# 19CS21P2 - OPERATING SYSTEMS LABORATORY

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| **Course Category:** | Program Core | **Credits:** | 1.5 |
| **Course Type:** | Practical | **Lecture - Tutorial - Practical:** | 0-0-3 |
| **Prerequisite:** | Knowledge on basic operating system concepts and programming fundamentals | **Sessional Evaluation:****Univ. Exam Evaluation:****Total Marks:** | 4060100 |
| **Objectives** | * Use various OS concepts to implement some of the real world issues practically and to give better exposure regarding its functionality.
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| **Course Outcomes** | Upon successful completion of the course, the students will be able to acquire knowledge on Scheduling strategies, Memory and File Allocation Techniques and Deadlock concepts |
| **Course Content** | 1. Simulate the following CPU scheduling algorithms. [3 lab sessions]
2. FCFS (b) SJF (c) Priority (d) Round Robin.
3. Simulate the following file allocation strategies. [2 lab sessions]

(a) Sequential (b) Indexed (c) Linked.1. Simulate MVT and MFT. [1 lab session]
2. Simulate the following File Organization Techniques. [2 lab sessions]

(a) Single level directory (b) Two level (c) Hierarchical (d) DAG1. Simulate Bankers Algorithm for Dead Lock Avoidance. [1 lab session]
2. Simulate the following page replacement algorithms. [2 lab sessions]
3. FIFO (b) LRU (c) Optimal (d) LFU.
4. Simulate Paging Technique of memory management. [1 lab session]
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| **Text Books and References:** | Reference Books:1. “Operating System Concepts”, Abraham Silberchatz, Peter B Galvin, Greg Gagne, 9th Edition, John Wiley & Sons Publication, 2016.
2. “Modern Operating Systems”, Andrew S. Tanenbaum, Herbert Bos, 4th Edition, Pearson Education, 2016.
3. “Operating Systems – Internals and Design Principles”, William Stallings, 9th Edition, Pearson Education, 2018.
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| **E-Resources** | 1. <https://nptel.ac.in/courses>
2. <https://freevideolectures.com/university/iitm>
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