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Plot 91, Cadastral Zone, University Village, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2022_2 EXAMINATION

COURSE CODE: CIT315

COURSE TITLE: Operating Systems II

CREDIT: 3 Units

TIME ALLOWED: 2½ Hours

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

QUESTIONS

QUESTION 1

- a) Give a concise definition of Multithreading. **(2 marks)**
- b) Discuss the term 'process' **(4marks)**
- c) Itemize two methods that can be used to prevent race conditions in an application program. **(3 marks)**
- d) State and illustrate the function of process control block component. **(8 marks)**
- e) Enumerate and discuss the categories of thread according to functionality. **(8marks)**

QUESTION 2

- a) Itemize the differences between logical and physical address in Operating System. **(5 marks)**
- b) Explain a process creation, and principal events that can create a process **(6 marks)**
- c) What is the possible occurrence of a child process being terminated by parent process? **(4 marks)**

QUESTION 3

- a) Write short note on three main classes of Interrupts. **(9 marks)**
- b) Define the following terms:
 - i. Memory Partitioning.
 - ii. Paging.
 - iii. Semaphores. **(2 marks each)**

QUESTION 4

- a) What is the primary difference between a kernel-level context switch between processes (address spaces) and a user-level context switch? **(6 marks)**
- b) List three (4) advantages and three (3) disadvantages of memory swapping **(7marks)**
- c) State four uses of interrupt. **(2marks)**

QUESTION 5

- a) Discuss process states and its different kinds. **(7 marks)**
- b) Explain Process Switching. **(5 marks)**
- c) List some examples of the causes of interrupts. **(3 marks)**

QUESTION 6

- a) Elucidate the steps involved in Context Switching. **(6 marks)**
- b) Explain the conditions for resource deadlock **(8Marks)**
- c) Define the term 'Deadlock'. **(1 mark)**