TKT-2431 SoC-suunnittelu and TKT-2437 SoC design
exam Wed 9.12.2009
You may use a calculator (if you think you somehow benefit from it)

Answer in Finnish if possible.

In addition to text, consider using equations, figures, and tables. Moreover, try give give examples in your answers. Remember to highlight the differences between compared methods/things, and when should one use each of them.

1. Let's assume that you are implementing a complex System-on-chip. What should you always do first? Did you do that in exercise work? (1p)

2. Explain the following terms (á 2p)
    a) Design Y-chart
    b) Mixed-level simulation
    c) ASIP
    d) Silicon respin
    e) Wormhole switching

3. Describe the pros and cons (á 2p)
    a) Design reuse
    b) Design review
    c) Increasing the number of generic values in an IP component

4. Explain the following (á 3p)
    a) Three visibility modes of design under verification
    b) Three different domain types within SoC utilized for power minimization
    c) Amdahl's law in basic form and what non-idealities arise on reality. How did this materialize in your exercise work?

5. Difference between data-parallel and function-parallel execution. (4p)