Week 7 Summary Exercises

Due Nov 17 at 11:59pm

Points 72

Questions 27

Available Nov 10 at 12am - Nov 17 at 11:59pm 8 days

Time Limit 360 Minutes

Allowed Attempts 2

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	269 minutes	66.33 out of 72

Score for this attempt: 66.33 out of 72

Submitted Nov 17 at 9:50pm This attempt took 269 minutes.

Question 1

1 / 1 pts

Select the proper equation for TCP's calculation of DevRTT.

Correct!

$$DevRTT_n = (1 - \beta) \cdot DevRTT_{n-1} + \beta \cdot |SampleRTT_{new} - EstimatedRTT_{n-1}|$$

 $DevRTT_n = (1 - \beta) \cdot DevRTT_{n-1} + \beta \cdot |SampleRTT_{old} - EstimatedRTT_{n-1}|$

 $DevRTT_n = \beta \cdot DevRTT_{n-1} + (1-\beta) \cdot |SampleRTT_{new} - EstimatedRTT_{n-1}|$

 $DevRTT_n = (1 - \beta) \cdot DevRTT_{n-1} + \beta \cdot |SampleRTT_{new} - EstimatedRTT_n|$

Question 2 1 / 1 pts

Select the proper equation for TCP's calculation of EstimatedRTT.

Correct!

 $EstimatedRTT_n = (1 - \alpha) \cdot EstimatedRTT_{n-1} + \alpha \cdot SampleRTT_{new}$

 $EstimatedRTT_n = lpha \cdot EstimatedRTT_{n-1} + (1-lpha) \cdot SampleRTT_{new}$

 $EstimatedRTT_n = (1 - lpha) \cdot EstimatedRTT_{n-1} + lpha \cdot SampleRTT_{old}$

 $EstimatedRTT_n = (1 - \alpha) \cdot EstimatedRTT_n + \alpha \cdot SampleRTT_{new}$

Question 3 1/1 pts What are some causes of network congestion? (Check all that apply) Correct! ✓ Parallel TCP Connections. Correct! ✓ Typical Internet Usage. Correct! ✓ High utilization. Correct! ✓ Reliable Data Transfer schemes. Correct! ✓ Dropped TCP Packets.

Question 4 1 / 1 pts

TCP implements network fairness indirectly.

TrueFalse

Question 5

Imagine a mythical set of protocols with the following details.

Maximum Link-Layer data frame: 1,171 bytes

Network-Layer header size: 23 bytes

Transport-Layer header size: 21 bytes

What is the size, in bytes, of the MSS? (Give answer without units)

Correct!

1,127

1,127

Question 6 2 / 2 pts

For the following binary IP address, give the dotted-decimal representation:
11000000 10101000 00001011 00010100

Correct! 192.168.11.20

192.168.11.20

Question 7 2 / 2 pts

For the following binary IP address, give the dotted-decimal representation: 11011110 01110011 01100110 01100110

Correct!

222.115.102.102

orrect Answers

222.115.102.102

Question 8

2 / 2 pts

For the following dotted-decimal IP address, give the binary representation:

155.124.185.14

Correct!

100110110111110010111100100001110

orrect Answers

100110110111110010111100100001110

10011011 01111100 10111001 00001110

Question 9

2 / 2 pts

When a host in a network needs to obtain a valid IP address for itself, it broadcasts a "discover" message that can be handled by a Dynamic Host Configuration Protocol (DHCP) server, which will "offer" an IP address within the correct domain.

Answer 1:

Correct!

Dynamic Host Configuration Protocol (DHCP)

Question 10 2 / 2 pts What can cause queueing at a router's input ports? (Check all that apply) Correct! Slow outbound link transmission rate. Slow inbound link transmission rate. Correct! Output port contention. Correct! Head of Line blocking.

What can cause packet queueing at a router's output port? (Check all that apply) Head of line blocking. Slow inbound link transmission rate. Slow outbound link transmission rate. Multiple data flows requiring the same outbound link. Output port contention.

Question 12	2 / 2 pts
The process of determining a path through the internet is ca	lled routing .
Answer 1:	

routing

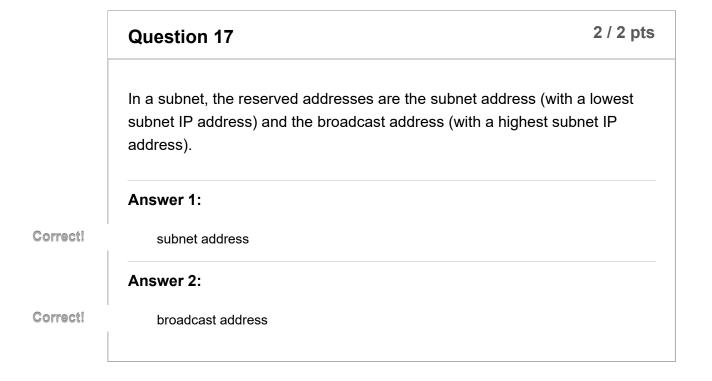
	Question 13 2 / 2	pts
	In a link between Host A, and Host B, we have three intermediary routers	:
	Host A Router Snucky Router Jumpy Router Po Hos	
	Host A's first hop router is Router Snucky .	
	Answer 1:	
rect!	Snucky	

