

Roll No.

Total No. of Pages : 3

MCA/D11

4561

Linux and Shell Programming

Paper : MCA-502

Time : Three Hours]

[Maximum Marks : 80

Note :- Q.No. 1 is compulsory. In addition, attempt exactly **ONE** question from each unit.

(Compulsory Question)

1. (a) Describe the process of starting and shutting down a machine using Linux OS.
- (b) Describe sed filter in brief.
- (c) Explain standard file systems in Linux.
- (d) What are the various ways to remove a process ?
- (e) Discuss various operators to perform numeric and string comparison in linux.
- (f) Explain the purpose of fdisk and mkfs in brief.
- (g) What are the uses of makefile ?
- (h) Explain purpose of gdb in brief.

8×3=24

UNIT-I

2. (a) Write the syntax and purpose of following commands in linux :
 - (i) passwd
 - (ii) mkdir
 - (iii) script
 - (iv) df
 - (v) chmod
 - (vi) touch
 - (vii) tee.

7

- (b) Explain architecture and features of linux in detail. 7
3. (a) What do you understand by regular expression ? Explain various types of regular expression in detail. 8
- (b) Explain three commands each under communication and process category. 6

UNIT-II

4. (a) What is a file ? Discuss various types of files in linux. 4
- (b) What is a file system ? Explain various components and types of file system. How can you mount and unmount a file system in linux ? 10
5. (a) Discuss the procedure for creating a process in linux. What is the purpose of init process ? 6
- (b) Explain the purpose of following in detail :
- (i) at
 - (ii) batch
 - (iii) cron
 - (iv) time.
- 8

UNIT-III

6. (a) Write a script that accepts a pattern and file name as arguments and then counts the number of occurrences of the pattern in the file. 7
- (b) Discuss various control structures and loops in shell in linux. 7
7. (a) What are the various privileges that are available to the linux administrator ? How security can be maintained in linux ? 9
- (b) Explain the booting process in linux. 5

UNIT-IV

8. (a) Write short notes on the following :
- (i) Ldd
 - (ii) Optimization of 'C' under linux. 8
- (b) Differentiate between static and dynamic memory. 6
9. What is the purpose of makefile utility in linux ? How this utility can be used to manage large 'C' projects ? Explain in detail with the help of appropriate examples. 14