

Sample Exam – Answers

Sample Exam set A
Version 2.2

ISTQB® Test Automation Engineering Advanced Level

Compatible with Syllabus version 2.0

International Software Testing Qualifications Board



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The ISTQB® Examination Working Group is responsible for this document.

This document is maintained by a core team from ISTQB® consisting of the Syllabus Working Group and Exam Working Group.

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Revision History

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v2.1	2024/07/04	Correct numbering for questions 3, 5
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Introduction

Purpose of this document

The example questions and answers and associated justifications in this sample exam have been created by a team of subject matter experts and experienced question writers with the aim of:

- Assisting ISTQB® Member Boards and Exam Boards in their question writing activities
- Providing training providers and exam candidates with examples of exam questions

These questions cannot be used as-is in any official examination.

Note, that real exams may include a wide variety of questions, and this sample exam *is not* intended to include examples of all possible question types, styles or lengths, also this sample exam may both be more difficult or less difficult than any official exam.

Instructions

In this document you may find:

- Answer Key table, including for each correct answer:
 - K-level, Learning Objective, and Point value
- Answer sets, including for all questions:
 - Correct answer
 - Justification for each response (answer) option
 - K-level, Learning Objective, and Point value
- Additional answer sets, including for all questions [does not apply to all sample exams]:
 - Correct answer
 - Justification for each response (answer) option
 - K-level, Learning Objective, and Point value

- *Questions are contained in a separate document*

Answer Key

Question Number (#)	Correct Answer	LO	K-Level	Points
1	d	TAE-1.1.1	K2	1
2	b	TAE-1.2.1	K2	1
3	d	TAE-1.2.2	K2	1
4	b	TAE-2.1.1	K2	1
5	b	TAE-2.1.2	K2	1
6	d	TAE-2.1.2	K2	1
7	a, d	TAE-2.2.1	K4	3
8	c	TAE-2.2.2	K4	3
9	d	TAE-3.1.1	K2	1
10	c	TAE-3.1.2	K2	1
11	d	TAE-3.1.3	K3	2
12	c	TAE-3.1.4	K3	2
13	a	TAE-3.1.4	K3	2
14	b	TAE-3.1.5	K3	2
15	d	TAE-4.1.1	K3	2
16	c	TAE-4.2.1	K4	3
17	c	TAE-4.3.1	K2	1
18	c	TAE-4.3.1	K2	1
19	a, d	TAE-5.1.1	K3	2
20	c	TAE-5.1.1	K3	2

Question Number (#)	Correct Answer	LO	K-Level	Points
21	a	TAE-5.1.2	K2	1
22	d	TAE-5.1.2	K2	1
23	d	TAE-5.1.3	K2	1
24	b	TAE-5.1.3	K2	1
25	a, d	TAE-6.1.1	K3	2
26	b	TAE-6.1.1	K3	2
27	c	TAE-6.1.2	K4	3
28	d	TAE-6.1.3	K2	1
29	a	TAE-7.1.1	K3	2
30	a, c	TAE-7.1.1	K3	2
31	c	TAE-7.1.2	K2	1
32	c	TAE-7.1.2	K2	1
33	a	TAE-7.1.3	K2	1
34	d	TAE-7.1.4	K2	1
35	d	TAE-8.1.1	K3	2
36	b	TAE-8.1.1	K3	2
37	a, e	TAE-8.1.2	K4	3
38	b	TAE-8.1.2	K4	3
39	c	TAE-8.1.3	K3	2
40	a	TAE-8.1.4	K2	1

