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Feedback - Chapter Exams Practice Set #780

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Use this feedback to further examine which questions and areas you have mastered and those where you may need to study and practice further. Note that Flashcard sets are not scored, so do not appear in the Feedback.

Q. 1 Which network layer uses the Wi-Fi Protected Access (WPA) encryption?

A. Network

✔ B. Physical

C. Transport

D. Application

SOLUTIONS

B.
The Wi-Fi Protected Access encryption protocol protects access to wireless access points. The wireless network operates at the physical network layer, so option B is correct. The network layer uses addressing protocols, such as IP, to send data between systems on the network, but it doesn't interact with the wireless signal, so answer A is incorrect. The transport layer uses ports to direct network traffic to specific applications, running at the application layer, so options C and D are both incorrect.

Q. 2 What network layer feature defines the network to which the system is connected?

✖ A. IP address

B. Default router

C. Hostname

✔ D. Netmask

E. DNS server

SOLUTIONS

D.
The netmask value determines the network portion of the IP address, which identifies to which network the system is connected. Thus, option D is correct. The default router is another IP address on the network, but it doesn't indicate the network portion of the address, so it can't be used to determine the network address, and option B is incorrect. The IP address by itself doesn't define the network address without the netmask, so option A is incorrect. The hostname doesn't indicate the network address, so option C is incorrect. The DNS server maps hostnames to IP addresses, but if you only know the IP address, you still won't know the network portion of the address, so option E is incorrect.

Q. 3 Which of the following is a correct netmask value?

✔ A. 255.255.255.0

B. 255.255.0.255

C. 192.168.1.0

D. 192.168.0.1

E. 0.255.255.255

SOLUTIONS

A.
The netmask value sets the network portion of the IP address to 1s and the host portion of the IP address to 0s. Thus, the netmask value must have consecutive 1s in the address at the start of the value. Option A, 255.255.255.0, indicates that the first 24 bits of the address are 1s, so it represents a proper netmask value, and it is the correct option. In option B, the 1s values aren’t consecutive, so it is not a proper netmask value and is thus incorrect. Option C shows a network address but not the netmask address, while option D shows a host address but not the netmask address, so those are both incorrect. Option E shows an address that uses consecutive 1s values, but they are at the end of the address and not at the beginning, so it is incorrect.

Q. 4 What two parts make up an IP address?

A. Host address and router

B. Netmask and host address

C. Netmask and router

D. Host address and hostname

✔ E. Network address and host address

SOLUTIONS

E.
An IP address consists of the network address and a unique host address, so option E is correct. The host address and router address won't indicate the network address, so option A is incorrect. Using the netmask and host address won't reveal the network address, so option B is incorrect. Likewise, the netmask and router addresses determine the network address, but not the host address of the system, so option C is incorrect. The hostname is not part of the IP address, so option D is also incorrect.

Q. 5 How many bits are used in an IPv6 address?

- A. 32
- B. 64
- ✔ C. 128
- D. 256
- E. 8

SOLUTIONS

C.
IP version 6 uses 128 bits separated into eight groups of four hexadecimal values, so option C is correct. The original IP version 4 addresses use 32 bits, but not IPv6, so option A is incorrect. Many IPv6 networks use a 64-bit network address and a 64-bit host address, but the full IPv6 address is 128 bits, so option B is incorrect. Currently, there isn't an IP version that uses either 256 or 8 bits, so options D and E are incorrect.

Q. 6 What network setting defines the network device that routes packets intended for hosts on remote networks?

- ✔ A. Default router
- B. Netmask
- C. Hostname
- D. IP address

✖ E. DNS server

SOLUTIONS

A.
The default router is used to send packets from the local network to remote networks, so to communicate with a remote host you need to define the default router address, making option A correct. The netmask only defines the local network; it doesn't define what to do with packets for remote hosts, so option B is incorrect. The hostname and IP address only define features of the local host, so options C and D are incorrect, while the DNS server defines how to retrieve the IP address of a host based on its domain name, so option E is incorrect.

