Rajagiri School of Engineering and Technology, Kakkanad

Department of Computer Science and Engineering

CS331: System Software Lab-2020

$5 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 Timne 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.