Examination Guide

iSAQB® Certification Program
Certified Professional for Software Architecture
Foundation Level (CPSA-F®)

Based on the CPSA-F Examination Rules 2020
Refers to V 5.1 of the CPSA-F curriculum

Copyright Notice

About this Guide

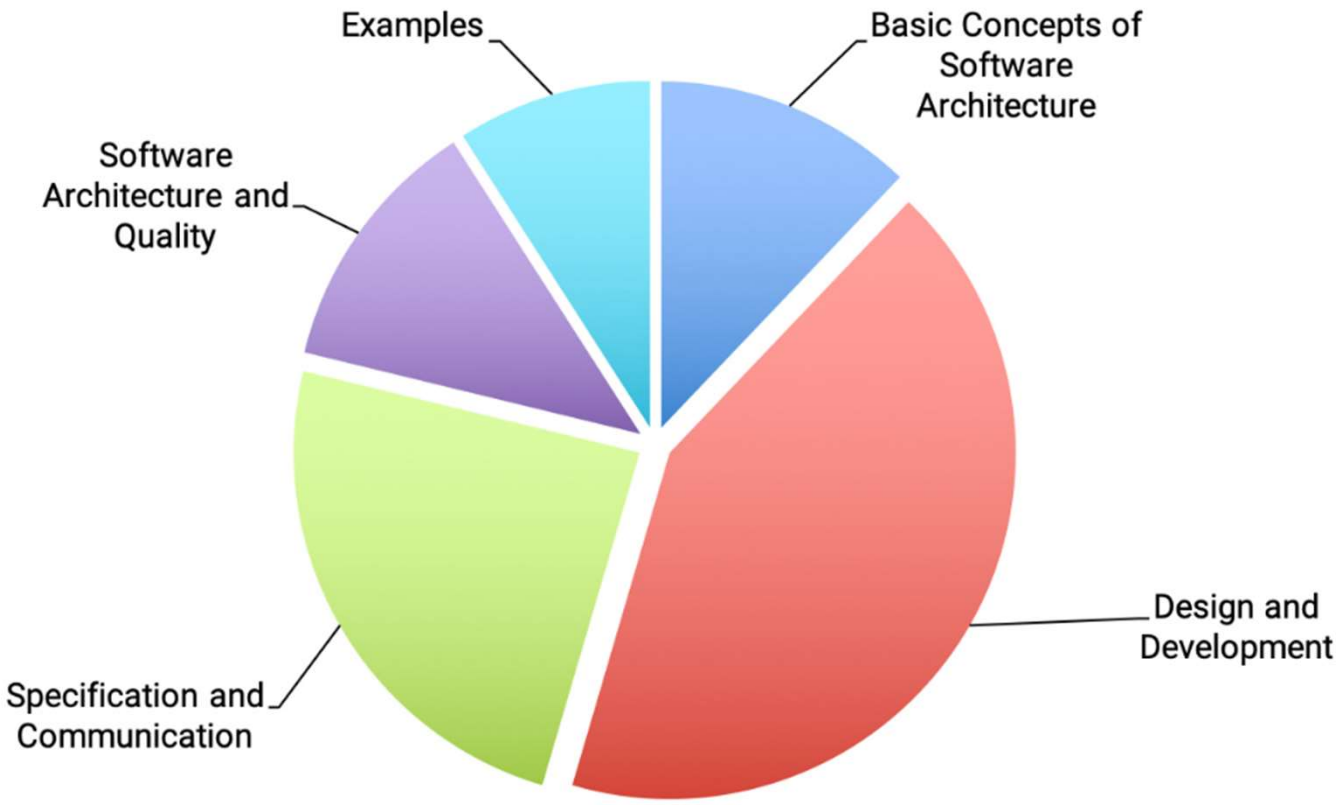
- This Guide adds information to the examination rules as published by iSAQB.
- This guide only provides explanation – and does NOT replace or overrule the official examination rules.
- The official examination rules have precedence over everything stated here.

The Curriculum

- The curriculum standardizes the contents and their relative priorities for all Accredited CPSA-F Trainings.
- iSAQB Accredited Trainers must know and understand the curriculum, especially all R1 and R2 learning goals.
- Individuals who want to obtain the CPSA-F certificate should read through it.
- The learning goals listed in the curriculum are grouped into chapters and detailed with learning items.
- The curriculum informs about the relevance of learning goals and learning items with respect to the examination.

Structure and Relative Size in the iSAQB® Foundation Level Curriculum

The sizes of segments indicate the relative proposed duration of the topics in CPSA-F trainings.



Explanation of Relevance Levels

ID	Expectation	Meaning	Relevance for examination
R1	Being able to	These are the contents participants will be expected to be able to put into practice independently upon completion of the course. Within the course, these contents will be covered through exercises and discussions.	Contents **will be covered** in the examination.
R2	Understanding	These are the contents participants are expected to understand in principle. They will normally not be the primary focus of exercises in training.	Contents **may be covered** in the examination.
R3	Knowing	These contents (terms, concepts, methods, practices or similar) can enhance understanding and motivate the topic. They may be covered in training if required.	Contents will not be part of the examination.

