

1. What is the primary purpose of data communication?
 - a) To transmit data over long distances
 - b) To convert data into digital form
 - c) To store data in a database
 - d) To encrypt data

Answer: a) To transmit data over long distances
2. Which of the following is the most common form of data communication?
 - a) Satellite transmission
 - b) Fiber-optic communication
 - c) Wireless communication
 - d) Twisted pair cables

Answer: c) Wireless communication
3. What does the OSI model stand for?
 - a) Open System Interconnection
 - b) Online System Interconnection
 - c) Open Source Interface
 - d) Offline System Interface

Answer: a) Open System Interconnection
4. Which layer of the OSI model is responsible for reliable data transfer?
 - a) Physical Layer
 - b) Data Link Layer
 - c) Network Layer
 - d) Transport Layer

Answer: d) Transport Layer
5. What is the full form of TCP/IP?
 - a) Transmission Control Protocol/Internet Protocol
 - b) Transport Communication Protocol/Internet Protocol
 - c) Terminal Control Protocol/Inter-network Protocol
 - d) Transmission Communication Protocol/Internet Process

Answer: a) Transmission Control Protocol/Internet Protocol
6. What is the function of the Data Link Layer?
 - a) To route packets to the correct destination
 - b) To establish end-to-end communication
 - c) To provide error detection and correction
 - d) To segment data into smaller packets

Answer: c) To provide error detection and correction
7. Which of the following is an example of a guided transmission medium?
 - a) Microwave
 - b) Fiber-optic cables
 - c) Radio waves
 - d) Infrared

Answer: b) Fiber-optic cables
8. What is a network switch primarily used for?
 - a) Amplifying signals in a network
 - b) Connecting devices in a network and managing traffic
 - c) Connecting devices to the internet
 - d) Managing IP addresses

Answer: b) Connecting devices in a network and managing traffic
9. Which device is used to connect different types of networks together?
 - a) Hub
 - b) Router
 - c) Switch
 - d) Repeater

Answer: b) Router
10. What is the maximum transmission speed of a fiber-optic cable?
 - a) 1 Gbps
 - b) 10 Gbps
 - c) 100 Gbps
 - d) 1 Tbps

Answer: d) 1 Tbps
11. Which of the following is a connection-oriented protocol?
 - a) UDP
 - b) TCP
 - c) IP
 - d) HTTP

Answer: b) TCP
12. What does the acronym LAN stand for?
 - a) Large Area Network
 - b) Local Area Network
 - c) Link Access Network
 - d) Low Area Network

Answer: b) Local Area Network
13. Which of the following is not a type of IP address?
 - a) IPv4
 - b) IPv6
 - c) IPv7
 - d) IPv8

Answer: c) IPv7
14. What is the primary purpose of an IP address?
 - a) To identify the device on the network
 - b) To encrypt data
 - c) To send data over the network

