

**FBLA NETWORKING CONCEPTS**

DIRECTIONS: Select the most appropriate answer and blacken the space on the answer sheet that corresponds with your selection.

1. Which of the following best describes networking protocols?
  - A. A formal description of a set of rules and conventions that govern how devices on a network exchange information
  - B. A set of guidelines that can be customized to meet individual needs
  - C. The use of the same network topology for all networks
  - D. All of the above
  
2. Which best describes an extended star topology?
  - A. LAN topology in which each of the end nodes of the core topology are acting as the center of its own star topology
  - B. LAN topology in which transmissions from network stations propagate the length of a single coaxial cable and are received by all other stations
  - C. LAN topology where central points on a network are connected to a common central switch by linear links
  - D. LAN topology in which end points on a network are connected to a common central switch by point-to-point links
  
3. In a network, each point that can send or receive data or both is known as a
  - A. star
  - B. link
  - C. node
  - D. client
  
4. Which protocol is designed to download or upload files on the Internet?
  - A. Telnet
  - B. SNMP
  - C. FTP
  - D. HTTP
  
5. What are most applications that work in a networked environment classified as?
  - A. network redirector applications
  - B. file storage applications
  - C. client-server applications
  - D. dialogue control applications
  
6. What is a WAN?
  - A. A network that connects users across a large geographic area
  - B. A network that connects devices in a workgroup setting
  - C. A network that connects physically adjacent devices
  - D. A network that connects business departments in a building
  
7. Which protocol can find the MAC address of a computer given its IP address?
  - A. DHCP
  - B. RARP
  - C. ARP
  - D. Proxy RARP

8. Which is a network layer protocol that can be routed?
  - A. IP
  - B. NetBEUI
  - C. ISP
  - D. ARP
  
9. **Which Control Panel icon should be accessed to configure TCP/IP LAN settings in a Windows 95 PC?**
  - A. System
  - B. Device Manager
  - C. Network
  - D. Internet Options
  
10. All computers on a network can view academy curriculum via a web browser **EXCEPT** one. This PC operates fine locally. What is the most likely cause of the problem?
  - A. network speed
  - B. PC Bus speed
  - C. PC CPU speed
  - D. network connection
  
11. **Which component of a PC is a collection of wires through which data is transferred from one part of the computer to another?**
  - A. microprocessor
  - B. bus
  - C. expansion slot
  - D. system unit
  
12. Which numbering system do computers use for data processing?
  - A. binary
  - B. cctal
  - C. hexadecimal
  - D. decimal
  
13. What is **NOT** a WAN technology?
  - A. ISDN
  - B. Frame Relay
  - C. Modem
  - D. Ethernet 10BaseT
  
14. What is located within a single building or campus?
  - A. LAN
  - B. MAN
  - C. TAN
  - D. WAN
  
15. Which is an advantage of a layered network model?
  - A. increases complexity
  - B. slows evolution
  - C. simplifies learning
  - D. increases proprietary protocols

16. Which process does the OSI model describe?
  - A. How a network uses transmission devices provided by common carriers to create a steady and reproducible signal
  - B. How to protect networks from unwanted intrusions such as hackers and viruses how information or data moves from one computer through a network to another computer
  - C. How to maintain physical and software links between networks
  - D. How a network uses transmission devices provided by private carriers to create a steady and reproducible signal
17. What is the correct order of the layers of the OSI model?
  - A. Physical, data link, network, transport, session, presentation, application
  - B. Physical, data link, network, session, application, transport, presentation
  - C. Physical, data link, network, session, transport, presentation, application
  - D. Physical, session, data link, network, application, transport, presentation
18. What is the purpose of a NIC?
  - A. Establishes, manages, and terminates sessions between applications and manages data exchange between presentation layer entities
  - B. Provides the host's access to the medium
  - C. Provides mechanisms for the establishment, maintenance, and termination of virtual circuits, recovery, and information flow control
  - D. Provides services to application processes
19. What are the most important traffic-regulating devices on large networks?
  - A. servers
  - B. hubs
  - C. routers
  - D. bridges
20. Which organization's LAN standards include 802.3 and 802.5?
  - A. EIA
  - B. IEEE
  - C. TIA
  - D. UL
21. What is a function of a MAC address?
  - A. provides a unique identity
  - B. provides a collision free domain
  - C. provides a hierarchical addressing scheme
  - D. provides increased network stability
22. What describes Token-Ring?
  - A. uses IEEE 802.3
  - B. data transfer rates of 10 Mbps or 100 Mbps
  - C. can only be implemented with fiber
  - D. data transfer rates of 4 Mbps or 100 Mbps
23. What private company created Ethernet?
  - A. IBM
  - B. Apple
  - C. Xerox
  - D. Cisco

