# 19CS21P2 - OPERATING SYSTEMS LABORATORY

|  |  |  |  |
| --- | --- | --- | --- |
| **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:** | 40  60  100 |
| **Objectives** | * Use various OS concepts to implement some of the real world issues practically and to give better exposure regarding its functionality. | | |

|  |  |
| --- | --- |
| **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) DAG   1. 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] |
| **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. |
| **E-Resources** | 1. <https://nptel.ac.in/courses> 2. <https://freevideolectures.com/university/iitm> |