

Name	Signature	Student Id Nr	Points

## Operating Systems, miniexam 3, 28.2.2018 (12p)

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

a) [6 p] Virtual memory.

a1) [2 p] What does trashing mean? What causes it? What is bad with it? How do you observe it in practice?

When and how can you recover from it or prevent it? When can you not recover from it and what do you do then?

a2) [4 p] Clock and PFF (Page Fault Frequency) algorithms can both used during the page fault processing. What problems do they solve, and how do the algorithms work in main principles?

b) [3 p] Scheduling

Give an example where the time slice used in Round Robin scheduling is too short. Explain.

Which problem is solved by Fair Share Scheduling (FSS) and how does FSS work in main principles?

- c) [3 p] Real time system scheduling is often based on deadline scheduling, where the priority of each task is based on the known CPU-time needed to complete the task, and how close to the completion deadline each task currently is. However, with Rate Monotonic Scheduling (RMS) all deadlines are met, but at scheduling time RMS does not need to know the CPU-times needed to complete the tasks, or the deadlines for each task.

When can RMS be used and how does it work in main principles?