

Started on Friday, 4 February 2022, 1:10 PM
State Finished
Completed on Friday, 4 February 2022, 1:18 PM
Time taken 7 mins 38 secs
Marks 5.50/8.00
Grade 1.97 out of 2.86 (68.75%)

Question 1

Correct

Mark 1.00 out of 1.00

Select all statements that are True.

- ☒ a. Peer-to-peer architecture can be more scalable than the client-server architecture ✓
- ☒ b. DNS is used to translate hostname to IP address ✓
- ☐ c. DNS is used to translate hostname to MAC address
- ☒ d. SMTP is used to push the email into the mail server ✓
- ☐ e. SMTP is used to pull the email from mail server

Your answer is correct.

The correct answers are:

DNS is used to translate hostname to IP address,

SMTP is used to push the email into the mail server,

Peer-to-peer architecture can be more scalable than the client-server architecture

Question 2

Correct

Mark 1.00 out of 1.00

Recall the key differences between TCP and UDP communication protocols. For every use case below, choose the most appropriate protocol:

- | | | |
|--------------------|-----|---|
| Video streaming | UDP | ✓ |
| Bank transaction | TCP | ✓ |
| Audio streaming | UDP | ✓ |
| Web page retrieval | TCP | ✓ |

Your answer is correct.

The correct answer is:

Video streaming → UDP,

Bank transaction → TCP,

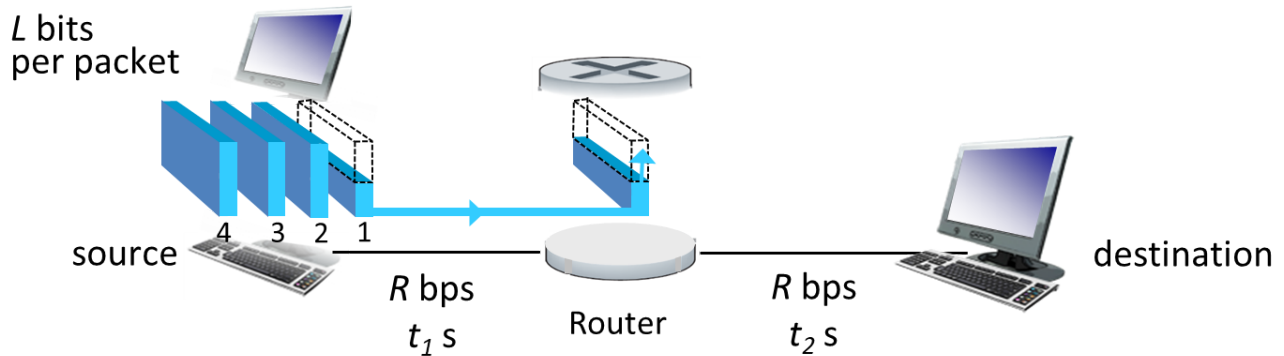
Audio streaming → UDP,

Web page retrieval → TCP

Question 3

Incorrect

Mark 0.00 out of 1.00



Suppose source station has **four packets** to send. Each packet has **L bits** of data. As shown above, the links *between source and router* and *between router and destination* have **R bits-per-second (bps) bandwidth**. The propagation delay of the link are **t_1** and **t_2** seconds, respectively.

Suppose the source started transmitting the first packet at **time 0**, then when the destination receives all the packets?

- ☐ a. $6L/R + t_1 + t_2$
- ☐ b. $5L/R + t_1 + t_2$
- ☒ c. $8(L/R + t_1 + t_2)$ ✖
- ☐ d. $7(L/R + t_1 + t_2)$

Your answer is incorrect.

The correct answer is:

$$5L/R + t_1 + t_2$$

Question 4

Correct

Mark 1.00 out of 1.00

Match each type of delay to a correct statement

transmission delay	This delay depends on bandwidth of the link	✓
processing delay	This delay depends on time spent to check the bit errors of received packet	✓
propagation delay	This delay depends on the length and type of the transmission medium	✓
queuing delay	This delay depends on traffic load at the node	✓

Your answer is correct.

