Chapter 06

1. Refer to the exhibit. Host A is communicating with host F. What happens to a frame sent from host A to host F as it travels over the Ethernet segments?
        a.The frame format is modified as it passes through each switch.
        * b.The frame format remains the same across each Ethernet segment.
        c.The frame format is modified as the media speed changed at switch B and switch E.
        d.The frame format is modified as the media material changes between copper and fiber at switch C and switch D.

2. How many hexadecimal digits are in a MAC address?
        a.2
        b.8
        * c.12
        d.16
        e.32

3. What are three functions of a NIC in a PC? (Choose three.)
        * a.A NIC connects the PC to the network media.
        * b.A NIC detects collisions on the Ethernet segment.
        c.A NIC checks the formatting of data before it is transmitted.
        * d.A NIC passes the contents of selected frames to the upper OSI layers.
        d.A NIC acknowledges and retransmits data that was not received properly.
        e.A NIC discards frames when the destination IP address does not match the local host.

4. At what layer of the OSI model does a MAC address reside?
        a.1
        * b.2
        c.3
        d.4
        e.7

5. A router has an Ethernet, Token Ring, serial, and ISDN interface. Which interfaces will have a MAC address?
        a.serial and ISDN interfaces
        * b.Ethernet and Token Ring interfaces
        c.Ethernet and ISDN interfaces
        d.Token Ring and serial interfaces

6. In an Ethernet LAN, how does the NIC know when it can transmit data?
        a.An Ethernet NIC transmits data as soon as the frame is received.
        b.An Ethernet NIC transmits data as soon as the NIC receives a token.
        c.An Ethernet NIC transmits data when it senses a collision.
        * d.An Ethernet NIC transmits data after listening for the absence of a signal on the media.

7. Which characteristics describe carrier sense multiple access collision detect (CSMA/CD)? (Choose three.)
        a.reliable
        b.point-to-point
        * c.nondeterministic
        d.connection-oriented
        * e.collision environment
        * f.first-come, first-served approach

8. Which two devices can provide full-duplex Ethernet connections? (Choose two.)
        a.hub
        b.modem
        c.repeater
        * d.NIC

        * e.Layer 2 switch

9. On a local area network, one workstation can send data on the line while it is
receiving data. What type of data transfer does this describe?
        a.hybrid
        b.half duplex
        * c.full duplex
        d.multilink

10. Refer to the exhibit. The small office network shown in the exhibit consists of
four computers connected through a hub. Which configuration would cause collisions
and errors on the network?
        a.autonegotiation
        b.FastEthernet
        c.peer-to-peer shared resources
        * d.administratively configured full duplex

11. Refer to the exhibit. The switch and workstation are administratively
configured for full-duplex operation. Which statement accurately reflects the
operation of this link?
        * a.No collisions will occur on this link.
        b.Only one of the devices can transmit at a time.
        c.The switch will have priority for transmitting data.
        d.The devices will default back to half duplex if excessive collisions
occur.

12. Refer to the exhibit. All hosts are in listen mode. Host 1 and Host 4 both
transmit data at the same time. How do the hosts respond on the network? (Choose
two.)
        a.Hosts 1 and 4 may be operating full duplex so no collision will exist.
        b.The hub will block the port connected to Host 4 to prevent a collision.
        * c.After the end of the jam signal, Hosts 1, 2, 3, and 4 invoke a backoff
algorithm.
        d.When the four hosts detect the collision, Hosts 1, 2, 3, and 4 generate a
jam signal.
        e.Hosts 1 and 4 are assigned shorter backoff values to provide them priority
to access the media.
        * f.If a host has data to transmit after the backoff period of that host,
the host checks to determine if the line is idle, before transmitting.

13. When a collision occurs in a network using CSMA/CD, how do hosts with data to
transmit respond after the backoff period has expired?
        * a.The hosts return to a listen-before-transmit mode.
        b.The hosts creating the collision have priority to send data.
        c.The hosts creating the collision retransmit the last 16 frames.
        d.The hosts extend their delay period to allow for rapid transmission.

14. Which statement describes how CSMA/CD on an Ethernet segment manages the
retransmission of frames after a collision occurs?
        a.The first device to detect the collision has the priority for
retransmission.
        b.The device with the lowest MAC address determines the retransmission
priority.
        c.The devices on the network segment hold an election for priority to
retransmit data
        * d.The devices transmitting when the collision occurs DO NOT have priority
for retransmission.

15. Refer to the exhibit. A technician wants to increase the available bandwidth
for the workstation by allowing the switch and the NIC on the workstation to
transmit and receive simultaneously. What will permit this?
        a.CSMA/CD
        * b.full-duplex

       c.FastEthernet
       d.crossover cable

16. Why do hosts on an Ethernet segment that experience a collision use a random delay before attempting to transmit a frame?
       a.A random delay is used to ensure a collision-free link.
       b.A random delay value for each device is assigned by the manufacturer.
       c.A standard delay value could not be agreed upon among networking device vendors.
       * d.A random delay helps prevent the stations from experiencing another collision during the transmission.

17. In which two layers of the OSI model does Ethernet function? (Choose two.)
       a.application
       b.session
       c.transport
       d.network
       * e.data link
       * f.physical

18. Which of the following are specified by IEEE standards as sublayers of the OSI data link layer? (Choose two.)
       * a.Logical Link Control
       b.Logical Layer Control
       * c.Media Access Control
       d.Logical Link Communication
       e.Media Access Communication
       f.Physical Access Communication

19. where does the MAC address originate?
       a.DHCP server database
       b.configured by the administrator
       * c.burned into ROM on the NIC card
       d.network configuration on the computer
       e.included in the creation of the processor chip