autonomous system 100?
A.) Router(config)# router igrp 100
B.) Router> router igrp 100
C.) Router# router igrp 100
D.) Router(config)# router igrp

Ans A

587 Identify the command that forces the router to load into ROM mode upon a reload?
A.) boot system rom
B.) rom boot
C.) boot system flash rom
D.) boot router rom

Ans A

588. Identify the command that specifies Serial 0 in slot 1?

A.) Router(config)# interface serial1/1
B.) Router(config)# interface serial1/0
C.) Router(config)# interface serial0.1
D.) Router(config)# interface serial0/1

Ans B

589. Identify the command to configure the configuration-register?

A.) Router# config-register 0x2102
B.) Router(config)# config-register 0x2102
C.) Router(config-reg)# 0x2102
D.) Router> config-register 0x2102

Ans B?

590. Identify the command to disable CDP on an interface?

A.) Router(config-if)# no cdp enable
B.) Router(config-if)# no cdp run
C.) Router# no cdp enable
D.) Router(config-if)# no cdp

Ans A

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591 Identify the command that will display the RIP routes entering and leaving the router?

A.) Router(config)# debug ip rip
B.) Router# debug ip rip
C.) Router>debug ip rip
D.) Router# debug rip routes

Ans B

592 Identify the prompt displayed if in privileged exec mode?

A.) Router(config)#
B.) Router#
C.) Router>
D.) Router(priv)#

Ans B

593. 'Show cdp neighbors detail' show the following 3 pieces of information?

A.) Hardware platform
B.) Software version
C.) Same as 'show version' command
D.) Up to 1 address for each protocol
E.) Non-direct connected routers

Ans A B C D

5

594 Identify the command mode necessary to enter the standard ping command?

A.) Router(config)#
B.) Router>
C.) Router(std-ping)#
D.) Router(config-if)#

Ans B

595 Identify the command to run 'setup'?

A.) Router(config)#setup
B.) Router?setup
C.) Router#setup
D.) Router>setup

Ans C

596. Identify the command that configures serial0 for PPP encapsulation?

A.) Router(config)# encapsulation ppp
B.) Router(config-if)# encapsulation serial ppp
C.) Router(config-if)# encapsulation ppp
D.) Router# encapsulation ppp

Ans C

597. Identify the command to display the status of the Frame Relay virtual circuit?

A.) Router# show frame-relay virtual-circuit
B.) Router(config)# show frame-relay pvc
C.) Router# show frame-relay pvc
D.) Router# show virtual

Ans C

598 Identify the command that disables name-to-address translation?

A.) Router(config-dns)# no ip domain-lookup
B.) Router(config)# no address translation
C.) Router(config)# no ip domain-lookup
D.) Router(config)# ip domain-lookup

Ans C

599. What command will not display the status of to1?

A.) show int to1
B.) show to1
C.) show interface to1
D.) show interface

Ans B

600. Identify the 2 commands to copy a configuration from a TFTP server to RAM?

A.) configure network
B.) configure overwrite
C.) copy backup-config running-config
D.) copy tftp running-config

Ans A D

601. Identify the following command to configure a secret password to 'cisco'?

A.) Router(config)#enable password cisco secret
B.) Router(config)#enable secret cisco
C.) Router(config)#enable secret password cisco
D.) Router(config)#set secret = cisco

Ans B

602. Identify the effect of Ctrl-Z?

A.) Exits back to privileged exec mode
B.) Disconnect from the router
C.) Abort the ping operation
D.) Exits privileged exec mode

Ans A

603. Given an IPX network with redundant paths, what command will configure load balancing?

A.) ipx load-balance
B.) ip maximum-paths 2
C.) ipx maximum-paths 2
D.) ipx load-share

Ans C

604. Identify the correct IGRP configuration?
A.) Router# router igrp 100
Router# network 10.0.0.0

B.) Router(config)#router igrp 100
Router(config-router)#network 10.0.0.0

C.) Router(config)# router igrp
Router(config-router)# network 10.0.0.0
Ans B

605. Identify the components in the following command 'interface serial0/1/1'

A.) Serial interface, port number 0, slot 1, port adapter 1
B.) Serial interface, slot 1, port number 1, port adapter 0
C.) Serial interface, slot 0, port adapter 1, port number 1

Ans C

606. Identify the command to view the configuration-register value?
A.) show register
B.) display config-register
C.) show config
D.) show version

Ans D

607. Identify the 2 commands that save the running-config to a TFTP server?

A.) write running tftp
B.) copy running network
C.) copy running tftp
D.) write network

Ans C D

608. Identify the mode reflected by the following prompt 'Router<boot>'?

A.) Setup
B.) RXBoot
C.) Boot mode
D.) Privileged exec mode

Ans B

609. How do you disable CDP on the entire Router?
A.) Router#no cdp run
B.) Rotuer(config-if)# no cdp enable
C.) Router(config)# no cdp enable
D.) Router(config)# no cdp run

Ans D

610. What command can be used to test IPX connectivity?

A.) Ping 2e.000.0045.8923
B.) Ping 192.168.100.1
C.) Ping ipx 2e.0000.0045.8923
D.) Ipx ping 2e.0000.0045.8923

Ans D

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611. Identify the 2 commands that display the clock rate configured on the serial0

interface?
A.) show serial0
B.) show interface serial0
C.) show clock rate serial 0
D.) show controllers serial 0
E.) show running-config

Ans B E

612. What is the command to copy the IOS image to a TFTP server?

A.) copy flash tftp
B.) copy running-config tftp
C.) copy ios tftp
D.) copy startup-config tftp

Ans A

613 Identify the command that configures the bandwidth to 56K?

A.) Router(config-if)# bandwidth 56000
B.) Router(config-if)# bandwidth 56k
C.) Router(config)# bandwidth 56
D.) Router(config-if)# bandwidth 56

Ans D

614 Identify the command to configure DLCI 100 on an interface e0?
A.) Router(config)# frame-relay local-dlci 100
B.) Router(config)# frame-relay local-dlci 100 int e0
C.) Router(config-if)# frame-relay local-dlci 100
D.) Router(config-if)# frame-relay local-dlci 100 int e0

Ans C

615. Identify the command to configure the router to boot from an alternate IOS located in flash?

A.) boot system flash IOS.exe
B.) boot system tftp IOS.exe 172.16.5.1
C.) boot system alternate IOS.exe
D.) boot system rom IOS.exe

Ans A

616 Identify the command to configure a description on an interface?

A.) Router> description Finance department
B.) Router(config)# description Finance department
C.) Router(config-if)# description Finance department
D.) Router# description Finance department

Ans C

617. Identify the 2 commands that will display the status and information about interface E0 only?

A.) show interface ethernet E0
B.) show interface E0
C.) show E0
D.) show int E0
E.) show interface

Ans B D

618. In order to configure a Frame Relay subinterface with IP identify the 2 commands that must be configured on the physcial interface?

A.) Router(config-if)# encapsulation frame-relay
B.) Router(config-if)# no ip address
C.) Router(config-if)#encapsulation subinterface frame-relay
D.) Router(config)# subinterface s0 encapsulation frame-relay

Ans A B

619 Identify the command to determine if an IP access-list is grouped on interface e0?

A.) Router(config)# show ip interface e0
B.) Router> show ip interface e0
C.) Router# show interface e0
D.) Router# show ip interface e0

Ans D

620 Identify the keystroke to position the cursor to the beginning of a command line?

A.) Ctrl-A
B.) Ctrl-Ins
C.) Ctrl-B
D.) Ctrl-Z

Ans A

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621. Identify the following components of the IPX address 2e.0000.0065.ed43

A.) Not a valid IPX address
B.) Network = 2e, Subnet = 0000, Node = 0065.ed43
C.) Network = 2e.0000, Node = 0065.ed43
D.) Network = 2e, Node = 0000.0065.ed43

Ans D

622. What is the syntax to add a banner to the Cisco router?
A.) motd banner #
B.) banner
C.) banner motd #

D.) banner #

Ans C

623. What is the command to allow you to type Tokyo instead of the IP address 172.16.30.1 to access a router named Tokyo?

A.) config t, ip host Tokyo 172.16.30.1
B.) config t, ip hostname Tokyo 172.16.30.1
C.) config t, hostname Tokyo 172.16.30.1
D.) config t, ip hostname 172.16.30.1 Tokyo

Ans A

624. How do you disable advanced editing?

A.) terminal editing
B.) terminal no editing
C.) disable editing
D.) no terminal editing

Ans B

625. Which of the following will show an extended access list 150?
A.) sh access-list
B.) sh ip int
C.) sh ip access-list 150
D.) sh access-list 150 extended

Ans A C B (a bit)

626. You have a Class B network address divided into 30 subnets. You will add 25 new subnets within the next year. You need 600 host IDs for each subnet.
Which subnet mask should you use?

A.) 255.254.0.0
B.) 255.192.0.0
C.) 255.255.252.0
D.) 255.255.248 0

Ans C

627. What is the syntax to use to configure the port on a Catalyst 5000 switch?

A.) slot port/type
B.) type slot/port
C.) port slot/type
D.) port type/slot

Ans A

628. What 3 sources can configuration commands be placed into RAM?
A.) HP Openview
B.) Console
C.) Vterminal
D.) TFTP server

E.) NVRAM

Ans B D E

629 Identify the true statements about the following access list:
Access-list 101 deny tcp 192.10.172.0 0.0.0.255 any eq 23
Access-list 101 permit ip any any

A.) This access list prevents the host 192.10.172.0 from telneting
B.) This access list prevents any telnet traffic from subnet 192.10.172.0/24
C.) This access list filters some telnet access
D.) This access list denies any telnet traffic to subnet 192.10.172.0/24
E.) This access list is invalid
F.) The netmask on the this access list is reversed

Ans B C

630. Given the IPX address 4a.0002.1111.a999, what is the network ID and what is the node ID?

A.) net 4a host 0002.1111.a999
B.) net a999 node 0002.1111
C.) net 0002.1111.a999 node 4a
D.) net 0002.1111 node a999

Ans A

631 What command do you use to disable domain lookup?

A.) no domain-lookup
B.) domain no-lookup
C.) lookup no-domain
D.) no ip domain-lookup

Ans D

632 Which of the following are valid Cisco encapsulation type names?

A.) arpa = IPX Ethernet
B.) novell-ether = IPX Ethernet_802.3
C.) snap = IEEE 802.2 SNAP on Ethernet, FDDI, and Token Ring
D.) novell-fddi = IPX Fddi_Raw
E.) sap = IEEE 802.2 on Ethernet, FDDI, and Token Ring
F.) hdlc = HDLC on serial interfaces

Ans B C E F

633 Which of the following is an invalid host address using a netmask of 255.255.255.192?

A.) 10.1.1.1
B.) 10.1.1.66
C.) 10.1.1.130
D.) 10.1.1.127

An D

634. Which of the following will apply IPX sap access list 1010 for incoming traffic, assume you are at the interface configuration?

