

**Experiment-5**

Operating Systems

**Program:**

MCA

**SVKM'S-NMIMS**

**Mukesh Patel School of Technology Management & Engineering**

**School of Technology Management and Engineering**

**[2024-25]**

Lab Manual

PART A

(PART A: TO BE REFFERED BY STUDENTS)

**Experiment No.05**

**A.1 Aim:**

Given the list of processes, their CPU burst times and priority, display the Gantt chart for Nonpreempted Priority and Preemptive Priority. Compute and print the average waiting time and average turnaround time using Non preemptive Priority and preemptive priority.**A.2 Theory:**

To calculate the average waiting time in the priority algorithm, sort the burst times according to their priorities and then calculate the average waiting time of the processes. The waiting time of each process is obtained by summing up the burst times of all the previous processes.

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| **ALGORITHM:**  Step 1: Start the process  Step 2: Accept the number of processes in the ready Queue  Step 3: For each process in the ready Q, assign the process id and accept the CPU burst time  Step 4: Sort the ready queue according to the priority number.  Step 5: Set the waiting of the first process as =0 and its burst time as its turnaround time  Step 6: Arrange the processes based on process priority  Step 7: For each process in the Ready Q calculate  Step 8: for each process in the Ready Q calculate  a). Waiting time(n)= waiting time (n-1) + Burst time (n-1)  b). Turnaround time (n)= waiting time(n)+Burst time(n)  Step 9: Calculate  (a) Average waiting time = Total waiting Time / Number of process  (b) Average Turnaround time = Total Turnaround Time / Number of process  Print the results in an order.  Step 10: Stop the process. |
| **Instructions:**   1. Take input of processes and their CPU burst times and then draw Gantt chart based on the concept of Priority, CPU scheduling. 2. Calculate Average Waiting Time and Average Turnaround Time**.** |

PART B

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| Class: MCA | Batch: B3 |
| Experiment Number- 5 | |
| Date of Experiment: | Date of Submission: |
| Grade: |  |

**B.1 Program with Output to be written by student**

    