d) To manage bandwidth

Answer: a) To identify the device on the network

15. In networking, what does the acronym MAC stand for?

a) Machine Access Control

b) Media Access Control

c) Multiple Access Control

d) Maximum Access Control

Answer: b) Media Access Control

16. Which of the following is an example of a broadcast transmission?

a) Sending data to one specific computer

b) Sending data to multiple computers on a network simultaneously

c) Sending data to a router

d) Sending data to a printer

Answer: b) Sending data to multiple computers on a network simultaneously

17. What does the term “latency” refer to in data communication?

a) The amount of data that can be transferred

b) The time it takes for data to travel from source to destination

c) The reliability of data transmission

d) The security of data transmission

Answer: b) The time it takes for data to travel from source to destination

18. Which protocol is used to resolve domain names to IP addresses?

a) FTP

b) DNS

c) HTTP

d) TCP

Answer: b) DNS

19. Which of the following is a type of wireless network?

a) Ethernet

b) WLAN

c) Fiber-optic

d) LAN

Answer: b) WLAN

20. What does the acronym HTTP stand for?

a) Hyper Transfer Text Protocol

b) Hyper Text Transfer Protocol

c) High Transmission Text Protocol

d) High Transfer Text Protocol

Answer: b) Hyper Text Transfer Protocol

21. Which of the following best describes a VPN?

a) A private, secure network built over a

public network

b) A protocol for sending secure emails

c) A method for connecting different devices in a home network

d) A type of wireless access point

Answer: a) A private, secure network built over a public network

22. What does the acronym FTP stand for?

a) File Transmission Protocol

b) File Transfer Protocol

c) Fast Transfer Protocol

d) File Text Protocol

Answer: b) File Transfer Protocol

23. What is the purpose of a firewall in a computer network?

a) To manage bandwidth usage

b) To prevent unauthorized access to or from the network

c) To increase network speed

d) To regulate network traffic

Answer: b) To prevent unauthorized access to or from the network

24. Which of the following is a disadvantage of wireless networks?

a) Low cost

b) Easy to install

c) Prone to interference

d) High speed

Answer: c) Prone to interference

25. What is the main function of the transport layer in the OSI model?

a) To route packets to the correct address

b) To establish communication between devices

c) To provide error-free transmission

d) To manage data flow between devices

Answer: c) To provide error-free transmission

26. What is the purpose of the ARP protocol?

a) To route data packets

b) To manage IP addresses

c) To resolve IP addresses to MAC addresses

d) To encrypt data

Answer: c) To resolve IP addresses to MAC addresses

27. Which topology uses a central hub or switch to connect all devices?

a) Bus topology

b) Star topology

c) Ring topology

d) Mesh topology

Answer: b) Star topology

28. In a bus topology, what happens if the backbone cable fails?

- a) The whole network goes down
- b) The devices continue to communicate via wireless signals
- c) Only one device stops working
- d) The failure is isolated to a single device

Answer: a) The whole network goes down

29. Which of the following is a valid IPv4 address?

- a) 192.168.0.1
- b) 256.256.256.256
- c) 123.456.789.0
- d) 500.0.0.1

Answer: a) 192.168.0.1

30. What does the term "bandwidth" refer to in networking?

- a) The physical distance between two devices
- b) The rate at which data is transferred in a network
- c) The number of devices connected to a network
- d) The type of cables used in the network

Answer: b) The rate at which data is transferred in a network

31. What is the main purpose of the ICMP protocol?

- a) To provide encryption services
- b) To route data packets
- c) To send error messages and operational information
- d) To define the structure of IP packets

Answer: c) To send error messages and operational information

32. Which of the following is a device used to extend the range of a network by amplifying signals?

- a) Switch
- b) Router
- c) Repeater
- d) Bridge

Answer: c) Repeater

33. Which protocol operates at the transport layer of the OSI model?

- a) IP
- b) UDP
- c) Ethernet
- d) ARP

Answer: b) UDP

34. What is the purpose of the session layer in the OSI model?

- a) To manage data flow between devices
- b) To establish, manage, and terminate communication sessions
- c) To handle routing of data packets
- d) To provide encryption services

Answer: b) To establish, manage, and terminate communication sessions

35. Which of the following is used to connect a local network to the internet?

- a) Hub
- b) Switch
- c) Router
- d) Repeater

Answer: c) Router

36. What does the acronym DSL stand for?

- a) Digital Signal Link
- b) Digital Subscriber Line
- c) Data Subscriber Line
- d) Direct Signal Line

Answer: b) Digital Subscriber Line

37. What is the maximum range of Bluetooth technology?

- a) 10 meters
- b) 100 meters
- c) 1 kilometer
- d) 100 kilometers

Answer: a) 10 meters

38. In which layer of the OSI model is the data packet encapsulated into frames?

- a) Network Layer
- b) Transport Layer
- c) Data Link Layer
- d) Application Layer

Answer: c) Data Link Layer

39. What type of network is typically used in homes and small offices?

- a) MAN
- b) WAN
- c) LAN
- d) PAN

Answer: c) LAN

40. What is the primary role of the application layer in the OSI model?

- a) To route data packets
- b) To establish, manage, and terminate communication sessions
- c) To provide network services to end users
- d) To convert data into digital signals

