

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



Part B

Number of questions: Two (02)

Mark allocation: 50

1.

- a. Explain the wrong practice used in the following code sample.

```
my_ptr = malloc(BLOCK_SIZE);  
....  
my_ptr = realloc(my_ptr, BLOCK_SIZE * 10);
```

(5 mark)

- b. Why 'exec' function is more efficient than the 'system' function.

(5 mark)

- c. Discuss the /proc file system in Linux.

(5 mark)

- d. Write short descriptions about following functions.

(5 mark)

- i. chmod
- ii. chown
- iii. chdir
- iv. getcwd
- v. symlink

- e. Explain five (05) commands used in GNU debugger.

(5 mark)

2.

- a. Discuss four (04) advantages of Pthreads?

(8 mark)

- b. How to accomplish synchronization between threads within the Pthreads API?

(5 mark)

- c. While giving sample codes, explain the importance of 'mutex' in some programs when using Pthreads.

(12 mark)

