R20 Regulation *Subject code: 3P7EA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B. Tech VII Semester Regular Examinations, November 2023

LINUX PROGRAMMING

(CSE)

Maximum Marks: 70 Date:11.12.2023 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 which carries 10M.
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)		Bloom Tx
1	List out different types of Shell.	L1
2	Give any three examples for control structures in shell programming.	L2
3	Why do we need chmod and fchmod functions?	L2
4	Write the difference between fgetc() and getc() system calls.	L2
5	Write signal () and abort () system calls?	L2
6	Differentiate threads and processes.	L2
7	What is IPC?	L2
8	Outline semctl() function	L2
9	What is 'fcntl' function in socket programming?	L2
10	Write a short note on Berkeley Socket	L2

Part-B

Answer All the following questions. (5X10M=50Marks)		
11	A. Write a shell script to count the number of lines in a text file without using wc command. [5] B. Write a shell script that finds factorial for a given integer. [5]	L3 L3
	OR	
12	A. Write a shell script which checks whether a given file contains a given word. If it does, the script should output the message "The file contains the word"; if not, it should output the message "The file doesn't contain the word". [5] B. Explain ftp and its importance in Linux? [5]	L3 L2
13	A. Demonstrate various file operations in Linux. [5] B. Summarize about directory maintenance system calls. [5]	L2 L2
	OR	
14	What is a process? Explain and write a C program to demonstrate orphan and zombie processes. [10]	L2
15	A. What is a signal? How can it be generated? Also explain kernel's action on signal. [5]	L2

	B. Differentiate between reliable signals and unreliable signals. [5]	L2
	OR	
16	What are pipes? List their limitations. Explain how pipes are created and used in IPC with an example. [10]	L2
17	A. Define Semaphore. Illustrate Semaphore concept with example program. [5] B. Discuss how to control a shared memory segment. [5]	L2 L2
	OR	
18	List some APIs used for message queues and construct a sample code for Client – Server application using messages. [10]	L2
19	A. Explain the working of 'fork' and 'join' in TCP/IP sockets. [5] B. What is socket address structure and compare various socket address structures? [5]	L2 L2
	OR	
20	A. Illustrate how to handle multiple simultaneous clients. [5] B. Explain the bind and listen functions in TCP sockets. [5]	L2 L2