

Roll No.

Total Pages : 3

CMCA/D-17

10449

LINUX AND SHELL PROGRAMMING

Paper : MCA-14-53

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *five* questions in all. Question No. 1 is compulsory. In addition, attempt exactly *one* question from each unit.

Compulsory Question

1. (a) Discuss the tail and head commands in Linux. 2
- (b) How and why do you use tee command in Linux ? 2
- (c) How does Linux provide security to its user ? 2
- (d) How the conditions are tested using test command on strings ? 2
- (e) What is the use of dynamic loader ? 2
- (f) Discuss the ifconfig command. 2
- (g) What is the use of gdb ? 2
- (h) How can the process scheduling priorities be altered ? 2

UNIT-I

2. (a) Discuss the structure of Linux Operating system? Also write various Linux distributions. 8
- (b) Discuss the structure of file systems. 8

3. What are system calls and what role do they play in the system? Explain the following file-related system calls using suitable examples:
- (i) writing to files
 - (ii) relocating file descriptors
 - (iii) unlinking files
 - (iv) accessing file status information
 - (v) changing permission of files. 16

UNIT-II

4. (a) What are zombie processes ? How can the zombie and orphan processes be managed ? 6
- (b) What is dynamic loader ? How can we use several environment variables to control the behaviour of the dynamic loader ? Discuss. 10
5. What is the purpose of makefile utility in Linux? How this utility can be used to manage large 'C' projects? Explain with the help of suitable examples. 16

UNIT-III

6. (a) How can the file permissions for an existing file be changed using chmod command ? Discuss the use of chmod command both in symbolic and octal notations using examples. 8
- (b) Discuss various networking tools in Linux. 8

7. Who is a super user in Linux ? How can super user status be acquired ? List and explain the main privileges (along with the command syntax and example) that are provided to the super user in Linux. 16

UNIT-IV

8. (a) Discuss various process related commands using suitable examples. 6
- (b) Explain the following filters in Linux:
- (i) cut.
 - (ii) paste.
 - (iii) more. 6
- (c) Differentiate between grep, egrep and fgrep. 4
9. (a) Discuss various control statements and case statements in shell using example. 8
- (b) How are arguments passed to a function and how is a value returned to it? Explain using example. 4
- (c) What is shell? Discuss various types of shells. 4
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