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Roll No. ....

Total Pages : 2

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**BT-7/D09**  
**UNIX AND LINUX PROGRAMMING**  
Paper : CSE-471

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *five* questions in all picking at least *one* question from each unit.

**UNIT-I**

1. (a) What is a shell ? Give examples. What are shell variables ? What is export ?
- (b) What are bashrc, .bashrc, profile and profile files ? Explain the use of each. 8,7
2. Write a bash shell script which will receive any number of filenames as its arguments. The shell script should check whether every argument supplied is a file or a directory. If it is a directory, it should be appropriately reported. If it is a filename then name of the file as well as the number of lines present in it should be reported. 15

**UNIT-II**

3. (a) Write a gawk sequence in a script that accepts input from the stdin. The program should print the total of any column specified as script argument. For instance, \$myscript 3 prog1 should print the total of the third column in the output of prog1. 7
- (b) Write a script using (i) grep, and (ii) sed to find string "hello" in a file. 8

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4. (a) Write an awk script to kill a process by specifying its name rather than its PID. 9  
(b) Write a perl script to convert all characters in file to upper case. 6

### UNIT-III

5. (a) Explain the system programs that get called when a C program is compiled using gcc. 5  
(b) Give the template for a standard Makefile using standard variable names and wildcards. 5  
(c) How do you differentiate between static and dynamic libraries ? With the help of examples show how to generate static and dynamic libraries. 5
6. (a) What is make utility ? Where is it used ? Explain with detailed example. 6  
(b) What are security and design concerns while working with memory handling routines in Linux ? 9

### UNIT-IV

7. (a) What do you mean by a process ? What are the different init levels ? What is rc ? Explain their use. 9  
(b) Explain the various signal types and their actions available under Unix. 6
8. (a) Describe the booting process of Unix. 5  
(b) Explain the Linux I/O system. 5  
(c) What do you mean by at, and time commands ? 5