**Rajagiri School of Engineering and Technology, Kakkanad**
**Department of Computer Science and Engineering**

**CS331: System Software Lab – 2020**
**S5 CSE (KTU)**

**Day 1**

1. Consider the given three tasks P1, P2, P3 , with burst time (in millisec) as running on a Uniprocessor System. Simulate the following CPU scheduling algorithms to

| Task | Burst Time | Priority |
|---|---|---|
| P1 | 30 | 2 |
| P2 | 6 | 1 |
| P3 | 8 | 2 |

find turnaround time and waiting time , if the tasks are assumed to be arrived in the order P1,P2,P3 all at time 0.

   a. FCFS
   b. SJF
   c. Round Robin(Pre-emptive, quantum = 2 )
   d. Priority

**Day 2**

2. Simulate the following file organization strategies:
   a. Single level directory
   b. Two level directory
   c. Hierarchical

**Day 3**

3. Implement the Banker's algorithm for deadlock avoidance.

**Day 4**

4. Simulate the following Disk Scheduling algorithms:
    a. FCFS
    b. SCAN
    c. C-SCAN

**Day 5**

5. Simulate the following page replacement algorithms:
    a. FIFO
    b. LRU
    c. LFU

**Day 6**

6. Implement the Producer-Consumer problem using semaphores.

**Day 7**

7. Write a program to simulate the working of Dining Philosophers problem.

**Day 8**

8. Implement Pass 1 of a Two pass assembler.

**Day 9**

9. Implement Pass 2 of a Two pass assembler.

**Day 10**

10. Implement a single pass assembler.

**Day 11**

11. Implement a one pass macro processor.

**Day 12**

12. Implement a symbol table with suitable hashing.

**Advanced questions:**

13. Implement a relocating loader.

14. Implement paging technique of memory management.

**Open Question:**

15. Simulate SSTF disk scheduling algorithm.

**Lab-In-Charges:**

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