24. When starting to design a network, what should be the first step in the process?
  - A. identifying the resources and constraints of the organization
  - B. gathering information about the network devices and media that will be used
  - C. documenting costs and developing a budget for implementation
  - D. collecting information about the organization
25. What kind of floor should the wiring room have?
  - A. tile or other finished surface
  - B. electronics grade carpet
  - C. unfinished stone
  - D. carpet
26. Why should fluorescent light fixtures be avoided in wiring closets?
  - A. There often is insufficient room in a wiring closet to change out the fluorescent bulbs easily and safely
  - B. They generate outside interference
  - C. They can degrade some plastic materials used in network equipment.
  - D. They provide false color lighting which can lead to mistakes in making connections
27. What is the first step in locating a wiring closet for a network?
  - A. Identify the number of printers and file servers that will be part of the network
  - B. Identify the number of computers that will be part of the network
  - C. Identify on a floor plan, all devices that will be connected to the network
  - D. Identify the topological requirements of devices that will be in the network
28. Which type of networking media is now installed most often for backbone cabling?
  - A. 150 ohm shielded twisted pair cable
  - B. 100 ohm unshielded twisted pair cable
  - C. 62.5/125 micron fiber-optic cable
  - D. 50 ohm coaxial cable
29. Where should the main distribution facility (MDF) be located in a multi-story building using an extended star topology?
  - A. on the first floor
  - B. next to the POP
  - C. on one of the middle floors
  - D. next to steam room
30. What is the central junction for the network cable?
  - A. center closet
  - B. computer
  - C. POP
  - D. wiring closet
31. Why is establishing a baseline performance level for a network important?
  - A. for obtaining a network registration and identification number from TIA/EIA and IEEE
  - B. for providing your client with proof of a successful installation
  - C. for future periodic testing of the network and diagnostics
  - D. for fulfilling one of the requirements necessary for you to get your network certification
32. Which of the following correctly describes an ISP?
  - A. Internet Service POP
  - B. Internal Service Provider
  - C. Internet Service Provider
  - D. Internal Service Protection

33. How many bits are in an IP address?
  - A. 4
  - B. 8
  - C. 16
  - D. 32
34. What is specified by the network number in an IP address?
  - A. the network to which the host belongs
  - B. the broadcast identity of sub-network
  - C. the node of the sub-network which is being addressed
  - D. the physical identity of the computer on the network
35. Which is an example of a Layer 3 internetworking device that passes data packets between networks?
  - A. router
  - B. road
  - C. transistor
  - D. switch
36. What do bridges and switches use to make data forwarding decisions?
  - A. network addresses
  - B. physical addresses
  - C. logical addresses
  - D. IP addresses
37. Which of the following contains a unique network number that is used in routing?
  - A. NIC card
  - B. physical address
  - C. IP address
  - D. MAC address
38. Which protocol is used to dynamically assign IP addresses?
  - A. DHCP
  - B. proxy ARP
  - C. ARP
  - D. IGRP
39. Which type of routing allows routers to adjust to changing network conditions?
  - A. automatic
  - B. dynamic
  - C. static
  - D. stub
40. Which connection is made to a server and maintained until the user terminates the connection?
  - A. processing a web transaction
  - B. an FTP connection
  - C. downloading a web page
  - D. printing a file
41. Which of the following allows for routing that is based on classes of address, rather than individual addresses?
  - A. Gateway address
  - B. DNS address
  - C. WINS address
  - D. IP address

42. What is the language used to create web pages?
- A. HTTP
  - B. HTML
  - C. GIF
  - D. URL
43. The best description of a default Route would be \_\_\_\_\_.
- A. a route defined by LSA
  - B. a route defined by an administrator
  - C. the last router in an Autonomous System
  - D. a route defined by RIP
44. Migrating from 10MB to 100MB bandwidth over cat 5 requires \_\_\_\_\_.
- A. change to IEEE 802.4
  - B. a change in wiring
  - C. upgrading network services
  - D. None of the above
45. Logical network maps describe \_\_\_\_\_.
- A. topology changes
  - B. switch locations
  - C. wiring runs
  - D. IP addressing
46. The best placement for an enterprise server is \_\_\_\_\_.
- A. On any LAN
  - B. MDF
  - C. IDF
  - D. None of the above
47. The first rule in LAN design is \_\_\_\_\_.
- A. develop IP address scheme
  - B. create a wire map
  - C. utilize segmentation
  - D. understand the customer
48. Which type of route is used when no other routes are known to the destination?
- A. Static
  - B. Default
  - C. Dynamic
  - D. Next available
49. How often are RIP updates broadcast?
- A. Every 15 seconds
  - B. Every 30 seconds
  - C. Every 60 seconds
  - D. Every 90 seconds
50. Which metric is used in RIP?
- A. Delay
  - B. Bandwidth
  - C. Hop count
  - D. Traffic load

