

Started on Tuesday, 13 October 2020, 4:33 PM

State Finished

Completed on Tuesday, 13 October 2020, 4:43 PM

Time taken 9 mins 49 secs

Grade 6.00 out of 10.00 (60%)

Question 1

Complete

Mark 1.00 out of 1.00

Suppose Host A wants to send a large file to Host B. The path from Host A to Host B has two links, of rates $R_1 = 2$ Mbps, and $R_2 = 4$ Mbps. Assuming no other traffic in the network, what is the throughput for the file transfer? (less than a minute)

Select one:

- a. 2 Mbps
- b. 3 Mbps
- c. 1 Mbps
- d. 4 Mbps
- e. 6 Mbps
- f. None

The correct answer is: 2 Mbps

Question 2

Complete

Mark 1.00 out of 1.00

Consider two hosts, A and B, connected by a single link of rate 1 Mbps. Suppose that the two hosts are separated by 100 km, and suppose the propagation speed along the link is 200000 km/sec. Host A is to send a packet of size 1500 Bytes to Host B. Find the propagation delay. (less than 1.5 minutes)

Select one:

- a. None
- b. 0.0015 seconds
- c. 0.012 seconds
- d. 0.0005 seconds
- e. 0.2 seconds

The correct answer is: 0.0005 seconds

Question 3

Complete

Mark 1.00 out of 1.00

HTTP is a protocol (less than 30 seconds)

Select one:

- a. True
- b. False

The correct answer is: True

Question 4

Complete

Mark 1.00 out of 1.00

ISO/OSI reference model has more layers than Internet protocol stack (less than 30 seconds)

Select one:

- a. True
 b. False

The correct answer is: True

Question 5

Complete

Mark 0.00 out of 1.00

Twisted pair cables can be used to send 1 Gbps between two computers (less than 30 seconds)

Select one:

- a. False
 b. True

The correct answer is: True

Question 6

Complete

Mark 1.00 out of 1.00

Consider two hosts, A and B, connected by a single link of rate 1 Mbps. Suppose that the two hosts are separated by 100 km, and suppose the propagation speed along the link is 200000 km/sec. Host A is to send a packet of size 1500 Bytes to Host B. Find the transmission delay. (less than 1.5 minutes)

Select one:

- a. 0.012 seconds
 b. 0.0015 seconds
 c. 0.0005 seconds
 d. None
 e. 0.2 seconds

The correct answer is: 0.012 seconds

Question 7

Complete

Mark 1.00 out of 1.00

Fiber optics cables has a low error rate (less than 30 seconds)

Select one:

- a. True
 b. False

The correct answer is: True

Question 8

Complete

Mark 0.00 out of 1.00

Suppose users share a 3 Mbps link. Also suppose each user transmits continuously at 1 Mbps when transmitting, but each user transmits only 23 percent of the time. When circuit switching is used, how many users can be supported? (less than a minute)

Select one:

- a. 2 users
- b. 4 users
- c. 3 users
- d. None
- e. 1 user

The correct answer is: 3 users

Question 9

Complete

Mark 0.00 out of 1.00

Network protocols dividing user data into smaller packets, one of the statements about the packet size limits is wrong, which is it? (about 1 minute)

Select one:

- a. Decreasing the packet size will cause less overhead
- b. Experimental work needed to be done in order to find optimal packet size
- c. The larger packets are, the less overhead caused
- d. Packet size affects the end-to-end delay
- e. None

The correct answer is: Decreasing the packet size will cause less overhead

Question 10

Complete

Mark 0.00 out of 1.00

Suppose users share a 3 Mbps link. Also suppose each user transmits continuously at 1 Mbps when transmitting, but each user transmits only 23 percent of the time. When packet switching with 5 users is used, find the probability that all 5 users are sending. (about 2 minutes)

Select one:

- a. None
- b. 0.008
- c. 0.23
- d. 0.0023
- e. 0.00064

The correct answer is: 0.00064

Started on Sunday, 6 December 2020, 3:00 PM

State Finished

Completed on Sunday, 6 December 2020, 3:20 PM

Time taken 20 mins 1 sec

Marks 16.50/17.00

Grade 9.71 out of 10.00 (97%)

Question 1

Complete

Mark 1.00 out of 1.00

The Date: header in the HTTP response message indicates when the object in the response was last modified.

Select one:

- a. True
- b. False

The correct answer is: False

Question 2

Complete

Mark 1.00 out of 1.00

With DASH technique, the videos:

Select one:

- a. Are stored with only high-quality format
- b. Are transferred with P2P protocol
- c. Are transferred with FTP protocol
- d. Are stored with different coding rates

The correct answer is: Are stored with different coding rates

Question 3

Complete

Mark 1.00 out of 1.00

In order to download a webpage with two objects using non-Persistent HTTP, how many times do we need to do TCP Handshaking?

