

Rules for the exam:

The exam consists of 45 multiple choice questions. You have 75 minutes to answer these questions. (You may hand in your solutions earlier).

Depending on the difficulty, each question yields 1 to 3 points. The achievable points are given in the header of the question.

To pass the exam you have to score at least 60 percent of the points.

During the exam the use of aids is not allowed (e.g. seminar material, books, telephone). Sheets of paper used for scribbling may not be taken out of the room.

You are not allowed to leave the room during the exam.

Extension of the examinations for non native speakers on written demand

If you take a written exam in a language which is not your native tongue, the duration of the exam may be extended up to 90 minutes. You need to apply for the extension with an explained written application before the beginning of the exam. The certification authority is entitled to validate your information. Any misinformation may result in exclusion from the exam, or in disqualification of the certification.

Information about results and exam repetition:

The certification authority will inform you in writing about the results of the exam and send the certificate — if you passed. The mail is sent to your home address. The exam can be retaken at most twice without a waiting period. If you fail the exam for the third time, you may retake it at the earliest one year after the 3rd exam date.

Three types of questions:

- 1. Single Choice** (so-called A questions). They yield 1 – 2 points.
After the presentation of the question, 4 to 5 possible answers will be supplied, of which only one will be correct. The correct answer will be the one to check. Some single choice questions may be presented in a negative form (which one is the only wrong answer?).

Evaluation:

Correctly checked answer: full point value

Incorrectly checked answer: 0 points

More than one checked answer: 0 points

- 2. Multiple Choice** (so-called P questions). They also yield 1 to 2 points, depending on the difficulty.

After the presentation of the question, a number of possible answers will be supplied, of which 2 to more (n) can be correct. The expected number of answers n is given in the presentation; e.g. Name the three types of diagram suitable for modeling ... (n = 3).

You do not have to give the total number of expected answers (n), in doubt it may be better to give less answers in order to avoid deduction of points (see evaluation below).

These questions often call for the identification of the best, most likely, or best fitting answers from a gray area.

Some questions may be presented in a negative form (e.g. which elicitation techniques are not suitable for ...).

Evaluation:

for each correctly checked answer within the limit n: $1/n$ times the full points
for each incorrectly checked answer within the limit n: deduction of $1/n$ times the full points

less than n answers checked: without consequence

more than n answers checked: 0 points

The points for correct choices and the deduction for incorrect choices are totaled per question. If the total for a question results in a negative figure the question will be evaluated with 0 points!

- 3. True / False Questions** (so-called K questions). They yield 2 to 3 points, depending on the difficulty.

After the presentation of the question, n statements will be supplied, each with two checkboxes for „true“ and „false“ or “applicable” and “not applicable” or „suitable“ and „unsuitable“ etc.

You need to mark each statement as „true“ (“applicable”, „suitable“) or as „false“ (“not applicable”, „unsuitable“). Statements with no check mark will be deemed unanswered. You do not have to give the total number of expected answers (n), in doubt it may be better to give less answers in order to avoid deduction of points (see evaluation below).

Evaluation:

each correctly checked statement: $1/n$ times the full points

each incorrectly checked statement: deduction of $1/n$ times the full points

less than n answers checked: without consequence

The points for correct choices and the deduction for incorrect choices are totaled per question. If the total for a question results in a negative figure the question will be evaluated with 0 points!

Examples

Examples for A questions:

A context diagram shows: (1 point)

- A) The involved software components
- B) The necessary dialogs between the applications
- C) The interfaces between the system and its environment
- D) The needed system capacity
- E) The project effort

The only correct answer: C

Evaluation:

answer C: 1 point

all other answers: 0 points

A use-case diagram does not show: (1 point)

- A) The rules for using an application
- B) The actors of an application
- C) The usage of an application
- D) The boundary between an application and its environment
- E) The functionality of an application

The only correct answer: A

Evaluation:

answer A: 1 point

all other answers: 0 points

The Kano model states that basic requirements are difficult to find. Which technique is best suited for eliciting basic requirements? (1 point)

