#413

2005 ARIZONA FBLA
WINTER REGIONAL CONFERENCE

NETWORK DESIGN

1. Complete the information requested on the answer sheet.

- Check the label on the top right hand side of the sheet to make sure that your name and event are correct. If your school name is not on your label, write it under your label. Use complete school name (not NHS).

- On the top left hand corner of the answer sheet, enter the nine digit number from your label. Start on line 1 and enter the numbers going down. The last number will be left blank. Darken each circle carefully and completely.

DO NOT OPEN THE TEST UNTIL GIVEN PERMISSION TO DO SO!

2. All answers must be recorded on the answer sheet.

3. Read each question carefully before answering. When you have decided which answer is correct, find the space on the answer sheet following the number of the problem. With a pencil, **BLACK THE ENTIRE SPACE** in the proper column. Do not make any other marks on the answer sheet, as the scoring machine will reject it.

4. If you are given True/False questions, answer True questions in the "A" column and False questions in the "B" column.

5. Do not fold your answer sheet or bend the corners.

6. Be sure to use a **#2 pencil**. Erase any unwanted answers completely. Two answers for one question will be rejected by the scoring machine.

7. You are allowed **45 minutes** for completing the test. You will be given a starting signal and a warning when 10 minutes and 5 minutes are remaining. If you finish your test early, return your test and answer sheet to the test administrators.

8. If you have any questions during the test, please raise your hand, and someone will come to help you.

9. Test administrators will write the "time" on the top of your test when you finish

WRC 2005—Network Design

1. Which network operating system was developed from the VMS platform?
    a. NetWare
    b. UNIX
    c. Windows 95
    d. Windows NT

2. Which operating system was originally developed by Bell Labs and has multitasking, multiuser, and built in networking capabilities?
    a. UNIX
    b.   Windows 95
    c. Windows NT
    d. NetWare

3. Which of the following are network operating systems and not simply operating systems that will communicate on a network?
    a. Novell NetWare
    b. Microsoft Windows 3.1
    c. Microsoft Windows 9X
    d. none of the above

4. What do networks use to communicate with each other that is sometimes known as a language that networked computers use?
    a. NIC
    b. segment
    c. protocol
    d. cable

5. Which network protocol was developed by Novell for use in its network operating system?
    a. IPX
    b. TCP/IP
    c. NetBEUI
    d. DLC

6. Which protocol is used on the Internet to give each computer a unique address?
    a. IPX
    b. TCP/IP
    c. NetBEUI
    d. DLC

7. Which of the following are methods of ensuring fault tolerance with data on a network?
    a. disk mirroring
    b. disk striping

8. When multiple disk controllers are used in a drive mirroring scenario, it is know as which of the following?
    a. disk multiplexing
    b. disk duplobuilding
    c. bidirectional disking
    d. disk duplexing

9. Which of the following is NOT a layer in the OSI model?
    a. physical
    b. transport
    c. network
    d. data transmission

10. Which of the following is NOT a common type of medium used in networking?
    a. coaxial cable
    b. twisted-pair cable
    c. fiber optic cable
    d. RJ-45

11. What is the distance limitation on 10Base2, or Thinnet?
    a. 100 meters
    b. 185 meters
    c. 250 meters
    d. 500 meters

12. When data is able to travel in both directions on a cable, it is known as which of the following?
    a. fault tolerance
    b. half duplex
    c. biduplex
    d. full duplex

13. In what type of network is there no dedicated server and each mode on the network is an equal resource for sharing and receiving information?
    a. client/server
    b. peer-to-peer
    c. Windows NT Server 4.0
    d. Novell IntraNetWare 4.x

14. In order for differing networks to communicate with each other, we need to use which of the following to translate between the networks?
    a. protocol
    b. medium
    c. gateway
    d. bridge

15. Which of the following types of hubs does NOT regenerate the signal and therefore is NOT a repeater?
    a. active
    b. hybrid
    c. passive
    d. switching hub

16. What network component is used to extend the distance of the signal when transmitting over the normal specified distance?
    a. passive hub
    b. NIC
    c. IRQ
    d. repeater

17. Which of the following must be set to enable a device to directly access memory on the system, without the CPU's intervention?
    a. I/O address
    b. DMA
    c. IRC
    d. IRQ

18. What does EPROM stand for?
    a. Enhanced programmable read only memory
    b. Erasable programmable read out memory
    c. Enhanced permanent read only memory
    d. Erasable programmable read only memory

19. If you are configuring a NIC in DOS, which of the following is the most likely extension for the file that determines the settings for the interface card?
    a. .INF
    b. .CON
    c. .C.G.
    d. .DOS

