

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
2. 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
3. Which protocol is used for secure shell access?
 - A. SSH
 - B. FTP
 - C. Telnet
 - D. SMTP
4. 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
5. 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
6. 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
7. 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

8. 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
9. 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
10. Which WiFi standard provides the highest data transfer rate?
 - A. 802.11a
 - B. 802.11b
 - C. 802.11g
 - D. 802.11ac
11. 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
12. Which command-line tool is commonly used to check the connectivity between two IP addresses?
 - A. Ping
 - B. Traceroute
 - C. Ipconfig
 - D. Nslookup
13. Which programming language is primarily used for web development?
 - A. HTML
 - B. CSS
 - C. JavaScript
 - D. PHP
14. 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

15. 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
16. 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
17. 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
18. Which programming language is commonly used for scripting and automation tasks?
 - A. Bash
 - B. C++
 - C. Swift
 - D. COBOL
19. 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
20. Which WiFi security protocol is considered the least secure?
 - A. WEP
 - B. WPA
 - C. WPA2
 - D. WPA3
21. 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
22. 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

23. Which IP address class is used for multicasting?
- A. Class A
 - B. Class B
 - C. Class C
 - D. Class D
24. 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
25. 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
26. 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
27. Which component is responsible for storing the computer's BIOS settings?
- A. RAM
 - B. CPU
 - C. Hard drive
 - D. CMOS
28. 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
29. 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

30. 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
31. What does the acronym CPU stand for?
- A. Computer Processing Unit
 - B. Central Processing Unit
 - C. Control and Processing Unit
 - D. Centralized Power Unit
32. Which of the following is an example of an input device?
- A. Monitor
 - B. Keyboard
 - C. Printer
 - D. Speakers
33. 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
34. 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
35. 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
36. 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

37. What is the process of converting plaintext into unreadable form called?
- A. Encryption
 - B. Decryption
 - C. Hashing
 - D. Steganography
38. 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
39. 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
40. Which type of encryption algorithm operates on individual characters or bits?
- A. Block cipher
 - B. Stream cipher
 - C. Hybrid cipher
 - D. Asymmetric cipher
41. 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
42. 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
43. 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
44. 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

45. 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
46. 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
47. 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
48. 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
49. Which color model is used to display images on computer monitors and other digital displays?
- A. CMYK
 - B. RGB
 - C. HSL
 - D. Pantone
50. 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