ELIZADE UNIVERSITY, ILARA-MOKIN, ONDO STATE

FACULTY OF ENGINEERING

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

SEMESTER I EXAMINATION, 2016/2017 ACADEMIC SESSION

COURSE TITLE: OPERATING SYSTEMS

COURSE CODE: ECT 323

EXAMINATION DATE:

COURSE LECTURER: DR. A. R. Iyanda

HOD's SIGNATURE

TIME ALLOWED: 2 HRS

INSTRUCTIONS:

1. ANSWER QUESTION 1 AND ANY OTHER THREE (TOTAL OF 4 QUESTIONS)
2. SEVERE PENALTIES APPLY FOR MISCONDUCT, CHEATING, POSSESSION OF UNAUTHORIZED MATERIALS DURING EXAM.
3. YOU ARE NOT ALLOWED TO BORROW CALCULATORS AND ANY OTHER WRITING MATERIALS DURING THE EXAMINATION.

1) For the processes listed in Table below, using First-Come First-Served, Shortest Job Next and Priority Based Scheduling

   i) draw a chart illustrating their execution

   ii) Find the waiting time for P_1; P_2 and P_3

   iii) Find the average waiting time and the throughput

Process	Arrival Time	Execute Time	Priority
P0	0	5	1
P1	1	3	2
P2	2	8	1
P3	3	6	3

2)

   a) Write short notes on the file access mechanisms

   b) Briefly explain the following:

      i) dirty page ii) clean page iii) thrashing iv) demand paging

   c) How does the operating system respond to a page fault?

3)

   a) Describe types of Operating Systems with examples based on the number of users

   b) What are system calls? Mention and explain any three different types of system calls in operating systems.

   c) What are events responsible for "process creation" and "process termination"?

4) Differentiate among Memory Partition Selection Algorithm. Assume memory is allocated as specified in Fig. 2.1 below, beginning from left to right, before additional requests for 20K, 10K, and 5K (in that order) are received. With a corresponding resulting diagram, at what starting address will each of the additional requests be allocated in the case of: First-fit, Best-fit, and Worst-fit?

Used	Hole	Used	Hole	Used	Hole	Used	Hole	Used	Hole	Used	Hole
10K	10K	20K	30K	10K	5K	30K	20K	10K	15K	20K	20K

5)

   a) With the aid of a diagram, explain the three different levels of directories

   b) Write short notes on the different types of protection mechanism