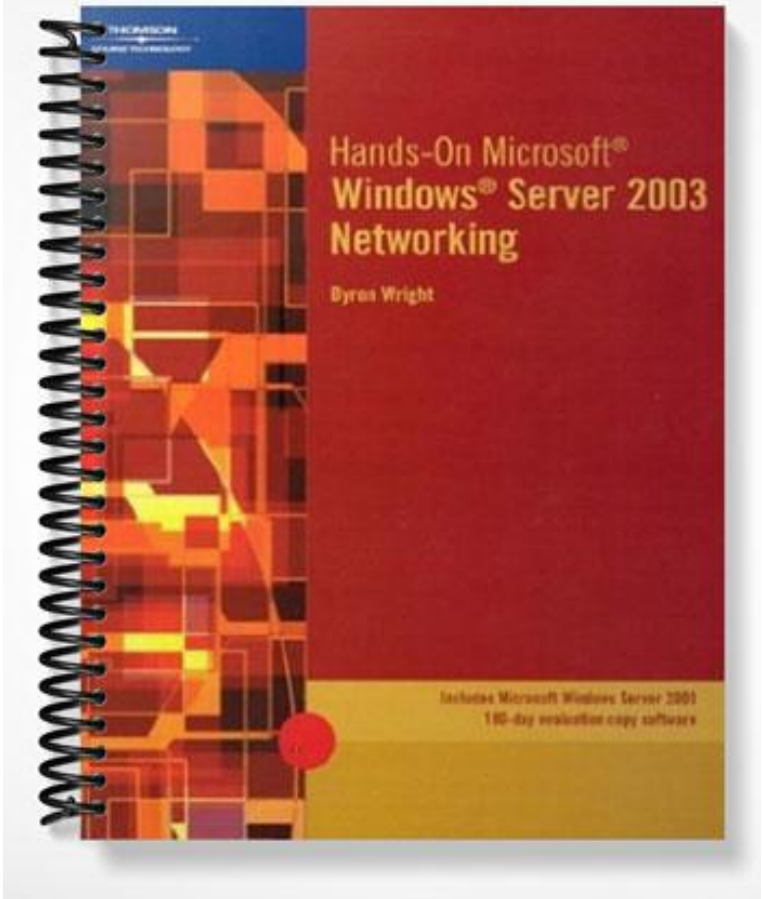
TEST BANK


Hands-On Microsoft®
Windows® Server 2003
Networking
Byron Wright

CHAPTER 2 - NETWORKING PROTOCOLS

TRUE/FALSE

1. TCP/IP is an open protocol.

   ANS: T PTS: 1 REF: 20

2. IP addresses need not be unique.

   ANS: F PTS: 1 REF: 20

3. Each octet in an IP address represents eight bytes of information.

   ANS: F PTS: 1 REF: 21

4. An IP address is composed of two parts: the network ID and the host ID.

   ANS: T PTS: 1 REF: 21

5. Two networks cannot have the same network ID, otherwise routers will not be able to determine where to deliver packets.

   ANS: T PTS: 1 REF: 21

6. If two computers are on different networks then they must use a router to communicate.

   ANS: T PTS: 1 REF: 22

7. Routers keep track of networks, not computers.

   ANS: T PTS: 1 REF: 23

8. Class A addresses use 16 bits for the network ID and 16 bits for the host ID.

   ANS: F PTS: 1 REF: 25

9. DHCP can be used to assign an interface identifier the same way it can be used to assign an IPv4 address.

   ANS: T PTS: 1 REF: 32

10. IPX/SPX requires a subnet mask because the length of the network ID and the computer ID are always inconsistent.

    ANS: F PTS: 1 REF: 34

MODIFIED TRUE/FALSE

1. An IP address is composed of two parts: the network ID and the <u>host ID</u>.

   _____

ANS: T PTS: 1 REF: 21

2. Multicasting is the process in which a single large network is subdivided into smaller networks to control traffic flow. _____