A.) ipx input-sap-filter 1010 in
B.) ipx input-sap-filter 1010
C.) ipx access-group 1010 in
D.) ipx access-list 1010 in

Ans C

635. What command can you type to view the connections after telneting into multiple routers simultaneously?

A.) sh users
B.) sh ports
C.) sh host
D.) sh sessions

Ans D

636. Which of the following is a valid extended IP access-list?

A.) router(config)# access-list 101 permit tcp host 172.16.30.0 any eq 21 log
B.) router# access-list 101 permit tcp host 172.16.30.0 any eq 21 log
C.) router(config)# acess-list 101 permit any any 172.16.30.0
D.) router(config)# access-list 101 permit ip host 172.16.30.0 any eq 21 log

Ans A

637. What is the command to manually enter a static route?

A.) IP route <default gateway> <subnet mask> network
B.) IP route <destination network> <default gateway>
C.) IP route < destination network> <subnet mask> <default gateway>
D.) IP route <destination network> <subnet mask> <source network>

Ans C

638. What key do you use to view the last command?

A.) Ctrl+X
B.) Ctrl+Z
C.) Ctrl+E
D.) Ctrl+P

Ans D

639. What 2 commands verify end to end communications?

A.) Trace
B.) debug ip session
C.) Ping
D.) Route

Ans A C

640. Your Ethernet interface currently has the IP address of 1.1.1.1/24. You would like it to have a second IP address of 2.2.2.2/24. Which command will do that?

A.) ip address 1.1.1.1 2.2.2.2 255.255.255.0
B.) ip address 2.2.2.2 255.255.255.0 secondary
C.) ip address 2.2.2.2 255.255.255.0
D.) This cannot be done, you can only have 1 IP address per physical interface.
E.) ip address 2.2.2.2 /24

Ans B

641. Which command listed below sets the banner message when someone connects to the router?

A.) message #
B.) banner #
C.) login banner #
D.) description #
E.) login description #
F.) banner motd #

Ans

642. What should be the first command to create an access-list that prevents all users on subnetwork 10.10.128.0, using subnet mask 255.255.192.0, from being able to telnet anywhere?

A.) access-list 101 deny tcp 10.10.128.0 0.0.63.255 any eq telnet
B.) access-list 101 deny tcp 10.10.128.0 255.255.0.0 any eq telnet
C.) access-list 101 deny tcp 10.10.128.0 255.255.192.0 any eq telnet
D.) access-list 101 deny tcp 10.10.128.0 0.0.192.255 any eq telnet
E.) access-list 101 deny tcp 10.10.128.0 0.0.128.255 any eq telnet
F.) access-list 101 deny tcp 10.10.128.0 0.0.127.255 any eq telnet

Ans A

643. The Cisco Discovery Protocol (CDP) periodically sends out a multicast packet (at layer 2). Which command will alter the default interval of 60 seconds?

A.) cdp hold 111
B.) cdp wait 111
C.) cdp interval 111
D.) cdp 111
E.) cdp timer 111

Ans E

644. Which command will start the process for a Cisco IOS file image upgrade?

A.) download
B.) copy tftp flash

C.) copy flash tftp
D.) download flash
E.) network

Ans

645. Which command allows a user to see previous commands?

A.) show command
B.) CTRL-P
C.) show history
D.) CTRL-U
E.) Up Arrow
F.) SHIFT-CTRL-6

Ans B E

646. Which command will display the IPX routing table?

A.) show routes
B.) show routes ipx
C.) show routes protocol=ipx
D.) show ipx
E.) show ipx route

Ans E

647. What is the correct command line syntax for configuring a port on a 7000 or 7500 series Cisco router with a VIP card?

A.) port
B.) port adapter/port
C.) You can't put a VIP card in a 7000 or 7500 router.
D.) slot/port-adapter/port
E.) slot/port
F.) slot

Ans D

648. How do you view the routers current processor utilization?

A.) show version
B.) show processes cpu
C.) show running-config
D.) show startup-config
E.) show cpu
F.) show utilization

Ans B

649. Which command will enable debugging for IPX RIP updates?

A.) debug ipx
B.) debug ipx rip
C.) debug ipx rip activity
D.) debug rip

E.) debug ipx packets

Ans C

650. There is an emergency fall-back 'skeleton' IOS stored in read only memory on all Cisco routers. What command would make the router load the IOS from Read Only Memory?

A.) reload rom
B.) boot system rom
C.) load ios bootflash
D.) load ios rom
E.) bootsystem skeleton

Ans B

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651. Which command would configure Interface E0 with an IP address of 12.23.4.5 using a Subnet mask of 255.255.255.0 ?

A.) ip address 12.23.4.5 255.255.255.0
B.) ip address 12.23.4.5 /24
C.) ip address 12.23.4.5 mask 255.255.255.0
D.) ip address 12.23.4.5 mask ff:ff:ff:0
E.) that is an invalid mask for a class 'A' address

Ans A but B & D can be used if the router is configured through Router#(config)ip netmask-format (bitcount | decimal | hexadecimal)

652. Which commands will restart the router?

A.) router#system exit
B.) router >reload
C.) router#shutdown
D.) router#reload
E.) router#(config)reload
F.) router#system restart

Ans B

653. How do you set the encapsulation type to PPP for an interface?
A.) encap ppp
B.) ppp encapsulation
C.) encapsulation ppp
D.) encapsulation ppp enable
E.) ppp enable encapsulation

Ans A C

654. Which Standard IP Access list commands will deny only the source address 1.1.1.1?

A.) access-list 9 deny host 1.1.1.1
B.) access-list 9 deny 1.1.1.1 255.255.255.0

C.) access-list 9 deny 1.1.1.1 0.0.0.0
D.) access-list 9 deny 1.1.1.1 0.255.255.255
E.) access-list 9 deny 1.1.1.1 255.255.255.255

Ans A C

655. Assume that you are editing a line of text on a Cisco router. What key-stroke combination would take you to the beginning of the line?

A.) CTRL-B
B.) CTRL-Z
C.) CTRL-<space>
D.) CTRL-A
E.) CTRL-<up arrow>
F.) CTRL-<right arrow>

Ans D

656. Which global configuration command will tell the router to load the IOS file 'IOS_filename' from FLASH memory at the next boot?

A.) boot system flash
B.) boot system flash IOS_filename
C.) boot system IOS_filename flash
D.) boot system tftp IOS_filename tftp_address
E.) config-register 0x0102 IOS_ filename

657. Which command will display adjacent routers found by the Cisco Discovery Protocol?

A.) show all
B.) show cdp entry
C.) show ip neighbors
D.) show cdp neighbor detail
E.) show cdp neighbor
F.) show neighbor

Ans B D E

658. Which command line option will determine what traffic is interesting enough to establish a dialup connection?

A.) dialer map
B.) dialer string
C.) dialer in-band
D.) dialer-list
E.) dialer negotiation

Ans D

659. Which command switches from User mode to Privileged mode?

A.) login
B.) privilege
C.) admin
D.) enable
E.) enter

F.) root

Ans D

660. Extended IP access-lists (100-199) can be used to control traffic. Which command listed below will permit smtp mail to only host 3.4.5.6 ?

A.) It is not possible for SMTP traffic
B.) access-list 102 permit tcp any host 3.4.5.6 eq smtp
C.) access-list 101 permit tcp any 3.4.5.6 0.0.0.0 eq 23
D.) access-list 102 permit tcp any any eq smtp
E.) access-list 101 permit tcp any 3.4.5.6 0.0.0.0 eq 25

Ans B E

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661. Which command-line keywords are valid for choosing Frame-Relay LMI types?

A.) itu-t
B.) dlci
C.) ansi
D.) rfc 1544
E.) cisco
F.) q933a

Ans C E F

662. Which command will copy the routers configuration from NVRAM to a Network file server?

A.) copy start tftp
B.) copy start tftp server
C.) copy tftp startup-config
D.) copy running-config tftp
E.) copy startup-config tftp

Ans A E

663. Which commands would assign and enable IPX on an interface ?

A.) enable netware
B.) enable novell-ether
C.) router#(config)ipx routing
D.) You must first enable IPX globally and then
assign the network number to the interface .
E.) enable ipx
F.) router#(config-if)ipx network 4a

Ans C D F

664. I want to configure a serial interface on a 7500 with a VIP card. What global config command would give me access to a serial interface on a 7500?

A.) int 1/0/0
B.) int s 1/0/0
C.) int s 1/1
D.) int s0.1
E.) int s1

Ans B

665. Which command will display Ethernet 0's IP address?

A.) display ip address e0
B.) show ip interface e0
C.) show address e0
D.) sh ip address e0
E.) show all

Ans B

666. After the command -- router igrp 200 -- what command would enable IGRP on the router for interface E0, with an address of 157.89.4.4 and a mask of 255.255.255.0 ?

A.) network 157.89.4.0 255.255.255.1
B.) network 157.89.0.0
C.) router igrp *
D.) router igrp 157.89.0.1
E.) router igrp int e1
F.) router igrp 157.89.4.1

Ans B

667. Which command do you use to set the Privileged mode password to 'clearwater'?

A.) set password=clearwater
B.) enable privilege password clearwater
C.) enable password clearwater
D.) enable login clearwater
E.) enable secret password clearwater
F.) ebable clearwater

Ans C

668. How would you set the clock rate to 64K, on interface serial 0, from the interface configuration mode?

A.) clock rate 64000
B.) bandwidth 64
C.) clock 64
D.) rate 64
E.) clock rate 64k
F.) clock rate 64

Ans A

669. Given the following static route command, 'ip route 3.3.3.0 255.255.255.0 4.4.4.4 125', which portion represents the administrative distance?

A.) 3.3.3.0
B.) 255.255.255.0
C.) 4.4.4.4
D.) route
E.) 125

Ans E

670. What does the following line for an access list do? 'access-list 101 deny tcp 3.4.5.0 0.0.0.255 any eq 23'

A.) deny all ftp traffic
B.) deny all ftp traffic from subnet 3.4.5.0
C.) deny all telnet traffic from subnet 3.4.5.0
D.) deny all ftp traffic to subnet 3.4.5.0
E.) deny all telnet traffic

Ans C

671. Although Cisco IOS 11.2 and later can auto-detect the LMI type in Frame Relay, which command will force the LMI type to q933a?

