On-Line Algorithms – F04 – Exam Questions

Emphasis should be on the analyses and proofs in the following:

1. List accessing with emphasis on TIMESTAMP

2. Randomized algorithms for list accessing

3. Upper bounds for marking algorithms and lower bounds for paging in general

4. The paging algorithm RAND

5. The paging algorithm MARK

6. The relative worst order ratio for paging: definitions and look-ahead.

7. The relative worst order ratio for paging: Retrospective-RLRU.

8. K-server algorithms on the line

9. Memoryless paging algorithms with emphasis on mixed algorithms

10. Using Yao's principle to prove a lower bound on randomized paging

11. Deterministic algorithms for metrical task systems

12. The algorithm GREEDY for the identical and the restricted machine model for load balancing

13. The algorithm ROBIN-HOOD for load balancing

14. Routing on the line and on trees