

Business Data Networks and Security, 9e (Panko)
Chapter 2 Network Standards

1) Network standards are also called protocols.

Answer: TRUE

2) Standards govern _____.

- A) semantics
- B) syntax
- C) Both A and B
- D) Neither A nor B

Answer: C

3) The meaning of a message is referred to as the message's _____.

- A) protocol
- B) order
- C) value
- D) semantics

Answer: D

4) How a message is organized is its _____.

- A) syntax
- B) semantics
- C) order
- D) Both A and B

Answer: A

5) In HTTP, a server may initiate an interaction with the client.

Answer: FALSE

6) Host P transmits a SYN to Host Q. If host Q is willing to open the connection, it will transmit a(n) _____ segment.

- A) ACK
- B) SYN
- C) SYN/ACK
- D) None of the above

Answer: C

7) If the destination host does not receive a segment, it will _____.

- A) transmit an ACK segment
- B) transmit a NAC segment
- C) transmit an RSND segment
- D) None of the above

Answer: D

8) If the destination host receives a segment that has an error, it will _____.

- A) transmit an ACK segment
- B) transmit a NAC segment
- C) transmit an RST segment
- D) None of the above

Answer: D

9) A sending host will retransmit a TCP segment if _____.

- A) it receives an ACK segment
- B) it receives a NAC segment
- C) RPT
- D) None of the above

Answer: D

10) The side wishing to close a TCP segment sends a(n) _____ segment.

- A) SYN
- B) ACK
- C) FIN
- D) None of the above

Answer: C

11) After the side wishing to close a TCP connection sends a FIN segment, it will _____.

- A) not send any more segments
- B) only send ACK segments
- C) only send FIN segments
- D) None of the above

Answer: B

12) Which of the following is *not* one of the three general parts of messages?

- A) Address field.
- B) Header.
- C) Data field.
- D) Trailer.

Answer: A

13) The _____ contains the content being delivered by a message.

- A) address field
- B) header
- C) data field
- D) trailer

Answer: C

14) The header is defined as everything that comes before the data field.

Answer: TRUE

15) Messages always have data fields.

Answer: FALSE

16) The trailer is defined as everything that comes after the data field.

Answer: TRUE

17) Most messages have trailers.

Answer: FALSE

18) Headers usually are divided into fields.

Answer: TRUE

19) "Octet" is the same as _____.

A) "bit"

B) "byte"

C) Either A or B, depending on the context

D) Neither A nor B

Answer: B

20) Ethernet addresses are _____.

A) 32 bits long

B) 48 bits long

C) 128 bits long

D) None of the above

Answer: B

21) Ethernet addresses are _____ long.

A) 4 octets

B) 6 octets

C) 32 octets

D) 48 octets

Answer: B

22) _____ read(s) the destination MAC address in an Ethernet frame.

A) The destination host

B) Switches in the network

C) Both A and B

D) Neither A nor B

Answer: C

23) If the destination host finds an error in an Ethernet frame, it _____.

A) sends back a NAK

B) retransmits the frame

C) Both A and B

D) Neither A nor B

Answer: D

24) Ethernet does _____.

- A) error detection
- B) error correction
- C) Both A and B
- D) Neither A nor B

Answer: A

25) Ethernet detects errors but does not correct them. Therefore, Ethernet is reliable.

Answer: FALSE

26) In an IP header, the first bit in the second row is bit _____.

- A) 0
- B) 31
- C) 32
- D) None of the above

Answer: C

27) How long are IPv4 addresses?

- A) 32 octets.
- B) 48 bits.
- C) 20 octets.
- D) None of the above

Answer: D

28) How long are IPv4 addresses?

- A) 4 octets.
- B) 6 octets.
- C) 20 octets.
- D) 32 octets.

Answer: A

29) Routers make forward decisions based on a packet's source IP address.

Answer: FALSE

30) Routers make packet forwarding decisions based on a packet's _____.

- A) source IP address
- B) destination IP address
- C) Both A and B

Answer: B

31) IP is reliable.

Answer: FALSE

32) IP detects errors but does not correct them. Therefore, IP is reliable.

Answer: FALSE

33) To handle internetwork transmission control tasks that IP cannot handle, the IETF created TCP.

Answer: TRUE

34) TCP messages are called _____.

- A) frames
- B) fragments
- C) packets
- D) None of the above

Answer: D

35) One-bit fields are called _____ fields.

- A) binary
- B) flag
- C) ACK
- D) None of the above

Answer: B

36) If someone says that a 1-bit flag is set, this means that it is given the value _____.

- A) 0
- B) 1
- C) Either A or B
- D) Neither A nor B

Answer: B

37) If the ACK bit is set, the acknowledgement number field MUST have a value.