Select one:

- a. **Two times**
- b. **Handshaking is not required**
- c. **One time**
- d. **Four times**

The correct answer is: **Two times**

Question 4

Complete

Mark 1.00 out of 1.00

With enter deep approach in CDN, the CDN servers should be allocated

Select one:

- a. In one huge data center
- b. in few locations within huge clusters
- c. none
- d. In large number of servers close to users

The correct answer is: In large number of servers close to users

Question 5

Complete

Mark 1.00 out of 1.00

Which Protocol uses usually UDP

Select one:

- a. HTTP
- b. ALL
- c. SMTP
- d. DNS
- e. FTP

The correct answer is: DNS

Question 6

Complete

Mark 1.00 out of 1.00

Suppose the HTML file references 12 very small objects on the same server. Neglecting transmission times, how much time elapses with Persistent HTTP?

Select one:

- a. 4RTT
- b. RTT
- c. 3RTT
- d. 2RTT
- e. 12RTT

The correct answer is: 3RTT

Question 7

Complete

Mark 0.50 out of 1.00

Which of these statements about Local DNS servers are correct? (could be more than one)

Select one or more:

- a. They often do DNS caching service
- b. They fit under TLD servers in the DNS hierarchy, but not strictly
- c. They can be described as distributed databases when they operate with other Local DNS servers
- d. They improve overall performance

The correct answers are: **They often do DNS caching service, They improve overall performance**

Question 8

Complete

Mark 1.00 out of 1.00

Suppose the HTML file references 12 very small objects on the same server. Neglecting transmission times, how much time elapses with Non-persistent HTTP with the browser configured for 5 parallel connections?

Select one:

- a. 10RTT
- b. 12RTT
- c. 8RTT
- d. RTT
- e. 20RTT

The correct answer is: 8RTT

Question 9

Complete

Mark 1.00 out of 1.00

True or False: A mail agent that uses POP3 is not required to regularly check with mail server for new email messages as the server would send them without a request.

Select one:

- a. **False**
- b. **True**

The correct answer is: **False**

Question 10

Complete

Mark 1.00 out of 1.00

Using which method do HTTP webpages read user input data, such as username and passwords?

Select one:

- a. **HEAD**
- b. **GET**
- c. **PUT**
- d. **POST**

The correct answer is: **POST**

Question 11

Complete

Mark 1.00 out of 1.00

Chatting platforms that provide storage for user messages (such as Facebook Messenger) are considered

Select one:

- a. **Peer-to-Peer Architecture**
- b. **Client-Server Architecture**

The correct answer is: **Client-Server Architecture**

Question 12

Complete

Mark 1.00 out of 1.00

Suppose the HTML file references 12 very small objects on the same server. Neglecting transmission times, how much time elapses with Non-persistent HTTP with no parallel TCP connections?

Select one:

- a. 12RTT
- b. RTT
- c. 24RTT
- d. 26RTT
- e. 13RTT

The correct answer is: 26RTT

Question 13

Complete

Mark 1.00 out of 1.00

According to DASH protocol, is it the server or the client that decides when to begin download the next chunk of data?

Select one:

- a. **Client**
- b. **Server**

The correct answer is: **Client**

Question 14

Complete

Mark 1.00 out of 1.00

In DNS records the type MX refers to

Select one:

- a. DNS server
- b. P2P server
- c. none
- d. MAIL server

The correct answer is: MAIL server

Question 15

Complete

Mark 1.00 out of 1.00

Two of the followings are challenges for Peer-to-Peer Architecture:

Select one or more:

- a. **Single point of failure**
- b. **Lack of permanent IP addresses for peers**
- c. **The frequent disconnection of peers**
- d. **The increment of peers**

The correct answers are: **The frequent disconnection of peers, Lack of permanent IP addresses for peers**

Question 16

Complete

Mark 1.00 out of 1.00

Which Protocol is used to read an email

Select one:

- a. none
- b. IMAP
- c. FTP
- d. SMTP

The correct answer is: IMAP

Question 17

Complete

Mark 1.00 out of 1.00

Is it always required to request DNS resolution from root server every time a .com web server is requested?

Select one:

