

## **TIE-21306 Software architectures**

**4.10.2017**

Examination is made and graded by Hannu-Matti Järvinen.

**During the examination, you may not use written materials, calculators or computers. You may answer either in English or in Finnish.**

- 1) Describe shortly the following concepts (one or two sentences per point)
  - a) Software architecture evaluation (2p)
  - b) Quality requirement (2p)
  - c) Product line (2p)
- 2) Software component (6p)

The basic idea of software component. Why they are used or considered useful? Give some (2-3) examples of software components and how they are utilised.
- 3) Pipers and filters architecture (6p)

Describe the idea of pipers and filters architecture. What are the potential problems with this architectural style? How about its strengths? How does it work as a distributed architecture? Give an (typical) example of a pipers and filters architecture.
- 4) Framework (6p)

What is a framework of and what are its benefits? Different ways to specialise a framework. Select one of the specialisation mechanism and explain how it is used.