20. If you have a workstation that has no diskette drive or hard drive and you want to put the workstation on your network, what do you have to do?
    a. simply add any network card
    b. add a network card that has a mini hard disk on it
    c. add a network card that has an external connector for a diskette drive
    d. add a network card that has a remote boot PROM chip

21. What is an AUI connector?
    a. a 9-pin DB male connector
    b. a 15-pin D female connector
    c. a 25-pin D female connector
    d. same as an RJ-45 connector

22. What type of network component enables each device to have the full bandwidth of the medium when transmitting?
    a. hub
    b. repeater
    c. switching hub
    d. transceiver

23. What does MAU stand for?
    a. multisensing action unit
    b. multistation access unit
    c. myltisplit addtransmission unit
    d. multistation action unit

24. What type of hub enables more than one type of cable or media to connect to it?
    a. passive
    b. active
    c. hybrid
    d. MAU

25. What will happen if we have a routing table with the same route to the same destination network?
    a. you cannot have the same route twice
    b. you cannot have the same destination listed twice
    c. the route with the closest router will be used
    d. the route with the fewest number of hops will be used

26. Which of the following is NOT true regarding dynamic routers?
    a. They can choose the most efficient path to the destination network.
    b. They can communicate and share information with neighboring routers.
    c. They cannot be configured with static routes.
    d. They can communicate with other routers using RIP and OSPF.

27. What will happen if the default gateway is not specified on your computer and you try to reach another network?
    a. The packet will ask every router if it knows the path to reach the destination.
    b. The packet will broadcast for the IP address of the nearest router.
    c. The packet will be forwarded to the DNS server.
    d. The packet will not be sent.

28. Which of the following is NOT true of the Transport layer of the OSI model?
    a. It is responsible for error control.
    b. It is responsible for encrypting session information.
    c. It interacts with the Network layer.
    d. It is responsible for segment sequencing.

29. Which of the following is NOT a characteristic of connection-oriented communication?
    a. datagrams
    b. handshaking
    c. virtual circuits
    d. sessions

30. Why is connection-oriented data delivery faster?
    a. Because a session between the two computers is maintained for the entire duration of the transfer of data.
    b. Because you can quickly re-send data if it becomes lost or corrupt.
    c. Because the packets already know where they are going and don't have to find alternate routes.
    d. Connection-oriented data transfer is NOT quicker than connectionless-oriented data transfer.

31. Which of the following are the best examples of a mailslot?
    a. a two-way telephone conversation
    b. a bulletin board
    c. an answering machine
    d. b and c are correct

32. The LMHOSTS file is a static file to resolve what types of names?
    a. UNIX
    b. NetBEUI
    c. HOSTS
    d. NetBIOS

33. Which utility can be used to display and modify the table that maintains the TCP/IP address to MAC address translation?
    a. NBTSTAT
    b. Telnet
    c. ARP
    d. SNMP

34. Which protocols do NOT have statistics available with the Netstat utility?
    a. TCP
    b. ICMP
    c. ARP
    d. IP

35. Which utility enables you to execute console commands remotely at a virtual terminal?
    a. FTP
    b. Ping
    c. Telnet
    d. NBTSTAT

36. Which protocol uses a 16-character name, with the last digit reserved as a resource identifier?
    a. NetBT
    b. NetBEUI
    c. NBTSTAT
    d. NetBIOS

37. Which utility can be used to troubleshoot NetBIOS over TCP/IP connectivity issues?
    a. NetBT
    b. NetBEUI
    c. NBTSTAT
    d. NetBIOS

38. Which NBTSTAT switch enables you to display the computer's local NetBT name cache?
    a. –R
    b. –c
    c. –a
    d. –A

39. In what ways can a computer with a NetBIOS name register its services on the network?
    a. broadcast
    b. HOSTS file
    c. WINS server
    d. both a and c

40. Which utility is used to determine the path that data takes during transport to a remote host?
    a. NBTSTAT
    b. ARP
    c. FTP
    d. Tracert

41. Which utility is used to display TCP/IP specific protocol and interface statistics?
    a. NBTSTAT
    b. ARP
    c. Netstat
    d. none of the above

42. Which items are NOT available for display in IPCONFIG?
    a. TCP/IP address
    b. MAC address
    c. DHCP lease information
    d. none of the above

43. Which utility is used to facilitate file transfers between two remote hosts?
    a. FTP
    b. Telnet
    c. Ping
    d. none of the above

44. Which utility is used to verify network connectivity of a remote host?
    a. route
    b. ARP
    c. Ping
    d. none of the above

