Family (or Last) Name_____

Given (or First) Name_____

Student ID_____

Instructions

1. This exam has 7 pages in total, numbered 1 to 7. Make sure your copy has all the pages.

2. Note the number written on the upper right-hand corner of the first page. On the sign-up sheet being passed around, sign your name next to this number.

3. This exam will be 85 minutes in length.

4. This is a closed-book, closed-note exam.

5. Write your answers in the answer spaces provided.

6. A table of ASCII codes in binary is given on the last page.

I have read and understand all of the instructions, and I will obey the Academic Honor Code.

_____

Signature and Date

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

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

1) Debugging means to solve IT problems. 1) _____

2) 0 is not allowed in an email address. 2) _____

3) Case does not matter in a URL. 3) _____

4) No computer system can be considered bug free. 4) _____

5) The 's' in https stands for secure. 5) _____

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

6) A primary source is: 6) _____

A) all of the above B) a source that has been verified
C) a source with personal experience D) the only source on a topic

7) Secondary sources are valuable for all of the following reasons except: 7) _____

A) refuting primary sources B) filling in gaps
C) providing interpretation D) organizing information

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

8) A _____ source is someone who reports information from a primary source. 8) _____

9) An error in a computer system is called a(n) _____. 9) _____

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

10) A bit is larger than a byte. 10) _____

11) A light switch is a good example of a PandA representation. 11) _____

12) Shades of gray are a part of the PandA representation. 12) _____

13) Casino dice are a good example of a binary system. 13) _____

14) A bit is the smallest representation of data in a computer. 14) _____

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

15) How many bits does each hex digit require? 15) _____

A) 2 B) 4 C) 16 D) 6

16) What does ASCII stand for? 16) _____

A) All Standards Complete Initialization Interface
B) American Standard Code for Information Interchange
C) Algorithmic Sequence of Computer Integrated Information
D) Aspiring Students Confused by Incoherent Incantations

17) The Hawaiian alphabet has 18 symbols. How many bits are needed to represent just these symbols? 17) _____

A) 4 B) 5 C) 2 D) 16

18) The original version of ASCII used: 18) _____

A) 7-bit code B) 16-bit code C) 4-bit code D) 8-bit code

19) What is the difference between 0100 0001 and 0110 0001 in ASCII? 19) _____

A) one is a standard letter, the other is a number
B) one is 4-bit, the other is 8-bit
C) one is standard ASCII, the other is extended ASCII
D) the first is A, the second is a

20) 0100 0001 0101 0011 0100 0011 0100 1001 0100 1001 in ASCII translates into: 20) _____

A) ASCII B) GLASS C) BRASS D) ABCDE

21) A nibble is the same as: 21) _____

A) six bits B) four bits C) two bits D) a dollar

22) Four bytes is the same as: 22) _____

A) 16 bits B) 32 bits C) 64 bits D) two bits

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

23) An 8-bit sequence on the computer is called a(n) _____. 23) _____

24) Four bits is called a(n) _____. 24) _____

25) 8-bit coding has _____ possible combinations. 25) _____

26) Hex is short for _____. 26) _____

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

27) Communicating via email is not appropriate for all situations. 27) _____

28) Email backlogs should be answered in the order they were received. 28) _____

29) Multiple, small distribution lists are better than fewer, large lists. 29) _____

30) A well-conceived password should be easy to remember and difficult to break. 30) _____

31) Using a single password for all of your accounts is unwise. 31) _____

32) Viruses are often distributed through email attachments. 32) _____

33) For your work to have copyright protection, the copyright symbol, ©, must be listed on your work. 33) _____

34) Any large software package is likely to have bugs. 34) _____

35) All software works as it is designed to. 35) _____

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

36) Before forwarding email, you should: 36) _____
A) get the sender's permission
B) notify the sender that you are forwarding it
C) send a disclaimer
D) correct all of the spelling errors in it

37) Passwords: 37) _____
A) are encrypted and are compared using the encryption, not "clear text"
B) can never be changed
C) can be viewed by a superuser
D) are maintained on a list by the system administrator

38) Virus protection software will protect your computer from: 38) _____
A) all known viruses
B) most known viruses and entitle you to periodic updates of virus definitions
C) less than half the known viruses
D) viruses for the length of the software license

39) Which of the following is probably legal? 39) _____
A) You and your buddies pool your money to buy software, which you share.
B) You buy one copy of a piece of software, but install it at home and at your office.
C) You buy one copy of a piece of software, but install it at home, your office, and on your spouse's laptop.
D) You buy a computer game and give copies to your friends.

