

PAN AFRICA CHRISTIAN UNIVERSITY

DEGREE IN INFORMATION COMMUNICATION TECHNOLOGY

END OF TERM EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: BCIT 103

CAMPUS: ROYSAMBU

COURSE TITLE: BCIT 103 PRINCIPLES OF OPERATING SYSTEMS

EXAM DATE:

TIME:

INSTRUCTIONS

- This exam carry a total of **SIX** Questions of **[10 MARKS EACH]**
- **SECTION ONE (I) IS COMPULSORY.**
- Answer **ANY THREE** Questions from **SECTION TWO (II)**
- Read all questions carefully before attempting.

SECTION ONE COMPULSORY 10 MARKS

QUESTION ONE.

- a) Distinguish between each of the following process state as applied in the process control block [4 marks]
- i). Running state and ready state
 - ii). Blocked state and terminated state
- b) Explain **ONE** main cause of deadlock [2 marks]
- c) Discuss any **TWO** methods in operating systems which can handle deadlock [4 marks]

QUESTION TWO.

The table below shows the processes with their Arrival time, Execution time and Service time. Use it to answer the questions below

Process	Arrival Time	Execution Time	Service Time
P0	0	5	0
P1	1	3	5
P2	2	8	14
P3	3	6	8

- a) By applying the shortest job first technique calculate the waiting time for each process [4 Marks]
- b) Calculate the average waiting time [2 Marks]
- c) Discuss **TWO** reasons for preferring SJF scheduling technique [2 Marks]
- d) Explain **TWO** types of schedulers applied to handle process in operating systems [2 Marks]

QUESTION THREE.

- a) Explain Swapping with the aid of a well labelled diagram [7 Marks]
- b) Discuss **THREE** circumstances for using Multiprocessor Systems.

[3 Marks]

QUESTION FOUR.

- a) Explain **THREE** relevant utility programs needed to be installed in a computer for proper operation [6Marks]
- b) Discuss **TWO** situations where the entire program is not required to be loaded fully in main memory.

[4Marks]

Question Five.

- a) Explain **THREE** properties of the file created and saved in the local disk C

[6Marks]

- b) Discuss **TWO** types of files and their extensions

[4Marks]

QUESTION SIX.

- a) Discuss the functions of Operating system in creating a working environment for the user to run programs. [10 Marks]