45. Which utility is used to verify the DNS database on a DNS server?
    a. route
    b. ARP
    c. Ping
    d. NSLOOKUP

46. Which network layer protocols can Serial Line Internet Protocol use during a dial-up session?
    a. IPX
    b. SLP
    c. TCP/IP
    d. none of the above

47. Which components are part of Point-to-Point Protocol?
    a. network control protocol
    b. link control protocol
    c. internet protocol
    d. both a and b

48. Which forms of validation can PPP use to authenticate users against a remote server?
    a. CHAP
    b. Domain Account
    c. PAP
    d. both a and c

49. What was the first Integrated Services Digital Network standard to be published by the ITU?
    a. ISDN-1
    b. ISDN-N1
    c. N1
    d. NI-1

50. How many B channels are available in a typical ISDN PRI?
    a. 2
    b. 20
    c. 23
    d. 30

51. What is the first step in setting up a network?
    a. Defining user accounts
    b. Installing the NOS
    c. Enabling activity auditing
    d. Mapping drive shares

52. Which of the following is **not** typically a common feature of a NOS?
    a. Connects all machines and peripherals on a network into an interactive whole
    b. Supports security and privacy for both the network and the individual users
    c. Automatically learns from the user to physically alter itself to match user needs
    d. Controls access to resources on a user authentication basis

53. What type of computer is required to authenticate users and define a domain (i.e., hosts the security database)?
    a. Member server
    b. Network client
    c. Application server
    d. Domain controller

54. Which of the following IEEE specifications defines token-ring networks?
    a. 802.2
    b. 802.3
    c. 802.5
    d. 802.11

55. Which of the following network topologies is most often associated with the token-passing channel access method?
    a. Bus
    b. Star
    c. Ring
    d. Mesh

56. Which of the following are **not** advantages of a token-passing network?
    a. Well suited to time-critical applications
    b. Efficient use of the network media
    c. Fast in high-traffic environments
    d. Guarantees equal access to all computers

57. Virtual circuits are used by the network layer to
    a. divide the data into pieces that will become packets.
    b. route data on different paths.
    c. exchange data between non-compatible systems, such as a Pentium and a Macintosh.
    d. bypass layers in the OSI model, if appropriate.

58. Which of the following does **not** require an account and password if access is from a remote system?
    a. TELNET
    b. FTP
    c. SMTP
    d. All of the above

    59. A good design for a multi-floor network would include at least one of each of the following on every floor **except**
    a. server.
    b. concentrator or hub.
    c. printer or plotter.
    d. separate segment.

60. A network design should allow effective and easy access in each office area to
    a. wiring closets.
    b. servers.
    c. printers, fax machines, etc.
    d. All of the above

61. A design lab uses CAD software and creates high traffic. This lab could be isolated from the rest of the network using a
    a. MAU.
    b. server.
    c. bridge.
    d. None of the above

62. Small intelligent hubs which can be attached together using a backbone are called
    a. stackable.
    b. remote.
    c. MAU.
    d. FDDI.

63. Which of the following is **not** part of structured networking?
    a. Vertical design
    b. Horizontal design
    c. Physical bus topology
    d. Centralized network management

64. Reconfiguring segments from a central management station is an example of _____ reconfiguring.
    a. logical
    b. physical
    c. structured
    d. intelligent

65. Using public-key encryption, part of the key is kept private and the other part
    a. is randomly created.
    b. is in a directory available to all nodes.
    c. is in a directory available to only the sending and receiving nodes.
    d. None of the above

66. The first step in planning for future disk capacity needs is to
    a. establish a baseline of disk space allocation.
    b. survey all users for expected future needs.
    c. archive all fields that have **not** been changed in over 3 months.
    d. determine budgetary constraints.

67. Modular network management software will allow
    a. one person to manage even the most complex networks.
    b. areas of responsibility to be delegated, each with custom views.
    c. some standards, such as maximum nodes per segment, to be exceeded.
    d. None of the above

68. Before new network equipment is placed into service
    a. it should be tested during periods of low usage before being brought "live."
    b. it should be run, or "burned in" for at least a month.
    c. the old equipment should be completely removed and discarded to avoid confusion.
    d. All of the above

69. Which type of software is growing rapidly in business?
    a. Word processing
    b. Client/server
    c. Spreadsheets
    d. CAD

70. Which of the following would probably **not** be part of your initial investigation into problems?
    a. Set up a protocol analyzer on the problem segment
    b. Determine if others are having similar problems
    c. Check for power outages
    d. Carefully listen to problem reports from inexperienced users

71. Some organizations go so far as to enter network problems and solutions into a(n)
    a. national IEEE database.
    b. user's personnel file.
    c. company Web site.
    d. help desk system.

