Contestant Number: _____

Time: _____

Rank: _____

COMPUTER NETWORK TECHNOLOGY
(300)

REGIONAL – 2020

TOTAL POINTS _____ *(100 points)*

Failure to adhere to any of the following rules will result in disqualification:
1. **Contestant must hand in this test booklet and all printouts. Failure to do so will result in disqualification.**
2. **No equipment, supplies, or materials other than those specified for this event are allowed in the testing area. No previous BPA tests and/or sample tests or facsimile (handwritten, photocopied, or keyed) are allowed in the testing area.**
3. **Electronic devices will be monitored according to ACT standards.**

No more than sixty (60) minutes testing time

Choose the *best* answer to the following questions. Mark answers clearly if using a scantron form. Mark A if the statement is true. Mark B if the statement is false.

1. You have a key network administrator leave a company. Therefore, what does the company depend on to continue to use the network?
   a. The user's password
   b. Active Directory
   c. Master network switch
   d. Network documentation

2. What is the most common cable used today?
   a. UTP
   b. STP
   c. Coaxial
   d. Fiber

3. What command displays the IP address, subnet mask, and default gateway of the system you are currently on?
   a. ipconfig
   b. ping
   c. tracert
   d. nslookup

4. What technology takes data and breaks them into packets and sends them over a network, sometimes using different routes for each packet?
   a. Circuit switching
   b. Connection switching
   c. Packet switching
   d. Network switching

5. What type of network can you set up that is another company's internal network?
   a. intranet
   b. extranet
   c. internet
   d. DMZ

6. What technology can you use temporarily to connect networks from two different companies?
   a. VPN
   b. HTTP
   c. DHCP
   d. Passive router

7. What protocol automatically configures IP configuration for a client?
   a. DNS
   b. DHCP
   c. WINS
   d. FTP

8. What is the default subnet mask for a Class B network?
    a. 255.0.0.0
    b. 255.255.0.0
    c. 255.255.255.0
    d. 255.255.255.255

9. What model is used to describe how data communication occurs between hosts?
    a. Server-centric model
    b. Workgroup model
    c. Peer-to-peer model
    d. OSI reference model

10. X.25 and Frame Relay are examples of what type of WAN technology?
    a. Circuit switching
    b. Connection switching
    c. Packet switching
    d. Network switching

11. What command tests network connectivity while showing you each hop along the way?
    a. ping
    b. nslookup
    c. nbtstat
    d. tracert

12. If you are making a crossover cable and one end is 568A, what should the other end be?
    a. 568A
    b. 568B
    c. 568C
    d. BOGB

13. What is the most common central device used today to connect computers to a network?
    a. hub
    b. switch
    c. SOHO router
    d. VPN router

14. What is the most common adapter or connector used to connect a computer to a wired network?
    a. RG6
    b. RG58
    c. RJ45
    d. RJ8

15. What is the default mask for a Class A network?
    a. 255.0.0.0
    b. 255.255.0.0
    c. 255.255.255.0
    d. 255.255.255.255

16. If you want to connect a computer directly to another computer without using a switch, you use a _____.
    a. Straight-through cable
    b. Crossover cable
    c. Laplink cable
    d. Rollover cable

17. What command do you use to connect to a FTP server to download a file?
    a. nslookup
    b. ssh
    c. telnet
    d. ftp

18. What is the primary disadvantage of X.25?
    a. Digital circuit
    b. Small data payloads
    c. Circuit switching
    d. Slow speeds

19. Which layer of the OSI model includes VLANs?
    a. Physical
    b. Data Link
    c. Network
    d. Transport

20. What type of address is 169.254.32.23?
    a. Automatic Private Address
    b. Multicast Address
    c. Anycast Address
    d. Broadcast Address

21. After you install DHCP servers and configure and activate a scope, what is the last step in installing a DHCP server?
    a. Register the scope
    b. Register the server
    c. Authorize the server
    d. Register the clients

22. Which type of firewall blocks packets based on rules that are based on IP addresses or ports?
    a. Packet filtering
    b. Stateful packet inspection
    c. NAT filtering
    d. Application-level gateway

23. What acts as a middleman that translates between internal and external addresses and that caches previously accessed web pages so that it can provide those more quickly in the future?
    a. NAT server
    b. Stateful packet inspector
    c. Proxy server
    d. NIDS

24. What protocol is used with L2TP to encrypt data
    a. IPSec
    b. MS-CHAP
    c. MS-CHAPv2
    d. MPPE

25. What service on a Windows network is used to translate between NetBIOS names/computer names and IP addresses?
    a. DNS
    b. WINS
    c. DHCP
    d. LDAP

26. What is an excellent strategy when it comes to dealing with the security concerns presented by legacy systems?
    a. Replacement
    b. Honeypotting
    c. Segmentation
    d. Firewalling

27. You have a computer that cannot connect to a server. When you look at the IP configuration, the host has an address of 169.254.54.2. What is the problem?
    a. The host cannot find a DHCP server.
    b. The host is set to multicast.
    c. The host is currently broadcasting.
    d. The host cannot find a domain controller.

