

Code No: 115ED

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November - 2015

LINUX PROGRAMMING

(Information Technology)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A (25 Marks)

- 1.a) Illustrate 'rlogin' command with example. [2]
- b) Explain the significance of single quote and double quote. [3]
- c) Define stat () function with example. [2]
- d) Write the difference between fgetc() and getc() system calls. [3]
- e) What are the uses of fork() function? [2]
- f) Write the syntax of following functions. Explain each argument. [3]
 - i) kill() ii) raise() iii) alarm()
- g) What is a Message queue? [2]
- h) What is FIFO? Why FIFO's are called as named pipes? [3]
- i) Explain about shmctl () function. [2]
- j) Differentiate stream sockets and raw sockets. [3]

PART - B (30 Marks)

- 2.a) Explain **ftp** and its importance in Linux?
- b) Write a shell script which checks whether a given file contains a given word. If it does, the script should output the message "The file contains the word"; if not, it should output the message "The file doesn't contain the word". [5+5]

OR

- 3.a) Define **grep**. Write a grep command to display the lines which does not matches all the given pattern.
- b) Describe about I/O Redirection operations and built in variables in Shell. [5+5]

- 4.a) Differentiate soft link and hard link with examples.
- b) Describe usage of dup(), dup2() system calls with example. [5+5]

OR

- 5.a) Explain the kernel support for file system
- b) Explain about symlink () function with example program. [5+5]

- 6.a) What is an orphan process? Write a program to illustrate orphan process.
- b) Define Signals. What do you mean by Unreliable Signals? Explain. [5+5]

OR

- 7.a) What is the need of exec() system call? Write a C program to illustrate exec() function
- b) Describe SIGKILL and SIGINT with examples. [5+5]

- 8.a) What is a pipe? Using pipe, how IPC can be implemented.
- b) Compare the IPC functionality provided by message queues and FIFO's. What are the advantages and drawbacks of each? Explain briefly. [5+5]

OR

9.a) Illustrate pipes? Explain their limitations. Explain how pipes are created and used in IPC with an examples.

- b) Write a program and explain how to transfer a large amount of data between two processes using message queues. [5+5]

10.a) Explain with a program how to copy file data from server to client using shared memory

- b) What are Berkeley socket and write a note on 'socket options'? [5+5]

OR

11.a) Differentiate all IPC mechanisms with examples.

- b) Write a C Socket Program for Linux with a Server and Client Example Code. [5+5]

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