NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
JUNE/JULY EXAMINATION

COURSE CODE: CIT752
COURSE TITLE: Operating System Concept (2 units)
TIME ALLOWED: 2½ hrs
INSTRUCTION: Answer any five (5) questions. Each question carries 14 marks

1a) Distinguish between a program and a process.
(4 marks)
b) As a process executes, it changes state. With the aid of illustrative diagram, describe each of these states
(10 marks)

2a) List four different types of system calls and their purposes.
(10 marks)

b) Briefly state the activities of memory management .
(4 marks)

3a) What is thrashing? State three causes of thrashing.

(5½ marks)
b) Outline the process through which the operating system handles page fault occurrence. Is the process different from basic page replacement process?

(8½ marks)
4a) Briefly explain the concept of deadlock.
(2 marks)
b) What are the necessary and sufficient conditions for a deadlock to occur? (8 marks)
c) List and briefly describe any two ways of handling deadlock (4 marks)

5a) Define dynamic memory allocation
(2 marks)
b) Write short note on Translation Lookaside buffer
(6 marks)
c) State and describe the three memory partition selection algorithms (6 marks)

6a)) Operating system usually comes in two interfaces, state and describe each. (6 marks)

b) Write short notes on the following techniques for I/O operations:

i. Programmed I/O (4 marks)

ii. Interrupt-Driven I/O (4 marks)

7a) List four different types of system calls and their purposes. (10 marks)

b) Differentiate between preemptive scheduling and non-preemptive scheduling. (4 marks)