**DO NOT WRITE ON TEST**



**INFORMATION TECHNOLOGY CONCEPTS**

**~OPEN EVENT~**

(391)

**REGIONAL 2022**

**TOTAL POINTS \_\_\_\_\_\_\_\_\_\_\_\_100 Points**

**Test Time: 60 minutes**

**MULTIPLE CHOICE**

Identify the choice that *best* completes the statement or answers the question.

1. An algorithm is \_\_\_\_\_\_\_.

a. a solution that cannot be reached through a set of step-by-step instructions.

b. the results of the problem.

c. the set of step-by-step instructions to solve the problem.

d. the knowledge base of a solution.

1. Typical problem that can be solved with heuristic solution include \_\_\_\_\_\_\_

a. balancing your checkbook.

b. choosing stock on the stock market.

c. a calculus problem.

d. baking a cake.

1. In hexadecimal notation, which bit pattern cannot be expressed?

a. 11111111

b. 1001

c. 110011

d. 100000000001

1. With the fewest number of input patterns, which of the following Boolean operations produces the output 1?

a. AND

b. OR

c. XOR

d. XXR

1. A new security awareness program is being implemented at your company. As an end-user educator, you are responsible for educating customers on social engineering and a variety of other threats. Which of the following best defines social engineering?

a. illegal copying of software

b. gathering information from discarded manuals and printouts

c. using people skills to obtain proprietary information

d. destruction or alteration of data

1. What type of hacking occurs when an attacker monitors an authenticated session between the client and the server and takes over the session?

a. denial of service

b. web attack

c. session hijacking

d. none of the above

1. FERPA protects which of the following?

a. medical records

b. educational records

c. personally identifiable information

d. financial records

1. Which of the following is *not* one of the tasks of the policy development phase?

a. approve

b. write

c. communicate

d. authorize

1. The Linux operating system is controlled by a software component called the \_\_\_\_\_\_\_\_.

a. shell

b. kernel

c. module

d. library

1. Which of the following Linux components refers to a well-defined structure that stores files and directories?

a. Server software

b. File system

c. Kernel module

d. Shell

1. A computer system is composed of four main structural elements which include \_\_\_\_\_\_\_.

a. processor, main memory, I/O modules and system bus

b. processor, I/O modules, system bus and secondary memory

c. processor, registers, main memory and system bus

d. processor, registers, I/O modules and main memory

1. \_\_\_\_\_\_\_\_ is the unit of data exchanged between main memory and cache.

a. Block size

b. Map size

c. Cache size

d. Slot size

1. Where on the CPU is information most readily accessible for manipulation?

a. cache memory

b. main memory

c. mass storage

d. general-purpose registers

1. The maximum rate at which data can be transferred is referred to as \_\_\_\_\_\_\_\_.
2. signal
3. bandwidth
4. speed
5. multimedia
6. Backups can be used to protect which of the following?

a. confidentiality

b. integrity

c. availability

d. auditing

1. Assigning users only the minimum amount of privileges they need to perform their job is known as which of the following?

a. principle of least privilege

b. separation of duties

c. defense in depth

d. security triad

1. The solution to a problem is \_\_\_\_\_\_\_.

a. the set of step-by-step instructions to solve the problem.

b. the program.

c. the results.

d. all are correct.

1. A set of step-by-step instructions is processed \_\_\_\_\_\_\_.

a. in the order they are presented and processed.

b. can skip around to other instructions.

c. can return to a previously processed instruction.

d. in random order.

1. The data type of a parameter may be \_\_\_\_\_\_\_.

a. a constant.

b. a variable.

c. an expression.

d. all of the above.

1. If the operands are both numerical, and the operator is relational, the data type of the resultant is \_\_\_\_\_\_\_.

a. numerical.

b. relational.

c. logical.

d. none are correct.

1. The data type for Zip Codes \_\_\_\_\_\_\_.

a. must always be numeric data.

b. must always be string data.

c. can be either numeric or string data.

d. none of the above.