   ANS: F, Subnetting

   PTS: 1 REF: 25

3. The IP address 255.255.255.255 is a(n) directed broadcast. _____

   ANS: F, local

   PTS: 1 REF: 26

4. The Domain Name System is used by clients running TCP/IP to resolve host names to IP addresses. _____

   ANS: T PTS: 1 REF: 27

5. DHCP is used to resolve NetBIOS names to IP addresses. _____

   ANS: F
   Windows Internet Naming Service
   WINS

   PTS: 1 REF: 28

6. Site-local addresses are the equivalent of IPv4 internal network addresses. _____

   ANS: T PTS: 1 REF: 31

7. AppleTalk is the name Microsoft uses for the IPX/SPX-compatible protocol that it created. _____

   ANS: F, NWLink

   PTS: 1 REF: 33

8. The NWLink protocol is used for connectivity with Macintosh computers. _____

   ANS: F, AppleTalk

   PTS: 1 REF: 36

9. Configuring a network protocol to use a network adapter is referred to as binding. _____

   ANS: T PTS: 1 REF: 37

10. To minimize the use of IP addresses, most companies use Network Address Translation. _____

ANS: T PTS: 1 REF: 21

MULTIPLE CHOICE

1. Which of the following represents the network on which the computer is located?
   a. Router ID
   b. Network ID
   c. Host ID
   d. Internet ID

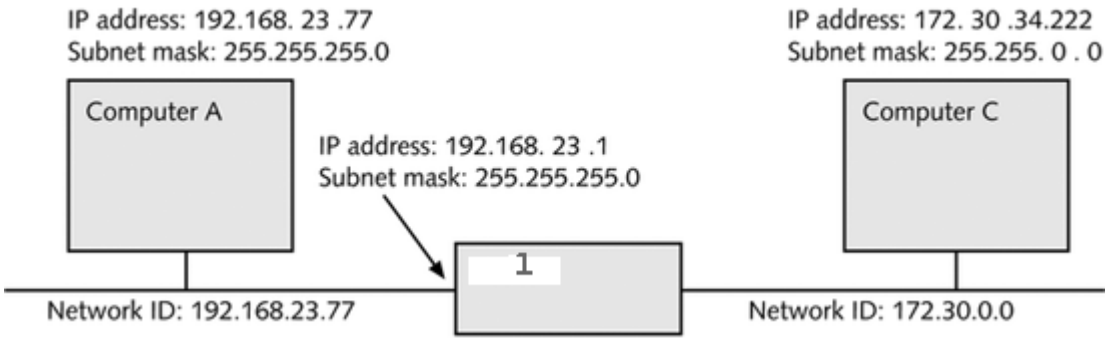
   ANS: B PTS: 1 REF: 21

2. Which of the following organization have overall authority for IP address assignments on the Internet?
   a. NAT
   b. ICANN
   c. RIPE
   d. ARIN

   ANS: B PTS: 1 REF: 21

3. A(n) ____ is used to define which part of a computer's IP address is the network ID and which part is the host ID.
   a. NAT
   b. router
   c. domain controller
   d. subnet mask

   ANS: D PTS: 1 REF: 21

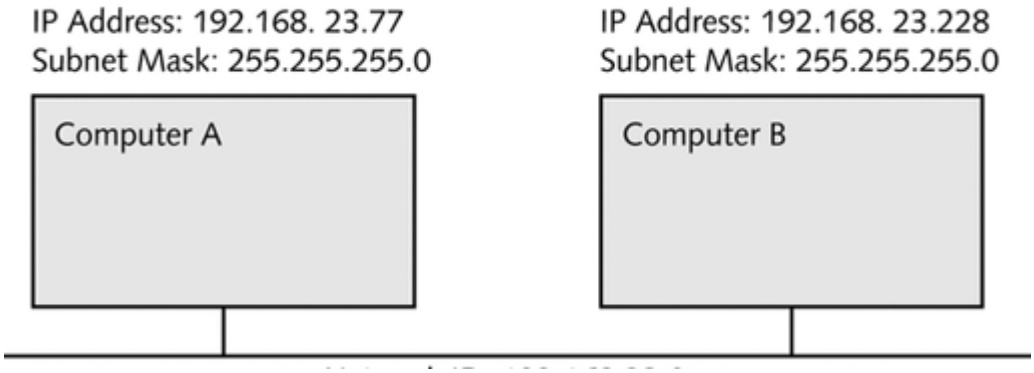


4. According to the figure above, the area labeled "1" represents a(n) ____.
   a. frame
   b. network adapter
   c. proxy server
   d. router