- a. **Yes**
- b. **No**

The correct answer is: **No**



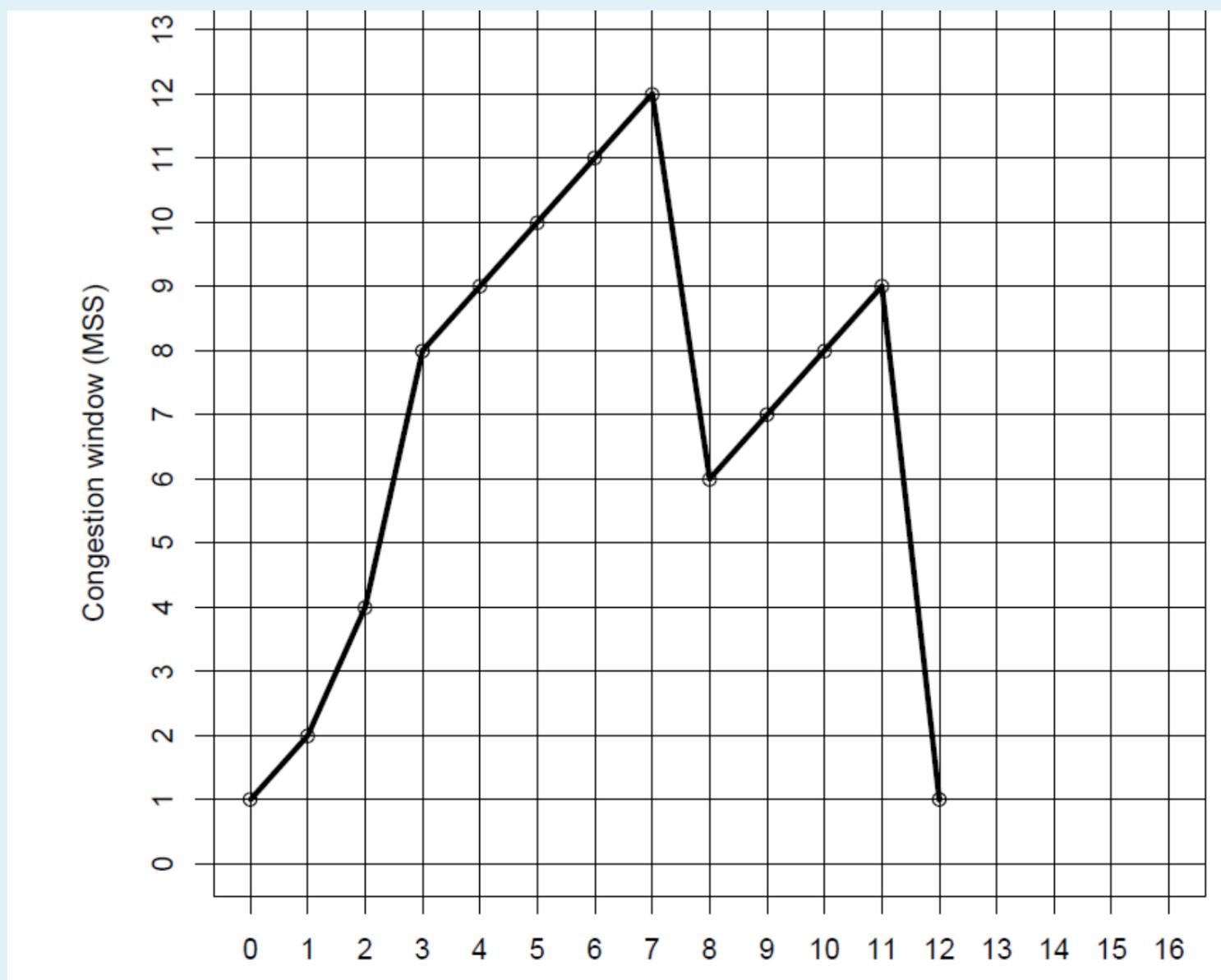
Started on Wednesday, 9 December 2020, 11:31 AM
State Finished
Completed on Wednesday, 9 December 2020, 11:58 AM
Time taken 27 mins 1 sec
Marks 11.00/12.00
Grade 9.17 out of 10.00 (92%)

Question 1

Complete

Mark 1.00 out of 1.00

Consider Reno TCP and based on the figure (x-axis represents Time in RTT), after the $t = 11$ RTT an error occurred. How did this one recognized?



Select one:

- a. Timeout
- b. triple duplicate ACKs
- c. There were no error

The correct answer is: Timeout

Question 2

Complete

Not graded

How could we provide congestion tolerance for a UDP connection?

Select one:

- a. UDP does not cause congestion because it does not require acknowledgements
- b. By controlling frequency of message sending from the application layer
- c. UDP does already provides congestion control methodology
- d. We can't

The correct answer is: By controlling frequency of message sending from the application layer

Question 3

Complete

Not graded

When does 2-way handshaking fail?

Select one:

- a. When Server's connection acceptance message is late
- b. When data is being sent without connection establishment
- c. When Client's connection request message is lost
- d. When Server's connection acceptance message is lost

The correct answer is: When Server's connection acceptance message is late

Question 4

Complete

Not graded

Transport layer contains the protocols needed to logically connect between two hosts

Select one:

- a. False
- b. True

The correct answer is: True

Question 5

Complete

Not graded

One of the followings is not a challenge for rdt3.0 is:

Select one:

- a. It causes limitation in use of physical resources
- b. When timer expires too early, message is unnecessarily resent
- c. When messages arrive out of order
- d. Waiting for timer to expire before being able to send a new message reduces its performance

The correct answer is: When messages arrive out of order

Question 6

Complete

Mark 1.00 out of 1.00

When a TCP client sends a TCP segment with the FIN bit set to 1, the Server can still send segments before closing the connection.