The correct answer is:

transmission delay → This delay depends on bandwidth of the link,

processing delay → This delay depends on time spent to check the bit errors of received packet,

propagation delay → This delay depends on the length and type of the transmission medium,

queuing delay → This delay depends on traffic load at the node

Question 5

Partially correct

Mark 0.50 out of 1.00

Which protocols can be used to retrieve (pull) the emails from mail server? Select all those apply.

- ☒ a. IMAP ✓
- ☐ b. SMTP
- ☐ c. HTTP

Your answer is partially correct.

You have correctly selected 1.

HTTP, POP, and IMAP are used to pull the email from a mail server.

The correct answers are:

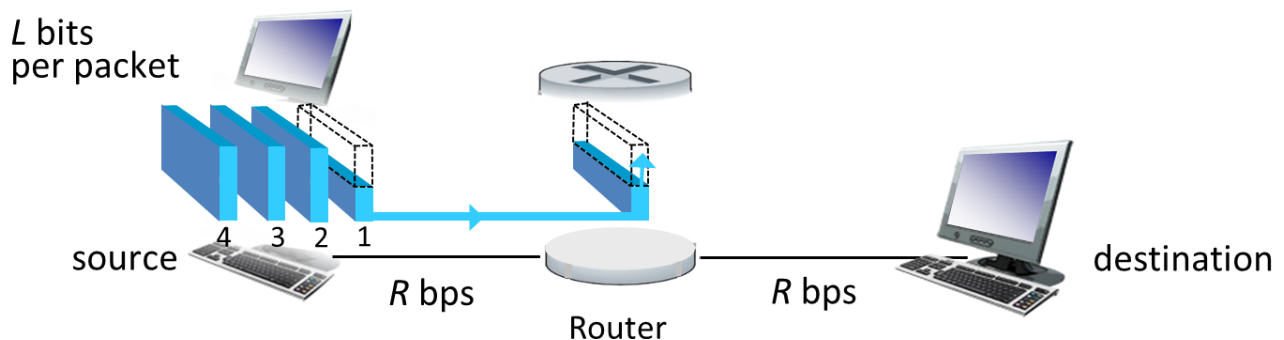
HTTP,

IMAP

Question 6

Incorrect

Mark 0.00 out of 1.00



Suppose source station has **four packets** to send. Each packet has **L bits** of data. As shown above, the links *between source and router* and *between router and destination* have **R bits-per-second (bps) bandwidth**. The propagation delay of the links is **0 s**.

Suppose the source started transmitting the first packet at **time 0**, then when the destination receives all the packets?

- ☒ a. $8L/R$ ✗
- ☐ b. $7L/R$
- ☐ c. $6L/R$
- ☐ d. $5L/R$

Your answer is incorrect.

At $3L/R$ the source finishes the transmission of the third packet and starts the transmission of the fourth packet. Then it takes L/R for the packet to be fully received by router and another L/R to be fully received by the destination.

In total, at $3L/R + L/R + L/R = 5L/R$ the destination finishes receiving all the packets.

The correct answer is:

$5L/R$

Question 7

Correct

Mark 1.00 out of 1.00

Which TCP/IP stack layer DNS protocol belongs to?

- ☐ Data Link
- ☒ Application ✓
- ☐ Network
- ☐ Physical
- ☐ Transport

Your answer is correct.

The correct answer is:

Application

Question 8

Correct

Mark 1.00 out of 1.00

Which protocols can be used to send the emails from sender's mail server to receiver's mail server? Select all those apply.

- ☐ a. HTTP
- ☐ b. IMAP
- ☒ c. SMTP ✓

Your answer is correct.

SMTP is used to send the email from sender's mail server to receiver's mail server.

The correct answer is:

SMTP