Sample Exam – Questions

Sample Exam set A
Version 1.2

ISTQB® Test Automation Strategy (TAS) Specialist Syllabus

Compatible with Syllabus version 1.0

International Software Testing Qualifications Board

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Document Responsibility

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.

Acknowledgements

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Revision History

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Version	Date	Remarks
1.0	2024/05/03	GA Release
1.1	2024/07/04	Version change to match the Answers version. No content changes to this file.
1.2	2024/10/15	Correction to questions: #1, #4, #21, #22, #23, #26, #27, #28, #30, #40

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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:

- Questions[1], including for each question:
  - Any scenario needed by the question stem
  - Point value
  - Response (answer) option set
- Additional questions, including for each question [does not apply to all sample exams]:
  - Any scenario needed by the question stem
  - Point value
  - Response (answer) option set

- *Answers, including justification are contained in a separate document*

[1] In this sample exam the questions are sorted by the LO they target; this cannot be expected of a live exam.

Questions

Question #1 (1 Point)

You discuss the introduction of test automation with project management. Which statements about the advantages and limitations of test automation are correct?

a) Automated test cases are consistent and can be repeated any number of times on different versions of the system under test (SUT) and/or environments
b) Resources limited in their allocation only to test automation are no longer available for manual testing
c) Automated test tools must be continuously maintained to be up to date. This maintenance effort has a negative impact on the costs of the testing
d) With test automation, tests can be performed that cannot be executed manually or only with significant effort
e) Feedback on software quality takes much longer because the test results usually have to be evaluated by a tester

Select TWO options.

Question #2 (1 Point)

Which of the following statements describes an important technical success factor for any major test automation project?

a) The test automation strategy must ensure that different areas of the SUT can be tested in the same way
b) In automated GUI testing, test data and interaction controls should be very tightly coupled to the GUI layout
c) Ensure that automated test scripts can be isolated and retired easily when they are no longer useful or necessary in a current test execution
d) The test automation project must support the automation of all manual tests for the test automation to achieve long-term value

Select ONE option.

Question #3 (1 Point)

Which of the following is NOT a recommended approach for establishing an easy to use and maintainable Test Automation Framework (TAF)?

a) Define and implement test reporting facilities
b) Enable easy troubleshooting
c) Include test automation that is sensitive to user interface (UI) changes
d) Keep the automated tests up to date

Select ONE option.

Question #4 (1 Point)

What is NOT a success faction for a Test Automation Project?

a) Testing that supports test automation
b) Decoupling of GUI interaction and test data
c) Test automation challenges of the SUT should be targeted first
d) Exposing APIs as public

Select ONE option.

Question #5 (1 Point)

Your company is planning to introduce test automation and has asked you to lead the test automation project. There are several projects in the company, some of which would benefit from automating test execution. To test the effectiveness of the test automation, which project should you choose to pilot?

a) Project Alpha, which is a very small project and is a minimal functional addition to another project. They hope that the simplicity of the project will result in rapid test automation successes
b) Project Beta, which is your company's mature standard application. With this selection, you hope to be able to try out the test automation solution (TAS) in a realistic scenario
c) Project Gamma, which is still in prototyping. At this early stage, the project is still unstable, and you hope to find many defects with test automation
d) Project Delta, which is already late. By automating, you hope to deliver on time, demonstrating a great test automation success

Select ONE option.

Question #6 (1 Point)

Your board of directors gives you the requirement to save costs on your development project. Which of the following is NOT a good argument for outsourcing your test automation?

a) Your company has very specialized software that is not easy to understand, so you would like to outsource test automation so your people can focus on other projects
b) The project is part of a larger project, so that knowledge is already available in the company
c) There are some test automation engineers (TAEs) in your company with the required skills who need a new occupation in the long term but are not yet available in the short term for your organization
d) No additional software or hardware needs to be purchased for test automation

Select ONE option.

Question #7 (1 Point)

What is the main advantage of a floating license?

a) Those who use software under this license will only be billed for the time they use the software
b) There are many users of the software which makes it easier to gather information and get support
c) Software under this license can easily be modified if necessary
d) Software under this license can be used by many employees on different systems

Select ONE option.

Question #8 (1 Point)

What cost factor should NOT influence your decision about a test automation implementation strategy and a TAS to be used?

a) Hardware and licenses
b) Time constraints
c) Number of TASs
d) Maintenance

Select ONE option.