Select one:

- a. FALSE
- b. TRUE

The correct answer is: TRUE

Question 7

Complete

Mark 1.00 out of 1.00

One of the followings is not a service of Transport layer

Select one:

- a. Routing
- b. Flow control
- c. Reliability
- d. Port multiplexing

The correct answer is: Routing

Question 8

Complete

Mark 1.00 out of 1.00

TCP provides a flow-control service to its applications to eliminate the possibility of the sender overflowing the receiver's buffer.

Select one:

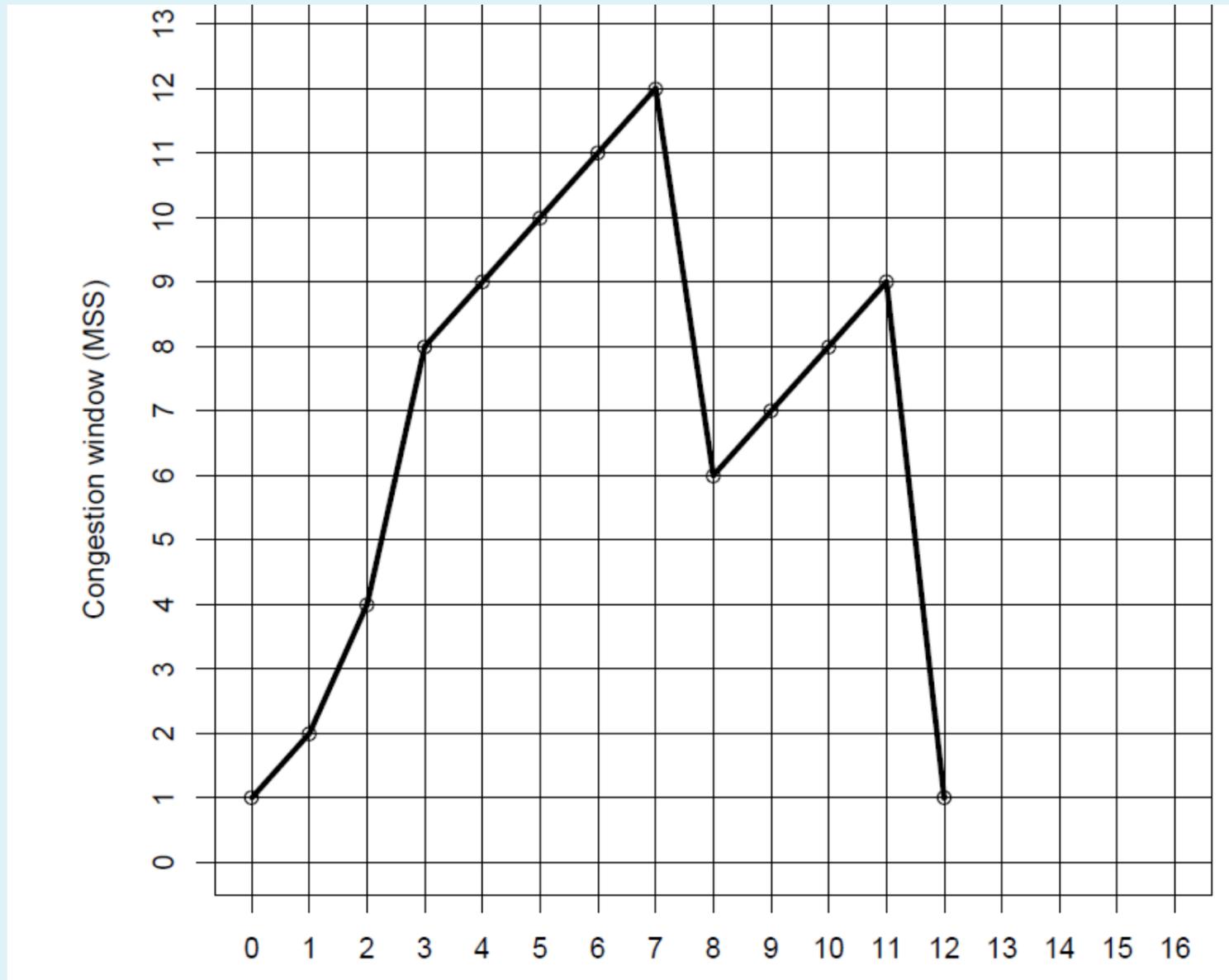
- a. TRUE
- b. FALSE

The correct answer is: TRUE

Question 9

Complete

Not graded



Consider Reno TCP and based on the figure (x-axis represents Time in RTT), What is the value of the threshold at time $t = 2$ RTT?

