DCN-II

Multiple Choice Questions & Answers:-

1. There are _____ Internet service providers.

A) regional
B) local
C) national and international
D) all of the above

2. _____ refers to the physical or logical arrangement of a network.

A) Topology
B) Mode of operation
C) Data flow
D) None of the above

3. A _____ is a data communication system spanning states, countries, or the whole world.

A) MAN
B) WAN
C) LAN
D) none of the above

4. A _____ connection provides a dedicated link between two devices.

A) primary
B) multipoint
C) point-to-point
D) secondary

5. Which topology requires a multipoint connection?

A) Bus
B) Star
C) Mesh
D) Ring

6. A _____ is a set of rules that governs data communication.

A) protocol
B) forum
C) standard
D) none of the above

7. In a _____ connection, two and only two devices are connected by a dedicated link.

A) multipoint
B) point-to-point
C) (a) and (b)

D) none of the above

8. The information to be communicated in a data communications system is the _____.

A) Medium
B) Protocol
C) Message
D) Transmission

9. _____ defines how a particular pattern to be interpreted, and what action is to be taken based on that interpretation.

A) Syntax
B) Semantics
C) Timing
D) None of the above

10. Frequency of failure and network recovery time after a failure are measures of the _____of a network.

A) Performance
B) Security
C) Reliability
D) Feasibility

11. A television broadcast is an example of _____ transmission.

A) half-duplex
B) simplex
C) full-duplex
D) automatic

12. Data flow between two devices can occur in a _____ way.

A) simplex
B) half-duplex
C) full-duplex
D) all of the above

13. _____ are special-interest groups that quickly test, evaluate, and standardize new technologies.

A) Standards organizations
B) Regulatory agencies
C) Forums
D) All of the above

14. Which agency developed standards for physical connection interfaces and electronic signaling specifications?

A) ISO
B) ITU-T
C) ANSI
D) EIA

15. A _____ is a data communication system within a building, plant, or campus, or between nearby buildings.

A) LAN
B) MAN
C) WAN
D) none of the above

16. _____ refers to two characteristics: when data should be sent and how fast it can be sent.

A) Semantics
B) Timing
C) Syntax
D) none of the above

17. This was the first network.

A) CSNET
B) NSFNET
C) ARPANET
D) ANSNET

18. Devices may be arranged in a _____ topology.

A) mesh
B) ring
C) bus
D) all of the above

19. _____ is the protocol suite for the current Internet.

A) UNIX
B) NCP
C) TCP/IP
D) ACM

20. _____ is a collection of many separate networks.

A) A WAN
B) An internet
C) A LAN
D) None of the above

21. In a _____ connection, three or more devices share a link.

A) point-to-point
B) multipoint
C) (a) and (b)
D) none of the above

22. Which organization has authority over interstate and international commerce in the communications field?

A) FCC
B) IEEE
C) ITU-T

D) ISOC

23. In the original ARPANET, _____ were directly connected together.

A) routers
B) host computers
C) networks
D) IMPs

24. Communication between a computer and a keyboard involves _____ transmission.

A) simplex
B) half-duplex
C) full-duplex
D) automatic

25. Which topology requires a central controller or hub?

A) Mesh
B) Bus
C) Star
D) Ring

26. The _____ is the physical path over which a message travels.

A) Protocol
B) Signal
C) Medium
D) All the above

27. In a _____ connection, more than two devices can share a single link.

A) multipoint
B) point-to-point
C) primary
D) secondary

28. _____ refers to the structure or format of the data, meaning the order in which they are presented.

A) Semantics
B) Syntax
C) Timing
D) All of the above

29. An unauthorized user is a network _____ issue.

A) Security
B) Reliability
C) Performance
D) All the above

30. _____ is an idea or concept that is a precursor to an Internet standard.

A) RCF
B) ID
C) RFC
D) none of the above

31. In _____ transmission, the channel capacity is shared by both communicating devices at all times.

A) simplex
B) half-duplex
C) full-duplex
D) half-simplex

25. The TCP/IP _____ layer is equivalent to the combined session, presentation, and application layers of the OSI model.

A) data link
B) network
C) physical
D) application

26. When a host on network A sends a message to a host on network B, which address does the router look at?

A) logical
B) physical
C) port
D) none of the above

27. As the data packet moves from the upper to the lower layers, headers are _____.

A) Rearranged
B) Removed
C) Added
D) Modified

28. The physical layer is concerned with the movement of _____ over the physical medium.

A) dialogs
B) protocols
C) bits
D) programs

29. To deliver a message to the correct application program running on a host, the _____ address must be consulted.

A) physical
B) port
C) IP
D) none of the above

30. Ethernet uses a _____ physical address that is imprinted on the network interface card (NIC).

A) 32-bit

B) 6-byte
C) 64-bit
D) none of the above

31. The _____ layer is the layer closest to the transmission medium.

A) Network
B) Transport
C) Physical
D) Data link

32. The OSI model consists of _____ layers.

A) eight
B) seven
C) five
D) three

33. The _____ address, also known as the link address, is the address of a node as defined by its LAN or WAN.

A) IP
B) port
C) specific
D) physical

34. Layer 2 lies between the physical layer and the _____ layer.

A) Data link
B) Transport
C) Network
D) None of the above

35. Why was the OSI model developed?

A) The rate of data transfer was increasing exponentially
B) Standards were needed to allow any two systems to communicate
C) Manufacturers disliked the TCP/IP protocol suite.
D) None of the above

36. In the OSI model, as a data packet moves from the lower to the upper layers, headers are _____.

A) removed
B) added
C) rearranged
D) modified

37. In the OSI model, when data is transmitted from device A to device B, the header from A's layer 5 is read by B's _____ layer.

