**Bachelor of Technology (Computer Science and Engineering)**

**Semester-V**

L-0 T-0 P-4 C-2

**CSE 300 PR1: Linux Laboratory**

**Course Objectives**

* To apply the knowledge of mathematics, basic science and engineering solving the real-world computing problems to succeed higher education and professional careers.
* To develop the skills required to comprehend, analyze, design and create innovative computing products and solutions for real life problems.
* To inculcate professional and ethical attitude, communication and teamwork skills, multi-disciplinary approach and an ability to relate computer engineering issues with social awareness.

**Course Outcomes (COs):** Upon completion of this unit students will be able to:

1. Understand the basic knowledge of Linux commands and file handling utilities by using Linux shell environment.
2. Evaluate the concept of shell scripting programs by using an AWK and SED commands.
3. Create the directory, how to change and remove the directory.
4. Analyze the process of how the parent and child relationships
5. Understand the IPC mechanism.

**Articulation Matrix**

*(Program Articulation Matrix is formed by the strength of correlation of COs with POs and PSOs. The strength of correlation is indicated as 3 for substantial (high), 2 for moderate (medium) correlation, and 1 for slight (low) correlation)*

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| **CO/PO/PSO** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** | **PSO3** |
| **CO1** | **2** | **2** | **1** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **CO2** | **3** | **2** | **1** | **-** | **1** | **-** | **1** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **CO3** | **1** | **3** | **2** | **1** | **1** | **1** | **1** | **-** | **-** | **-** | **-** | **1** | **2** | **1** | **1** |
| **CO4** | **2** | **2** | **3** | **2** | **2** | **1** | **2** | **1** | **-** | **-** | **-** | **1** | **2** | **1** | **1** |
| **CO5** | **3** | **2** | **1** | **1** | **1** | **2** | **1** | **-** | **-** | **-** | **-** | **1** | **2** | **-** | **1** |

### High-3 Medium-2 Low-1

**List of Practical(s)**

1.To Install Ubuntu Linux and LINUX Commands(File Handling utilities, Text processing utilities, Network utilities, Disk utilities, Backup utilities and Filters).

2. Write a Shell Script that accepts a file name, starting and ending line numbers as arguments and displays all lines between the given line numbers.

3. Write a shell script that deletes all lines containing the specified word in one or more files supplied as arguments to it.

4. Write a shell script that displays a list of all files in the current directory to which the user has read, write and execute permissions.15. Write a program using get and post method in Servlet.

5. Write a shell script that receives any number of file names as arguments checks if every argument supplied is a file or directory and reports accordingly. Whenever the arguments a file it reports no of lines present in it

6. Write a shell script that accepts a list of file names as its arguments, counts and reports the occurrence of each word that is present in the first argument file on other argument files.

7. Write a shell script to list all of the directory files in a directory.

8. Write a shell script to find factorial of a given number.

9. Write an awk script to count number of lines in a file that does not contain vowels.

10. Write an awk script to find the no of characters, words and lines in a file

11. Implement in c language the following UNIX commands using system calls

 a) Cat b) ls c) mv 39-42

12. Write a C program that takes one or more file/directory names as command line input

and reports following information

a) File Type b) Number Of Links

c) Time of last Access d) Read, write and execute permissions

13. Write a C program to list every file in directory, its anode number and file name

14. Write a C program to create child process and allow parent process to display

“Parent “and the child to display “child” on the screen

15. Write a C program that illustrate communication between two unrelated processes

using named pipes

**Total: 60Hours**

**Reference(s):**

1. Venkatesh Murthy, “Introduction to Unix &Shell”, Pearson Edu
2. Forouzan, “Unix &Shell Programming”, Cengage Learning
3. Sumitab Das,”Unix Concept & Application”,TMH
4. Gopalan, Shivaselvan,”Beginners Guide to Unix ” PHI Learning

**List of e-Learning Resources:**

1. https://www.rgpvnotes.in/btech/grading-system-old/qp/2019/07/lab-linux-cs-505

**Subject Tr. Academic Coordinator HoD Sr. Faculty Nominated by DOAA**