



GARISSA UNIVERSITY COLLEGE

(A Constituent College of Moi University)

**UNIVERSITY EXAMINATION 2016/2017 ACADEMIC YEAR ONE
SECOND SEMESTER EXAMINATION**

SUPPLEMENTARY/SPECIAL EXAMINATION

SCHOOL OF COMPUTER AND INFORMATION SCIENCE

FOR THE CERTIFICATE IN INFORMATION TECHNOLOGY

COURSE CODE: CIT103

COURSE TITLE: COMPUTER OPERATING SYSTEMS

EXAMINATION DURATION: 3 HOURS

DATE: 25/09/17

TIME: 09.00-12.00 PM

INSTRUCTION TO CANDIDATES

- **The examination has SIX (6) questions**
- **Question ONE (1) is COMPULSORY**
- **Choose any other THREE (3) questions from the remaining FIVE (5) questions**
- **Use sketch diagrams to illustrate your answer whenever necessary**
- **Do not carry mobile phones or any other written materials in examination room**
- **Do not write on this paper**

This paper consists of TWO (2) printed pages

Supplementary / special exam_

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please turn over

Good Luck – Exams Office



QUESTION ONE (COMPULSORY)

- (a) Differentiate between application software and system software. [2 marks]
- (b) Discuss the following types of operating system
- i. Single user operating system
 - ii. Multi user operating system
 - iii. Multi-processor operating system
 - iv. Text based operating system [8 marks]
- (c) Discuss five functions of the operating system [10 marks]
- (d) Differentiate between monolithic and layered systems in operating system structure [4 marks]
- (e) What is the state of a process when it is waiting for some events to occur [1 mark]

QUESTION TWO

- (a) Describe a process control block (PCB) [4 marks]
- (b) Explain eight main components of a process control block [8 marks]
- (c) Highlight Three examples of operating system in market today [3 marks]

QUESTION THREE

Analyze the evolution of operating system discussing the characteristics of each [15 marks]

QUESTION FOUR

- (a) Explain three possible causes for a process to terminate [3 marks]
- (b) Differentiate between pre-emptive and non – preemptive scheduling [4 marks]
- (c) Differentiate between command based operating systems and graphical based (GUI) operating systems [4 marks]
- (d) With aid of a diagram explain the 3 state model in process management [4 marks]

QUESTION FIVE

- (a) What is a queue as used in operating system [2 marks]
- (b) Discuss four types of queues in process scheduling [8 marks]
- (c) List five scheduling algorithms that can be used to schedule a job [5 marks]

QUESTION SIX

Analyze the evolution of windows operating system to date [15 marks]

