



KISII UNIVERSITY

UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE MATHEMATICS AND COMPUTING
SECOND SEMESTER 2022/2023
(JUNE - SEPTEMBER, 2022)**

COMP 203: UNIX OS AND PROGRAMMING (paper A)

STREAM: Y2 S2

TIME: 2 HOURS

DAY: TUESDAY, 9.00 AM – 11.00 AM

DATE: 13/09/2022

INSTRUCTIONS:

- 1. Do not write anything on this question paper.**
- 2. Answer Question ONE (Compulsory) and any other TWO Questions.**

QUESTION ONE (30MARKS)

- a) Explain five features of a linux operating system (10 marks)
- b) Explain the meaning of kernel as applied in operating systems and explain three types of kernel. (7 marks)
- c) Explain any five characteristics of an operating system. (5 marks)
- d) C is a modular programming language. Discuss. (5 marks)
- e) Explain three points which should be taken care of prior to modular program development. (3 marks)

QUESTION TWO

- a) State five components of **Linux** operating system structure. (5 marks)
- b) Explain five types of system calls. (10marks)
- c) Explain the following **UNIX** system calls. (5 marks)
 - i. alarm
 - ii. chdir
 - iii. chmod
 - iv. chown
 - v. chroot

QUESTION THREE

- a) Explain five **UNIX** directory management commands. (10 marks)
- b) Differentiate between linux and unix operating systems. (5 marks)
- c) State five characteristics of UNIX operating system. (5 marks)

QUESTION FOUR

- a) Explain five functions of an operating system. (10 marks)
- b) Explain three reasons for using UNIX operating system. (6 marks)
- c) Explain three advantages of linux operating system. (4 marks)

QUESTION FIVE

- a) Differentiate between C library functions and system calls. (4marks)
- b) Explain four reasons for using system calls. (8 marks)
- c) Explain three advantages of modular programming approach. (6 marks)
- d) Explain utility program as applied in linux. (2 marks)