Swarnandhra College of Engineering & Technology

Autonomous and recognized under 2(F) and 12(B) by UGC

Recognized by AICTE, permanently affiliated to JNTUK Kakinada

Accredited by NAAC with 'A' Grade (2nd Cycle)

Seetharamapurm, Narsapur – 530280 (Andhra Pradesh)

DEPARTMENT OF INFORMATION TECHNOLOGY

TEACHING PLAN

Course Code	Course Title	Semester	Branch	Contact Periods/ Week	Academic Year	Date of commencement
23IT4L01	Operating Systems & Software Engineering Lab	IV	IT	3	2024-25	16-12-2024

COURSE OUTCOMES	
1	Provide insights into system calls, file systems, semaphores,
2	Develop and debug CPU Scheduling algorithms, page replacement algorithms, thread implementation
3	Implement Bankers Algorithms to Avoid the Dead Lock
4	Acquire the generic software development skill through various stages of software life cycle
5	Generate test cases for software testing

Experiment Number	Experiment	Contact Hours
1	Practicing of Basic UNIX Commands.	1
2	Write programs using the following UNIX operating system calls fork, exec, getpid, exit, wait, close, stat, opendir and readdir	1
3	Simulate UNIX commands like cp, ls, grep, etc.,	1
4	Simulate the following CPU scheduling algorithms a)FCFS b) SJF c) Priority d) Round Robin	3
5	Control the number of ports opened by the operating system with a) Semaphore b) Monitors.	3
6	Write a program to illustrate concurrent execution of threads using pthreads library.	1
7	Write a program to solve producer-consumer problem using Semaphores.	2
8	Implement the following memory allocation methods for fixed partition a)First fit b) Worst fit c) Best fit	3
9	Simulate the following page replacement algorithms a)FIFO b) LRU c) LFU	3

10	Simulate Paging Technique of memory management.	1
11	Implement Bankers Algorithm for Dead Lock avoidance and prevention	2
12	Simulate the following file allocation strategies a) Sequential b) Indexed c) Linked	1
13	Download and install nachos operating system and experiment with it	2
14	Perform the following, for the following experiments: i. Do the Requirement Analysis and Prepare SRS ii. Draw E-R diagrams, DFD, CFD and structured charts for the project. a. Course Registration System b. Students Marks Analyzing System c. Online Ticket Reservation System d. Stock Maintenance	3
15	Consider any application, using COCOMO model, estimate the effort.	1
16	Consider any application, Calculate effort using FP oriented estimation model.	2
17	Draw the UML Diagrams for the problem a, b, c, d.	3
18	Design the test cases for e-Commerce application (Flipcart, Amazon)	1
19	Design the test cases for a Mobile Application (Consider any example from Appstore)	1
20	Design and Implement ATM system through UML Diagrams.	1
	Cumulative Proposed Periods	36

		Name	Signature with Date
i	Faculty	Mr. Ch R K Raju	
ii	Module Coordinator	Mr. Ch R K Raju	
iii	Programme Coordinator	Dr. RVVSV Prasad	

Principal