- A) Interview
- B) Questionnaire
- C) Observation of actual work
- D) Low-fidelity prototyping
- E) Brainstorming

The only correct answer: C

Evaluation:

answer C: 1 point

all other answers: 0 points

Examples for P questions:

Which two of the following phrases define the term „Requirements“ according to the IEEE standard? (2 points)

- A) The difference between the current and the target situation
- B) A procedure for fulfilling a requirement
- C) A property that a system must have
- D) A problem that has been identified
- E) A wish that has been expressed by a stakeholder
- F) A capability the a product must have

Correct answers: C, F

Evaluation:

answer C: 1 point

answer F: 1 point

all other answers: -1 point

more than two answers: 0 points

points and penalty points are totalized and evaluate to 0 points minimum, negative points will not be assigned:

- » two correct answers: 2 points
- » one correct answer: 1 point
- » one correct answer, one incorrect answer: $1 - 1 = 0$ points
- » only incorrect answers: 0 points

Which three aspects must first be considered when choosing suitable requirements gathering techniques? (3 points)

- A) Availability of the stakeholders
- B) Age of the people involved
- C) Available means of communication
- D) Project deadlines and budget
- E) Use of tools
- F) Area in which the system is to be used

Correct answers: A, C, D

Evaluation:

answer A: 1 point

answer C: 1 point

answer D: 1 point

all other answers: -1 point

more than three answers: 0 points

points and penalty points are totalized and evaluate to 0 points minimum,
negative points will not be assigned:

- » three correct answers: 3 points
- » two correct answers: 2 points
- » one correct answer: 1 point
- » two correct answers, one incorrect answer: $2 - 1 = 1$ point
- » one correct answer, two incorrect answer: $1 - 2 = -1 \Rightarrow 0$ points!
- » only incorrect answers: 0 points

Which two arguments represent a good reason for the use of questionnaires when gathering requirements: (2 points)

- A) Large number of participants is possible
- B) Statistically relevant statements about requirements are possible
- C) Gives information about the participants' understanding
- D) Often indicates level of enthusiasm

Correct answers: A, B

Evaluation:

answer A: 1 point

answer B: 1 point

all other answers: -1 point

more than two answers: 0 points

points and penalty points are totalized and evaluate to 0 points minimum,
negative points will not be assigned:

- » two correct answers: 2 points
- » one correct answer: 1 point
- » one correct answer, one incorrect answer: $1 - 1 = 0$ points
- » only incorrect answers: 0 points

Examples for K questions:

Which statements are true for sources of requirements and which are false? (2 points)		
Sources of requirements...		
	True	False
... can be found only within the enterprise	<input type="checkbox"/>	<input type="checkbox"/>
... are exclusively the stakeholders	<input type="checkbox"/>	<input type="checkbox"/>
... may be other IT systems	<input type="checkbox"/>	<input type="checkbox"/>
... may be standards and norms	<input type="checkbox"/>	<input type="checkbox"/>

Correct answers: false, false, true, true

Evaluation:

each correctly checked answer: 0.5 points

each incorrectly checked answer: -0.5 points

points and penalty points are totalized and evaluate to 0 points minimum, negative points will not be assigned:

- » all answers checked correctly: 2 points
- » three answers checked correctly: 1.5 points
- » two answers checked correctly: 1 point
- » one answer checked correctly: 0.5 points
- » three answers checked correctly, one answer checked incorrectly:
 $1.5 - 0.5 = 1$ point
- » two answers checked correctly, two answers checked incorrectly:
 $1 - 1 = 0$ points
- » one answer checked correctly, three answers checked incorrectly:
 $0.5 - 1.5 = -1 \Rightarrow 0$ points
- » only incorrectly checked answers: 0 points

An enterprise produces parts for the automobile industry. The executive board has decided that the firm's product catalog shall be available on the Web, allowing direct electronic ordering via Web. An important large customer was pushing the idea.