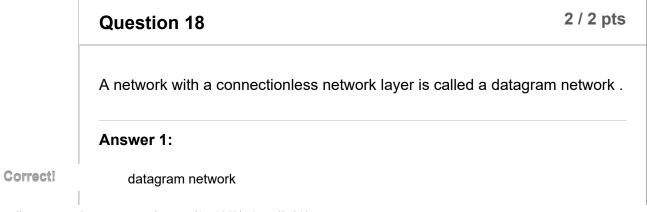
	Question 14	2 / 2 pts
	The Internet Protocol (IP) implements flow control.	
	True	
Correct!	False	

	Question 15	2 / 2 pts
	Where do network-layer protocols run?	
Correct!	✓ Mobile devices	
Correct!	Routers	
Correct!	✓ Laptops	

PCs

	Question 16	2 / 2 pts
	The Internet Protocol (IP) implements congestion control.	
	True	
Correct!	False	



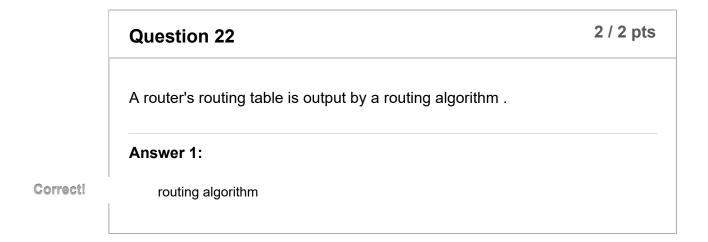


Question 19	2 / 2 pts
Routing would be more complicated if we used hardware addresse network addresses.	s as
True	
False	
	Routing would be more complicated if we used hardware addresses network addresses. True

	Question 20	2 / 2 pts
	In a datagram network, the responsibilities of the network layer in (check all that apply).	clude:
	reliable delivery	
	congestion control	
	payload error correction	
	connection setup/takedown	
Correct!	packet forwarding	
Correct!	packet routing	
	flow control	
Correct!	host-to-host communication	

Question 21 2 / 2 pts

The heart ay	er manages con	munications from	
[Select]	▼ t	o [Select]	▼ .
Answer 1:			
host			
Answer 2:			
host			



Question 23 4 / 4 pts

Upon encountering a router with the following routing table:

	Pre	efix Match		Port
10011110	00011110	10001111		0
10011110	00011110	10001111	000	1
10011110	00011110	10001111	01	2
10011110	00011110	10001110	0001	3
Default				4

A datagram with the destination IP address 158.30.142.90 would be routed to Port 4 .

Answer 1:

Correct!

Port 4

Question 24

0 / 4 pts

Upon encountering a router with the following routing table:

	Pref	ix Match		Port
10011110 00	0011110 1	.0001111		0
10011110 00	0011110 1	.0001111	000	1
10011110 00	0011110 1	.0001111	01	2
10011110 00	0011110 1	.0001110	0001	3
Default				4

A datagram with the destination IP address 158.30.143.30 would be routed to Port $\bf 3$.

Answer 1:

'ou Answered

Port 3

orrect Answer

Port 1

Question 25

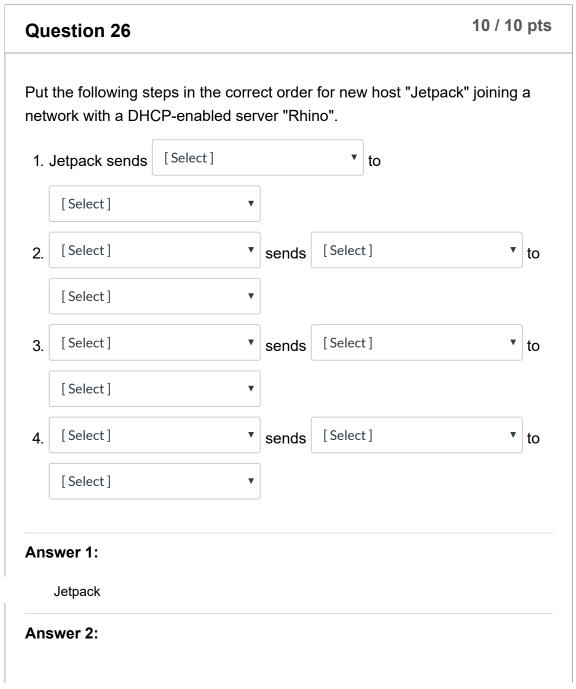
4 / 4 pts

Upon encountering a router with the following routing table:

	Prefix Match	Port
10011110 000111	10 10001111	0
10011110 000111	10 10001111 000	1
10011110 000111	10 10001111 01	2
		3

Correct!

	•	_372_400_12013
10011110 00011110 10001110 0001		
Default	4	
		•
A datagram with the destination IP address 158.30.143	3.10 would	d be routed
o Port 1 .		
Answer 1:		
Answer 1:		



Question 27

IP broadcast address

Correct!

8.33 / 10 pts

	For the IPv4 CIDR address 153.10.22.56 /22
	What is the
	Netmask: [Select]
	Network Address: [Select]
	Host Mask: [Select]
	Broadcast Address: [Select]
	Number of possible hosts: [Select] •
	• Host Number: [Select]
	Answer 1:
Correct!	255.255.252.0
	Answer 2:
ou Answered	153.10.22.56
orrect Answer	153.10.20.0
	Answer 3:
Correct!	0.0.3.255
	Answer 4:
Correct!	153.10.23.255
	Answer 5:
Correct!	1022
	Answer 6:
Correct!	568

Quiz Score: **66.33** out of 72