

CCNA 1 Chapter 4 v5.0 Exam Answers 2013

1

What are two reasons for physical layer protocols to use frame encoding techniques? (Choose two.)

to identify where the frame starts and ends*

to distinguish data bits from control bits*

to reduce the number of collisions on the media

to increase the media throughput

to provide better media error correction

2

Which statement is correct about multimode fiber?

Multimode fiber commonly uses a laser as a light source.

Multimode fiber cables carry signals from multiple connected sending devices.

SC-ST patch cords are used with multimode fiber cables.

SC-SC patch cords are used with multimode fiber cables.*

3

Which layer of the OSI model is responsible for specifying the encapsulation method used for specific types of media?

data link*

application

transport

physical

4

The throughput of a FastEthernet network is 80 Mb/s. The traffic overhead for establishing sessions, acknowledgments, and encapsulation is 15 Mb/s for the same time period. What is the goodput for this network?

15 Mb/s

55 Mb/s

65 Mb/s*

95 Mb/s

80 Mb/s

5

A network administrator notices that some newly installed Ethernet cabling is carrying corrupt and distorted data signals. The new cabling was installed in the ceiling close to fluorescent lights and electrical equipment. Which two factors may interfere with the copper cabling and result in signal distortion and data corruption? (Choose two.)

RFI *

signal attenuation

crosstalk

EMI *

extended length of cabling

7

What is the purpose of the FCS field in a frame?

to obtain the MAC address of the sending node

to verify the logical address of the sending node

to compute the CRC header for the data field

to determine if errors occurred in the transmission and reception*

8

As data travels on the media in a stream of 1s and 0s how does a receiving node identify the beginning and end of a frame?

The transmitting node sends an out-of-band signal to the receiver about the beginning of the frame.

The transmitting node sends a beacon to notify that a data frame is attached.

The receiving node identifies the beginning of a frame by seeing a physical address.

The transmitting node inserts start and stop bits into the frame.*

9

Which statement describes signaling at the physical layer?

Sending the signals asynchronously means that they are transmitted without a clock signal.*

Signaling is a method of converting a stream of data into a predefined code.

Wireless encoding includes sending a series of clicks to delimit the frames.

In signaling, a 1 always represents voltage and a 0 always represents the absence of voltage.

10

A network administrator is designing the layout of a new wireless network. Which three areas of concern should be accounted for when building a wireless network? (Choose three.)

mobility options

extensive cabling

coverage area*

interference*

packet collision

security*

11

What is one main characteristic of the data link layer?

It converts a stream of data bits into a predefined code.

It shields the upper layer protocol from being aware of the physical medium to be used in the communication.*

It accepts Layer 3 packets and decides the path by which to forward a frame to a host on a remote network.

It generates the electrical or optical signals that represent the 1 and 0 on the media.

12

What is one advantage of using fiber optic cabling rather than copper cabling?

It is easier to terminate and install than copper cabling.

It is able to be installed around sharp bends.

It is usually cheaper than copper cabling.

It is able to carry signals much farther than copper cabling.*

13

Fill in the blank.

What acronym is used to reference the data link sublayer that identifies the network layer protocol encapsulated in the frame?

“LLC”

14

Why are two strands of fiber used for a single fiber optic connection?

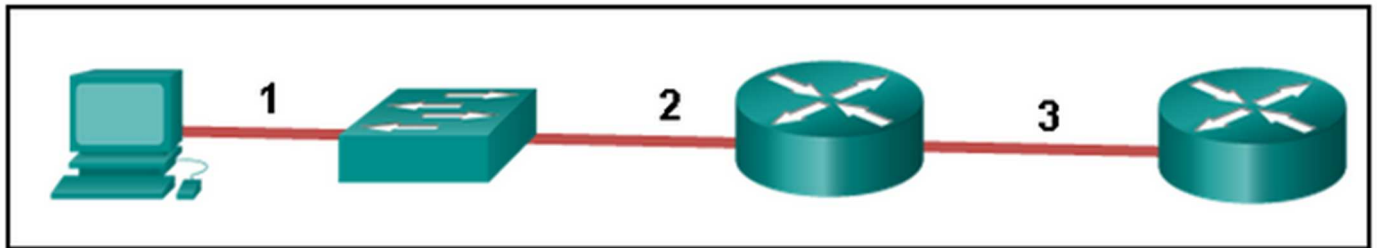
They allow for full-duplex connectivity.*

They prevent crosstalk from causing interference on the connection.

