

**CSC – Operating Systems and  
Maintenance**

**T032**

**Friday, 11/11/2016**

**08:30 – 11:30**

WORKFORCE DEVELOPMENT AUTHORITY



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**ADVANCED LEVEL NATIONAL EXAMINATIONS, 2016,  
TECHNICAL AND PROFESSIONAL STUDIES**

**EXAM TITLE: Operating Systems and Maintenance**

**OPTION: Computer Science (CSC)**

**DURATION: 3hours**

**INSTRUCTIONS:**

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

**Section I: Seventeen (17) 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. Seventeen (17) Compulsory questions****55marks**

01. Why is it necessary to update the operating systems and other softwares installed in any computer? List at least three reasons for updating. **3marks**
02. State five differences between a Linux System and a Windows System. **5marks**
03. Name the main different types of computer memory? **3marks**
04. Differentiate the internal commands from the external commands for the operating system. **3marks**
05. What are the advantages of distributed system? **3marks**
06. On older computers, serial ports are connected to a keyboard, modem or mouse; a parallel port is faster and is connected the printer. Newer computers use a wide range of ports to connect various hardware devices.
  - (a) Which one port on newer computers can be used to connect keyboard, mouse, and printer? **1mark**
  - (b) List at least others five ports that can be find on newer computers. **4marks**
07. Briefly explain an interrupt in CPU processes? **3marks**
08. Explain Booting the system and Bootstrap program in operating system. **3marks**
09. Write short notes on the following terms: **3marks**
  - a) Overlay memory
  - b) Memory Fragmentation
  - c) Virtual memory+
10. Briefly explain FCFS (First-come, First-served) scheduling algorithm. **3marks**
11. Explain the positioning time for a disk. **2marks**
12. Under MS DOS, what command will you type when you want to list down the files in a directory, and at the same time pause after every screen output **1mark**
13. Is it possible to have a deadlock involving only one process?  
Explain your answer. **3marks**
14. What are three (3) advantages of multiprocessor system? **3marks**
15. Describe the “main memory” and “secondary memory” storage in brief. **3marks**
16. What does each of the following terms stand for? **6marks**
  - a) SMP
  - b) NOS
  - c) BIOS
  - d) ESD
17. State the advantages of segmented paging over pure segmentation? **3marks**

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

**30marks**

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18. States and explain the structure used by UNIX disk units? **10marks**
19. (A) Define a file management system. (B) List at least eight file services within a file management system. **10marks**
20. (A) Mention steps you pass through to install drivers in your computer? **3marks**
- (B) Give any four reasons under which we have to update the operating system and other softwares? **4marks**
- (C) Mention any two ways you update the operating system? **3marks**
21. (A) Give the full meaning of POST. (B) Write down what Computer does when is starting (test performed by POST). **10marks**
22. List and explain five file operations in file management system. **10marks**

**Section III. Choose and answer any one (1) question.**

**15marks**

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23. List and explain the main parts of the microprocessor?
24. State the screen types and provide briefly the technology used for each?
25. A) What is the difference between a function call and system call?  
B) Describe the two general roles of an operating system, and elaborate why these roles are important.

- Application  
- System