A.) frame-relay lmi-type q933a
B.) encapsulation frame-relay q933a
C.) don't need to, it is the default
D.) encapsulation q933a
E.) encapsulation frame-relay type=q933a

Ans A

672. Which command can verify Application Layer connectivity between 2 hosts?

A.) ftp
B.) snmp
C.) telnet
D.) ping
E.) traceroute

Ans C

673. Scenario: You created 2 access-lists for controlling telnet about a year ago, and bound one of them to Serial 0. You can't remember which access-list you used. Which command lets you see all access-lists on Serial 0 for telnet?

A.) show access-list
B.) show ip int s0
C.) show access-list telnet
D.) show telnet access-list
E.) show access-list s0
F.) show int s0

Ans B

674. Cisco routers can secure the enable password with a one-way hash algorithm. What command would encrypt the enable password with the strong encryption method?

A.) enable encrypt john
B.) password john
C.) enable secret john
D.) enable password john
E.) secret john
F.) enable password 5 john

Ans C

675. Which command will display the encapsulation type on interface serial 0?

A.) show interface s0
B.) show all
C.) show int s0 encap
D.) show encap s0
E.) show encap

Ans A

676. What command do you enter at the keyboard to begin a user mode session?

A.) Type 'CTRL-P'
B.) Type 'login'
C.) Just press <ENTER>.
D.) Type 'enable'
E.) Press 'Shift + Ctrl + 6' at the same time.

Ans C

677. You want to set the console password to ralph. What would be the first command you need to execute from global configuration mode?
A.) line console 0
B.) enable password ralph
C.) login password ralph
D.) set password= ralph
E.) password ralph
F.) login Ralph

Ans A

678. Which command displays the IPX SAP table?

A.) show ipx sap
B.) show sap
C.) show ipx interface
D.) show ipx servers
E.) show ipx

Ans D

679. Which command will display the current time on a Cisco router?

A.) show date
B.) show clock
C.) show running-configuration
D.) show time
E.) show controllers

Ans B

680. The default routing protocol for IPX is IPX RIP. How do you view the routing updates sent and received by the router?

A.) debug ipx routing
B.) debug ipx routing activity
C.) debug rip
D.) show ipx routing
E.) sh ipx
F.) debug ipx rip

Ans B

681. Using the access-list command, 'access-list 1 deny 2.2.2.2', what else must be done to stop host 2.2.2.2 from sending any traffic out of physical interface E0, while still allowing other traffic?

A.) In global mode, Add a line - 'access-list 1 permit 0.0.0.0 255.255.255.255'
B.) On interface E0, Add a line - 'access-group 1 in'
C.) In global mode, Add a line - 'access-list 1 permit all'
D.) On interface E0, Add a line - 'access-list 1 in'
E.) On interface E0, Add a line - 'access-list 1 out'
F.) On interface E0, Add a line - 'ip access-group 1'

Ans F

682. Which command do you use to set the Secret password to 'roundwood'?
A.) enable login roundwood
B.) enable password roundwood
C.) enable privilege roundwood
D.) enable secret= roundwood
E.) enable secret login roundwood
F.) enable secret roundwood

Ans F

683. How do you find the parameters that you can use with the SHOW command?
A.) ? show
B.) show ?
C.) debug show
D.) help
E.) sh?

AnsB

684. Which command would show all Ethernet interfaces with IPX configured on them?

A.) show interface ipx ethernet
B.) show ipx interface
C.) show ipx interface ethernet
D.) show ipx
E.) show version
F.) show run

AnsB F

685. If you have configured IPX on a Serial interface, which command would display the IPX network and node address on the Serial 1 interface?

A.) show interface
B.) show ipx s1
C.) show interface s1
D.) show ipx int serial 1
E.) show ipx int brief

Ans D

686. Which command line statement determines the number of seconds a dialup connection can wait without any traffic before the router hangs up?

A.) dialler max-time
B.) dialler timeout
C.) dialer idle-timeout
D.) dialer hang-up
E.) disconnect-timer

687. The Cisco Catalyst 5000 switch supports full duplex. How would you enable it on the second port of the card in slot 1?

A.) router(config-if)# duplex full
B.) router(config)# duplex full
C.) router(config-if)# set port duplex
D.) router(config)#port duplex = full
E.) router(config-if)# set port 1/2 full

Ans A

688. Which command will enable CHAP authentication on a serial interface that is using PPP?

A.) encapsulation chap
B.) ppp chap
C.) ppp enable chap
D.) ppp encapsulation chap
E.) ppp authentication chap
F.) ppp chap enable

Ans E

689. From Enable mode, a user types the letter 'C' and presses enter. There is more than 1 command that starts with 'C'. What message would the router return?

A.) Nothing would be returned, the command is simply ignored.
B.) unknown command
C.) ambiguous command.
D.) Copy to?
E.) Configured console from console.

Ans C

690. You want a message to be displayed every time someone tries to log on to the router. Which command is required to accomplish this task?
A.) motd#(message)#
B.) banner motd(message)
C.) banner motd#(message)#
D.) banner motd*(message)
E.) banner login#(message)#

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691. You create the following standard access-list
access-list 1 deny 1.1.1.1
access-list 1 deny 2.2.2.2
int e0
ip access-group 1 in
Which of the following statements are true, with regard to traffic flowing into E0?

A.) This will stop IP packets with a source address of 1.1.1.1 only.
B.) This will stop all IP packets.
C.) This is an invalid configuration.
D.) This will stop no IP packets.
E.) This will stop IP packets with a source address of 2.2.2.2 only.
F.) This will stop IP packets with a source address of 1.1.1.1 and 2.2.2.2.

Ans D

692. The command 'debug ip rip' will do which of the following?

A.) Show Neighbor Info.
B.) Display RIP routing updates.
C.) Show routing table changes.
D.) Show all IP traffic.
E.) This is not a valid router command.
F.) Cause the router to respond with 'Ambiguous command'

Ans B

693. You would like to have a notation that when a user issues the command 'show interface serial 0', a line is displayed indicating that, 'This is the connection to Company A.' What interface command would accomplish this?

A.) banner motd #This is the connection to Company A.#
B.) interface This is the connection to Company A.
C.) This cannot be done for an individual interface.
D.) description This is the connection to Company A.
E.) banner This is the connection to Company A.

F.) display This is the connection to Company A.

Ans D

694. What command would show the version of the IOS that you are running?

A.) show nvram
B.) show version
C.) show startup-config
D.) show ios
E.) ver -a
F.) show ram

Ans B

695. When editing a line in the CLI mode, what does 'CTRL-A' do?

A.) Moves you to the previous command.
B.) Moves you to the next word.
C.) Moves you to the end of the line.
D.) Moves you to the next command.
E.) Moves you to the beginning of the line.

Ans E

696. When a router knows the IP address, but does not know the MAC address of the device it wishes to contact, it uses the ARP (Address resolution protocol) to determine the MAC address. After it learns the MAC address, it stores this information in the ARP cache. What is the command to view the ARP cache?

A.) sh mac
B.) show cache
C.) show arp
D.) sh arp interfaces
E.) show ip cache

Ans C

697. Which command can verify only Network layer connectivity between 2 hosts?

A.) ping
B.) e-mail
C.) plp
D.) arp
E.) telnet

Ans A

698. What would be the first command from global configuration mode to enable RIP on your router for interface E0, with an address of 181.86.4.4 and mask of 255.255.255.0 ?

A.) router rip
B.) network 181.89.4.0 255.255.255.0
C.) router rip int e0
D.) router rip 181.86.0.0
E.) router rip 181.86.4.0

F.) network 181.86.0.0

Ans A

699. Which command would you type to show SAP and RIP updates you are receiving on an interface?

A.) sh ipx servers
B.) sh ipx traffic
C.) sh ipx interface
D.) sh ipx route

Ans B

700 What is the default IPX Ethernet encapsulation?

A.) SNAP
B.) Arpa
C.) 802.2
D.) Novell-Ether
E.) SAP

Ans D

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701. What must be true for two routers running IGRP to communicate their routes?

A.) Same autonomous system number
B.) Connected using Ethernet only
C.) Use composite metric
D.) Configured for PPP

Ans A

702. The following is partial output from a routing table ;
'192.168.10.0 [100/1300] via 10.1.0.1, 00:00:23, Ethernet1'
Which routing protocol is being used? (assuming defaults have not been changed)

A.) OSPF
B.) RIP
C.) BGP
D.) IGRP

703. Identify 3 methods used to prevent routing loops?

A.) Split horizon
B.) Holddown timers
C.) Poison reverse
D.) SPF algorithm
E.) LSP's

Ans A B C

704. Which statement is true regarding full duplex?

A.) Allows for transmission and receiving of data simultaneously
B.) Only works in a multipoint configuration
C.) Does not affect the bandwidth
D.) Allows for transmission and receiving of data but not at the same time

Ans A

705 Identify the switching method that receives the entire frame then dispatches it?

A.) Cut-through
B.) Receive and forward
C.) Store and forward
D.) Fast forward

Ans C

706. Identify the purpose of ICMP?

A.) Avoiding routing loops
B.) Send error and control messages
C.) Transporting routing updates
D.) Collision detection

Ans B

707. Which statement is true regarding the user exec and privileged exec mode?

A.) The '?' only works in Privileged exec
B.) Privileged exec is a subset of the user exec mode
C.) They both require the enable password
D.) User exec is a subset of the privileged exec mode

Ans D

708. Which OSI layer defines end to end communication, segmentation and re-assembly?

A.) Network
B.) Transport
C.) Physical
D.) Application
E.) Data-Link
F.) Presentation

Ans B

709. What IP command would you use to test the entire IP stack?

A.) Stack-test
B.) Arp
C.) Telnet
D.) Ping
E.) Trace

Ans C

710. Identify the 2 hardware components used to manage and/or configure a router?

A.) Auxiliary port
B.) ROM port
C.) Management port
D.) Console port

Ans A D

711. What is the default bandwidth of a serial connection?

A.) 1200 baud
B.) 1.544 Mbps (T1)
C.) 10 Mbps
D.) 96Kpbs

Ans B

712. Identify 2 functions of IPX access-lists?

A.) Control SAP traffic
B.) Limit number of Novell servers on a network
C.) Limit number of workstations on a network
D.) Block IPX traffic

Ans A D

713. Identify 2 HDLC characteristics?

A.) Default serial encapsulation
B.) Open standard
C.) Supports Stacker compression
D.) Supports point-to-point and multipoint

Ans A D

714. Identify 3 IP applications?

A.) AURP
B.) ARP
C.) Telnet
D.) SMTP
E.) DNS
F.) RARP

Ans C D E

715. Identify 3 LAN technologies?

A.) FDDI

B.) HDLC
C.) HSSI
D.) X.25
E.) 802.3
F.) 802.5

Ans A E F

716. Identify the 4 that are WAN technologies?

A.) HDLC
B.) FDDI
C.) 802.5
D.) HSSI
E.) SDLC
F.) Frame Relay

Ans A D E F

717. Which OSI layer supports the communication component of an application?

A.) Data-Link
B.) Physical
C.) Session
D.) Presentation
E.) Application
F.) Transport

Ans E

718. Identify the length of an IPX address and it's components?

A.) 80 bits, 48 bits network and 32 bits node
B.) 32 bits, 16 bits network and 16 bits node
C.) None of the above
D.) 80 bits, 32 bits network and 48 bits node

Ans D

719. Identify the administrative distance and appropriate routing protocol?

A.) RIP = 255, IGRP = 100
B.) RIP = 100, IGRP = 120
C.) RIP = 1, IGRP = 0
D.) RIP = 120, IGRP = 100

Ans D

720. Which OSI layer incorporates the MAC address and the LLC?

A.) Data link
B.) Network
C.) Physcial
D.) Transport

Ans A

721. If configuring a Cisco router to connect to a non-Cisco router across a Frame Relay network, which encapsulation type would you select?

