

1. Which command can be used from a PC to verify the connectivity between hosts that connect through a switch in the same LAN?
 - a. ping <destination ip address >
 - b. tracert <destination ip address >
 - c. traceroute <destination ip address >
 - d. arp <destination ip address >

Answer: A

2. A receiving host computes the checksum on a frame and determines that the frame is damaged. The frame is then discarded. At which OSI layer did this happen?
 - a. session
 - b. transport
 - c. network
 - d. data link
 - e. physical

Answer: D

3. What port number and protocol does a DNS query use?
 - a. 53, TCP
 - b. 69, UDP
 - c. 520, UDP
 - d. 53, UDP

Answer: D

4. Which of the following protocols allows a client PC to discover the IP address of another computer based on that other computer name?
 - a. ARP
 - b. RARP
 - c. DNS
 - d. DHCP

Answer: C

5. What is PDU for Transport layer?
 - a. Packet
 - b. Frame
 - c. Segment
 - d. Data

Answer: C

6. Which type of NAT allows multiple devices on a private network to share a single public IP address?
 - a. Static NAT
 - b. Dynamic NAT
 - c. PAT (Port Address Translation) or Overload
 - d. NAT Traversal

Answer: C

7. What is true of Static NAT?
 - a. Translates Private IP to Public IP and is persistent
 - b. Translates Private IP to Public IP and is non-persistent
 - c. Translates & multiple Private IP to a single Public IP using port mapping
 - d. None of the above

Answer: A

8. Which of the following is an advantage of dynamic routing protocols?

- a. They require less bandwidth than static routing protocols
- b. They can adapt to changes in network topology
- c. They are more secure than static routing protocols
- d. They are easier to configure than static routing protocols

Answer: B

9. Which of the below offer secure connectivity?

- a. SSH
- b. Telnet
- c. HTTPS
- d. HTTP

Answer : A & C

10. Which address class includes network 191.168.0.1/27?

- a. Class C
- b. Class B
- c. Class D
- d. Class A

Answer : B

11. What are true of Load Balancing? (Choose two.)

- a. They use algorithms to forward traffic to the nodes behind them.
- b. They can be used only for Internet facing servers and not Internal servers.
- c. They can perform health checks on the registered servers and take them out of service if found unhealthy.
- d. They can communicate back to the requester if all the servers are down.

Answer: A & C

12. Which of the following command is used to verify routing table?

- a. Show interface brief
- b. Show iproute
- c. Show interface
- d. Show route table

Answer: B

13. Which of the following is a layer 2 device used to connect multiple VLANs?

- a. Router
- b. Switch
- c. Firewall
- d. Hub

Answer: B

14. Which process in a Router can change Private IP address to Public IP address automatically?

- a. RIP
- b. ACL
- c. NAT
- d. Static Route

Answer: C

15. Standard ACL refers both Source Address & Destination Address. (True/False)

- a. True
- b. False

Answer: B

16. Which Routing protocol needs WCM while configuring in a Router?

- a. RIP
- b. OSPF
- c. IGRP
- d. BGP

Answer: B

17. Can we configure multiple Static routes in a single Router?

- a. No
- b. Yes

Answer: B

18. Refer the exhibit below.

<pre>

BO #sh ip route

Gateway of last resort is 201.0.0.1 to network 0.0.0.0

200.0.0.0/24 is variably subnetted, 3 subnets, 2 masks

R 200.0.0.0/28 [120/1] via 201.0.0.1, 00:00:01, Serial0/0/0

R 200.0.0.16/29 [120/1] via 201.0.0.1, 00:00:01, Serial0/0/0

C 200.0.0.24/29 is directly connected, FastEthernet0/1

C 201.0.0.0/24 is directly connected, Serial0/0/0

S* 0.0.0.0/0 [1/0] via 201.0.0.1

BO router has received a packet with destination address 1.1.1.1.

<pre>

What action Router will take based on above Routing Table entries?

- a. Router will forward this packet via FastEthernet0/1 interface
- b. Router will forward this packet via Serial0/0/0 interface
- c. Router will drop the packet
- d. Router will dynamically create one entry for 1.0.0.0/8 in the Routing Table

Answer: B

19. Which command can be used to save a Router configuration permanently?

- a. Write
- b. Show Run
- c. Show ip route
- d. Sh mac-address-table

Answer: A

20. Select the type of cable which can be used to connect one Router Serial port to another Router's Serial port.

- a. Straight-through Twisted Pair cable
- b. Cross over Twisted Pair cable
- c. V.35 DCE-DTE cable
- d. CO-Axial cable

Answer: C

21. Which type of twisted pair cable is used to connect a Router with a PC?

- a. Straight-Through cable
- b. Cross-over cable
- c. Roll-over cable
- d. CTS-DTS cable