Answers

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
1	d	<p>a) Is not correct. Test automation can be performed before and after system testing.</p> <p>b) Is not correct. It refers to non-existing limitation.</p> <p>c) Is not correct. Test automation is not limited to check only the results that can be verified visually.</p> <p>d) Is correct. As in syllabus: "Test automation can only check test results that can be verified by an automated test oracle". This is a limitation and means that results of the automated scripts are verified by the machine which is programmed to do so (code).</p>	TAE-1.1.1	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
2	b	a) Is not correct. In Agile software development, automated component tests are higher in volume compared to automated acceptance tests. b) Is correct. In Agile software development, automated component tests are higher in volume compared to automated acceptance tests. c) Is not correct. There is no such rule in the V-model. d) Is not correct. V-model test planning, including planning of test automation, is performed in the early phase of the software development lifecycle.	TAE-1.2.1	K2	1
3	d	a) Is not correct. The SUT architecture should be considered. b) Is not correct. The actual composition and experience of the test team needs to be evaluated. c) Is not correct. It is necessary to have knowledge about the licensing and support of the tool. d) Is correct. The quality of the SUT requirements is not directly related to selecting the tool itself.	TAE-1.2.2	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
4	b	a) Is not correct. Observability means to give insight into the system. b) Is correct. See Chapter 2.1.1 of the syllabus. c) Is not correct. Maintainability is a quality characteristic. e) Is not correct. Interoperability is also a quality characteristic.	TAE-2.1.1	K2	1
5	b	a) Is not correct. Component testing is performed in a build and development environment. b) Is correct. It is necessary to perform performance efficiency testing and user acceptance testing in a preproduction environment to test real world scenarios. c) Is not correct. Static analysis is usually done at the development environment. d) Is not correct. Component integration testing is done at the development environment.	TAE-2.1.2	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
6	d	a) Is not correct. Preproduction or staging environment testing has less focus on functional aspects. b) Is not correct. A build environment is not ready for more robust test execution. c) Is not correct. Full functional test suites are not typically executed against products in production. d) Is correct. Robust user interface (UI), and application programming interface (API) test suites are typically executed against fully integrated systems.	TAE-2.1.2	K2	1
7	a, d	a) Is correct. Component testing is performed by the developing IT company. b) Is not correct. Beta testing is not performed. c) Is not correct. The testing of as many different types of cars as possible is performed by the integrator IT company. d) Is correct. Automated component tests are designed and executed by the developers. e) Is not correct. The test automation approach to support the mobile application store approval is not performed.	TAE-2.2.1	K4	3

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
8	c	a) Is not correct. The test environment is valid according to the release notes. b) Is not correct. The test logging component is essential for troubleshooting. c) Is correct. The tool does not meet selection requirements. d) Is not correct. It is completely wrong to migrate the SUT.	TAE-2.2.2	K4	3

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
9	d	<p>1-C. Test Generation. mapping the abstract test cases to concrete test cases suitable for execution. This is where model based testing tools support the automated design of test cases based on a test model.</p> <p>2-A. Test Definition. Implementation of test cases and/or test suites. This layer supports the definition and implementation of test cases and/or test suites.</p> <p>3-D. Test Execution. Test logging with detailed information about the test steps and actions. This layer provides a test execution tool to run the selected tests automatically, and a test logging and test reporting component.</p> <p>4-B. Test Adaptation. Mechanism for connecting to the SUT via protocols, and services. This layer provides functionality to adapt the automated tests for the various components or interfaces of the SUT. It provides different adaptors for integration mechanism.</p> <p>a) 1D, 2A, 3C, 4B INCORRECT</p> <p>b) 1C, 2A, 3B, 4D INCORRECT</p> <p>c) 1A, 2B, 3D, 4C INCORRECT</p> <p>d) 1C, 2A, 3D, 4B CORRECT</p>	TAE-3.1.1	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
10	c	a) a) Is not correct. The problem was found in the initial implementation and no updates were introduced yet. b) Is not correct. The integration method used does not matter whether it is via APIs or other mechanism. c) Is correct. The adaptors are necessary for the translation of the test results. d) Is not correct. The question does not mention test management tool incompatibility.	TAE-3.1.2	K2	1
11	d	a) Is not correct. Core libraries should be application independent and generic. b) Is not correct. Test scripts should only contain test scripts and no configuration. c) Is not correct. Feature files contain scenarios written in the Gherkin language. d) Is correct. The business logic layer is used to set up the TAF to run against the SUT.	TAE-3.1.3	K3	2

