लोक सेवा आयोग

राष्ट्रिय वाणिज्य बैंक लिमिटेड, प्रशासन, सूचना प्रविधि, पाँचौँ, वरिष्ठ सहायक (सूचना प्रविधि) पदको
खुला प्रतियोगितात्मक लिखित परीक्षा

२०८३।०७।१४

KEY [A]

पत्र : प्रथम

समय : २ घण्टा पूर्णाङ्क : १००

विषय : Information Technology and Management, Banking and Organizational Management

उत्तरपुस्तिकामा प्रश्नपत्रको KEY अनिवार्य रूपले उल्लेख गर्नुपर्नेछ । उल्लेख नगरेमा उत्तरपुस्तिका रद्द हुनेछ । परीक्षामा calculator, mobile प्रयोग गर्न पाइनेछैन ।

Objective **Time: 45 minutes**

Multiple Choice **Marks: 50x1=50**

1. The fundamental building block of an analog computer is the .....
   A) Transistor Switch (logic) B) Operational Amplifier (Op-Amp)
   C) Magnetic Core Memory D) Integrated Circuit Microprocessor
2. Which computer is best suited for weather forecasting, climate modeling?
   A) Desktop Computer B) Mini Computer
   C) Mainframe Computer D) Supercomputer
3. What does BCC mean in email?
   A) Blind Carbon Copy B) Basic Carbon Copy
   C) Backup Carbon Copy D) Binary Carbon Copy
4. Which HTML tag is used to create a hyperlink on a web page?
   A) <img> B) href
   C) <a> D) <src>
5. Which protocol is commonly used for browsing websites securely?
   A) HTTP B) FTP
   C) HTTPS D) SMTP
6. Which of the following is a physical security measure controlling voltage fluctuation?
   A) Surge Protection Device B) AC Voltage
   C) Biometrics D) Ammeter
7. Reinforcement learning is based on .....
   A) labeled images B) rewards and penalties
   C) statistical sampling D) compression
8. Which of the following requires participants to solve computationally difficult problems in blockchain?
   A) Difficulty Level B) Block Level Computation
   C) Consensus Mechanism D) Authentication
9. Which register holds the address of the next instruction to be executed?
   A) IR B) MAR
   C) AC D) PC

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10. Which of the following is the secondary memory?
    A) Register
    B) Hard Disk
    C) RAM
    D) Cache
11. A CPU has a 3GHz clock frequency. Which statement is the most accurate?
    A) The CPU generates approximately 3 billion clock cycles per second
    B) The CPU executes exactly 3 billion instructions every second
    C) Each instruction necessarily requires exactly one clock cycle
    D) The CPU can process exactly 3 billion bytes of data per second
12. The purpose of spindle in Hard Disk is .....
    A) to read files
    B) to write files
    C) to rotate platter
    D) to point address
13. Which CPU architecture uses separate memory and buses for instruction and data?
    A) Von Neumann Architecture
    B) Harvard Architecture
    C) CISC Architecture
    D) RISC Architecture
14. What is the primary function of the Control Unit?
    A) Perform arithmetic calculations
    B) Direct and coordinate CPU operations
    C) Store permanent data
    D) Display output
15. Which I/O technique allows a device to notify the CPU when it requires attention?
    A) Polling
    B) Caching
    C) Spooling
    D) Interrupt-driven I/O
16. The method of accessing the I/O devices by repeatedly checking the status flags is .....
    A) Program-controlled I/O
    B) Memory-mapped I/O
    C) I/O mapped
    D) DMA
17. Which device broadcasts incoming data to all connected ports?
    A) Hub
    B) Router
    C) Switch
    D) Bridge
18. In a multiple computer LAN, which of the following devices is used to ensure that data is forwarded only to the port associated with the destination device, rather than being broadcasted to all connected devices?
    A) Router
    B) Hub
    C) Repeater
    D) Switch
19. Which of the following is used by the internet?
    A) Circuit switching
    B) Packet switching
    C) No switching
    D) Internet switching
20. Which of the following techniques holds capability to detect and correct errors in transmitted data over network?
    A) Parity Check
    B) Checksum
    C) Dual Code
    D) Hamming Code
21. Which of the following protocols converts domain name into IP address?
    A) DHCP
    B) ARP
    C) DNS
    D) ICMP
22. Which protocol is used to map an IPv4 address to the corresponding MAC address on a local network?

