

Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Computer Science and Technology
300 level 2nd Semester Examination – Dec./Jan. 2017
CST321-3 System Level Programming (Repeat)



Instructions to candidates

This question paper consists of two (02) parts. Part A (Essay) and part B (Practical).

Total mark allocation: 100

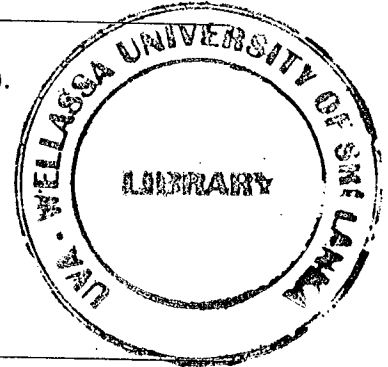
Part A

Duration: One (01) hour

Number of questions: Two (02)

Mark allocation: 40

Answer all the questions.



1.

- a. Briefly explain the layered architecture of the UNIX operating system using a suitable diagram. (3 mark)
- b. What is meant by 'Linux Distribution'? Write four (04) examples of major Linux distribution types. (3 mark)
- c. What is a makefile? Name three (03) parts of the rule in a makefile. (4 mark)
- d. "It is possible to execute a command inside the echo command". Discuss the validity of the given statement using a suitable example. (5 mark)
- e. "After execution, Command 1 and Command 2 will give same output on the terminal". Do you agree with this statement? Justify your answer.
Command 1: echo 'Output of pwd command is \$PWD'
Command 2: echo "Output of pwd command is \$PWD" (5 mark)

2.

- a. Following is a line in the output of 'ls -l' executed on '/home/root' directory.
`-rwxr-xr-x 1 root root 112 2016-12-06 11:21 backup.sh`
 - i. Give the UNIX command to create a symbolic link called 'mybackup' to the file backup.sh in the same directory. (2 mark)
 - ii. Is it possible to create a symbolic link to a nonexistent file? (1 mark)
 - iii. What is the UNIX command to change the default file permission to rw-r----- (640)? (2 mark)
- b. Briefly explain the purpose of 'shift' command in Linux environment. (2 mark)

c. Your friend types 'cat' at the shell prompt and presses enter and sees no further output. Explain why he is not getting an output here.

(3 mark)

d. What is a 'Signal' in Linux environment? List three (03) different ways that a program or script can handle a signal.

(4 mark)

e. Explain the output of the following shell script.

```
#!/bin/bash
clear
echo " Hello, $LOGNAME ";
echo " Current date is `date +%d-%m-%Y` "
echo " User is `whoami` "
echo " Current directory `pwd` "
echo " I am $$ "
```

(6 mark)