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
12	c	a) Is not correct. Keyword-driven testing is too complex for this solution. b) Is not correct. Behavior-driven development is too complex and is not necessary. c) Is correct. Capture/playback test automation is easy to set up. d) Is not correct. Data-driven test automation is too complex and is not necessary.	TAE-3.1.4	K3	2
13	a	a) Is correct. The test data is already available and can be reused to increase the test case count. b) Is not correct. Behavior-driven development requires involvement from business representatives, and in this case, there is no specific mention whether the business is involved. c) Is not correct. Capture/playback would be a slow and costly solution, while the test data is already present. d) Is not correct. Acceptance test-driven development is not an automation approach.	TAE-3.1.4	K3	2

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
14	b	a) Is not correct. Storing the user actions in the page model class files will not allow easy reuse and maintainability of complex user flows. b) Is correct. The flow model pattern combines usage of page models and flow models, storing the structure and logic of the application in class files with different purposes, and is typically used when the SUT's structure changes frequently. c) Is not correct. Facades provide a simplified interface to a larger body of code. d) Is not correct. The singleton design pattern does not solve the problem in this case.	TAE-3.1.5	K3	2
15	d	a) Is not correct. i, ii and iii are not valid objectives of the pilot project. b) Is not correct. ii is not a valid objective of the pilot project. c) Is not correct. i and ii are not valid objectives of the pilot project. d) Is correct. iv and v are valid objectives of the pilot project.	TAE-4.1.1	K3	2

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
16	c	a) 1-B: Integrating test automation into the CI/CD pipeline ensures test execution is triggered by the build. b) 2-D: Test harnesses and fixtures allow for more flexible test execution, not limited to full suite runs. c) 3-C: Third-party tools can help generate test data when it's not readily available. d) 4-A: Detailed logging during test execution aids in troubleshooting failed tests. Correct answer is a) a) Correct answer is a)	TAE-4.2.1	K4	3
17	c	a) Is not correct. This answer does not improve code maintainability. b) Is not correct. Uniquely naming code variables does not improve code maintainability. c) Is correct. Using static analyzers improves code maintainability. d) Is not correct. Hard coding values does not improve code maintainability.	TAE-4.3.1	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
18	c	<p>a) Is not correct. Storing the code outside of a version control system makes it more difficult for test automation engineers (TAEs) to manage, track, and collaborate on code effectively.</p> <p>b) Is not correct. Hardcoding data in test scripts is not recommended, as it makes the scripts inflexible and difficult to maintain when changes are required.</p> <p>c) Is correct. Structuring the test automation code using design patterns improves reusability and scalability, reducing the time needed for maintenance.</p> <p>d) Is not correct. Regularly rewriting test scripts from scratch is inefficient and leads to unnecessary work. Reusing existing components is more effective in reducing maintenance time.</p>	TAE-4.3.1	K2	1
19	a, d	<p>b) Is correct. Regression testing is necessary, and it can be incorporated into the CI/CD pipeline.</p> <p>c) Is not correct. Executing a build is not a test automation task.</p> <p>d) Is not correct. Static code analysis is not a test automation task.</p> <p>e) Is correct. Performance efficiency tests can be automated.</p> <p>f) Is not correct. Packaging and deployment are not test automation tasks.</p>	TAE-5.1.1	K3	2

