PG DEPARTMENT OF COMPUTER SCIENCE				*CLASS: I M.Sc.* Computer Science				
Sem	**Course Type**	**Course Code**	**Course Title**	**Credits**	**Contact Hours/week**	**CIA**	**Ext**	**Total**
II	Major Core Practical – 3	21P2DMP3	Linux Programming Lab	2	4	40	60	100

Nature of Course				
Knowledge and skill			Employability oriented	
Skill oriented	✓		Entrepreneurship oriented	

Course Objectives

1. To acquire knowledge on the basics of Shell programming.
2. To construct program using various looping statements.
3. To develop programs using patterns.
4. To design program by implementing system calls.
5. To develop applications using I/O system calls.

Unit	Content	Hrs	K-Level	CLO
I	**LINUX COMMANDS & SHELL PROGRAMS USING BASIC TESTS** 1. Write a program to implement basic Linux Commands 2. Write a shell program for File permission using basic tests 3. Write a Shell Program to Display File type	12	Up to K2	1
II	**SHELL PROGRAMS** 4. Write a Shell program to count the number of Lines in a given file 5. Write a Shell program to read command line argument with names. 6. Write a Shell program to check existence of the File. 7. Write a Shell Program to get current System date and time using Date command.	12	Up to K3	2
III	**SHELL PROGRAMS USING PATTERNS** 8. Write a program to Display the pattern. 9. Write a program to Generate the combinations of 1,2,3	12	Up to K3	3
IV	**PROGRAMS USING SYSTEM CALL OF LINUX** 10. Write a program for process creation using FORK,EXEC COMMANDS 11. Write a program for process creation using GETPID,SLEEP,EXEC COMMANDS	12	Up to K4	4
V	**PROGRAMS USING I/O SYSTEM CALL IN LINUX** 12. Write a program to manipulate the File- OPEN,READ,WRITE 13. Write a program for directory manipulation- READ DIR,OPEN DIR **PROGRAMS FOR LS AND GREP COMMAND** 14. Write a program to implement LS COMMAND 15. Write a program to implement GREP COMMAND	12	Up to K4	5

Book for Study

Beginning Linux Programming by Neil Matthew, Richard Stones 4th Edition Wiley Publishing, Inc.

Books for Reference

1. Linux System Programming by Robert Love, O'Reily, SPD
2. The Linux Programming Interface by Michael Kerrisk First Edition, No Starch Press
3. How Linux Works by Brain Ward, Second Edition, No Starch Press

Web Resources

1. https://www.crectirypati.com/sites/default/files/lectur_notes/OpertingSystemsLectureNotes.pdf
2. http://www2.cs.uic.edu/~jbell/CourseNotes/OperatingSystems
3. http://www.smartzworld.com/notes/linux-programming-pdf-lp-pdf-notes/

Rationale for Nature of course

- Helps to install processes, hardware requirements and its features.

Activities on Skill Oriented

- Implementing Shell programs
- Bug fixing

Pedagogy

Chalk and talk Materials, PPT, Group discussion, Interaction and Demonstration.

Course Designer(s) Name

1. Mrs.S.Brindha
2. Ms. S.Saranya

Lesson Plan

UNIT	Topics to be coverd	Hours	Mode
I	Linux commands Shell programs using basic tests	6 6	Demo & Practical Session
II	Shell programs using loops	12	Demo & Practical Session
III	Shell programs using patterns	12	Demo & Practical Session
IV	Programs using system call of linux	12	Demo & Practical Session
V	Programs using I/O system call in linux Programs for ls and grep command	6 6	Demo & Practical Session

Course Learning Outcomes

On the successful completion of the course, students will be able to

CLOs	COURSE LEARNING OUTCOMES	K - Level
CLO 1	Demonstrate the basic knowledge of Shell commands and files handling utilities.	**Up to K2**
CLO 2	Examine the concept of shell programs using loops.	**Up to K3**
CLO 3	Develop shell programs using patterns	**Up to K3**
CLO 4	Construct programs using system call of Linux	**Up to K4**
CLO 5	Develop program using I/O System call and ls command with various attributes.	**Up to K4**

Mapping of CLOs with POs

CLOs / POs	PO1	PO2	PO3	PO4	PO5	PO6
CLO 1	2	2	2	3	2	2
CLO 2	2	2	2	3	2	2
CLO 3	2	2	2	3	2	2
CLO 4	2	2	2	3	2	2
CLO 5	2	2	2	3	2	2

(3 –Advanced Application, 2 – Intermediate Level, 1- Basic Level)