

PAN AFRICA CHRISTIAN UNIVERSITY

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY

END OF TERM EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: DICT 0132

CAMPUS: ROYSAMBU

COURSE TITLE: DICT 0132 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) Explain **THREE** reasons for employing time sharing operating systems [3Marks]
- b) Discuss **TWO** scenarios leading to the development of operating systems [2Marks]
- c) When peter was using Computer there was a break from the normal sequential processing of instructions in a program. Explain **THREE** causes of breaking of the normal sequencing of instructions [3Marks]
- d) Identify **TWO** advantages of preemptive scheduling decisions by the operating systems [2 marks]

SECTION TWO ATTEMPT ANY THREE QUESTIONS.

QUESTION TWO.

- a) With the aid of a well labelled diagram explain many to many multithreading model [4 marks]
- b) Peter identified **THREE** types of addresses in a program before and after memory was allocated. Discuss [6 marks]

QUESTION THREE.

- a) Explain **FOUR** conditions causing deadlock when they are held simultaneously in a system [4 marks]
- b) Discuss **TWO** major methods of allocating Disk space [4 marks]
- c) Differentiate between Paging and Segmentation [2 marks]

QUESTION FOUR.

- a) Based on the experience and use of various operating systems by David, discuss **FIVE** threats he may have encountered that affect most of the Operating systems [10 marks]

QUESTION FIVE.

- a) Distinguish between each of the following scheduling techniques as applied in operating system [4 marks]
 - i). Shortest job first and First come first serve scheduling
 - ii). Priority scheduling and round robin scheduling

- b) James want to buy an operating system for his computer, advise him **THREE** major factors he should consider when choosing an operating system

[6 marks]

QUESTION SIX

- a) Explain in real life the application of the following concepts as used in operating systems

[6 marks]

i). Swapping

ii). Multitasking

iii). Process synchronization

- b) Explain **FOUR** stages a process passes in executing

[4 marks]