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
20	c	a) Is not correct. Tests are executed during deployment. b) Is not correct. Tests are triggered to execute after successful deployment. c) Is correct. It is not a correct statement since tests do not act as quality gates for deployment. d) Is not correct. Pipelines are an excellent solution for periodic testing, such as regression tests, and the size of these tests does not impact their effectiveness.	TAE-5.1.1	K3	2
21	a	a) Is correct. Test data and test environment configurations can be under configuration management. b) Is not correct. The SUT configuration can be under configuration management, but it is not related to test automation. c) Is not correct. User rights management is not related to configuration management. d) Is not correct. Configuration management does not support test automation results analysis.	TAE-5.1.2	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
22	d	a) Is not correct. URLs are part of the test environment configuration. b) Is not correct. Credentials are part of the test environment configuration. c) Is not correct. Test data is part of the test environment configuration. d) Is correct. The test environment configuration is a part of the common core library, not vice versa.	TAE-5.1.2	K2	1
23	d	a) Is not correct. Contract testing ensures APIs follow predefined communication agreements, helping manage API dependencies. b) Is not correct. Contract testing can be used to test communication between microservices. c) Is not correct. Contract testing can validate the compatibility of two separate systems. d) Is correct. Contract testing has no relation to the contractual requirements.	TAE-5.1.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
24	b	a) Is not correct. Release notes do not help to learn the API connections and details. b) Is correct - API specification provides details about endpoints, and the system architecture diagram shows the relationships between different components. c) Is not correct - The test strategy and release notes don't provide specific information about API dependencies needed for building a TAS. d) Is not correct - The API specification alone is not sufficient; the system architecture diagram is also needed to understand the relationships between different services.	TAE-5.1.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
25	a, d	<p>a) Is correct. Session IDs change with each session, causing screenshot differences even when content looks the same.</p> <p>b) Is not correct. Order isn't relevant, as all screenshots fail, which wouldn't happen if only order was the issue.</p> <p>c) Is not correct. This doesn't explain why all comparisons fail when content appears unchanged.</p> <p>d) Is correct. Dynamic elements like dates in GUI can cause false negatives and should be excluded from comparisons.</p> <p>e) Is not correct. Browser zoom changes are unlikely to cause all failures if content appears identical to the human eye.</p>	TAE-6.1.1	K3	2

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
26	b	<p>a) Is not correct. The timestamps can help see when there are problems and if they are connected to a legacy service outage that affects the functionality of the SUT.</p> <p>b) Is correct. The SUT is a web service without a UI, so screenshots are irrelevant. Logging request and response data is more useful for analyzing web service interactions.</p> <p>c) Is not correct. The randomly generated values will not be visible for later investigation.</p> <p>d) Is not correct. Focused assertion messages can aid the investigation of the failures.</p>	TAE-6.1.1	K3	2
27	c	<p>a) Is not correct. Manual data collection is too time-consuming and error-prone; automation is essential.</p> <p>b) Is not correct. This doesn't explain how data can be correlated across different components.</p> <p>c) Is correct. Trace ID is the appropriate way to associate the performance data across the different architectural components, enabling system-wide performance analysis.</p> <p>d) Is not correct. Third-party tools can collect data but don't provide necessary correlation for complete analysis.</p>	TAE-6.1.2	K4	3

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
28	d	<p>a) Is not correct. The comparison of the test results and the expected results only gives us the pass/fail rate for one test run only.</p> <p>g) Is not correct. The traffic lights are only for showing the summary of progress of test cases execution and completion within one test run cycle only.</p> <p>h) Is not correct. Detailed reports with Percentages of test completion are only for showing the outcome of test cases execution and completion within one test run cycle only.</p> <p>i) Is correct. This is the correct implementation whereby the analysis feature is able to compare pass rate of previous test run cycles and compare with latest and plot in a trend analysis display</p>	TAE-6.1.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
29	a	<p>a) Correct - This option focuses on verifying that all testers can access and use the same version of the capture/playback tool, which is crucial for ensuring consistency in the test automation environment.</p> <p>b) Incorrect - While documenting installation procedures is important, it's not specifically about verifying the test automation environment.</p> <p>c) Incorrect - This approach doesn't address the need for different environments as specified in the scenario.</p> <p>d) Incorrect - While configuration management is important, this option doesn't specifically address verifying the test automation environment.</p>	TAE-7.1.1	K3	3

