

PAN AFRICA CHRISTIAN UNIVERSITY

DILOMA OF SCIENCE IN INFORMATION TECHNOLOGY

END OF TERM EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: DICT 0132

CAMPUS: ROYSAMBU

COURSE TITLE: OPERATING SYSTEMS

EXAM DATE: MONDAY, DATE (APRIL 2025)

TIME: START HOUR – END 11:00-1:00 HRS

INSTRUCTIONS

- This exam script has **TWO (2)** sections.
- Read all questions carefully before attempting.
- Answer All questions in Section **A** and any other THREE questions in Section **B**.
- Write only your **student number** on the answer booklet provided.

SECTION A **(Answer ALL questions in this section)**

QUESTION 1

- a) Differentiate between each of the following process state as applied in the process control block [4 marks]
- i). Running state and waiting 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]

SECTION B

(Answer any THREE (3) questions in this section)

QUESTION 2

- a) Explain **THREE** reasons for employing distributed 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** disadvantages of preemptive scheduling decisions by the operating systems [2 marks]

QUESTION 3

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

QUESTION 4

- a) Explain in real life the application of the following concepts as used in operating systems [6 marks]
- i). Swapping

- ii). Multiprogramming
- iii). Process synchronization
- d) Explain **FOUR** stages a process passes in executing [4 marks]

QUESTION 5

- 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 6

- a) Discuss **THREE** functions of Operating system in creating a working environment for the user to run programs.
[6 Marks]
- b) Discuss **TWO** types of files and their extensions [4Marks]

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