Answer: c) To provide network services to end users

41. Which of the following is the most common method of encryption in secure communication?
- a) Symmetric-key encryption
 - b) Asymmetric-key encryption
 - c) One-time pad encryption
 - d) Caesar cipher
- Answer: a) Symmetric-key encryption*
42. What does the term “throughput” refer to in networking?
- a) The total number of devices connected to the network
 - b) The maximum rate of data transmission across a network
 - c) The delay in data transmission
 - d) The security of the network
- Answer: b) The maximum rate of data transmission across a network*
43. What is the purpose of a proxy server in a network?
- a) To manage IP addresses
 - b) To encrypt data
 - c) To act as an intermediary between a client and a server
 - d) To route data packets
- Answer: c) To act as an intermediary between a client and a server*
44. Which of the following is used to identify devices in a network uniquely?
- a) IP address
 - b) MAC address
 - c) DNS address
 - d) FTP address
- Answer: b) MAC address*
45. What is the maximum number of devices that can be connected in a typical IPv4 network?
- a) 256
 - b) 65,536
 - c) 4,294,967,296
 - d) 16,777,216
- Answer: c) 4,294,967,296*
46. Which of the following is a type of wireless communication used in networking?
- a) Bluetooth
 - b) Ethernet
 - c) Fiber optics
 - d) Coaxial cable
- Answer: a) Bluetooth*

47. What is the primary purpose of network topology?
- a) To manage network traffic
 - b) To define the physical layout of the network
 - c) To provide network security
 - d) To optimize data encryption
- Answer: b) To define the physical layout of the network*
48. Which device is used to connect two different networks and route data between them?
- a) Switch
 - b) Router
 - c) Hub
 - d) Bridge
- Answer: b) Router*
49. Which of the following is a common networking protocol used for sending web pages?
- a) FTP
 - b) HTTP
 - c) SMTP
 - d) POP3
- Answer: b) HTTP*
50. Which of the following is true about the network layer in the OSI model?
- a) It establishes communication between devices
 - b) It is responsible for routing data packets
 - c) It provides error-free transmission
 - d) It manages data flow between devices
- Answer: b) It is responsible for routing data packets*
51. What is the primary purpose of a DNS server in a network?
- a) To encrypt data
 - b) To route data packets
 - c) To resolve domain names into IP addresses
 - d) To manage network traffic
- Answer: c) To resolve domain names into IP addresses*
52. Which of the following is an example of a wide area network (WAN)?
- a) A local office network
 - b) The Internet
 - c) A home network
 - d) A campus network
- Answer: b) The Internet*
53. Which device operates at the Data Link Layer and prevents data collisions in a

network?

- a) Switch
- b) Router
- c) Hub
- d) Repeater

Answer: a) Switch

54. Which of the following is not a type of transmission media used in data communication?

- a) Fiber optic
- b) Coaxial cable
- c) Bluetooth
- d) Ethernet cable

Answer: c) Bluetooth

55. Which protocol is responsible for breaking data into packets and ensuring reliable delivery?

- a) TCP
- b) IP
- c) UDP
- d) ARP

Answer: a) TCP

56. What is a primary advantage of using fiber-optic cables over copper wires?

- a) Lower cost
- b) Easier installation
- c) Higher bandwidth and faster data transmission
- d) Better resistance to electromagnetic interference

Answer: c) Higher bandwidth and faster data transmission

57. Which of the following is a function of the application layer in the OSI model?

- a) Data encryption
- b) Establishing end-to-end communication
- c) File transfer and email services
- d) Error detection and correction

Answer: c) File transfer and email services

58. What does the term "jitter" refer to in networking?

- a) The speed of data transmission
- b) The delay in data transmission
- c) The variation in packet arrival times
- d) The total bandwidth available

Answer: c) The variation in packet arrival times

59. In networking, what is the purpose of a bridge?

- a) To connect different networks
- b) To amplify network signals

c) To route data between devices

d) To segment a network into smaller sections

Answer: d) To segment a network into smaller sections

60. What is the primary function of a modem in a network?

- a) To connect different networks
- b) To modulate and demodulate signals for data transmission
- c) To route data packets
- d) To amplify signals for transmission

Answer: b) To modulate and demodulate signals for data transmission

61. Which of the following is an example of an IP address class?

- a) Class A
- b) Class B
- c) Class C
- d) All of the above

Answer: d) All of the above

62. Which layer of the OSI model handles error detection and correction?

- a) Physical Layer
- b) Data Link Layer
- c) Network Layer
- d) Transport Layer

Answer: b) Data Link Layer

63. What does the acronym VLAN stand for in networking?

- a) Virtual Local Area Network
- b) Virtual Link Access Network
- c) Very Local Area Network
- d) Variable Link Area Network

