

R09

Code No: 09A70501

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, June/July- 2014

LINUX PROGRAMMING

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

**Answer any Five Questions
All Questions Carry Equal Marks**

1. Discuss about various file handling utilities available in LINUX. Quote various options and examples for each.
- 2.a) Differentiate between real IDs and effective IDs.
b) What is need of exec () system call? Write its syntax.
c) Write a C program to illustrate exec () function.
- 3.a) Why do each lightweight process need a separate kernel stack?
b) Describe the problems with single threaded programming and how it is overcome by multithreaded programming.
- 4.a) Explain similarities and dissimilarities between the semaphore and shared memory IPC Mechanisms.
b) Write and explain a program to transfer large amount of data between two unrelated processes using shared memory.
- 5.a) Explain the significance of single quote and double quote.
b) Consider that marks.txt is a file that contains one record per line (comma separated fields) of the student data in the form of studentid, student name, Telugu marks, English marks, Maths marks, Science marks, Social marks. Write an awk script to generate result for every student in the form of studentid, student name, Total marks and result. Result is PASS if marks is ≥ 30 in Telugu and English, and if marks ≥ 40 in other subjects. Result is FAIL otherwise.
c) Write in detail on the features of expr command.
6. Define a coprocess. Illustrate the coprocess example by taking a simple filter to convert uppercase characters to lower case letters using popen() and pclose().
- 7.a) Differentiate between the three stat functions with examples.
b) Write a program to print the type of a file for each command line argument.
8. Explain a stream socket with an illustrative example for client/server program.

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