

Student name:	
Student number:	

## EXAM Advanced Requirements Engineering (ARE)

April 2nd, 2007, 18.30-20.30

### Instructions (please read carefully):

- This is a closed book exam – it is not allowed to consult any material – physical or electronic. Be sure to switch mobile phones off and store them in a closed bag.
- Use this exam to write the answers on questions. Use the available boxes after each question for your answer. Do not write outside the boxes
- Be sure to indicate name and student number on each sheet of paper.
- Concise yet complete answers are better than long-winded answers.
- You may answer in English or in Dutch.
- Grade for this exam is Round (Sum of Points / 10).
- Grade for the ARE course is  $0.7 * \text{this exam} + 0.3 * \text{group assignments}$ . On TIS, you will be reported the final grade for the ARE course.
- This exam has four pages plus one page with a survey.

Success!

### Group assignment

Before starting with the exam, please indicate below whether you did your group assignment.

Yes/No	I did my group assignment
	in year (2006) (tick if appropriate)
	in year (2007) (tick if appropriate)

### Question 1 Requirements Engineering (34 points)

In the paper of Akkermans & Gordijn, it is stated that qualitative research methods are typically strong in including *context*, and that a statistical empirical method is *context-free*.

- a) Give an example of a *qualitative* research method that *includes* context, and give an example of *quantitative* research method that is *context-free*. (18 points).

<ul style="list-style-type: none"> <li>• Qualitative research method (context-inclusive):</li>   <li>• Quantitative research method (context-free):</li> </ul>
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- b) Explain what is meant by 'context' and why it is important in Software Requirements Engineering to consider context. (16 points)?

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Context in Software Requirements Engineering means:

It is important to consider context of software requirements because:

**Question 2 Problem Frames (33 points)**

- a) Michael Jackson introduces five problem frames. Mention these problem frames and explain them briefly. (20 points)

- .....
- .....
- .....
- .....
- .....

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- b) Suppose that you have to build a software program that does intensive calculations (e.g. a program that analyzes the behavior of an airplane in a wind-tunnel). Michael Jackson offers Problem Frames to do problem analysis. Are Jackson's problem frames of help here? Why (not)? (13 points)

**Question 3 Goal modeling (33 points)**

- a) SD models are used to reason about three different aspects related to dependencies. Name those three aspects and explain each one of them. (21 points)

- ...
- ...
- ...

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- b) Explain the relevance of goal modeling in the field of requirements engineering. Give two arguments why goal models are relevant and give two arguments why goals models are NOT relevant. (12 points)

Relevant:

1)

2)

Not relevant:

1)

2)