Branch Name:	Computer Engineering / Information and Communication Technology / Artificial Intelligence and Data Science
Program Code:	ET103 / ET107 / ET108
Course Title:	Operating System Practical
Course Code:	2ET1030402P
Pre-requisite Course:	Working experience of any one structured programming language.

Course Objective: This course enables to understand value of Operating System, its role to manage resources of Computer and Peripherals, Student will gain knowledge of different aspect of OS like Process Management, Memory Management, File Management and I/O Management in detail with prominence given to Linux type of Open-Source Operating System.

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								
					Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	-	-	2	2	–	–	–	–	10	25	10	25	50

List of Experiments:
Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Sr. No	Practical Exercise	Contact Hours
1.	Study of Advance commands and filters of Linux/UNIX	2
2.	Write a Shell Script to Display Student Personal Information.	1
3.	Write a shell script to generate mark sheet of a student. Take 3 subjects, calculate and display total marks, percentage and Class obtained by the student.	2
4.	Write a shell script to find factorial of given number.	1
5.	Write a shell script which will accept a number b and display first n prime numbers as output.	1
6.	Write a shell script which will generate first n Fibonacci numbers like: 1, 1, 2, 3, 5, 8…..	1
7.	Write a shell script to check entered string is palindrome or not.	1
8.	Write a shell script to read n numbers as command arguments and sort them in descending order.	1
9.	Write a shell script to display multiplication table of given number.	1
10.	Write a menu driven shell script which will print the following menu and execute the given task. a. Display calendar of current month b. Display today's date and time c. Display usernames those are currently logged in the system d. Display your name at given x, y position e. Display your terminal number	2
11	Study of Mobile Device Operating System.(Android, IOS)	

List of References:

1. Modern Operating Systems (Third Edition) by Andrew S Tanenbaum, Prentice Hall India (2008).
2. Operating Systems by D.M. Dhamdhere, Tata McGraw Hill 2nd edition.
3. Principles of Operating Systems by Naresh chauhan, Oxford Press (2014).
4. UNIX Shell Programming – by Yashwant Kanetkar, BPB publications.

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Understand the overall view of the computer system and operating system	1. Understanding
CLO2	Identify various scheduling algorithm and deadlock prevention and avoidance algorithm	2. Understanding
CLO3	Compare and contrast various memory management schemes and file system functionalities	2. Understanding
CLO4	Discuss the performance of the various page replacement algorithms and interpret the file system implementation, sharing and protection mechanisms.	2. Understanding
CLO5	Demonstrate administrative tasks on Linux servers and to be familiar with the basics of Mobile OS.	3. Applying
CLO6	Make use of various algorithms to solve computing problems	3. Applying

Mapping of CLOs with POs & PSOs

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	M	L	L						H	L	M		M	M		
CLO2	M	L	L						H	L	M		M	M		
CLO3	M	L	L						H	L	M		M	M		
CLO4	M	L	L						H	L	M		M	M		
CLO5	H	M	M						H	L	M		M	M		
CLO6	H	M	M						H	L	M		M	H		

H: High, M: Medium, L: Low