Exam problems

Part 2

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Problem/ learning objective	1	2	3	4	5	6	7	8	9	10	11	15	19	21
1	x	x												
2	x			x										
3	x	x												x
4	x		x	x										
5					x							x		
6	x										x			
7			x								x			
8		x		x				x					x	
9		x							x					
10	x	x		x										

LAU:5

Problem 1:

Proposition: It's always best for the customer to have the integration responsibility.
Reason: He/she, as the customer, has the best insights in how the two products should work together.
Correct answer: Both false
Motivation: This should be done by the customers IT-department or by an external supplier. The customer most certainly lacks the required knowledge.
Literature reference: LAU:5.3, p204-205
Learning objectives: 1, 2

LAU:6

Problem 2:

Proposition: Increased benefit is always linked with an increasing cost, ie. a shortening of a products response time.
Reason: Increased benefit requires a higher effort from the supplier, ie. shorter response times require better hardware.
Correct answer: The proposition is false, but the reason is true
Motivation: Cost and benefit are not that strictly tied to each other. IE. a shortening of response time can be done by smart algorithms or choice of communication protocol. The benefit depends a lot on the suppliers competence.
Literature reference: LAU:6.3, p232
Learning objectives: 1, 4

Problem 3:

Proposition: It is important for the **customer** to specify usable metrics and values in the quality requirements.
Reason: Without the metrics and values it is hard for the supplier to implement a verifiable solution. The customer have better insight in what is expected of the system and should therefore be the one who specify the metrics and values.
Correct answer: Both false
Motivation: In some technical quality requirements the supplier might have better knowledge, about what metrics and values are feasible and acceptable, than the customer. In these cases the customer could leave the metrics and/or values open for the supplier to specify.
Literature reference: LAU:6 p.228-230
Learning objectives: 1, 2, 21

Problem 4:

Proposition: Quality requirements are more important in systems with user interaction than in technical systems.

Reason: The waiting time for the user is associated with high costs.

Correct answer: D

Motivation: In technical systems the response time is often critical for the usefulness of the system. Too long response times can have critical consequences, whereas people can wait even if it implies higher costs.

Literature reference: LAU:6 p.217-218

Learning objectives: 1, 3, 4

LAU:7

Problem 5:

Proposition: Embedded trace information gives you traceability from code to requirements as well as from requirements to code.

Reason: For each piece of code or design artifact, all requirements ID's that it deals with are stated.

Correct answer: A

Motivation: By using a search tool you can find all the code pieces involved in a requirement.

Literature reference: LAU:7.6, p.314

Learning objectives: 5, 15

LAU:9

Problem 6:

Proposition: In practice, unambiguous requirements usually causes many problems.

Reason: Developers do not understand what the requirement mean and their work will therefore be slowed down.

Correct answer: Both false

Motivation: Unambiguous requirements aren't usually a big problem in developing projects. If a developer have a hard time understanding the meaning of one requirement he/she usually just asks and get a clarification. However, there is a risk that the developer misunderstands the requirement completely and do implement something that he/she thinks is right even if it's not what the customer wanted. A good guard against this is to explain the purpose of each requirement in domainrelated terms.

Literature reference: LAU:9.1, p.376

Learning objectives: 1, 11

Problem 7:

Proposition: Reviews are best held of the entire document at the end of a project before the product is handed over to the customer to minimise the number of faults.

Reason: Reviews are a good way to check the requirements specification against the surroundings to avoid future issues and to ensure that the requirement specification is what the customer demanded.

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

Motivation: Even though a review is usually done at the end of the project it's better to discover

problems as they emerge during the project. In practice, reviews are therefore carried out eg. when changes has been made, thus the final review is often only a matter of checking the latests amendments.
Literature reference: LAU:9.3, p.390
Learning objectives: 3, 11

[QUPER]

Problem 8:

Proposition: The QUPER model can be used as a tool to help minimize the risks of architectural failure and falling short of meeting user's real needs when design the software architecture.
Reason: As a basis for the architecting of quality requirements, QUPER provides support for early discovery and quantified quality targets in relation to the market and user's expectations.
Correct answer: A (Both the proposition and the reason are correct statements, AND the reason explains the proposition in a correct way.)

Motivation: The QUPER model may be used as input for the architecting process, providing a model for specification, quantification and prioritization of quality requirements.
Literature reference: [QUPER], 2.1, 7
Learning objectives: 2, 4, 8, 19

[AGRE]

Problem 9:

Proposition: According to experiences gained from using iterative requirements engineering in organizations, this practice is helpful to achieve a more satisfactory relationship with the customer, since the customer is involved in each iteration, securing the quality of the software.
Reason: If the customer has a clear idea of the requirements, iterative RE is often a choice of practice, since it allows the customer to give constant feedback on the software during the development process.
Correct answer: C (The proposition is true, but the reason is false)

Motivation: The practice of iteration RE is often chosen when the customer has a vague idea of the requirements, allowing the requirements to evolve during the development process. The proposition, however, is a true statement.
Literature reference: [AGRE], p.63-64
Learning objectives: 2,9

[RP + SPM]

Problem 10:

Proposition: When planning which features to add in a release with a release planning tool, you should choose the optimal solution which has been calculated given the weights and priorities of different aspects.
Reason: The optimal solution given by the tool will generate the highest value and therefor yield most profit.
Correct answer: Both false.

Motivation: Release planning is not just about calculations made by a computer, other things

are important to consider like how different stakeholders are satisfied by different solutions. The decision should be made out of a human analysis with help from the tool.

Literature reference: [RP] p.47-48 and [SPM] p.7
Learning objectives: 1, 2, 4