| Name | Signature | Student Id Nr | *Points* |
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# Operating Systems, miniexam 6, 23.3.2015 (6p)

Write your answer on this exam paper in the space given. Please notice, that the exam paper is 2-sided.

a) [1 p] Service requests for a server typically contain computation and every now and then disk I/O, in average 5 disk I/O requests per service request. A new process is created for each service request, and (processor) scheduling is done with Round Robin scheduler.
What would be a good time slice (quantum) and why?

b) [2 p] Which problem is solved with Fair Share scheduling?
How does it work in main principles?

**TURN**

c) [1 p] In what type of situation would it be sensible to use gang scheduling?
What advantage do you gain with it?

d) [2 p] In a real time system there are 4 periodic tasks and some aperiodic tasks. Task A needs 20ms CPU-time every 200ms, task B 60ms CPU-time every 400ms, task C 40ms CPU-time every 160ms, and task D 30ms CPU-time every 600ms. All tasks must complete before their own cycle repeats. In addition to these, the system has aperiodic tasks E, that each need at most 25ms, and at most 4 of them occur in any given 1000ms. They all must complete within 1000ms from arrival.
How would you schedule the processes performing these tasks and why?