PUNE INSTITUTE OF COMPUTER TECHNOLOGY

DHANKAWADI, PUNE – 43.

SCHEDULE OF LAB EXPERIMENTS

ACADEMIC YEAR: 2017-2018

DEPARTMENT: COMPUTER ENGINEERING **Date : 18/12/2017**

CLASS: T.E. **SEMESTER: II**

SUBJECT: System Programming &Operating System Lab

LAB EXP.NO	PROBLEM STATEMENT	LAST DATE FOR COMPLETION
Group A	**Based on system programming**	
1.	Design suitable data structures and implement pass-I of a two-pass assembler for pseudo-machine in Java using object oriented feature. Implementation should consist of a few instructions from each category and few assembler directives.	30/12/2017
2.	Implement Pass-II of two pass assembler for pseudo-machine in Java using object oriented features. The output of assignment-1 (intermediate file and symbol table) should be input for this assignment.	08/01/2018
3.	Design suitable data structures and implement pass-I of a two-pass macro-processor using OOP features in Java	22/01/2018
4	Write a Java program for pass-II of a two-pass macro-processor. The output of assignment-3 (MNT, MDT and file without any macro definitions) should be input for this assignment.	29/01/2018

Group B	**Based on LEX and YACC**	
1	Write a program to create Dynamic Link Library for any mathematical operation and write an application program to test it. (Java Native Interface / Use VB or VC++).	05/02/2018
2.	Write a program using Lex specifications to implement lexical analysis phase of compiler to generate tokens of subset of Java program.	12/02/2018
3	Write a program using Lex specifications to implement lexical analysis phase of compiler to count no. of words, lines and characters of given input file.	19/02/2018
4	Write a program using YACC specifications to implement syntax analysis phase of compiler to validate type and syntax of variable declaration in Java.	26/02/2018
5	Write a program using YACC specifications to implement syntax analysis phase of compiler to recognize simple and compound sentences given in input file.	05/03/2016
Group C	**Based on process management (OS)**	
1.	Write a Java program (using OOP features) to implement following scheduling algorithms: FCFS , SJF (Preemptive), Priority (Non-Preemptive) and Round Robin (Preemptive)	12/03/2018
2.	Write a Java program to implement Banker‘s Algorithm	19/03/2018

3.	Implement UNIX system calls like ps, fork, join, exec family, and wait for process management (use shell script/ Java/ C programming).	26/03/2018
4.	Study assignment on process scheduling algorithms in Android and Tizen.	26/03/2018
Group D	**Based on memory management (OS)**	
1.	Write a Java Program (using OOP features) to implement paging simulation using 1. Least Recently Used (LRU) 2. Optimal algorithm	02/04/2018

Subject Coordinator **Head of the department**

(Mrs.A.A.Chandorkar) **(Computer Engineering)**