SCTR'S PUNE INSTITUTE OF COMPUTER TECHNOLOGY
DHANKAWADI, PUNE –43

SCHEDULE OF LAB EXPERIMENTS

ACADEMIC YEAR: 2021- 2022

DEPARTMENT : **COMPUTER ENGG** DATE : **16/07/2021**

CLASS : **T.E** SEMESTER : **I**

SUBJECT : Laboratory Practice I

LAB Expt.No.	PROBLEM STATEMENT	LAST DATEFOR PERFORMANCE
	Part I: Systems Programming and Operating System	
	Group A Assignments (Any two assignments)	
1.	A) Design suitable data structures and implement pass-I of a two-pass assembler for pseudo-machine in Java. Implementation should consist of a few instructions from each category and few assembler directives.	3rd Week of August
	B) Design suitable data structures and implement pass-II of a two-pass assembler for pseudo-machine in Java. Implementation should consist of a few instructions from each category and few assembler directives. The output of Pass-I (intermediate code file and symbol table) should be input for pass-II.	4th Week of August
2.	A) Design suitable data structures and implement pass-I of a two-pass macro-processor in Java	1st Week of Sept
	B) Implement pass-II of a two-pass macro-processor in Java. The output of pass-I [assignment 2A] (MNT, MDT and file without any macro definitions) should be input for this assignment.	2nd Week of Sept
3.	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++).	1st Week of Sept

	Group B (Any Two Assignments)	
1.	Implement program in C/C++/Java/Python to solve Classical Problems of Synchronization using Mutex and Semaphore.	5th Week of July
2.	Write a program in C/C++/Java/Python to simulate CPU Scheduling Algorithms: FCFS, SJF (Preemptive), Priority(Non-Preemptive) and Round Robin (Preemptive).	5th Week of July
3.	Write a program in C/C++/Java/Python to simulate Memory placement strategies – best fit, first fit, next fit andworst fit.	1st Week of August
4.	Write a program in C/C++/Java/Python to simulate Page replacement algorithm.	1st Week of August
	Part II :Elective I (any two assignments) Distributed System	
1.	Implementation (Unix C programming) of Inter-process communication using socket programming: implementing multithreaded echo server.	2nd Week of Sept
2.	Implementation (Unix C programming/Java) of RPC Mechanism.	2nd Week of Sept
3.	Simulation of election algorithms (Ring and Bully). (Unix C programming/Java)	3rd Week of Sept
4	Implementation of Clock Synchronization (C/C++/Java/Python): a) NTP b) Lamports clock.	3rd Week of Sept
	Part II :Elective I (any two assignments) Human Computer Interface (GUI in Python)	
1.	Design a paper prototype for selected Graphical User Interface.	2nd Week of Sept
2.	Implement GOMS (Goals, Operators, Methods and Selection rules) modeling technique to model user's behavior in given scenario.	2nd Week of Sept
3.	Design a User Interface in Python.	3rd Week of Sept
4.	To redesign existing Graphical User Interface with screen complexity.	3rd Week of Sept

Subject Co-ordinator
(Dr. Amar Buchade)

19/07/2021
Head of Department
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