Select one:

- a. 6
- b. 10
- c. 2
- d. 8
- e. 4

The correct answer is: 8

Question 10

Complete

Mark 1.00 out of 1.00

Select the option that best explains the steps of TCP Tahoe

Select one:

- a. Starts with window size 1, then exponentially increase it until it reaches a threshold line where increment becomes linear, then it keeps increasing the window size until segment loss detected, once detected, reduce window size to 1
- b. Starts with window size 1, then exponentially increase it until collision happens, when collision happens reset window size to the half
- c. Starts with window size 1, then exponentially increase it until it reaches a threshold line where increment becomes linear, then it keeps increasing the window size until segment loss detected, once detected, reduce window size to the half
- d. Starts with window size 1, then exponentially increase it until collision happens, when collision happens reset window size to 1

The correct answer is: Starts with window size 1, then exponentially increase it until it reaches a threshold line where increment becomes linear, then it keeps increasing the window size until segment loss detected, once detected, reduce window size to 1

Question 11

Complete

Not graded

Consider sending 5 Kbyte from host A to host B using Go-Back-N. Assume packet size (L) is 1 Kbyte, data rate (R) is 8Mbps, RTT=16ms, window size (W) is 8 packets, and the Timeout=25 ms.

Select one:

- a. 1
- b. 0.25
- c. 0.47
- d. 0.05
- e. 0.0047

The correct answer is: 0.47

Question 12

Complete

Mark 1.00 out of 1.00

In Rdt2.1, why are 0 and 1 enough to maintain the sequential order of a set of messages?

Select one:

- a. Because it is designed to detect only one out of order message
- b. Because we don't send more than one message at a time in Rdt2.1
- c. Because having a larger sequence number would require larger storage space in the header
- d. Because it is unlikely that more than two messages would arrive out of order

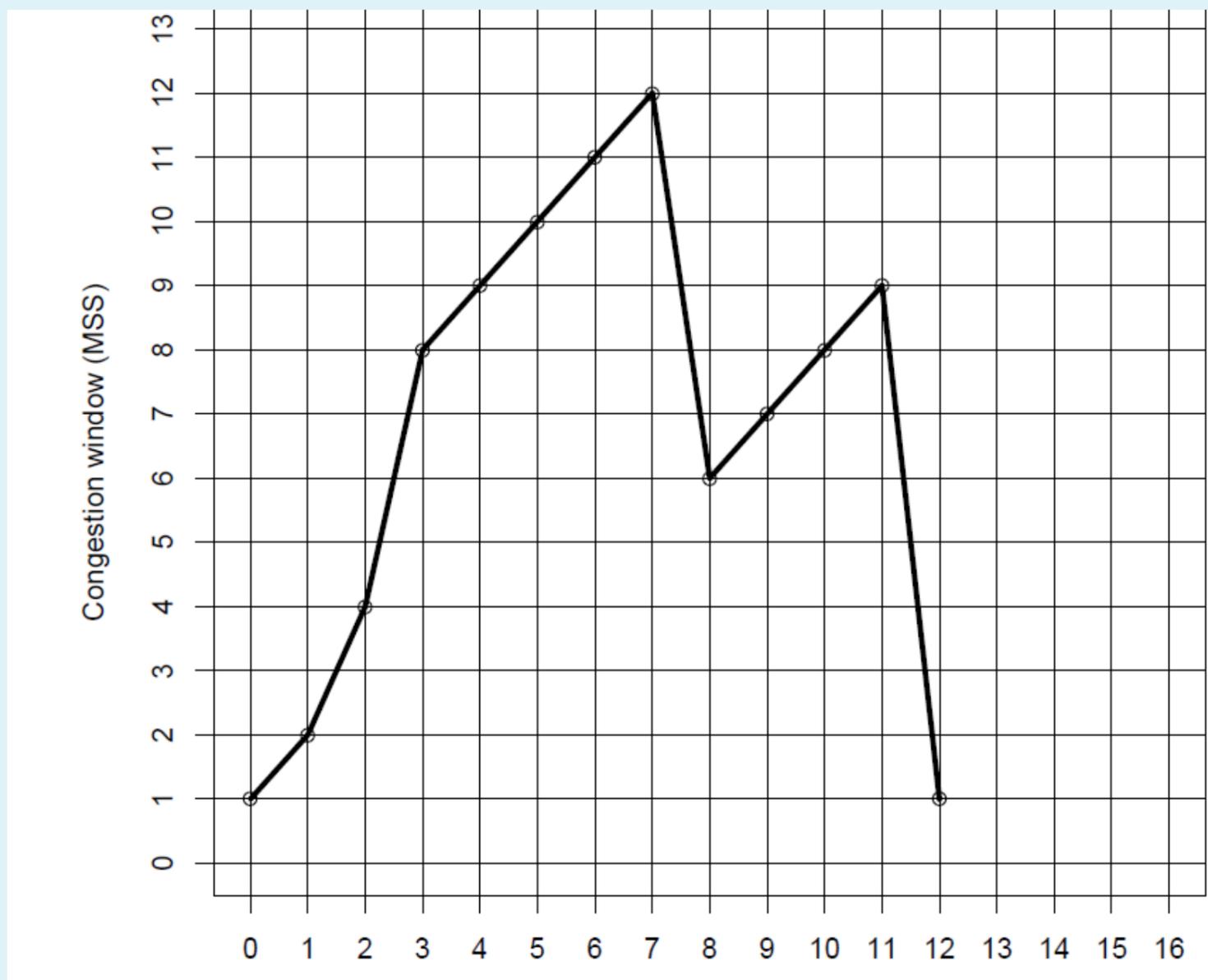
The correct answer is: Because we don't send more than one message at a time in Rdt2.1