28. How many layers does the TCP/IP model have?
    a. 3
    b. 4
    c. 6
    d. 7

29. When a packet traverses a network, each router is a _____.
    a. Jump point
    b. CSU/DSU
    c. Jump switch
    d. Hop

30. What command do you use to connect to a remote computer so that you can execute commands?
    a. ftp
    b. nslookup
    c. telnet
    d. nbtstat

31. You need to connect a twisted-pair cable to the back of a patch panel. What tool should you use?
    a. Punch-down tool
    b. Zip tool
    c. Wire wedge
    d. Soldering iron

32. What zone is used to publish external websites for an organization?
    a. intranet
    b. extranet
    c. internetwork
    d. DMZ

33. Which model uses a central database for authentication?
    a. Peer-to-peer
    b. workgroup
    c. client/server
    d. distributive

34. What type of server does Active Directory run on?
    a. File server
    b. Print server
    c. Database server
    d. Network controller

35. What frequency range does 802.11g use?
    a. 5 GHz
    b. 10 GHz
    c. 8 GHz
    d. 2.4 GHz

36. What is the minimum category of twisted-pair cable you need to support 100 Mbps?
    a. Category 3
    b. Category 5
    c. Category 5e
    d. Category 6

37. What replaced X.25?

    a. Frame Relay
    b. ATM
    c. ISDN BRI
    d. DSL

38. Which layer in the OSI model is included in the TCP/IP model?
    a. Physical
    b. Data Link
    c. Transport
    d. Application

39. What OSI layer might you start at if you are following a top-down approach to troubleshooting the network?
    a. Physical
    b. Data link
    c. Session
    d. Application

40. What defines the nearest router for a host?
    a. Subnet mask
    b. Default gateway
    c. DNS server
    d. WINS server

41. Refer to the exhibit in the box below. What command produced these results?
    a. nslookup
    b. traceroute
    c. ping
    d. ifconfig

```
Server:  8.8.8.8
Address: 8.8.8.8#53

Non-authoritative answer:
www.yahoo.com canonical name = fd-fp3.wg1.b.yahoo.com.
Name: fd-fp3.wg1.b.yahoo.com
Address: 98.139.180.149
Name: fd-fp3.wg1.b.yahoo.com
Address: 98.139.183.24
```

42. Refer to the exhibit in the box below. What command produced these results?

```
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
options=3<RXCSUM,TXCSUM>
inet6 ::1 prefixlen 128
inet 127.0.0.1 netmask 0xff000000
inet6 fe80::1%lo0 prefixlen 64 scopeid 0x1
nd6 options=1<PERFORMNUD>
```

    a. nslookup
    b. traceroute
    c. ping
    d. ifconfig

43. What web version is also known as the "Read-Write" web?
    a. 1.0
    b. 1.1
    c. 2.0
    d. 3.0

44. What protocol is used with L2TP to provide encryption?
    a. IPSec
    b. MPPE
    c. HTTPS
    d. MSC-CHAP

45. What server is used to translate host names to IP addresses?
    a. DNS
    b. WINS
    c. HOSTS
    d. DHCP

46. What protocol is used to translate IP addresses to MAC addresses?
    a. RARP
    b. ARP
    c. DNS
    d. WINS

47. In Europe, what circuit would be similar to the T1 found in the United States?
    a. E1
    b. J1
    c. T2
    d. F1

48. You are setting up a network within a warehouse using Category 6 UTP. However, parts of the network are down because of the heavy machinery used. What cable type should you use?
    a. STP
    b. coaxial
    c. fiber
    d. plenum-rated

49. Which model allows each host to have their own security database?
    a. Peer-to-peer
    b. Client/server
    c. distributive
    d. sliding

50. What is used to uniquely identify a host on a TCP/IP network?
    a. IP address
    b. MAC address
    c. Bit pattern
    d. Router name