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
30	a, c	a) Is correct. Automated installation and configuration scripts ensure consistency and repeatability during TAS setup. b) Is not correct. The TAS should be designed for portability in multiple test environments. c) Is correct. Repositories can be used to verify consistent TAS versions across all test environments. d) Is not correct. Manual testing is not a scalable solution. e) Is not correct. By omitting component tests, potential issues could go undetected	TAE-7.1.1	K3	3
31	c	a) Is not correct. The issue should be analyzed closely since the root cause is not yet known. b) Is not correct. This answer does not suggest any solution. c) Is correct. This should be the first task in this case. d) Is not correct. The issue should be analyzed closely since the root cause is not yet known.	TAE-7.1.2	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
32	c	a) Is not correct. The goal is to have repeatable tests that give consistent test results. b) Is not correct. Eliminating coverage is not a good response to the situation. c) Is correct. This allows the test suite to continue to be used for repeatable test results while providing time to triage problem test cases. They will be re-added to the test suite once corrected. d) Is not correct. This does not address the random errors that the application is experiencing.	TAE-7.1.2	K2	1
33	a	a) Is correct. Log file analysis can identify the root cause of the problem. b) Is not correct. This process will not help solve the original issue. c) Is not correct. These tests do not directly indicate a problem in the SUT; they should be analyzed first. d) Is not correct. The statement is false.	TAE-7.1.3	K2	1

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
34	d	a) Is not correct. Test logs may not contain credential data present in the automation code. b) Is not correct. It does not make sense to eliminate test cases as it will affect code coverage. c) Is not correct. Slower test execution does not necessarily reveal security vulnerabilities. d) Is correct. Static analysis tools support identification of security vulnerabilities.	TAE-7.1.4	K2	1
35	d	a) Is not correct. Schema validation can be applied in API testing, not GUI testing. b) Is not correct. This is a manual and slow process. c) Is not correct. A test histogram enables identification of fragile test cases, but it does not solve the underlying problem. d) Is correct. Using an AI based algorithm supports identification of broken locators and self-healing of the test cases.	TAE-8.1.1	K3	2

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
36	b	<p>a) Is not correct. Analyzing test histograms for 1000 test cases will be time consuming. Plus, we can already anticipate the impact on test cases without generating histogram data.</p> <p>b) Is correct. AI algorithms can be used to self-heal the test cases against UI locator value changes, and schema validation tools can be used to quickly assess API schema updates.</p> <p>c) Is not correct. Recreating 75% of the test harness is not feasible when other options are available.</p> <p>d) Is not correct. Although logs, screenshots, and error messages are valid data sources to verify, eliminating test cases is not a viable strategy.</p>	TAE-8.1.1	K3	2

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
37	a, e	a) Is correct. Splitting up the test suite helps to ensure that the test execution is finished overnight. b) Is not correct. Test result verification cannot be isolated from the test execution process. c) Is not correct. It is not stated generally that the keyword-driven technique executes faster. d) Is not correct. It would reduce the scope to a high-level regression, which in the long term, could potentially result in defects propagating into production. e) Is correct. Removing duplications can reduce test execution time.	TAE-8.1.2	K4	3
38	b	a) Is not correct. The adoption plan needs to occur after impact is determined. b) Is correct. This is the correct order of the activities. c) Is not correct. Updating of dependencies needs to occur after the creation of the adoption plan. d) Is not correct. Determining impact needs to occur after performing a pilot.	TAE-8.1.2	K3	3

Question Number (#)	Correct Answer	Explanation / Rationale	Learning Objective (LO)	K-Level	Number of Points
39	c	a) Is not correct. Separating the testing of controls should be implemented within the core libraries. b) Is not correct. It is not a direct improvement. c) Is correct. It is an improvement to consolidate test scripts in this case. d) Is not correct. It is not a direct improvement.	TAE-8.1.3	K3	3
40	a	a) Is correct. It offers an automated and quick solution to the problem. b) Is not correct. This is not a TAS. c) Is not correct. Using a production database directly as the source of the test data holds high risk. d) Is not correct. Anonymization of test data is important, but it is out of the scope of this solution.	TAE-8.1.4	K2	1