This paper consists of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks.

1.   What are the three primary reasons that underscore the crucial importance of effective security management for servers within complex systems?
        A.   Automating code deployment, standardising templates and simplifying network segmentation rules
        B.   Implementing load balancers, designing for vertical scaling and managing encryption key storage
        C.   Using Prometheus, configuring round-robin policies and running non-interactive security scans
        D.   Protecting data, ensuring system integrity and preventing unauthorised access or attacks   (2 marks)

2.   What is an advantage of the Server with desktop experience installation that makes it particularly good for beginners, as used in monitoring tools?
        A.   Smaller attack surface and better security
        B.   Lower resource usage
        C.   Familiar Windows interface
        D.   Fewer updates needed   (2 marks)

3.   Which one of the following tools is listed as a primary method for managing a Server Core installation?
        A.   Local GUI tools
        B.   PowerShell
        C.   Server Manager
        D.   Direct local administration   (2 marks)

4.   What is the primary action taken during the post-installation configuration process for a new Windows Server aimed at improving security and reducing the attack surface?
        A.   Renaming and setting static IP
        B.   Configuring the network settings for IPv4
        C.   Running the VirtualBox Guest Additions CD
        D.   Starting the Server Manager automatically   (2 marks)

5.   In a network, administrator's account is a prime target for attackers seeking maximum system control. To increase system security, what mandatory password policy should an administrator's password adhere to?
        A.   Must be stored in the Network and Sharing Center
        B.   Must be input using a command-line interface
        C.   Must be unique for all domain users
        D.   Must meet complexity requirements   (2 marks)

6.   Which primary administrative utility is configured to start automatically right after the initial post-installation setup process is complete?
        A.   Network and Sharing Center
        B.   Windows Update Configuration
        C.   Server Manager.
        D.   VirtualBox Installation Wizard   (2 marks)

7. Which one of the following statements best describes a necessary component used during server maintenance procedures?
   A. Troubleshooting unexpected network issues
   B. Creating a structured maintenance plan
   C. Monitoring system performance metrics
   D. Utilising appropriate diagnostic resources   (2 marks)

8. Monitoring and managing server resources such as CPU, memory and disk space helps in taking specific action before issues negatively impact users. What should administrators do to address this issue?
   A. Identify and address performance issues
   B. Centralise the collection of monitoring data
   C. Define the desired state of system configurations
   D. Ensure the use of high-speed network interfaces   (2 marks)

9. The two most crucial physical factors to monitor for server health are temperature and humidity. Identify a measure that an administrator can take to guarantee the overall server health?
   A. Checks the health and performance of databases that store information
   B. Reviews system monitoring logs to find potential problems
   C. Monitors things like fan speed and power levels
   D. Observes how much data is being sent and received   (2 marks)

10. A University's campus network is prone to many threats both within and without. What control measure should the network administrator take to protect servers from threats generated on campus network?
    A. Disable all unused services
    B. Employ a software firewall
    C. Implement only IPsec
    D. Rely on the Windows Update process   (2 marks)

11. What is the method of scaling resources that involves increasing the system's capacity by adding more servers to the distributed system?
    A. Vertically
    B. Manually
    C. Dynamically
    D. Horizontally   (2 marks)

12. The type of server maintenance that remove errors that might have occurred due to faulty design, logic or coding which prevent the software form meeting its specification is known as _____ maintenance.
    A. perfective
    B. corrective
    C. preventive
    D. adaptive   (2 marks)

13. What is the primary advantage of utilising On-Premises/Traditional Systems that gives organisations the ability to implement customised configurations specifically tailored to their unique requirements?
    A. Organisations have complete control over their hardware and software environments, allowing for customised configurations
    B. Organisations can leverage the scalability and ease of use provided by cloud solutions for optimal performance
    C. Organisations benefit from quick deployment and simpler management due to user-friendly interfaces with minimal setup
    D. Organisations can use mobile applications to receive real-time alerts and view dashboards regardless of their location   (2 marks)

14. Which type of file is an example of an updated file provided by Windows Update for Windows operating systems?
    A. Product ID and product key information
    B. Network and sharing configuration
    C. Security fixes
    D. Internet Explorer version   (2 marks)

15. A Service Request (SR) is classified as a critical incident if the business impact is severe. Which major system is specifically affected?
    A. A non-production environment is impacted
    B. A minor software defect is discovered
    C. The customer service portal is intermittently unavailable
    D. The production system is down (2 marks)

16. What specific capability should a server monitoring tool possess regarding the different types of IT infrastructure, making it crucial for organisations with diverse environments the tool must _____.
    A. be capable of providing contextual information about alerts, like historical performance data and related events
    B. support a wide range of server types, including physical, virtual and cloud servers
    C. offer integrated troubleshooting capabilities, such as logs and performance metrics
    D. provide multiple notification methods like email, SMS and mobile app notifications (2 marks)

17. What fundamental practice involves the continuous tracking of a server's performance and overall health by diligently gathering crucial data on its essential operating metrics?
    A. Server monitoring encompasses continuous tracking of the performance and the health of servers
    B. Server management necessitates implementing software monitoring tools for early warning systems
    C. Server analysis requires periodically reviewing historical data to spot potential operational trends
    D. Server oversight involves implementing tiered alert systems to prioritise critical alerts over less urgent ones (2 marks)

18. What is the primary function of the Windows utility IPCONFIG in relation to network troubleshooting? To _____.
    A. measure the latency of a TCP connection
    B. provide diagnostic information related to TCP/IP network configuration
    C. verify IP-level connectivity to another computer
    D. query DNS to obtain domain name or IP address mapping information (2 marks)

19. What is the primary benefit of proper server management that is critical for maintaining high availability of services to users?
    A. Facilitates horizontal or vertical scaling of resources
    B. Reduces manual effort and minimises human error
    C. Minimises the risk of outages or downtime
    D. Enables the use of Ruby-based configuration DSL (2 marks)

20. Which one of the following statements is **NOT** an environmental change that contributes to adaptive maintenance as used in server maintenance?
    A. Coding errors
    B. Software adaptation
    C. Changes in organisational policies
    D. Changes in organisational procedures (2 marks)

21. What is the overarching objective for any organisation when utilising Monitoring and Logging services regarding the crucial operational state of its vital systems? To _____.
    A. provide a comprehensive view of all hardware and software inventories
    B. standardise all application code bases into a single format, like JSON
    C. regularly archive and remove old log files to save disk space
    D. ensure the reliability, performance and security of its systems (2 marks)

22. In optimising performance, what specific action does effective server management include to prevent a single server from becoming a bottleneck?
    A. Distributing workloads evenly across servers
    B. Implementing automated scaling mechanisms
    C. Enforcing security policies and access control
    D. Allocating resources from a hypervisor (2 marks)

23. What is the ultimate goal of testing the restoration procedures quarterly to _____.
    A.   guarantee automated scheduling
    B.   confirm the backups are actually useful when it's time to restore
    C.   plan for all replacements of the backup every three to five years
    D.   ensure encryption keys are stored in multiple locations   (2 marks)

24. What is the recommended action regarding the use of the default administrator account for daily tasks? It should be _____.
    A.   used for all day-to-day operations
    B.   used only for browsing the internet
    C.   renamed and never used for day-to-day operations
    D.   given full control share permission to all users all the time   (2 marks)

25. If automatic updates feature identifies any updates for the computer, where will the user see an icon indicating the available updates?
    A.   In the notification area of the taskbar
    B.   In the Server Manager start-up window
    C.   On the Welcome To Windows Update screen
    D.   In the Help and Support page on the Microsoft website   (2 marks)

26. What are the two specific actions related to security that are generally required in a server maintenance plan concerning log files and unauthorised access attempts?
    A.   Assessing hard disk space and updating antivirus software on all computers on the network
    B.   Ensuring adequate redundancy of systems and examining security features
    C.   Installing security patches and monitoring network temperature
    D.   Checking server log files and reading server logs for security alerts   (2 marks)

27. What deep insight do IT server maintenance specialists gain from actively monitoring essential metrics like CPU usage, memory consumption and disk space and how do they use this knowledge?
    A.   They gain an understanding of process monitoring to ensure specific applications are running as they should
    B.   They gain a deep vision into server operations, allowing them to spot potential issues before they escalate
    C.   They gain the ability to schedule system backups to virtually any writable media for disaster recovery
    D.   They gain the ability to ensure that the firewall is blocking ports not required for the server to function properly   (2 marks)

28. What specific action related to server software helps protect against vulnerabilities and potential security breaches in a distributed system?
    A.   Monitoring read and write cue lengths
    B.   Using only a single server for the workload
    C.   Renaming the Built-In Administrator account
    D.   Regularly applying security patches   (2 marks)

29. What are three specific examples of information that "Logging" refers to and records about the events that occur within a system or application?
    A.   Error messages, user actions and system activity
    B.   Resource usage, network traffic and error rates
    C.   CPU utilisation, memory consumption and disk space
    D.   High error rate, low disk space and application response time   (2 marks)

30. Automating server configuration is the use of software and tools to manage and execute routine server management tasks. Which one of the following factors will lead to more efficient operations?
    A.   Minimising availability
    B.   Reducing performance bottleneck
    C.   Reducing human error
    D.   Minimising network redundancy   (2 marks)

31. What does the term "network maintenance" fundamentally involve in ensuring each connection and device remains secure, updated and operationally ready?
    A. It involves inspecting and replacing hardware, checking access control lists and optimising bandwidth usage
    B. It's creating a structured routine that tackles updates, security checks and performance monitoring
    C. It means the avoidance of scheduling updates to save time that can be used for troubleshooting
    D. It includes setting up alerts for performance metrics and conducting weekly vulnerability assessments
    (2 marks)

32. The initial server configuration includes ensuring each server has appropriate resources to handle its workload, whether the servers are of what two types?
    A. Physical or virtual
    B. Ansible or Puppet
    C. Database or web server
    D. Local or remote
    (2 marks)

33. Configuring network settings for servers in a distributed system involves setting up which two specific identifiers for communication?
    A. SSH and YAML
    B. CPU and memory
    C. File systems and user permissions
    D. Subnets and routing rules
    (2 marks)

34. What is the specific data management advice given regarding the use of the server system, besides keeping disk storage clean?
    A. Use automated patch management tools and monitoring
    B. Review the log for any hardware problems
    C. Don't use your server system as an archival system
    D. Must always update your system if you are using Linux
    (2 marks)

35. Proper server management is the process of maintaining servers to ensure they are secure, reliable and perform efficiently through tasks like monitoring, updates, backups and security configurations
    Which two key assets are protected by enforcing security policies and securing access?
    A. Virtual servers and hypervisor resources
    B. Sensitive data and preventing unauthorised access
    C. Centralised monitoring data and automation scripts
    D. Physical hardware and network interfaces
    (2 marks)

36. What key benefit does the implementation of software monitoring tools provide to IT teams regarding potential system failures it _____.
    A. guarantees a response time of 300 ms or faster for all user requests
    B. helps to analyse the performance of databases that store information
    C. can provide early warnings for potential failures, like application crashes
    D. enables administrators to maintain high availability for customers
    (2 marks)

37. Server motherboards are capable of supporting what vast amount of physical memory (RAM)?
    A. Up to 100 GB or 128 GB stick
    B. Up to 1-2 TB of RAM
    C. Up to 1000 concurrent connections
    D. Up to 10 different hard drives only
    (2 marks)

38. What specific data presentation characteristics should intuitive dashboards possess to enhance understanding and facilitate quick decision-making for IT staff the panels _____.
    A. must present critical data clearly and concisely
    B. should be capable of scaling with the organisation without requiring an overhaul
    C. must offer multiple deployment options based on the organisation's needs
    D. should provide integrated documentation and direct support channels
    (2 marks)

39. Which one of the following activities is **NOT** a must to include for a structured routine solid IT network maintenance?
    A. Monitoring network performance
    B. Inspecting and replacing hardware
    C. Performing troubleshooting and diagnostics
    D. Optimising bandwidth usage
    (2 marks)

40. Besides conducting security assessments and checking access lists, what critical data management step is part of the maintenance routine?
    A. Automating all alerts for performance metrics
    B. Visual inspection of all critical hardware
    C. Backing up critical data
    D. Monitoring latency spikes (2 marks)

41. What is the practical advice given regarding the frequency of backups for critical data, to minimise the amount of recent work lost in the event of a failure schedule _____.
    A. quarterly backups for all network devices
    B. daily backups for critical data
    C. monthly backups for encryption keys
    D. automated backups only when the budget allows (2 marks)

42. What is the specific symptom that administrators should look for during the quarterly hardware inspection that suggests a device may be at risk of failure?
    A. Low disk space
    B. Rusted hardware
    C. Outdated access permission
    D. Overheating (2 marks)

43. What are the three primary characteristics that differentiate a server from a standard desktop computer in terms of its intended working conditions servers are _____.
    A. configured with a single CPU, limited RAM and cheap, consumer-grade hard drives
    B. dedicated to browsing the internet, running interactive applications and providing a graphical user interface
    C. made for easy hardware upgrades, rapid software installation and single-user interactions
    D. made for durability, longevity and working longer periods of time (2 marks)

44. For servers to ensure continuous operational outcomes, why do they incorporate redundant power supplies? To _____.
    A. keep the server up and running in case of a power failure
    B. provide services and functionality to client computers
    C. limit the server to only use server-grade operating systems
    D. automatically distribute all the data to each drive using RAID (2 marks)