Answer: B

22. What will be the SNM for prefix /28?

- a. 255.255.255.248
- b. 255.255.255.0
- c. 255.255.255.240
- d. 255.255.255.12

Answer: C

23. How many maximum number of hosts we can connect in the network, to which 192.168.1.15/29 address belongs to?

- a. 3
- b. 6
- c. 8
- d. 14

Answer: B

24. What is the port number for DNS?

- a. 57
- b. 53
- c. 58
- d. 67

Answer: B

25. What is the port number for HTTPS?

- a. 443
- b. 448
- c. 446
- d. 449

Answer: A

26. Which command is used to check, what are all interfaces are available in a Router and their status?

- a. Sh ip route
- b. Sh ip int brief
- c. Sh ip flash
- d. Sh ip version

Answer: B

27. By default, all ports are member of which Vlan in a Cisco Switch?

- a. 1
- b. 1002
- c. 1006
- d. 1004

Answer: A

28. Which switchport will allow multiple VLAN frames?

- a. Access port
- b. Trunk port
- c. Router port
- d. PC connected port

Answer: B

29. IPv6 is a how many bits address?

- a. 64
- b. 32
- c. 48
- d. 128

Answer: D

30. Which layer of OSI is responsible for end to end reliable data delivery?

- a. Presentation
- b. Datalink
- c. Transport
- d. Network

Answer: C

31. Which protocol is used to avoid switching loop?

- a. STP
- b. DTP
- c. VTP
- d. RIP

Answer: A

32. Which type of protocol is used by a Multicast application?

- a. TCP
- b. UDP
- c. ICMP
- d. VTP

Answer: B

33. Which one is used to allocate Virtual Machine's resources from a physical host?

- a. Hypervisor
- b. ALU
- c. Buffer
- d. RAM

Answer: A

34. 2024::0:0:1/64 is the example of which type of IPv6 Address?

- a. Unique Link Local
- b. Unique Global Unicast
- c. Unique Local Unicast
- d. Loopback Address

Answer: B

35. What is the technical acronym for OSPF?

- a. Open Safest Path First
- b. Open Shortest Path First
- c. Open Shared Path First
- d. Open Shortest Place First

Answer: B

36. Three Switches are connected in cascade, how many Broadcast Domains are in Network?

- a. 3
- b. 0
- c. 1
- d. 6

Answer: C

37. Which devices are acting as DCE (Data Communications Equipment)?

- a. Frame-Relay Switch
- b. Modem
- c. ATM Switches
- d. All of the above

Answer: D

38. EIGRP Routing Protocol has _____ Administrative Distance (AD).

- a. 120
- b. 255
- c. 110
- d. 90

Answer: D

39. Refer to the exhibit below:

```
<pre>
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```
Router#sh ip route
```

```
Gateway of last resort is 192.168.1.1 to network 0.0.0.0
```

```
192.168.0.0/24 is subnetted, 2 subnets
```

```
C 192.168.0.0/24 is directly connected, Ethernet0/1
```

```
R 192.168.1.0/24 [120/2] via 192.168.2.1, 00:00:05, Serial0/0
```

```
S* 0.0.0.0/0 [1/0] via 192.168.1.1
```

```
</pre>
```

The router has received a packet with the destination address 10.0.0.5. What action will the router take based on the above routing table entries?

- a. Router will forward the packet via Ethernet0/1 interface
- b. Router will forward the packet via Serial0/0 interface
- c. Router will drop the packet
- d. Router will forward the packet to the default gateway 192.168.1.1

Answer: D

40. Refer to the exhibit below:

```
<pre>
```

```
Router#sh ip route
```

```
Gateway of last resort is 10.0.0.1 to network 0.0.0.0
```

```
10.0.0.0/8 is subnetted, 3 subnets
```

```
R 10.0.1.0/24 [120/1] via 10.0.0.1, 00:00:01, Serial0/0
```

```
C 10.0.2.0/24 is directly connected, FastEthernet0/0
```

```
S 10.0.3.0/24 [1/0] via 10.0.0.1 "
```

The router receives a packet destined for 172.16.0.1. What will the router do?

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</pre>
```

- a. Forward the packet via FastEthernet0/0 interface
- b. Forward the packet via Serial0/0 interface
- c. Drop the packet
- d. Forward the packet to the default route 10.0.0.1

Answer: D

41. Refer to the exhibit below

```
<pre>
Router#sh ip route
Gateway of last resort is not set
192.168.2.0/24 is subnetted, 2 subnets
C 192.168.2.0/24 is directly connected, FastEthernet0/0
R 192.168.2.128/25 [120/1] via 192.168.3.1, 00:00:10, Serial0/1
The router receives a packet with a destination address of 8.8.8.8. How will the router
handle the packet?
</pre>
```

- a. Forward the packet via FastEthernet0/0 interface
- b. Forward the packet via Serial0/1 interface
- c. Drop the packet
- d. Forward the packet using a dynamic route

Answer: C

42. Refer to the exhibit below:

