R20 Regulation *Subject code:3P7EA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, May 2025

LINUX PROGRAMMING

(CSE)

Maximum Marks: 70 Date: 27.05.2025 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		Marks	CO	BTL
1	How to identify the version of the shell currently running on LINUX system?	2M	1	L1
2	Define Shell and list out few shell names	2M	1	L1
3	Define directory. Write the command to see the inode number of a file at command line.	2M	2	L1
4	Write about the two types of accounts	2M	2	L1
5	Give the difference between wait and waitpid.	2M	3	L1
6	Differentiate synchronized and unsynchronized pipes	2M	3	L1
7	What is IPC?	2M	4	L1
8	Explain fork()	2M	4	L1
9	Define Shared Memory	2M	5	L1
10	Define Socket?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Explain various control structures and their syntax along with a simple program of Linux shell to perform .	10M	1	L2
	OR			
12	Explain the following LINUX commands a echo b pwd c who d cal e more	10M	1	L2
13	Write about File and Directory maintenance system calls? Give Syntax and example.	10M	2	L2
	OR			
14	a)Differentiate between shell variables and environment variables and user defined variables. b)Write a shell script to count the number of lines in a text file without using wc command.	5M 5M	2	L2
15	Explain signal handling in LINUX	10M	3	L2
	OR			
16	Explain the inter process communication with named pipes.	10M	3	L2
17	Explain the kernel data structure for Message queue with a neat diagram. Also explain the APIs associated for message queue with an example program	10M	4	L2
	OR			
18	Explain similarities and dissimilarities between the semaphore and shared memory IPC Mechanisms	10M	4	L2
19	Create a client-server interaction example using semaphores-shared memory	10M	5	L2

	OR			
20	a)What is socket address structure and compare various socket address structures? b)Write client and server programs(using c) for interaction between server and client processes using Internet Domain sockets	5M 5M	5	L2