061005T4ICT

ICT TECHNICIAN LEVEL 5

IT/OS/ICT/CR/3/5

PERFORM COMPUTER REPAIR AND MAINTENANCE

JULY /AUG 2023

TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL (TVET CDACC)

WRITTEN ASSESSMENT

Time: 3 Hours

INSTRUCTIONS TO CANDIDATE

1. This paper has three sections **A**, **B** and **C.**
2. You are provided with a separate answer booklet.
3. Marks for each question are as indicated.
4. Do not write on the question paper.

This paper consists of 8 printed pages

Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing

SECTION A (20 MARKS)

*Answer **all** questions in this section.*

Each question carries one Mark

1. When troubleshooting a computer that is not powering on, which tool is used to test the power supply? (1 Mark)
   A. Multimeter
   B. Cable tester
   C. Loopback plug
   D. Heat sink
2. Which of the following is the correct order to be followed when disassemble computer parts. (1 Mark)
   A. Remove screws, disconnect cables, gently separate components
   B. Disconnect cables, remove screws, gently deterge components
   C. Gently separate components, remove screws, disconnect cables
   D. Disconnect cables, gently separate components, remove screws
3. To prevent accidental electrostatic discharge (ESD) damage to computer components, technicians should use (1 Mark)
   A. Rubber gloves
   B. Surge protectors
   C. Anti-static wrist straps
   D. Circuit testers
4. Which tool is used to remove and install expansion cards in a computer such as graphics cards or sound cards (1 Mark)
   A. Pliers
   B. Cable tester
   C. Anti-static wrist strap
   D. Screwdriver
5. A maintenance technique that aims to optimize maintenance activities based on cost, risk, and performance factors is_____ .(1 Mark)
   A. Risk-based maintenance
   B. Corrective maintenance
   C. Preventive maintenance

D. Reactive maintenance

6. The first step to take when repairing a faulty computer is (1 Mark)
   A. Identify the cause of the fault
   B. Consult the equipment manual
   C. Gather the necessary tools and materials
   D. Disconnect the power source
7. _____should be done after repairing or replacing a faulty component and confirming its functionality. (1 Mark)
   A. Reassemble the equipment
   B. Documenting the repair process
   C. Clean the entire system
   D. Skip the testing phase
8. How can you determine if a repaired or replaced component is working correctly(1 Mark)
   A. Perform a functionality test
   B. Inspect for any physical damage
   C. Consult an expert technician
   D. Compare it with the original component
9. Which component fault result in to overheating of a computer. (1 Mark)
   A. Monitor
   B. Heat sink
   C. Power Supply
   D. Temperature sensor
10. Peter was disassembling a client computer, what would he do with the removed screws and small parts during disassembly (1 Mark)
   A. Keep them in a labeled container
   B. Discard them immediately
   C. Place them on a nearby surface
   D. Store them in a plastic bag
11. It's always advisable to carry out system back up during system upgrades. What is the purpose of backing up data before performing software or hardware upgrades(1 Mark)
   A. To prevent data loss during the upgrade process
   B. To improve system compatibility with the upgrade
   C. To reduce the time required for the upgrade

D. To analyze the data for potential performance issues

12. How can documentation help in troubleshooting ? (1 Mark)
    A. It serves as a troubleshooting tool itself
    B. It provides a record of previous issues and solutions
    C. It helps to create a backup of the system
    D. It is not relevant to the troubleshooting process
13. The purpose of stress testing a computer and its component is (1 Mark)
    A. To analyze the power consumption
    B. To determine the physical dimensions
    C. To check the network connectivity
    D. To evaluate its stability under heavy workloads
14. Mr. X took his personal computer to computer dealers for an upgrade, the technician did benchmark before and after a hardware upgrading. What was the purpose of doing benchmarking (1 Mark)
    A. To determine the cost-effectiveness of the upgrade
    B. To test the stability of the hardware components
    C. To compare the performance of the hardware before and after the upgrade
    D. To analyze the compatibility of the hardware with the system
15. Computer output and inputs is control by (1 Mark)
    A. BIOS
    B. CMOS
    C. VGA
    D. RAM
16. The following steps ensure a smooth transition during software and hardware upgrades except? (1 Mark)
    A. Perform compatibility testing beforehand
    B. Follow proper installation procedures
    C. Monitor the upgrade process for any errors or issues
    D. Discard the old components before the upgrade
17. The purpose of asking the user about recent changes or actions before the problem occurred during troubleshooting helps to____ (1 Mark)
    A. Identify potential causes or triggers
    B. Blame the user for the issue
    C. Gather feedback on the system's performance

D. Skip the troubleshooting process

18. The following are computer buses, which one is not. (1 Mark)
    A. Network bus
    B. Data bus
    C. Address bus
    D. Control bus
19. Alice is performing a software upgrade, what would she do with any existing licenses or product keys? (1 Mark)
    A. Deactivate them before the upgrade
    B. Upgrade them to a higher version
    C. Transfer them to another system
    D. Discard them after the upgrade
20. Which software tool can be used to test the performance and stability of a computer's processor? (1 Mark)
    A. Prime95
    B. Disk Defragmenter
    C. Task Manager
    D. Internet Speed Test

SECTION B (40 MARKS)

*Answer **all** questions in this section.*

21. Outline FOUR importance of having the right tools during computer repair and maintenance. (4 Marks)
22. Describe FOUR routine maintenance task that should be performed regularly to ensure optimal computer performance (4 Marks)
23. State FIVE common problems that can be encountered during troubleshooting a computer system that would make one panic. (5 Marks)
24. Testing a computer's cooling system is crucial for maintaining optimal performance. Discuss the importance of testing a computer's cooling system. (3 Marks)
25. Repairing a malfunctioning keyboard can vary depending on the specific issue. Outline the steps involved in repairing it. (2 Marks)
26. Tony a computer technician needs to clean a client's computer. Highlight FOUR tools that he can used. (4 Marks)
27. Explain the process of upgrading the RAM in a computer system (4 Marks)
28. Highlight FIVE benefits of performing software and hardware upgrade. (5 Marks)
29. Fault finding in a computer is important in helping to solve the problem. Outline FIVE steps involved in fault identification. (5 Marks)
30. Distinguish between *booting* up and *boot loader* as used in computer system. (4 Marks)

SECTION C (40 MARKS)

*Answer any **TWO** questions in this section.*

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31. You are an IT technician at KPL Company. On Tuesday last week the company experienced black out and most of the computer were on. When the power come back some were not able to power on. The supervisor informed all the technician that you are going to carry out troubleshooting of all the computers that had issues and perform a general upgrade for all computers.
    a) Explain the diagnostic methods you would use to pinpoint the faulty components (10 Mark)
    b) Discuss FIVE challenges you encountered during the upgrade process. (10 Marks)

32.
    a) There are several reasons why performing software or hardware upgrades on a computer system is necessary. Discuss FIVE reasons for performing the upgrades. (10 Marks)
    b) Explain the steps you would follow to replace a faulty laptop screen. (10 Marks)

33.
    a) Explain FOUR steps to following while installing motherboard. (8 Marks)
    b) John when performing a RAM upgrade were labelled DDR2 and DDR3. Differentiate between DDR2 and DDR3 as used in RAM technology. (4 Marks)
    c) Functional testing plays a crucial role in ensuring that software meets the functional requirements and behaves as expected. Highlight FOUR steps to follow during functional testing. (4 Marks)
    d) Explain the use of the following tools as in computer repair and maintenance.
        i) Rework station (2 Marks)
        ii) Oscilloscope (2 Marks)

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