

Exam problems

Part 1

Group G

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Problem/ learning objective	1	2	3	4	5	6	7	8	9	10	15
1		X		X			X				
2			X		X		X				
3	X	X									
4		X								X	
5			X								X
6			X								X
7	X	X	X								
8	X					X			X		
9		X						X			X
10	X	X							X		

LAU:1

Problem 1: Validation

Proposition: Validation is necessary to ensure the link between requirements and tests.

Reason: All requirements must be tested. If there are several tests testing the same requirement, unnecessary resources are being spent.

Correct answer: E (Both the proposition and the reason are false).

Motivation: The customer performs validation in order to ensure that the requirements meet his own needs and desires.

Literature reference: LAU:1.1, p. 5.

Learning objectives: 2, 7

Problem 2: Design-level requirements

Proposition: Design-level requirements are useful for developers in the design and implementing phases.

Reason: The requirements describe in detail how interface should be implemented and interact with other parts of the product.

Correct answer: E (Both the proposition and the reason are false).

Motivation: The requirements describe the interface design, not how it should be implemented.

Literature reference: LAU:1.6, p. 26-27.

Learning objectives: 3, 5, 7

LAU:8

Problem 3: Stakeholders role in requirements elicitation

Proposition: Requirement elicitation is about describing a system specified by the different stakeholders.

Reason: In order to satisfy the stakeholders the aim always is to see to their demand and make requirements for the system best fitting these demands.

Correct answer: C (The proposition is false, but the reason is true).

Motivation: Often stakeholders specify a solution instead of a demand. An example is the statement: "We should have a computer-based decision-support system". The problem might not lie in lacking of a support system for new decision-making but in lacking of implementation of decisions already been made.

Literature reference: LAU 8.1.1 (third bullet) p.334

Learning objectives: 1, 2

Problem 4: The Negotiation elicitation technique:

Proposition: The only purpose of the Negotiation technique is to solve conflicts between supplier and customer.

Reason: To solve conflicts between customer and supplier regarding costs, benefits, who runs the risks, etc. Negotiation can be practiced.

Correct answer: Both false.

Motivation: Although conflict solving between customer and supplier (as described above) can be facilitated with the Negotiation technique, it's more importantly a good tool for solving conflicts between the stakeholders within the customer organization. These conflicts tend to be more serious and complex, e.g. regarding power struggles and conflicts with other projects regarding resources.

Literature reference: LAU 8.2.15 p. 346

Learning objectives: 2, 10

LAU:2

Problem 5: Data requirement styles

Proposition: Data expressions are well suited for giving a nice and short description of the structure of entire data models.

Reason: As opposed to data dictionaries containing verbal descriptions of the data relations, data expressions are compact formulas of the data sequences describing what data must follow what.

Correct answer: D (The proposition is false, but the reason is a true statement).

Motivation: It is true that data expressions gives a short description of a data sequence, but it is not suitable for describing entire models since the expressions tend to become to complex. As a result the overview of the data is lost.

Literature reference: LAU 2.4 p. 60, 63-64

Learning objectives: 3, 15

LAU:3

Problem 6: Context diagram & use cases

Proposition: A context diagram describes the product's interaction with the user while use cases shows how the product interacts with its surroundings.

Reason: The context diagram visualizes the different tasks a user performs to interact with the system and puts it all in a context to give hints on how the user interface should be designed. Use cases describes how the product's surroundings uses the product to exchange information and defines the scope of the product, what should be in it and what should be an outside system which to interact with.

Correct answer: E (Both the proposition and the reason are false).

Motivation: It is the other way around. A context diagram puts the system and its surroundings in a context to visualize needed interfaces to the external interactions. Use cases shows the user's interaction with the system and visualizes hints to the user interface with the help of different tasks to be performed by the user.

Literature reference: Lau 3.2 p. 76, Lau 3.12 p. 126-127

Learning objectives: 3, 15

Problem 7: Standards as requirements

Proposition: A requirement that states that a certain standard should be followed, e.g. that the product shall run under MS Windows, can be hard to keep verified over time.

Reason: It is often pretty straightforward to test and verify that the product fulfills the standard's requirements before putting the product into operation. At the time when the product is released it supports the current release of the standard. Standards like MS Windows gets new releases relatively frequently which means that the company most certainly will have to support the product after release to the product to keep the requirement about the standard maintained.

Correct answer: A (Both the proposition and the reason are true statements and the reason explains the proposition).

Motivation: It should be stated in these kinds of requirements how long the company is obliged to support the standard's future releases. It should be in par with the release rate and future plans of the standard, which takes some analyzing to figure out.

Literature reference: Lau 3.15 p. 147-148

Learning objectives: 1, 2, 3

[MDRE1 + MDRE2]

Problem 8: Market-driven RE

Proposition: Minimizing the communication gap between marketing staff and developers is a key challenge for market-driven organizations.

Reason: In market-driven RE, the market department elicits and document all requirements, which means that they have to communicate well with the developers in order to produce a requirement specification of good quality.

Correct answer: C (The proposition is true, but the reason is false).

Motivation: In MDRE, requirements elicitation is often a combination of innovation of new requirements and market analysis. The proposition is correct, since there is no direct link between the stakeholders and the developers. Better communication is needed in order to increase requirements quality. The reason is a false statement, since MDRE does not mean that the marketing department elicits and document all requirements. However, in some cases it might be true.

Literature reference: [MDRE1]: Chapter 4.2 & 4.13, [MDRE2]: Chapter 13.2.2 & 13.2.3.

Learning objectives: 1, 6 & 9.

[PRIO1 + PRIO2]

Problem 9: Prioritization

Proposition: In a process where several stakeholders in a software development project participate in prioritizing requirements it is preferable to use pairwise comparison over absolute assessment.

Reason: Absolute assessment has proven to be more difficult to use than pairwise comparison since it often is harder to know the absolute value of different requirements than their relative value.

Correct answer: B (Both the proposition and the statement are true statements, but the reason doesn't explain the proposition).

Motivation: The reason describes difficulties in a prioritizing process with one as well as several stakeholders. One reason for pairwise comparison being preferred over absolute assessment could be that it's harder for one stakeholder to have obstructive tactics in a consistent way.

Literature reference: [PRIO1] section 6

Learning objectives: 2, 8, 15

[INTDEP]

Problem 10: Requirement interdependencies

Proposition: To cluster requirements according to their interdependencies may be of high value when performing release planning.

Reason: Requirements dependent on each other should be implemented in the same release.

Correct answer: A (Both the proposition and the reason are correct statements and the reason explains the proposition)

Motivation: Selecting a number of requirements for realization in particular release should be made so that the requirements are split in such manner that the releases are independent of each other.

Literature reference: [INTDEP]: 3.2-4

Learning objectives: 1, 2, 9