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University Examinations 2023/2024

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN
INFORMATION TECHNOLOGY

CIT 2210: OPERATING SYSTEM

DATE: APRIL 2024

TIME: 1¹/₂ HOURS

INSTRUCTIONS:

1. Answer Question ONE, and any other TWO
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QUESTION ONE (30 MARKS)

a) Define the following terms as used in operating systems

- i. Operating system (2 marks)
- ii. Device driver (2 marks)
- iii. Threads (2marks)
- iv. Paging (2 marks)
- v. Swapping (2 marks)
- vi. Spooling (2 marks)

- b) Distinguish between a thread and a process (2 marks)
- c) State any three methods used when accessing files in the computer system (3 marks)
- d) State any four pieces of information stored in the Process Control Block (PCB) (4 marks)
- e) State any three responsibilities an operating system has in managing memory (3 marks)
- f) Describe the three key elements of an operating system (6marks)



QUESTION TWO (15MARKS)

Define

(4marks)

a) i) Device controller

ii) Interrupt handler

b) Illustrate least 5 services offered by the kernel I/O subsystem

(5mks)

c) Explain the data file below and show examples in each data file

(6mks)

i) Master file

ii) Transaction/update files

iii) Reference files

QUESTION THREE (15MARKS)

i) Describe the hardware components of a computer

(5 marks)

ii) Explain five services offered by an operating system

(5 marks)

iii) Highlight any five attributes of a file

(5 marks)

QUESTION FOUR (15MARKS)

a) In file management explain three file access methods

(3marks)

b) distinguish between file partitioning and dynamic partitioning in regard to memory management

(3 mks)

c) Using an illustration describe the three layers of an operating system

(3 marks)

d) Explain the following memory management concepts

(6 marks)

i) paging

ii) swapping

iii) partitioning

