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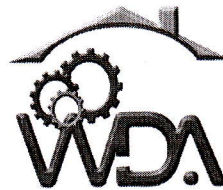
P.O. BOX 2707 Kigali, Rwanda Tel: (+250) 255113365

ADVANCED LEVEL NATIONAL EXAMINATIONS, 2017, TECHNICAL AND PROFESSIONAL STUDIES

EXAM TITLE:

OPERATING SYSTEM, MAINTENANCE AND REPAIR

OPTION: Computer Electronics (CEL)

DURATION: 3 hours

INSTRUCTIONS:

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

Section I: Thirteen (13) compulsory questions.   **55 marks**

Section II: Attempt **any three (3)** out of five questions.   **30 marks**

Section III: Attempt **any one (1)** out of three questions.   **15 marks**

Note:

Every candidate is required to carefully comply with the above instructions. Penalty measures will be applied on their strict consideration.

Section I. Thirteen (13) Compulsory questions   55 marks

01. Define an operating system.   **3 marks**

02. Explain why the main memory cannot hold data and programs
permanently.   **3 marks**

03. One of the most important aspects of an OS is the ability to
multiprogram. Explain.   **5 marks**

04. Explain a distributed system.   **4 marks**

05. Define the following:
   a. User interface
   b. Program execution
   c. I/O Operations
   d. File system manipulation   **5 marks**

06. Explain the utility of DXDIAG command.   **5 marks**

07. Explain the utility of following short cuts in windows:
   e. Ctrl+P = Control P +d
   f. Alt+F4 ⇒
   g. Alt+Tab
   h. Win Key +L
   i. Win Key + D
                                                                       5 marks

08. Here are some Linux commands. Give their meaning or say what
happened when executed in the terminal.   **4 marks**

Commands	Meaning
Ls	
Cd [directory]	
Passwd	
File [filename]	

09. Differentiate formatting a storage disk from partitioning a storage disk.

3 marks

10. Explain the utility of the following tools available in MS Windows.

5 marks

    a) Disk defragmenter

    b) Disk cleanup

11. Explain three common ways a printer can be connected to a PC.

3 marks

12. Explain the importance of System Restore tool.   **5 marks**

13. Explain how you can proceed to the installation of a windows based PC when its optical drive is not working.   **5 marks**

Section II. Choose and answer any three (3) questions.   30 marks

14. Write short notes on the following terms:

    a) Control Panel

    b) System Tools

    c) Recycle Bin

    d) Hard Disk Faults

    e) Malware   **10 marks**

15. What complications does concurrent processing add to an operating system?   **10 marks**

16. Describe different ways for fixing Software Problems.   **10 marks**

17. Why is a single serial port managed with a single interrupt-driven I/O but a front-end processor is managed using a polling I/O, such as a terminal concentrator?   **10 marks**

18. Provide necessary answers to the following series of questions:

    a) Give and explain the three parts of UNIX operating system.

    b) With examples, list at least four commands used in UNIX operating system.

10 marks

19. Clearly outline the steps required in the boot process.

20. What instructions to be followed when troubleshooting a "Dead" computer?

21. How can you differentiate between hardware problems and software problems?