Work clearly. Read the entire exam before you start. **Motivate each answer concisely and to the point.** Maximal scores per question are given between parentheses. The maximum total score is 30 points on 10 questions.

1. (3) Explain the notions of an *Architecture* and an *Architectural Description* according to IEEE Standard 1471, and summarize their differences.

2. (3) How can the verification of software products benefit from architectural design? Present at least three ways.

3. (3) Present some modifiability aspects that are and some that are not an architectural concern, and explain why this is the case.

4. (3) What architectural (sub)views play a role in *Module Architecture Control*, what do these views describe, and what is their role?

5. (3) Present a *general* and a *specific* performance requirements in the form of a *Quality Attribute Scenario*.

6. (3) Describe the notion of *tactic* to achieve a specified quality, and give two examples of availability tactics.

7. (3) What is the ATAM and what does it deliver? Give an example of an architectural trade-off point.

8. (3) What is a *Component Model*? How can it be used to make performance predictions?

9. (3) Describe general steps to extract architectural information from a given source code base, and indicate what information can be obtained in that way. Give at least two reasons why such reverse engineering would be interesting.

10. (3) What are potential benefits of using an *Architecture Description Language*? What are its drawbacks (current or inherent)?