   ANS: D PTS: 1 REF: 23

5. Your computer converts IP addresses to ____ numbers.
   a. host
   b. network
   c. binary
   d. hexadecimal

   ANS: C PTS: 1 REF: 21



6. According to the figure above, what is the network ID of the two computers?
   a. 192.168. 23.228
   b. 192.168. 23.77
   c. 255.255.255.0
   d. 192.168.23.0

   ANS: D PTS: 1 REF: 22

7. The term ____ is used interchangeably with the term router.
   a. NetWare
   b. default gateway
   c. subnet mask
   d. host ID

   ANS: B PTS: 1 REF: 23

8. ____ is the process in which a single large network is subdivided into smaller networks to control traffic flow.
   a. Broadcasting
   b. Subnetting
   c. Multicasting
   d. Routing

   ANS: B PTS: 1 REF: 25

9. Class ____ addresses use eight bits for the network ID and 24 bits for the host ID.
   a. A
   b. B
   c. C
   d. D

   ANS: A PTS: 1 REF: 25

10. In the following CIDR notation, what does the portion after the IP (24) address refer to?
    192.168.1.0/24
    a. Number of bits in the IP address
    b. Number of bits in the Network ID
    c. Number of bits in the Subnet mask
    d. Number of bits in the host ID

    ANS: D PTS: 1 REF: 26

11. The term ____ refers to packets addressed to all computers on the network.
    a. CIDR
    b. broadcast
    c. DHCP
    d. subnet

    ANS: B PTS: 1 REF: 26

12. Which of the following is the IP address of a local broadcast?
    a. 255.0.0.0
    b. 255.255.0.0
    c. 255.255.255.0
    d. 255.255.255.255

    ANS: D PTS: 1 REF: 26

13. IP addresses with ____ as the first octet are referred to as loopback addresses.
    a. 10
    b. 172
    c. 127
    d. 192

    ANS: C PTS: 1 REF: 27

14. IPv6 addresses are ____ bits long.
    a. 32
    b. 64
    c. 128
    d. 256

    ANS: C PTS: 1 REF: 31

15. ____ addresses are the equivalent of IPv4 internal network addresses.
    a. Unicast
    b. Aggregatable global unicast
    c. Link local
    d. Site local

    ANS: D PTS: 1 REF: 31

16. Which of the following is an IPv6 address type?
    a. DHCP
    b. WINS
    c. Anycast
    d. DNS

    ANS: C PTS: 1 REF: 31

17. The length of the interface identifier in IPv6 is ____ bits.
    a. 32
    b. 64
    c. 128
    d. 256

    ANS: B PTS: 1 REF: 32

18. What is the name of the IPX/SPX-compatible protocol that was created by Microsoft?
    a. Netware
    b. Service Advertising Protocol
    c. NWLink
    d. NetIOS

    ANS: C PTS: 1 REF: 33

19. The most common protocol in use on local area networks (LANs) in the late 1980s and early 1990s was ____.
    a. DHCP
    b. TCP/IP
    c. IPX/SPX
    d. DNS

    ANS: C PTS: 1 REF: 33

20. The computer ID portion of the address is taken from the ____ of the network card.
    a. SAP
    b. MAC address
    c. frame address
    d. NetBIOS

    ANS: B PTS: 1 REF: 34

21. An IPX/SPX packet is composed of a network ID and a(n) ____.
    a. host ID
    b. MAC address
    c. computer ID
    d. frame ID

    ANS: C PTS: 1 REF: 34

22. Applications running on Windows Server 2003 advertise their availability via ____ packets.

a. IPX
b. SAP
c. NWLink
d. DHCP

ANS: B PTS: 1 REF: 34

23. Which of the following is used for connectivity with Macintosh computers?
a. NetBIOS
b. DLC
c. Frame
d. AppleTalk

ANS: D PTS: 1 REF: 36

24. Which of the following is a nonroutable protocol that was used for connectivity to mainframe computers?
a. NetBEUI
b. AppleTalk
c. Data Link Control
d. Binding

