M.Sc. IT 3rd Semester

1125

INFORMATION TECHNOLOGY

Paper–MS–50 : Linux System Administration

Time Allowed : Three Hours]   **[Maximum Marks : 80**

Note:– Attempt **five** questions in all, including Q. 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)   What is LILO ? How do you use it ?

(b)   Name some environmental variables in Linux.

(c)   Give significance of *tee* command of Linux.

(d)   How do you customize the shell prompt in BASH ?

(e)   What is *rpm* utility in Linux ?

(f)   Explain the use of *shift* command in Linux.

(g)   What is DNS in computer networking ?

(h)   What is the last line of every Perl module ?   8×2=16

SECTION–B

2. (a) What is Linux ? Write various steps for installing a Linux OS. How do you partition your hard disk ? **8**

    (b) What are Linux wildcard characters and in what situations would you use these characters ? Explain with examples. **8**

3. (a) Explain the facilities available in Linux for the following by taking suitable example :

    (i)   Finding out the running processes

    (ii) Managing background processes

    (iii) Becoming super user

    (iv) Online help. **8**

    (b) Explain the utility of *grep*, *who* and *kill* commands of Linux. **8**

SECTION–C

4. (a) What is a Linux shell ? How is it different from a Linux kernel ? How does the shell get started ? List the most common shells and their features. **8**

    (b) What is the difference between redirection and piping ? Design a pipe that sorts by login name the list of people currently using the Linux system. **8**

5. (a) What type of file system does Linux use and what are its features ? List four directories found at the root (/) level of Linux file system and describe what kinds of files are kept there. **8**

   (b) Define and differentiate the following Linux commands with examples :

   (i) *cp* and *mv*

   (ii) *chmod* and *unmask*. **8**

SECTION–D

6. (a) What is tesh ? List some of the improvements over the csh in the areas of command-line editing and history navigation. **8**

   (b) Explain *vi* text editor and its modes. Explain the yank, cut and delete commands used in *vi* editor. How can you search a specified pattern in a vi editor ? **8**

7. (a) Explain the various "if" constructs and " looping" constructs available in shell programming with an example for each. **8**

   (b) Write a shell script to find the sum of first N natural numbers. **8**

SECTION–E

8. (a) What is PERL ? Describe each of the following programming constructs provided by PERL :

   if, unless, for, foreach, while until. **8**

(b) What is a function in PERL ? How do you create your own functions in PERL ? Also list various PERL operators. **8**

9. (a) What is Linux system administration ? How do you perform backup and restoration as a Linux system administrator ?

    8

   (b) Describe Linux System run levels, the services available at the different run levels, and how to move between the run levels (including shutdown). **8**