They increase the speed at which the data can travel.

The two strands allow the data to travel for longer distances without degrading.

15



Refer to the exhibit. The PC is connected to the console port of the switch. All the other connections are made through FastEthernet links. Which types of UTP cables can be used to connect the devices?

1 – crossover, 2 – rollover, 3 – straight-through

1 – crossover, 2 – straight-through, 3 – rollover

1 – rollover, 2 – straight-through, 3 – crossover*

1 – rollover, 2 – crossover, 3 – straight-through

16

What is true concerning physical and logical topologies?

Physical topologies display the IP addressing scheme of each network.

Logical topologies determine the media access control method used.*

Physical topologies are concerned with how a network transfers frames.

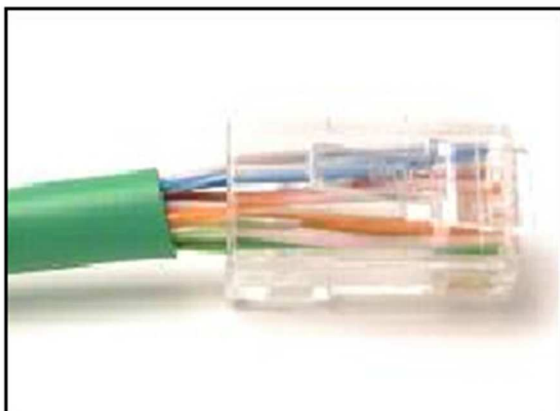
The logical topology is always the same as the physical topology.

17

Fill in the blank.

The term “**Bandwidth**” indicates the capacity of a medium to carry data and it is typically measured in kilobits per second (kb/s) or megabits per second (Mb/s).

18



Refer to the exhibit. What is wrong with the displayed termination?

The untwisted length of each wire is too long.*

The wires are too thick for the connector that is used.

The jack used is an RJ-11 connector instead of an RJ-45 connector.

The cable is not shielded.

19**Fill in the blank with a number.**

10,000,000,000 b/s can also be written as "10" Gb/s.

20**What are two characteristics of 802.11 wireless networks? (Choose two.)****Collisions can exist in the networks. ***

They are collision-free networks.

They use CSMA/CD technology.

Stations can transmit at any time.

They use CSMA/CA technology.***21****A network administrator is required to upgrade wireless access to end users in a building. To provide data rates up to 1.3 Gb/s and still be backward compatible with older devices, which wireless standard should be implemented?**

802.11n

802.11ac*

802.11g

802.11b

22**How is the magnetic field cancellation effect enhanced in UTP cables?**

by decreasing the number of wires that are used to carry data

by increasing the thickness of the PVC sheath that encases all the wires

by increasing and varying the number of twists in each wire pair*

by increasing the thickness of the copper wires

23**Match the steps to the physical layer operations that occur when data is sent from one node and received at another node.**

Match the steps to the physical layer operations that occur when data is sent from one node and received at another node. (Not all options are used.)

Step 1

Step 2

Step 3

Step 4

Step 5

The physical layer encodes the frames.

The physical layer passes the packets up to the internet layer.

The physical layer creates the signals that represent the bits in each frame.

The physical layer restores the individual signals to their bit representations.

The signals are sent on the media one at a time.

The physical layer retrieves the individual signals from the media.

Match the steps to the physical layer operations that occur when data is sent from one node and received at another node. (Not all options are used.)

Step 1

The physical layer passes the packets up to the internet layer.

Step 2

Step 5

Step 3

Step 4