51. What is used to alleviate congestion?
  - A. Use a bus topology
  - B. Use an extended star
  - C. Install more hubs
  - D. Increase the bandwidth
  
52. Switches that receive the entire frame before sending it, use what type of frame forwarding?
  - A. Copy and send
  - B. Receive and send
  - C. Cut-through
  - D. Store-and-forward
  
53. What protocol is used to allow redundant paths in a switched/bridged network?
  - A. ISL
  - B. Spanning Tree
  - C. IGRP
  - D. RIP
  
54. What is a VLAN used to create?
  - A. Network Sectors
  - B. Broadcast domains
  - C. Autonomous systems
  - D. Virtual sections
  
55. What is the first step in LAN design?
  - A. Establish the design goals
  - B. Determine the physical size
  - C. Determine the network users
  - D. Estimate the design cost
  
56. What is the effect of a switch on bandwidth?
  - A. Dedicates bandwidth
  - B. Eliminates bandwidth
  - C. Decreases bandwidth
  - D. Shares bandwidth
  
57. Where should workgroup servers be placed?
  - A. VCC
  - B. POP
  - C. MDF
  - D. IDF
  
58. Which of the following devices establishes a bandwidth domain also known as the collision domain?
  - A. Passive hub
  - B. Switch
  - C. Active hub
  - D. Repeater
  
59. Internetwork design seeks to provide the greatest availability for the least \_\_\_\_\_.
  - A. installation time
  - B. cost
  - C. network downtime
  - D. design time

60. The star/extended star topology uses what type of standard?
  - A. ARCNET
  - B. Ethernet 802.3
  - C. Ethernet 802.5
  - D. Token ring
61. Which device is one of the most common Layer 2 devices?
  - A. LAN switch
  - B. Router
  - C. Passive hub
  - D. Active hub
62. What do routers use to maintain tables?
  - A. Routed protocols
  - B. IP Tunneling
  - C. Broadcast forwarding
  - D. Routing protocols
63. Entries made by an administrator to manipulate a routing table are referred to as which of the following?
  - A. Static routes
  - B. Routing tables
  - C. ARP tables
  - D. Dynamic routes
64. Which of the following is used to keep a list of equipment repairs?
  - A. Software record
  - B. Security record
  - C. Maintenance record
  - D. Policy record
65. Which backup type does NOT reset the archive bit and stores all files that have been created and modified since the last full backup?
  - A. Copy
  - B. Differential
  - C. Hierarchical
  - D. Daily
66. A peer-to-peer network is also known as what type of network?
  - A. Thin client
  - B. Client-server
  - C. Workgroup
  - D. Home office
67. What is the recommended maximum number of users in a peer-to-peer network?
  - A. 5
  - B. 10
  - C. 15
  - D. 20
68. What is your first step in the troubleshooting process?
  - A. Undo previous network changes
  - B. Analyze data
  - C. Gather data
  - D. Ignore the call



69. What topology has all network devices connected to a single main cable?
- A. Bus
  - B. Star
  - C. Mesh
  - D. Ring
70. What term describes a logical grouping of network devices that communicate within a given subnet?
- A. Backbone
  - B. Section
  - C. Group
  - D. Segment
71. What term is used to describes the high bandwidth main cable that interconnects switches and routers?
- A. Group
  - B. Section
  - C. Backbone
  - D. Segment
72. Which Network Operating System (NOS) is based on NDS?
- A. Novell NetWare
  - B. Microsoft NT 4.0
  - C. Linux
  - D. Unix
73. What cabling type is referred to as Thinnet?
- A. 10Base2
  - B. 100BaseTA
  - C. 10BaseTE
  - D. 10BaseT
74. Which type of network media can span a maximum distance of 100 meters at 10Mbps without using a repeater?
- A. 10Base2
  - B. 10BaseFL
  - C. 10BaseT
  - D. 10Base5
75. **What protocol in the TCP/IP suite can detect/learn the MAC addresses of a computer that is associated with a particular IP address?**
- A. DHCP
  - B. RARP
  - C. ARP
  - D. Proxy RARP
76. Which of the following is an example of an IGP (Interior Gateway Protocol)?
- A. UDP
  - B. SPX
  - C. IPX
  - D. IGRP
77. Which type of routing protocol is RIP?
- A. distance vector
  - B. spanning tree
  - C. hybrid

