

Chapter 06-07

1. 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
2. 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 changes 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.
3. 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
4. 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
5. At what layer of the OSI model does a MAC address reside?
 - a.1
 - * b.2
 - c.3
 - d.4
 - e.7
6. 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
7. Which two devices can provide full-duplex Ethernet connections? (Choose two.)
 - a.hub
 - b.modem
 - c.repeater
 - * d.NIC
 - * e.Layer 2 switch
8. 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

9. 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.

10. 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.
- e.A NIC acknowledges and retransmits data that was not received properly.
- f.A NIC discards frames when the destination IP address does not match the local host.

11. 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.

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. 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.

14. What is the maximum distance that 10BASE-T will transmit data before signal attenuation affects the data delivery?

- * a.100 meters
- b.185 meters
- c.300 meters
- d.500 meters

15. Which of the following are Fast Ethernet technologies? (Choose two.)

- a.100BASE-5
- b.100BASE2
- c.1000BASE-F

- * d.100BASE-FX
- * e.100BASE-TX

16. At which OSI layer do the differences between standard Ethernet, Fast Ethernet and Gigabit Ethernet occur?

- * a.physical layer
- b.data link layer
- c.network layer
- d.transport layer

17. How does 1000BASE-T use the UTP wire pairs to accomplish transmission?

- a.two pairs are used to transmit and two pairs are used to receive
- b.one pair is used to transmit, one pair is used to receive, one pair is used for clocking, and one pair is used for error correction
- * c.all four pairs are used in parallel by both hosts to transmit and receive simultaneously
- d.two pairs of wires are used as in 10BASE-T and 100BASE-TX

18. Which statements describe Gigabit Ethernet technology? (Choose two.)

- a.operates at 100 Mbps
- * b.typically used for backbone cabling
- c.requires shielded twisted-pair cabling
- * d.can be implemented over copper and fiber
- e.primarily used between workstations option

19. Which media types can be used in an implementation of a 10BASE-T network? (Choose three.)

- * a.Category 5 UTP
- * b.Category 5e UTP
- * c.Category 3 UTP
- d.coaxial cable
- e.multi-mode fiber
- f.single mode fiber

20. Which of the following Ethernet technologies are considered legacy Ethernet? (Choose three.)

- * a.10BASE2
- * b.10BASE5
- * c.10BASE-T
- d.100BASE-T
- e.100BASE-FX
- f.100BASE-TX