A) session
B) physical
C) transport
D) presentation

38. The seven-layer _____ model provides guidelines for the development of universally compatible networking protocols.

A) ISO
B) OSI
C) IEEE
D) none of the above

39. The Internet model consists of _____ layers.

A) Eight
B) Seven
C) Five
D) Three

40. In the OSI model, what is the main function of the transport layer?

A) process-to-process message delivery
B) node-to-node delivery
C) synchronization
D) updating and maintenance of routing tables

41. _____ is a process-to-process protocol that adds only port addresses, checksum error control, and length information to the data from the upper layer.

A) IP
B) TCP
C) UDP
D) none of the above

42. The _____ layer establishes, maintains, and synchronizes the interactions between communicating devices.

A) session
B) physical
C) transport
D) network

43. A port address in TCP/IP is _____ bits long.

A) 16
B) 32
C) 48
D) none of the above

44. In the OSI model, encryption and decryption are functions of the _____ layer.

A) application
B) presentation
C) session
D) transport

45. TCP/IP is a _____ hierarchical protocol suite developed ____ the OSI model.

A) five-layer; before
B) six-layer; before
C) seven-layer; before
D) five-layer; after

46. The _____ address, also known as the link address, is the address of a node as defined by its LAN or WAN.

A) logical
B) port
C) physical
D) none of the above

47. The _____ model shows how the network functions of a computer ought to be organized.

A) ANSI
B) CCITT
C) ISO
D) OSI

48. The _____ layer ensures interoperability between communicating devices through transformation of data into a mutually agreed upon format.

A) network
B) presentation
C) transport
D) data link

48. The _____ technique uses M different carrier frequencies that are modulated by the source signal. At one moment, the sign modulates one carrier frequency; at the next moment, the signal modulates another carrier frequency.

A) DSSS
B) FHSS
C) FDM
D) TDM

49. In synchronous TDM, for n signal sources of the same data rate, each frame contains _____ slots.

A) n + 1
B) n - 1
C) 0 to n
D) n

50. Which multiplexing technique transmits digital signals?

A) WDM
B) FDM
C) TDM
D) None of the above

51. The sharing of a medium and its link by two or more devices is called _____.

A) modulation
B) multiplexing
C) encoding
D) line discipline

52. _____ is designed to be used in wireless applications in which stations must be able to share the medium without interception by an eavesdropper and without being subject to jamming from a malicious intruder.

A) Multiplexing
B) Spread spectrum
C) Modulation
D) None of the above.

53. _____ is an analog multiplexing technique to combine optical signals.

A) WDM
B) FDM
C) TDM
D) None of the above

54. FDM is an _____technique.

A) digital
B) analog
C) either (a) or (b)
D) none of the above

55. _____ can be applied when the bandwidth of a link (in hertz) is greater than the combined bandwidths of the signals to be transmitted.

A) TDM
B) FDM
C) Both (a) or (b)
D) Neither (a) or (b)

56. In TDM, the transmission rate of the multiplexed path is usually _____ the sum of the transmission rates of the signal sources.

A) equal to
B) less than
C) greater than
D) not related to

57. In a multiplexed system, __ lines share the bandwidth of ____ link.

A) 1; n
B) n; 1
C) 1; 1
D) n; n

58. _____ utilization is the use of available bandwidth to achieve specific goals.

A) Amplitude
B) Frequency
C) Bandwidth
D) None of the above

59. ____ is designed to use the high bandwidth capability of fiber-optic cable.

A) WDM
B) FDM
C) TDM
D) None of the above

60. We can divide ____ into two different schemes: synchronous or statistical.

A) WDM
B) TDM
C) FDM
D) none of the above

61. In _____ TDM, each input connection has an allotment in the output even if it is not sending data.

A) isochronous
B) statistical
C) synchronous
D) none of the above

62. In _____ TDM, slots are dynamically allocated to improve bandwidth efficiency.

A) isochronous
B) synchronous
C) statistical
D) none of the above

63. The word _____ refers to the portion of a _____ that carries a transmission.

A) line; channel
B) channel; link
C) link; channel
D) line; link

64. Which multiplexing technique shifts each signal to a different carrier frequency?

A) FDM
B) TDM
C) Both (a) and (b)
D) None of the above

65. Which multiplexing technique transmits analog signals?

A) WDM
B) TDM
C) FDM

D) (a) and (c)

66. _____ is the set of techniques that allows the simultaneous transmission of multiple signals across a single data link.

