

061005T4ICT

ICT TECHNICIAN LEVEL 5

IT/OS/ICT/CR/3/5

PERFORM COMPUTER REPAIR AND MAINTENANCE

NOV/DEC 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. Attempt questions in each section as per instructions given in the section.
2. You are provided with a separate answer booklet.
3. Marks for each question are indicated in the brackets.
4. Do not write on the question paper

This paper consists of 7 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. The abbreviation UPS stands for _____
 - A. Universal power supply
 - B. Uninterrupted power supply
 - C. Unique power supply
 - D. United parcel service
2. What is the main purpose of using an anti-static wrist strap when working with computer equipment?
 - A. To make the technician look professional.
 - B. To prevent the computer from overheating.
 - C. To prevent electrostatic discharge (ESD) damage.
 - D. To increase the computer's processing speed
3. You have been tasked with trouble shooting the Principals computer. Which of the following would be the logical first step in troubleshooting the PC?
 - A. Check the computer CMOS
 - B. Define the circumstances of the problem
 - C. Call the vendor
 - D. Define what applications are being used
4. Bytes are essential in digital computing because it provides a standard unit for representing and manipulating data. It can hold one _____ of data.
 - A. Bit
 - B. Binary gigit
 - C. Character
 - D. Kilobyte
5. Select below the correct difference between RAM and ROM.
 - A. RAM is volatile memory, while ROM is non-volatile memory.
 - B. RAM is permanent memory, while ROM is temporary memory.
 - C. RAM is used to store data, while ROM is used to store instructions.
 - D. RAM is used to store programs, while ROM is used to store data.

6. How can you determine if a repaired or replaced component is working correctly?
 - A. Perform a functionality test
 - B. Inspect for any physical damage
 - C. Consult an expert technician
 - D. Compare it with the original component
7. The _____ holds all the physical parts of the computer.
 - A. System unit
 - B. CPU
 - C. Mainframe
 - D. Platform
8. By following the post-repair or post-replacement steps, you can help ensure the continued smooth and reliable operation of the computer and minimize the risk of future issues.
_____ should be done after repairing or replacing a faulty component and confirming its functionality.
 - A. Reassemble the equipment
 - B. Documenting the repair process
 - C. Clean the entire system
 - D. Skip the testing phase
9. DSL typically provides which type of internet connection?
 - A. Dial-up
 - B. Broadband
 - C. Satellite
 - D. Cellular
10. Transition is often driven by advancements in technology and the ability of PC-based servers to provide the necessary performance and reliability. Smaller and less expensive PC-based servers are replacing _____ in many business.
 - A. Supercomputers
 - B. Clients
 - C. Laptops
 - D. Mainframes

11. Monitors are output devices that come in various types. Select below a monitor that looks like a television and is normally used with a non-portable computer systems.
- A. CRT
 - B. LCD
 - C. LED
 - D. Flat Panel Monitors
12. Stress testing is an important practice for both end-users and hardware developers. Choose why you would do it on a computer and its components.
- 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.
13. Which of the following power problem may not arise in the usage of computers?
- A. Overvoltages (spikes and surges)
 - B. Undervoltages (brownouts)
 - C. Power failure (blackouts)
 - D. Fan power (interference)
14. An output unit plays a crucial role in a wide range of output devices. Pick from below a function of the Output Unit of a computer.
- A. It produces results that can be easily understood by the user.
 - B. It accepts the results produced by the computer.
 - A. It supplies the data and instructions to the outside world.
 - B. It supplies the data and instructions to the computer for further processing.
15. The specific location where the output is stored depends on the nature of the operation and the design of the computer's architecture. Where the ALU does Stores its output in the computer?
- A. Secondary storage
 - B. Registers
 - C. Flags
 - D. Output Unit

16. The following are computer buses, which one is not?
- A. Network bus
 - B. Data bus
 - C. Address bus
 - D. Control bus
17. Alice is performing a software upgrade, what would she do with any existing licenses or product keys?
- 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.
18. Components that provide internal storage to the CPU are referred to as?
- A. Registers.
 - B. Program Counters.
 - C. Controllers.
 - D. Internal chips.
19. The CPU is allowed to respond to external events and efficiently manage multiple tasks concurrently. Choose a special request sent to the CPU to acquire some of its time.
- A. Disturbance
 - B. Attenuation
 - C. Interrupt
 - D. Noise
20. Which unit is responsible for converting the data received from the user into computer understandable format?
- A. Memory Unit
 - B. Arithmetic & Logic Unit
 - C. Input Unit
 - D. Output Unit

SECTION B: 40 MARKS

Answer ALL questions in this section.

21. Outline FOUR importance of carrying out computer maintenance in an organization. (4 Marks)
22. State the function of each of the following parts of a regulated power supply system. (4 Marks)
- i. Transformer.
 - ii. Rectifier.
 - iii. Smoothing.
 - iv. Regulator.
23. Testing a computer's cooling system is crucial for maintaining optimal performance. Discuss the importance of testing a computer's cooling system. (3 Marks)
24. Documentation is a valuable asset for organizations; it is used to describe the product to its users. Highlight FOUR importance of system documentation (4 Marks)
25. Outline FOUR characteristics of secondary memory of a computer. (4 Marks)
26. Highlight FIVE advantages of cathode ray tube used in the productions of the image (5 Marks)
27. Fault finding in a computer is important in helping to solve the problem. Outline FIVE steps involved in fault identification (5 Marks)
28. Mercy has a team of five people. They have been given motherboards to use in replacing the ones found in XYZ computer lab. Outline FOUR factors they will consider when selecting the right one to use for replacement. (4 Marks)
29. During the lesson for computer hardware repair and maintenance, Level 5 trainees were put in groups to repair malfunctioning keyboards. Outline FOUR steps involved in this task (2 Marks)
30. State FIVE factors to consider when buying a computer monitor to be used for learning purposes. (5 Marks)

SECTION C: 40 MARKS

Answer any TWO questions in this section.

31.

- a) John has acquired a new motherboard for his computer. Describe FIVE procedures he will follow when installing the motherboard to the computer (10 Marks)
- b) Explain the following terms as used in display technology.
 - i. Response Time (2 Marks)
 - ii. Raster (2 Marks)
 - iii. Resolution (2 Marks)
- c) Rasta is carrying out computer repair and maintenance in preparation for the final CDAAC Exams. Highlight FOUR signs of a faulty power supply he could come across. (4 Marks)

32.

- a) There are several reasons why performing software or hardware upgrades on a computer system is beneficial. Review FIVE reasons for performing the upgrades. (10 Marks)
- b) Explain FIVE steps you would follow to troubleshoot a processor of a computer. (10 Marks)

33.

- a) TVC trainees are having a practical lesson on support and maintenance. Describe FOUR types of maintenance they will apply during the lesson. (8 Marks)
- b) Give TWO differences between *Programmable ROM* (PROM) and *Erasable Programmable ROM* (EPROM). (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 following types of interrupts used to control service routine of programs in a computer.
 - i. Timer interrupts (2 Marks)
 - ii. Machine check interrupts (2 Marks)

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