

CCNA 4 - Final Exam Answers

1

Which of the following describes the roles of devices in a WAN? (Choose three.)

*** A CSU/DSU terminates a digital local loop.

A modem terminates a digital local loop.

A CSU/DSU terminates an analog local loop.

*** A modem terminates an analog local loop.

*** A router is commonly considered a DTE device.

A router is commonly considered a DCE device.

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2

What value in the address field of a Frame Relay header identifies the destination of the frame?

CIR

DE

*** DLCI

ISDN

FRAD

PVC

3

The serial PPP link between the Left and Right routers is configured as shown in the diagram. Which configuration issue explains why the link is unable to establish a PPP session?

The IP addresses must be on different subnets.

*** The usernames are misconfigured.

The passwords must be different for the CHAP authentication.

The clock rate must be 56000.

The clock rate is configured on the wrong end of the link.

Interface serial 0/0 on Left must connect to interface serial 0/1 on Right.

4

The output of the show interfaces serial 0/0 command for a frame-relay connection indicates that the serial line is up but the line protocol is down. What are possible causes for this? (Choose two.)

*** There is an LMI-type mismatch between the Frame Relay switch and the router.

There is no clock present on the serial interface.

The interface is shut down.

RARP is not functioning on the router.

*** The cable is disconnected.

5

Which statements are correct about the point in the network where the responsibility of the service provider ends? (Choose three.)

*** The International point is on the customer side of the network terminating unit(NTU).

*** The United States point is at the interface of the customer-provided equipment and the local loop.

The responsibility for this point is controlled by IANA.

*** The point is called the demarcation point.

The point is typically located at the service provider's central office.

The point is located between the customer's local area networks.

6

While prototyping an internetwork in the corporate lab, a network administrator is testing a serial link between serial 0/0 interfaces on two routers. The labels on the serial cable ends have been damaged and are unreadable. What command can be issued to determine which router is connected to the DCE cable end?

show interfaces serial 0/0

show version

*** show controllers serial 0/0

show protocols serial 0/0

show status serial 0/0

7

A network technician determines DHCP clients are not working properly. The clients are receiving IP configuration information from a DHCP server configured on the router but cannot access the Internet. From the output in the graphic, what is the most likely problem?

The DHCP server service is not enabled.

The inside interface for DHCP is not defined.

*** The DHCP pool is not bound to the interface.

The pool does not have a default router defined for the clients.

All the host addresses have been excluded from the DHCP pool.

8

A technician enters the interface serial 0/0.1 multipoint command when configuring a router. What effect will the multipoint keyword have in this configuration? (Choose two.)

*** Split-horizon issues will need to be resolved for this network if RIP is the routing protocol.

A subinterface will be defined for each PVC.

*** All the participating interfaces of remote routers will be configured in the same subnet.

A single DLCI will be used to define all the PVCs to the remote routers.

An IP address will need to be configured on the main interface.

9

When configuring a Frame Relay connection, when should a static Frame Relay map be used? (Choose two.)

when the remote router is a non-Cisco router

*** when the remote router does not support Inverse ARP

when the local router is using IOS Release 11.1 or earlier

*** when broadcast traffic and multicast traffic over the PVC must be controlled

when globally significant rather than locally significant DLCIs are being used

10

Which router command would be used to associate a Layer 2 address with the corresponding Layer 3 address in the internetwork in the diagram?

RouterA(config-if)#frame-relay pvc 100 192.168.15.2

RouterA(config-if)#dialer-map ip 192.168.15.1 100 broadcast

*** RouterA(config-if)#frame-relay map ip 192.168.15.2 100 broadcast

RouterA (config-if)#dialer-map 192.168.15.1 101 serial 0 broadcast

RouterA (config-if)#frame-relay dlci 101 192.168.15.1 broadcast

RouterA (config-if)#dialer-map 192.168.15.1 inverse-arp broadcast

11

Which of the following ISDN protocols is responsible for call setup and call teardown?

*** ITU-T Q.921

ITU-T Q.931

ITU-T I.430

ITU-T I.431

12

What are two ways to resolve split-horizon issues in a Frame Relay network? (Choose two.)

*** create a full-mesh topology

disable Inverse ARP

*** use point-to-point subinterfaces

use multipoint subinterfaces

remove the broadcast keyword from the frame-relay map command

13

What is the purpose of the command marked with an arrow shown in the partial configuration output of a Cisco 806 broadband router?

defines which addresses are allowed out of the router

*** defines which addresses are allowed into the router

defines which addresses can be translated

defines which addresses are assigned to a NAT pool

14

A system administrator is unable to ping the Serial0/0 interface of RouterB from RouterA. During the troubleshooting process, the following facts are established:

- IP addressing and subnet masks are correct.
- RouterA is a Cisco router and RouterB is a router from another vendor.
- RouterA is configured with the default encapsulation.
- The serial interfaces on both routers are up.
- The protocol is down on the serial interfaces of both routers.

