Question 1

0 / 1 pts

Consider the following forwarding table below.

Prefix	Outgoing interface
172.58.128.0/20	m1
172.58.128.0/22	m2
172.58.136.0/22	m3
0.0.0.0/0	m0

Specify the outgoing interface for an IP packet with the destination address
172.58.134.86

a)m0
b)m3
c)m1
d)m2

Question 2

1 / 1 pts

Which of the following statements about DCHP (Dynamic Host Configuration Protocol) is correct?

a)DHCP uses TCP as the transport protocol.
b)DHCP cannot be used to inform a host about which DNS server to use.
c)DHCP can be used for time-limited assignment of IP addresses.
d)DHCP is one of the few exceptions when it is allowed to use a broadcast address (255.255.255.255) as source address.

Question 3

1 / 1 pts

e/courses/35606/quizzes/39195?module_item_id=469275

Partial Exam IK1203 2022-03-07: Kontrollskrivning för IK1203 TENA: 2022-03-07

Consider a subnet (IP version 4) with the prefix 123.11.22.0/24. Which of the following statements is correct?

a)A packet sent from a host on the subnet and destined to the address 123.11.22.97 will go through a router.
b)The subnet has 512 different addresses.
c)The address 123.11.20.3 belongs to the subnet.
d)The subnet's prefix can be aggregated with the prefix 123.11.23.0/24 to form the prefix 123.11.22.0/23.

Question 4

1 / 1 pts

Consider a large autonomous system with over 100 routers. You would like to be able to configure link costs to control the traffic flows inside the autonomous system. Which of the following protocols would be most suitable for routing inside this autonomous system?

a)OSPF
b)Static routing would be more suitable in this case.
c)BGP
d)RIP

Question 5

1 / 1 pts

se/courses/35606/quizzes/39195?module_item_id=469275

Partial Exam IK1203 2022-03-07: Kontrollskrivning för IK1203 TENA: 2022-03-07

Assume an IP packet carrying a TCP segment is leaving your private network through your NAT (Network Address Translation) box on its way to a public server on the Internet. Which of the following statements about this packet is most correct?

a)The source address will be replaced with your public IP address and the source port number will be replaced with a new number.

b)The source address will be replaced with your public IP address and the source port number will remain unchanged.

c)The source address will be replaced with a temporary public IP address and the source port number will remain unchanged.

d)The source address will be replaced with a temporary public IP address and the source port number will be replaced with a new number.

Question 6

1 / 1 pts

MAC addresses (or link-layer addresses) are used at the link layer to identify devices. Which of the following statements about link layer addressing *is false*?

a)A device with more than one interface uses the same MAC address on all the interfaces.

b)The MAC adress space is flat (non-hierarchical) and MAC addresses are unique, which makes it possible to move a device between networks without reconfiguration.

c)In order for a client to connect to a server on the same subnet, the client needs to know the MAC address of the server.

d)In order for a client to connect to a server on the same subnet, the client needs to know the MAC address of the server.

Question 7

1 / 1 pts

Eight bits of data are transmitted over a link where bit errors are likely to occur. The transmission is protected by an additional parity bit for error detection, where the error detection algorithm is *even parity*.

Consider the transmission of the eight data bits "1111 0101". The additional parity bit is transfered after the eight data bits, so nine bits are transferred in total. During the transmission, an error occurs affecting one or more bits. Which of the following erroneous transmissions would be detected by the receiver, if the receiver gets the following nine bits (the last bit is the parity bit)?