Answer: a) Virtual Local Area Network

64. What type of network device is used to connect a computer to the Internet via a DSL connection?

- a) Router
- b) Switch
- c) Hub
- d) Modem

Answer: d) Modem

65. What is the main advantage of using a peer-to-peer network?

- a) Centralized control
- b) Reduced setup cost
- c) Easier scalability
- d) More secure data transfer

Answer: b) Reduced setup cost

66. In the context of computer networking, what does NAT stand for?

- a) Network Address Translation
- b) Network Allocation Translation
- c) Network Access Transfer
- d) Network Application Transfer

Answer: a) Network Address Translation

67. Which of the following is a valid MAC address?
- a) 192.168.0.1
 - b) 00:14:22:01:23:45
 - c) 255.255.255.0
 - d) 2001:0db8:85a3:0000:0000:8a2e:0370:7334

Answer: b) 00:14:22:01:23:45

68. What is the role of the session layer in the OSI model?
- a) To establish, maintain, and terminate connections between devices
 - b) To route data packets to their destination
 - c) To manage traffic flow across the network
 - d) To segment data for transmission

Answer: a) To establish, maintain, and terminate connections between devices

69. What is the function of a gateway in a network?
- a) To connect two different networks
 - b) To route packets between devices within the same network
 - c) To amplify signals
 - d) To manage DNS requests

Answer: a) To connect two different networks

70. Which of the following best describes a star topology?
- a) Each device is connected to a central hub
 - b) Devices are connected in a circular fashion
 - c) Devices are connected in a single line
 - d) Devices are connected in a mesh fashion

Answer: a) Each device is connected to a central hub

71. What is the primary function of a network protocol?
- a) To manage data encryption
 - b) To control how devices communicate within a network
 - c) To route packets across the internet
 - d) To store data securely

Answer: b) To control how devices communicate within a network

72. What is the primary purpose of the ARP protocol in a network?

- a) To manage IP addresses
- b) To encrypt data packets
- c) To map an IP address to a physical MAC address
- d) To route data between networks

Answer: c) To map an IP address to a physical MAC address

73. Which of the following is not a type of IPv6 address?

- a) Unicast
- b) Broadcast
- c) Anycast
- d) Multicast

Answer: b) Broadcast

74. Which network device operates at the physical layer and provides signal boosting for transmission?

- a) Hub
- b) Switch
- c) Router
- d) Repeater

Answer: d) Repeater

75. Which of the following is a feature of the UDP protocol?

- a) Connection-oriented
- b) Reliable data delivery
- c) Error detection and correction
- d) Connectionless communication

Answer: d) Connectionless communication

76. What is the main advantage of using a wireless network?

- a) Faster data transmission
- b) Lower cost
- c) Flexibility and mobility
- d) Better security

Answer: c) Flexibility and mobility

77. What is a key characteristic of the mesh topology?

- a) Devices are connected in a central hub
- b) Every device is connected to every other device
- c) Devices are connected in a bus pattern
- d) Devices are connected in a ring fashion

Answer: b) Every device is connected to every other device

78. What is the main purpose of using a virtual private network (VPN)?

- a) To increase network bandwidth

- b) To securely connect remote users to a private network
- c) To provide wireless access to the internet
- d) To route data packets between different networks

Answer: b) To securely connect remote users to a private network

79. What is the main purpose of an IP address in networking?
- a) To provide encryption
 - b) To identify a device on a network
 - c) To route data packets between devices
 - d) To connect devices in a LAN

Answer: b) To identify a device on a network

80. Which of the following is not a valid type of network cable?
- a) Coaxial cable
 - b) Fiber-optic cable
 - c) HDMI cable
 - d) Twisted pair cable

Answer: c) HDMI cable

81. In which layer of the OSI model does routing take place?
- a) Data Link Layer
 - b) Network Layer
 - c) Transport Layer
 - d) Application Layer

