Chapter 1: Cyberspace, the Internet, and the World Wide Web

Test Bank

Multiple Choice

1. Which of the following best represents the contribution of IPS to the modern Internet?
a. smaller computers with greater capabilities
b. connected computers across university campuses
c. the first e-mail utility program
d. enabling data to be stored and moved as packets
Ans: A
Learning Objective 1-1: Explain how the Internet developed
Cognitive Domain: Knowledge
Answer Location: The Beginning of the Internet and Cyberspace
Difficulty Level: Medium

2. Development of the _____ resolved issues with hierarchical host names making it easier for the average person to access the Internet.
a. MILNET
b. DNS
c. IPS
d. ARPANET
Ans: B
Learning Objective 1-1: Explain how the Internet developed
Cognitive Domain: Knowledge
Answer Location: Operations and Management Aspect
Difficulty Level: Medium

3. The opportunity to create new businesses and markets online best describes which aspect of Internet development?
a. operations and management
b. social
c. commercialization
d. e-mail
Ans: C
Learning Objective 1-2: Explain the purpose of the Internet
Cognitive Domain: Knowledge
Answer Location: Commercialization Aspect
Difficulty Level: Easy

4. According to the text, the Internet was built to be a free and open access tool. Which of the following best represents this concept?
a. Napster

b. eBay
c. Amazon
d. Google
Ans: A
Learning Objective 1-2: Explain the purpose of the Internet
Cognitive Domain: Application
Answer Location: Social Aspect
Difficulty Level: Medium

5. The inventors of the Internet likely didn't consider _____ during its development.
a. free exchange of data
b. criminal abuse of the Internet
c. use as a research tool
d. open access to information
Ans: B
Learning Objective 1-3: Describe what "vulnerabilities" are
Cognitive Domain: Comprehension
Answer Location: Vulnerabilities of the Internet
Difficulty Level: Easy

6. Whereas in the past criminals had to physically approach their victims to carry out a crime, the Internet allows offenders to be in other states, or even continents, and still carry out the same crime. This best represents which of the following vulnerabilities of the Internet?
a. anonymity/identity
b. time and space
c. asymmetries of cyberspace
d. lack of barriers to entry
Ans: B
Learning Objective 1-3: Describe what "vulnerabilities" are
Cognitive Domain: Comprehension
Answer Location: Time and Space
Difficulty Level: Easy

7. _____ is a weakness in a product that could allow an attacker to compromise the integrity, availability, or confidentiality of that product.
a. Security vulnerability
b. Cyber security
c. Computer virus
d. Cyber attack
Ans: A
Learning Objective 1-3: Describe what "vulnerabilities" are
Cognitive Domain: Comprehension
Answer Location: Vulnerabilities of the Internet
Difficulty Level: Easy

8. The _____ of the Internet might be a concern for parents regarding who their children may be talking to online.
a. anonymity/identity
b. time and space
c. asymmetries of cyberspace
d. lack of barriers to entry
Ans: A
Learning Objective 1-3: Describe what “vulnerabilities” are
Cognitive Domain: Knowledge
Answer Location: Vulnerabilities of the Internet
Difficulty Level: Easy

9. The Internet provides opportunities for criminals to cause significant damage with minimum resources. For example, in 2017, the WannaCry ransomware attack resulted in several billion dollars of damage. This best represents which vulnerability of the Internet?
a. time and space
b. anonymity/identity
c. asymmetries of cyberspace
d. 1s and 0s
Ans: C
Learning Objective 1-4: Discuss how criminals are benefiting from the Internet
Cognitive Domain: Comprehension
Answer Location: Asymmetries of Cyberspace
Difficulty Level: Easy

10. Countries concerned with controlling the flow of information and goods online would be most concerned with which of the following aspects of the Internet?
a. anonymity/identity
b. time and space
c. asymmetries of cyberspace
d. lack of barriers to entry
Ans: D
Learning Objective 1-2: Explain the purpose of the Internet
Cognitive Domain: Comprehension
Answer Location: Lack of Barriers to Entry
Difficulty Level: Easy

11. Internet users generally struggle with identifying when their computer has been attacked. In order to quickly respond to a cyberattack on their system, a user would have to be able to overcome which of the following Internet threats?
a. time and space
b. anonymity/identity
c. lack of barriers to entry
d. 1s and 0s
Ans: D