A.) Q933a
B.) ISDN
C.) IETF
D.) CISCO
E.) ANSI

Ans C

722. Identify the 2 characteristics that TCP and UDP share in common?

A.) Both use port numbers to identify upper level applications
B.) Operate at the Network layer
C.) Both are Transport protocols
D.) Both are reliable communications

Ans A C

723. Identify 3 characteristics of IP RIP?

A.) Distance vector
B.) Administrative distance is 120
C.) Periodic updates every 60 seconds
D.) Uses a composite metric
E.) Can load balance

Ans A B E

724. Which of the following is a layer 2 device?

A.) Switch
B.) Bridge
C.) Repeater
D.) Hub

Ans A B

725. Identify the definition of demarcation?

A.) Date in which the WAN service contract expires
B.) Cabling which extends from the WAN service provider to the customer
C.) Division of responsibility, where the CPE ends and the local loop
begins
D.) Equipment which is located at the customer premises

Ans C

726. Identify the 3 key features of the Cisco Discovery Protocol?
A.) Off by default
B.) Will allow for the discovery of layer 3 addresses on neighbor routers

C.) Verifies connectivity
D.) Open standard
E.) Does not require any layer 3 protocols to be configured

Ans B C E

727. Identify the 3 characteristics of IPX RIP?

A.) Distance vector
B.) Does not support multiple paths
C.) 60 second updates
D.) Default encapsulation is SAP
E.) Uses ticks and hop count as a metric

Ans A C E

728. Identify the access-list range for an extended IP access-list?

A.) 800 - 899
B.) 1 - 99
C.) 1000 - 1099
D.) 100 - 199

Ans D

729. Identify the X.25 addressing standard?

A.) X.121
B.) X.25a
C.) ITU-1
D.) Q933a

Ans A

730. Identify 3 features of IGRP?

A.) Composite metric
B.) New horizon
C.) Flash (triggered) updates
D.) 60-second periodic updates
E.) Poison reverse

Ans A C E

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731. Where is the backup configuration file stored?

A.) RAM
B.) ROM
C.) Console
D.) NVRAM

Ans D

732. Identify the correct pair of Novell Ethernet encapsulation and Cisco terminology?

A.) Ethernet II, Snap
B.) Ethernet 802.3, Novell-Ether
C.) Ethernet SNAP, Arpa
D.) Ethernet 802.2, Snap

Ans B

733. Identify 3 characteristics regarding IP access-lists?

A.) Can be configured as a standard access-list
B.) Can be run from another router running IP
C.) Can be configured as a named access-list
D.) Are the same as IPX access-lists
E.) Can be configured as an extended access-list

Ans A C E

734. Identify 3 ways in which a router can be configured?

A.) TFTP
B.) Nvram
C.) ROM
D.) Console
E.) Trace

Ans A B D

735. A traffic light is an example of what type of mechanism?

A.) Collision detection
B.) Flow control
C.) Sequence numbering
D.) Network management

Ans B

736. Windowing is a type of :

A.) Negative acknowledgement
B.) Address resolution
C.) Layer transition mechanism
D.) Flow control

Ans D

737. Identify the 2 types of access-list filters that control SAP traffic?

A.) Novell-ether
B.) Arpa
C.) Input-sap-filter
D.) Round-robin
E.) Output-sap-filter

Ans C E

738. Identify the 3 guidelines for routers in the same autonomous system?

A.) Must be configured for RIP
B.) Interconnected
C.) Assigned the same autonomous system number
D.) Configured for the same routing protocol
E.) Must be same model of router

Ans B C D

739 Identify the hardware component used to store buffers, tables, running-configuration etc?

A.) NVRAM
B.) ROM
C.) RAM
D.) Flash

Ans C

740. Identify 3 UDP characteristics?

A.) Reliable communication protocol
B.) Applications that use UDP must incorporate reliability
C.) Connnection-less oriented
D.) Incorporates no handshaking

Ans B C D

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741. Identify the IPX standard access-list number range?

A.) 600 - 699
B.) 1000 - 1099
C.) 1 - 99
D.) 100 - 199
E.) 800 - 899

Ans E

742. Which OSI layer provides best effort end to end packet delivery?
A.) Data-Link
B.) Presentation
C.) Network
D.) Transport
E.) Physical
F.) Application

Ans C

743. Identify the 2 methods to modify the routers boot sequence?

A.) Setup program
B.) Boot system commands
C.) RXBoot
D.) Config-register

Ans B D

744. Identify the 3 pieces of hardware you would not install to prevent broadcasts?

A.) Switch
B.) Repeater
C.) Bridge
D.) Router

Ans A B C

745. Identify 2 features of PPP PAP authentication?

A.) Username and password is sent in clear text
B.) Authentication messages are sent periodically during the connection
C.) More secure than CHAP
D.) Remote node is control of authentication process

Ans A D

746. Identify the switching method that examines the destination MAC address as the frame is being received then begins forwarding the frame prior to receiving the entire frame?

A.) Fragment-free
B.) Store and Forward
C.) Cut-through
D.) Fast forward

Ans C

747. Identify 1 characteristic of RARP?

A.) MAC to IP address translation
B.) Connectionless delivery of packets
C.) Can be used to initiate remote O/S load sequence
D.) Generates error and control messages

Ans A

748. Identify the protocol to test connectivity without configuring any layer 3 protocols?

A.) TCP
B.) Ping
C.) IP
D.) CDP
E.) Telnet

Ans D

749. LMI operates between the Frame Switch and what other device?
A.) CPE device
B.) Another Frame Switch
C.) X.25 switch
D.) Novell File Server

Ans A

750. Identify IPX SAP and it's purpose?
A.) Sonet Access Pipe - interface to Sonet ring
B.) Service Advertising Protocol - advertise services
C.) Server Appletalk Protocol - appletalk directory services
D.) Service Access Point - identify upper layer protocols

Ans B

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751. Identify the default values that make up IGRP's composite metric?

A.) Bandwidth
B.) Load
C.) Reliability
D.) MTU
E.) Delay

Ans A E

752. Identify the default encapsulation on serial interfaces?

A.) ISDN
B.) HDLC
C.) SDLC
D.) Frame Relay
E.) PPP

Ans B

753. Identify the purpose of ARP?

A.) Avoiding routing loops
B.) Determining a workstation's IP address
C.) Sending a directed broadcast
D.) Determining a workstation's MAC address

Ans D

754. What is the purpose of the DLCI?

A.) Identifies the remote routers
B.) Contained with a 802.2 frame for routing purposes
C.) Used with PPP during authentication
D.) Identifies the PVC in a Frame Relay network

Ans D

755. Identify 3 characteristics of the Network layer (OSI layer 3)?

A.) Connnection oriented
B.) Path determination
C.) Supports multiplexing
D.) Manages sessions
E.) Packet forwarding

Ans B C E

756. Identify 3 characteristics of switches?

A.) Increase available bandwidth
B.) Decrease broadcast traffic
C.) Support full duplex in a multipoint topology
D.) Make fowarding decision using MAC address
E.) Create collision domains

Ans A D E

757. Which OSI layer handles physical addresses and network topology?

A.) Presentation
B.) Physical
C.) Transport
D.) Application
E.) Data-Link
F.) Network

Ans E

758 Identify 2 reasons for disabling CDP?

A.) If the router is not configured for RIP
B.) Save bandwidth by eliminating overhead
C.) If the router is configured for Appletalk
D.) When connected to a non-Cisco router

Ans B D

759. Identify 3 characteristics of ISDN?

A.) Transports voice and data
B.) Transports voice only
C.) Support both BRI and PRI
D.) Runs over existing phone lines
E.) Same as X.25

Ans A C D

760. Identify the 3 characteristics of IGRP?

A.) Uses hop count as a metric
B.) Supports multiple unequal paths

C.) Administrative distance is 100
D.) Configured with an Automous system number
E.) Link state

Ans B C D

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761. Identify 2 features of PPP CHAP authentication?

A.) Username and password is sent in clear text
B.) Authentication messages are sent periodically during the connection
C.) Less secure then PAP
D.) Local router 'challenges' the remote router

Ans B D

762. Identify the default IPX serial encapsulation?

A.) Novell-Ether
B.) SDLC
C.) SNAP
D.) HDLC

Ans A

763. Identify the hardware component that stores the backup configuration?

A.) RAM
B.) NVRAM
C.) Flash
D.) ROM

Ans B

764. Identify the named IP access-list number range?

A.) 600 - 699
B.) 1 - 99
C.) 900 - 999
D.) 200 - 299
E.) none of the above

Ans E

765 Identify 3 Fast Ethernet technologies?

A.) 100 Base FastEther
B.) 100 Base FX
C.) 100 Base T4
D.) 100 Base TX

Ans B C D

766. Identify the OSI layer responsible for end-to-end connections?

A.) Network
B.) Transport
C.) Session
D.) Data link
E.) TCP

Ans B

767. Identify the 2 characteristics regarding MAC addresses?

A.) Contains a network portion and host portion
B.) Always assigned by System Administrator
C.) 48 bits long
D.) Contains a vendor code and serial number

Ans C D

768. Identify the number range for IPX SAP filters?

A.) 900 - 999
B.) 1000 - 1099
C.) 800 -899
D.) 100 - 199

Ans B

769. What is the purpose of ARP?

A.) IP to host name resolution
B.) Host name to IP address resolution
C.) Mac to IP address resolution
D.) IP to Mac address resolution

Ans D

770. Which OSI layer establishes, maintains and terminates sessions between applications?

A.) Application
B.) Physical
C.) Data-Link
D.) Presentation
E.) Network
F.) Session

Ans F

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781. Identify the type of routing protocol that exchanges entire routing tables at regular intervals?