45. _____ is the process of adding, changing, updating and removing a feature of software after its launch to meet customers' needs.
    A. Server updates
    B. Server monitoring
    C. Server maintenance
    D. Server support (2 marks)

46. What two specific types of hardware problems should be reviewed in the server log because they are common but can create a big issue?
    A. Missing security updates and unpatched systems
    B. Client cancellations and staff changes
    C. Corrupt database tables and security alerts
    D. Disk read error and network failure (2 marks)

47. What is the specific security and access-related feature that should be examined as part of the overall server maintenance plan?
    A. Checking server log files
    B. Examining security features
    C. Examining folder permissions
    D. Ensuring adequate system redundancy (2 marks)

48. What specific type of server is the term "server" generally used to refer to and what essential resources does this centralised computer with an operating system provide to other connected devices?
    A. The term "server" is generally used to refer to a file server or a file and print server, which provides a sharable and centralised repository for files, including essential programs and all user data
    B. The term "server" is generally used to refer to a dial-in/out server, which is a specialised device used to improve the overall management and support of a local, non-shared resource that is becoming increasingly expensive
    C. The term "server" is generally used to refer to a web and email server, which capitalises on its speed and function to avoid the need for any internal IT staff to improve or maintain the technology itself
    D. The term "server" is generally used to refer to a database server, which allows for the creation of a peer-to-peer network with several PCs connected without requiring any attached printers   (2 marks)

49. What are three specific performance metrics that should have automated alerts set up for them as used in server maintenance?
    A. Bandwidth, security and hardware
    B. Latency, throughput and error rates
    C. Updates, patches and features
    D. Logs, data and access control lists   (2 marks)

50. Besides passwords, how else do server operating systems protect data? Must also _____.
    A. rely on mechanical systems to load the disk or tape when requested
    B. provide management and control of storage on many different media types
    C. keep track of which user has a specific file and the transitional changes made
    D. encode or encrypt information so that only authorised readers may read it   (2 marks)

....

www.chopi.co.ke

![kasneb logo]

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINISTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 19 August 2025. Morning Paper.　　　　　　　　**Time Allowed: 2 hours.**

This paper consists of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks.

1.　　Which one of the following is a key component of preventive maintenance in server environments?
　　　　A.　　Replacing hardware only after failure
　　　　B.　　Regularly updating software and firmware
　　　　C.　　Ignoring performance metrics
　　　　D.　　Conducting maintenance only during peak hours　　　　　　　　(2 marks)

2.　　The primary purpose of predictive maintenance in server management is to _____.
　　　　A.　　fix issues after they occur
　　　　B.　　predict and prevent potential failures before they happen
　　　　C.　　reduce the need for monitoring tools
　　　　D.　　increase server downtime　　　　　　　　(2 marks)

3.　　Which one of the following tools is commonly used for monitoring server performance?
　　　　A.　　Task Manager
　　　　B.　　Disk Cleanup
　　　　C.　　Notepad
　　　　D.　　Paint　　　　　　　　(2 marks)

4.　　The **MAIN** goal of corrective maintenance in server environments is to _____.
　　　　A.　　prevent future issues
　　　　B.　　fix issues after they occur
　　　　C.　　predict potential failures
　　　　D.　　reduce the need for backups　　　　　　　　(2 marks)

5.　　Which one of the following techniques is **NOT** a server maintenance technique?
　　　　A.　　Corrective maintenance
　　　　B.　　Preventive maintenance
　　　　C.　　Predictive maintenance
　　　　D.　　Reactive maintenance　　　　　　　　(2 marks)

6.   What is the first step in creating a server maintenance plan?
   - A.   Identifying potential risks
   - B.   Scheduling maintenance during peak hours
   - C.   Ignoring performance metrics
   - D.   Skipping backup procedures   (2 marks)

7.   Which one of the following is a critical step in troubleshooting network issues during server maintenance?
   - A.   Ignoring error logs
   - B.   Using diagnostic tools
   - C.   Skipping hardware checks
   - D.   Avoiding documentation   (2 marks)

8.   The primary purpose of disaster recovery planning in server maintenance is to_____.
   - A.   increase server downtime
   - B.   ensure business continuity
   - C.   reduce the need for backups
   - D.   ignore potential risks   (2 marks)

9.   Which one of the following statements is a key component of network maintenance procedures?
   - A.   Ignoring software updates
   - B.   Regularly monitoring server performance
   - C.   Skipping hardware checks
   - D.   Avoiding documentation   (2 marks)

10.   The **MAIN** purpose of ensuring compliance during server maintenance is to _____.
    - A.   ignore security standards
    - B.   meet regulatory and security standards
    - C.   increase server downtime
    - D.   reduce the need for backups   (2 marks)

11.   Which one of the following is a key component of server resources?
    - A.   Network
    - B.   Printer
    - C.   Keyboard
    - D.   Mouse   (2 marks)

12.   The primary purpose of logs and audit trails in server monitoring is to _____.
    - A.   ignore performance metrics
    - B.   track user activity
    - C.   increase server downtime
    - D.   reduce the need for backups   (2 marks)

13. Which one of the following is a key feature of third-party server monitoring software?
   A.   Real-time alerts
   B.   Data encryption
   C.   Resource allocation
   D.   User access controls   (2 marks)

14. The **MAIN** purpose of using PowerShell in server monitoring is to _____.
   A.   automate repetitive tasks
   B.   ignore performance metrics
   C.   increase server downtime
   D.   reduce the need for backups   (2 marks)

15. Which one of the following statements is a common network monitoring technique?
   A.   Ignoring performance metrics
   B.   Using tools like ping and tracert
   C.   Skipping hardware checks
   D.   Avoiding documentation   (2 marks)

16. The primary purpose of a server hardware document is to _____.
   A.   ignore hardware specifications
   B.   provide detailed information
   C.   increase server downtime
   D.   reduce the need for backups   (2 marks)

17. Which one of the following is a key component of a server backup document?
   A.   Ignoring backup schedules
   B.   Schedules and procedures
   C.   Skipping hardware checks
   D.   Avoiding documentation   (2 marks)

18. The **MAIN** purpose of a server monitoring and maintenance document is to _____.
   A.   ignore performance metrics
   B.   provide monitoring results
   C.   increase server downtime
   D.   reduce the need for backups   (2 marks)

19. A server administrator needs to create a server monitoring and maintenance document. Which of the following should **NOT** be included in this document?
   A.   Server hardware specification
   B.   Backup schedules
   C.   Employee salaries
   D.   Monitoring logs   (2 marks)

20. The primary purpose of documenting server maintenance activities is to _____.
    A. ignore performance metrics
    B. provide a record for future reference and compliance
    C. increase server downtime
    D. reduce the need for backups   (2 marks)

21. Which one of the following is a key server resource that needs regular monitoring?
    A. CPU usage
    B. Keyboard functionality
    C. Monitor brightness
    D. Mouse sensitivity   (2 marks)

22. The primary purpose of monitoring server memory usage is to _____.
    A. ignore performance metrics
    B. ensure optimal server performance
    C. increase server downtime
    D. reduce the need for backups   (2 marks)

23. Which one of the following is a common issue related to server disk usage?
    A. Insufficient disk space
    B. Excessive keyboard usage
    C. Monitor flickering
    D. Mouse lag   (2 marks)

24. What is the **MAIN** purpose of monitoring server network usage?
    A. To ignore performance metrics
    B. To ensure optimal network performance
    C. To increase server downtime
    D. To reduce the need for backups   (2 marks)

25. Which one of the following is a key server resource that can impact performance if not managed properly?
    A. CPU usage
    B. Keyboard functionality
    C. Monitor brightness
    D. Mouse sensitivity   (2 marks)

26. The primary purpose of network maintenance in server environments is to _____.
    A. ignore network performance
    B. ensure optimal network performance and security
    C. increase server downtime
    D. reduce the need for backups   (2 marks)

27. Which one of the following is a network maintenance task?
    A.   Ignoring network performance
    B.   Updating network firmware
    C.   Skipping hardware checks
    D.   Avoiding documentation   (2 marks)

28. What is the **MAIN** purpose of troubleshooting network issues during maintenance?
    A.   To ignore network performance
    B.   To resolve network bottlenecks
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

29. Which one of the following is a server maintenance tool?
    A.   Network tester
    B.   Keyboard
    C.   Mouse
    D.   Monitor   (2 marks)

30. A server administrator notices slow network performance. Which one of the following steps should they take first?
    A.   Replace the server hardware
    B.   Monitor server performance
    C.   Shutdown the server
    D.   Ignore the issue   (2 marks)

31. What is the primary purpose of disaster recovery planning in server maintenance?
    A.   To increase server downtime
    B.   To ensure business continuity
    C.   To reduce the need for backups
    D.   To ignore potential risks   (2 marks)

32. Which one of the following is a key component of a disaster recovery plan?
    A.   Marketing strategy
    B.   Monitoring forecasts
    C.   Backup and data recovery
    D.   Employee performance reviews   (2 marks)

33. The **MAIN** purpose of testing disaster recovery procedures to _____.
    A.   ignore potential risks
    B.   ensure the effectiveness of the recovery plan
    C.   increase server downtime
    D.   reduce the need for backups   (2 marks)

34. Which one of the following is a common disaster recovery strategy?
    A.   Ignoring backup schedules
    B.   Testing recovery procedures
    C.   Skipping hardware checks
    D.   Avoiding documentation   (2 marks)

35. The primary purpose of maintaining regular backups in disaster recovery is to _____.
    A.   ignore potential risks
    B.   ensure data can be recovered in case of failure
    C.   increase server downtime
    D.   reduce the need for backups   (2 marks)

36. What is the primary purpose of implementing security measures during server maintenance?
    A.   To ignore security standards
    B.   To protect server data
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

37. Which one of the following is a server security measure?
    A.   Ignoring security updates
    B.   Updating security patches
    C.   Skipping hardware checks
    D.   Avoiding documentation   (2 marks)

38. What is the **MAIN** purpose of monitoring server access logs?
    A.   To ignore security breaches
    B.   To detect and prevent unauthorised access
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

39. Which one of the following is a key component of server security maintenance?
    A.   Ignoring security updates
    B.   Regularly monitoring and updating security measures
    C.   Skipping hardware checks
    D.   Avoiding documentation   (2 marks)

40. What is the primary purpose of ensuring server compliance with security standards?
    A.   To ignore security breaches
    B.   To meet regulatory and security standards
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

41. What is the primary purpose of optimising server performance?
    A.   To ignore performance metrics
    B.   To ensure optimal server operation and efficiency
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

42. Which one of the following is a common server performance optimisation technique?
    A.   Ignoring performance metrics
    B.   Regularly monitoring and tuning server resources
    C.   Skipping hardware checks
    D.   Avoiding documentation   (2 marks)

43. What is the **MAIN** purpose of monitoring server CPU usage?
    A.   To ignore performance metrics
    B.   To ensure optimal CPU performance
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

44. Which one of the following is a key component of server performance optimisation?
    A.   Ignoring performance metrics
    B.   Regularly monitoring and tuning server resources
    C.   Skipping hardware checks
    D.   Avoiding documentation   (2 marks)

45. What is the primary purpose of ensuring server compliance with performance standards?
    A.   To ignore performance metrics
    B.   To meet regulatory standards
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

46. Which one of the following is a server maintenance tool?
    A.   Task Manager
    B.   Disk Cleanup
    C.   Notepad
    D.   Paint   (2 marks)

47. What is the primary purpose of using monitoring tools in server maintenance?
    A.   To ignore performance metrics
    B.   To track server performance
    C.   To increase server downtime
    D.   To reduce the need for backups   (2 marks)

48. Which one of the following is a disadvantage of corrective maintenance?
    A.   It prevents issues before they occur
    B.   It is cost effective in the long term
    C.   It addresses issues after they occur
    D.   It was predictive tools to avoid failures   (2 marks)

49.   What is the **MAIN** purpose of using automation tools in server maintenance?
       A.   To ignore performance metrics
       B.   To automate repetitive tasks
       C.   To increase server downtime
       D.   To reduce the need for backups   (2 marks)

50.   Which one of the following is a server maintenance tool used for automating tasks?
       A.   Task Manager
       B.   PowerShell
       C.   Notepad
       D.   Paint   (2 marks)

....

kasneb

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINISTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 3 December 2024. Morning Paper.   **Time Allowed: 2 hours.**

This paper consists of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks.