What should the administrator do to solve the problem?

Add a clock rate on RouterA.

Enable the serial interface on RouterB.

*** Change the encapsulation on both routers to PPP.

Connect the serial cable to the correct interface on RouterB.

Use the correct serial cable to attach the CSU/DSU to RouterB.

15

An ISDN circuit from a branch office is remaining connected to the regional office. A network administrator determines a user has initiated a continuous ping from a desktop computer to the regional office. Which configuration change would allow the ISDN circuit to disconnect during any attempts to ping, while otherwise functioning properly?

change DDR from legacy to dialer profiles

remove the dialer list statement from the configuration

*** change the dialer list to exclude ICMP as interesting

disable inverse ARP

16

Below is a list of DDR steps. Which of the following identifies the proper order of DDR?

1 - dial number is looked up

2 - interesting traffic triggers DDR

3 - route to destination is determined

4 - call is made

1,2,3,4

1,3,2,4

2,3,1,4

2,1,3,4

*** 3,2,1,4

3,1,2,4

17

Which protocol should be chosen to support WAN connectivity in a multi-vendor system and provide strong security through authentication?

NAT with DHCP

Frame Relay

HDLC with encryption

HDLC with CHAP

PPP with PAP

*** PPP with CHAP

18

Which of the following are valid steps for a basic ISDN BRI configuration? (Choose two.)

create subinterfaces

define the LMI type

*** set the SPIDs if required by the ISDN switch

set the interface DLCI

*** set the switch type

specify the encapsulation as either Cisco or IETF

19

A branch office reports excessive connect time charges for an ISDN circuit used to connect to the regional office. Upon investigation of this issue, it is discovered that when an ISDN connection is initiated to the regional office it remains connected for an excessive amount of time. Which of the following configuration changes could be made to DDR on the router to reduce these connect time charges?

use PPP multilink

lower idle timer setting

use CHAP authentication

*** change DDR from legacy to dialer profiles

20

A network administrator is having difficulty in establishing a serial link between a Cisco router and a router from another vendor. Both routers are configured for HDLC encapsulation. Which statements are true regarding this configuration? (Choose two.)

*** The Cisco HDLC frame uses a proprietary "Type" field that may not be compatible with equipment of other vendors.

HDLC requires a clock rate to be configured on the routers at both ends of the serial link.

*** PPP encapsulation is recommended for serial links between equipment from multiple vendors.

Username must be configured at both ends of the HDLC serial link.

The HDLC vendor type must be enabled on the Cisco router.

There is a mismatch in the HDLC authentication password configurations.

21

Given the partial router configuration in the graphic, why does the workstation with the IP address 192.168.1.153/28 fail to access the Internet? (Choose two.)

*** The NAT inside interfaces are not configured properly.

The NAT outside interface is not configured properly.

*** The router is not properly configured to use the access control list for NAT.

The NAT pool is not properly configured to use routable outside addresses.

The access control list does not include the IP address 192.168.1.153/28 to access the Internet.

22

The serial PPP link between the Left and Right routers is configured as shown in the diagram. Which configuration issue will prevent IP traffic from crossing this link?

The passwords must be different for the CHAP authentication.

The usernames are misconfigured.

The clock rate must be 56000.

The clock rate is configured on the wrong end of the link.

*** The IP addresses must be on the same subnet.

Interface serial 0/0 on Left must connect to interface serial 0/1 on Right.

23

What causes a DDR call to be placed?

dial string

DLCI

idle time out

*** interesting traffic

PVC

24

Which two layers of the OSI model are described by WAN standards?

Application Layer, Physical Layer

*** Data Link Layer, Physical Layer

Data Link Layer, Transport Layer

Physical Layer, Network Layer

25

A technician is testing RouterA in the graphic. What is the condition of the circuit?

The routers are configured for different encapsulations.

*** The clock rate is not properly configured on the routers.

The circuit from WAN provider has failed.

Authentication is not properly configured on the routers.

The circuit is functioning properly.

26

A network administrator must provide WAN connectivity between a central office and three remote sites: Orlando, Atlanta, and Phoenix. The Orlando and Atlanta remote offices receive

sales orders and transmit shipping confirmations to the Central office consistently throughout the day. The Phoenix remote office consists of one salesperson traveling through the southwest territory. The salesperson occasionally needs to connect to the Central office for e-mail access. How should the network administrator connect the remote sites to the Central office? (Choose two.)

*** Connect to the Atlanta and Orlando remote offices with Frame Relay connections.

Connect to the Atlanta and Orlando remote offices with ISDN connections.

Connect to the Atlanta and Orlando remote offices with POTS dial-up connections.

