

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November/December - 2012

LINUX PROGRAMMING
(Information Technology)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Write a linux command to display the lines from 25 to 45 of /etc/passwd file.
Write a linux command to display the directories in /etc 4
- 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 briefly on sed, chmod, df, comm, fgrep and sort commands with examples.
- 2.a) Write a shell program to print a multiplication table of a number given from command line. [15]
- b) Write briefly on the ":" and "." commands in bash. Write briefly on if control structure in bash with examples. Write briefly on "&&" operator in bash.
- c) Write in detail on the features of expr command. [15]
3. Write a C program to print all the filenames with inode numbers recursively in a directory whose name is given with command line argument using directory system calls? [15]
- 4.a) List the differences between named and unnamed pipe.
- b) Write a program to implement full duplex communication using unnamed pipe. [15]
- 5.a) Write briefly about system calls used for message queue and semaphores.
- b) Write a program to lock a memory region using semaphore. [15]
6. Write a client and server program in C using shared memory so that what is written by the client in shared memory is read and printed by the server. [15]
- 7.a) Write briefly on POSIX threads.
- b) Write briefly on Thread synchronization with semaphores. [8+7]
8. Write a C program to implement echo server and echo client on port number 1234 using connection oriented system calls. [15]

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