National University of Computer & Emerging Sciences, Karachi.
Spring -2024 CS-Department
Quiz 02

Course Code: CS2006	Course Name: Operating Systems
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The following processes are being scheduled using a preemptive, **roundrobin scheduling algorithm**:

Process	Priority	Burst	Arrival
P_1	40	20	0
P_2	30	25	25
P_3	30	25	30
P_4	35	15	60
P_5	5	10	100
P_6	10	10	105

Each process is assigned a numerical priority, with a **higher number indicating a higher relative priority**. In addition to the processes listed below, the system also has an idle task (which consumes no CPU resources and is identified as Pidle). This task has priority 0 and is scheduled whenever the system has no other available processes to run. The length of **time quantum is 10 units**. If a process is preempted by a higher-priority process, the preempted process is placed at the end of the queue.

1. Show the scheduling order of the processes using a Gantt chart.
2. What is the turnaround time for each process?
3. What is the waiting time for each process?
4. What is the CPU utilization rate?