1. Physical movement is not required by which mass storage medium?

a. magnetic tape

b. magnetic disk

c. CDs/DVDs

d. flash drives

1. Which of the following is not a typical operating system role?

a. control the allocation of the machine’s resources

b. control access to the machine

c. maintain records regarding files stored in mass storage

d. assist the computer user in the task of processing digital photographs

1. Which of the following is not a task performed by the kernel of an operating system?

a. communicate with the user

b. schedule processes

c. allocate resources

d. avoid deadlock

1. Which of these is the process to determine if the credentials given by a user or another system are authorized to access the network resource in question?

a. confidentiality

b. integrity

c. availability

d. authentication

1. What was the first computer incident-response team?

a. Computer Emergency Response Team

b. F-Secure

c. SANS Institute

d. Microsoft Security Advisor

1. Someone who legally breaks into a system to assess security flaws is a \_\_\_\_\_\_\_\_.

a. script kiddy

b. penetration tester

c. white hat hacker

d. black hat hacker

1. The act of gaining access to a system and causing harm is referred to as \_\_\_\_\_\_\_\_\_.

a. white hat hacker

b. black hat hacker

c. grey hat hacker

d. red hat hacker

1. What is the correct order of the policy life cycle?

a. review, develop, adopt, publish

b. develop, publish, adopt, review

c. publish, develop, review, adopt

d. review, adopt, develop, publish

1. Which of the following is not a part of the policy development phase?

a. approve

b. write

c. communicate

d. authorize

1. Which of the following refers to a specific implementation of a Linux operating system?

a. distribution

b. shell

c. module

d. kernel

1. Which of the following refers to a software program that allows a user to issue commands to the system?

a. kernel

b. shell

c. distro

d. library

1. Which of the following is *not* a Red Hat-based distro?

a. fedora

b. rehl

c. ubuntu

d. centOS

1. Which of the following is rarely installed on Linux server systems because it requires additional hard drive space, CPU cycles, and RAM usage, and also could pose a security risk?

a. GUI software

b. kernel modules

c. shells

d. libraries

1. The use of multiple overlapping layers of security to protect data and resources is known as which of the following?

a. principle of least privilege

b. separation of duties

c. defense in depth

d. security triad

1. In which of the following, is the minimal amount of privileges given to users known as?

a. principle of least privilege

b. separation of duties

c. defense in depth

d. security triad

1. To determine the appropriate countermeasures, which of the following puts an economic value on assets?

a. risk mitigation

b. risk assessment

c. vulnerability assessment

d. risk avoidance

1. \_\_\_\_\_\_\_ is an example of prevention control.

a. Intrusion detection system

b. Firewall

c. Motion sensors

d. Security alarm

1. Which of the following can be protected by backups?

a. confidentiality

b. integrity

c. availability

d. auditing

1. The variable \_\_\_\_\_\_\_.

a. is stored in a named memory location.

b. can be changed while a solution is being executed.

c. is given a specific data type.

d. all are correct.

1. A problem that would require an algorithmic solution is \_\_\_\_\_\_\_.

a. playing a game of chess.

b. making a cup of cocoa.

c. deciding which stock to buy.

d. all are correct.

1. Which of the following is a means of encoding music?

a. ASCII

b. MIDI

c. JPEG

d. GIF

1. In the expression 4 + 10, the operand(s) \_\_\_\_\_\_\_.

a. are the 4 and the 10.

b. is the +.

c. is 14.

d. none are correct.

1. To select the best solution, you should \_\_\_\_\_\_\_.

a. identify and list the pros and cons of each alternative solution.

b. develop an algorithm for each solution.

c. develop the knowledge base for each solution.

d. identify the problem.

1. An ideal variable name for a client name is \_\_\_\_\_\_\_.

a. C

b. Cli

c. client\_name

d. CN

1. One of the latest techniques for user authentication involves something that is related to who the user is. This technique is called \_\_\_\_\_\_\_.

a. smartphone detection

b. ATM card

c. biometric sensing

d. password reset

1. A good password must contain the following except \_\_\_\_\_\_\_.

a. capital letters

b. special characters

c. numbers

d. name, birthdate, nickname

1. Some of the common techniques listed below help protect the computer resources from being used by unauthorized personnel. Choose the one that is incorrect.
   1. each user has an unique login account
   2. an administrator account monitors and alters settings of regular users
   3. the user login password is taped to the monitor/screen so he/she does not forget the password
   4. only authorized software downloads are permitted on regular user accounts
2. To increase the security of the passwords, many online accounts now use \_\_\_\_\_\_\_.

a. two-factor authentication

b. password check over a phone call

c. account details via email

d. change phone number on the account

1. When a \_\_\_\_\_\_\_ is used, an external network sees a single IP address, not the internal networks.

a. Firewall

b. Proxy server

c. Intrusion detection system

d. Network Monitor