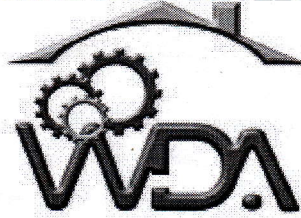


**CEL – Operating System,
Maintenance and Repair
T089**

Wednesday, 05/11/2014

8:30 – 11:30 AM

WORKFORCE DEVELOPMENT AUTHORITY



P.O. BOX 2707 Kigali, Rwanda Tel: (+250) 255113365

**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2014
TECHNICAL AND PROFESSIONAL TRADES**

EXAM TITLE: Operating System, Maintenance and Repair

OPTION: Computer Electronics (CEL)

DURATION: 3hours

INSTRUCTIONS:

The paper is composed of **three (3) main Sections:**

Section I: Fourteen **(14)** questions, all **Compulsory**. **55marks**

Section II: Five **(5)** questions, **Choose any Three (3)**. **30marks**

Section III: Three **(3)** questions, **Choose any One (1)**. **15marks**

SECTION I. FOURTEEN (14) COMPULSORY QUESTIONS.

- ✓ 01. What does BIOS stands for? **4marks**
- ✓ 02. What are the two (2) main components of the CPU? **4marks**
- ✓ 03. Identify the types of operating systems. **2marks**
- X 04. What is the role of power supply in a microcomputer? **3marks**
- X 05. What could cause a fixed disk error? **2marks**
- X 06. Identify the following components of computer system in input or output devices: game controller, touch screen, track ball, webcam, LCD. **5marks**
07. From what location(s) are the 1st computer instructions available on boot up? **2marks**
08. Identify the possible causes of data loss in a microcomputer. **5marks**
- ✓ 09. Identify six (6) components of a personal computer directly attached to the motherboard. **6marks**
- ✓ 10. State the three (3) entail components of a computer. **3marks**
11. Differentiate cold Boot from warm start/boot and when they are used. **4marks**
12. Give four (4) examples of inputs devices of a Personal Computer. **4marks**
13. Define the following terms:
- a. Multi-user
 - b. Multiprocessing
 - c. Multitasking
 - d. Multithreading
- 8marks**
14. Which steps should be considered first, as a technician studying about servicing a computer? **3marks**

SECTION II. ATTEMPT ANY THREE (3) QUESTIONS.

15. Give five (5) MS Word windows elements and their functions. **10marks**
16. Define a printer and discuss the differences of the following printing technology: Laser printer from inkjet printer. **10marks**
17. Determine the correct syntax of the following DOS commands:
(a) TYPE (b) MORE (c) DIR (d) REN. **10marks**

18. Discuss the different ways of accessing memories. **10marks**

19. a. Give the results of the following Boolean algebra equations. **5marks**

(i) $\overline{(A+B)}$ =

(ii) $\overline{(AB)}$ =

b. Prove that $A + \overline{A} B = A + B$

5marks

SECTION III. ATTEMPT ANY ONE (1) QUESTION.

20. Student results are recorded in an excel sheet below. To pass in mathematics, a student must get at least 13marks.

a) Complete the following excel sheet such that, for every student whose mark in Electricity is less than or equals to 13 the computer add 3 to the result, the result is now recorded in column D.

b) Write the formula to calculate average of the marks for each student in column F and record results. **15marks**

D2	fx =.... ()					
	A	B	C	D	E	F
1	Mathematics	Electricity	Computer skills			
2	12	10	14			
3	13	12	13			
4	7	8	10			
5	5	13	12			
6	9	20	14			
7		7				
8		9				

21. Discuss the following types of screen:

- a. Cathode ray tube
- b. Liquid Crystal Display
- c. Plasma.

15marks

22. a. State and explain the three (3) main components of an Operating System.

kernel

6marks

b. Convert the following numbers:

- i) 129_{10} into binary.
- ii) 1111000_2 into Decimal and into Hexadecimal.
- iii) $24D_{16}$ into Binary and into Decimal.

9marks