The firm has accordingly launched a development project. The requirements specification has just been released, and the project leader decides to have the specification reviewed in a technical review. As experts she names four co-workers from the testing department, who did not participate in the production of the specification.

Evaluate the decisions and choices of the project leader by marking each of them as suitable or unsuitable. (2 points)

		suitable	unsuitable
A	The moment for the review is well chosen.	<input type="checkbox"/>	<input type="checkbox"/>
B	A document review is a suitable testing procedure for the current situation.	<input type="checkbox"/>	<input type="checkbox"/>
C	In addition to the document review, she plans to construct and test a user-interface prototype.	<input type="checkbox"/>	<input type="checkbox"/>
D	Her decision not to include representatives of the large customer for the review makes sense at this point in the project.	<input type="checkbox"/>	<input type="checkbox"/>
E	Her choice of experts (four testers who did not participate in the creation of the requirements specification and nobody else) is well taken.	<input type="checkbox"/>	<input type="checkbox"/>

Correct answers: suitable, suitable, suitable, unsuitable, unsuitable

Evaluation:

each correctly checked answer: 0.4 points

each incorrectly checked answer: -0.4 points

points and penalty points are totalized and evaluate to 0 points minimum, negative points will not be assigned:

- » all answers checked correctly: 2 points
- » four answers checked correctly: 1.6 points
- » three answers checked correctly: 1.2 points
- » two answers checked correctly: 0.8 points
- » one answer checked correctly: 0.4 points
- » four answers checked correctly, one answer checked incorrectly:
 $1.6 - 0.4 = 1.2$ points

- » three answers checked correctly, two answers checked incorrectly:
 $1.2 - 0.8 = 0.4$ points
- » two answers checked correctly, three answers checked incorrectly:
 $0.8 - 1.2 = -0.4 \Rightarrow 0$ points
- » one answer checked correctly, four answers checked incorrectly:
 $0.4 - 1.6 = -1.2 \Rightarrow 0$ points
- » only incorrectly checked answers: 0 points

Additional information to requirements is managed with the help of attributes. One example for additional information consists of a unique identification.

Which of the following phrases about the aim of a unique identification are true, which are false? (2 points)

	A unique identification...	True	False
A	allows an estimate of the total size of the specification.	<input type="checkbox"/>	<input type="checkbox"/>
B	provides an unambiguous basis for communication.	<input type="checkbox"/>	<input type="checkbox"/>
C	allows references to other requirements.	<input type="checkbox"/>	<input type="checkbox"/>
D	provides comprehension of references to other development artifacts.	<input type="checkbox"/>	<input type="checkbox"/>

Correct answers: false, true, true, true

Evaluation:

each correctly checked answer: 0.5 points

each incorrectly checked answer: -0.5 points

points and penalty points are totalized and evaluate to 0 points minimum, negative points will not be assigned:

- » all answers checked correctly: 2 points
- » three answers checked correctly: 1.5 points
- » two answers checked correctly: 1 point
- » one answer checked correctly: 0.5 points
- » three answers checked correctly, one answer checked incorrectly:
 $1.5 - 0.5 = 1$ point
- » two answers checked correctly, two answers checked incorrectly:
 $1 - 1 = 0$ points
- » one answer checked correctly, three answers checked incorrectly:
 $0.5 - 1.5 = -1 \Rightarrow 0$ points
- » only incorrectly checked answers: 0 points

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International Requirements Engineering Board (IREB) e.V.
Executive Board: Christine Rupp (1st Chair), Karol Frühauf, Rainer Grau
Place of association: Hofmannstraße 11, D-91052 Erlangen
District court Fürth, VR 200079, Germany

Contact:

info@certified-re.com
Phone (1): +41 (0) 79 400 4673 (CH)
Phone (2): +49 (0) 911 40 9000 (DE)
Postal address: IREB e.V., Postfach 46 42, 90025 Nuremberg, Germany

