

Member ID: \_\_\_\_\_

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# Information Technology Concepts (391)

## REGIONAL 2025

**CONCEPT KNOWLEDGE:**

Multiple Choice (50 @ 2 points each)

\_\_\_\_\_ (100 points)

### Test Time: 60 minutes

### Multiple Choice Questions

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

1. Telnet, a protocol for accessing remote computers, uses which port by default?
  - A. 23
  - B. 21
  - C. 80
  - D. 443
2. Which port is associated with the Simple Mail Transfer Protocol (SMTP) for sending emails?
  - A. 25
  - B. 110
  - C. 143
  - D. 443
3. In the context of operating systems, a daemon is:
  - A. A malicious program
  - B. A user-operated application
  - C. A background process
  - D. A file system
4. Which tool is essential for Continuous Integration/Continuous Deployment (CI/CD) in software development?
  - A. A text editor
  - B. A version control system
  - C. A database management system
  - D. A web server
5. In the context of security, what is a Trojan Horse?
  - A. A type of antivirus software
  - B. A secure operating system
  - C. A malicious program disguised as legitimate software
  - D. A firewall feature
6. What is a kernel in the context of operating systems?
  - A. A type of computer virus
  - B. The central component of an OS, managing system resources
  - C. A programming language
  - D. A network protocol

7. What is the role of an API in software development?
  - A. Allow communication between software components
  - B. Design user interfaces
  - C. Create databases
  - D. Test software performance
8. Who is credited with developing the C++ programming language?
  - A. Bjarne Stroustrup
  - B. James Gosling
  - C. Tim Berners-Lee
  - D. Guido van Rossum
9. What is the purpose of a firewall in the context of network security?
  - A. Block unauthorized access
  - B. Speed up internet connection
  - C. Enhance file storage
  - D. Improve hardware performance
10. Which programming language is often used for developing web applications?
  - A. C#
  - B. JavaScript
  - C. Swift
  - D. C++
11. In programming, what is the purpose of a loop?
  - A. Define a function
  - B. Make decisions based on conditions
  - C. Repeat a block of code
  - D. Print text to the console
12. What does HTTP stand for in the context of web technology?
  - A. HyperText Transfer Protocol
  - B. Hyperlink and Text Transfer Protocol
  - C. Home Tool Transfer Protocol
  - D. HyperText Terminal Protocol
13. Which of the following is NOT an example of an input device?
  - A. Keyboard
  - B. Monitor
  - C. Mouse
  - D. Scanner

14. What does the abbreviation "LAN" stand for in networking?
  - A. Large Area Network
  - B. Local Area Network
  - C. Linked Access Network
  - D. Longwire Area Network
15. What is the primary function of a database management system (DBMS)?
  - A. Manage hardware resources
  - B. Ensure data security
  - C. Control user interfaces
  - D. Handle data storage and retrieval
16. What is the primary function of an operating system?
  - A. Memory Management
  - B. File Management
  - C. Data Analysis
  - D. Process Management
17. Which of the following is NOT a commonly used database management system?
  - A. MySQL
  - B. Oracle
  - C. Photoshop
  - D. PostgreSQL
18. What is the purpose of the SQL language in databases?
  - A. Structured Query Language
  - B. Simple Question Language
  - C. System Query Logic
  - D. Standardized Query Link
19. What does the acronym "URL" stand for in web technology?
  - A. Uniform Resource Locator
  - B. Universal Realtime Language
  - C. User Recognition Link
  - D. Ultra Responsive Layout
20. What aspect of ergonomics focuses on the visual environment, including screen brightness and contrast?
  - A. Acoustic ergonomics
  - B. Visual ergonomics
  - C. Physical ergonomics
  - D. Cognitive ergonomics

21. What type of malware is designed to replicate itself and spread to other computers?
- A. Adware
  - B. Spyware
  - C. Worm
  - D. Trojan
22. What does the term "syntax error" refer to in programming languages?
- A. An error in the logic of the program
  - B. An error in the code structure
  - C. An error in variable naming
  - D. An error in the program's output
23. Which layer of the OSI model is responsible for error detection and correction?
- A. Application
  - B. Transport
  - C. Network
  - D. Physical
24. Which of the following is considered an unethical hacking practice?
- A. Black hat hacking
  - B. White hat hacking
  - C. Ethical hacking
  - D. Defensive hacking
25. Which term describes the sharpness and clarity of an image on a display?
- A. Brightness
  - B. Contrast
  - C. Resolution
  - D. Hue
26. Which sorting algorithm is considered efficient for large datasets due to its divide-and-conquer approach?
- A. Bubble Sort
  - B. Quick Sort
  - C. Insertion Sort
  - D. Selection Sort
27. To minimize environmental impact, companies should prioritize:
- A. Buying new equipment frequently
  - B. Using cloud computing resources efficiently
  - C. Increasing paper usage
  - D. Maximizing energy consumption