A) Demodulating
B) Multiplexing
C) Compressing
D) None of the above

67. _____ can be achieved by using multiplexing; _____ can be achieved by using spreading.

A) Privacy and antijamming; efficiency
B) Privacy and efficiency; antijamming
C) Efficiency; privacy and antijamming
D) Efficiency and antijamming; privacy

68. The _____ technique expands the bandwidth of a signal by replacing each data bit with n bits.

A) DSSS
B) FHSS
C) FDM
D) TDM

69. _____ is a digital process that allows several connections to share the high bandwidth of a link.

A) WDM
B) TDM
C) FDM
D) None of the above

70. _____ is a digital multiplexing technique for combining several low-rate channels into one high-rate one.

A) WDM
B) TDM
C) FDM
D) None of the above

71. In _____, we combine signals from different sources to fit into a larger bandwidth.

A) line coding
B) block coding
C) spread spectrum
D) none of the above

72. Which multiplexing technique involves signals composed of light beams?

A) WDM
B) FDM
C) TDM
D) none of the above

73. When the angle of incidence is _____ the critical angle, the light beam bends along the interface.

A) less than
B) equal to
C) more than
D) none of the above

74. Transmission media lie below the _____ layer.

A) application
B) transport
C) network
D) physical

75. _____ cable consists of an inner copper core and a second conducting outer sheath.

A) Twisted-pair
B) Shielded twisted-pair
C) Coaxial
D) Fiber-optic

76. _____ consists of a central conductor and a shield.

A) Twisted-pair
B) Coaxial
C) Fiber-optic
D) none of the above

77. _____ cable can carry signals of higher frequency ranges than _____ cable.

A) Coaxial; twisted-pair
B) Twisted-pair; fiber-optic
C) Coaxial; fiber-optic
D) none of the above

78. _____ are used for cellular phone, satellite, and wireless LAN communications.

A) Radio waves
B) Infrared waves
C) Microwaves
D) none of the above

79. The inner core of an optical fiber is _____ in composition.

A) copper
B) glass or plastic
C) bimetallic
D) liquid

80. What is the major factor that makes coaxial cable less susceptible to noise than twisted-pair cable?

A) insulating material
B) inner conductor

C) diameter of cable
D) outer conductor

81. Signals with a frequency below 2 MHz use _____ propagation.

A) line-of-sight
B) sky
C) ground
D) none of the above

82. In an optical fiber, the inner core is _____ the cladding.

A) less dense than
B) denser than
C) the same density as
D) another name for

83. _____ cable consists of two insulated copper wires twisted together.

A) Twisted-pair
B) Coaxial
C) Fiber-optic
D) none of the above

84. In fiber optics, the signal is _____ waves.

A) radio
B) light
C) infrared
D) very low-frequency

85. Signals with a frequency above 30 MHz use _____propagation.

A) line-of-sight
B) sky
C) ground
D) none of the above

86. A parabolic dish antenna is a(n) _____ antenna.

A) unidirectional
B) bidirectional
C) omnidirectional
D) horn

87. A(n) _____ medium provides a physical conduit from one device to another.

A) unguided
B) guided
C) either (a) or (b)
D) none of the above

88. _____ cable is used for voice and data communications.

A) Twisted-pair
B) Coaxial
C) Fiber-optic
D) none of the above

89. Signals with a frequency between 2 MHz and 30 MHz use _____ propagation.

A) ground
B) line-of-sight
C) sky
D) none of the above

90. Transmission media are usually categorized as _____.

A) determinate or indeterminate
B) fixed or unfixed
C) guided or unguided
D) metallic or nonmetallic

91. _____ are used for short-range communications such as those between a PC and a peripheral device.

A) Radio waves
B) Infrared waves
C) Microwaves
D) none of the above

92. _____ media transport electromagnetic waves without the use of a physical conductor.

A) Guided
B) Unguided
C) Either (a) or (b)
D) None of the above

93. _____ cables are composed of a glass or plastic inner core surrounded by cladding, all encased in an outside jacket.

A) Twisted-pair
B) Coaxial
C) Fiber-optic
D) none of the above

94. Which of the following primarily uses guided media?

A) radio broadcasting
B) satellite communications
C) local telephone system
D) cellular telephone system

95. When a beam of light travels through media of two different densities, if the angle of incidence is greater than the critical angle, _____ occurs.

A) refraction

B) reflection
C) criticism
D) incidence

96. Which of the following is not a guided medium?

A) fiber-optic cable
B) coaxial cable
C) twisted-pair cable
D) atmosphere

97. Microwaves are _____.

A) omnidirectional
B) bidirectional
C) unidirectional
D) none of the above

98. _____ cables carry data signals in the form of light.

A) Twisted-pair
B) Coaxial
c) none of the above

99. Radio waves are _____.

A) unidirectional
B) omnidirectional
C) bidirectional
D) none of the above

100. In a fiber-optic cable, the signal is propagated along the inner core by _____.

A) refraction
B) reflection
C) modulation
D) none of the above