1. What are the most effective preventive maintenance approaches for maximising server performance and reducing downtime?
   A. Regular hardware cleaning, software updates and manual backups
   B. Automated monitoring, preventive patching and redundant power supplies
   C. Frequent hardware replacements, cloud-based backups and manual troubleshooting
   D. Scheduled maintenance windows, software update and redundant storage   (2 marks)

2. Using a login username and password, a user can verify identity through a mechanism known as _____
   A. authentication
   B. authorisation
   C. single sign-on
   D. accountability   (2 marks)

3. Which one of the following memory issues can have an enormous impact on server performance?
   A. Software bugs
   B. Network latency
   C. Insufficient disk space
   D. Memory fragmentation   (2 marks)

4. What are the key steps to developing an effective disaster recovery plan for server environments?
   A. Hiring additional IT staff, upgrading hardware and increasing bandwidth
   B. Implementing cloud services, installing antivirus software and conducting quarterly audits
   C. Identifying potential risks, creating backups and testing recovery procedures
   D. Limiting server access, reducing data storage and scheduling less frequent updates   (2 marks)

5. The server configuration technique where a primary server and a secondary server synchronise data to prevent downtime is called _____.
   A. memoisation
   B. failover clustering
   C. swapping memory
   D. caching   (2 marks)

6.	In server maintenance, uninterruptible power supplies help mitigate power threats. What type of threat is characterised by a brief voltage drop that causes server reboots?
	A.	Power surge
	B.	Power spike
	C.	Brownout
	D.	Blackout	(2 marks)

7.	Which server feature involves enhancing its capacity by upgrading components like adding more RAM, storage or processing power?
	A.	Vertical scalability
	B.	Horizontal scalability
	C.	Extendibility
	D.	Availability	(2 marks)

8.	Which one of the following commands would generate a "Request Times Out" error message when troubleshooting server connectivity network issues?
	A.	winipcfg
	B.	ipconfig
	C.	ping
	D.	netstat	(2 marks)

9.	Creating VLANs is a common strategy to enhance network performance and eliminate potential bottlenecks. Which one of the following is NOT a benefit of VLANs?
	A.	Increase performance
	B.	Increased security
	C.	Simplified administration
	D.	Easy to unsegment	(2 marks)

10.	The aspect of system security that enables tracking of events on the server, enhancing accountability by associating actions with specific users is known as _____.
	A.	tracking
	B.	logging
	C.	auditing
	D.	non-repudiation	(2 marks)

11.	Which permission level allows a user to run a program or script on a server without making changes to its content?
	A.	Full control
	B.	Read
	C.	Modify
	D.	Execute	(2 marks)

12.	During a routine security review, the IT team noticed alerts for unsuccessful attempts to access restricted server folders. What type of event in a logging system specifically records these unauthorised access attempts?
	A.	Errors
	B.	Failure Audits
	C.	Information events
	D.	Warnings	(2 marks)

13. In a security training session, the IT manager stresses securing workstations in shared spaces. What key sequence can be used on a Windows server to lock the computer, log off or change the password?
   A. CTRL+ALT+ESC
   B. SHIFT+ALT+ESC
   C. CTRL+ALT+DEL
   D. ALT+CTRL+DEL   (2 marks)

14. When files are spread across a hard disk instead of being stored in contiguous space, they are said to be _____.
   A. fragmented
   B. cached
   C. compressed
   D. indexed   (2 marks)

15. Which feature is least likely to directly affect server performance but can influence the server's physical appearance or integration into an office setting?
   A. Processor speed
   B. Storage capacity
   C. Form factor
   D. Network bandwidth   (2 marks)

16. Server maintenance is an essential component of IT infrastructure management, ensuring that servers run efficiently, securely and with minimal downtime. During the maintenance process, which command is used to check the file system and its metadata on a volume for both logical and physical errors?
   A. Compact
   B. Cleanmgr
   C. Defrag
   D. Chkdsk   (2 marks)

17. Disaster recovery involves having in place measures that can be used when the system goes down. Which one of the following is **NOT** a type of backup strategy as used in data recovery?
   A. Full
   B. Mirroring
   C. Incremental
   D. Differential   (2 marks)

18. Which one of the following tools enables a system administrator to remotely monitor and terminate processes on multiple servers?
   A. Task Manager
   B. Remote Desktop
   C. Taskkill Command
   D. Windows Admin Center   (2 marks)

19. The network administrator is responsible for the security of the organisation's infrastructure. Which one of the following physical security can the network administrator implement in his organisation?
   A. Control access to equipment
   B. Control access to data
   C. Controlling passwords
   D. Setting password policies   (2 marks)

20. What is the most effective solution for a banking institution to prevent downtime when a server's power supply fails?
    A. Have a standby generator
    B. Ensure you have a UPS
    C. Invest with hot swappable power supplies
    D. Ensure that you have a solar panel system (2 marks)

21. What is the term for the complete set of configuration data that is unique to and applies only to a specific user?
    A. System account
    B. User Profile
    C. Group
    D. Registry (2 marks)

22. A command-line utility used in Windows and other operating systems to trace the path that packets take from one networked device to another, typically from a computer to a remote server is known as _____.
    A. tracert
    B. nbstat
    C. netstat
    D. ping (2 marks)

23. Which command in nslookup will give detailed information about a specific type of DNS record, such as MX, A or CNAME?
    A. Nslookup – type = recordtype domainname
    B. Nslookup – query = recordtype domainname
    C. nslookup domainname –type = recordtype
    D. nslookup domainname – querytype = recordtype (2 marks)

24. What term refers to a network segment that acts as a security buffer between an internal network and untrusted external networks, like the internet?
    A. Area of no return
    B. Demilitarised zone
    C. No man's land
    D. Forbidden zone (2 marks)

25. In troubleshooting, which one of the following statements is **TRUE**?
    A. Troubleshooting involves identifying issues and applying updates manually
    B. Troubleshooting begins with diagnosing problems using basic checks
    C. Troubleshooting focuses solely on replacing faulty hardware components
    D. Troubleshooting is about testing software without analysing logs (2 marks)

26. Which NTFS feature helps ensure file integrity in the event of a power outage or system crash while utilising a transaction-based system?
    A. File compression
    B. Defragmentation
    C. Shadow copies
    D. Journaling (2 marks)

27. In the event of failure or data loss, a copy of the configurations and data stored on an alternate system or device is referred to as?
    A. Configurations
    B. Backup
    C. Zip
    D. Compress   (2 marks)

28. For a Windows server, what is the process of installing updates to fix security vulnerabilities, improve system performance and ensure that the software is up to date?
    A. Server sitting
    B. Monitoring
    C. Patching
    D. Configuration   (2 marks)

29. Which file is used by Windows Server to manage virtual memory?
    A. swapfile.sys
    B. pagefile.sys
    C. hiberfil.sys
    D. tempfile.sys   (2 marks)

30. What are the names of the hardware or software systems designed to monitor, record and report performance indicators such as CPU and memory usage?
    A. Monitoring tools
    B. Recovery tools
    C. Performance tools
    D. Management tools   (2 marks)

31. Following a major hardware failure that led to the loss of critical business data, the IT manager emphasises the need for a solid backup strategy to recover vital information in case of future incidents. A key reason for maintaining regular backups is to _____.
    A. enhance operational efficiency
    B. meet regulatory standards
    C. prevent data loss incidents
    D. minimise recovery time   (2 marks)

32. Which one of the following is a potential consequence of neglecting regular maintenance on a server?
    A. Decreased security vulnerabilities
    B. Reduced server efficiency and effectiveness
    C. Enhanced data integrity
    D. Faster recovery time   (2 marks)

33. Which command is used in Windows Server to forcibly restart a computer without any prompts or warnings?
    A. restart /s
    B. systemreset /r
    C. shutdown /r /f
    D. reboot /r /f   (2 marks)

34. Which command is used to configure and manage the security settings in a server environment?
   A. net localgroup
   B. Get-NetIPAddress
   C. Get-NetAdapter
   D. netsh advfirewall   (2 marks)

35. Which state indicates that a process has completed execution and is no longer active in the system?
   A. Ready
   B. Blocked
   C. Terminated
   D. Executing   (2 marks)

36. Information Technology (IT) team discovers that the primary server has crashed unexpectedly, causing significant downtime and impacting critical operations. This incident underscores the need for a robust incident response plan. What is the term for an unforeseen occurrence that impairs server operations, such as a crash or security breach?
   A. Downtime
   B. Incident
   C. Attack
   D. Failure   (2 marks)

37. Which tool offers a robust scripting environment and command-line interface for managing Windows Server configurations and automating tasks?
   A. PowerShell
   B. GUI
   C. CLI
   D. Command prompt   (2 marks)

38. Which Microsoft Management Console (MMC) snap-in is used to manage digital certificates on Windows Server?
   A. Control Panel
   B. Task Scheduler
   C. Services.msc
   D. Certmgr.msc   (2 marks)

39. Which maintenance strategy involves using monitoring tools and analytics to predict server failures before they occur, ensuring minimal downtime and optimal performance?
   A. Reactive Maintenance
   B. Predictive Maintenance
   C. Preventive Maintenance
   D. Scheduled Maintenance   (2 marks)

40. Environment variables are key-value pairs that a system uses to configure its software environment. Which command is used to display all environment variables?
   A. find
   B. set
   C. path
   D. gettype   (2 marks)

41. Which term refers to a system's capability to perform multiple operations or tasks simultaneously, thereby enhancing overall efficiency?
    A. Visualisation
    B. Automation
    C. Multitasking
    D. Cascading (2 marks)

42. The graphical user interface (GUI) for server configuration is essential for managing and administering servers, particularly in environments where users may lack extensive command-line experience. Which one of the following is a key feature of a GUI?
    A. Text-based commands
    B. Resource-intensive processes
    C. Command-line accessibility
    D. User-friendly navigation (2 marks)

43. The primary purpose of compliance audits in server maintenance is to _____.
    A. enhance server performance
    B. ensure security standards
    C. increase system uptime
    D. optimise network settings (2 marks)

44. An Active Directory (AD) environment is a centralised, hierarchical system in Windows Server for managing users, computers, groups and other network resources. Which feature is responsible for managing and enforcing security settings and configurations across multiple computers?
    A. DHCP
    B. SQL Server
    C. DNS
    D. Group Policy (2 marks)

45. The process used in server maintenance for assessing the severity of an incident and its potential impact is known as _____.
    A. detection
    B. containment
    C. assessment
    D. recovery (2 marks)

46. Monitoring tools are crucial for managing, maintaining and optimising IT infrastructure, particularly in environments with servers, networks and applications. Which feature is commonly included in third-party server monitoring tools to help detect performance issues?
    A. Real-time alerts
    B. Data encryption
    C. Resource allocation
    D. User access controls (2 marks)

47.   After multiple server outages, the IT team at a financial institution adopts a proactive maintenance strategy. They use monitoring tools to analyse performance and schedule upgrades before failures occur, ensuring continuous service availability. Which type of maintenance is designed to schedule corrective maintenance actions before a failure occurs?
A.   Corrective maintenance
B.   Preventive maintenance
C.   Prescriptive maintenance
D.   Periodic maintenance   (2 marks)

48.   In the context of windows server, what provides insights into the stability and reliability of the system by tracking hardware and software failures over time?
A.   Server Manager
B.   System Configuration
C.   Resource Monitor
D.   Reliability Monitor   (2 marks)

49.   Which type of backup records only the data that has changed since the last backup, leading to faster backup times and reduced storage needs?
A.   Full backup
B.   Incremental backup
C.   Differential backup
D.   Snapshot   (2 marks)

50.   The IT team streamlines routine server maintenance by creating a batch file that simplifies several tasks, including clearing temporary files, backing up directories and restarting services, saving time and reducing human error. The primary purpose of a batch file in server maintenance is to _____.
A.   automate repetitive tasks
B.   monitor system logs
C.   manage databases
D.   create user accounts   (2 marks)

....

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINISTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 20 August 2024. Morning Paper.   **Time Allowed: 2 hours.**

This paper consists of fifty (50) Multiple Choice Questions. Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. Each question is allocated two (2) marks.

1. Peninah, an IT administrator, needs to add a new role to a remote server. Which one of the following is a feature used to manage servers, both local and remote, within a windows server environment?
    A.   PowerShell
    B.   Server Manager
    C.   Active Directory
    D.   Event Viewer   (2 marks)

2. During a network troubleshooting interview, you are required to showcase your understanding of basic network diagnostics to verify the server's IP address configuration. Which command would you use to check the network configuration of a Windows Server?
    A.   ipconfig
    B.   netstat
    C.   ping
    D.   tracert   (2 marks)

3. To diagnose why a server is running slowly, John is required to track CPU and memory usage in demonstrating his ability to analyse Windows server performance. Which one of the following can help in troubleshooting startup performance issues and managing system services?
    A.   Disk Cleanup
    B.   System Configuration
    C.   Event Viewer
    D.   Performance Monitor   (2 marks)

4. In a server hardware document, which one of the following details are included?
    A.   IP addresses and domain names of connected devices
    B.   Network traffic patterns and bandwidth utilisation
    C.   BIOS settings and firmware versions
    D.   Application-specific log files   (2 marks)

5. When a new laptop connects to the organisation's network, it receives an IP address for efficient network configuration. Which one of the following servers assigns laptop the IP address?
    A.   Proxy server
    B.   DHCP server
    C.   DNS server
    D.   TCP/IP server   (2 marks)

6. The purpose of a Network Attached Storage (NAS) in a storage system is to _____.
    A.   provide shared file storage over a network
    B.   defragment the disk to free storage
    C.   partition the storage drives
    D.   filter incoming and outgoing network traffic   (2 marks)

7. Which one of the following information usually appears in a server monitoring and maintenance document?
   A. Employee attendance records related to server maintenance shifts
   B. Steps to troubleshoot server hardware failures
   C. Daily email correspondence related to server issues
   D. Scheduled dates for annual software audits (2 marks)

8. What is the reason for disabling unused network ports on a server?
   A. To improve network speed
   B. To prevent unauthorised access
   C. To save power
   D. To increase storage capacity (2 marks)

9. To identify a process consuming too much memory, which command is used to list all the running processes on a Windows Server?
   A. dxdiag
   B. taskmgr
   C. perfmon
   D. tasklist (2 marks)

10. What is the purpose of configuring server settings like hostname and IP address?
    A. Enhancing server security
    B. Optimising server performance
    C. Enabling network communication
    D. Extending server hardware lifespan (2 marks)

11. GUI-based server monitoring tools help administrators keep an eye on server performance, uptime and other critical metrics. Which of the following statements **BEST** illustrates the key advantage of using GUI-based server monitoring tools?
    A. Lower resource usage
    B. Ease of use and visualisation
    C. Requires less memory
    D. Can be automated easily (2 marks)

