

Exam

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) Which of the following is NOT a component of information warfare? 1) _____
A) Security measures B) Psychological operations
C) Propaganda D) Physical destruction
- 2) Which of the following is LEAST true? 2) _____
A) Cyberterrorism may include attacks against civilians
B) Cyberterrorism is a politically or ideologically motivated attack
C) Cyberterrorism is defined by the group perpetrating it
D) Cyberterrorism is premeditated
- 3) Which is not a category of cyberterrorism? 3) _____
A) Physical attacks B) Information attacks
C) Technological facilitation D) Promotion
- 4) Which of the following is NOT one of the five essential components of infrastructure? 4) _____
A) Information networks B) Government
C) Communication networks D) People
- 5) What major category of information warfare/cyberterror does "website defacement" fall into? 5) _____
A) Infrastructure attacks B) Information attacks
C) Technological facilitation D) Promotion
- 6) What major category of information warfare/cyberterror do "cyber-plagues" fall into? 6) _____
A) Infrastructure attacks B) Information attacks
C) Technological facilitation D) Promotion
- 7) What major category of information warfare/cyberterror does "data hiding" fall into? 7) _____
A) Infrastructure attacks B) Information attacks
C) Technological facilitation D) Promotion
- 8) What major category of information warfare/cyberterror does "cryptography" fall into? 8) _____
A) Infrastructure attacks B) Information attacks
C) Technological facilitation D) Promotion
- 9) What major category of information warfare/cyberterror does "recruiting" fall into? 9) _____
A) Infrastructure attacks B) Information attacks
C) Technological facilitation D) Promotion
- 10) Which of the following is LEAST true? 10) _____
A) Cyber warfare is incorporated in military training in China
B) China views cyberspace as a way of compensating for its deficiency in conventional warfare
C) Information warfare is considered necessary to the Chinese government to support its objectives and strategy
D) The Chinese government restricts the use of cyber warfare to the Chinese military
- 11) The greatest threat to civil aviation security is: 11) _____
A) Malicious insiders
B) Hacking into communication systems
C) Heavy reliance on other types of infrastructure

D) Identity theft among employees

12) Which of the following is NOT a wave in the development of warfare as identified by Alvin Toffler? 12) _____

- A) Industrial wave
- B) Agrarian wave
- C) Information wave
- D) Renaissance wave

13) Which of the following is NOT true? 13) _____

- A) The Russians view military cyber operations differently than those cyber operations employed for hacktivism, cyber aggression, and cybercrime
- B) The Russians view cyber capabilities as tools of information warfare
- C) The Russians view information warfare from a holistic approach
- D) The Russians carry out cyber operations alongside psychological operations

14) Which of the following is NOT true? 14) _____

- A) U.S. officials have found evidence of al Qaeda researching digital switches that run critical infrastructure
- B) Al Qaeda produced the computer virus "Stuxnet"
- C) U.S. officials have found evidence of al Qaeda using LOphtCrack
- D) Al Qaeda leaders have claimed to be actively planning a "cyber jihad" against the United States

15) Distributed denial-of-service attacks are an example of: 15) _____

- A) Cyber and technological facilitation
- B) Infrastructure attacks
- C) Information attacks
- D) Propaganda and promotion

16) Steganography: 16) _____

- A) Is data hiding
- B) Is a propaganda and promotion technique
- C) Is an infrastructure attack
- D) Is cryptography

17) Using a cell phone to encourage a flash mob is a form of: 17) _____

- A) Propaganda and promotion
- B) Cyber and technological facilitation
- C) Information attack
- D) Infrastructure attack

18) Requesting funds for a terrorist organization through a chat room is an example of: 18) _____

- A) Exploitation of online payment tools
- B) Charitable donations
- C) Direct solicitation
- D) E-commerce

19) The type of attack the hacker group "Anonymous" carried out against the private intelligence industry provider Stratfor is considered: 19) _____

- A) Distributed denial-of-service attacks
- B) Unauthorized intrusions
- C) Propaganda
- D) Website defacement

20) Which of the following is one of the four categories that encompasses cyberterrorism and/or information warfare?

20) _____

- A) Cryptography
- B) Promotion
- C) Unauthorized intrusions
- D) Steganography

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

21) The nation of Japan currently poses a larger threat to the United States in terms of information warfare than that

posed by China.21) _____

22) Despite its contention that modern technological advancements are incompatible with fundamentalist Islam culture, al Qaeda has become a primary foe in the cyber terrorism area. 22) _____

23) The United States' critical infrastructure is likely the nation's most vulnerable to technological attacks. 23) _____

24) A virus is a piece of code that attaches itself to other instructions within a computer. 24) _____

25) A worm is a program that reproduces itself over a computer network by breaking into computers much like a virtual hacker. 25) _____

26) Information warfare is always a component of cyberterrorism. 26) _____

27) It is estimated that 100 million attacks against U.S. businesses and governments take place each day. 27) _____

28) Critical infrastructure is not an attractive target to terrorists. 28) _____

29) An unauthorized intrusion is easy to identify once it has occurred. 29) _____