Learning Objective 1-3: Describe what “vulnerabilities” are
Cognitive Domain: Comprehension
Answer Location: 1s and 0s
Difficulty Level: Easy

12. Criminal knowledge that their efforts will likely lead to success because there are so many potential victims and so few barriers or oversight online best describes which Internet gateway to vulnerability?
a. time and space
b. anonymity/identity
c. lack of barriers to entry
d. asymmetries of cyberspace
Ans: D
Learning Objective 1-4: Discuss how criminals are benefiting from the Internet
Cognitive Domain: Comprehension
Answer Location: Asymmetries of Cyberspace
Difficulty Level: Easy

13. Which of the Internet gateways to vulnerability can be described as the computer code of the Internet?
a. 0s and 3s
b. 0s and 2s
c. 1s and 2s
d. 1s and 0s
Ans: D
Learning Objective 1-3: Describe what “vulnerabilities” are
Cognitive Domain: Knowledge
Answer Location: 1s and 0s
Difficulty Level: Easy

14. _____ is an interdependent network of information technology infrastructures including the Internet, telecommunications networks, and computer systems.
a. Cyberspace
b. Internet
c. World Wide Web
d. Computer network
Ans: A
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

15. _____ is a global system of interconnected computer networks that are set up to exchange various types of data.

a. Cyberspace
b. The Internet
c. The World Wide Web
d. A computer network
Ans: B
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

16. _____ is a service that can be accessed via the Internet.
a. Cyberspace
b. Internet
c. World Wide Web
d. Computer network
Ans: C
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Comprehension
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

17. All of the following are layers of cyberspace EXCEPT _____.
a. physical layer
b. social layer
c. information layer
d. logic layer
Ans: B
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

18. The _____ layer of cyberspace is best described as where the platform nature of the Internet is defined and created.
a. physical
b. social
c. information
d. logic
Ans: D

Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

19. Which layer of cyberspace includes the creation and distribution of information and interaction between users?
a. physical layer
b. social layer
c. information layer
d. logic layer
Ans: C
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

20. _____ is a reference or navigation element in a hypertext document that offers direct access to another section of the same document or to another hypertext document that is on or part of a (different) domain.
a. Hyperlink
b. Hypertext
c. URL
d. Web browser
Ans: A
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

21. Which of the following defines the acronym URL?
a. Uniform Resource Link
b. Uniform Resource Locator
c. Uniform Record Locator
d. Uniform Record Link
Ans: B

Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

22. Which of the following is NOT a characteristic of a URL?
a. two main components
b. resource name
c. protocol identifier
d. hypertext
Ans: D
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Comprehension
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

23. Which of the following represents a complete URL?
a. https://www.fbi.gov
b. fbi.gov
c. https:www.fbi.gov
d. www.fbi.gov
Ans: A
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Application
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

24. Which of the following is comparable to the address you would put on a letter to tell the postal service to deliver a letter to?
a. hyperlink
b. email address
c. URL
d. Internet
Ans: C
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

25. Which of the following can be described as unidirectional, or that a user can link from their content to another website's content without asking for approval from the owner of the destination page?
a. hyperlink
b. email address
c. URL
d. Internet
Ans: A
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Comprehension
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

True/False

1. The Internet was originally built to be a free and open source, with minimal oversight.
Ans: T
Learning Objective 1-3: Describe what "vulnerabilities" are
Cognitive Domain: Knowledge
Answer Location: Vulnerabilities of the Internet
Difficulty Level: Easy

2. Criminals as well as average Internet users are good at hiding their identifying information online.
Ans: F
Learning Objective 1-4: Discuss how criminals are benefiting from the Internet
Cognitive Domain: Comprehension
Answer Location: Anonymity/Identity
Difficulty Level: Medium

3. It is possible to determine what a specific code will do from the code of 1s and 0s.
Ans: F
Learning Objective 1-2: Explain the purpose of the Internet
Cognitive Domain: Comprehension
Answer Location: 1s and 0s
Difficulty Level: Medium

4. The Internet refers to hardware and software infrastructure that connects computers around the globe, whereas the World Wide Web refers to a service that can be accessed via the Internet.
Ans: T
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web

Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

5. The Internet refers to the virtual environment in which people communicate and interact with others.
Ans: F
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

