

## II. SYSTEM SOFTWARE LAB

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### Part V : Exercises from Operating System

#### CYCLE I

**\*Complete Report of every exercise should be uploaded in the assignment.**

#### **DEAD LINE FOR CYCLE I :**

**5.1 and 5.2 – 1<sup>st</sup> Lab Day (Do the programs and get the outputs verified in the lab)**

**5.3 and 5.4 – Modify the OS Lab programs in the google classroom and upload in the moodle.**

5.1. Simulate the following file organization techniques.

- a) Single level directory
- b) Two level directory
- c) Hierarchical

5.2. Simulate the paging technique of memory management.

5.3. Simulate the following non-preemptive CPU scheduling algorithms to find turnaround time and waiting time.

- a) FCFS
- b) SJF
- c) Round Robin (pre-emptive)
- d) Priority
- e) Multi level job scheduling (Use Round robin scheduling within a queue)

Given the list of processes, their CPU burst times and arrival times, display the Gantt chart , compute and print the average waiting time and average turnaround time for each of the scheduling policies. The program should be menu driven.

5.4. Simulate the following page replacement algorithms:

- a) FIFO
- b) LRU
- c) LFU

Read the number of page frames and the page reference string , find the hit ratio and miss ratio. Assume that all the page frames are initially empty.

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