12. To prevent data loss in case of a disk failure, the IT department mirrors data across multiple hard drives. Which Windows feature provides fault tolerance by duplicating data across disks?
    A. RAID
    B. NTFS
    C. BitLocker
    D. DFS (2 marks)

13. To diagnose network issues, an administrator views active connections and listening ports on the server. Which command is used to display detailed information about TCP/IP network connections?
    A. ipconfig
    B. netstat
    C. tracert
    D. ping (2 marks)

14. Which one of the following tools is primarily used to monitor server performance through the Command Line Interface (CLI) and allows one to interactively monitor a system's vital resources or server processes in real-time?
    A. Prometheus
    B. htop
    C. PRTG Network Monitor
    D. SolarWinds Server and Application Monitor (2 marks)

15. A modular server that fits into an enclosure and shares power and cooling with other servers is called a
    _____.
    A. virtual server
    B. dedicated server
    C. blade server
    D. cloud server (2 marks)

16. During server troubleshooting, what is the first step in identifying common server issues?
    A.   Rebooting the server
    B.   Analysing server logs
    C.   Upgrading server hardware
    D.   Installing software updates   (2 marks)

17. Which PowerShell cmdlet may be used to view the status of a service on a Windows server?
    A.   Get-Service
    B.   Get-Process
    C.   Get-EventLog
    D.   Get-NetAdapter   (2 marks)

18. What is the advantage of replacing hardware components exclusively after failure versus doing predictive maintenance in terms of effectiveness?
    A.   Equally effective if failures are rare
    B.   Effective only for non-critical systems
    C.   More effective due to cost savings on unnecessary replacements
    D.   Less effective due to increased downtime and potential data loss   (2 marks)

19. What type of network problem is frequently discovered when troubleshooting networks?
    A.   Hardware compatibility issues
    B.   Operating system errors
    C.   Connectivity problems
    D.   Software licensing violations   (2 marks)

20. When an employee logs onto their new workstation for the first time, their user profile is created and stored. What is the default folder for user profiles in Windows Server?
    A.   C:\Users
    B.   C:\Windows
    C.   C:\Program Files
    D.   C:\Staff   (2 marks)

21. Network monitoring is essential for maintaining the stability, performance and security of server infrastructure in any organisation. Which one of the following is a passive network monitoring technique?
    A.   Ping sweeps
    B.   Port scanning
    C.   SNMP polling
    D.   Packet sniffing   (2 marks)

22. To protect the server from unauthorised access, the IT team should block unapproved network traffic. Which software tool is best in protecting the server?
    A.   Encryption software
    B.   Antivirus software
    C.   Firewall
    D.   Packet tracer   (2 marks)

23. What is the primary purpose of testing backup and recovery procedures?
    A.   Reducing server downtime
    B.   Ensuring data integrity and availability
    C.   Enhancing server performance
    D.   Monitoring network traffic   (2 marks)

24. To ensure that critical data can be restored in case of hardware failure the IT department schedules regular backups. The purpose of Windows Server Backup is to _____.
    A.   perform backups and restore data
    B.   manage user accounts
    C.   configure network settings
    D.   monitor performance   (2 marks)

25. What is the main goal of disaster recovery planning in server maintenance?
    A. Optimising server performance
    B. Ensuring business continuity
    C. Reducing server downtime
    D. Enhancing network security (2 marks)

26. Which one of the following is the major benefit of regular server maintenance?
    A. Better data management
    B. Improved performance
    C. Enhanced security
    D. Cumulative updates (2 marks)

27. Which documentation is critical for reviewing changes made during maintenance?
    A. Security Audit Logs
    B. Compliance Records
    C. Configuration Files
    D. Maintenance Reports (2 marks)

28. Which network management approach involves configuring devices in a server environment to improve network performance?
    A. Network traffic shaping
    B. Network device auditing
    C. Network access control
    D. Network topology mapping (2 marks)

29. Server monitoring involves the continuous monitoring of server resources and performance metrics to ensure servers are operating efficiently and reliably. Why are logs and audit trails important in server monitoring?
    A. Performance optimisation
    B. Data backup and recovery
    C. Hardware inspection
    D. Compliance and regulations (2 marks)

30. A structured approach to addressing and managing the aftermath of a security breach in server environment is known as _____.
    A. regular software updates
    B. incident response plan
    C. centralised management
    D. regulatory compliance (2 marks)

31. Which one of the following is frequently overlooked when performing network maintenance?
    A. Regular backups of critical data
    B. Firmware updates for network devices
    C. Weekly performance reviews of individual workstations
    D. Periodic security audits and vulnerability assessments (2 marks)

32. During troubleshooting, a technician uses the command prompt to find out the name of the server. What command may be used to display the name of a windows server?
    A. compmgmt
    B. netsh
    C. netdom
    D. hostname (2 marks)

33. The primary purpose of network standards in an organisation is to _____.
    A. ensure all devices have the latest firmware updates
    B. maintain consistent network performance and reliability
    C. automate server monitoring processes
    D. conduct periodic disaster recovery drills (2 marks)

34. How do routine backups and data integrity checks protect data, and why are they critical in server maintenance?
   A. They help maintain the physical condition of server hardware, ensuring long-term durability
   B. These checks increase server downtimes and reduce the reliability of data recovery processes
   C. Routine backups and data integrity checks primarily focus on hardware appearance and do not affect data protection
   D. Routine backups and data integrity checks ensure that crucial information can be recovered if hardware breaks down   (2 marks)

35. Which process involves identifying and addressing potential threats to IT infrastructure?
   A. System testing
   B. Risk assessment
   C. Data encryption
   D. Software installation   (2 marks)

36. Which of the following **BEST** synthesises the overall goals of server maintenance?
   A. Install updates, perform backups and clean hardware
   B. Minimise downtime, maximise security and ensure optimal performance
   C. Replace faulty components, configure network settings and monitor performance
   D. Conduct regular audits, implement firewalls and schedule tasks   (2 marks)

37. Dealing with hardware issues in servers often requires a combination of proactive maintenance, monitoring and timely replacement of aging components. Which one of the following is a common hardware issue that can affect servers?
   A. Hard disk failures
   B. Software conflicts
   C. DNS server failures
   D. Misconfigured operating systems   (2 marks)

38. Which software update solution enables administrators to centrally manage and apply updates to various devices?
   A. Microsoft Office Update
   B. Windows Update
   C. Adobe Acrobat Reader Update
   D. Windows Server Update Services (WSUS)   (2 marks)

39. What is a common storage medium for local backups during server maintenance?
   A. Cloud storage
   B. External hard drive
   C. Network-attached storage (NAS)
   D. Optical disc   (2 marks)

40. What aspect of server maintenance helps in early detection and treatment of issues to prevent server downtime?
   A. Data backup and recovery
   B. Performance optimisation
   C. Security patches
   D. Consistent maintenance   (2 marks)

41. Which one of the following **BEST** describes the concept of server redundancy in data centers?
   A. Ability of the server hardware being expanded such a memory capacity
   B. Ensuring the server is available for user access 24/7
   C. Multiple servers perform the same task to ensure reliability
   D. Servers capability of processing many tasks at the same time   (2 marks)

42. What is the process of fault detection in server maintenance?
   A. Real-time monitoring, automated testing and manual inspection
   B. Server optimisation, hardware replacement and software updates
   C. System shutdown, data backup and server reboot
   D. Documentation review, user feedback and monitoring tools   (2 marks)

43. The primary function of a Uninterruptible Power Supply (UPS) in server maintenance practices is to _____.
   A. decrease energy consumption
   B. maximise network speed
   C. enhance system compatibility
   D. provide backup power in case of outages   (2 marks)

44. Which metric is usually utilised to analyse server performance in terms of response times?
    A. Disk space utilisation
    B. CPU usage percentage
    C. Number of users logged in
    D. Network bandwidth availability (2 marks)

45. The main objective of disaster recovery testing is to _____.
    A. simulate potential disasters and validate the recovery process
    B. create daily backups of all server data
    C. upgrade server hardware components
    D. schedule regular downtime for system maintenance (2 marks)

46. What is a popular way for validating the effectiveness of a backup strategy?
    A. Monitoring network traffic
    B. Conducting a backup restore test
    C. Installing antivirus software
    D. Performing a software audit (2 marks)

47. Proper disk management is crucial for server performance, reliability and data integrity in a server environment. Which command is used to check disk integrity?
    A. diskpart
    B. chkdsk
    C. ipconfig
    D. netstat (2 marks)

48. A System administrator can determine if a fault is due to software or hardware by _____.
    A. performing a software update
    B. increasing server memory
    C. running diagnostic tests on hardware
    D. changing the server's IP address (2 marks)

49. The importance of server capacity planning in maintenance practices is to _____.
    A. reduce system downtime
    B. optimise server resources
    C. increase hardware costs
    D. focus on enhancing energy efficiency (2 marks)

50. What is the extent of risk involved in installing security updates without first testing them?
    A. High risk of introducing new issues and downtime
    B. Low risk if updates are from trusted sources
    C. No risk if backups are available
    D. Moderate risk depending on server criticality (2 marks)

....

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINISTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 23 April 2024. Morning Paper.   **Time Allowed: 2 hours.**

Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. This paper is made up of fifty (50) Multiple Choice Questions. Each question is allocated two (2) marks.

1.   When using a server, proper data management is essential for organisations looking to maximise the value of their data and gain valuable insights from it. How does "Restore" differ from "Recover"?
      A.   Restore is a preventive measure, while Recover is a reactive measure
      B.   Both terms are synonymous and can be used interchangeably
      C.   Restore is applicable to hardware, while Recover is applicable to software
      D.   Restore involves retrieving lost data, while Recover involves recreating lost data   (2 marks)

2.   Which one of the following statements **BEST** describes the term "downtime" in the context of server maintenance?
      A.   Scheduled period when the server is unavailable
      B.   Time when the server is permanently offline
      C.   Time when server performance is at its peak
      D.   Time when server backups are created   (2 marks)

3.   Routine server maintenance is critical for ensuring that your servers run smoothly, securely and efficiently.

      Regarding the statement provided, what is the objective of routine server maintenance?
      A.   To increase server speed
      B.   To fix unexpected issues
      C.   To disrupt user
      D.   To enhance security   (2 marks)

4.   When selecting a server backup tool, the **MOST** crucial element to consider is:
      A.   Cost of the software license
      B.   The type of server operating system it supports
      C.   The recovery time objective (RTO) for critical systems
      D.   The data compression ratio it offers   (2 marks)

5.   What benefits does cloud-based backup provide over backup that is stored on-site?
      A.   Lower initial cost of implementation
      B.   Reduced risk of data loss from local disasters
      C.   Faster backup speeds for large data volumes
      D.   Improved security through physical access control   (2 marks)

6.   Which server utilisation resource can be used to show that the workload is becoming too much for the server to handle?
      A.   CPU utilisation
      B.   Memory utilisation
      C.   Disk utilisation
      D.   Network utilisation   (2 marks)

7. In what situations could a differential backup prove to be more effective than an incremental one?
   - A. When storage space is limited
   - B. When the backup process needs to be faster
   - C. When only a few files have changed since the last backup
   - D. When all files need to be backed up regardless of changes (2 marks)

8. Which one of the following is **NOT** a recommended practice for server maintenance?
   - A. Regularly updating software and firmware
   - B. Monitoring server performance metrics for potential issues
   - C. Defragmenting hard drives to optimise data access
   - D. Backing up data regularly to ensure disaster recovery (2 marks)

9. What functional differences exist between server memory and disk storage?
   - A. Memory stores data permanently, while disks store temporary data
   - B. Memory is volatile and used for temporary storage, while disks provide long-term storage
   - C. Memory is used for processing, while disks are used for server backups
   - D. Memory and disks serve the same function in server maintenance (2 marks)

10. How do enterprises solve common server maintenance issues?
    - A. By establishing a proactive maintenance plan
    - B. By neglecting regular monitoring
    - C. By implementing a reactive approach
    - D. By downplaying the significance of server security (2 marks)

11. What is the first step in the recovery process following a server failure?
    - A. Restore the most recent backup
    - B. Inform all users about the issue
    - C. Test the backup integrity
    - D. Identify the cause of the failure (2 marks)

12. Which one of the following measures is critical for determining the effectiveness of a load balancer?
    - A. Response time and latency of client requests
    - B. Network bandwidth usage (Image of network bandwidth usage graph)
    - C. Server CPU utilisation (Image of server CPU utilisation graph)
    - D. Number of active connections handled by each server (2 marks)

13. State the name of a type of hosting service where a client rents an entire physical server from a hosting provider and has full control over the server's resources and configurations.
    - A. Backed server
    - B. Hybrid server
    - C. Dedicated server
    - D. Cloud server (2 marks)

14. What is the mechanism by which disk compression technologies increase the capacity of a disk?
    - A. By compressing information while storing it
    - B. By increasing file size while storing it in the disk
    - C. By deleting all the unnecessary files
    - D. By creating additional partitions (2 marks)

15. In the context of server maintenance, how is "loss" different from "disaster"?
    - A. Loss refers to the impact on server performance, while disaster refers to complete system failure
    - B. Loss is a planned event, while a disaster is unplanned
    - C. Loss encompasses any negative impact, while disaster specifically refers to data loss
    - D. Loss and disaster are interchangeable terms in server maintenance (2 marks)