ANS: C PTS: 1 REF: 37

25. The process where a network protocol is configured to use a network adapter is referred to as ____.
a. broadcasting
b. binding
c. subnet masking
d. classful routing

ANS: B PTS: 1 REF: 37

26. Each octet of an IP address can range in value from ____.
a. 0 to 32
b. 0 to 64
c. 0 to 128
d. 0 to 255

ANS: D PTS: 1 REF: 20

27. Class ____ addresses use 16 bits for the network ID and 16 bits for the host ID.
a. A
b. B
c. C
d. D

ANS: B PTS: 1 REF: 25

28. ____ can be used to assign an interface identifier the same way it can be used to assign an IPv4 address.
a. DNS
b. DHCP
c. WINS
d. NetBIOS

ANS: B PTS: 1 REF: 32

29. The most common standard for network adapters is ____.
a. WINS
b. DNS
c. DHCP
d. Ethernet

ANS: D PTS: 1 REF: 19

30. If two computers are on different networks then they must use a(n) ____ to communicate.
a. subnet mask
b. domain controller
c. network ID
d. router

ANS: D PTS: 1 REF: 22

31. Routers are responsible for keeping track of ____.
a. computers
c. default gateways

b. networks
d. network IDs

ANS: B PTS: 1 REF: 23

32. Class D addresses are used for ____.
a. subnetting
b. multicasting
c. classful routing
d. CIDR

ANS: B PTS: 1 REF: 26

33. The IP address for a(n) ____ is composed of the network ID to which it is directed and then all host bits are set to 1.
a. subnet mask
b. local broadcast
c. directed broadcast
d. default gateway

ANS: C PTS: 1 REF: 26

34. E-mail servers on the Internet use ____ to deliver mail messages.
a. NetBIOS
b. WINS
c. CIDR
d. DNS

ANS: D PTS: 1 REF: 28

IP address	192.168.100. 33
Subnet mask	255.255.255. 0
Network ID	192.168.100. 0
Host ID	

35. According to the figure above, what is the host ID?
a. 255.255.255.255
b. 0.0.0.33
c. 0.0.100.33
d. 0.0.255.255

ANS: B PTS: 1 REF: 22

YES/NO

1. Can two computers on different networks have the same host ID?

ANS: Y PTS: 1 REF: 21

2. Can you use TCP/IP to provide access to the Internet?

ANS: Y PTS: 1 REF: 20

3. Can Windows Server 2003 act as a router?

ANS: Y PTS: 1 REF: 21

4. Can you identify the IP address class from the second octet of an IP address?

ANS: N PTS: 1 REF: 25

5. Does CIDR use the default subnet masks for routing?

ANS: N PTS: 1 REF: 26

6. Is IPX/SPX available in the 64-bit version of Windows Server 2003?

   ANS: N PTS: 1 REF: 35

7. Can two computers with IPX/SPX installed, configured with different frame types, communicate with each other?

   ANS: N PTS: 1 REF: 35

8. Can you ping the machine you are on by issuing the following command: ping 127.0.0.1?

   ANS: Y PTS: 1 REF: 27

9. Can you use the Windows Internet Naming Service to resolve NetBIOS names to IP addresses?

   ANS: Y PTS: 1 REF: 28

10. Does the first 64 bits of an IPv6 unicast address define the network number for routing?

    ANS: Y PTS: 1 REF: 32

COMPLETION

1. To minimize the use of IP addresses, most companies use _____.

   ANS:
   Network Address Translation
   NAT
   proxy server

   PTS: 1 REF: 21

2. In TCP/IP parlance, _____ is another term for router.

   ANS: default gateway

   PTS: 1 REF: 23

3. A(n) _____ is a combination of host name and domain name.

   ANS:
   Fully Qualified Domain Name
   FQDN

   PTS: 1 REF: 27

4. IPv6 addresses are represented in _____ notation.

   ANS: hexadecimal

   PTS: 1 REF: 31

5. The term _____ describes the process whereby a single large network is subdivided into smaller networks to control traffic flow.

   ANS: subnetting

   PTS: 1 REF: 25

6. _____ is an addressing scheme that uses a defined number of bits for the subnet mask rather than relying on default lengths based on address classes.

