

Roll No.

Total Pages : 03

MCA/M-24

24519

LINUX AND SHELL PROGRAMMING

MCA-20-22

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory.

(Compulsory Question)

1. (a) How can we grant and revoke permissions to Linux files and directories ? Explain with suitable examples. 4
- (b) Discuss the df and dfspace commands. 3
- (c) Discuss the mail command using example. 4
- (d) Discuss the following commands using examples : 4
 - (i) sleep
 - (ii) shift.

Unit I

2. (a) Discuss the architecture and features of Linux. 8
- (b) What are various types of files in Linux ? Also discuss the structure of file systems. 7

3. (a) Explain, how are the file access permissions handled in Linux using following ? **6**
- (i) chmod
 - (ii) umask
 - (iii) chgrp
 - (iv) groups.
- (b) Discuss various directory-oriented commands. **9**

Unit II

4. What are system calls and what role do they play in the system ? Explain the file-related system calls (any *eight*) using suitable examples. **15**
5. (a) Discuss various process-oriented commands using suitable examples. **8**
- (b) What are Signals ? What are various classes of signals ? Briefly discuss some important signals. **7**

Unit III

6. What is the role of system administrator in Linux ? Discuss various user management commands in Linux using suitable examples. Also explain the booting and shutting down process. **15**
7. How can we handle projects using makefile ? Design a Makefile that automatically generates dependencies and incorporates all of the preceding information. **15**

Unit IV

8. Discuss the following filters using examples : **15**
- (i) sort
 - (ii) grep
 - (iii) egrep
 - (iv) fgrep
 - (v) uniq
 - (vi) pr
 - (vii) cut
 - (viii) paste
 - (ix) tr
 - (x) more.
9. Discuss iterative statements available in bash shell using examples and write a shell script to show all the files in the current directory whose name begins and ends with a vowel. **15**