16. What should a comprehensive network maintenance plan include?
    - A. Only details on hardware upgrades
    - B. Scheduled activities and updates
    - C. Connectivity issues resolution
    - D. Only preventive measures (2 marks)

17.   What is the primary goal of preventive maintenance?
    A.   Eliminate the need for routine maintenance schedules
    B.   Detect potential equipment failures before they occur
    C.   Reduce the overall cost of equipment maintenance
    D.   Improve the aesthetics of machinery and equipment   (2 marks)

18.   In a database server, what kind of server procedure is normally kept and run?
    A.   Application Programming Interfaces (APIs)
    B.   Operating System Scripts
    C.   Stored Procedures
    D.   Command-Line Interface (CLI) Commands   (2 marks)

19.   Which one of the following is the best plan for upgrading server hardware while minimising downtime and impact on ongoing operations?
    A.   Implement a staged upgrade process with redundant failover mechanisms
    B.   Conduct the upgrade during peak usage to minimise disruption
    C.   Pause all operations during upgrades for maximum efficiency
    D.   Upgrade all components simultaneously for faster completion   (2 marks)

20.   What effects results from utilising non-certified third-party parts in server hardware?
    A.   It improves hardware performance and reduces costs
    B.   It may void warranties and compromise system stability
    C.   It has no impact on system stability
    D.   It enhances compatibility without drawbacks   (2 marks)

21.   Which one of the following scenarios would prompt a system administrator to perform system restore when maintaining the server?
    A.   To revert the entire system to a previous state
    B.   To recover deleted files for the backup copy
    C.   To uninstall a program that is making the server to hang
    D.   To update device drivers on the server   (2 marks)

22.   Which one of the following statements **BEST** describes a cluster server?
    A.   High storage capacity for archiving large datasets
    B.   Ability to handle heavy computational tasks with distributed processing
    C.   Secure environment for storing sensitive financial data
    D.   Scalability by adding more servers to the cluster   (2 marks)

23.   From options below, choose a checklist for regular server maintenance that you would create for your company.
    A.   Name the server, check hardware compatibility, update software, reboot server and shut down for maintenance
    B.   Conduct a daily backup, ignore firmware updates, skip regular reboots, perform only hardware checks and disconnect from the network
    C.   Regularly defragment disks, reinstall operating system monthly, ignore log file reviews and skip security patches
    D.   Perform system audits, update antivirus definitions, monitor performance, check for software updates and review error logs   (2 marks)

24.   What is the process of identifying servers that require maintenance, establishing the frequency of maintenance and creating a maintenance plan?
    A.   Management
    B.   Implementation
    C.   Planning
    D.   Monitoring   (2 marks)

25.   What aspect of server maintenance does the "Zero Trust" security paradigm emphasise?
    A.   Trusting all users by default
    B.   Ignoring security measures
    C.   Trusting no one by default
    D.   Increasing user privileges   (2 marks)

26. On a Windows Server system, which command is used to display the list of processes that are currently running?
    A.   tasklist
    B.   ls
    C.   ps
    D.   top   (2 marks)

27. Your network infrastructure will run smoothly, securely and effectively if you have a network maintenance plan in place. Why is documentation a crucial component of a plan for network maintenance?
    A.   To optimise storage space
    B.   To enhance server speed
    C.   To ensure proper access control
    D.   To provide a record for future reference   (2 marks)

28. Why is network analysis important during server maintenance in terms of resource management?
    A.   To enhance server aesthetics
    B.   To ensure data on storage is not processed
    C.   To identify and resolve network bottlenecks
    D.   It engages the network administrator on their job description   (2 marks)

29. Which one of the following exemplifies predictive maintenance?
    A.   Monitoring server performance for signs of failure
    B.   Installing security patches for soft were upgrading and error correction
    C.   Regular and periodic system backups
    D.   Replacing a faulty hard disk with working ones   (2 marks)

30. In what ways can tools for server maintenance support proactive monitoring?
    A.   By randomly performing maintenance tasks
    B.   By automating routine tasks for continuous monitoring
    C.   By ignoring the need for monitoring
    D.   By relying solely on manual monitoring processes   (2 marks)

31. When troubleshooting an issue with a given server, which of the following should NOT be done?
    A.   Apply known fixes from similar situations
    B.   Ask clarifying questions to gather more information
    C.   Document your steps and findings
    D.   Panic and make hasty decisions without testing   (2 marks)

32. What is the primary objective of audit trails in server maintenance?
    A.   To store server backups in a secure location
    B.   To monitor server performance metrics
    C.   To optimise network connectivity
    D.   To track user activity and access permissions   (2 marks)

33. In terms of server security, what is the main goal of network segmentation
    A.   Increasing network complexity
    B.   Isolating sensitive data and services
    C.   Reducing the need for firewalls
    D.   Allowing unrestricted access   (2 marks)

34. You notice a sudden increase in resource usage on your Windows server. Which tool would you employ to determine the precise procedure using the greatest amount of resources?
    A.   Task Scheduler
    B.   Device Manager
    C.   Resource Monitor
    D.   Disk Cleanup   (2 marks)

35. In order to guarantee business continuity in the event of a server loss, what should be regularly tested?
    A.   Server backups
    B.   User permissions
    C.   Network segmentation
    D.   Antivirus software   (2 marks)

36. In context of server maintenance, what is the purpose of backup policies?
    A.   To increase server processing speed
    B.   To apply security patches
    C.   To disable user accounts
    D.   To ensure business continuity   (2 marks)

37. What is the purpose of firewall policies in server maintenance?
    A.   To create security incidents
    B.   To restrict access
    C.   To clean the unnecessary files
    D.   To manage the server memory   (2 marks)

38. When managing servers, what is the primary benefit of utilising a Command Line Interface (CLI)?
    A.   Faster execution times and higher efficiency
    B.   Easier to use for beginners
    C.   Offers visual representation of options and tasks
    D.   Less secure   (2 marks)

39. In a Windows Server context, how can the disk cleanup tool be used to optimise storage space?
    A.   By identifying and deleting unnecessary files
    B.   By configuring regular backups of the server
    C.   By monitoring server performance
    D.   By testing restore processes frequently   (2 marks)

40. A Windows server's IP address needs to be changed. What is the best tool you can use for this task?
    A.   Device Manager
    B.   Registry Editor
    C.   Control Panel
    D.   Network and Sharing Center   (2 marks)

41. Diagnosing a network involves identifying and troubleshooting issues that may affect its performance, connectivity or reliability.

    Which tool is specifically intended to find problems with connectivity?
    A.   Disk Cleanup
    B.   Performance Monitor
    C.   Ping
    D.   Event Viewer   (2 marks)

42. For the installation and configuration of network products, why is standardisation important?
    A.   To optimise storage space
    B.   To follow industry standards
    C.   To enhance server speed
    D.   To test restore processes   (2 marks)

43. Which one of the following can be accomplished by software monitoring tool?
    A.   Optimising storage space
    B.   Distributing network traffic evenly
    C.   Testing restore processes
    D.   Monitoring server performance metrics   (2 marks)

44. Server maintenance involves routine tasks, updates and checks to keep servers running efficiently.

    Which one of the following BEST describes the term recovery?
    A.   The point in time to resume server operations after a disaster
    B.   The point in time when data is restored
    C.   The point in time when a server backup is initiated
    D.   The point in time when server maintenance tasks are performed   (2 marks)

45. Regarding total cost of ownership (TCO), how would you compare proprietary with open-source software?
    A. Focus solely on the initial license and purchase costs
    B. Consider factors like maintenance, support, customisation and integration costs
    C. Rely solely on vendor marketing materials for cost comparisons
    D. Ignore potential security risks and vulnerabilities associated with the software (2 marks)

46. Which one of the following strategies should businesses use to deal with the issue of downtime during maintenance?
    A. Schedule maintenance during off-peak hours
    B. Ignore it; downtime is inevitable
    C. Increase the frequency of maintenance
    D. Blame the IT team for any downtime (2 marks)

47. What is the manner in which incremental and full backups differ from one another?
    A. There is no difference between them
    B. Incremental backups copy all selected data
    C. Full backups only copy changed data while incremental backups copy all selected data
    D. Full backups copy all selected data, while incremental backups copy only changed data (2 marks)

48. When is the right time to test recovery procedures?
    A. Never, as they always work
    B. Monthly
    C. Annually, at least
    D. Daily, to annoy IT teams (2 marks)

49. What is the "Last Known Good Configuration" functionality used for during server maintenance?
    A. Restores the system to a previously known stable state
    B. A backup utility for business continuity purpose
    C. A system restore point
    D. A tool for managing user accounts (2 marks)

50. In relation to server logs, what does the term "timestamp" mean?
    A. A signature algorithm
    B. A unique server identifier
    C. A record of the date and time of an event
    D. A type of encryption protocol (2 marks)

………………………………………………………………………………

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINISTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 5 December 2023. Morning Paper.   **Time Allowed: 2 hours.**

Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. This paper is made up of fifty (50) Multiple Choice Questions. Each question is allocated two (2) marks.

1. Which of the following is a command-line utility used to check the integrity of a computer's hard drive or other storage devices through scanning the file system for errors, bad sectors, and file system metadata issues and can attempt to repair them if possible?
   A. CHKDSK
   B. FORMAT
   C. DEFRAG
   D. DELETE   (2 marks)

2. Creating a server maintenance plan is crucial to ensure the reliability, performance, and security of your server infrastructure. What is the primary goal of developing a server maintenance plan?
   A. Enhancing server performance
   B. Reducing server hardware costs
   C. Minimising server downtime
   D. Expanding server storage capacity   (2 marks)

3. Which of the following is **NOT** the significance of considering power efficiency when acquiring server hardware?
   A. To increase the server reliability
   B. To increase server room temperature
   C. To reduce energy consumption and operating costs
   D. To reduce the server's environmental impact   (2 marks)

4. Which of the following is a crucial component of planning server maintenance?
   A. Maximising downtime
   B. Overloading the server
   C. Documenting procedures
   D. Skipping backups   (2 marks)

5. Why is it crucial to take the server's warranty and support options into account when purchasing a server?
   A. To match the server's warranty with the server's color
   B. To increase the server's physical dimensions
   C. To reduce server software licensing costs
   D. To ensure timely support and hardware replacement   (2 marks)

6. Which regular maintenance procedure helps prevent data loss in the event of a server failure?
   A. Installing new software
   B. Regularly updating hardware
   C. Backing up data
   D. Increasing server load   (2 marks)

7. Which factor should be assessed when acquiring server software for compatibility with existing infrastructure?
   A. The server's vendor support
   B. The software's integration capabilities
   C. The server's design and size
   D. The server's warranty period indicated in the SLA (2 marks)

8. Which of the following can be used to automate tasks, manage system configurations, and perform various administrative tasks in a more efficient and scripted manner in server environment?
   A. Windows PowerShell
   B. Manual script execution
   C. Ignore updates
   D. Regular server reboot (2 marks)

9. What should be taken into account in terms of server dimensions when choosing server hardware for a data center?
   A. The server's processing and storage capability to sing
   B. The server's physical size and rack compatibility
   C. The server's ability to accommodate more computers in the network
   D. The server's year of manufacture and availability (2 marks)

10. What is the purpose of defragmenting server storage as part of routine maintenance?
    A. Reducing storage capacity
    B. Deleting data
    C. Disabling server security
    D. Speeding up data access (2 marks)

11. Which factor is essential for optimal resource allocation when choosing server hardware for a virtualisation project?
    A. Memory and CPU capacity
    B. Server administrator's personal preferences
    C. Server brand popularity
    D. Server room aesthetics (2 marks)

12. What is a typical approach to debugging software-related server problems?
    A. Disconnecting all network cables
    B. Rebooting the server
    C. Reinstalling the server's operating system
    D. Ignoring the issue (2 marks)

13. What is the primary advantage of cloud integration in server maintenance?
    A. Increased server cooling efficiency
    B. Improved network
    C. Faster CPU processing speed
    D. Reduced server hardware costs (2 marks)

14. Which of the following is a document that can serve as a reference point for IT team, helping them troubleshoot issues, plan for upgrades and ensure the smooth operation servers?
    A. Document Imaging Servers
    B. Content Management Servers
    C. Server hardware document
    D. Document Workflow Servers (2 marks)

15. What serves as the server's primary line of defense while managing server security?
    A. Installing antivirus software
    B. Strong user authentication
    C. Updating server software
    D. Disconnecting the server from the network (2 marks)

16. Logs are records or files that contain information about events, action and system activities. In the context of system usage, which of the following is **NOT** a type of log?
    A. Application
    B. System
    C. Security
    D. Governance (2 marks)

17. Which of the following is an integral part of network management and is designed to facilitate the exchange of management information between network devices such as routers, switches, servers, printers and a central management system?
  A.   Flow Analysis
  B.   Packet Sniffing
  C.   Simple Network Management Protocol
  D.   Deep Packet Inspection (2 marks)

18. In a data center, servers are commonly mounted in standardized vertical enclosures. What is the appropriate name given to these enclosures?
  A.   Racks
  B.   Blades
  C.   Towers
  D.   Shelves (2 marks)

19. Which of the following networking techniques and procedures are used to manage and optimise network performance, particularly with regard to offering a constant and predictable level of service to various traffic, application or user types?
  A.   Network Monitoring
  B.   Quality of service
  C.   Performance Optimisation
  D.   Fault Management (2 marks)

