Santa Clara University
Department of Computer Engineering
Midterm Grading (COEN 383)
Time: 75 minutes

Answer All Questions (30 points)

Name: Benita Rego

Grades

Problem 1	*6*	*4*
Problem 2	*6*	*6*
Problem 3	*6*	*6*
Problem 4	*6*	*6*
Problem 5	*6*	*6*
Total	*30*	*28*

- Q1 [6 pts]: received 4 pts
  Incomplete Answer
  If each job has 50% I/O wait, then it will take 40 minutes to complete in the absence of competition. If run sequentially, the second one will finish 80 minutes
  after the first one starts. With two jobs running in parallel, the approximate CPU utilization is = $\{1 - (\text{IO wait})^{\text{\# of Processes}}\} = 1 - 0.\,5^2 = 0.75$. Thus, each one gets (0.75/2 = 0.375) CPU minute per minute of real time. To accumulate 20 minutes of CPU time, a job must run for 20/0.375 minutes, or about 53.33 minutes. Thus running sequentially the jobs finish after 80 minutes, but running in parallel they finish after 53.33 minutes.

- Q2 [6 pts]: received 6 pts
  Correct

- Q3 [6 pts]: received 6 pts
  Correct

- Q4 [6 pts]: received 6 pts
  Correct

- Q5 [6 pts]: received 6 pts
  Correct

Total = 28/30