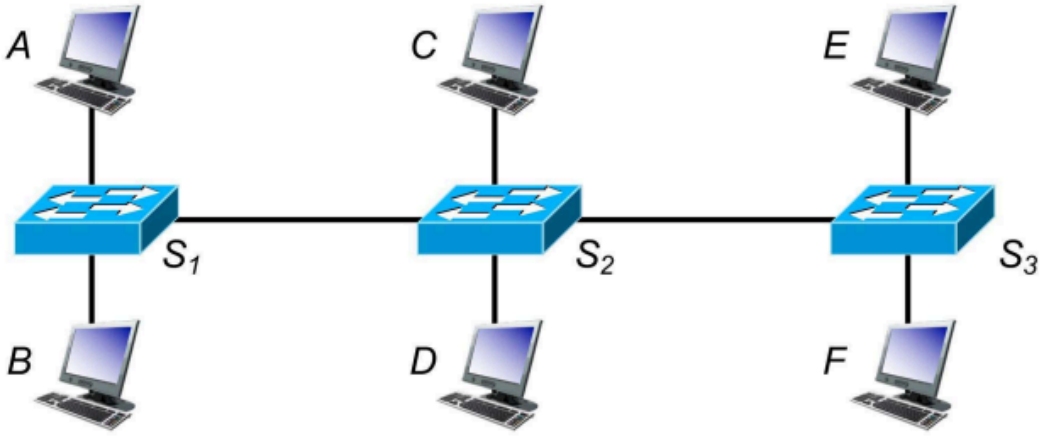
a)1101 0001 0
b)0111 0101 1
c)1101 1111 1
d)1110 0101 0

Question 8

1 / 1 pts

Consider the network in the figure below with six computers (*A*–*F*) and three switches (S_1–S_3). Suppose that computer *D* sends a message to computer *A*, which responds with a message back to *D*. After that, computer *B* sends a message to computer *C*.

Assuming that all address tables initially are empty, what MAC addresses will be in the address table of switch S_3?



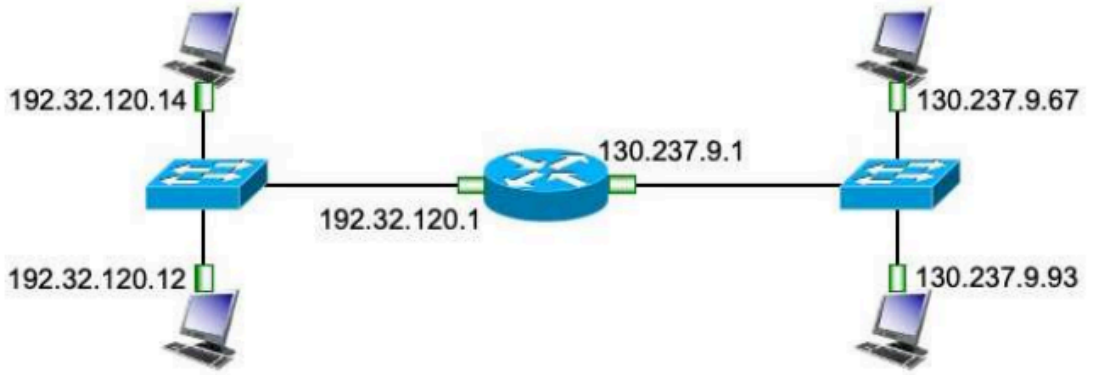
a)A, D
b)B, D
c)A, B, C
d)A, B, D

Question 9

1 / 1 pts

Consider the following network consisting of four computers, two switches, and one router.

The computer with IP address 192.32.120.12 sends an IP packet with a request to the computer with IP address 130.237.9.93, which sends back an IP packet with a response.



After the transaction, which IP address(es) can be found in the ARP table of the computer with IP address 192.32.120.12? Assume that the ARP table was empty before the transaction.

a)192.32.120.1, 130.237.9.1, and 192.237.9.93
b)192.32.120.1 and 130.237.9.93
c)130.237.9.93
d)192.32.120.1

Question 10

1 / 1 pts

CSMA (Carrier Sense Multiple Access) is a principle for medium access. CSMA/CA and CSMA/CD are two variants of CSMA, where "CA" stands for "Collision Avoidance" and "CD" for "Collision Detection". Which of the statements below *is false?*

a)In a wireless network, the node's own sender is so strong that it is difficult to hear other senders. This is one of the reasons why wireless networks do not used CSMA/CD.

b)CSMA/CA uses acknowledgements to indicate successful transfer of a frame, which CSMA/CD does not.

c)If a collision occurs when several nodes send at the same time, all sending nodes will abort and then try again. This is true for both CSMA/CA and CSMA/CD.

d)A node with data to send first listens to determine if someone else is sending, before it starts to send any data. This is true both for CSMA/CA and CSMA/CD.