Formalities of CPSA-F® Examination

- **Required:**
  - Be there 10 minutes in advance.
  - Passport or any other official document with participants name and image on it.
- **Multiple Choice:**
  - 75 min (plus 15 min extra, if examination taken in foreign language)
  - About 40 questions – depending on the exam sheet you'll get
  - Each question has max 1-2 points
  - At least 60% of the achievable points required for passing
- **During examination:**
  - Don't ask questions
  - No use of notes, books, mobile devices etc.
  - The room is not to be left
  - No talk about examination topics

The Structure of Examination Questions

Type of questions:
- Single-Choice,
- Pick Multiple,
- Choose Category

Max. points for this question

Question No. + ID

Question 1 *A-Question: Select one option.* *1 point*

ID: Q-20-04-01

Question

How many definitions of “software architecture” exist?

- ☐ (a) Exactly one for all kinds of systems.
- ☐ (b) One for every kind of software system (e.g. “embedded”, “real-time”, “decision support”, “web”, “batch”, …)
- ☐ (c) A dozen or more different definitions.

Answer options to choose from according to the type of the question.

A-Question (Single-Choice, Single Correct Answer)

Question 1 *A-Question: Select one option. 1 point*
ID: Q-20-04-01

How many definitions of “software architecture” exist?

- ☐ (a) Exactly one for all kinds of systems.
- ☐ (b) One for every kind of software system (e.g. “embedded”, “real-time”, “decision support”, “web”, “batch”, …)
- ☐ (c) A dozen or more different definitions.

no choice -> 0 points

correct choice -> all points

wrong choice, no choice or to many choices -> 0 points

A-Question (Single-Choice, Single Correct Answer)

Question 1 *A-Question: Select one option. 1 point*
ID: Q-20-04-01

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- ☐ (a) Exactly one for all kinds of systems.
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- ☒ (c) A dozen or more different definitions.

correct choice -> 1 point

correct choice -> all points

wrong choice, no choice or to many choices -> 0 points

A-Question (Single-Choice, Single Correct Answer)

Question 1 *A-Question: Select one option. 1 point*
ID: Q-20-04-01

How many definitions of “software architecture” exist?

- [x] (a) Exactly one for all kinds of systems.
- [ ] (b) One for every kind of software system (e.g. “embedded”, “real-time”, “decision support”, “web”, “batch”, …)
- [ ] (c) A dozen or more different definitions.

wrong choice -> 0 points

correct choice -> all points

wrong choice, no choice or to many choices -> 0 points

A-Question (Single-Choice, Single Correct Answer)

Question 1 *A-Question: Select one option. 1 point*
ID: Q-20-04-01

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- [x] (a) Exactly one for all kinds of systems.
- [ ] (b) One for every kind of software system (e.g. “embedded”, “real-time”, “decision support”, “web”, “batch”, …)
- [x] (c) A dozen or more different definitions.

too many selected -> 0 points

correct choice -> all points

wrong choice, no choice or to many choices -> 0 points

P-Question (Pick Multiple)

Question 38 *P-Question: Choose the two most appropriate indicators.* *2 points*
ID: Q-20-04-29

You try to analyze your architecture quantitatively. Which are the **TWO** most appropriate indicators for architectural problem areas?

- ☐ (a) High coupling of components.
- ☐ (b) Inappropriate names of public methods.
- ☐ (c) Missing comments.
- ☐ (d) Error clusters.
- ☐ (e) Number of test cases per component.

no selection -> 0 points

correct answer -> add 1/n of max points
wrong answer -> deduct 1/n of max points
(but only down to 0 points overall)

too many selections -> 0 points
fewer selections -> 0 points added/deducted
worst case is 0 points

P-Question (Pick Multiple)

Question 38 *P-Question: Choose the two most appropriate indicators.* *2 points*
ID: Q-20-04-29

You try to analyze your architecture quantitatively. Which are the **TWO** most appropriate indicators for architectural problem areas?

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- [ ] (b) Inappropriate names of public methods.
- [ ] (c) Missing comments.
- [X] (d) Error clusters.
- [ ] (e) Number of test cases per component.

2 correct -> 1 + 1 = 2 points

correct answer -> add 1/n of max points
wrong answer -> deduct 1/n of max points
(but only down to 0 points overall)

too many selections -> 0 points
fewer selections -> 0 points added/deducted
worst case is 0 points

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- [X] (c) Missing comments.
- [ ] (d) Error clusters.
- [ ] (e) Number of test cases per component.

1 correct, 1 wrong -> 0 points

correct answer -> add 1/n of max points
wrong answer -> deduct 1/n of max points
(but only down to 0 points overall)

too many selections -> 0 points
fewer selections -> 0 points added/deducted
worst case is 0 points

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- [ ] (c) Missing comments.
- [ ] (d) Error clusters.
- [ ] (e) Number of test cases per component.

