

UNIVERSITY OF MADRAS
B.Sc. DEGREE PROGRAMME IN COMPUTER SCIENCE
SYLLABUS WITH EFFECT FROM 2023-2024

Year: III

Semester: V

Operating System Practical		325C51
Credits: 5	Lecture Hours:5 per week	
Learning Objectives: (for teachers: what they have to do in the class/lab/field) • To learn Process management and scheduling. • To understand the concepts and implementation of memory management policies. • To understand the various issues in Inter Process Communication		
Course Outcomes: (for students: To know what they are going to learn) 1. Understand the process management policies and scheduling process by CPU. 2. Analyse the memory management and its allocation policies. 3. To evaluate the requirement for process synchronization.		

List of Programs

1. Basic I/O programming. To implement CPU Scheduling Algorithms: 2. Shortest Job First Algorithm. 3. First Come First Served Algorithm. 4. Round Robin and Priority Scheduling Algorithms. 5. To implement reader/writer problem using semaphore. 6. To implement Banker's algorithm for Deadlock avoidance. Program for page replacement algorithms: 7. First In First Out Algorithm. 8. Least Recently Used Algorithm. 9. To implement first fit, best fit and worst fit algorithm for memory management. 10. Program for Inter-process Communication.
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TEXT BOOK:

1. Abraham Silberschatz, Peter B Galvin, Greg Gagne, "Operating System Concepts", Wiley India Pvt. Ltd 2018, 9th Edition,.

REFERENCES:

1. William Stallings, "Operating Systems Internals and Design Principles", Pearson, 2018, 9th Edition.
2. Andrew S. Tanenbaum, Herbert Bos, "Modern Operating Systems", Pearson 2014, 4th Edition.

WEB REFERENCES:

NPTEL & MOOC courses titled Operating Systems – <https://nptel.ac.in/courses/106106144/>