University of Oulu Department of Electrical and Information Engineering Software Engineering (521457A, 3.0 credits) Exam 13.4.2007

- 1. Explain shortly what is meant by the following concepts in software engineering. (1.5p each)
- a) capability maturity model, CMM
- b) formal technical review
- c) RAD (Rapid Application Development)
- d) black box testing
- e) unit testing
- f) abstraction
- 2. It is wise to consider risks in the beginning of a software project.
- a) What is risk identification and how it is done? (4p)
- b) How risks related to project personnel can be avoided? (2p)
- 3. a) What is meant by costs of software quality? Describe what kinds of software quality costs there exist, and how they arise. (3p)
- b) Describe characteristics of a good software test. (3p)
- 4. a) Describe those UML diagramming techniques that can be used for modeling object interactions. (3p)
- b) Explain the principles of hierarchical software modeling in the SA/SD method. (3p)