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