

BT-6/J-22

46173

UNIX AND LINUX PROGRAMMING
PE-CS-S314A

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What is Kernel ? Discuss in detail various functions performed by the Kernel. 8
- (b) What is Shell ? Explain various types of shell in Linux. 7
2. (a) What is Logging In and Logging Out process in Unix operating system ? Explain in detail. 8
- (b) Explain the Multiprogramming and Multiprocessing time-sharing client-server model of Unix operating system. 7

Unit II

3. (a) How is grep utility tool used to find a pattern in a given datastream ? 8

- (b) Comparison between a wild-card and a regular expression. Also tell about sed. 7
4. (a) Write an AWK program to list the number of processes run by the users. 8
- (b) Develop a PERL based program that reads a file as argument, checks whether the file exists and prints if the file is binary. 7

Unit III

5. (a) What is Debugging ? How is gdb tools used to find the errors in C programs ? 8
- (b) What is gcc compiler ? What are the various options used in gcc compilation ? 7
6. (a) What is the role of Makefile utility in Unix environment ? Explain with an example. 8
- (b) What do you mean by static and dynamic libraries for C language ? What is dynamic loader ? 7

Unit IV

7. (a) What is booting process ? How the finger process provides the details of all users currently logged into the Unix system ? 8
- (b) How is the security provided by the Firewalls in Unix environment ? Explain in detail. 7

8. (a) What do you mean by authorization ? How does it check the authentication of right users logging into the Linux system ? 8
- (b) What is the importance of a password while creating a new user account in the Unix systems. 7