

QUIZ Chapter 6

1. The original commercial version of Ethernet supported 10 Mbps bandwidth; the version introduced in the early 1990s supports 100 Mbps; and in 1998, Gigabit Ethernet was introduced. All versions use the same data frame formats, with the same maximum PDU sizes, so they can interoperate freely. Given this information and what you know of layered technologies, which of the following statements is true? (Choose all that apply.)
 - a. Ethernet works at the Data Link and Physical layers of the OSI model, and upgrades to newer, faster versions of Ethernet can be made by changing only the components that work at these layers.
 - b. Ethernet spans several layers and requires a new protocol stack to upgrade to new versions.
 - c. Changes in technology at one layer of the OSI model don't usually affect the operation of other layers.
 - d. Ethernet isn't considered a scalable technology.
2. The addition of information to a PDU as it's passed from one layer to the next is called which of the following?
 - a. PDI transforming
 - b. Encapsulation
 - c. Deencapsulation
 - d. Converting
3. Layers acting as though they communicate directly with each other across the network are called which of the following?
 - a. Partners
 - b. Synchronous
 - c. Interchangeable
 - d. Peers
4. Place the following letters in the correct order to represent the OSI model from Layer 7 to Layer 1:
 - a. Presentation
 - b. Data Link
 - c. Session
 - d. Physical
 - e. Application
 - f. Transport
 - g. Network
5. Which OSI layer creates and processes frames?
6. Which OSI layer handles flow control, data segmentation, and reliability?
 - a. Application
 - b. Physical
 - c. Transport
 - d. Data Link
7. Which OSI layer governs how a NIC is attached to the network medium?
8. Which OSI layer determines the route a packet takes from sender to receiver?
 - a. 7

- b. 1
- c. 3
- d. 4

9. Which OSI layer is responsible for setting up, maintaining, and ending ongoing information exchanges across a network?

- a. 6
- b. 3
- c. 2
- d. 5

10. Which of the following elements might the Data Link layer add to its PDU? (Choose all that apply.)

- a. Physical addresses
- b. Logical addresses
- c. Data
- d. CRC

11. When and how many times is a CRC calculated?

- a. Once, before transmission
- b. Once, after receipt
- c. Twice, once before transmission and again on receipt
- d. At the source and destination and at each intermediary device

12. Which layer of the OSI model does Project 802 divide into two sublayers?

- a. Physical
- b. Data Link
- c. Network
- d. Session

13. What are the names of the sublayers specified as part of Project 802? (Choose all that apply.)

- a. Data Link Control (DLC)
- b. Logical Link Control (LLC)
- c. Carrier Sense Multiple Access/Collision Detection (CSMA/CD)
- d. Media Access Control (MAC)

14. Which term refers to stripping header information as a PDU is passed from one layer to a higher layer?

- a. Deencapsulation
- b. Encapsulation
- c. PDU stripping
- d. Packetization

15. Which IEEE 802 standard applies to Ethernet?

- a. 802.2
- b. 802.3
- c. 802.4
- d. 802.5
- e. 802.11

16. Which IEEE 802 standard applies to wireless LANs?

- a. 802.2
- b. 802.3
- c. 802.4
- d. 802.5

e. 802.11

17. What's the name of the PDU at the Transport layer?
 - a. Bit
 - b. Packet
 - c. Segment
 - d. Data
18. At which OSI layer does the PDU contain sequence and acknowledgement numbers?
 - a. Application
 - b. 4
 - c. Data Link
 - d. 6
19. Which of the following is an example of software found at the Application layer? (Choose all that apply.)
 - a. FTP
 - b. TCP
 - c. HTTP
 - d. ICMP
20. At which Data Link sublayer does the physical address reside?
 - a. Media Access Control (MAC)
 - b. Logical Link Control (LLC)
 - c. Data Access Control (DAC)
 - d. Network Access Control (NAC)
21. Which of the following problems can occur at the Physical layer?
 - a. NIC driver problems
 - b. Incorrect IP addresses
 - c. Signal errors caused by noise
 - d. Incorrect segment size

Case Project 7-2

Your instructor might want you to organize in groups for this project. This chapter included a few real-world examples that use a layered approach to describing a process. See whether you can come up with another process that can be described in layers. You should give a presentation to the class with a detailed description of the layered process you decide on.

Case Project 7-3

You want to transfer a document from one computer to another, and you want the document to be encrypted. The destination computer is on another network, so you know data has to travel through one or more routers. The network technology on your network is Ethernet, but the technology on the destination network is Wi-Fi. From what you have learned about networking, should this document transfer work? Why or why not? Which layers of the OSI model are involved in the italicized parts of this description?

1. The correct answer is:

- a. Ethernet works at the Data Link and Physical layers of the OSI model, and upgrades to newer, faster versions of Ethernet can be made by changing only the components that work at these layers.

2. The correct answer is:

- b. Encapsulation

3. The correct answer is:

- d. Peers

4. The correct order is:

- e. Application
- c. Presentation
- b. Session
- f. Transport
- g. Network
- b. Data Link
- d. Physical

5. The correct answer is:

- Data Link layer

6. The correct answer is:

- c. Transport

7. The correct answer is:

- d. Data Link

8. The correct answer is:

- c. 3

9. The correct answer is:

- b. 3

10. The correct answers are:

- a. Physical addresses
- d. CRC

11. The correct answer is:

- c. Twice, once before transmission and again on receipt

12. The correct answer is:

- b. Data Link

13. The correct answers are:

- b. Logical Link Control (LLC)
- d. Media Access Control (MAC)

14. The correct answer is:

- a. Deencapsulation

15. The correct answer is:

- b. 802.3

16. The correct answer is:

- e. 802.11

17. The correct answer is:

- c. Segment

18. The correct answer is:

- c. Data Link

19. The correct answers are:

- a. FTP
- c. HTTP

20. The correct answer is:

- a. Media Access Control (MAC)

21. The correct answer is:

- c. Signal errors caused by noise