6. The physical layer of the cyberspace consists of physical devices such as PCs, networks, wires, grids, and routers.
Ans: T
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

7. The information layer of cyberspace is where the platform nature of the Internet is defined and created.
Ans: F
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

8. The Internet is built out of components that provide servicers for users, such as social media, content, shopping, etc.
Ans: T
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Medium

9. A hypertext is a hyperlink embedded in words.

Ans: T
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

10. Hyperlinks have two main components: the protocol identifier and the resource name.
Ans: F
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Knowledge
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Easy

Essay

1. Discuss the evolution of the Internet and cyberspace. Identify major developments and describe how each contributed to the Internet we have today.
Ans: A strong answer will include discussion of:

- the telegraph and Morse code
- the transatlantic cable and communication across the Atlantic Ocean
- telephone and modems/wireless connections
- continuous data sharing
- social interactions through networking
- packet and circuit switching
- IPS/IPs

Learning Objective 1-1: Explain how the Internet developed
Cognitive Domain: Application
Answer Location: The Beginning of the Internet and Cyberspace
Difficulty Level: Hard

2. Identify and describe the three aspects around the development of the Internet. Discuss the significance of each aspect including how each shaped the way we use the Internet today.
Ans: An answer will identify and describe:

(1) Operations and management aspect—facilitated use of the Internet for the average person
(2) Social aspect—growth of the Internet to be part of everyday life—shopping, sharing pictures and opinions, email, etc.
(3) Commercialization aspect—the opportunity to create new businesses and markets was one of the strongest incentives to advance the technology quickly

Learning Objective 1-2: Explain the purpose of the Internet
Cognitive Domain: Application
Answer Location: The Purpose of the Internet
Difficulty Level: Medium

3. Identify and describe the five gateways to vulnerabilities for anyone who uses the Internet. Which of these do you think poses the greatest risk to Internet security? Justify your response by providing specific examples and comparing the threat to at least one other vulnerability.
Ans: A good answer will identify and describe each of the following:

(1) Time and space—no longer necessary for personal interaction to commit crime
(2) Lack of barriers to entry—no physical barriers make for easier access for criminal activity
(3) Anonymity/Identity—criminals have a greater ability to hide their identity
(4) Asymmetries of cyberspace—a small number of criminals can cause a great amount of damage because cyber crimes do not require a sophisticated industrial base or significant financial resources
(5) 1s and 0s—from the code of 1s and 0s it is not possible to determine what that specific code will do, that is, whether that code will execute the program we meant to download or whether it will plant malicious software on our computer

Learning Objective 1-3: Describe what “vulnerabilities” are
Cognitive Domain: Application
Answer Location: What Is a Vulnerability?
Difficulty Level: Hard

4. Define and differentiate cyberspace, the Internet, and the World Wide Web. In your discussion, explain the relationship and/or interdependency of each on the others.
Ans: A good answer will define each of the following:

- Cyberspace—the interdependent network of information technology infrastructures, and includes the Internet, telecommunications networks, computer systems, and embedded processors and controllers in critical industries
- The Internet—a global system of interconnected computer networks that are set up to exchange various types of data; this “network of networks” connects millions of computers, including those in academic, business, and government networks, transcending geographic and national boundaries
- The World Wide Web—a service that can be accessed via the Internet that consists of interconnected documents and a variety of resources

The Internet and the web are distinctly different, however. Whereas the Internet refers to hardware and software infrastructure that connects computers around the globe, the World Wide Web refers to a service that can be accessed via the Internet.
Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Application
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?

Difficulty Level: Hard

5. Identify and describe the four layers of cyberspace. How do each of these contribute to the way people communicate with each other?
Ans: A good answer will identify and describe each of the following:

(1) Physical layer—the physical layer consists of the physical devices, such as PCs, networks, wires, grids, and routers
(2) Logic layer—where the platform nature of the Internet is defined and created
(3) Information layer—includes the creation and distribution of information and interaction between users
(4) Personal layer—consists of people who create websites, tweet, blog, and buy goods online

Learning Objective 1-5: Discuss the difference between cyberspace, the Internet, and the World Wide Web
Cognitive Domain: Application
Answer Location: What Distinguishes Cyberspace, the Internet, and the World Wide Web?
Difficulty Level: Hard