Connect to the Phoenix remote office with a Frame Relay connection.

*** Connect to the Phoenix remote office with a POTS dial-up connection.

27

When a Frame Relay switch detects an excessive buildup of frames in its queue, which of the following may occur? (Choose two.)

*** Frames with the DE bit set are dropped from the switch queue.

Frames with the FECN and BECN bits set are dropped from the switch queue.

Frames in excess of the CIR are not accepted by the switch.

The switch sets the FECN bit on all frames it places on the congested link and sets the BECN bit on all frames it receives on the congested link.

*** The switch sets the FECN bit on all frames it receives on the congested link and sets the BECN bit on all frames it places on the congested link.

28

A system administrator is troubleshooting a connectivity issue between two routers in a new installation. The administrator enters the debug ppp authentication command on the WHSE router. The graphic shows a part of the output received. From this output, what is the most likely cause of this connectivity issue?

There is not a route to the remote router.

The ISDN circuit on the remote router has failed.

*** The username/password was not properly configured on the WHSE router.

The remote router has a different authentication protocol configured.

29

What does the output of the show frame-relay map command shown below represent?

(Choose two.)

Serial 0 (up): ip 172.30.151.4 dlci 122, dynamic, broadcast, status defined, active

*** 172.30.151.4 represents the IP address of the remote router.

172.30.151.4 represents the IP address of the local serial interface.

DLCI 122 represents the interface of the remote router.

broadcast indicates that a dynamic routing protocol such as RIP v1 can send packets across this PVC.

*** dynamic indicates that a dynamic routing protocol is enabled for this connection.

active indicates that the ARP process is working.

30

What does the status inactive indicate in the output of the show frame-relay pvc command?

*** The DLCI is programmed in the switch but is not usable.

The DLCI was formerly programmed in the switch but is no longer there.

The DLCI is usable but has little activity.

The DLCI has been renamed for that PVC.

31

Which of the following IP addresses are defined by RFC 1918 as private addresses? (Choose three.)

*** 192.168.146.0/22

172.10.25.0/16

*** 172.31.0.0/16

20.0.0.0/8

*** 10.172.92.8/29

32

After configuring a dialup ISDN circuit, a network associate begins testing the dialup connection. When attempting to ping a host on the remote network, the local router does not attempt to dial the remote access server. Which of the following are possible errors in this configuration? (Choose three.)

PPP authentication is not properly configured.

*** No dialer map is configured.

The ISDN circuit connected to the remote access server is busy.

*** No interesting traffic is defined.

No route is determined to the remote network.

*** A wrong number is configured in the dial string.

33

Two routers are connected through a Frame Relay, point-to-point PVC. The remote router is from a vendor other than Cisco. Which interface command is required to configure the link between the Cisco router and the other router?

frame-relay pvc multipoint

frame-relay pvc point-to-point

encapsulation frame-relay cisco

*** encapsulation frame-relay ietf

frame-relay lmi-type ansi

34

Which circuit-switched WAN technology is often used to provide a backup for a leased line and additional capacity during peak usage times?

X.25

DSL

*** ISDN

cable modem

35

After the ISDN BRI interface is configured, which command can be used to verify that the router is communicating correctly with the ISDN switch?

show dialer

show isdn status

*** show interfaces bri0/0:1

show interfaces serial0/0.1

36

A system administrator needs to configure the regional office with ISDN for DDR connections to three remote sites. Each remote site requires different IP subnets, different encapsulations, and different authentication methods. The sites will not be connected at the same time. The company would like to accomplish this in the most cost effective manner. What method can the system administrator use to accomplish this task using the fewest B channels?

Install and configure a PRI.

Install and configure a BRI interface with separate SPIDs for each remote site.

Install and configure a BRI with multiple switch types in global configuration.

*** Install and configure a BRI using dialer profiles.

Install and configure a separate BRI for each remote site.

37

A system administrator must provide Internet connectivity for ten hosts in a small remote office. The ISP has assigned two public IP addresses to this remote office. How can the system administrator configure the router to provide Internet access to all ten users at the same time?

Configure static NAT for all ten users.

*** Configure dynamic NAT for ten users.

Configure dynamic NAT with PAT.

Configure DHCP and static NAT.

What the administrator wants to do cannot be done.

38

Which of the following are characteristics of Frame Relay? (Choose two.)

circuit-switched

*** connection oriented

OSI Layer 3

*** packet-switched

reliable

39

Which of the following is the order for the three phases of establishing a PPP serial link with authentication?

authentication, link-establishment, network layer protocols

authentication, network layer protocols, link-establishment

network layer protocols, link-establishment, authentication

network layer protocols, authentication, link-establishment

*** link-establishment, authentication, network layer protocols

link-establishment, network layer protocols, authentication