

# Computer Operating Systems

**Problem#1**

Define CPU burst. On the basis of CPU burst differentiate between CPU-bound and I/O-bound processes. Define Shortest Remaining Time (SRT) first and round-robin (RR) short term CPU scheduling discipline. Define process starvation. Can RR or SRT starve CPU-bound or I/O-bound processes? If, yes, give an example, if no, explain why not.

**Problem #2**

Define a working set in demand paging (page-based virtual memory organization). Explain why the operating system has to keep track of the working set and how it does it. Define thrashing and explain who it is related to the concept of the working set.

**Problem#3**

Describe multi-level indexed allocation (draw a diagram) of disk space in a file system. Explain how it accommodates small and large files. Define extent-based allocation. Describe its advantages and challenges compared to the multi-level indexed allocation.