Answer: TRUE

38) Which of the following has a header checksum field?

- A) TCP.
- B) UDP.
- C) Both A and B
- D) Neither A nor B

Answer: C

39) UDP checks messages for errors but does not correct them. UDP is _____.

- A) reliable
- B) unreliable
- C) Both A and B
- D) Neither A nor B

Answer: B

40) On a server, well-known port numbers indicate _____.

- A) applications
- B) connections with client computers
- C) Both A and B
- D) Neither A nor B

Answer: A

41) On a client, ephemeral port numbers indicate _____.

- A) applications
- B) connections with servers
- C) Both A and B
- D) Neither A nor B

Answer: B

42) The range 1024 to 4999 is the usual range for _____ port numbers.

- A) well-known
- B) ephemeral
- C) Both A and B

Answer: B

43) 6,000 is in the range for _____ port numbers.

- A) well-known
- B) ephemeral
- C) Both A and B
- D) Neither A nor B

Answer: D

44) An IP address, a colon, and a port number constitute a(n) _____.

- A) well-known port number
- B) ephemeral port number
- C) connection
- D) socket

Answer: D

45) The application layer standard always is HTTP.

Answer: FALSE

46) Which of the following layers has the most standards?

- A) Data link.
- B) Internet.
- C) Transport.
- D) Application.

Answer: D

47) Which layer has more standards?

- A) Internet.
- B) Application.
- C) Both of the above have about the same number of standards.

Answer: B

48) At which layer would you find standards for requesting videos from a video sharing site such as YouTube?

- A) Application.
- B) Transport.
- C) Internet.
- D) None of the above

Answer: A

49) At which layer would you find file transfer protocol standards for downloading files?

- A) Application.
- B) Transport.
- C) Internet.
- D) None of the above

Answer: A

50) Nearly all application standards are simple, like HTTP.

Answer: FALSE

51) In HTTP, most response message header fields consist of a keyword, an equal sign, and the value for the keyword.

Answer: FALSE

52) In HTTP, the end of a header field is indicated by a _____.

- A) byte position
- B) CRLF
- C) colon
- D) blank line

Answer: B

53) An HTTP request message usually has a _____.

- A) header
- B) data field
- C) Both A and B
- D) Neither A nor B

Answer: A

54) An HTTP response message usually has a _____.

- A) trailer
- B) data field
- C) Both A and B
- D) Neither A nor B

Answer: A

55) Converting application messages into bits is called _____.

- A) encapsulation
- B) encryption
- C) encoding
- D) conversion

Answer: C

56) At what layer is encoding done?

- A) Application.
- B) Transport.
- C) Internet.
- D) None of the above

Answer: A

57) How many bytes will it take to transmit "Brain Dead" without the quotation marks?

- A) 2
- B) 3
- C) 9
- D) None of the above

Answer: D

58) How many bytes will it take to transmit "Can you hear me now?" without the quotation marks?

- A) 5
- B) 6
- C) 10
- D) None of the above

Answer: D

59) Binary counting usually begins at 1.

Answer: FALSE

60) In binary, 13 is 1101. What is 14?

- A) 1110
- B) 1111
- C) Neither A nor B

Answer: A

61) If you have a field with N bits, you can represent N^2 items.

Answer: FALSE

62) A 5-bit field can represent _____ alternatives.

- A) 8
- B) 16
- C) 32
- D) 64

Answer: C

63) Increasing an alternatives field length by one bit always doubles the number of alternatives it can represent.

Answer: TRUE

64) A 7-bit field can represent _____ alternatives.

- A) 14
- B) 49
- C) 128
- D) 256

Answer: C

65) To represent 65 alternatives, your alternatives field would have to be _____ bits long.

- A) 5
- B) 6
- C) 7
- D) 8

Answer: C

66) The electrical signal generated by a microphone is called a(n) _____ signal.

- A) binary
- B) digital
- C) analog
- D) Either A or B

Answer: A

67) A codec _____.

- A) encodes voice signals into analog signals
- B) encodes voice signals into binary signals
- C) compresses the signal
- D) Both B and C

Answer: A

68) _____ is placing a message in the data field of another message.

- A) Encryption
- B) Vertical communication
- C) Layering
- D) Encapsulation

Answer: D

69) After the internet layer process does encapsulation, it passes the IP packet to the _____ layer process.

- A) transport
- B) data link
- C) physical
- D) None of the above

Answer: B

70) After the data link layer process does encapsulation, it passes the IP packet to the _____ layer process.

- A) physical
- B) internet
- C) transport
- D) None of the above

Answer: A

71) Which layer process does *not* do encapsulation when an application layer process transmits a message?

