DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE PLAN – PART I			
Course Title	OPERATING SYSTEMS LABORATORY		
Course Code	CSLR24	No. of Credits	2
Course Code of Co-requisite subject	CSPC26		
Session	Jan. – May 2018	Section	B
Name of Faculty	Dr. M.Sridevi	Department	CSE
Email	msridevi@nitt.edu	Telephone No.	0431 - 2503216
Name of Course Coordinator	NIL		
E-mail		Telephone No.	
Course Type	Lab		

Syllabus

Experiments

1.Hands on Unix Commands
2. Shell programming for file handling
3. Shell Script programming using the commands grep, awk and sed
4. Implementation of CPU scheduling algorithms
5. Pthread Programming
6. Implementation of Synchronization problems using Semaphores, Message Queues and Shared Memory
7. Implementation of Memory Management - Allocation, Placement and replacement

COURSE OBJECTIVES

- To understand the concept of operating system
- To experience the practical side of the functioning of various blocks in OS

COURSE OUTCOMES (CO)

Course Outcomes	Aligned Programme Outcomes (PO)
Ability to make use of tools for solving synchronization problems	1,3,4,5,6
Ability to compare and contrast various CPU scheduling algorithms	1,2,3,4,5
Ability to understand the differences between segmented and paged memories	3,5

COURSE PLAN – PART II

COURSE OVERVIEW

This covers design and implementation of Operating System concepts.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1	Hands on Unix Commands	Demo
2	Week 2	Shell Programming for File handling	Demo
3	Week 3	Shell Script programming using the commands *grep, awk and sed*	Demo
4	Week 4	Implementation of CPU Scheduling algorithms	Demo
5	Week 5	Programming using Pthreads	Demo
6	Week 6	Implementation of synchronization problems using Semaphores	Demo
7	Week 7	Implementation of synchronization problems using Message Queues	Demo
8	Week 8	Implementation of synchronization problems using Shared Memory	Demo
9	Week 9	Handling of Deadlocks	Demo
10	Week 10	Implementation of Memory Management Concept – Allocation	Demo
11	Week 11	Page placement and replacement algorithms	Demo
12	Week 12	Disk Scheduling algorithms	Demo

Books:

1. Silberschatz, Galvin, Gagne, "Operating System Concepts", John Wiley and Sons, 9th edition, 2013.
2. William Stallings, "Operating Systems –Internals and Design Principles", 8/E, Pearson Publications, 2014.
3. Andrew S. Tanenbaum, "Modern Operating Systems", 4/E, Pearson Publications, 2014.

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Continuous Assessment	Every Lab Session	3 hours	40
2	Record	Every Lab Session	-	10
3	Model Exam	6th Week	3 hours	25
CPA	Compensation Assessment	After model exam	3 hours	25
4	Final Assessment	As per Academic Schedule	3 hours	25

COURSE EXIT SURVEY

- Feedbacks are collected before final examination through MIS or any other standard format followed by the institute
- Students, through their Class Representatives, may give their feedback at any time to the course faculty which will be duly addressed.
  The students may also give their feedback during Class Committee Meeting.

COURSE POLICY

MODE OF CORRESPONDENCE: Email / Phone

ATTENDANCE: Minimum 75% is mandatory to write the end semester examination. Students having attendance 65% to 74% are eligible for the end semester exam only after attending the extra classes and submitting assignments. Students have to redo the course, if they have less than 65% of attendance.
Medical Certificate / On Duty Certificate should be submitted immediately after rejoining.

COMPENSATION ASSESSMENT: Re-model exam will be conducted for the absentees.

ACADEMIC HONESTY & PLAGIARISM:

- Avoid usage of electronic devices at classes, test and exam.
- The students are expected to come out with their original solution for the problems. If found to copy from internet/other students, marks will be reduced.

ADDITIONAL INFORMATION

The students can get their doubts clarified at any time with their faculty member with prior appointment.

FOR APPROVAL

Course Faculty	CC-Chairperson	HOD