A.) Link state
B.) Interior gateway protocols
C.) Appletalk routing
D.) Distance vector

Ans D

782. Identify the type of hardware required to connect a Token ring network to an Ethernet network?

A.) Repeater
B.) TR-Enet
C.) Router
D.) Token Ring to Ethernet translation hub

Ans C

783 Identify 3 characteristics regarding CDP?

A.) On by default
B.) Shows only directly connected neighbors
C.) Requires IP or IPX
D.) 60 second update interval by default
E.) 30 second updates interval by default

Ans A B D

784. Identify 2 transport layer protocols?
A.) IP
B.) TCP
C.) CDP
D.) ARP
E.) UDP

Ans B E

785. Identify 2 features of X.25?
A.) Supports only IP
B.) Utilizes switched and permanent virtual circuits
C.) Contains minimal flow control and error recovery
D.) Utilizes LAPB as it's data-link protocol

Ans

786. Identify the purpose of the Trace command?

A.) Explorer packet transmitting routing information
B.) Test connectivity
C.) Determine the path a packet is taking through the network
D.) Transmits user data when buffers are full

Ans C

787. Identify the purpose of the TCP 3 step handshake?

A.) Setup a un-reliable connection

B.) Initialize routing tables
C.) Synchronize sequence numbers between hosts
D.) Connection tear down process

Ans C

788. Identify 2 PPP characteristics?

A.) Is proprietary to Cisco
B.) Supports authentication
C.) Support compression
D.) Run on a multi-access network

Ans B C

789 Which statements are true regarding half duplex?

A.) Only works in a point-to-point configuration
B.) Allows for transmitting and receiving but not at the same time
C.) Allow for transmitting and receiving of data simultaneously
D.) Doubles the bandwidth

Ans A C D

790. Identify the purpose of the wildcard mask?

A.) Match a certain portion of the IP address while ignoring the rest of the address
B.) Determine the class of the IP address
C.) Determine the network portion of an IP address
D.) Hide the host portion of an IP address

Ans A

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791. Identify the OSI layer associated with bits?
A.) Physical
B.) Network
C.) Binary
D.) Data link

Ans A

792. Identify the type of routing protocol that maintains a topological database of the network?

A.) Topological state
B.) Shortest Path First
C.) Link state
D.) Distance vector

Ans C

793. Identify the 3 major functions at layer 3 of the OSI model?

A.) Forwarding process
B.) Logical addressing
C.) End-to-end connnections
D.) Path selection
E.) MAC address examination
F.) Network monitoring

Ans A B D

794. Identify the 2 rules used when configuring a Distance Vector routing protocol?

A.) Physically connected network(s)
B.) Configure the classfull address, no subnets
C.) Enable CDP so neighbors can be detected
D.) Same autonomous network

Ans A D

795. Identify 3 characteristics of an IP address?

A.) Contains a network portion and a host portion
B.) 32 bits long
C.) Unique to each network
D.) Part of the default Cisco configuration
E.) Referred to as the hardware address

Ans A B C

796. Identify 3 feature of access-lists?

A.) Implicit deny will deny any packets not matched
B.) Processed sequentially from bottom to top
C.) Processed sequentially from top to bottom
D.) If a packet is denied it would be tested against the remaining statements in the access-list
E.) Once a match is made the packet is either denied or permitted
F.) Enabled on all interfaces by default

Ans A C E

797. Which OSI layer performs code conversion, code formatting and encryption?

A.) Physical
B.) Data-Link
C.) Application
D.) Transport
E.) Presentation
F.) Network

Ans E

798 Identify the 3 methods routers learn paths to destinations?

A.) Dynamic routing
B.) None of the above, configured by default
C.) Default routes

D.) Administrative distance
E.) Static routes

Ans A C E

799 Identify the purpose of the following command 'ip route 192.168.100.0 255.255.255.0 10.1.0.1'

A.) Enabling a dynamic routing protocol
B.) Creating a static route to the 10.1.0.0 network
C.) Teaches the router about the distant network 192.168.100.0 and how it
can be reached via 10.1.0.1
D.) Assigining the IP address 192.168.100.0 to an interface

Ans C

800. Based upon the 1st octet rule identify the range for a Class A address?

A.) 1 - 126
B.) 192 - 223
C.) 128 - 191
D.) 1 - 191

Ans A

801. What does a Standard IP Access-list use as test criteria?

A.) IP source address
B.) IP source and destination address, protocol numbers and port numbers
C.) IPX source and destination address
D.) Source MAC address

Ans A

802. What is the function of the Transport layer and which protocols reside there?

A.) MAC addressing - IP
B.) Interhost communication - SQL, NFS
C.) Best effort Packet delivery - TCP, UDP
D.) End-to-end connections - TCP, UDP

Ans D

803. Identify the 3 Internet layer IP protocols?

A.) NetBios
B.) IPX
C.) ARP
D.) IP
E.) RARP

Ans C D E

804. IPX routing updates occur how often?

A.) Every 30 seconds
B.) Every 60 seconds
C.) Only as needed
D.) When the remote router asks for an update

Ans B

805. Identify 3 methods not used to prevent routing loops?

A.) Holddown timers
B.) Sequence numbers
C.) Triggered updates
D.) Split horizon
E.) Area hierarchies
F.) Order of router startup

Ans B E F

806. Identify the hardware component that stores the bootstrap program?

A.) ROM
B.) NVRAM
C.) Booter load
D.) RAM
E.) Flash

Ans A

807. Which OSI layer provides mechanical, electrical & procedural specifications for activating, maintaining physical link?

A.) Presentation
B.) Network
C.) Application
D.) Physical
E.) Transport
F.) Data-Link

Ans D

808 Identify 2 characteristics of PPP?

A.) Uses LLC to establish the link
B.) Default serial encapsulation
C.) Support multiple layer 3 protocols
D.) Offers two types of authentication; PAP and CHAP

Ans C D

809. Identify 3 characteristics of a connection oriented protocol?

A.) Path determination
B.) Flow control
C.) Acknowledgements
D.) Uses hop count as metric

E.) 3 way handshake

Ans B D E

810 What is the maximum hop count for IP RIP?

A.) Infinity
B.) 16
C.) 15
D.) 1

Ans C

811 What is Cisco's default encapsulation method on serial interfaces?

A.) ANSI
B.) Cisco
C.) Q933a
D.) HDLC

Ans D

812. Which of the following is a characteristic of a switch, but not of a router?

A.) Switches forward packets based on the IPX or IP address in the frame
B.) Switches forward packets based on the IP address in the frame
C.) Switches forward packets based on the MAC address in the frame
D.) Switches forward packets based only on the IP address in the packet

Ans C

813. Ping uses which Internet layer protocol?

A.) RARP
B.) ICMP
C.) ARP
D.) FTP

Ans B

814. Which is true regarding store-and-forward switching method?

A.) Latency varies depending on frame-length
B.) Latency is constant
C.) It is default for all Cisco switches
D.) It only reads the destination hardware address before forwarding the frame

Ans A

815. Which three of the following are true statements about connection-oriented sessions?

A.) The segments delivered are acknowledged back to the sender upon their reception

B.) Any segments not acknowledged are retransmitted by the receiver
C.) A manageable data flow is maintained in order to avoid congestion, overloading and loss of any data
D.) Segments are sequenced back into their proper order upon arrival at their destination

Ans A C D

816 What does a metric of 16 hops represent when using RIP?

A.) Number of hops to the destination
B.) Destination unreachable
C.) Number of routers
D.) Bandwidth

Ans B

817. You need to come up with a TCP/IP addressing scheme for your company. Which two factors must you consider when you define the subnet mask for the network?

A.) The location of DHCP servers
B.) The volume of traffic on each subnet
C.) The number of subnets on the network
D.) The location of the default gateway
E.) The number of host IDs on each subnet

Ans C E

818. What is the difference between TCP and UDP?

A.) TCP is connection-oriented; UDP uses acknowledgements only
B.) TCP is connection-oriented; UDP is connectionless
C.) Both TCP and UDP are connection-oriented, but only TCP uses windowing
D.) TCP and UDP both have sequencing, but UDP is connectionless

Ans B D

819. What does the 'S' mean when looking at the routing table?

A.) Statically connected
B.) Directly connected
C.) Dynamically attached
D.) Shutdown route

Ans A

820. Why would you use static routing instead of dynamic routing?

A.) When you want automatic updates of the routing tables
B.) All the time
C.) When you have very few routes and want to conserve bandwidth
D.) When you have a gateway of last resort

Ans C

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821. What does the acronym ARP stand for?

A.) Address Resolution Phase
B.) ARP Resolution Protocol
C.) Address Resolution Protocol
D.) Address Recall Protocol

Ans C

822. What is the default encapsulation of Netware 3.12?

A.) Ethernet_II
B.) 802.5
C.) 802.2
D.) 802.3

Ans C

823. Regarding frame relay, which of the following statements are true?

A.) You must use ANSI encapsulation if connecting to non-Cisco equipment
B.) You must use IETF encapsulation if connecing to non-Cisco equipment
C.) You must use Q.933a encapsulation if connecing to non-Cisco equipment
D.) You must use Cisco encapsulation if connecting to non-Cisco equipment

Ans B

824 What is required to support full-duplex Ethernet?

A.) Multiple paths between multiple stations on a link
B.) Automatic sensing operation by all connected stations
C.) Loopback and collision detection disabled
D.) Full-duplex NIC cards

Ans C D

825. Which layer is responsible for determining if sufficient resources for the intended communication exists?

A.) Application
B.) Network
C.) Session
D.) Presentation
E.) Transport

Ans A

826. What are the 2 functions of the Data Link Mac layer?

A.) Handles access to shared media
B.) Manages protocol access to the physical network medium
C.) Provides SAPs for higher level protocols
D.) Allows multiple devices to uniquely identify one another on the data link layer

Ans A B D

827. Describe End to End network services: (Choose all that apply)

A.) Best Route selection
B.) Accomplished Segment by Segment, each segment is autonomous
C.) Flow Control & Data Integrity
D.) Best efforts packet delivery

Ans B C

828. Which of the following provide correct information about a protocol at the transport layer of the OSI model?

A.) UDP - Provides Connectionless datagrams service
B.) TCP - Provides Connection Oriented Services
C.) SMTP - Provides Mail Exchange
D.) IP - Route determination
E.) TCP - Provides Flow Control and Error Checking
F.) FTP - Transfers of Files

Ans A E

829. Which protocol works at the Internet layer and is responsible for making routing decisions?

A.) UDP
B.) IP
C.) TCP
D.) ARP

Ans B

830. Which layer is responsible for providing mechanisms for multiplexing upper-layer application, session establishment, and tear down of virtual circuits?