Question 13

Complete

Mark 0.00 out of 1.00

Consider Reno TCP and the figure (x-axis represents Time in RTT), was the 36th segment already sent before the time $t = 12$ RTT?



Select one:

- a. NO
- b. YES

The correct answer is: YES

Question 14

Complete

Mark 1.00 out of 1.00

For a selective repeat-based protocol that supports pipelining, what sequence numbers would you suggest when pipeline size (window size) is 4?

Select one:

- a. 0, 1, 2, 3, and 4
- b. 0, 1, 2 and 3
- c. 0, 1 and 2
- d. 0, 1, 2, 3, 4, 5, 6 and 7

The correct answer is: 0, 1, 2, 3, 4, 5, 6 and 7

Question 15

Complete

Mark 1.00 out of 1.00

UDP does not provide any error detection mechanisms

Select one:

- a. True
- b. False

The correct answer is: False

Question 16

Complete

Mark 1.00 out of 1.00

Go-back-N send cumulative ACK

Select one:

- a. TRUE
- b. FALSE

The correct answer is: TRUE

Question 17

Complete

Mark 1.00 out of 1.00

Selective Repeat sends cumulative ACK

Select one:

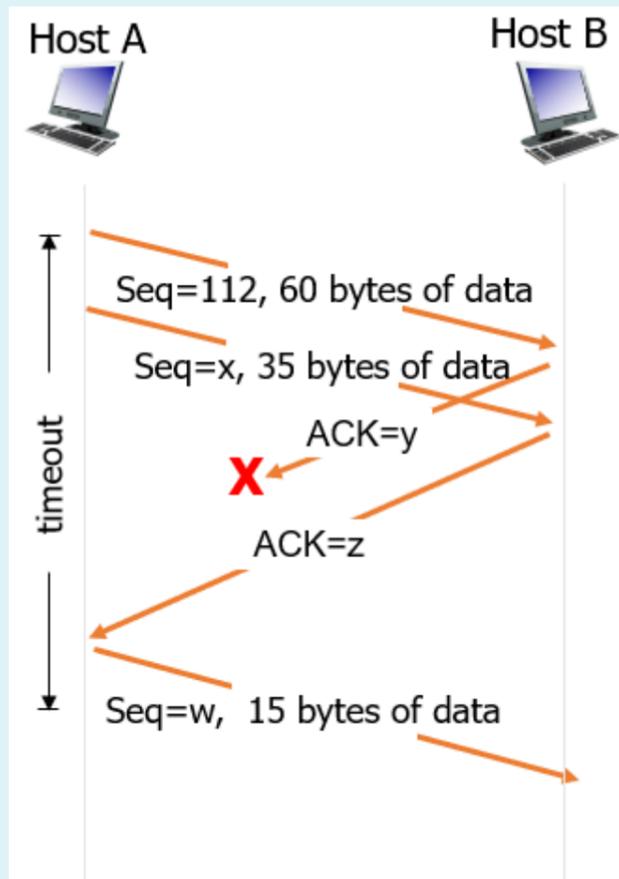
- a. FALSE
- b. TRUE

The correct answer is: FALSE

Question 18

Complete

Mark 1.00 out of 1.00



Consider a TCP connection, what is the value of x,y,z,w?

Select one:

- a. x=172, y=207, z=207, w=207
- b. none
- c. x=172,y=172,z=120, w=207
- d. x=172,y=172,z=207, w=207
- e. x=112,y=172,z=207, w=207

The correct answer is: x=172,y=172,z=207, w=207

Started on Tuesday, 5 January 2021, 4:05 PM
State Finished
Completed on Tuesday, 5 January 2021, 4:30 PM
Time taken 24 mins 54 secs
Marks 17.00/20.00
Grade 8.50 out of 10.00 (85%)

Question 1

Complete

Mark 1.00 out of 1.00

OSPF protocol is:

Select one:

- a. Distance vector
- b. Link state algorithm

The correct answer is: Link state algorithm

Question 2

Complete

Mark 1.00 out of 1.00

the subnet mask of the network 192.168.1.0/25 can be written as

Select one:

- a. 255.255.0.0
- b. 255.255.255.0
- c. 255.255.255.128
- d. none

The correct answer is: 255.255.255.128

Question 3

Complete

Mark 4.00 out of 5.00

Consider sending a 3600-byte datagram into a link that has an MTU of 1500 bytes. Suppose the original datagram is stamped with the identification number 356.

