R18 Regulation *Subject code:2P5FE*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech V Semester Supplementary Examinations, July 2022

LINUX PROGRAMMING

(Information Technology)

8.07.2022

Maximum Marks: 70 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks **(10x2M=20 Marks)**

1 What are the applications of awk?
2 What are the responsibilities of a shell?
3 Write about file locking.
4 Write the syntax with examples for creating, removing and changing Directories.
5 Discuss signal( ) and abort( ) system calls briefly.
6 Differentiate threads and processes
7 Give the advantages of using named pipes.
8 What is a Message queue?
9 Differentiate stream sockets and raw sockets.
10 Explain the system call used to create a shared memory segment.

Part-B

Answer All the following questions. **(10M X 5=50Marks)**

11 a) Explain about file handling utilities. [5]
b) List and explain the various meta characters available in shell programming. [5]

OR

12 a) Develop an AWK program to summarize from the list of all processes, a count of processes run by every user (including root). [5]
b) Explain associative arrays. [5]

13 a) Explain directory handling system calls. [5]
b) Differentiate soft link and hard link with examples. [5]

OR

14 a) Explain the kernel support for file system. [5]
b) Write the syntax for the following [5]
i)opendir ii) readdir iii) closedir iv) rewinddir

15 a) Differentiate between fork( ) and vfork( ). [5]
b) Explain clearly the Signal concept with a suitable example. [5]

OR

16 a) How Unix kernel provides support for 'signals' and write about kill, raise, alarm, pause, abort and sleep functions used in Unix signals. [5]

b) Explain about Zombie process. [5]

17 a) Describe various APIs of Message queues that are used for inter process communication. [5]
b) Write a program and explain how to transfer a large amount of data between two processes using message queues. [5]

OR

18 Explain the following concepts about pipes:
a.Pipes between two process [5] b.Pipes among three process in a shell. [5]

19 a) Explain with a program how to copy file data from server to client using shared memory. [5]
b) What are Berkeley sockets and socket options? [5]

OR

20 Explain briefly about the following socket APIs with clear syntax: i.socket( ) ii) bind( ) iii) listen( ) iv) accept( ) v) connect( ) [10]