

Roll No. ....

**MCA (8-9)/D-14**  
**LINUX AND SHELL PROGRAMMING**  
**Paper-MCA-502**

**10411**

Time Allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt five questions in all, selecting at least one question from each Unit. Q. No. 1 is Compulsory.

**Compulsory Question**

1. (a) Discuss the architecture of Linux Operating system.
- (b) Explain sort filter of Linux.
- (c) Explain booting process of Linux.
- (d) Write a note on different modes of vi editor.
- (e) Discuss the purpose of f disk.
- (f) Explain the use of shell meta-characters“
- (g) Explain the purpose of gdb.
- (h) What is a Dynamic loader? Explain.

8\*3=24

**UNIT-I**

2. (a) Discuss the various features of Linux/Unix Operating System. 5
- (b) Differentiate between grep, egrep and fgrep, 5
- (c) Explain the split and data commands in Linux. 4
3. Explain the following in Linux : 14
- (a) chmod, (b) find, (c) mkdir, (d) chgrp,
- (e) dd, (f) head, (g) expand. -

**UNIT-II**

4. What is File system? Discuss the components of file system along with various types of file systems. How file system can be mounted and unmounted in Linux? 14
5. (a) How is Process created? Discuss the role of fork-exec mechanism in Process creation. 7
- (b) Discuss the following : 7
- (i) at, (ii) batch, (iii) cron, (iv) time.

**UNIT-III**

6. (a) How a does the behavior of the passwd command change when invoked by the super user? 7
- (b) How super user status can be acquired? Also discuss various privileges given to Administrator? 7
7. (a) What is a Shell script? Explain the two types of Shell variables. 7
- (b) Write a Shell program using 3 arguments to take the pattern as Well as input and output file names. If the pattern is found display “Pattern found”, else ‘display “Error message”. Also check if right number of arguments is entered. 7

#### **UNIT—IV**

8. What is the purpose of make file utility in Linux? How this utility can be used to manage large 'C' projects? Explain with the help of suitable examples. 14

9. Differentiate between :

(a) Static and Dynamic Memory Management 7

(b) Static and Dynamic Library. 7