लोक सेवा आयोग

नेपाल राष्ट्र बैंक, प्राविधिक, सूचना प्रविधि, सहायक द्रितीय, सहायक (सूचना प्रविधि) पदको खुला प्रतियोगितात्मक लिखित परिक्षा

२०८१।०१।१९

पत्र:प्रथम **KEY [B]**

समय: २ घण्टा ३० मिनेट पूर्णाङ्क : १००

विषय : **Information Technology - I**

Objective Time : 30 mins

Multiple Choice **25*1 = 25 Marks**

1.What is the primary purpose of implementing a backup and disaster recovery plan?
A. To prevent all possible disasters from occurring
B. To minimize the impact of data loss and downtime in the event of a disaster
C. To ensure that no data loss occurs ever
D. To completely eliminate the need for data backup

2. IDE interface can be used to connect .....
A. only hard drive B. only optical drive
C. both hard drive and optical drive D. none of the above

3. What is the primary difference between a vacuum tube and a semiconductor?
A. Vacuum tubes are smaller in size
B. Semiconductors use electrons, while vacuum tubes use ions
C. Vacuum tubes are more efficient at high temperatures
D. Semiconductors consume less power

4. Which of the following transistor circuits in most commonly used?
A. Common Emitter B. Common Base
c. Common Collector D. Emitter Collector

5. In a PNP transistor, base will be of ..... material.
A. P B. N C. Neither P or N D. Either P or N

6. How do a MOSFETs differ from JFETs?
A. MOSFETs have higher input impedance
B. JFETs operate at higher temperature
C. MOSFETs are less susceptible to gate capacitance
D. JFETs have a larger channel width

7. Which of the following terms refers to the method of mapping the consecutive memory blocks to consecutive cache blocks?
A. Direct Mapping B. Parallel Mapping C. Associative Mapping D. Indirect Mapping

8. Which ratio is used to measure the performance of cache memory?
A. Chat Ratio B. Hit Ratio C. Copy Ration D. Data Ratio

9. What is the name given to the method of accessing the I/O devices by repeatedly? Checking the status flags?
A. Interrupt based I/O B. Memory Mapped I/O
C. Program-Controlled I/O D. Hardwired I/O

10. What is the primary function of operating system?
A. Providing security to the system B. Storing files and directories
C. Running applications software D. Managing hardware resources

11. What method offers higher speed of I/O transfer?
A. DMA B. Memory mapped I/O
C. Program-controlled I/O D. Interrupt-initiated I/O

12. A ..... Is a named location on a disk where all files are stored.
A. Folder B. Volume C. Label D. Root

13. Which of the following is not a common security measure in operating systems?

A. Antivirus Software B. Firewall C. Network Router D. IDS

14. Which network topology is best suited for large business, which must carefully control and coordinate the operation of distributed branch outlets?

A. Ring B. Local area C. Hierarchical D. Star

15. Which of the following accurately describes the concept of subnetting in computer networking?

A. Subnetting refers to the process of connecting multiple networks together to form a larger network

B. Subnetting is a technique used to translate domain names into IP addresses

C. Subnetting involves encryption data packets to secure then during transmission

D. Subnetting involves dividing a larger network into smaller sub networks

16. Which of the following is a program that can retrieve files from the World Wide Web and render texts, images or sounds encoded in the files?

A. Explorer B. Browser C. Web Server D. Web Application

17. What is the primary function of a firewall in network security?

A. Encrypting data transmission

B. Filtering network traffic based on predetermined security rules

C. Managing IP addresses

D. Controlling access to network resources

18. What technology is commonly used for teleconferencing?

A. VoIP B. Bluetooth C. NFC D. RFID

19. What happens to a file if it is compressed?

A. Quality enhances B. Requires less space for storage

C. Requires more time to deliver to client D. Requires decryption

20.Which signal is used for execution and sequencing of instructions?

A. Logical signal B. Input signal C. Control signal D. Output Signal

21. What does the term 'peripheral device' refer to the context of computer system?

A. The main processing unit of computer

B. External devices connected to a computer to provide input and output capabilities

C. The operating system of a computer

D. A network of interconnected computers

22.Which of the following software programs or hardware device filters all data packets combining through the internet or a network?

A. Antivirus B. Firewall C. Cookies D. Malware

23. What is the purpose of a modem in a computer system?

A. Provides digital security B. Performs arithmetic operations

C. Stores data temporarily D. Converts digital signals to analog signals

24. What is the purpose of BIOS settings in a computer system?

A. Managing storage devices

B. Configuring system peripheral

C. Providing instructions for hardware initialization

D. Managing network connection

25.How many pins are available in parallel port?

A. 9 B. 15 C. 20 D. 25

Answer Sheet

01.B	02. C	03.D	04. A	05. B	06. A	07. A	08. B	09. C	10. D
11. A	12. A	13. C	14. C	15. D	16. B	17. B	18. A	19. B	20. C
21. B	22. B	23. D	24. C	25. D					

Subjective

Section "A" – 30 Marks

1. Briefly explain the characteristics of computer that makes it a useful device for any organization.
   [5 Marks]
2. What is Disaster Recovery? Briefly explain about different backup methods.
   [2+3=5 Marks]
3. What is an IC? Why are ICs so cheap? Why are ICs widely used in modern electronic devices? Explain.
   [1+1+3=5 Marks]
4. Explain about the working principle of Zener diode.
   [5 Marks]
5. What are the common security threats in cyber space? Explain. What measures should be taken to mitigate these threats? Discuss.
   [5+5=10 Marks]

Section "B" – 45 Marks

6. What is an interrupt in computing? Explain how processor handles an interrupt.
   [1+4=5 Marks]
7. List the syntax, purpose and examples of any ten DOS commands.
   [5 Marks]
8. Discuss the concept and importance of IP addressing. What are the differences between IPv4 and IPv6 addresses? Write.
   [3+2=5 Marks]
9. What is VPN? When would you use a VPN? How does it enhance network security? Explain.
   [1+2+2=5 Marks]
10. What is data compression? Why is it necessary to compress files? Mention the digital picture and video compression techniques.
    [1+2+2=5 Marks]
11. What is Memory Hierarchy? Explain in detail. Discuss the importance of RAID configuration of disks.
    [7+3=10 Marks]
12. What is the OSI reference model? Explain the basic functions of each layer with example of device operating at different layers. Also, discuss how OSI reference model differs from TCP/IP protocol suite.
    [1+6+3=10 Marks]