- D. link State
78. Which of the following is a characteristic of TCP?
- A. connectionless
  - B. unreliable
  - C. divides outgoing messages into segments
  - D. provides no software checking for segments
79. A number of computers are connected to each other along a single, circular path known as a
- A. wide-area network
  - B. local-area network
  - C. ring network
  - D. star topology
80. Routers make forwarding decisions based on which kind of address?
- A. logical
  - B. layer
  - C. 2 physical
  - D. hardware
81. What can only be done in privileged mode on Cisco routers?
- A. enter commands
  - B. monitor performance
  - C. check routing tables
  - D. change the configuration
82. Which ISDN channel is used to establish call setup?
- A. Channel D
  - B. Channel B
  - C. Channel Call setup
  - D. Channel I
83. What is the meaning of a caret symbol (^) after entering a command on a Cisco router?
- A. indicates that you are in help mode
  - B. indicates that you are in privileged mode
  - C. indicates the location of an error in a command string
  - D. indicates that more information must be entered to complete the command
84. What term defines two-way simultaneous communications?
- A. Simplex
  - B. Half-duplex
  - C. Total-duplex
  - D. Full-duplex
85. Which protocol automatically distributes IP addresses to network devices?
- A. DHCP
  - B. DNS
  - C. WINS
  - D. BNS
86. What correctly describes the five conversion steps of data encapsulation?
- A. Data-segments-packets-frames-bits
  - B. Data-segments-frames-packets-bits
  - C. Data-frames-segments-packets-bits
  - D. Data-packets-segments-frames-bits

87. Which memory component of a router loses its content when the router is turned off?
  - A. NVRAM
  - B. FLASH
  - C. RAM
  - D. ROM
  
88. What information does testing a network by using the show ip route command provide?
  - A. Path-to-host reliability, delays over the path, and whether the host can be reached
  - B. Whether a routing table entry exists for the target network
  - C. Which router in a path is the last one to be reached
  - D. Whether the data-link line protocol is operational
  
89. If 4 hosts are connected to a hub, how many IP addresses are required for these 5 devices?
  - A. three
  - B. two
  - C. four
  - D. five
  
90. What is another name for a multi-port repeater?
  - A. switch
  - B. host
  - C. hub
  - D. bridge
  
91. Which term describes the conversion of binary data into a form that can travel on a physical communications link?
  - A. encoding
  - B. decrypting
  - C. encrypting
  - D. decoding
  
92. What is one advantage of using fiber optic cabling in networks?
  - A. cheap
  - B. it is available either with or without an outer shield
  - C. not susceptible to electromagnetic interference
  - D. easy to install
  
93. Which fiber mode characteristic is recommended for inter-building connectivity?
  - A. single-mode
  - B. inter-mode
  - C. intra-mode
  - D. multi-mode
  
94. What can be done if the area of the LAN is more than 200 meters in diameter?
  - A. a repeater could be installed to extend the network
  - B. special NICs can be purchased to extend the network
  - C. another server could be used to extend the network
  - D. all of the above
  
95. When running cable from the wiring closet to wall jacks, where is the cable itself labeled?
  - A. at the panel end
  - B. at each end
  - C. at the jack end
  - D. at each tie

96. What kind of jack must be used for making a connection to a Category 5 unshielded twisted pair cable in a horizontal cabling scheme?
- A. RJ-45
  - B. EIA 45
  - C. UTP 45
  - D. BNC 45
97. Which protocol is designed to download or upload files on the Internet?
- A. Telnet
  - B. SNMP
  - C. FTP
  - D. HTTP
98. What type of server is used to translate a domain name into the associated IP address?
- A. TFTP
  - B. DNS
  - C. FTP
  - D. DHCP
99. Which of the following best defines an object on a web page that, when clicked, transfers you to a new web page?
- A. web browser
  - B. hyperlink
  - C. network redirector
  - D. ASCII
100. What is an example of an application that requires both a client and server component in order to function?
- A. web browser
  - B. ASCII
  - C. Microsoft Word
  - D. PICT

## Networking Concepts *Answer Key*

1.			
2. A	27. B	52. D	77. D
3. A	28. C	53. D	78. A
4. C	29. C	54. B	79. C
5. C	30. C	55. B	80. C
6. C	31. D	56. A	81. A
7. A	32. C	57. A	82. D
8. C	33. C	58. D	83. A
9. A	34. D	59. B	84. C
10. C	35. A	60. B	85. D
11. D	36. A	61. B	86. A
12. B	37. B	62. A	87. A
13. A	38. C	63. D	88. C
14. D	39. A	64. A	89. B
15. A	40. B	65. C	90. C
16. C	41. B	66. B	91. C
17. C	42. D	67. C	92. A
18. A	43. B	68. B	93. C
19. B	44. B	69. C	94. A
20. C	45. C	70. A	95. A
21. B	46. D	71. D	96. B
22. A	47. B	72. A	97. A
23. D	48. D	73. A	98. C
24. C	49. B	74. A	99. B
25. A	50. B	75. C	100. B
26. A	51. C	76. C	101. A