   ANS:
   Classless inter-domain routing
   CIDR

   PTS: 1 REF: 26

7. The term _____ refers to a packet that is addressed to a specific group of computers rather than a single computer.

   ANS: multicast

   PTS: 1 REF: 26

8. The term _____ refers to the protocol used to automatically assign IP addressing information to clients.

   ANS:
   DHCP
   Dynamic Host Configuration Protocol

   PTS: 1 REF: 28

9. The term _____ is used to refer to the format of IPX/SPX packets.

   ANS: frame type

   PTS: 1 REF: 35

10. The _____ protocol is used for connectivity with Macintosh computers.

    ANS: AppleTalk

    PTS: 1 REF: 36

MATCHING

Identify the letter of the choice that best matches the phrase or definition.

a. Ethernet
b. Host ID
c. Subnet mask
d. Default gateway
e. Fully Qualified Domain Name
f. WINS
g. NWLink
h. AppleTalk
i. Data Link Control
j. Binding

1. Another name for router.
2. A combination of host name and domain name.
3. Represents the individual computer on a network.
4. The name Microsoft uses for the IPX/SPX-compatible protocol that it created.
5. Defines which part of its IP address is the network ID and which part is the host ID.
6. Used to resolve NetBIOS names to IP addresses.
7. Protocol is used for connectivity with Macintosh computers.
8. A nonroutable protocol that was used for connectivity to mainframe computers.
9. The process where a network protocol is configured to use a network adapter.
10. Common standard for network adapters.

1. ANS: D PTS: 1 REF: 23
2. ANS: E PTS: 1 REF: 27
3. ANS: B PTS: 1 REF: 21
4. ANS: G PTS: 1 REF: 33
5. ANS: C PTS: 1 REF: 21
6. ANS: F PTS: 1 REF: 28
7. ANS: H PTS: 1 REF: 36
8. ANS: I PTS: 1 REF: 37
9. ANS: J PTS: 1 REF: 37
10. ANS: A PTS: 1 REF: 19

SHORT ANSWER

1. Provide three reasons why TCP/IP is the most commonly used network protocol in use today.

   ANS:
   There are several reasons why TCP/IP is so prevalent today, including: it has wide vendor support, it is an open protocol, and it provides access to the Internet.

   PTS: 1 REF: 20

2. Provide a definition for the term subnetting.

   ANS:
   Subnetting is the process in which a single large network is subdivided into smaller networks to control traffic flow.

   PTS: 1 REF: 25

3. What is the difference between classless inter-domain routing and classful routing?

   ANS:
   Classful routing is an older style of routing in which routing table entries would be based on class A, B, and C networks with default subnet masks. On the other hand, classless inter-domain routing is an addressing scheme that uses a defined number of bits for the subnet mask rather than relying on default lengths based on address classes.

   PTS: 1 REF: 26

4. What is the difference between a local broadcast and a directed broadcast?

ANS:
A local broadcast is delivered to all computers on a local network and is discarded by routers while a directed broadcast is a broadcast on a specific network.

PTS: 1 REF: 26

5. What is a loopback address?

ANS:
A loopback address is an IP address with 127 as the first octet.

PTS: 1 REF: 27

6. What is the difference between the Domain Name System (DNS) and the Windows Internet Naming Service (WINS)?

ANS:
DNS is used to resolve host names to IP addresses, find domain controllers, and find e-mail servers while WINS is used to resolve NetBIOS names to IP addresses.

PTS: 1 REF: 27-28

7. Provide a definition for the term frame.

ANS:
A frame is a packet when it is fully built just before it is put onto the network cabling.

PTS: 1 REF: 35

8. What is an internal network address?

ANS:
An internal network address is a unique eight-character hexadecimal number.

PTS: 1 REF: 34

9. Define the term Fully Qualified domain Name (FQDN).

ANS:
FQDN is the combination of a host name and domain name that completely describes the name of a computer within the global DNS system.

PTS: 1 REF: 27

10. Define the term Dynamic Host Configuration Protocol (DHCP).

ANS:
DHCP is a protocol used to automatically assign IP addresses to clients.

PTS: 1 REF: 28