NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SEPTEMBER/OCTOBER 2015 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: **CIT 752**

COURSE TITLE: **Operating System Concept**

Time: **2½ hrs**
***Course Credit Unit*:** **2**
Instruction: **Answer any five (5) questions. Each question carries 14 marks**

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

2a) State the primary purpose of interrupts in CPU program execution
(b) Describe briefly how interrupts work
(c) Enumerate the advantages and disadvantages of Relocation

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) Distinguish between a program and a process. (4 marks)