A.) Session
B.) Network
C.) Physical
D.) Transport
E.) Application
F.) Presentation

Ans D

831. Which of the following are logged when IP access list logging is enabled?
A.) source address
B.) protocol
C.) source port
D.) destination address
E.) access list number
F.) destination port

Ans A B C D F

832. What's the default CDP holdtime in seconds for Cisco routers?
A.) 30 seconds
B.) 180 seconds
C.) 90 seconds
D.) 60 seconds

Ans B

833. Which two of the following protocols are used at the Transport layer?
A.) ARP
B.) UDP
C.) ICMP
D.) RARP
E.) TCP
F.) BootP

Ans B E

834. LAN stands for which of the following?

A.) Local Area Network
B.) Local Arena Network
C.) Local Area News
D.) Logical Area Network

Ans A

835. Choose three reasons why the networking industry uses a layered model:

A.) It facilitates systematic troubleshooting
B.) It allows changes in one layer to occur without changing other layers
C.) It allows changes to occur in all layers when changing one protocol
D.) It clarifies how to do it rather than what general function to be done
E.) It clarifies what general function is to be done rather than how to do it

Ans A B D

836 A ISDN PRI circuit can be described as which of the following?

A.) 24 B channels and 1-64Kbps D channel
B.) 23 B channels and 1-64Kbps D channel
C.) 2-D channels and 1-C channel
D.) 2-64Kbps B channels and 1-16Kbps D channel

Ans B

837. What are 3 ways to provide login access to router?
A.) Console
B.) TFTP
C.) Rlogin
D.) Auxiliary Port
E.) X Windows
F.) Telnet

Ans A D F

838 Which of the following statements are true?

A.) Store and forward switching creates variable latency through the switch
B.) Cut through switching creates variables latency through the switch
C.) Cut through switching works at wire speed
D.) Store and forward switching works at wire speed

Ans A C

839 Which of the following can reply to a Novell Get Nearest Server (GNS) request?

A.) Local Novell server
B.) Remote Novell Printer
C.) Cisco router
D.) Novell client

Ans A C

840. Identify the 3 kinds of routes IGRP advertises?

A.) Interior
B.) Dynamic
C.) System
D.) Exterior

Ans A C D

CCNA Interview Questions Page 84

841. What is the routing metric used by RIP?

A.) Route poisoning
B.) Split horizon
C.) Hop Count
D.) TTL

Ans C

842. What is the default encapsulation and frame type on an Ethernet interface when enabling Novell?
A.) SNAP
B.) Ethernet_II
C.) 802.2
D.) 802.3
E.) SAP
F.) Novell-ether

Ans D F

843. What is true when creating static route?
A.) The mask parameter is optional

B.) The administrative distance is required
C.) The gateway parameter is required
D.) The administrative distance is optional

Ans C D

844 Of the following switching types, which one has the highest latency?

A.) Cut-through
B.) None
C.) Store-and-forward
D.) Fragment Free

Ans C

845. What does the IPX maximum-path command do?
A.) Allows you to disable the TTL on an IPX packet
B.) This parameter is only used in NLSP routing
C.) Sets the maximum metric that can appear in the routing table
D.) Configures round robin load sharing over multiple equal metric paths
(parallel paths)

Ans D

846. What does -1 mean in an extended IPX access-list?
A.) Any IP address
B.) Deny all
C.) Deny host
D.) Any host or any network

Ans D

847 What parameter is used with statically assigned routers to tell packets which interface to use to reach a distant network?

A.) Mask
B.) Subnet
C.) Default gateway
D.) Interface

Ans C

848. Which of the following protocols are used to get an IP address from a known MAC address?

A.) BootP
B.) TCP
C.) IP
D.) ARP
E.) RARP
F.) ICMP

Ans A E

849. What does the Spanning Tree Algorithm (STA) do?

A.) Restore lost frames
B.) Builds routing tables for routing through an internetwork
C.) Forward packets through a switch
D.) STA is implemented by STP to prevent loops

Ans D

850. IP extended access lists use which of the following as a basis for permitting or denying packets?

A.) destination address
B.) all of the above
C.) protocol
D.) source address
E.) port

Ans B

851. What is the extended IPX access list range?
A.) 901-1000
B.) 100-199
C.) 900-999
D.) 1000-1000

Ans C

852. CPE is an acronym for which of the following?
A.) Customer Premise Equipment
B.) Central Processing Engineering
C.) Customer Process Equipment
D.) Central Processing Equipment

Ans A

853. How often does IP RIP send out routing table updates by default?
A.) They send complete updates every 30 seconds
B.) They send partial updates every 30 seconds
C.) They send complete updates every 60 seconds
D.) They send partial updates every 60 seconds

Ans A

854 Which ISDN protocol prefix specifies switching and signalling?
A.) I
B.) E
C.) Q
D.) S

Ans Q

855. CSMA/CD stand for which of the following?

A.) Carrier Sense, Multiple Access with Collision Detection
B.) Collision Sense, Multiple Access with Collision Detection
C.) Collision Sense, Multiple Access with Carrier Detection
D.) Carrier Sense, MAC address with Collision Detection

Ans B

856. Which of the following are Distance Vector protocols?

A.) IGRP
B.) RIP
C.) OSFP
D.) EIGRP

Ans A B

857. UDP works at which layer of the DOD model?

A.) Internet
B.) Host-to-Host
C.) Transport
D.) Data Link

Ans B

858. Of the following switching types, which one has the lowest latency?

A.) Cut-through
B.) Fragment Free
C.) None
D.) Store-and-forward

Ans A

859. What is an administrative distance of 0 mean?
A.) 0 means unbelievable
B.) 0 is for EIGRP
C.) 0 is the default distance for directly connected networks
D.) 0 means unreachable

Ans C

860. Which of the following describe full-duplex transmission?
A.) Uses a single wire
B.) Data transmission in both directions, but only one way at a time
C.) Uses a point-to-point connection from the transmitter of the
transmitting station to the receiver of the receiving station
D.) Data transmission in only one direction

Ans C

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871 What does 'P' mean when running a Trace?

A.) Good route
B.) Protocol unreachable
C.) Source Quench
D.) Destination unreachable

Ans B

872. What is the Network Layer of the OSI responsible for?

A.) Bridging
B.) Routing packets through an internetwork
C.) Regenerating the digital signal
D.) Gateway services

Ans B

873 Which layer is responsible for routing through an internetwork?

A.) Physical
B.) Session
C.) Network
D.) Transport
E.) Application
F.) Data Link

Ans C

874. What three occurrences will reset the holddown timer after a triggered update?

A.) Infinity is finally defined as some max number
B.) HD Timer expires
C.) Another update is received indicating a better metric
D.) The router receives a processing task proportional to the number of links in the internetwork
E.) The router detects fault LSP's propagating through the internetwork
F.) Another update is received indicating net status changed

Ans A B C

875. Which layer is responsible for putting 1s and 0s into a logical group?

A.) Session
B.) Application
C.) Transport
D.) Data Link
E.) Physical
F.) Network

Ans E

876. How many LMI types are available on Cisco routers?

A.) Four
B.) Two
C.) Five
D.) Three

Ans D

877. Which layer is responsible for framing?

A.) Application
B.) Data Link
C.) Physical
D.) Network
E.) Transport

Ans B

878. What ISDN protocol specifies concepts, terminology, and services?
A.) Q
B.) S
C.) I
D.) E

Ans C

879. What is the purpose of Split Horizon?

A.) It prevents the regular update messages from reinstating a route that has gone down
B.) Information received on an interface cannot be sent back out the same interface
C.) Informs all neighbor routers that two routes exist
D.) Tells the router the destination is unreachable

Ans B

880. WAN stands for which of the following?

A.) Wide Arena Network
B.) World Area Network
C.) Wide Area News
D.) Wide Area Network

Ans D

CCNA Interview Questions Page 87

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B.) Protocol unreachable
C.) Source Quench
D.) Destination unreachable

Ans B

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C.) Regenerating the digital signal
D.) Gateway services

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C.) Network
D.) Transport
E.) Application
F.) Data Link

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Ans A B C

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E.) Physical
F.) Network

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Ans D

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B.) Data Link
C.) Physical
D.) Network
E.) Transport

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B.) S
C.) I
D.) E

Ans C

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Ans B

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B.) World Area Network
C.) Wide Area News
D.) Wide Area Network

Ans D

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881. Which of the following provide connection-oriented transport to upper layer protocols?

A.) SPX
B.) RIP
C.) NLSP
D.) NCP

Ans A

882. Which two does 100BaseT use?

A.) CSMA/CD
B.) IEEE 802.5
C.) 802.3u
D.) Switching with 53-byte cells

Ans A

883. Which layer is responsible for flow control, acknowledgement, and windowing?

A.) Transport
B.) Network
C.) Application
D.) Session

E.) Physical
F.) Data Link

Ans A

884. Which of the following is used to manage and monitor the network?

A.) SNMP
B.) HTTP
C.) IP
D.) FTP

Ans A

885 What is true about Link-State protocols?

A.) They maintain a more complex table than distant vector protocols
B.) They maintain a less complex table than distant vector protocols
C.) They use routing ports
D.) The maintain backup copies of the IOS

Ans A

886. The maximum distance on a 10BaseT network from the hub to a workstation is which of the following?

A.) 500 meters
B.) 1000 meters
C.) 100 meters
D.) 1500 meters

Ans C

887 Which of the following use PVCs at layer 2?

A.) X.25
B.) HDLC
C.) Frame relay
D.) ISDN

Ans C

888. What is the routing algorithm used by RIP and IGRP?

A.) OSPF
B.) Link-state
C.) Dynamic
D.) Distance Vector

Ans D

889. Which layer is responsible for negotiating data transfer syntax?

A.) Network
B.) Session
C.) Application

D.) Transport
E.) Presentation

Ans E

890 What are hold-downs used for?

A.) To prevent regular update messages from reinstating a route that has come back up
B.) Information received on an interface cannot be sent back out the same interface
C.) To prevent regular update messages from reinstating a route that has gone down
D.) To hold the routing table from being sent to another router

Ans C

891 Which of the following protocols are used for logical network addressing?
A.) IP
B.) TCP
C.) ARP
D.) ICMP
E.) RARP
F.) BootP

Ans A

892 Which can be logged by IPX extended access lists?

A.) source address
B.) protocol
C.) source socket
D.) access list number
E.) destination socket
F.) destination address