- A) Physical.
- B) Data link.
- C) Internet.
- D) All do encapsulation.

Answer: A

72) Network standards architectures break the standards functionality needed for communication into layers and define the functions of each layer.

Answer: TRUE

73) Which of the following is a network standards architecture?

- A) ISO.
- B) TCP/IP.
- C) Both A and B
- D) Neither A nor B

Answer: B

74) A corporate network can use either OSI standards at all layers or TCP/IP standards at all layers, but cannot use OSI standards at some layers and TCP/IP standards at other layers.

Answer: FALSE

75) What is the dominant network standards architecture in most real firms today?

- A) OSI.
- B) TCP/IP.
- C) Neither A nor B

Answer: C

76) Which of the following is a standards agency for OSI?

- A) IETF.
- B) ITU-T.
- C) Both A and B
- D) Neither A nor B

Answer: B

77) Which of the following is a network standards architecture?

- A) ISO.
- B) OSI.
- C) Both A and B
- D) Neither A nor B

Answer: B

78) OSI is dominant at the _____ layer.

- A) physical
- B) internet
- C) Both A and B
- D) Neither A nor B

Answer: A

79) OSI is dominant at the _____ layer.

- A) data link
- B) transport
- C) Both A and B
- D) Neither A nor B

Answer: A

80) OSI is dominant at the _____ layer.

- A) internet
- B) transport
- C) Both A and B
- D) Neither A nor B

Answer: D

81) Which of the following is an architecture?

- A) IP.
- B) TCP.
- C) Both A and B
- D) Neither A nor B

Answer: D

82) Which of the following is a standard?

- A) TCP/IP.
- B) IP.
- C) Both A and B
- D) Neither A nor B

Answer: B

83) Which of the following is a standards agency for TCP/IP?

- A) ITU-T.
- B) IETF.
- C) OSI.
- D) None of the above

Answer: B

84) TCP/IP became dominant in corporations primarily because of _____.

- A) its use on the Internet
- B) its relatively simple standards, which led to low costs
- C) a government mandate
- D) All of the above

Answer: B

85) Most IETF documents are called _____.

- A) official internet standards
- B) TCP/IP standards
- C) RFCs
- D) None of the above

Answer: B

86) TCP/IP is dominant at the _____ layer(s).

- A) physical
- B) internet
- C) Both A and B
- D) Neither A nor B

Answer: B

87) TCP/IP is dominant at the _____ layer(s).

- A) data link
- B) transport
- C) Both A and B
- D) Neither A nor B

Answer: B

88) TCP/IP is dominant at the _____ layer(s).

- A) physical
- B) data link
- C) Both A and B
- D) Neither A nor B

Answer: D

89) Which standards architecture is dominant at the application layer?

- A) OSI.
- B) TCP/IP.
- C) IEEE.
- D) None of the above

Answer: D

90) Almost all applications, regardless of what standards architecture they come from, can run over TCP/IP standards at the internet and transport layers.

Answer: TRUE

91) Which layer(s) of the hybrid TCP/IP—OSI standards architecture normally use(s) OSI standards?

- A) Data link.
- B) Transport.
- C) Both A and B
- D) Neither A nor B

Answer: A

92) Which layer(s) of the hybrid TCP/IP—OSI standards architecture normally use(s) TCP/IP standards?

- A) Data link.
- B) Transport.
- C) Both A and B
- D) Neither A nor B

Answer: B

93) Wireless LAN transmission normally is governed by _____ standards.

- A) OSI
- B) TCP/IP
- C) Both A and B
- D) Neither A nor B

Answer: A

94) Switched WAN transmission is governed by _____ standards.

- A) OSI
- B) TCP/IP
- C) Both A and B
- D) Neither A nor B

Answer: A

95) The OSI _____ layer allows application communication to be restarted at the last rollback point.

- A) application
- B) presentation
- C) session
- D) None of the above

Answer: C

96) The OSI _____ layer is designed to handle data formatting differences between two computers.

- A) application
- B) presentation
- C) session
- D) None of the above

Answer: B

97) The OSI _____ layer is designed to handle compression and encryption for applications.

- A) application
- B) presentation
- C) session
- D) None of the above

Answer: A

98) The OSI presentation layer is **actually** used _____.

- A) to convert between file formats
- B) as a category for data file standards used by multiple applications
- C) Both A and B
- D) Neither A nor B

Answer: B

99) Which of the following is NOT an OSI layer name?

- A) Data link.
- B) Internet.
- C) Session.
- D) Presentation.

Answer: C

100) In OSI, the presentation layer is Layer _____.

- A) 7
- B) 6
- C) 5
- D) None of the above

Answer: B