

CSE2005-Operating Systems Lab

Assessment-2 Questions

CPU Scheduling

- (a) Implement the various process scheduling algorithms such as FCFS, SJF, Priority (Non Preemptive). **(Easy)**
- (b) Implement the various process scheduling algorithms such as Priority, Round Robin (preemptive). **(Medium)**
- (c) Consider a corporate hospital where we have n number of patients waiting for consultation. The amount of time required to serve a patient may vary, say 10 to 30 minutes. If a patient arrives with an emergency, he /she should be attended immediately before other patients, which may increase the waiting time of other patients. If you are given this problem with the following algorithms how would you devise an effective scheduling so that it optimizes the overall performance such as minimizing the waiting time of all patients. [Single queue or multi-level queue can be used].

Consider the availability of single and multiple doctors • Assign top priority for patients with emergency case, women, children, elders, and youngsters. • Patients coming for review may take less time than others. This can be taken into account while using SJF.

1. FCFS

2. SJF (primitive and non-pre-emptive) **(High)**

- (d) Simulate with a program to provide deadlock avoidance of Banker's Algorithm including Safe state and additional resource request **(High)**.