```
<pre>
Router#sh ip route
Gateway of last resort is 172.16.1.1 to network 0.0.0.0
172.16.0.0/16 is variably subnetted, 3 subnets
R 172.16.2.0/24 [120/2] via 172.16.1.2, 00:00:10, Serial0/0
C 172.16.3.0/24 is directly connected, FastEthernet0/1
S* 0.0.0.0/0 [1/0] via 172.16.1.1
The router receives a packet destined for 10.1.1.1. Which action will the router take?
</pre>
```

- a. Forward the packet via FastEthernet0/1 interface
- b. Forward the packet via Serial0/0 interface
- c. Drop the packet
- d. Forward the packet to the default route 172.16.1.1

Answer: D

43. Refer to the exhibit below:

```
<pre>
Router#sh ip route
Gateway of last resort is 203.0.113.1 to network 0.0.0.0
203.0.113.0/24 is variably subnetted, 2 subnets, 2 masks
R 203.0.113.64/28 [120/1] via 203.0.113.1, 00:00:20, Serial0/1
C 203.0.113.128/26 is directly connected, FastEthernet0/0
S* 0.0.0.0/0 [1/0] via 203.0.113.1
The router has received a packet with the destination address 192.168.100.10. What action
will the router take?
</pre>
```

- a. Forward the packet via FastEthernet0/0 interface
- b. Forward the packet via Serial0/1 interface
- c. Drop the packet
- d. Forward the packet to the default gateway 203.0.113.1

Answer: D) Forward the packet to the default gateway 203.0.113.1

44. Which layer of the OSI model is responsible for translating data from application format to network format?

- a. Presentation Layer
- b. Session Layer
- c. Transport Layer
- d. Application Layer

Answer: A

45. Which layer of the OSI model is responsible for converting digital data into electrical or optical signals for transmission over the physical medium?

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

Answer: B

46. Which layer of the OSI model is responsible for identifying and addressing network devices?

- a. Application Layer
- b. Data Link Layer
- c. Network Layer
- d. Presentation Layer

Answer: C

47. What is the maximum number of hosts that can be addressed in a Class C network?

- a. 254
- b. 512
- c. 1024
- d. 2048

Answer: A

48. What is a subnet mask used for?

- a. To identify the network address and host address in an IP address
- b. To convert an IP address into a domain name
- c. To encrypt an IP address for security purposes
- d. To convert an IP address from binary to decimal format

Answer: A

49. What is the purpose of DHCP?

- a. To assign IP addresses to devices on a network automatically
- b. To convert IP addresses into domain names
- c. To translate domain names into IP addresses
- d. To provide encryption for IP addresses on a network

Answer: A

50. How do straight-through and crossover cables differ?

- a. The order of wires in the cable
- b. The color of the cable
- c. The thickness of the cable
- d. The material used to make the cable

Answer: A

51. Which of the following command is used to verify routing table?

- a. Show interface brief
- b. Show iproute
- c. Show interface
- d. Show route table

Answer: B

52. Which of the following is an advantage of dynamic routing protocols?

- a. They require less bandwidth than static routing protocols
- b. They can adapt to changes in network topology
- c. They are more secure than static routing protocols
- d. They are easier to configure than static routing protocols

Answer: B

53. Which of the following protocols is connectionless and used for tasks like streaming audio or video where speed is more critical than reliability?

- a. TCP
- b. UDP
- c. ICMP
- d. HTTP

Answer: B

54. Which of the following protocols is connectionless and used for tasks like streaming audio or video where speed is more critical than reliability?

- a. TCP
- b. UDP
- c. ICMP
- d. HTTP

Answer: B

55. A user complains that their computer can connect to other devices on the local network but cannot access any external websites. Other users can access websites without issues. Which of the following would be the best next step in troubleshooting?

- a. Check the user's DNS settings
- b. Restart the web browser
- c. Check the computer's monitor resolution
- d. Change the computer's IP address to static

Answer: A

56. What metric does the RIP (Routing Information Protocol) use to determine the best path to a destination network?

- a. Bandwidth
- b. Hop count
- c. Delay
- d. Cost

Answer: B

57. Your company network has a mix of Cisco and non-Cisco routers. You need a routing protocol that is vendor-neutral and can scale efficiently in a large network environment. Which routing protocol would you choose?

- a. EIGRP
- b. OSPF
- c. IGRP
- d. RIPv1

Answer: B

58. A network administrator notices that a routing protocol in the network is causing excessive bandwidth usage due to periodic routing table updates. Which protocol is most likely causing this issue?

- a. OSPF
- b. BGP
- c. EIGRP
- d. RIP

Answer: D

59. An organization has an IP range of 192.168.10.0/24. They need to create 10 subnets. What is the appropriate subnet mask to use?

- a. 255.255.255.240 (/28)
- b. 255.255.255.224 (/27)
- c. 255.255.255.192 (/26)
- d. 255.255.255.248 (/29)

Answer: B

60. How many subnets and hosts per subnet can be obtained from the network 10.0.0.0/23?

- a. 128 subnets, 510 hosts
- b. 2 subnets, 510 hosts
- c. 512 subnets, 254 hosts
- d. 1024 subnets, 126 hosts

Answer: B