

**ANURAG Engineering College**

(An Autonomous Institution)

IV B. Tech I Semester Supplementary Examinations, April - 2024

**LINUX PROGRAMMING**

(COMPUTER SCIENCE AND ENGINEERING)

**Time: 3 Hours****Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

	<b>Course Outcome</b>	<b>B.T Level</b>	<b>Marks</b>
1. Define the basic characteristics of Linux Operating System?	CO1	L1	2M
2. Outline shell meta characters?	CO1	L2	3M
3. How do you list all files in a directory, including the hidden files?	CO2	L1	2M
4. Summarize the importance of mkdir(), opendir() and readdir() system calls?	CO2	L2	3M
5. Define a process and a thread?	CO3	L1	2M
6. Compare reliable signal with unreliable signal?	CO3	L2	3M
7. Why is it required to have a semaphore?	CO4	L1	2M
8. Explain about IPC EXEC, IPC PRIVATE flags?	CO4	L2	3M
9. What is socket?	CO5	L1	2M
10. Explain about kernel support for shared memory?	CO5	L2	3M

**Section B (Essay Questions)****Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

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|--|-----|----|-----|
| 11. A) Analyse the process to implement security by file permissions? Explain the utilities used to implement security at various levels in the system and at file access level? | CO1 | L3 | 10M |
| <b>OR</b>  |     |    |     |
| B) Develop a shell script that receives any number of file names as arguments checks if every argument supplied is a file or a directory?  | CO1 | L3 | 10M |
| 12. A) Distinguish between symlink() and link() system calls with an example program?  | CO2 | L3 | 10M |
| <b>OR</b>  |     |    |     |
| B) Inspect the procedure for scanning directories functions in Linux with examples?  | CO2 | L3 | 10M |
| 13. A) Utilize six versions of exec functions and also explain how these functions differ from each other?   | CO3 | L3 | 10M |
| <b>OR</b>  |     |    |     |
| B) Dissect the mechanism to handle a signal in Linux environment?  | CO3 | L3 | 10M |
| 14. A) Identify the procedure for how IPC between unrelated processes using FIFO's is implemented?   | CO4 | L3 | 10M |
| <b>OR</b>  |     |    |     |
| B) Examine how inter process communication is implemented using pipes with suitable code?  | CO4 | L3 | 10M |

15. A) Discover the process of “Attaching and detaching a shared memory segment” with an example? CO5 L3 10M

**OR**

B) Make use of four socket functions that pass a socket address structure from the process to the kernel and explain them with examples? CO5 L3 10M