Code No: 127EE
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, November/December - 2018
LINUX PROGRAMMING
(Computer Science and Engineering)

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)	What are the responsibilities of a kernel?	[2]
b)	Mention the functionality of the following commands: grep, uniq, sort.	[3]
c)	Define the terms: root directory, home directory, parent directory.	[2]
d)	Differentiate between advisory locking and mandatory locking.	[3]
e)	Name the advantages of vfork( ) over fork( ) system call.	[2]
f)	Discuss kill( ) and raise( ) system calls briefly.	[3]
g)	Give the limitations of using pipes.	[2]
h)	Compare named pipe FIFO and unnamed Pipes.	[3]
i)	Write down the differences between stream sockets and datagram socket.	[2]
j)	Explain the system call used to destroy a shared memory segment.	[3]

PART-B   (50 Marks)

2.a) Write an awk script to find the smallest integer of 10 integers.
  b) Explain various process utilities in LINUX with clear syntax, few options and example.
                                                                                              [5+5]

OR

3.a) With an example script explain the differences between 'for' and 'foreach' statements.
  b) Explain how debugging can be done in a shell script.   [5+5]

4.   Discuss the need and importance of fcntl( ) system call with its relative merits and
      drawbacks.   [10]

OR

5.   Write the syntax of the following system calls and explain with an example code.   [5+5]
      a) rewinddir( ) b) seekdir( )

6.a) What is a zombie process and explain how it may manifest itself?
  b) Mention the similarities and dissimilarities in between a child process and its parent
      process.   [5+5]

OR

7.a) Explain various exit statuses with an example program.
  b) What are the signals that are not ignored or blocked? Explain the reason behind it. [5+5]