



MACHAKOS UNIVERSITY

University Examinations for 2022/2023

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (CLOUD COMPUTING AND INFORMATION SECURITY)

SCC 120: NETWORK OPERATING SYSTEMS (LINUX).

DATE: 12/4/2022

TIME: 2:00 – 4:00 PM

Instructions

This Paper consists of FIVE questions

Answer question ONE and other TWO questions in this paper

QUESTION ONE (30 MARKS) (COMPULSORY)

- a)
 - i) Define the term interrupt as used with Operating systems (2 marks)
 - ii) Name THREE types of system interrupts (3 marks)
- b) Discuss TWO roles played by operating system while implementing the following functions associated with computer based systems.
 - (i) Programs and subroutines loading (2 marks)
 - (ii) Processor Management (2 marks)
 - (iii) File management (2 marks)
- c) Differentiate between command-line interface and graphical user interface operating systems . (4 marks)
- d) In respect to file systems, distinguish Linux from windows operating systems (5 marks)
- e) Command Line interface is widely used in scripting and server administration. Explain TWO of its capabilities (4 marks)

- f) Interpret the following commands as used in Linux operating system (6 marks)
- i) `cat file1 file2 > file3`
 - ii) `mv`
 - iii) `rm filename`
 - iv) `pr -h`
 - v) `ls -R`
 - vi) `mv filename new_file_name`

QUESTION TWO (20 MARKS)

- a) As a system administrator you are required to divide the Linux Operating system.
- i) State THREE owners that would be assigned (3 marks)
 - ii) Explain the THREE permissions that would be assigned (6 marks)
- b) Using an example of a command in each case, explain the purpose of the following Linux system commands.
- i) Pipe (3 marks)
 - ii) Grep (3 marks)
 - iii) Sort (3 marks)
- c) List TWO Files used with Linux operating system (2 marks)

QUESTION THREE (20 MARKS)

- a) Discuss FOUR distinguishing features of Linux from windows operating system in respect to the users of the system. (8 marks)
- b) While using Linux operating system, you may need to communicate with other devices. Using example in each case, discuss the purpose of the following communication commands.
- i) SSH (3 marks)
 - ii) Ping (3 marks)
 - iii) FTP (3 marks)
 - iv) Telnet (3 marks)

QUESTION FOUR (20 MARKS)

- a) Explain THREE reasons that make VI editor widely used in Linux environment. (6 marks)
- b) Explain the meaning of the following VI editor commands (5 marks)
- i) ESC
 - ii) U
 - iii) 3dd
 - iv) 4dw
 - v) R
- c) Discuss TWO types of shells in Linux environment (4 marks)
- d) Virtual terminals are Command Line Interfaces which execute the user commands. Explain the meaning of the following shortcuts while working on virtual terminals. (5 marks)
- i) Ctrl + Alt + Del
 - ii) Tab
 - iii) Ctrl + u
 - iv) Ctrl + w
 - v) Ctrl + k

QUESTION FIVE (20 MARKS)

- a) User management in Linux is done by using Linux administration commands. write a command for each of the following user management task. (5 marks)
- i) Adds a user
 - ii) Disable a user
 - iii) Delete a user
 - iv) Add a user to a user group
 - vi) Gives information on all logged in user

- b) State FIVE features of Linux operating systems (5 marks)
- c) As a system administrator of an IT firm, describe how you would create a Shell Script in Linux environment (6 marks)
- d) Explain a symbolic link and state THREE features (4 marks)