20. Which of the following is a collection of techniques and practices intended to recover and safeguard an organisation's IT infrastructure and data from disasters, hacker attacks, hardware malfunctions, human error or any other incident that results in a severe disruption of regular business operations?
  A.   Disaster Recovery
  B.   Incident response
  C.   Contingency plan
  D.   Fault tolerance (2 marks)

21. Which server maintenance strategy prioritises fixing problems as they come up, frequently in reaction to system defects or failures?
  A.   Predictive maintenance
  B.   Preventive maintenance
  C.   Corrective maintenance
  D.   Adaptive maintenance (2 marks)

22. Server troubleshooting involves identifying and resolving issues with server hardware, software and network configurations. Why are event logs used in server troubleshooting?
  A.   To record the server's location
  B.   To store user passwords
  C.   To track server performance
  D.   To record system events and errors (2 marks)

23. Which of the following is **NOT** a tool that can be used to automate server configuration and enforce consistent configurations across the server infrastructure?
  A.   Ansible
  B.   Puppet
  C.   Jetbrains
  D.   Chef (2 marks)

24. Which of the following is a common technique for minimising downtime during server maintenance?
  A.   Using hot-swappable hardware components
  B.   Performing maintenance during peak hours
  C.   Keeping users uninformed about maintenance schedules
  D.   Skipping regular backups (2 marks)

25. Which protocol is commonly used for secure remote server administration?
  A.   HTTP
  B.   SMTP
  C.   FTP
D.   SSH   (2 marks)

26. Why is it important to schedule server maintenance during off-peak hours?
    A. To save electricity costs
    B. To minimise user disruption
    C. To test the server's backup system
    D. To avoid hardware failure (2 marks)

27. IT infrastructure is prone to natural disasters and man-made disasters. Which of the following illustrates a disaster in context of IT infrastructure?
    A. A routine server maintenance
    B. A software bug
    C. A planned event to test system resilience to unexpected eventuality
    D. An unexpected event causing significant damage or downtime (2 marks)

28. Which of the following **BEST** describes what should be included in a server maintenance checklist?
    A. A list of all installed software
    B. A record of user login history
    C. The server's physical location
    D. An inventory of office supplies (2 marks)

29. Which third-party server monitoring software provides an easy-to-use network monitoring solution with a broad selection of sensors for keeping an eye on servers, network infrastructure and applications?
    A. Zabbix
    B. Nagios
    C. PRTG Network Monitor
    D. Dynatrace (2 marks)

30. Which of the following is **NOT** a common component of server maintenance?
    A. Software updates
    B. Hardware replacement
    C. Network configuration
    D. User account creation (2 marks)

31. Which of the following is a GUI network monitoring tool for server environments and offers a customised dashboard?
    A. Climping tool
    B. Zenoss
    C. Packet tracer
    D. Defragmenter (2 marks)

32. Which of the following is a major advantage of utilising a virtualisation solution for server maintenance?
    A. Reduced hardware costs
    B. Faster CPU processing speed
    C. Increased physical server count
    D. Improved network bandwidth (2 marks)

33. Which of the following is **NOT** a metric typically used to monitor server performance?
    A. CPU usage
    B. Memory usage
    C. Network throughput
    D. Ping (2 marks)

34. Which server management approach focuses on fixing server issues as they occur?
    A. Preventive management
    B. Proactive management
    C. Reactive management
    D. Predictive management (2 marks)

35. Which of the following maintains the server's software and operating system up to date with the most recent security updates?
   A.   Patch management
   B.   Hardware inspection
   C.   Performance tuning
   D.   Energy efficiency   (2 marks)

36. Which document outlines the scope, objectives, and responsibilities for server management?
   A.   Server maintenance schedule
   B.   Server management plan
   C.   Server end-user agreement
   D.   Server troubleshooting guide   (2 marks)

37. What justifies the importance of documentation in network maintenance procedures?
   A.   To increase network speed
   B.   To maintain data confidentiality
   C.   To track changes, issues, and resolutions
   D.   To reduce the need for maintenance   (2 marks)

38. What is the first step in developing a server maintenance plan?
   A.   Assessing server needs and risks
   B.   Documenting maintenance plans
   C.   Communicating maintenance
   D.   Developing maintenance schedules   (2 marks)

39. IT staff can refer to the server backup document for specific instructions on how to perform backups. What is the term used to describe the policies and procedures for how long backups are preserved and kept?
   A.   Incremental Backup
   B.   Full Backup
   C.   Data retention
   D.   Backup Testing   (2 marks)

40. Which document typically outlines the goals and objectives of a maintenance plan?
   A.   User manual
   B.   Troubleshooting guide
   C.   Technical documentation
   D.   Service Level Agreement (SLA)   (2 marks)

41. Which command line interface (CLI) is used to display the current network configuration of a Windows computer?
   A.   netstat
   B.   ping
   C.   ifconfig
   D.   ipconfig   (2 marks)

42. The correct administration, maintenance, and repair of various systems, assets, or facilities are ensured by defined programs or schedules called maintenance plans. Who should be made aware of server maintenance schedules?
   A.   Only IT administrators
   B.   Only end-users
   C.   All relevant stakeholders
   D.   Only external vendors   (2 marks)

43. What exactly does latency mean in terms of network performance?
   A.   The speed of data transmission
   B.   Network downtime
   C.   The complexity of network hardware
   D.   The number of network users   (2 marks)

44. What is the first step in troubleshooting server problems by a server technician?
   A.   Call IT junior support team immediately
   B.   Identify and diagnose the problem
   C.   Reboot the server immediately
   D.   Call the supplier   (2 marks)

45. What is the goal of server maintenance for hard drives?
   A. Enhancing CPU performance
   B. Updating the operating system
   C. Improving network connectivity
   D. Recovering lost data (2 marks)

46. What is the primary goal of security policies and procedures as used in implementing security policies and procedures?
   A. To make servers faster
   B. To protect server data and resources
   C. To increase server downtime
   D. To encourage unauthorised access (2 marks)

47. In network maintenance, what is the main purpose of intrusion detection?
   A. Improving server cooling systems
   B. Enhancing server performance
   C. Identifying unauthorised access
   D. Optimising network bandwidth (2 marks)

48. Which of the following describes the order in which system operations, user behaviors, and events take place within a server environment, application, or network?
   A. Performance logs
   B. Audit trail
   C. Error logs
   D. Maintenance logs (2 marks)

49. What is the term given to the process for creating duplicate server data and storing it at a remote location?
   A. Data replication
   B. Disaster recovery planning
   C. Backup strategies
   D. Server documentation (2 marks)

50. Which of the following maintenance procedure entails routine inspections, lubrication, calibration and component replacement to prevent breakdowns and extend equipment life?
   A. Preventive Maintenance
   B. Corrective Maintenance
   C. Personnel and Training
   D. Inspections and Testing (2 marks)

....

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINISTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 22 August 2023. Morning paper.   **Time Allowed: 2 hours.**

Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. This paper is made up of fifty (50) Multiple Choice Questions. Each question is allocated two (2) marks.

1. A storage technology that provides high-speed, non-volatile storage with low latency and high endurance in servers is known as _____.
   A. Hard Disk Drive (HDD)
   B. Solid-State Drive (SSD)
   C. Magnetic Tape Drive
   D. Optical Disc Drive   (2 marks)

2. A service hosted on the server may not be available to users as a result of various reasons. Which of the following technique is used to reduce server downtime by distributing the workload across multiple servers?
   A. RAID technique
   B. Load balancing
   C. Parallel processing
   D. Server mirroring   (2 marks)

3. Which term refers to the process of physically moving the disk drive's read/write heads to different tracks on the platter?
   A. Formatting
   B. Partitioning
   C. Defragmentation
   D. Seeking   (2 marks)

4. What is the purpose of server backup and restore processes in network server management?
   A. Improving server performance and efficiency
   B. Monitoring server network connectivity and bandwidth
   C. Ensuring business competitive edge
   D. Protecting server data against loss and disaster   (2 marks)

5. What does the acronym SSL/TLS stand for in the context of server security?
   A. Server Security Layer/Transport Layer Security
   B. Secure Socket Layer/Transport Layer Security
   C. Secure Socket Layer/Trust Level Security
   D. Server Security Layer/Trust Level Security   (2 marks)

6. The server maintenance activity that involves identifying servers that need to be maintained, determining the frequency of maintenance, and developing a maintenance plan is known as _____.
   A. Management
   B. Implementation
   C. Planning
   D. Monitoring   (2 marks)

7. Network performance monitoring plays a vital role in server maintenance. What does the term "throughput" refer to in network performance monitoring?
    A. The number of users connected to the server at a given time
    B. The amount of disk space utilised by network traffic logs
    C. The speed at which data is transmitted over the network
    D. The temperature of network equipment, such as switches and routers (2 marks)

8. What is the purpose of audit trails in server maintenance?
    A. To store server backups in a secure location
    B. To monitor server performance metrics
    C. To optimise network connectivity
    D. To track user activity and access permissions (2 marks)

9. The ability of a server to continue operating without interruption when one or more of its components fail by detecting and recovering from errors is referred to as _____.
    A. Redundancy
    B. Load balancing
    C. Fault tolerance
    D. Latency (2 marks)

10. What is the disadvantage of using physical servers instead of virtual servers?
    A. Enhanced flexibility in resource allocation
    B. Higher energy consumption and space requirements
    C. Decreased hardware maintenance costs
    D. Improved isolation between virtual machines (2 marks)

11. A file that contains a snapshot or backup of the server's memory at a specific point in time, often used for diagnostic purposes, particularly when troubleshooting system crashes or software errors is known as _____.
    A. Log file
    B. Audit file
    C. Dump file
    D. Configuration file (2 marks)

12. Which of the following is a key component of a disaster recovery plan as used in network maintenance?
    A. Regular server maintenance
    B. Backup and restore procedures
    C. Network bandwidth optimisation
    D. Server virtualisation techniques (2 marks)

13. What is the file extension for PowerShell scripts?
    A. .ps1
    B. .ps
    C. .sh
    D. .pscript (2 marks)

14. What are logs in the context of server maintenance?
    A. Files used to store server configurations
    B. Records of server resource usage
    C. Historical records of server activities and events
    D. Files containing backup copies of server data (2 marks)

15. When maintaining a server, what type of log event indicates that a significant condition has occurred in the system or an application?
    A. Failure Audit
    B. Warning
    C. Information
    D. Error (2 marks)

16. What is the main difference between a file server and a web server?
    A. File servers store and manage databases, while web servers host websites
    B. File servers provide remote access to files, while web servers deliver web pages to users
    C. File servers handle file transfers, while web servers manage email communication
    D. File servers focus on security, while web servers prioritise network connectivity (2 marks)

17. Which of the following is an example of preventive server maintenance?
    A.   Upgrading server hardware
    B.   Running regular backups
    C.   Resolving a server issue after it occurs
    D.   Rebooting the server once a week   (2 marks)

18. Which of the following is an off-site backup storage option?
    A.   External hard drive connected to the server
    B.   Cloud storage service
    C.   Tape drive installed within the server
    D.   Network-attached storage (NAS) device   (2 marks)

19. What is an advantage of regular server maintenance?
    A.   Increased downtime
    B.   Higher chances of hardware failures
    C.   Decreased risk of security breaches
    D.   Reduced system performance   (2 marks)

20. _____is the built-in variable used in Windows server maintenance at the command line to open the directory where the core of Microsoft Windows operating systems files are stored.
    A.   %SystemRoot%
    B.   %Regedit%
    C.   %tmp%
    D.   %temp%   (2 marks)

21. Which of the following is a third-party network monitoring system tool used to monitor servers, services and other network devices?
    A.   Performance Monitoring
    B.   Ping
    C.   dig
    D.   NAGIOS   (2 marks)

22. What does the terminology "recovery point" refer to in disaster recovery, as used in server maintenance?
    A.   The point in time to resume server operations after a disaster
    B.   The point in time when data is restored during recovery
    C.   The point in time when a server backup is initiated
    D.   The point in time when server maintenance tasks are performed   (2 marks)

23. Which role is responsible for identifying and scheduling routine server maintenance tasks?
    A.   Server administrator
    B.   Network engineer
    C.   Database administrator
    D.   System analyst   (2 marks)

24. What is the purpose of configuring a firewall on a server operating system?
    A.   To increase the server's processing power
    B.   To optimise network bandwidth
    C.   To improve server uptime
    D.   To secure the server from unauthorised access   (2 marks)

25. Which of the following is the best server management technique for enhancing security in a wide area network?
    A.   Antivirus software installation
    B.   Regular server backup
    C.   Server firewall configuration
    D.   Server patching technique   (2 marks)

26. Which term refers to the measure of the maximum amount of data that can be transmitted over a network connection in a given time?
    A.   Bandwidth
    B.   Throughput
    C.   Latency
    D.   Scalability   (2 marks)

27. If a server operating system fails to boot, what should be the next troubleshooting step?
    A. Checking hardware connections and components
    B. Reinstalling the operating system
    C. Resetting the BIOS settings
    D. Running a virus scan (2 marks)

28. Which of the following network server management technique is used to implement Quality of Service (QoS) policies to prioritise network traffic, optimising routing protocols, and tuning network device settings to minimise latency and maximise throughput?
    A. Fault management
    B. Configuration management
    C. Network Monitoring
    D. Performance optimisation (2 marks)

29. What is PowerShell monitoring tool as used in server maintenance?
    A. A web server management tool
    B. A scripting language and automation framework
    C. A server operating system
    D. A database management system (2 marks)