Answer: b) Network Layer

82. Which of the following is a typical use case for a coaxial cable in networking?
- a) Connecting a router to a modem
 - b) Wireless communication
 - c) Connecting a computer to a network switch
 - d) Connecting a satellite dish to a receiver

Answer: d) Connecting a satellite dish to a receiver

83. What is the main purpose of a VLAN?
- a) To increase the physical range of a network
 - b) To segment a large network into smaller, manageable parts
 - c) To increase the speed of data transfer
 - d) To manage IP addresses across a network

Answer: b) To segment a large network into smaller, manageable parts

84. Which of the following is an example of a transport layer protocol?
- a) IP

- b) TCP
- c) ARP
- d) DNS

Answer: b) TCP

85. What is the function of the network layer in the OSI model?
- a) To establish, manage, and terminate communication sessions
 - b) To route data packets between devices
 - c) To segment data into smaller units
 - d) To provide error-free communication

Answer: b) To route data packets between devices

86. Which type of network is most commonly used for connecting devices within a city?
- a) LAN
 - b) MAN
 - c) WAN
 - d) PAN

Answer: b) MAN

87. What does the term "collision domain" refer to in networking?
- a) A network where data collisions cannot occur
 - b) A network segment where data collisions may occur
 - c) A device that prevents collisions in a network
 - d) A domain used for network addressing

Answer: b) A network segment where data collisions may occur

88. Which of the following is a protocol used for secure communication over the internet?
- a) HTTP
 - b) FTP
 - c) SSH
 - d) POP3

Answer: c) SSH

89. Which of the following is true about an IP address in a network?
- a) It must be unique to each device within a network
 - b) It can be shared by multiple devices
 - c) It does not need to follow any specific format
 - d) It is not required for communication in a network

Answer: a) It must be unique to each device within a network

90. Which layer of the OSI model is responsible for translating data into

electrical signals?

- a) Transport Layer
- b) Data Link Layer
- c) Network Layer
- d) Physical Layer

Answer: d) Physical Layer

91. What is a characteristic of the ring topology?
- a) Devices are connected in a straight line
 - b) Devices are connected in a circular manner
 - c) Devices are connected through a central hub
 - d) Devices are connected in a star configuration

Answer: b) Devices are connected in a circular manner

92. What does the acronym SNMP stand for?
- a) Simple Network Management Protocol
 - b) Simple Node Management Protocol
 - c) Secure Network Management Protocol
 - d) Secure Node Management Protocol

Answer: a) Simple Network Management Protocol

93. What is the purpose of the transport layer in the OSI model?
- a) To route data between devices
 - b) To manage end-to-end communication
 - c) To convert data into electrical signals
 - d) To detect and correct errors in data transmission

Answer: b) To manage end-to-end communication

94. Which of the following devices is used to interconnect different types of network technologies?
- a) Bridge
 - b) Hub
 - c) Switch
 - d) Gateway

Answer: d) Gateway

95. What type of communication is used in a duplex transmission?
- a) Data is sent in one direction only
 - b) Data is sent in both directions simultaneously
 - c) Data is sent in both directions but not at the same time
 - d) Data cannot be transmitted

Answer: b) Data is sent in both directions simultaneously

96. What does the term "circuit switching" refer to in networking?

- a) A network where data is transmitted in packets
- b) A dedicated path is established for the duration of the call
- c) Data is broadcast to all devices on the network
- d) Data is sent through multiple paths simultaneously

Answer: b) A dedicated path is established for the duration of the call

97. What is the main function of a network interface card (NIC)?

- a) To connect devices to the internet
- b) To route packets between devices
- c) To enable communication between a device and a network
- d) To provide wireless communication

Answer: c) To enable communication between a device and a network

98. What type of network is used to connect devices in a single room or building?

- a) LAN
- b) MAN
- c) WAN
- d) PAN

Answer: a) LAN

99. What is the main advantage of a hybrid network topology?

- a) It combines the advantages of multiple topologies
- b) It offers the lowest cost
- c) It has the highest speed
- d) It is easier to install than other topologies

Answer: a) It combines the advantages of multiple topologies

100. Which protocol is used to transfer files between computers over the internet?

- a) FTP
- b) HTTP
- c) SMTP
- d) POP3

Answer: a) FTP