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(Knowledge for Development)

KIBABII UNIVERSITY

**UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR**

**SPECIAL / SUPPLEMENTARY EXAMINATIONS
YEAR FOUR SEMESTER ONE EXAMINATIONS**

**FOR THE DEGREE OF BACHELOR OF SCIENCE
COMPUTER SCIENCE**

**COURSE CODE : CSC 413.
COURSE TITLE : UNIX PROGRAMMING**

DATE: 11 /02/2021 TIME: 2:00 P.M – 4:00 P.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE [COMPULSORY] [30 MARKS]

- a) Describe how a Unix system administrator can add user to a group. [4 Marks]
- b) Describe the following terms used in Unix operating system
 - I. Kernel
 - II. Shell
 - III. Command and utilities. [6 Marks]
- c) Explain the difference between finger and who command used Unix [4 Marks]
- d) Write a program to print prime numbers between m and n($m < n$). [5 Marks]
- e) Describe various blocks in Unix file system. [5 Marks]
- f) Describe the difference between DOS and Unix. [4 Marks]
- g) Explain the different types of processes in Unix [4 Marks]
- h) Explain FOUR options used with ls command in Unix. [4 Marks]

QUESTION TWO [20 MARKS]

- a) Distinguish between chown and chgrp. [4 Marks]
- b) Explain how sending and receiving mail is achieved in Unix [4 Marks]
- c) Describe any three duties of a system administrator in Unix [6 Marks]
- d) Write a shell script to get current date, time, user name and current directory [6 Marks]

QUESTION THREE [20 MARKS]

- a) Describe the term inode [4 Marks]
- b) Explain how you can test if a path name is absolute or relative [4 Marks]
- c) If you execute permission for a directory can you delete a file in that directory? [4 Marks]
- d) Is it possible to see information about a process while it is being executed? Give valid reasons for your answer. [4 Marks]
- e) John Wafula wants to print out a numbered listing of the files "fa". He types "cat -n fa>lpr" but no printout appears. Why? What command would you suggest he uses? [4 Marks]

QUESTION FOUR [20 MARKS]

- a) Differentiate among a system call, a library function and a Unix command. [6 Marks]
- b) Enumerate some of the most commonly used network commands. [4 Marks]
- c) Explain the importance of the following commands used in Unix
- I. Set
 - II. Cpm
 - III. Diff
 - IV. Whoami
 - V. Users. [5 Marks]
- d) Explain how to decrease priority of a process. [2.5Marks]
- e) Differentiate between DOS commands and Linux commands. [2.5Marks]

QUESTION FIVE [20 MARKS]

Using the information displayed below to answer question I to iv

Chevy. Novass 79. 60
Ford. Mustag 65 45
Volvo. Gl. 78 102
Chevy Nova 80. 15
Ford ltd. 83 15
Honda. Accord. 81. 30
Ford thumbd. 84 10
Chevy. Impala. 62 85
Ford. Bronco. 87 25

Show the exact output (what is displayed) by each of the following Unix commands.

Assume the file cars is located in your current directory

- I. Tail +6 cars
- II. Grep “^[^]* *[^]* *[6-8][14]”
- III. Grep Chevy cars | sort -n -k4

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- [5 Marks]
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- IV. Sort -nk3 cars|grep “[^0]\$”

[20 Marks]