1 correct, 1 omitted -> 1 point

correct answer -> add 1/n of max points
wrong answer -> deduct 1/n of max points
(but only down to 0 points overall)

too many selections -> 0 points
fewer selections -> 0 points added/deducted
worst case is 0 points

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- ☐ (e) Number of test cases per component.

both wrong -> 0 points

correct answer -> add 1/n of max points
wrong answer -> deduct 1/n of max points
(but only down to 0 points overall)

too many selections -> 0 points
fewer selections -> 0 points added/deducted
worst case is 0 points

P-Question (Pick Multiple)

Question 38 *P-Question: Choose the two most appropriate indicators.* *2 points*
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You try to analyze your architecture quantitatively. Which are the **TWO** most appropriate indicators for architectural problem areas?

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- [ ] (e) Number of test cases per component.

too many selected -> 0 points

correct answer -> add 1/n of max points
wrong answer -> deduct 1/n of max points
(but only down to 0 points overall)

too many selections -> 0 points
fewer selections -> 0 points added/deducted
worst case is 0 points

K-Questions (Choose Category, Allocation Questions)

Question 19 *K-Question: Select "Contained" or "Avoided" for each line.* *1 point*
ID: Q-20-04-22

You document a component of your software architecture. Which information should be contained in your black box description and which information should be avoided?

Contained	Avoided		
☐	☐	(a)	Interfaces.
☐	☐	(b)	Responsibility.
☐	☐	(c)	Internal structure.
☐	☐	(d)	Hints for the implementation.

no selection -> 0 points

mark 1 answer per row (or none if not sure)

there is always one correct answer in each row

correct mark -> add 1/n of max points
wrong mark -> deduct 1/n of max points

(but only down to 0 points overall)

worst case is 0 points

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Question 19 *K-Question: Select "Contained" or "Avoided" for each line.* *1 point*
ID: Q-20-04-22

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Contained	Avoided		
☒	☐	(a)	Interfaces.
☒	☐	(b)	Responsibility.
☐	☒	(c)	Internal structure.
☐	☒	(d)	Hints for the implementation.

4 correct -> 4 x 0,25 = 1 point

mark 1 answer per row (or none if not sure)

there is always one correct answer in each row

correct mark -> add 1/n of max points
wrong mark -> deduct 1/n of max points

(but only down to 0 points overall)

worst case is 0 points

K-Questions (Choose Category, Allocation Questions)

Question 19 *K-Question: Select "Contained" or "Avoided" for each line.* *1 point*
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☒	☐	(a)	Interfaces.
☒	☐	(b)	Responsibility.
☐	☒	(c)	Internal structure.
☒	☐	(d)	Hints for the implementation.

3 correct, 1 wrong -> 3 x 0,25 – 0,25 = 0,5 points

mark 1 answer per row (or none if not sure)

there is always one correct answer in each row

correct mark -> add 1/n of max points
wrong mark -> deduct 1/n of max points

(but only down to 0 points overall)

worst case is 0 points

K-Questions (Choose Category, Allocation Questions)

Question 19 *K-Question: Select "Contained" or "Avoided" for each line.* *1 point*
ID: Q-20-04-22

You document a component of your software architecture. Which information should be contained in your black box description and which information should be avoided?

Contained	Avoided		
☒	☐	(a)	Interfaces.
☒	☐	(b)	Responsibility.
☒	☐	(c)	Internal structure.
☒	☐	(d)	Hints for the implementation.

2 correct, 2 wrong -> 2 x 0,25 – (2 x 0,25) = 0 points

mark 1 answer per row (or none if not sure)

there is always one correct answer in each row

correct mark -> add 1/n of max points
wrong mark -> deduct 1/n of max points

(but only down to 0 points overall)

worst case is 0 points

K-Questions (Choose Category, Allocation Questions)

Question 19 *K-Question: Select "Contained" or "Avoided" for each line.* *1 point*
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You document a component of your software architecture. Which information should be contained in your black box description and which information should be avoided?

Contained	Avoided		
☒	☐	(a)	Interfaces.
☐	☒	(b)	Responsibility.
☒	☐	(c)	Internal structure.
☒	☐	(d)	Hints for the implementation.

1 correct, 3 wrong -> 0,25
– 3 x 0,25 = 0 points

mark 1 answer per row (or none if not sure)

there is always one correct answer in each row

correct mark -> add 1/n of max points
wrong mark -> deduct 1/n of max points

(but only down to 0 points overall)

worst case is 0 points

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Question 19 *K-Question: Select "Contained" or "Avoided" for each line.* *1 point*
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☒	☐	(b)	Responsibility.
☐	☐	(c)	Internal structure.
☐	☐	(d)	Hints for the implementation.

2 correct, 2 omitted -> 2 x 0,25 = 0,5 points

mark 1 answer per row (or none if not sure)

there is always one correct answer in each row

correct mark -> add 1/n of max points
wrong mark -> deduct 1/n of max points

(but only down to 0 points overall)

worst case is 0 points

Thank you for your interest!

If you have any questions, please contact info@isaqb.org and ask for the Foundation Level Working Group (FLWG).

Remarks or questions concerning specific learning goals can be left in our public GitHub repository, where the FLWG maintains the curriculum:
https://github.com/isaqb-org/curriculum-foundation.

You may open an issue in our public issue tracker:
https://github.com/isaqb-org/curriculum-foundation/issues.