Code No: 09A51202

R09

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I Semester Examinations, November/December-2013
LINUX PROGRAMMING
(Information Technology)

Time: 3 hours   Max. Marks: 75

Answer any five questions
All questions carry equal marks
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1.a)   Write about disk utilities. (Give syntax and examples).
  b)   Write a shell script to count the number of lines in a file that do not contain vowels.
  c)   Explain filters in Linux.   [15]

2.a)   Write about shell meta characters.
  b)   Write a shell script (small calculator) that adds, subtracts, multiplies and divides the given two integers. There are two division options: one returns the quotient and the other returns reminder. The script requires 3 arguments: The operation to be used and two integer numbers. The options are add (-a), subtract (-s), multiply (-m), quotient (-c) and reminder (-r).
  c)   What are the responsibilities of a shell?   [15]

3.a)   Differentiate soft links and hard links.
  b)   Write a C program that makes a copy of a file using standard I/O and system calls.   [15]

4.a)   Write a c program that accepts two small numbers as arguments and then sums the two numbers in a child process. The sum should be returned by child to the parent as its exit status and the parent should print the sum.
  b)   What are Orphan and Zombie process?
  c)   Explain reliable and unreliable signals.   [15]

5.a)   Differentiate pipes and named pipes.
  b)   Write a C program to create a message queue with read and write permissions to write 3 messages to it with different priority numbers.   [15]

6.a)   What are semaphores? Explain with an example.
  b)   Write short notes on UNIX system V APIs for shared memory.   [15]

7.   What is socket? Explain socket system calls for connectionless protocol?   [15]

8.   Write short notes on the following:
      a) POSIX Thread API
      b) Thread structure and uses
      c) Process vs Threads.   [15]

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