28. How does the concept of 'containerization' in software development improve application deployment?
- A. By increasing the application's size
  - B. By linking the application tightly with the operating system
  - C. By making applications platform-independent
  - D. By requiring additional hardware
29. Which programming language introduced the concept of object-oriented programming to a wide audience in the 1980s?
- A. C
  - B. Python
  - C. Smalltalk
  - D. Java
30. Which programming language is primarily used for developing mobile applications?
- A. C
  - B. Swift
  - C. Java
  - D. PHP
31. Reducing the brightness of computer screens can help in reducing:
- A. Carbon footprint
  - B. Noise pollution
  - C. Eye strain
  - D. Air pollution
32. In Unix-like operating systems, which command is used to change the current directory?
- A. cd
  - B. md
  - C. rd
  - D. change
33. An essential aspect of network security is to regularly:
- A. Change network cables
  - B. Update and patch systems
  - C. Decrease firewall settings
  - D. Increase the number of open ports
34. In terms of security, hashing is used to:
- A. Compress files
  - B. Encrypt data
  - C. Verify data integrity
  - D. Increase data speed

35. Which ethical principle in computing forbids stealing or using someone else's work without permission?
- A. Confidentiality
  - B. Integrity
  - C. Plagiarism
  - D. Accountability
36. An effective strategy to reduce electronic waste includes:
- A. Decreasing device usability
  - B. Shortening the lifespan of devices
  - C. Designing for repairability
  - D. Using devices until they fail completely
37. Which of the following is a key feature of Agile software development methodology?
- A. Detailed upfront planning
  - B. Regular adaptation to changing circumstances
  - C. Strict adherence to initial project scope
  - D. Long development cycles
38. What is the term for software that allows the operating system to communicate with hardware?
- A. Device Manager
  - B. Control Panel
  - C. Driver
  - D. Application
39. Which protocol is designed for automatic IP address assignment?
- A. DHCP
  - B. DNS
  - C. FTP
  - D. HTTP
40. A DDoS attack refers to:
- A. Digital Data Security
  - B. Direct Denial of Service
  - C. Distributed Denial of Service
  - D. Dynamic DNS Service
41. What is the function of a router in a network?
- A. Filters and forwards data packets
  - B. Stores website data
  - C. Encrypts user passwords
  - D. Manages email accounts

42. An effective security measure for protecting sensitive data transmitted over the Internet is:
- A. FTP
  - B. SSL encryption
  - C. Plain text
  - D. Public Wi-Fi
43. Which protocol is commonly used for secure data transmission over the internet?
- A. FTP
  - B. HTTP
  - C. SMTP
  - D. HTTPS
44. In cybersecurity, what does the principle of 'least privilege' entail?
- A. Granting users the lowest level of access necessary
  - B. Ensuring that all users have equal access rights
  - C. Encrypting all data transmissions
  - D. Regularly updating access privileges
45. What component is considered the "brain" of the computer, responsible for executing instructions?
- A. Hard Drive
  - B. CPU
  - C. GPU
  - D. RAM
46. Port 443 is used by which protocol?
- A. HTTP
  - B. HTTPS
  - C. FTP
  - D. SMTP
47. For environmental sustainability, data centers can reduce their carbon footprint by:
- A. Increasing the use of physical servers
  - B. Decreasing cooling system efficiency
  - C. Utilizing renewable energy sources
  - D. Maximizing power usage effectiveness (PUE)
48. What is the purpose of a constructor in object-oriented programming languages?
- A. Initializes an object
  - B. Executes the main method
  - C. Declares variables in a class
  - D. Returns a value from a method

49. What type of printer uses toner?

- A. Inkjet
- B. Dot Matrix
- C. Laser
- D. 3D

50. Which technology is designed to provide secure communication over a public network?

- A. LAN
- B. WAN
- C. VPN
- D. PAN