Ans A B S D E F

893. Put the following steps of encapsulation into the correct order:
1) The data is broken into segments to be organized
2) Frames are converted to 1s and 0s to be put on the wire
3) Packets are converted into frames
4) Information that users enter is converted into data
5) The segments are changed to packets to be routed

A.) 4, 1, 3, 2, 5
B.) 4, 5, 1, 3, 2
C.) 2, 3, 1, 4, 5
D.) 4, 1, 5, 3, 2

Ans D

894 Which port numbers are used by TCP and UDP to set up sessions with other hosts?
A.) 1024 and above
B.) 6 and 17 respectively

C.) 1-25
D.) 6-17

Ans A

895 Repeaters work at which layer of the OSI model?

A.) Network
B.) Session
C.) Transport
D.) Physical

Ans D

896. What protocols can you use while testing Trace?

A.) DECnet
B.) CLNS
C.) IP
D.) Old Vines
E.) Vines
F.) Chaos

Ans B C D E

897. What utility can you use to see the path a packet takes through an internetwork?

A.) Route
B.) SNMP
C.) Trace
D.) Ping

Ans C

898 What is true about frame-relay DLCI?

A.) DLCI represents a single physical circuit
B.) DLCI is optional in all frame-relay networks
C.) DLCI identifies a logical connection between DTE devices
D.) DLCI is used to tag the beginning of a frame with VLAN information

Ans C

899 Which frame has a Type field to identify the upper-layer protocol?
A.) 802.3
B.) 802.2
C.) 802.5
D.) Ethernet_II

Ans A

900. Which protocol will let neighbor routers know if your internetwork experienced congestion on a serial port?

A.) BootP
B.) IP

C.) ICMP
D.) ARP
E.) FTP
F.) RARP

Ans C

901. What do you use the Aux port for?

A.) Console
B.) Terminal editing
C.) Modem
D.) Backup logging

Ans C

902. The CSMA/CD Ethernet IEEE committee is defined as which of the following?
A.) 802.2
B.) 802.3
C.) 802.4
D.) 802.5

Ans B

903 How many Frame-relay encapsulation types are available with Cisco routers?
A.) Four
B.) Two
C.) Five
D.) Three

Ans B

904. What is the maximum hop count for Link-State protocols?

A.) 15
B.) there is no hop count limit
C.) 256
D.) 16

Ans B

905. What information can you get from CDP info: (choose all that apply)
A.) Hardware platform
B.) One address per protocol
C.) Software platform
D.) Hostname
E.) The same info as show version
F.) Incoming/outgoing port

Ans A B C D F

906 How does the cut-through switching technique work?

A.) By using broadcast address as source addresses
B.) The switch waits only for the header to be received before it checks the destination address and starts forwarding the packets
C.) The LAN switch copies the entire frame into its onboard buffers and then looks up the destination address in its forwarding, or switching, table and determines the outgoing interface
D.) By using a Class I repeater in a collision domain

Ans B

907. What is the protocol number for TCP?

A.) 80
B.) 21
C.) 11
D.) 6

Ans D

908. Which of the following are Presentation Layer standards?

A.) JPEG and PICT
B.) MPEG and MIDI
C.) ASCII and EBCDIC
D.) NFS and SQL

Ans A B C

909. What is the administrative distance for RIP?

A.) 100
B.) 90
C.) 120
D.) 110

Ans C

910 IP standard access lists use which of the following as a basis for permitting or denying packets?

A.) destination address
B.) port
C.) protocol
D.) source address

Ans D

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911 If a frame is received at a switch and only the destination hardware address is read before the frame is forwarded, what type of switching method is this?

A.) Store-and-drop
B.) Latency
C.) Store-and-forward
D.) Cut-through

Ans D

912. What is the purpose and default value of the CDP timer command?

A.) 90 seconds; interval before an entry expires
B.) 60 seconds; interval between updates
C.) 60 seconds; interval before an entry expires
D.) 90 seconds; interval between updates

Ans B

913. Choose the following that are benefits to segmenting with router:

A.) Flow Control
B.) Manageability
C.) Multiple Active Paths
D.) Explicit packet lifetime control

Ans B C

914. When discussing static routes, what is the gateway parameter used for?

A.) Determining the dynamic route
B.) Defining the subnet
C.) Defining the Administrative Distance
D.) Determining the next hop

Ans D

915. Which layer hides details of network dependent information from the higher layers by providing transparent data transfer?

A.) Transport
B.) Physical
C.) Data Link
D.) Session
E.) Application
F.) Network

Ans

916 What information is provided by the local management interface (LMI)?

A.) LMI encapsulation type
B.) The current DLCI values
C.) The status of virtual circuits
D.) The global or local significance of the DLCI values

Ans A B C

917 Which layer defines the physical topology?

A.) Application
B.) Transport
C.) Network
D.) Data Link
E.) Physical
F.) Session

Ans E

918 What key do you use to view the last command?

A.) Left Arrow
B.) Ctrl-P
C.) Up Arrow
D.) Right Arrow

Ans B C

919. Which of the following do not belong to the customer?

A.) CO
B.) DCE
C.) Router
D.) CPE
E.) Demarc
F.) DTE

Ans A E

920 What is the IEEE specification for Spanning Tree Protocol?

A.) 802.9
B.) 803.ud
C.) 803
D.) 802.1d

Ans D

CCNA Interview Questions Page 92

921. CO is an acronym for which of the following?

A.) Central Office
B.) Capital Office
C.) Central Operator
D.) Company Office

Ans A

922 What is convergence time?

A.) The update time
B.) The time it takes to reload a router
C.) The time it takes for a packet to reach its destination

D.) The time is takes for all routers update their tables after a change takes place

Ans D

923. Which of the following are Session Layer standards?

A.) ASCII and EBCDIC
B.) MPEG and MIDI
C.) RPC and SQL
D.) JPEG and PICT

Ans C

924 What is the IP extended access list range?

A.) 1000-1099
B.) 100-199
C.) 1-99
D.) 101-200

Ans B

925 Define Poison Reverse?

A.) To prevent regular update messages from reinstating a route that has gone down
B.) Packets sent out that are not destined for a network go to the default network
C.) Information received on an interface cannot be sent back out the same interface
D.) When a network goes down, that network is advertised with an infinite metric

Ans D

926. What is the default interval for SAP updates?

A.) 60 seconds
B.) 15 seconds
C.) 30 seconds
D.) 120 seconds

Ans A

927. What does a router do with a packet that it does not have a destination network for?

A.) Sends it to the Serial port
B.) Drops the packet
C.) Sends it back out the same interface it received it in
D.) Forwards the packet to the next hop

Ans B

928 What type of frame does CDP use to gather information about it's neighbors?
A.) TCP/IP
B.) Novell-ether
C.) Subnetwork Access Protocol (SNAP)
D.) Ethernet_II

Ans C

929 Which protocol is used for booting diskless workstations?

A.) IP
B.) ARP
C.) RARP
D.) TCP
E.) SNMP

Ans C

930. Which layer is responsible for synchronizing sending and receiving applications?
A.) Presentation
B.) Session
C.) Transport
D.) Application
E.) Network

Ans B

931 Which protocol gets a hardware address from a known IP address?
A.) RARP
B.) TCP
C.) IP
D.) BootP
E.) ARP
F.) ICMP

Ans E

932. Which layer defines bit synchronization?
A.) Application
B.) Network
C.) Transport
D.) Physical
E.) Session
F.) Session

Ans D

933. Which is true regarding half duplex Ethernet operation?

A.) Half Duplex ethernet technology provides a transmit circuit connection wired directly to the receiver circuit at the other end
B.) Half duplex transmission between stations is achieved by using point to multipoint Ethernet and Fast Ethernet
C.) With Half Duplex transmission logically circuits feed into a single cable creating a situation similar to a one way bridge
D.) Half Duplex transmission between stations is achieved using Point to Point Ethernet & Fast Ethernet

Ans C

934 When would you use ISDN?

A.) To connect LANs using POTS
B.) To support applications requiring voice, data, and video
C.) When you need a consistent and very high rate of data speed
D.) To connect to IBM mainframes

Ans B

935. Which protocol will send a message to routers if a network outage or congestion occurs?

A.) ARP
B.) TCP
C.) IP
D.) ICMP

Ans D

936 What are the 2 functions of the Data Link Mac layer?

A.) Handles access to shared media
B.) Manages protocol access to the physical network medium
C.) Provides SAPs for higher level protocols
D.) Allows multiple devices to uniquely identify one another on the data link layer

Ans A B D

937. Which layer is responsible for coordinating communication between systems?
A.) Application
B.) Network
C.) Session
D.) Transport
E.) Physical
F.) Data Link

Ans C

938. What is the default CDP broadcast update rate for Cisco routers?

A.) 120 seconds
B.) 60 seconds
C.) 30 seconds
D.) 90 seconds

Ans B

939. You need to come up with a TCP/IP addressing scheme for your company. How many network IDs must you allow for when you define the subnet mask for the network?

A.) One for each WAN link
B.) One for each router interface
C.) One for each NIC installed in each client
D.) One for each subnet with hosts
E.) One for each host ID

Ans A D

940. What is the protocol number for UDP?

A.) 6
B.) 17
C.) 25
D.) 21

Ans B

941 What is the default LMI type?

A.) Cisco
B.) ANSI
C.) IETF
D.) Q933a

Ans A

942. You have two Cisco routers setup back-to-back in a lab using DTE/DCE cables. To which router would you add the clockrate command?

