**DO NOT WRITE ON TEST**



**IT CONCEPTS**

**~OPEN EVENT~**

(391)

**Regional 2024**

**CONCEPT KNOWLEDGE:**

Multiple Choice (50 @ 2 points each) \_\_\_\_\_\_\_\_\_\_\_\_\_100 Points

**Test Time: 60 minutes**

**GENERAL GUIDELINES:**

*Failure to adhere to any of the following rules will result in disqualification:*

1. Member must hand in this test booklet and all printouts if any. Failure to do so will result in disqualification.
2. No equipment, supplies, or materials other than those specified for this event are allowed in the testing area.  No previous BPA tests and/or sample tests (handwritten, photocopied, or keyed) are allowed in the testing area.
3. Electronic devices will be monitored according to ACT standards.

**Multiple Choice Questions**

*Directions:* Identify the letter of the choice that best completes the statement or answers the question.

1. Which port is commonly used for HTTP communication?

A. 20

B. 53

C. 80

D. 110

1. Which component of Windows 10 or 11 is responsible for managing installed programs?

A. File Explorer

B. Task Manager

C. Control Panel

D. Windows Store

1. Which protocol is used for secure shell access?

A. SSH

B. FTP

C. Telnet

D. SMTP

1. Which component of Windows 10 or 11 is responsible for managing device drivers?

A. Device Manager

B. Control Panel

C. Task Manager

D. Windows Update

1. Which of the following is a valid IPv4 address?

A. 256.168.1.1

B. 192.168.1.256

C. 192.168.1.1

D. 192.168.1.0

1. What is the purpose of subnetting in IP networking?

A. To increase the number of available IP addresses

B. To improve network performance

C. To secure the network from unauthorized access

D. To separate different network segments

1. What is the purpose of a subnet mask?

A. To determine the network portion of an IP address

B. To identify the host portion of an IP address

C. To establish a secure connection to a network

D. To filter and block network traffic

1. Which subnet mask would be appropriate for a network with 60 hosts?

A. 255.255.255.0

B. 255.255.255.128

C. 255.255.255.192

D. 255.255.255.224

1. What does DRM stand for in the context of intellectual property and copyright laws?

A. Digital Rights Management

B. Data Recovery Mechanism

C. Document Routing Method

D. Device Resource Management

1. Which WiFi standard provides the highest data transfer rate?

A. 802.11a

B. 802.11b

C. 802.11g

D. 802.11ac

1. What is SSID in the context of WiFi networks?

A. A unique identifier for a wireless network

B. The password required to connect to a WiFi network

C. The type of encryption used by a WiFi network

D. The IP address assigned to a WiFi router

1. Which command-line tool is commonly used to check the connectivity between two IP addresses?

A. Ping

B. Traceroute

C. Ipconfig

D. Nslookup

1. Which programming language is primarily used for web development?

A. HTML

B. CSS

C. JavaScript

D. PHP

1. Which license type allows the modification and redistribution of open-source software?

A. GNU General Public License (GPL)

B. Apache License

C. MIT License

D. Creative Commons License

1. What is the purpose of a MAC address?

A. To identify a device's physical network interface

B. To determine a device's IP address

C. To encrypt network traffic

D. To connect to a wireless network

1. What is the purpose of an IP address?

A. To provide a unique domain name for a website

B. To encrypt network traffic

C. To store and retrieve data from a database

D. To identify a device on a network

1. What is the purpose of a DNS server?

A. To convert domain names to IP addresses

B. To encrypt network traffic

C. To provide security for wireless networks

D. To filter and block unwanted websites

1. Which programming language is commonly used for scripting and automation tasks?

A. Bash

B. C++

C. Swift

D. COBOL

1. What is the purpose of a default gateway in networking?

A. To provide wireless connectivity to devices

B. To secure the network from unauthorized access

C. To connect multiple networks together

D. To identify the network portion of an IP address

1. Which WiFi security protocol is considered the least secure?

A. WEP

B. WPA

C. WPA2

D. WPA3

1. Which IP address range is reserved for loopback testing?

A. 127.0.0.0 - 127.255.255.255

B. 192.168.0.0 - 192.168.255.255

C. 10.0.0.0 - 10.255.255.255

D. 172.16.0.0 - 172.31.255.255

1. What is the purpose of an else statement in programming?

A. To execute a set of statements repeatedly

B. To break the execution of a program

C. To define a new variable

D. To specify an alternative action if a condition is not met

1. Which IP address class is used for multicasting?

A. Class A

B. Class B

C. Class C

D. Class D

1. What is the purpose of a compiler in programming?

A. To manage and track changes to source code files

B. To automatically test software applications

C. To simulate and model complex systems

D. To translate source code into machine code

1. What is the purpose of a router in a network?

A. To connect multiple networks together