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A) ARP
B) DNS
C) DHCP
D) ICMP

23. Which notation represents an IPv4 network using CIDR?
A) 192.168.1.0/24
B) 192.168.1.0:24
C) 192.168.1.0-24
D) 192.168.1.0\24

24. Which of the following is an example of symmetric encryption?
A) RSA
B) AES
C) ECC
D) DSA

25. Which of the following security devices is appropriate to control incoming and outgoing network traffic based on predefined security policy such as source/destination IP address and ports?
A) Hub
B) Repeater
C) Firewall
D) DNS Server

26. Social engineering attacks primarily exploit .....
A) software bugs
B) hardware failures
C) network bandwidth limits
D) human psychology and trust

27. What is the security risk of "Tailgating" in premise?
A) An employee leaving computer screen unlocked while going out of desk
B) An attacker sending thousands of spam emails to company
C) Stealing PIN/Password of a person by looking from back side of a user
D) An unauthorized person following an authorized employee to enter the gate without any checking

28. An email looks same like it is from your bank asking you to click a link and reset your login password immediately. What type of attack is this?
A) Spyware
B) Phishing
C) Pharming
D) Email Spoofing

29. Authentication in cybersecurity refers to .....
A) granting permissions after identity is verified
B) verifying the identity of a user
C) encrypting data
D) auditing the usage of the system

30. What is the vision of Nepal's National ICT Policy, 2072?
A) To transform Nepal into an information and knowledge-based society and economy
B) To promote ICT for the productivity of the sectors which are key drivers of the national economy
C) To develop ICT sector as a key driver of Nepal's sustainable development and poverty reduction
D) To empower and facilitate Nepal's participation in the global ICT forum

31. According to the IT Guidelines issued by NRB, how often should a bank's Board-approved IT policy be reviewed at a minimum?
A) Every 1 year
B) Every 2 years
C) Every 3 years
D) Every 4 years

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32. Which of the following is not a Two Factor Authentication (2FA)?
    A) PIN and Biometric
    B) Card and PIN
    C) Password and PIN
    D) Card and Biometric
33. In an application vulnerable to SQL injection, what is the primary purpose of appending a payload containing 'OR'1' = 1 to an input field?
    A) Alter database
    B) To make a conditional statement always evaluated to true, thereby bypassing authentication logic
    C) To escalate to administrator privileges
    D) To delete a database table
34. Which type of server acts as an intermediary between a client and the internet?
    A) Web Server
    B) DNS Server
    C) Database Server
    D) Proxy Server
35. In which OSI layer does Proxy Server operate?
    A) Layer 4
    B) Layer 5
    C) Layer 6
    D) Layer 7
36. ..... are used when the multiple rows of a table are to be processed.
    A) Cursors
    B) Triggers
    C) Procedures
    D) Functions
37. Which of the following is used to control the presentation/styling of a web page?
    A) XML
    B) HTML
    C) CSS
    D) UML
38. A view of database that appears to an application program is known as .....
    A) Schema
    B) Subschema
    C) Virtual table
    D) Internal level
39. ..... enforces the parent record cannot be deleted when child record exists.
    A) Data integrity
    B) Domain integrity
    C) Referential integrity
    D) Security
40. What is the main purpose of indexing in a database?
    A) To remove duplicate records
    B) To manage database backups
    C) To increase the size of the database
    D) To improve the speed of data retrieval
41. In HTTP, ... is used to submit form data securely without appending it to the URL.
    A) GET
    B) PUT
    C) POST
    D) HEAD
42. ..... is a common data warehousing technique for handling large scale aggregation quickly.
    A) Foreign keys
    B) Materialized views
    C) Normalization
    D) Triggers
43. Which of the following is a preemptive scheduling algorithm?
    A) Round Robin
    B) Repetitive First
    C) Batch Processing
    D) First Come First Serve
44. A deadlock in an operating system occurs when .....
    A) a process completes execution unsuccessfully

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B) two or more processes are waiting indefinitely for resources held by each other

C) the CPU is idle

D) D) memory is defragmented

45. The time for the disk arm to move the heads to the cylinder containing the desired sector is called ..... time.

A) Disk B) Seek

C) Arm D) Sector

46. Which command is used to setup hard disk?

A) loadfix B) expand

C) share D) fdisk

47. Which of the following is commonly associated with UNIX operating system?

A) Primarily designed for gaming

B) Strong command-line interface and multiuser support

C) Primarily designed for graphical user interface

D) Used mainly for document processing

48. Which of the following commands is used to display the contents of a folder or directory in DOS?

A) Disp B) Show

C) DIR D) View

49. Copy-on-write is primarily used to optimize .....

A) network packet transfer B) disk management

C) process creation via fork D) file management

50. A system state is 'safe' in the Banker's Algorithm if .....

A) all processes can complete without deadlock

B) all resources are currently free

C) there is 100% CPU utilization

D) no process is in waiting condition

-The End-

उत्तरपुस्तिकामा KEY अनिवार्य रूपमा लेख्नुहोला ।

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