A.) The serial port on the DCE router
B.) The Ethernet port on the DTE router
C.) The Ethernet port on the DCE router
D.) The serial port on the DTE router

Ans A

943 How does a switch use store and forward?

A.) By using a Class I repeater in a collision domain
B.) The LAN switch copies the entire frame into its onboard buffers and then looks up the destination address in its forwarding, or switching,table and determines the outgoing interface
C.) By using broadcast addresses as source addresses
D.) The switch waits only for the header to be received before it checks the destination address and starts forwarding the packets

Ans D

944. Which of the following are valid WAN terms?

A.) DTE
B.) DCE
C.) Demarc
D.) CPE

Ans ABCD

945. Which two describe frame tagging?

A.) Examines particular info about each frame
B.) A unique ID placed in the header of each frame as it traverses the switch fabric
C.) A user- assigned ID defined to each frame
D.) The building of filter tables

Ans B C

946. An ISDN BRI circuit can be described as which of the following?
A.) 3B channels
B.) 2-64Kbps B channels and 1-16Kbps D channel
C.) none of the above
D.) 2-64Kbps B channels and 1-16Kbps C channel

Ans B

947 The two sublayers of the IEEE Data Link Layer are which of the following?

A.) Link and Logical Control
B.) Data Link and LLC
C.) Logical Link Control and Media Access Control
D.) Data Link and MAC

Ans C

948. The -- terminal no editing -- command will perform what function?

A.) Edit the contents of NVRAM
B.) Allows access to the terminal port
C.) Stops the advanced editing feature
D.) Enable password functions

Ans C

949. Which two of the following are valid ways to have multiple encapsulation types on a single interface?

A.) This is not possible
B.) subinterfaces
C.) additional physical interfaces
D.) secondary addresses

Ans B D

950. Which 3 statements describe default encapsulation and LMI type configuration?

A.) There are only 4 encapsulations and 3 LMI type options
B.) The LMI type config term options
C.) In release 11.2 the LMI type is autosensed
D.) The default LMI is Cisco
E.) IETF encapsulation must be configured unless the connecting routers are both Cisco

Ans B C E

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951. Which can be true regarding VLANs?
A.) They are created by location
B.) They are created by function
C.) They are created by department
D.) They are created by group

Ans B C D

952. What is true when using DDR?

A.) HDLC is the preferred encapsulation
B.) You must use static routing
C.) You should use dynamic routing
D.) You should use ISDN

Ans B

953. If you are running Token Ring with Novell IPX routing, which encapsulation should you use?

A.) SAP
B.) SNAP
C.) 802.5
D.) 802.2

Ans B

954 What are the 3 ways routers learn paths to destination networks?

A.) Dynamic
B.) Static
C.) Routing tables
D.) Default

Ans A B D

955. Bridges work at what layer of the OSI model?

A.) Data Link
B.) Network
C.) Physical
D.) Application

Ans A

956 What is the default switching method for the Cisco 5000 series?
A.) Cut-through
B.) Store-and-splice
C.) Latency
D.) Store-and-forward

Ans D

957. The benefits to segmenting with Bridges are which of the following?

A.) Scalability
B.) Datagram filtering
C.) Manageability
D.) Reliability

Ans B C

958. What is the administrative distance for IGRP?

A.) 90
B.) 120
C.) 110
D.) 100

Ans D

959. On an ISDN BRI interface, the control channel is the 'D' channel. What is the rate of this channel?

A.) 64 Kbps
B.) 1.544 Mbps
C.) 128 Kbps
D.) 2.048 Mbps
E.) 16 Kbps

Ans E

960 MIDI and MPEG are examples of what layer of the OSI seven layer model?

A.) Session
B.) Network
C.) Datalink
D.) Transport
E.) Application
F.) Presentation

Ans F

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961 Which ISDN specification series deals with Concepts and Terminology?
A.) C- Series
B.) I- Series
C.) Q-Series
D.) 911-Series
E.) J-Series
F.) F-Series

AnsB

962. Which of the following is an example of the Physical Layer?

A.) SQL

B.) IP
C.) LLC
D.) DDP
E.) Ethernet

Ans E

963 In regards to the ISDN BRI standard, which channel is used for control?
A.) B
B.) D
C.) E
D.) I
E.) Q

Ans B

964. Which protocol resolves an IP address to a MAC address?
A.) DHCP
B.) RARP
C.) ARP
D.) NBP
E.) DNS

Ans C

965. Which of the following is an example of the Network Layer?

A.) TCP
B.) IP
C.) SQL
D.) Token Ring
E.) LLC

Ans B

966 The Internet Control Message Protocol occurs at what layer of the seven layer model?

A.) Physical
B.) Transport
C.) Session
D.) Datalink
E.) Presentation
F.) Network

Ans F

967. Which of the following are examples of the Session Layer?
A.) IP
B.) Netbios Names
C.) NFS
D.) Token Ring
E.) SQL
F.) RPC

Ans B C E F

968 What is the regional Telco office called, where the customers local loop terminates?
A.) Demarc
B.) DTE
C.) DCE
D.) CO
E.) CPE

Ans A

969. What is the default LMI type for Cisco Routers that are using Frame-Relay?

A.) Annex D
B.) Q933A
C.) Cisco
D.) IETF
E.) ARPA
F.) Anex A

Ans C

970. Most routing protocols recognize that it is never useful to send information about a route back out the direction from which the original packet came. This is an example of which routing technology?

A.) Split Horizon
B.) LMI
C.) Triggered Updates
D.) Poison Reverse
E.) SYN, ACK
F.) DLCI

Ans A

971. Which layer of the 7 layer model is responsible for representing the application information between 2 different OS's? For example, converting ASCII to EBCIDIC.

A.) Transport
B.) Application
C.) Physical
D.) Session
E.) Presentation
F.) Network

Ans E

972. Which type of switching reads in the entire frame before forwarding it?

A.) Pause-and -forward
B.) Store-and-Forward
C.) Inverse ARP
D.) Fast Forward
E.) Cut-Through

F.) Routing

Ans B

973. Which OSI Reference Layer is concerned with path determination?

A.) Datalink
B.) Physical
C.) Network
D.) Transport
E.) Session

Ans C

974. Which of the following are examples of the Datalink Layer?

A.) LLC
B.) SQL
C.) TCP
D.) Token Ring
E.) IP

Ans A D

975 What is the standard ISDN term for a non-native analog telephone?
A.) TE1
B.) TA
C.) LE
D.) TE2
E.) ET

Ans D

976. Which Distance Vector characteristic can help to speed up convergence?

A.) Triggered Updates.
B.) Split Horizon.
C.) Poison Reverse.
D.) Hold Down timers.
E.) Inverse ARP.

Ans A

977. Which type of switching is considered to be 'wire speed?'
A.) Cut-Through
B.) Multiplexed
C.) Inverted
D.) Layer 4
E.) Store and Forward
F.) Layer 3

978. The Datalink layer works with which of the following:

A.) Packets
B.) Bits
C.) Globules

D.) Frames
E.) Segments

Ans D

979. What is a characteristic of Store and Forward switches?

A.) They forward the frame before it is completely read.
B.) They work at wire speed.
C.) They are the same a Cut-Through switching.
D.) They read the entire frame and check CRC before forwarding.
E.) They decrease latency.

Ans D

980. Station A is transmitting data to station B, and expects an acknowledgment after every 400 bytes. After transmitting data for a while, the two stations determine the line is reliable and change to expecting and acknowledgement every 600 bytes. This is an example of (pick the best answer only):
A.) BECN
B.) Sliding Windows
C.) Poison Reverse
D.) Countdown timers
E.) Split Horizon
F.) Count to infinity

Ans B

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981. Which device listed below provides clocking for the line?

A.) DCE
B.) CPE
C.) CO
D.) DTE
E.) Demarc

Ans C

982 Which OSI Reference Layer controls application to application communication?

A.) Datalink
B.) Network
C.) Transport
D.) Session
E.) Physical

Ans D

983. The Datalink Layer is broken down into 2 layers, LLC and MAC. The LLC establishes media independence and what else?

A.) Provides Windowing.

B.) Provides flow control.
C.) Provides SAP's (Service Access Points).
D.) The Datalink layer does not have sublayers.
E.) Provides SAP's (Service Advertising Protocol).
F.) RIP Updates.

Ans B C

984 When a Distance Vector routing protocol detects that a connected network has gone down, it sends out a special routing update packet, telling all directly connected routers that the distance to the dead network is infinity. This is an example of which routing technology?

A.) ICMP.
B.) Only Link State routing protocols have this intelligence.
C.) Triggered updates.
D.) Garrison-4.
E.) Split Horizon.
F.) Poison Reverse.

Ans F

985 Which of the following would not be displayed by the command 'sho cdp neighbor detail'?

A.) The incoming/outgoing interface.
B.) The hardware platform.
C.) One address per protocol.
D.) Amount of Flash Memory Available
E.) The routers hostname.
F.) The subnet mask, if IP is configured.

Ans D F

986. Which of the following are characteristics of UDP?

A.) UDP is connection oriented.
B.) UDP is used with TFTP.
C.) UDP is unreliable.
D.) UDP is connectionless.
E.) UDP is at the transport layer.
F.) UDP uses no acknowledgements.

Ans C D E F

987 What is a characteristic of Store and Forward switches?

A.) They work at wire speed.
B.) They are the same as Cut-Through switching in 'prune' mode.
C.) They forward based on transport layer info.
D.) They forward the frame before it is completely read.
E.) They increase latency.

Ans E

988. The Internet Protocol (IP) occurs at what layer of the seven layer model?

A.) Physical
B.) Presentation
C.) Network
D.) Datalink
E.) Session
F.) Transport

Ans C

989. In regards to TCP/IP, which class of address allows for the fewest valid Internet hosts?

A.) D
B.) E
C.) Classes are not used in TCP/IP.
D.) B
E.) C
F.) A

Ans E

990 For IPX, what is the DEFAULT Cisco Encapsulation on an Ethernet interface?

A.) novell-ether
B.) gns
C.) snap
D.) arpa
E.) sap
F.) dix

Ans A

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991 Novell NetWare has an Ethernet frame type called Ethernet_II. What is the matching Cisco command line keyword for this encapsulation method?

A.) dix
B.) sap
C.) arpa
D.) gns
E.) snap
F.) novell-ether

Ans C

992. There are 2 types of PPP authentication supported by the Cisco IOS. What are they?
A.) PAP
B.) PREDICTOR
C.) MD5
D.) CHAP
E.) STACKER
F.) MSCHAP

Ans A D

993. Which of the following are examples of the Transport Layer?
A.) Token Ring
B.) UDP
C.) TCP
D.) IP
E.) SQL
F.) LLC

Ans B C

994. Which of the following describe SMTP?

A.) Used for downloading files to the router.
B.) Used for sending e-mail.
C.) Uses TCP.
D.) Uses UDP.
E.) Uses port 25.
F.) Used for managing IP devices.

Ans B E

995 What is the standard ISDN term for a native ISDN modem?

A.) ET
B.) LE
C.) TE2
D.) TE3
E.) TA

Ans E

996 Which of the following are Transport layer protocols?

A.) UDP
B.) TCP
C.) NBP
D.) IP
E.) SPX

Ans A B E

997. When determining whether or not to route a LAN segment, which rule of thumb do you use?

A.) 60/40
B.) 50/50
C.) 80/20
D.) 90/10
E.) 70/30

Ans E

998 Which of the following are examples of the Session Layer?

A.) TCP
B.) RPC
C.) SQL
D.) NFS
E.) Token Ring

Ans B C D

999. Which layer of the 7 layer model provides services to the Application layer over the Session layer connection?

A.) Transport
B.) Application
C.) Session
D.) Network
E.) Datalink
F.) Presentation

Ans F

1000 What type of switching creates variable latency through the switch?
A.) Cut-Through
B.) Inverted
C.) Layer 4
D.) Multiplexed
E.) Store and Forward

Ans E