



ELIZADE UNIVERSITY

ILARA-MOKIN

FACULTY: BASIC AND APPLIED SCIENCES

DEPARTMENT: MATHEMATICS AND COMPUTER SCIENCE

1st SEMESTER EXAMINATION (Stream 2)

2017 / 2018 ACADEMIC SESSION

COURSE CODE: CSC 203

COURSE TITLE: Operating Systems

COURSE LEADER: Dr. Bukola Onyekwelu

DURATION: 2 Hours

HOD's SIGNATURE

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INSTRUCTION:

Candidates should answer any **FOUR** Questions.

Students are warned that possession of any unauthorized materials in an examination is a serious assessment offence

Students are permitted to use **ONLY** a scientific calculator.

- 1a. Describe briefly, an Operating System.
- b. Explain the Components of the Operating System
- c. Operating systems can be classified/categorized based on two (2) different conditions and perspectives. List them and give the operating systems under each category.

- 2a. Define Process State.
- b. Describe the five (5) process states.
- c. Draw the Process Control Block and explain the information contained in the Process Control Block

3a. Define the following

- i. Process Scheduling
- ii. Scheduler
- iii. Job queue
- iv. Ready queue
- v. Device queues

b. Given the table

Process	Arrival Time	Execution Time	Service Time
P0	0	5	
P1	1	4	
P2	2	6	
P3	3	3	

Calculate, for each of the underlisted algorithms:

- First-Come, First-Served (FCFS) Scheduling
- Shortest -Job-Next Scheduling

- i. Service time
- ii. Average Wait time for each algorithm

4a. Define Memory Management

- b. Operating system uses two memory allocation mechanisms. Explain them.
- c. Explain the two types of fragmentation, and state how each can be reduced

5a. Describe the attributes of a file

- b. What is the major difference between the Sequential file access mechanism, and the direct/random file access mechanism?
- c. List the three main techniques that the Operating System uses to allocate disk space to files.

6a. Define Authentication. Describe three ways the OS authenticates users.

- b. When does a Program Threat occur? List four (4) well-known Program Threats.