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Plot 91, Cadastral Zone, University Village, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2023_1 POP EXAMINATION²³¹

COURSE CODE: CIT315

COURSE TITLE: Operating Systems II

CREDIT: 3 Units

TIME ALLOWED: 3 Hours

INSTRUCTION: Answer Question ONE (1) and any other Three (3) Questions

QUESTION 1

- a. Enumerate and discuss the categories of thread according to functionality. **(8marks)**
- b. Itemize the differences between logical and physical address in Operating System. **(5 marks)**
- c. Explain a process creation, and principal events that can create a process? **(6 marks)**
- d. Elucidate the steps involved in Context Switching. **(6 marks)**

TOTAL = 25MARKS

QUESTION 2

- a) Discuss the term 'process' **(5marks)**
- a) What is the possible occurrence of a child process being terminated by the parent process? **(5 marks)**
- b) Itemize two methods that can be used to prevent race conditions in an application program. **(3 marks)**
- c) Give a concise definition of Multithreading. **(2 marks)**

TOTAL = 15MARKS

QUESTION 3

- a) List three (4) advantages and three (3) disadvantages of memory swapping **(7marks)**
- b) Define the following terms:
 - i. Memory Partitioning.
 - ii. Paging.

- iii. Semaphores. **(2 marks each)**
c) enumerate the uses of interrupt. **(2marks)**

TOTAL = 15MARKS

QUESTION 4

- a) What is the primary difference between a kernel-level context switch and a user-level context switch? **(6 marks)**
b) Write a short note on three main classes of Interrupts. **(9 marks)**

TOTAL = 15MARKS

QUESTION 5

- a) Define the term 'Deadlock'. **(2 mark)**
b) Explain the conditions for resource deadlock **(8Marks)**
c) Describe the term "Process Switching". **(5 marks)**

TOTAL = 15MARKS

QUESTION 6

- a) Discuss process states and its different kinds. **(7 marks)**
b) Enumerate the function of the process control block component. **(8 marks)**

TOTAL = 15MARKS