NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SCHOOL OF
MAY/JUNE 2012 EXAMINATION

CIT 652 Operating System Concept
Time Allowed: 2½ hrs

Instruction: Answer any five (5) questions. Each question carries 14 marks

1a)   Briefly describe any four of the set of operating systems service. (10 marks)
b)   Some set of OS functions exists for ensuring the efficient operation of the system itself via resource sharing. Enumerate any two of these functions.   (4 marks)

2a)   List four different types of system calls and their purposes. (10 marks)
b) Distinguish between a program and a process.   (4 marks)

3a)   As a process executes, it changes state. With the aid of illustrative diagram, describe each of these states   (10 marks)
  b)   Distinguish between I/O-bound and CPU-bound processes   (4 marks)

4a)   Briefly describe the following I/O operations techniques   (5 marks)
 i.   Programmed I/O   (5 marks)
ii.   Interrupt-Driven I/O   (5 marks)
  b)   State the drawbacks of the techniques in (a) above   (4 marks)

5a)   What do you understand by Memory management?   (2 marks)
  b)   State and describe briefly any four objectives of memory management (12 marks)

6a) Briefly describe the two interfaces provided by operating systems   (6 marks)
b)   Briefly state the activities of memory management   (4 marks)
 c)   What is a semaphore? (4 marks)

7a)   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 the various ways of handling deadlock
         (4 marks)