

(i) Printed Pages : 4]

Roll No.

(ii) Questions : 9]

Sub. Code :

3	6	0	6
---	---	---	---

Exam. Code :

0	4	5	9
---	---	---	---

M.Sc. 1st Semester Examination

1127

INFORMATION TECHNOLOGY

(Linux System Administration and Programming)

Paper : MS-66

Time : 3 Hours]

[Max. Marks : 80

Note :- Attempt *five* questions in all, including Question No. 1 in Section-A, which is compulsory and taking *one* each from Section-B to Section-E. Marks are indicated on the right of various questions.

Section-A

(Compulsory Question)

1. (a) Name *three* Linux distributions.
- (b) What is the purpose of Linux's *fdisk* utility ?

NA-322

(1)

Turn Over

- (c) Differentiate between Absolute and relative search paths in Linux.
- (d) What is the difference between “*chmod*” and “*umask*” in Linux ?
- (e) Explain any *two* built-in shell variables in Linux.
- (f) What is PINGING ?
- (g) What is PERL good for ?
- (h) What is a system call ? 8×2=16

Section-B

- 2. (a) Define Operating System and its functions. Explain the role of Kernel and shell within Linux Operating System.
- (b) Discuss options for installing and configuring Linux on a personal computer. 8,8
- 3. (a) Describe the working and usage of the ‘vi’ editor in Linux with the help of Add, Delete, Copy, Find and Replace commands.
- (b) What is the difference between the wild card characters and regular expression characters ? Explain the use of regular expression in the context of ‘*grep*’ utility by taking suitable examples. 8,8

Section-C

4. (a) What is a Linux File System ? How does it work ? List important directories in the Linux file system.
- (b) How is a file different from a directory ? Provide an overview of File and Directory Management commands in Linux with examples. 8,8
5. (a) What is the difference between redirection and piping ? Write a Linux command to list lines 51 through 60 in a given file.
- (b) What is the difference between a job and a process ? How do you perform the following in Bourne Again Shell (BASH) ?
- (i) Suspend the foreground job
 - (ii) Move a suspended job to the background
 - (iii) Bring back a suspended job to the foreground
- 8,8

Section-D

6. What is system administration ? Explain the role and function of a system administrator in Linux. Explain the procedure to perform the following as a system administrator :
- (i) Starting and Shutting down the Linux System
 - (ii) Gzip and compress for compression
- 16

7. (a) Explain the 'case' and 'while' programming constructs in a shell script by taking a suitable example.
- (b) Write a shell script to find the sum of all positive odd numbers less than 100. 8,8

Section-E

8. (a) Describe each of the following programming constructs provided by PERL :
- if, unless, for, foreach, while, until*
- (b) Write a PERL script to sum the second column of all input lines in a data file and print the total and average value (handle a file with zero records correctly). 8,8
9. What is system programming ? Explain the use of the following system calls :
- (i) *getpid()*
 - (ii) *kill()*
 - (iii) *dup()*
 - (iv) *read()*
- 16