



R20 Regulation **Subject code: 3P3FB**
TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech III Semester Supplementary Examinations, February 2024
Linux Programming
(IT)

Maximum Marks: 70

Date: 23.02.2024 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)		CO	Bloom Tx
1	Explain about File Handling Utilities	CO1	L1
2	What is a Shell Variable	CO1	L1
3	Compare and contrast dup() and dup2() system calls.	CO2	L4
4	Write the syntax of removing and creating directory.	CO2	L1
5	Compare and contrast wait() and waitpid()	CO3	L4
6	Write short notes on sleep function	CO3	L1
7	Define IPC	CO4	L1
8	Differentiate between unnamed and named pipe	CO4	L4
9	What is a Socket	CO5	L1
10	Explain fcntl function in socket programming	CO5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)

11	(a) Explain in detail about Text Processing Utilities and Backup Utilities (b) Write a shell script to count number of lines present in a text file	5M 5M	CO1	L2 L2
OR				
12	(a) Explain about i) Associative Arrays ii) File handling utilities (b) Write a shell script that deletes all lines containing a specified word in one or more files supplied as arguments to it	5M 5M	CO1	L2 L2
13	(a) Explain in detail about file permissions and file ownership (b) Explain about the following commands i) mkdir ii) getcwd iii) rmdir iv) chdir	5M 5M	CO2	L2 L2
OR				
14	Explain briefly about directory and the various operations that can be performed on them	10M	CO2	L2
15	(a) Explain the procedures for process creation, replacing a process	6M	CO3	L2

	image, waiting for a process, process termination. (b) Define Signals. What do you mean by Unreliable Signals? Explain	4M		L2
	OR			
16	(a) Write short notes on Zombie process and Orphan process. (b) Explain the below system calls with the help of syntax and examples: i) kill ii) raise iii) alarm iv) pause v) abort	5M 5M	CO3	L2 L2
17	(a) What is a pipe? Using pipe, how IPC can be implemented. (b) Describe the API provided by Linux for semaphores.	5M 5M	CO4	L2 L2
	OR			
18	(a) Discuss about Kernel support for Message Queues. (b) Develop a program for locking a file using semaphore.	5M 5M	CO4	L2 L3
19	Explain in detail about the socket system calls for connection-oriented protocol and connectionless protocol.	10M	CO5	L2
	OR			
20	(a) Write a short note on APIs for Shared Memory? (b) What is socket address structure and compare various socket address structures?	5M 5M	CO5	L2 L4