40) Which of the following puts you at risk of being hacked? 40) _____
A) clicking on a URL instead of typing it in
B) using a web sited that doesn't use encryption
C) using email to respond to requests for personal information
D) all of the above

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

41) _____ are little, character-based graphics used to display emotion in an electronic message. 41) _____

42) The popular rules of conduct for email and the Internet are called _____. 42) _____

43) Software that is available for a modest donation is called _____. 43) _____

44) The limited use of copyrighted material for educational or scholarly uses is called _____. 44) _____

45) _____ is short for password harvesting fishing. It's when hackers use deception in order fool you into giving them your personal information. 45) _____

46) The code for _____ software is free and publicly available. 46) _____

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

47) Information is generated when buying goods and services at a store. 47) _____

48) American privacy laws are much stricter than European laws. 48) _____

49) The United States has not adopted the OECD principles. 49) _____

50) A company can place a cookie on your computer even if you've never visited its Web site. 50) _____

51) Cookies can be used to track ad placement on Web sites. 51) _____

52) The Do-Not-Call List was so successful, it has now been applied to email. 52) _____

53) Identity theft is the crime of posing as someone else for fraudulent purpose. 53) _____

54) Emptying the trash is no guarantee that the data has been erased. 54) _____

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

55) If you disable the cookies on your computer: 55) _____
A) normal Web interaction will be more difficult
B) all cookies, including third-party cookies, will be blocked
C) you won't be able to do many online transactions
D) all of the above

56) The RSA public key cryptosystem relies on: 56) _____
A) trapdoors B) prime numbers C) key escrow D) all of the above

57) Cookies: 57) _____
A) cannot be removed from a client's computer
B) are stored on a server for use by a client
C) are stored on a client and retrieved by a server
D) are placed on a server by a client

58) Personal backups aren't needed for: 58) _____
A) information that has been backed up but not changed
B) unimportant files
C) software programs
D) all of the above

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

59) _____ is the process of recovering encrypted cipher text. 59) _____

60) _____ can be described as x or y but not both. 60) _____

PROBLEM. Work out the answers for the following problems in the spaces provided and circle your answer.

61) (3 points) Convert the hexadecimal number 2C into decimal.

62) (3 points) Convert the decimal number 13 into binary.

63) (4 points) Encrypt the plaintext "NJIT" (without quotes) using XOR encryption to with 16-bit blocks and key 00010111 00101101. Give both the encrypted binary and the encrypted ASCII.

ASCII	0000 0000	0000 0001	0000 0010	0000 0011	0001 0000	0001 0001	0001 0010	0001 0011	0001 0100	0001 0101	0001 0110	0001 0111	0001 1000	0001 1001	0001 1010	0001 1011	0001 1100	0001 1101	0001 1110	0001 1111
0000	$^{N}_{U}$	$^{S}_{H}$	$^{S}_{X}$	$^{E}_{X}$	$^{E}_{T}$	$^{E}_{Q}$	$^{A}_{K}$	$^{B}_{L}$	$^{B}_{S}$	$^{H}_{T}$	$^{L}_{F}$	$^{Y}_{T}$	$^{F}_{F}$	$^{C}_{R}$	$^{S}_{0}$	$^{S}_{I}$				
0001	$^{D}_{L}$	$^{D}_{1}$	$^{D}_{2}$	$^{D}_{3}$	$^{D}_{4}$	$^{N}_{K}$	$^{S}_{Y}$	$^{E}_{\Sigma}$	$^{C}_{N}$	$^{E}_{M}$	$^{S}_{B}$	$^{E}_{C}$	$^{F}_{S}$	$^{G}_{S}$	$^{R}_{S}$	$^{U}_{S}$				
0010		!	"	#	$	%	&	'	(	)	*	+	,	-	.	/				
0011	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?				
0100	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O				
0101	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_				
0110	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o				
0111	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	$^{D}_{T}$				
1000	$^{8}_{0}$	$^{8}_{1}$	$^{8}_{2}$	$^{8}_{3}$	$^{I}_{N}$	$^{N}_{L}$	$^{S}_{S}$	$^{E}_{S}$	$^{H}_{S}$	$^{H}_{J}$	$^{Y}_{S}$	$^{P}_{D}$	$^{P}_{V}$	$^{R}_{I}$	$^{S}_{2}$	$^{S}_{3}$				
1001	$^{D}_{C}$	$^{P}_{1}$	$^{P}_{Z}$	$^{S}_{E}$	$^{C}_{C}$	$^{M}_{M}$	$^{S}_{P}$	$^{E}_{P}$	$^{Q}_{8}$	$^{Q}_{Q}$	$^{Q}_{A}$	$^{C}_{S}$	$^{S}_{T}$	$^{O}_{S}$	$^{P}_{M}$	$^{A}_{P}$				
1010	$^{A}_{o}$	¡	¢	£		¥	¦	§	¨	©	ª	«	¬	-	®	¯				
1011	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿				
1100	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï				
1101	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	β				
1110	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï				
1111	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ				

Figure 8.3 ASCII, The American Standard Code for Information Interchange.