30) The Internet is the best tool for propaganda and recruitment among terrorists.30) _____

31) Data hiding is difficult to accomplish, but relatively easy to discover in Internet files. 31) _____

32) A cryptographic key is necessary to read encoded material. 32) _____

33) Information attacks are the use of cyber communication to distribute or coordinate plans for a terrorist attack, incite an attack, or otherwise assist in the facilitation of terrorism. 33) _____

34) Infrastructure attacks are those attacks designed to destroy a system that includes critical data. 34) _____

35) According to the Russian perspective, cybercrime and cyberterrorism are acceptable techniques of information warfare. 35) _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

36) _____ operations use information to affect the state of the mind of the adversary. 36) _____

37) _____ was a large program written primarily for espionage and information gathering that allows attacks to seek and secure drawings, plans, policies, and other documents stored within a computer or computer network. 37) _____

38) _____ insiders are those that have been given access to a system for valid reasons and present the greatest threat to infrastructure. 38) _____

39) A _____ runs off weaknesses in popular software in order to reproduce quickly and can affect tens of thousands of computers in as little as two or three hours. 39) _____

40) Another word for data hiding is _____. 40) _____

41) The hacker group _____ claimed responsibility for a coordinated series of attacks against private intelligence industry provider, Stratfor. 41) _____

42) The Russians view cyber capabilities as tools of information _____. 42) _____

43) Members of al Qaeda have declared a _____ jihad or holy war against the United States and its allies. 43) _____

44) _____ (acronym) attacks generally take the following forms: destruction or alteration of configuration information for a system, expenditure of resources needed for legitimate operation, and the actual physical modification of network elements. 44) _____

45) The potential severity of an electronic attack against critical infrastructure has led some individuals to use the term _____ Pearl Harbor to refer to such an event. 45) _____

MATCHING. Choose the item in column 2 that best matches each item in column 1.

Match the cyber-attack in Column 1 to the appropriate cyberterrorism category in Column 2.

46)

47)

An animal rights group encourages sympathizers to download hacking tools and use them against a local meat packing plant.

A disgruntled employee purposely infects a company's computer system with a virus.

A)

B)

C)

D)

Infrastructure attack

Information attack

Technological facilitation

Propaganda and promotion

46)

47)

48) A terrorist group hacks into a major city's electrical grid and causes a mass blackout. 48) _____

49) A politically motivated hacker hacks into the White House website and defaces the homepage. 49) _____

50) A terrorist organization hides a message inside a word-processing file that is transferred through e-mail. 50)

51) An individual, not directly affiliated with a terrorist group, agrees to provide funds to the group after watching a video on the group's website. 51) _____

52) A teenager posts a Twitter message asking his 1,000 friends to participate in a flash mob at a local store. 52)

53) A hacker infiltrates a major airport's air traffic control tower and attempts to misdirect a plane. 53) _____

54) A terrorist group creates a website hoping to recruit members from a neighboring country. 54) _____

55) A hacker group attempts a DDoS attack against a major corporation. 55) _____

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

56) Why is it difficult to define terms like "cybercrime", "cyberterrorism", and "information warfare"?

57) Explain how promotion falls into one of the four categories of attacks that encompass cyberterrorism.

58) Explain data hiding.

59) Pick a critical infrastructure in your area. Discuss why it would be considered a critical infrastructure and what actions should be or have been done to protect it.

60) Based on the information provided by the textbook on the Chinese use of information warfare against the United States, give your opinion on what counter actions you think the United States should take against China.

- 1) C
- 2) C
- 3) A
- 4) B
- 5) B
- 6) B
- 7) C
- 8) C
- 9) D
- 10) D
- 11) C
- 12) D
- 13) A
- 14) B
- 15) C
- 16) A
- 17) B
- 18) C
- 19) B
- 20) B
- 21) FALSE
- 22) TRUE
- 23) TRUE
- 24) TRUE
- 25) TRUE
- 26) FALSE
- 27) TRUE
- 28) FALSE
- 29) FALSE
- 30) TRUE
- 31) FALSE
- 32) TRUE
- 33) FALSE
- 34) TRUE
- 35) TRUE
- 36) Psychological
- 37) Flame
- 38) Malicious
- 39) Worm
- 40) Steganography
- 41) Anonymous
- 42) Warfare
- 43) Cyber
- 44) DDoS
- 45) Electronic

- 46) D
- 47) B
- 48) A
- 49) B
- 50) C

51) D

52) C

53) A

54) D

55) B

56) (should include points such as):

They are broad concepts

Often it depends on who is defining these terms

Can encompass a range of activities by a variety of different people

These terms and concepts may overlap and elements may be difficult to separate

57) (should include points such as):

The Internet is largely unregulated and has the potential to reach a lot of people

Used to influence public opinion

Used to generate funding

Used for recruitment and mobilization

58) (should include points such as):

Taking a piece of information and hiding it within another piece of data

Digital images or recordings are altered without losing their functionality

Not perceived by the human eye or ear

Fairly easy to do because there are free programs on the Internet

Hard to find

59) Answers will vary. Examples of critical infrastructures are outline in the textbook.

60) Answers will vary.