What is the value of the length field of the first packet	1500 bytes	⌵
How many fragments are generated?	3 fragments	⌵
What is the value of the ID field of the last packet	356	⌵
What is the value of the offset field of the first packet	0	⌵
What is the value of length field of the last packet	185	⌵

The correct answer is: What is the value of the length field of the first packet → 1500 bytes, How many fragments are generated? → 3 fragments, What is the value of the ID field of the last packet → 356, What is the value of the offset field of the first packet → 0, What is the value of length field of the last packet → 640

Question 4

Complete

Mark 1.00 out of 1.00

Destination Address Range	Link interface
11001000 00010111 00010*** *****	0
11001000 00010111 00011000 *****	1
11001000 00010111 00011*** *****	2
otherwise	3

According to the forwarding table above, to which link interface with datagram with destination address 11001000 00010111 00111011 11111110 will be forwarded?

Select one:

- a. 2
- b. 0
- c. 1
- d. 3

The correct answers are: 2, 3

Question 5

Complete

Mark 1.00 out of 1.00

The Network layer is required in hosts and routers.

Select one:

- a. False
- b. True

The correct answer is: True

Question 6

Complete

Mark 0.00 out of 1.00

The difference between Routing and Forwarding is:

Select one:

- a. Router is done by routers while Forwarding is done by switches only
- b. Routing is done by a router while Forwarding is done by hosts
- c. Routing process results in the creation of Forwarding Table which is used to select next hub
- d. Forwarding process results in the creation of Routing Table which is used to select next hub

The correct answer is: Routing process results in the creation of Forwarding Table which is used to select next hub

Question 7

Complete

Mark 1.00 out of 1.00

The destination IP address of DHCP discover packet is:

Select one:

- a. 255.255.0.0
- b. 255.255.255.255
- c. 0.0.0.0
- d. 255.255.255.0
- e. none

The correct answer is: 255.255.255.255

THE CORRECT ANSWER IS: 200.200.200.200

Question 8

Complete

Mark 1.00 out of 1.00

the IP 135.17.2.18 is:

Select one:

- a. Class A
- b. Class B
- c. none
- d. Class C

The correct answer is: Class B

Question 9

Complete

Mark 1.00 out of 1.00

The main task of network layer in the internet is to provide reliable connections.

Select one:

- a. False
- b. True

The correct answer is: False

Question 10

Complete

Mark 1.00 out of 1.00

The metric in RIP protocol:

Select one:

- a. bandwidth and delay
- b. delay
- c. bandwidth
- d. number of hops

The correct answer is: number of hops

Question 11

Complete

Mark 1.00 out of 1.00

IPv6 packet has a checksum field:

Select one:

- a. True
- b. False

The correct answer is: False

Question 12

Complete

Mark 1.00 out of 1.00

Consider Sending an ipv4 packet from source to destination. There is a need to recalculate the header checksum as the packet traverses along the routers

Select one:

- a. True
- b. False

The correct answer is: True

Question 13

Complete

Mark 1.00 out of 1.00

which protocol is error reporting protocol

Select one:

- a. ICMP
- b. HTTP
- c. none
- d. RIP

The correct answer is: ICMP

Question 14

Complete

Mark 1.00 out of 1.00

There is no need for buffer inside a router

Select one:

- a. True
- b. False

The correct answer is: False

Question 15

Complete

Mark 0.00 out of 1.00

An ISP has 180.18.0.0/16 and we want to have 4 subnets, then the new subnet mask will be:

Select one:

- a. 255.255.0.0
- b. none
- c. 255.255.192.0
- d. 255.255.255.0
- e. 255.255.128.0

The correct answer is: 255.255.192.0

Question 16

Complete

Mark 1.00 out of 1.00

What advantaged does crossbar switching fabric has over bus switching fabric?

Note: multiple selection allowed

Select one or more:

- a. Simpler and easier to implement
- b. Solves the problem of bottleneck limitation caused by bus bandwidth
- c. Does not require input or output queues because datagrams are forwarded immediately
- d. Allows multiple connections between different pairs of hosts simultaneously

The correct answers are: Allows multiple connections between different pairs of hosts simultaneously , Solves the problem of bottleneck limitation caused by bus bandwidth

Data retention summary

Started on Tuesday, 19 January 2021, 5:10 PM

State Finished

Completed on Tuesday, 19 January 2021, 5:30 PM

Time taken 19 mins 59 secs

Marks 18.00/20.00

Grade 9.00 out of 10.00 (90%)

Question 1

Complete

Mark 1.00 out of 1.00

In DOCSIS protocol we should not care about the collision in the downstream.