Q. 7 What device setting defines a host that maps a hostname to an IP address?

A. Default router

B. Netmask

C. Hostname

D. IP address

✔ E. DNS server

SOLUTIONS

E.
The DNS server maps the hostname to an IP address, so you must have a DNS server defined in your network configuration to be able to use hostnames in your applications. Thus, option E is correct. The default router only defines how to send packets to remote hosts; it doesn't map the hostname to the IP address, so option A is incorrect. The netmask value defines the local network but not how to map hostnames to IP addresses, so option B is incorrect. The hostname and IP address define features of the local host, so options C and D are incorrect.

Q. 8 What is used to assign an IP address automatically to a client?

A. Default router

✔ B. DHCP

C. ARP table

D. Netmask

E. ifconfig

SOLUTIONS

B.
The Dynamic Host Configuration Protocol (DHCP) is used to assign dynamic IP addresses to client workstations on a network, so option B is correct. The default router can't assign addresses to devices, so option A is incorrect. The ARP table maps the hardware address of the network card to IP addresses, but it doesn't assign the IP addresses, so option C is incorrect. The netmask value determines the network address but not the IP address of the host, so option D is incorrect. The ifconfig command can set the static IP address of the host, but it doesn't automatically assign the IP address, so option E is incorrect.

Q. 9 What type of address is used so that local applications can use network protocols to communicate with each other?

A. Dynamic address

✔ B. Loopback address

C. Static address

D. Hostname

E. MAC address

SOLUTIONS

B.
The loopback address is a special address assigned to the loopback interface, which allows local applications to communicate with each other, making option B the correct answer.

Dynamic and static IP addresses are assigned to network interfaces, which interact with remote systems, not local applications, so options A and C are incorrect. The hostname identifies the local host for remote connections, not for local applications, so option D is incorrect. The MAC address identifies the network card hardware address, but it isn't used by local applications, so option E is incorrect.

Q. 10 Which transport layer protocol guarantees packet delivery?

- ✔ A. TCP
- B. UDP
- C. ICMP
- D. DNS
- E. DHCP

SOLUTIONS

A.
TCP guarantees packet delivery between applications, so option A is correct. UDP is faster, but it doesn't guarantee packet delivery, so option B is incorrect. ICMP is used to send control messages between applications, but they are not guaranteed, so option C is incorrect. DNS and DHCP are not transport layer protocols, so options D and E are incorrect.

Q. 11 Which nc command format listens for incoming HTTP connections to simulate a web server?

- A. nc 192.168.1.77 80
- ✔ B. nc –l 80
- C. nc 192.168.1.77
- D. nc 80 192.168.1.77
- E. nc –l 22

SOLUTIONS

B.
HTTP connections use TCP port 80, and to listen on TCP port 80 you would use the –l 80 option for the nc command, making option B the correct format. Option A shows the nc command to connect to the web server running on host 192.168.1.77, so it's incorrect. Option E listens on TCP port 22, so it's incorrect. Options C and D are not in the proper format for the nc command, so they are both incorrect.

Q. 12 What folder do Red Hat–based systems use to store network configuration files?

✔ A. /etc/sysconfig/network-scripts

B. /etc/network

C. /etc/ifcfg-eth0

D. /etc/ifconfig

E. /etc/iwconfig

SOLUTIONS

A.
Red Hat–based systems use separate files to store the IP address and router information. Those files are stored in the /etc/sysconfig/network-scripts folder, making option A correct. Option B is where Debian-based systems store the interfaces file, which contains the network configuration settings. The ifcfg-eth0 is a file used to store the configuration, not a folder, so option C is incorrect. The ifconfig and iwconfig are commands and not folders, so options D and E are incorrect.

Q. 13 Which configuration line sets a dynamic IP address for a Debian system?

A. iface eth0 inet static

✔ B. iface eth0 inet dhcp

C. auto eth0

D. iface eth0 inet6 auto

E. BOOTPROTO=dynamic

SOLUTIONS

B.
The Debian system uses the iface setting to set features for an interface, so options C and E are incorrect. Option A sets a static IP address for the interface and not a dynamic address, so it's incorrect. Option D sets a link local IPv6 address and not a dynamic IP address, so it's incorrect. Option B is the correct format to set a dynamic IP address for the interface.