30. How can you access the Windows Event Viewer?
    A. Control Panel > System and Security > Administrative Tools > Event Viewer
    B. Control Panel > Programs > Event Viewer
    C. Control Panel > Network and Internet > Event Viewer
    D. Control Panel > Appearance and Personalization > Event Viewer (2 marks)

31. Your organisation's servers need regular maintenance to ensure their proper functioning and reliability. Select the type of maintenance that focuses on modifying or updating the server to accommodate changes in the environment or requirements.
    A. Corrective
    B. Perfective
    C. Adaptive
    D. Preventive (2 marks)

32. What is the purpose of load balancing in optimising CPU resources?
    A. To distribute network traffic evenly across multiple servers
    B. To ensure equal distribution of CPU load among multiple cores or processors
    C. To allocate more memory resources to CPU-intensive processes
    D. To reduce power consumption by the CPU (2 marks)

33. What is a potential advantage of utilising server virtualisation technology?
    A. Improved physical hardware utilisation and cost-efficiency
    B. Increased dependency on physical server infrastructure
    C. Limited scalability and resource allocation options
    D. Higher power consumption and cooling requirements (2 marks)

34. Upon the installation of a Graphical User Interface (GUI) server, the following need to be provided **EXCEPT**?
    A. The IP address of the server
    B. The port number for the server
    C. The user accounts that will be allowed to access the server
    D. The Universal Resource Locator (URL) (2 marks)

35. Database server is a type of server that is designed and dedicated to manage, store, and process databases. Which issue is commonly associated with database servers?
    A. Slow response times for web pages
    B. Data inconsistency and integrity issues
    C. Disk space depletion
    D. Network congestion (2 marks)

36. What is the primary purpose of network performance monitoring in server maintenance?
   A. To ensure high server availability
   B. To manage server backup and restore processes
   C. To optimise server hardware configuration
   D. To monitor server power consumption (2 marks)

37. Which server resource provides long-term storage for operating system files, applications and user data?
   A. Central Processing Unit (CPU)
   B. Hard Disk Drive (HDD)
   C. Random Access Memory (RAM)
   D. Solid-State Drive (SSD) (2 marks)

38. What is the term used to describe the simultaneous use of multiple servers to provide a single service?
   A. Load balancing
   B. Scalability
   C. Clustering
   D. Virtualisation (2 marks)

39. What is the purpose of maintaining an inventory of server assets in an organisation?
   A. To track server performance metrics
   B. To keep track of hardware and software components
   C. To monitor network traffic
   D. To manage server backups (2 marks)

40. Which of the following **BEST** describes the virtualisation server as used in server maintenance?
   A. It provides computing resources on demand
   B. It handles the sending and receiving of email messages
   C. It stores and manage databases, while web servers host websites
   E. It allows multiple operating systems to be run on a single physical server (2 marks)

41. Server bottlenecks refer to limitations or constraints that hinder the performance and throughput of a server system. How can server bottlenecks be addressed?
   A. By optimising server configurations and load balancing
   B. Through reduction of the network bandwidth
   C. Through increasing the server resource utilisation
   D. By decreasing server security measures (2 marks)

42. A number of different server encryption techniques are available for network environment. What is the purpose of data encryption in server security?
   A. To restrict network access to authorised users only
   B. To prevent unauthorised modification or interception of data
   C. To detect and remove malware from the server
   D. To monitor and log user activities on the server (2 marks)

43. Which of the following is **NOT** a component of the server maintenance architecture?
   A. Maintenance log
   B. Maintenance plan
   C. Maintenance checklist
   D. Maintenance SLA (2 marks)

44. What is the purpose of using the "Safe Mode" option when troubleshooting server operating system issues?
   A. To enable remote desktop access for troubleshooting
   B. To restore the server to a previous working state
   C. To start the operating system with minimal drivers and services
   D. To perform a clean installation of the operating system (2 marks)

45. Server maintenance typically involves several roles and responsibilities to ensure the smooth operation and performance of servers. Which role is responsible for evaluating the system capacity, identifying bottlenecks and inefficiencies, proposing improvements to optimise server configurations and resource allocation?
   A. Server administrator
   B. System analyst
   C. Security specialist
   D. Application administrator (2 marks)

46. A disaster recovery plan is an important document in server maintenance. What is the primary goal of server disaster recovery planning?
    A. Minimising the impact of disasters on the server environment
    B. For preventing disasters from occurring in server environment
    C. Recovering lost data after a disaster
    D. Ensuring continuous server uptime (2 marks)

47. Which of the following statements is **NOT** correct about server maintenance?
    A. It involves tasks such as applying updates and patches, monitoring server performance, optimising resource allocation, managing backups, and resolving server-related issues
    B. It helps to identify and resolve performance bottlenecks, security vulnerabilities, and potential system failures
    C. It handles data processing operations, including performing calculations, aggregations, sorting, and transforming data
    D. It allows multiple operating systems to be run on a single physical server (2 marks)

48. There are a number of different server monitoring tools available, both commercial and open source. What is the purpose of server monitoring?
    A. To identify and resolve server performance issues
    B. To ensure servers are running at maximum capacity
    C. To gather data for statistical analysis
    D. To prevent unauthorised access to servers (2 marks)

49. Which of the following is an important metric monitored by server monitoring software?
    A. Social media engagement
    B. Website traffic sources
    C. CPU usage and performance
    D. Sales revenue (2 marks)

50. What is the purpose of a server backup document?
    A. Tracking server uptime
    B. Documenting server hardware specifications
    C. Recording backup schedules and procedures
    D. Managing user access permissions (2 marks)

....

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINSTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 25 April 2023. Morning paper.   **Time Allowed: 2 hours.**

Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. This paper is made up of fifty (50) Multiple Choice Questions. Each question is allocated two (2) marks.

1.   Which windows server utility allows a system administrator to get routed protocol information?
     A.   ipconfig
     B.   ping
     C.   hostname
     D.   traceroute

2.   What is a common solution for preventing server disasters?
     A.   Regular software updates and patches
     B.   Regular backups of server data
     C.   Regular monitoring of server performance
     D.   Regular formatting

3.   Which of the following is **NOT** a typical step in disaster recovery process for servers?
     A.   Risk assessment
     B.   Backup and data protection
     C.   Server optimisation
     D.   Business continuity planning

4.   What is the name given to the process of dividing a physical server into multiple unique and isolated virtual servers by means of a software application?
     A.   Server containerisation
     B.   Server virtualisation
     C.   Container virtualisation
     D.   Docker container

5.   State the tool used to monitor system events such as application crashes, system errors, and security events in widows server operating system?
     A.   Logs
     B.   Get-counter
     C.   cmd
     D.   Event viewer

6.   A distributed computing model that involves processing and storing data closer to the source of that data, rather than on centralized servers in a data center or the cloud is called?
     A.   Cloud computing
     B.   Virtualisation
     C.   Edge Computing
     D.   Client-server

7. A catastrophic event that results in the complete or partial loss of access to a server and its data due to hardware failures, cyber-attacks, natural disasters, or human error is referred to as?
   A. Server loss
   B. Server downtime
   C. Server uptime
   D. Server disaster

8. The type of maintenance that is performed on a regular basis, such as daily, weekly, monthly, or annually is referred to as?
   A. Preventive maintenance
   B. Predictive maintenance
   C. Periodic maintenance
   D. Corrective maintenance

9. A type of scheduled backup windows that does only backup data files that have changed since the most recent complete full backup is known as?
   A. Differential backup
   B. Incremental backup
   C. Full backup
   D. Daily backup

10. Miss Kelly wanted to view the amount of memory installed on the Windows Server System. Which of the following command utility can be used to view the amount of memory installed on the server system?
    A. ipconfig
    B. ping
    C. netstat
    D. systeminfo

11. A system administrator wants to ensure fault tolerance on a server. Which of the following is the **MOST** cost effective solution?
    A. Install two NIC for teaming
    B. Install two switches
    C. Install single fiber NIC
    D. Install single Router

12. Mr. Andrew an employee with a leading Pharmaceutical company was having issues accessing shared resources on a server. Which of the following troubleshooting steps should the employee consider **FIRST**?
    A. Document the problem
    B. Search the internet for the problem
    C. Identify the symptoms
    D. Test the results

13. A record of events that occur on the server, such as user logins, changes to the file system, and security-related events is called?
    A. Snap-in
    B. Snapshot
    C. Temp file
    D. Audit log

14. Solid-State Drives (SSDs) are a type of storage device used in servers and other computers. Which of the following is **NOT** true about SSDs?
    A. They are cheaper compared to Hard Disk Drives (HDDs)
    B. They have low latency as compared to Hard Disk Drives (HDDs)
    C. Faster read and write speeds
    D. Improved reliability

15. Which of the following tools can be used to retrieve device statistics, information and errors on a server?
    A. Trivial File Transfer Protocol (TFTP)
    B. Simple Network Management Protocol (SNMP)
    C. Packet Sniffer
    D. Simple Mail Transfer Protocol (SMTP)

16. The time taken for the server to respond to a request by the client is known as ?
    A.   Throughput
    B.   Noise
    C.   Latency
    D.   Jitter

17. Which of the following best explains the 3-2-1 strategy as used in server maintenance?
    A.   It means having at least 3 copies of your data. Two of these can be offsite and one onsite
    B.   It means having at least 3 copies of your data. Two of these can be offsite (in the same format) and one onsite
    C.   It means having at least 3 copies of your data. Two of these can be onsite and one offsite
    D.   All it means having at least 2 copies of your data. Three of these can be offsite and none onsite

18. Which one is a weekly check list of server maintenance?
    A.   Patch 3rd party software
    B.   Check logs
    C.   Resetting admin passwords
    D.   Active Directory clean-up

19. The process of applying software updates to the server, to fix bugs and improve security is referred to known as?
    A.   Hot swap
    B.   Performance tuning
    C.   Disaster recovery
    D.   Patch management

20. Which command is used to open the tool built into Windows server operating systems to provide a detailed report on the hardware, software and system configuration of the computer?
    A.   msinfo32.exe
    B.   devmgmt.msc
    C.   compmgmt.msc
    D.   perfmon command

21. Which mechanism is used to develop a plan for maintaining business operations in the event of a disaster, including identifying alternative systems and processes, communicating with stakeholders, and testing the plan to ensure its effectiveness?
    A.   Server Replication
    B.   Business Continuity Planning
    C.   Backup and Data Protection
    D.   Disaster Recovery Testing

22. A type of server that is designed to be mounted horizontally in a blade chassis, with multiple servers sharing common power and cooling infrastructure is called?
    A.   Rack server
    B.   Tower server
    C.   Blade server
    D.   Micro server

23. Which of the following is **NOT** a security measures to ensures data server security?
    A.   System monitoring
    B.   Firewall
    C.   Data encryption
    D.   Intrusion detection systems

24. State the name given to a type of hosting service where a client rents an entire physical server from a hosting provider and has full control over the server's resources and configuration.
    A.   Cloud server
    B.   Dedicated server
    C.   Backend server
    D.   Hybrid server

25. The activities, methods, and tools used to manage, monitor, and control a computer network to ensure its smooth and efficient operation is known as?
   A. Network troubleshooting
   B. Server maintenance
   C. Server testing
   D. Network management

26. What is the preferred time to perform Server Maintenance?
   A. During peak hours
   B. During the weekends
   C. During off-hours
   D. During the weekdays

27. Which of the following is a task done during disk clean up and defragmentation in server maintenance?
   A. Keeping the Windows server operating system and other software up-to-date is critical for ensuring the security and performance of the server
   B. Implementing security best practices, can help prevent security threats and ensure the confidentiality and integrity of user data
   C. Automating routine maintenance tasks, such as software updates and backups to help simplify server maintenance and reduce the workload for IT administrators.
   D. Defragmenting hard drives to help improve the performance of the Windows Server

28. Which command can be used to check if a remote host is reachable over Windows server network?
   A. ipconfig
   B. netsh
   C. ping
   D. netstat

29. The command line interface developed by Microsoft servers for automating the administrative tasks that work both for local and remote Windows machines is called?
   A. Command prompt
   B. Windows PowerShell
   C. Windows GUI
   D. Windows registry

30. What is the purpose of documenting and tracking changes made to the server during maintenance?
   A. To ensure backups are properly configured
   B. To automate configuration changes across multiple servers
   C. To provide a clear record of configurations and updates
   D. To prevent security risks

31. Metrics, such as CPU utilisation, memory usage, and disk space, can help identify performance bottlenecks and potential issues. What key activity in server maintenance is used to getting such details?
   A. Performance monitor
   B. Msinfo32
   C. dxdiag
   D. devmgmr

32. A high-performance bus type used for connecting up to 16 devices to a single host adapter, and provides a faster data transfer rate and more robust error handling and identified by a unique SCSI ID number is known as?
   A. PCI
   B. PCIe
   C. SATA
   D. SCSI

33. Which of the following options can be used to assign an application to one processor exclusively?
   A. Right click on application executable, select properties and select assign processor
   B. Right click on application process in Task Manager, select Set Affinity, and select the appropriate processor
   C. Open Task Manager, chose options from task bar, select processor and assign processes to appropriate processor
   D. Open Task Manager, chose Performance, chose view all processors, assign processes to appropriate processor

34. Which of the following is an example of server software maintenance?
   A. Installing a new hard drive
   B. Replacing a faulty RAM module
   C. Installing a security patch
   D. Cleaning server fans

