

Module 1 Quiz

- Due Sep 22 at 11:59pm
- Points 39
- Questions 12
- Available Sep 15 at 12pm - Sep 22 at 11:59pm
- Time Limit 50 Minutes
- Allowed Attempts Unlimited

This quiz was locked Sep 22 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	11 minutes	37.33 out of 39

❗ Correct answers are hidden.

Score for this attempt: 37.33 out of 39

Submitted Sep 20 at 10:18pm

This attempt took 11 minutes.

Partial



Question 1

1.33 / 2 pts

1.1-1 What is the Internet? Which of the following descriptions below correspond to a *"nuts-and-bolts"* view of the Internet? Select one or more of the answers below that are correct. [Hint: more than one of the answers below are correct].

- ☒ A collection of billions of computing devices, and packet switches interconnected by links.
- ☐ A platform for building network applications.
- ☐ A "network of networks".
- ☐ A place I go for information, entertainment, and to communicate with people.



A collection of hardware and software components executing protocols that define the format and the order of messages exchanged between two or more communicating entities, as well as the actions taken on the transmission and/or receipt of a message or other event.



Question 2

3 / 3 pts

1.1-3 What is a protocol? Which of the following human scenarios involve a protocol (recall: "Protocols define the format, order of messages sent and received among network entities, and actions taken on message transmission, receipt")? Select one or more answers below that are correct. [Hint: more than one of the answers below are correct.]

- ☒ One person asking, and getting, the time to/from another person.
- ☐ A person reading a book.
- ☐ A person sleeping.
- ☒ Two people introducing themselves to each other.
- ☒

A student raising her/his hand to ask a really insightful question, followed by the teaching acknowledging the student, listening carefully to the question, and responding with a clear, insightful answer. And then thanking the student for the question, since teachers *love* to get questions.

Nice! This answer is correct.

Partial



Question 3

4 / 5 pts

1.2-1 Access network per-subscriber speeds. Match the access network with the approximate speeds that a subscriber might experience. (Note: if you look these up, do so in the 8E textbook, slides, or video -- not in the 7E or earlier versions, since link access speeds are always increasing over the years).

Ethernet

Wired. Up to 1 Tbps per link.

4G cellular LTE

Wireless. Up to 10's Mbps per

802.11 WiFi

Wireless. 10's to 100's of Mbp

Cable access network

Wired. Up to 10's to 100's of Mbps

Digital Subscriber Line

Wired. Up to 10's of Mbps down



Question 4

1 / 1 pts

1.2-2 Link Transmission Characteristics. Which of the following physical layer technologies has the highest transmission rate *and* lowest bit error rate in practice?

- ☒ Fiber optic cable
- ☐ Coaxial cable
- ☐ Twisted pair (e.g., CAT5, CAT6)
- ☐ 802.11 WiFi Channel
- ☐ Satellite channel
- ☐ 4G/5G cellular

Nice! Your answer is correct.



Question 5

2 / 2 pts

1.3-1 Routing versus forwarding. Choose one of the following two definitions that makes the correct distinction between routing versus forwarding.



Forwarding is the local action of moving arriving packets from router's input link to appropriate router output link, while **routing** is the global action of determining the source-destination paths taken by packets.



Routing is the local action of moving arriving packets from router's input link to appropriate router output link, while **forwarding** is the global action of determining the source-destination paths taken by packets.

Nice! Your answer is correct.



Question 6

4 / 4 pts

1.3-2 Packet switching versus circuit switching (1). Which of the characteristics below are associated with the technique of *packet switching*? Select all correct answers. [Hint: more than one of the answers is correct].

- ☐ Reserves resources needed for a call from source to destination.
- ☒ Resources are used on demand, not reserved in advance.
- ☒ Data may be queued before being transmitted due to other user's data that's also queueing for transmission.



Frequency Division Multiplexing (FDM) and Time Division Multiplexing (TDM) are two approaches for implementing this technique.

- ☒ Congestion loss and variable end-end delays are possible with this technique.
- ☒ This technique is used in the Internet.



This technique was the basis for the telephone call switching during the 20th century and into the beginning of this current century.

Nice! This answer is correct.



Question 7

2 / 2 pts

1.3-6 What is a network of networks? When we say that the Internet is a “network of networks,” we mean? Check all that apply (hint: check two or more).

- ☐ The Internet is the *largest* network ever built.
- ☒ The Internet is made up of a lot of different networks that are interconnected to each other.
- ☐ The Internet is the *fastest* network ever built.
- ☒

The Internet is made up of access networks at the edge, tier-1 networks at the core, and interconnected regional and content provider networks as well.

Nice! This answer is correct.



Question 8

4 / 4 pts

1.4-01 Components of packet delay. Match the description of each component of packet delay to its

name in the pull down list.

Time needed to perform an integrity check, lookup packet information in a local table and move the packet from an input link to an output link in a router.

Time spent waiting in packet buffers for link transmission.

Time spent transmitting packets bits into the link.

Time need for bits to physically propagate through the transmission medium from end one of a link to the other.

Nice! This answer is correct.



Question 9

5 / 5 pts

1.5-2 What's a “packet” really called? Match the name of an Internet layer with unit of data that is exchanged among protocol entities at that layer, using the pulldown menu.

Application layer

Transport layer

Network layer

Datagram

Link layer

Frame

Physical layer

Bit

Nice! This answer is correct.



Question 10

5 / 5 pts

1.6-1 Security defenses. Match the description of a security defense with its name.

Specialized “middleboxes” filtering or blocking traffic, inspecting packet contents inspections

Firewall

Provides confidentiality by encoding contents

Encryption

Used to detect tampering/changing of message contents, and to identify the originator of a message.

Digital signatures

Limiting use of resources or capabilities to given users.

Access control

Proving you are who you say you are.

Authentication

Nice! This answer is correct.



Question 11

5 / 5 pts

1.8-1. "Who controls the Internet?" Match an organization name below with the role of the organization in Internet governance. To answer this question you'll need to watch the

[Chapter 1 supplemental video on "Who Controls the Internet?"](#) 

https://www.youtube.com/watch?v=xrd4hD_9fS8.



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Internet Governance Forum (IGF)

A multistakeholder deliberation

Internet Engineering Task Force (IETF)

Sets the technical standards for

3rd Generation Partnership Project (3GPP).

Sets the technical standards for

Internet Corporation for Assigned Names and Numbers (ICANN)

Handles (assigns, adjudicates)

Institute for Electrical and Electronics Engineers


Sets the technical standard for

Nice! Your answer is correct.



Question 12

1 / 1 pts

1.8-2. What does it mean to "use" the Internet? In 2021, the International Telecommunications Union (ITU) reported that 61.6% of the world's population are "Internet users". What does it mean to be an "Internet user" according to the ITU? To answer this question you'll need to watch the [chapter 1 supplemental video on "Who Uses the Internet?"](https://www.youtube.com/watch?v=-YaGGf8C1A4)  (<https://www.youtube.com/watch?v=-YaGGf8C1A4>).



<https://www.youtube.com/watch?v=-YaGGf8C1A4>

- ☒ That someone has used the Internet at least once in the last three months.
- ☐ That someone has used the Internet at least once in the last one month
- ☐ That someone uses the Internet at least once a week, on average.
- ☐ That someone uses the Internet at least once a day, on average.

Nice! Your answer is correct.

Quiz Score: 37.33 out of 39