72. The angle a fiber optic cable has around bends is called the
    a. optical deflection.
    b. attenuation.
    c. dB/Km angle.
    d. angular circumference.

73. If network traffic is **not** getting through a repeater segment, the segment may be
    a. confined.
    b. spliced.
    c. partitioned.
    d. All of the above

74. Assignment of IP addresses on a TCP/IP network is frequently the responsibility of the
    a. vendor.
    b. IEEE.
    c. network manager.
    d. None of the above

75. In a three-tiered client/server system, which of the following is **not** one of the tiers?
    a. Database server
    b. Application server
    c. Client workstation
    d. File server

76. The Internet has shifted from an educational-centered enterprise to a(n) _____ -centered enterprise.
    a. business
    b. entertainment
    c. graphical
    d. virtual

77. Using a computer and a modem to place an order with a vendor is an example of
    a. electronic data transfer.
    b. network commerce.
    c. electronic imaging.
    d. virtual business.

78. Which of the following terms is **not** used to describe a network's physical layout?
    a. Architecture
    b. Topology
    c. Diagram
    d. Map

79. What networking standard was initiated via an effort to define a set of LAN standards to ensure that network interfaces and cabling from multiple manufacturers would be compatible as long as they adhered to the same specification?
    a. ISO
    b. IEEE 802
    c. Microsoft Networking
    d. ANSI

80. Which of the following utilities is **not** installed automatically when Windows NT Server is installed?
    a. Network Monitor
    b. Performance Monitor
    c. Event Viewer
    d. User Manager

81. Select the correct statement concerning security.
    a. Physical security is based on software.
    b. Physical security is based on hardware.
    c. Data security is based on software.
    d. Network security is based on software.

82. Which of the following is a distance-vector routing protocol?
    a. RIP
    b. OSPF
    c. TCP
    d. UDP

83. What type of network are source-routing bridges used on most often?
    a. ARCNet
    b. Ethernet
    c. FDDI
    d. Token-ring

84. Which of the following statements most accurately describes brouters?
    a. Brouters can be used to prevent broadcast storms.
    b. Brouters only filter based on MAC address.
    c. Brouters combine the functionality of bridges and routers.
    d. Brouters cannot be used to connect dissimilar network segments.

85. The IEEE 802.3 and DIX standards are guidelines for which type of transport system?
    a. Ethernet
    b. Token ring
    c. ARCNET
    d. HIPPI

86. A group of two or more physical disk drives that appear to the system a single drive is known as a

    a. disk array
    b. logical drive
    c. drive interface
    d. disk errors

87. Disk striping with parity is known as

    a. RAID 0
    b. RAID 1
    c. RAID 2
    d. RAID 3

88. The RAID device used to cache system data is called

    a. CMOS RAM
    b. Array accelerator
    c. spare sectors
    d. drive compression

89. The processor's numeric coprocessor is also referred to as

    a. a floating point unit or FPU
    b. a superscalar architecture or SSA
    c. a write-back cache buffer
    d. a superpipeline architecture or SPA

90. The standard ATX power connection to the motherboard uses

    a. 4 pins
    b. 6 pins
    c. 20 pins
    d. 34 pins

91. A cache bus is sometimes referred to as a(n)

    a. backside bus
    b. write through bus
    c. asymmetrical bus
    d. dedicated bus

92. The AGP bus operates at _____ MHz.

    a. 8.3
    b. 16
    c. 33
    d. 66

93. Network cabling is often proven out and traced with

    a. an oscilloscope
    b. a protocol analyzer
    c. a loopback plug
    d. a tone generator/locator

94. You can access a network's IP routing table with

    a. Ping
    b. Telnet
    c. Netstat
    d. BIOS

95. The autonomous monitoring system incorporated into the server is called

    a. BMC
    b. SEL
    c. DPC
    d. IPX

96. Which utility allows you to access the server's event log?

    a. the system setup utility
    b. the Ping utility
    c. the motherboard's BIOS
    d. the server's Diagnostic Wizard

97. A SEL event of 04/0 Ch would cause you to check

    a. the CPU
    b. the power supply
    c. the system fan(s)
    d. the hard drive(s)

98. Which server feature can automatically alert an off-site individual when a problem occurs?

    a. DPC
    b. SEL
    c. SDR
    d. PEP

99. When one PC cannot access the network, what is NOT a probable cause?

    a. cable problems
    b. NIC problems
    c. server problems
    d. software (configuration) problems

100.   When no PC can access the network, what is NOT a probable cause?

        a. cable problems
        b. workstation problems
        c. server problems
        d. software (configuration) problems

Answer Key

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