35. Mary installed Internet Information Services on a computer running Windows 2022 Server. She created two new department websites for the Revenue and Human resource departments. Then you use host headers to define these two new sites. You stop the human resource website while a developer updates the contents of the site. If a user attempts to access the Revenue site while it is stopped, what will response will the user receive?
   A. The user will be redirected to an alternate default page for the Sales site's home directory
   B. The user will be redirected to the Default Web site home page
   C. The user will receive a 403.2 -Read Access Forbidden error message
   D. The user will receive a 404 - File Not Found error message

36. Remote Desktop connects remotely to another and shares control of its mouse and keyboard, and views its display. What tool is used to enable Remote Desktop on a server?
   A. Terminal Services Manager
   B. Administrative tools in control panel
   C. System properties in Control Panel
   D. Terminal Services Configuration

37. Which of the following server maintenance method is used to ensure that the server is up-to-date with the latest security?
   A. Regular updates and patching
   B. Monitoring server health and performance
   C. Documenting and tracking changes made to the server
   D. Backing up important data

38. _____ is a tool included with Microsoft windows that provides detailed information about the directX components and drivers installed on a computer
   A. nslookup
   B. activeX
   C. traceroute
   D. dxdiag

39. State the name given to the type of server that act as intermediary between clients and other servers?
   A. Application servers
   B. Proxy server
   C. Web servers
   D. FTP Servers

40. Why is it important to regularly monitor server performance?
   A. To ensure you're using all of your available storage space
   B. To ensure you're getting the fastest network speeds possible
   C. To identify potential issues before they become major problems
   D. To reduce the amount of power your server uses

41. Which of the following is **NOT** a file and folder management operations as used in server maintenance?
   A. dir
   B. mkdir
   C. rmdir
   D. netstat

42. The process of dividing a physical storage device, such as a hard disk drive, into multiple logical unit is known as
   A. Disk fragmentation
   B. Disk formatting
   C. Disk partitioning
   D. Disk compression

43.   Which of the following is the address in windows server that a computer will self-configure an IP address and subnet mask automatically when their DHCP (Dynamic Host Configuration Protocol) server isn't reachable?
      A.   10.0.0.0 - 10.255.255.255
      B.   172.16.0.0 - 172.31.255.255
      C.   192.168.0.0 - 192.168.255.255
      D.   169.254.0.0 - 169.254.255.255

44.   Which of the following is **NOT** a type of server maintenance?
      A.   Preventive maintenance
      B.   Perfective maintenance
      C.   Predictive maintenance
      D.   Corrective maintenance

45.   To identify active connections, check if a particular port is open, or monitor network traffic, we use a command-line tool to displays a list of all the open network connections on a windows server system. Which of the following command is used to open the tool for displaying the information?
      A.   telnet
      B.   dig
      C.   netstat
      D.   ipconfig

46.   Which tool can be used to manage disk partitions and volumes on a windows server system?
      A.   Disk management
      B.   Device manager
      C.   Task manager
      D.   Event viewer

47.   What is the purpose of disk quotas on a windows server system?
      A.   To limit the size of individual files
      B.   To limit the total amount of disk space used by a user or group
      C.   To control access to specific files or folders
      D.   To provide fault tolerance and data redundancy

48.   Choose a statement that is **NOT** true about servers
      A.   One is required to schedule time to physically clean and inspect servers to prevent hardware failure to keep dust and debris out of the circuit boards and fans
      B.   Servers maintain logs that track access and errors on the server
      C.   Memory and processor usage can show how heavily a server is being used.
      D.   Regular maintenance ensures that minor server issues escalate into a disastrous system failure

49.   Which command utility allows a Windows user with administrative privileges to query a Windows server?
      A.   diskpart
      B.   defrag
      C.   fsutil
      D.   diskcomp

50.   The person responsible for installing, configuring, and maintaining servers and other IT infrastructure is called
      A.   System administrator
      B.   Network administrator
      C.   Security Administrator
      D.   IT technician

      ....

DIPLOMA IN COMPUTER NETWORKS AND SYSTEMS ADMINSTRATION (DCNSA)

LEVEL III

SERVER MAINTENANCE

TUESDAY: 6 December 2022. Morning paper.   **Time Allowed: 2 hours.**

Answer ALL questions by indicating the letter (A, B, C or D) that represents the correct answer. This paper is made up of fifty (50) Multiple Choice Questions. Each question is allocated two (2) marks.

1.   Which of the following is the **MOST** important DNS server resource?
        A.   Network connection
        B.   Disk storage
        C.   Mouse
        D.   Keyboard

2.   Server maintenance entails a software updated and running so that a computer network can operate smoothly and avoid downtime or loss of data. Which of the following events is the **MOST** catastrophic?
        A.   Losing a backup
        B.   Crashing of server software
        C.   Losing a server disk when there is no backup
        D.   A disk failing

3.   Which one of the following statement **BEST** illustrates preventive maintenance?
        A.   Changing an old system
        B.   Preparing against millennium bug
        C.   Updating a software
        D.   Cleaning a computer system

4.   Network Operating system is primarily designed to support workstations, personal computers and older terminals on a local area network. Which of the following is an example of a network operating system?
        A.   Ubuntu
        B.   Mint
        C.   Windows 7
        D.   Windows server 2016

5.   A computer device that can prevent tampering access of server at the boot time is known as?
        A.   RAM
        B.   Cache
        C.   BIOS
        D.   North gate

6.   Which of the following is **NOT** commonly monitored in a server?
        A.   Availability
        B.   Responsiveness
        C.   Capacity
        D.   Clock speed

7. The disk interface is the connection of hard disk and host system. Which of the following is the **BEST** for a server hard disk interface?
    A. USB
    B. SATA
    C. IDE
    D. EIDE

8. Which of the following is a daily server maintenance routine?
    A. Restarting
    B. Cleaning
    C. Updating systems
    D. Lubrication

9. Which of the following commands would halt a windows server system in a network?
    A. Shutdown /0
    B. Restart /R
    C. Init 0
    D. Init halt

10. Which of the following is a server performance metric?
    A. Network speed
    B. Hard disk speed
    C. Availability
    D. Administrator qualification

11. Which of the following is **TRUE** about server logs?
    A. Records only suspicious activities
    B. They are text files
    C. Servers are always creating logs
    D. Readily accessible by all users

12. A server administration entails configuration and maintenance of servers to make sure IT infrastructure runs smoothly. Which of the following identifies a **BEST** practice about server administration?
    A. Done only by ICT manager
    B. Should be outsourced
    C. Should be done by any user with the right privileges
    D. Administrator should log in with the privileged account only when necessary

13. Which of the following statement **BEST** illustrates running a server in safe mode?
    A. protects the system from viruses.
    B. protects the system from data loss.
    C. loads a minimum number of drivers.
    D. prevents unauthorized access.

14. Identify among the following, an appropriate reason for sharing memory in a server.
    A. To secure data
    B. Avoid server overheating
    C. To perform high speed communication among processes
    D. To speed data processing

15. Which of the following would be the appropriate action to be undertaken when server CPU utilization is maximum or near maximum?
    A. Server well utilised
    B. Need to add another server
    C. Poor performance
    D. It needs tuning

16. Which of the following statement **BEST** illustrates the term server farm?
    A.   A group of work stations
    B.   The fastest server
    C.   Server room
    D.   A collection of organisation computer servers for an organization

17. Server maintenance is process of keeping a server software updated and running so that a computer network can operate smoothly and avoid downtime or loss of data. Server maintenance consist of the following actions EXCEPT?
    A.   Purchase of components
    B.   Replace of component
    C.   Repair of component
    D.   Service of component

18. What is the appropriate term given from the point of time the machine fails to when it is repaired?
    A.   Break Down time
    B.   Maintenance time
    C.   Down time
    D.   Uptime

19. Which of the following decreases with the increase in maintenance efforts?
    A.   Down time
    B.   Cost maintenance
    C.   Overhead Cost
    D.   Labour

20. What is the **CORRECT** system maintenance procedure?
    A.   Problem – Cause – Diagnosis – Rectification
    B.   Problem– Diagnosis – Cause – Rectification
    C.   Problem – Measure – Diagnosis – Rectification
    D.   Problem– Diagnosis – Measure – Rectification

21. A multinational corporation backup plan calls for a full back up every Sunday. Every other day of the week, system administrator needs to back up only the changes since the last full backup. Which backup type should be used on a Tuesday?
    A.   Daily
    B.   Normal
    C.   Copy
    D.   Differential

22. Which of the following network command utility network configuration details of the server?
    A.   Ip
    B.   Chk
    C.   Ipconfig
    D.   Syscheck

23. Which of the following should be used to protect a server in case of a blackout?
    A.   Uninterruptible Power Supply.
    B.   Power Supply Unit.
    C.   Hot-swappable power supply.
    D.   Line conditioner.

24. When preparing server for use, which of the following is **NOT** a system Requirement?
    A.   Crimping tool
    B.   Processor
    C.   Random Access Memory(RAM)
    D.   Disk space

25. Which of the following causes a server **NOT** to reply to echo request from a client?
   A.   If virtual box is not well configured
   B.   If DHCP is blocking the traffic
   C.   If the command is wrong
   D.   When a firewall is blocking the traffic

26. Which one of the following is a lightweight command used in poweshell environment?
   A.   Cmdlets
   B.   Parser
   C.   ISE
   D.   Toggle breakpoint

27. Which of the following tools can be used by an administrator to retrieve detailed information about a significant occurrence from server?
   A.   Event Viewer
   B.   System Information
   C.   System Monitor
   D.   Resource Monitor

28. Group Policy is a hierarchical infrastructure that allows a network administrator in charge of Microsoft's Active Directory to implement specific configurations for users and computers. By default, group policies are first applied to server computers when the:
   A.   Computer is backed up
   B.   Computer starts up
   C.   User accesses a shared drive
   D.   User runs gpresult.exe

29. Identify the kind of report that shows the CPU capacity of a server.
   A.   Response time
   B.   Processor time
   C.   Queue length
   D.   Disk read speed

30. What is the name given to a domain controller designated to perform a set of specialized controller tasks?
   A.   Windows Internet Name Service (WINS) server
   B.   Operations Master
   C.   Organisational Unit
   D.   Primary domain controller

31. Which of the following groups can be used to assign permissions to access resources?
   A.   Workgroup
   B.   Security group
   C.   Organisational group
   D.   Distribution group

32. Which of the following statement is **FALSE** about data handling in a server?
   A.   Data can be recovered fastest in online backup
   B.   Tape library is an example of near line storage
   C.   Data recovery can take hours for offline backup
   D.   After restoring hot backups users can access the data

33. Which of the following can be used to access resources located in a given forest when administering a server?
   A.   Child domain
   B.   Distribution group
   C.   Trust
   D.   Organisational unit

34. Which of the following stores a record of server startups and shutdowns with exceptional conditions?
   A. General logs
   B. Error log
   C. Slow query log
   D. Binary log

35. Which of the following logging option enables binary log index file?
   A. –log-bin-index
   B. –bin-log-index
   C. –index-log-bin
   D. –index-bin-log

36. The registry that stores server file associations is known as ?
   A. HKEY_LOCAL_MACHINE
   B. HKEY_CURRENT_CONFIG
   C. HKEY_CURRENT_USER
   D. HKEY_CLASSES_ROOT

37. Which of the following is a valid server file attributes?
   A. Read, write, execute
   B. Full control, reading and executing, editing, special access rights
   C. Hidden, read only, system, archived
   D. Owner, group, other

38. Why would a system administrator prefer commands over GUI in server maintenance?
   A. They are easy to use
   B. Easy to learn
   C. Are more secure
   D. Do not change

39. Which of the following is an advantage of using 3rd party windows server tools?
   A. Fast
   B. Cost effective
   C. Safer
   D. Accuracy

40. Which of the following should be associated with system administration staff?
   A. They must be trained in everything
   B. Should work from anywhere
   C. Can be assigned any task
   D. Should be reskilled oftenly

41. Which of the following is the best time to perform windows server updates?
   A. During off peak hours
   B. Immediately they are available
   C. During peak hours
   D. Immediately after backup

42. Which of the following illustrates the correct order of events of bringing back data that had been lost in a server?
   A. Recover, copy backup to disk, restore
   B. Recover, restore, copy backup to disk
   C. Copy Backup to disk, restore, recover
   D. Copy Backup to disk, recover, restore

43. In which environment should a simulation of a failed system be done?
    A. Working environment
    B. Test environment
    C. Backup sites
    D. In database servers

44. Identify a component that is required to configure TCP/IP connection.
    A. Subnet mask
    B. Physical address
    C. Host address
    D. Domain name

45. A command that creates backups with the archive attribute set is known as?
    A. XCOPY
    B. Backup
    C. Etbcmd
    D. Attrib

46. The command prompt for creating a disk partition in a server is known as?
    A. Dir
    B. Format
    C. Diskpart
    D. Robocopy

47. Which of the following statements **BEST** illustrates the term troubleshooting a server.
    A. Preventing errors
    B. Diagonising errors and correcting them
    C. Identifying errors in a system
    D. Making systems work better

48. Which of the following is a suitable command for repairing broken master boot record in windows server?
    A. bootrec
    B. exec
    C. init/r
    D. repair

49. IT Personnel are involved with development of software, database integration and migration, hardware procurement, installation and maintenance and network infrastructure development. Who among the following users should lead the team planning for a new system?
    A. System administrator
    B. CEO
    C. Network Administrator
    D. System manager

50. Server security focuses on the protection of data and resources held on the servers. When setting passwords as a security measure which one of the following is the most effective to avoid brute force Attack?
    A. History
    B. Length
    C. Case
    D. Complexity

....