B. To provide wireless connectivity to devices

C. To secure the network from unauthorized access

D. To identify the network portion of an IP address

1. Which IP address range is reserved for automatic private IP addressing (APIPA)?

A. 127.0.0.0 - 127.255.255.255

B. 192.168.0.0 - 192.168.255.255

C. 10.0.0.0 - 10.255.255.255

D. 169.254.0.0 - 169.254.255.255

1. Which component is responsible for storing the computer's BIOS settings?

A. RAM

B. CPU

C. Hard drive

D. CMOS

1. Which of the following is the most common cause of a computer not turning on?

A. Faulty power supply

B. Overheating CPU

C. Corrupted hard drive

D. Damaged motherboard

1. What is the purpose of a POST (Power-On Self Test)?

A. To check the performance of the CPU

B. To detect and initialize hardware components

C. To scan for viruses on the hard drive

D. To optimize power consumption

1. Which of the following is an example of an optical storage device?

A. USB flash drive

B. Blu-ray disc

C. Solid-state drive

D. External hard drive

1. What does the acronym CPU stand for?

A. Computer Processing Unit

B. Central Processing Unit

C. Control and Processing Unit

D. Centralized Power Unit

1. Which of the following is an example of an input device?

A. Monitor

B. Keyboard

C. Printer

D. Speakers

1. What is the purpose of an operating system?

A. To provide power to the computer

B. To connect to the internet

C. To manage hardware and software resources

D. To store and organize files and folders

1. What is the purpose of an antivirus software?

A. To protect the computer from malicious software

B. To improve the performance of the CPU

C. To manage network connections

D. To create and edit documents

1. What is the purpose of a firewall?

A. To provide power to the computer

B. To improve network performance

C. To protect the computer from unauthorized access

D. To manage hardware resources

1. Which component is responsible for converting digital signals from the computer to analog signals for output to speakers or headphones?

A. Sound card

B. Graphics card

C. Network card

D. USB controller

1. What is the process of converting plaintext into unreadable form called?

A. Encryption

B. Decryption

C. Hashing

D. Steganography

1. What type of encryption algorithm uses the same key for both encryption and decryption?

A. Symmetric encryption

B. Asymmetric encryption

C. Hybrid encryption

D. Public-key encryption

1. Which of the following is a common weakness of symmetric encryption?

A. Key distribution

B. Slow encryption speed

C. Large key size

D. Vulnerability to brute force attacks

1. Which type of encryption algorithm operates on individual characters or bits?

A. Block cipher

B. Stream cipher

C. Hybrid cipher

D. Asymmetric cipher

1. What is the primary goal of cybersecurity?

A. Protecting sensitive data and information

B. Maximizing profits for a company

C. Increasing internet speed

D. Enhancing user experience

1. Which of the following is an example of a legal and ethical use of personal information?

A. Selling personal data without user consent

B. Using personal data for targeted advertising with user consent

C. Sharing personal data on public forums without permission

D. Collecting personal data without any purpose or consent

1. What is the purpose of conducting regular security awareness training for employees?

A. To promote fear and anxiety among employees

B. To ensure employees can hack into company systems

C. To educate employees about security best practices and potential threats

D. To assign blame to employees in case of a security breach

1. Which of the following is an example of an ergonomic practice for computer users?

A. Placing the monitor at eye level

B. Using a mouse without an ergonomic design

C. Keeping the wrists at a sharp angle while typing

D. Sitting in a fixed position without breaks

1. How can ergonomics positively impact the workplace in an IT environment?

A. By increasing energy consumption

B. By reducing productivity and efficiency

C. By promoting employee health and well-being

D. By minimizing the need for regular breaks

1. What is one way to reduce the environmental impact of data centers?

A. Increasing the use of inefficient cooling systems

B. Disposing of old servers in regular waste bins

C. Virtualizing servers to optimize resource usage

D. Keeping data centers at maximum capacity at all times

1. Which printer technology relies on a heated printhead to create images on heat-sensitive paper?

A. Inkjet Printer

B. Laser Printer

C. Dot Matrix Printer

D. Thermal Printer

1. Which printer type is best suited for printing multi-part forms and carbon copies?

A. Inkjet Printer

B. Laser Printer

C. Dot Matrix Printer

D. Thermal Printer

1. Which color model is used to display images on computer monitors and other digital displays?

A. CMYK

B. RGB

C. HSL

D. Pantone

1. What does DPI stand for in the context of graphics?

A. Dots Per Inch

B. Display Pixel Indicator

C. Digital Photo Integration

D. Dimensional Printing Index