



R20 Regulation

Subject code:3P3FB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, December 2025

LINUX PROGRAMMING (IT)

Maximum Marks: 70

Date: 22.12.2025

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 | Write any two process utilities. | 2M | 1 | L1 |
| 2 | List the types of shell variables. | 2M | 1 | L1 |
| 3 | What is file concept? | 2M | 2 | L1 |
| 4 | Define symbolic link. | 2M | 2 | L1 |
| 5 | Define unlink. | 2M | 3 | L1 |
| 6 | List the features of reliable signals. | 2M | 3 | L1 |
| 7 | What are the various types of pipes? | 2M | 4 | L1 |
| 8 | List the APIs for semaphore. | 2M | 4 | L1 |
| 9 | Write the syntax of socket() function? | 2M | 5 | L1 |
| 10 | Define semaphore. | 2M | 5 | L1 |

Part-B

Answer All the following questions.

(5X10M=50Marks)

| | | Marks | CO | BTL |
|----|---|----------------|----|-----|
| 11 | Explain disk utilities in detail with explain each one. | 10M | 1 | L2 |
| | OR | | | |
| 12 | Write about text processing utilities and Backup utilities. | 10M | 1 | L2 |
| 13 | Explain the following: a) chmod b) mkdir c) rmdir | 4M 4M 2M | 2 | L2 |
| | OR | | | |
| 14 | Discuss the need and importance of lseek() system call with its relative merits and drawbacks. | 10M | 2 | L2 |
| 15 | a) Differentiate wait() and waitpid() with examples. b) Differentiate between fork and vfork() | 5M 5M | 3 | L2 |
| | OR | | | |
| 16 | Explain the threads and processes in detail. | 10M | 3 | L2 |

| | | | | |
|----|--|-----|---|----|
| 17 | Explain IPC between processes on a single computer system. | 10M | 4 | L2 |
| | OR | | | |
| 18 | Define message queue and explain about APIs for messages. | 10M | 4 | L2 |
| 19 | Explain IPC over a network. | 10M | 5 | L2 |
| | OR | | | |
| 20 | Write a short notes on APIs for Shared Memory. | 10M | 5 | L2 |