BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI (RAJASTHAN)
II SEMESTER 2018-2019
LAB-1 EXERCISE

Course No.: IS F462 **Course Title: Network Programming**
Deadline: 31st Jan **Maximum Marks: 20M**

Write a program signal.c taking N, K, L, and M as CLA for the following requirement.

(a) Parent process creates N processes and each of the N processes creates K child processes. When a process is created, its pid is stored in a file. When the last process i.e. (N*K)th is created, it will send SIGUSR1 signal to all processes inidcating that they all can use the file now.

(b) Each process selects a random number between 1 and 31 (except SIGKILL and SIGSTOp) and sends that signal to one of the randomly selected process. Process should print signal number and the process id to the console.

(c) Each process follows step (b) M number of times. After that it checks if the number of signals received is less than L, then it will terminate. Else it repeats step(b) M number of times. When it terminates, it should print a message "Process <pid> received x number of signals. So terminating.

(d) Before beginning the loop in (c), a process which has a child will check if all of its children exited. If yes, it will also exit printing "Process <pid> exiting becuase all its children exited".

Files Expected: A tar file **<idno>_lab1.tar** containing signal.c and makefile to compile your program.