Select one:

- a. FALSE
- b. TRUE

The correct answer is: TRUE

Question 2

Complete

Mark 1.00 out of 1.00

In data link layer we have error detection mechanisms:

Select one:

- a. FALSE
- b. TRUE

The correct answer is: TRUE

Question 3

Complete

Mark 1.00 out of 1.00

ARP protocols is used to get an IP address on a node.

Select one:

- a. TRUE
- b. FALSE

The correct answer is: FALSE

Question 4

Complete

Mark 1.00 out of 1.00

CSMA is an example of random-access MAC protocols

Select one:

- a. FALSE
- b. TRUE

The correct answer is: TRUE

Question 5

Complete

Mark 1.00 out of 1.00

Consider sending an HTTP request to google from your laptop at home, you can use ARP to get the MAC address of google server

Select one:

- a. FALSE
- b. TRUE

The correct answer is: FALSE

Question 6

Complete

Mark 1.00 out of 1.00

Consider 48 PCs connected to a hub. The hub allows transmission between PC1 to PC2 and PC3 to PC4 at the same time

Select one:

- a. TRUE
- b. FALSE

The correct answer is: FALSE

Question 7

Complete

Mark 1.00 out of 1.00

In CSMA/CD Protocol the node that has data to send, checks if medium is busy or free.

Select one:

- a. FALSE
- b. TRUE

The correct answer is: TRUE

Question 8

Complete

Mark 1.00 out of 1.00

Consider CRC and the Generator $G=101011$, the data should be sent with how many addition bits?

Select one:

- a. 5 addition bit
- b. 7 addition bit
- c. 0 addition bit
- d. 2 addition bit
- e. 4 addition bit
- f. 6 addition bit

The correct answer is: 5 addition bit

Question 9

Complete

Mark 0.00 out of 1.00

With half-duplex the nodes send in both directions

Select one:

- a. FALSE
- b. TRUE

The correct answer is: TRUE

Question 10

Complete

Mark 1.00 out of 1.00

Trunk port carry frames between one VLAN defined over multiple physical switches

Select one:

- a. FALSE
- b. TRUE

The correct answers are: TRUE, FALSE

Question 11

Complete

Mark 1.00 out of 1.00

Slotted ALOHA has better efficiency than pure ALOHA

Select one:

- a. TRUE
- b. FALSE

The correct answer is: TRUE

Question 12

Complete

Mark 1.00 out of 1.00

Consider 48 PCs connected to a switch. The switch allows transmission between PC1 to PC2 and PC3 to PC4 at the same time

Select one:

- a. TRUE
- b. FALSE

The correct answer is: TRUE

Question 13

Complete

Mark 1.00 out of 1.00

Consider VLANs, the ethernet frames "802.1 frames" are sent through the trunk port without any change.

Select one:

- a. TRUE
- b. FALSE

The correct answer is: FALSE

Question 14

Complete

Mark 1.00 out of 1.00

Pure ALOHA needs synchronized clocks.

Select one:

- a. TRUE
- b. FALSE

The correct answer is: FALSE

Question 15

Complete

Mark 1.00 out of 1.00

In CSMA/CD Protocol when a collision occurs the nodes.

Select one:

- a. resend the packet immediately
- b. wait a random time that is between zero and a fixed number.
- c. wait a random time that increases as the collision repeated.

The correct answer is: wait a random time that increases as the collision repeated.

Question 16

Complete

Mark 1.00 out of 1.00

In Pure ALOHA Protocol the node that has data to send, checks if medium is busy or free.

Select one:

- a. TRUE
- b. FALSE

The correct answer is: FALSE

Question 17

Complete

Mark 1.00 out of 1.00

CRC can be used to detect multiple errors

Select one:

- a. TRUE
- b. FALSE

The correct answer is: TRUE

Question 18

Complete

Mark 1.00 out of 1.00

In Slotted ALOHA Protocol the node that has data to send, checks if medium is busy or free.

Select one:

- a. TRUE
- b. FALSE

The correct answer is: FALSE

Question 19

Complete

Mark 1.00 out of 1.00

10BASE-T, 100BASE-T, and Gigabit Ethernet have the same frame structure.

Select one:

- a. TRUE
- b. FALSE

The correct answer is: TRUE

Question 20

Complete

Mark 0.00 out of 1.00

Consider a 10 Mbps ethernet network with CSMA/CD. After the fourth collision, what is the maximum Backoff-time (waiting time)?

Select one:

- a. 1587.2 microseconds
- b. 204.8 microseconds
- c. 100 microseconds
- d. 768 microseconds

The correct answer is: 768 microseconds

◀ Quiz#4

Jump to...



FinalPart1 ▶