Q. 14 Which file contains a list of DNS servers that the Linux system can use to resolve hostnames?

A. /etc/hosts.allow

✔ B. /etc/resolv.conf

C. /etc/inetd.conf

D. /etc/network/interfaces

E. /etc/host.deny

SOLUTIONS

B.
The DNS servers are listed in the /etc/resolv.conf configuration file using the nameserver setting, so option B is correct. Options A, C, and E list files that are used in the tcp_wrappers program, not the DNS system, so they are all incorrect. Option D specifies the file used to define most network settings in a Debian-based system, but the DNS servers are not specified in that file, so it is incorrect.

Q. 15 Which ifconfig format correctly assigns an IP address and netmask to the eth0 interface?

✔ A. ifconfig eth0 down 192.168.1.50 netmask 255.255.255.0

B. ifconfig eth0 255.255.255.0 192.168.1.50

C. ifconfig up 192.168.1.50 netmask 255.255.255.0

D. ifconfig up

E. ifconfig down

SOLUTIONS

A.
The ifconfig command must specify the network interface, the IP address, and then the netmask option before the netmask address. You can use the up or down option to place the network card in an active or inactive state by default, but it's not required. Option A is the only option that uses the correct values in the correct order. Option C is close, but it fails to specify the network interface. Option B is not in the correct format, and options D and E fail to list the necessary configuration settings.

Q. 16 What command displays all of the available wireless networks in your area?

✔ A. iwlist

B. iwconfig

C. ifconfig

D. ip

E. arp

SOLUTIONS

A.
The iwlist command displays all of the available wireless network access points detected by the wireless network card, so option A is correct. The iwconfig command configures the network card to connect to a specific access point, but it doesn't list all of the detected access points, making option B incorrect. Option C specifies the ifconfig command, which is used to assign an IP address to a wireless network card, but it doesn't list the access points. The ip command specified in option D likewise can be used to set the IP address of the card,

but it doesn't list the access points. Option E, the arp command, maps hardware addresses to IP addresses so that you can find duplicate IP addresses on your network, but it doesn't list the wireless access points.

Q. 17 What option sets the wireless access point name in the iwconfig command?

- A. key
- B. netmask
- C. address
- ✔ D. essid
- E. channel

SOLUTIONS

D.
The SSID value defines the access point name, and it is set using the essid option in the iwconfig command, making option D the correct answer. The key specifies the encryption key required to connect to the access point but not the access point name, making option A incorrect. The netmask and address values aren't set by the iwconfig command, so options B and C are incorrect. The channel defines the radio frequency the access point uses, not the access point name, so option E is also incorrect.

Q. 18 What command can you use both to display and to set the IP address, netmask, and default router values?

- ✖ A. ifconfig
- B. iwconfig
- C. router
- D. ifup
- ✔ E. ip

SOLUTIONS

E.
The ip command allows you both to display and to set the IP address, netmask, and default router values for a network interface, so option E is correct. The ifconfig command can set the IP address and netmask values but not the default router. The iwconfig command is used to set the wireless access point settings, and the router command is used to set the default router but not the IP address or netmask values. The ifup command only activates the network interface; it can't set the address values.

Q. 19 What tool allows you to send ICMP messages to a remote host to test network connectivity?

- A. netstat
- B. nmap
- ✔ C. ping
- D. nc
- E. tcpdump

SOLUTIONS

C.
The ping command sends ICMP packets to a specified remote host and waits for a response, making option C the correct answer. The netstat command displays statistics about the network interface, so it's incorrect. The nmap command can scan remote hosts for open ports, but it doesn't send ICMP packets, making option B incorrect. The nc command allows you to simulate a server or client with TCP or UDP connections, but it doesn't handle ICMP packets, making option D incorrect. The tcpdump program captures network packets but doesn't send them, so option E is also incorrect.

Q. 20 Which command allows you to view network packets?

- A. dig
- ✔ B. tcpdump

C. ping

D. netstat

E. nc

SOLUTIONS

B.
The tcpdump command captures packets from the network interface and displays them or saves them in a file, so option B is correct. The netstat command only displays statistics about the network interface; it doesn't capture packets, so option D is incorrect. The dig command is used to find DNS information about networks, the ping command sends ICMP packets to remote hosts, and the nc command sends or receives packets to simulate a client and server, so options A, C, and E are all incorrect.

25 **Total Records: 20**

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