Question #9 (1 Point)

You are a test leader in a project, and you are looking to strengthen your test team. What skills should you focus on in your search?

a) The applicant has strong technical knowledge about different software development lifecycles (SDLCs)
b) The applicant is knowledgeable and is very self-confident
c) The applicant is a good programmer but prefers to work alone on a challenge
d) The applicant has good team skills and can explain facts well
e) The applicant has often led test teams

Select TWO options.

Question #10 (1 Point)

Match the statements to the correct test automation pyramid shape.

1. Pyramid shaped
2. Ice cream cone shaped
3. Hourglass shaped
4. Umbrella shaped

A. Automated tests are performed mainly as application UI tests
B. Testing relies heavily on API and UI tests. Defects are found late in the SDLC due to the lack of low-level testing such as component testing
C. Less testing on the upper levels and more testing on the lower levels with stable and faster tests and therefore quick feedback
D. Little to no integration testing, but extensive testing at the highest and lowest test levels. Integration issues may go undetected.

a) 1A, 2B, 3C, 4D
b) 1C, 2B, 3D, 4A
c) 1B, 2D, 3C, 4A
d) 1D, 2A, 3D, 4C

Select ONE option.

Question #11 (2 Points)

You define a test strategy and break down the layers in your approach as follows: UI, API, integration, and component. Which statements are true?

1. It is tempting to ignore rare configurations in UI testing, but they can still be relevant to production environments
2. API testing includes testing APIs directly in isolation with mocks and as part of the end-to-end transactions performed during integration testing
3. Agile and DevOps teams working with short iterations and fast feedback loops are finding that GUI testing requires very little maintenance, while API testing requires more maintenance
4. API testing is recommended for the vast majority of test automation efforts and as much boundary value analysis as possible
5. Component tests are reserved for validating system-level use cases, mobile tests, and usability tests
6. An integration test determines whether the interaction and the interfaces between the components work as intended
7. With the help of component tests, errors can be detected at an early stage, and, under certain circumstances, they can even be narrowed down to the line in the code that caused them
8. The more complicated the functionality the less important the component tests

a) 1, 2, 4, 6, 7
b) 1, 2, 5, 6, 8
c) 1, 3, 5, 7, 8
d) 2, 4, 5, 6, 7

Select ONE option.

Question #12 (1 Point)

Give TWO reasons why you should consider shift right.

a) To save tester resources for later
b) To expand the scope of test automation and coverage
c) To move the tests forward to the beginning of the SDLC
d) To identify problems in a production system at an early stage
e) To roll out components that have already been thoroughly tested as canary releases

Select TWO options.

Question #13 (1 Point)

As a test leader, you are to take on a project with legacy software. What are TWO important aspects for your test automation project?

a) Convert the architecture of the legacy software to a microservices architecture before writing new tests, to keep the tests compact and efficient.
b) Rewrite all tests first. Legacy software TASs tend to be outdated, underperforming, and should not be used again
c) Increase the coverage at the system integration test level to detect possible errors early
d) Focus on system testing. There is no point in writing new component tests for legacy software
e) Introduce more meaningful component tests to expand the possibilities of code refactoring

Select TWO options.

Question #14 (1 Point)

Which ONE of the following statements best describes how test automation projects conform with Agile software development best practices?

a) Test automation is more technical than manual functional testing and therefore fits Agile software development that is also more technical than a sequential development model
b) Agile software development promotes sustainable development, and this can be achieved with a proper balance of automated tests among all test levels
c) Typically, Agile teams do not include an estimate of test effort in an Agile software development approach, but as test automation does make it easier, it will be done
d) One principle of Agile software development is “continuous attention to technical excellence and good design enhances agility” and test automation fits this

Select ONE option.

Question #15 (2 Points)

Your company has a mature, disciplined approach to test automation. Teams have implemented test automation on all test levels defined in the organization: UI, API, integration, and component. However, the build pipeline in some of the teams takes a long time to execute all the steps. As the head of test automation architecture (TAA), you are responsible for finding a solution that will help each team.

Which of the following should you NOT consider when providing your recommendations?

a) Reduce the scope of UI test automation to a smoke test suite
b) Execute the full regression test suite separately from the build pipeline
c) Perform boundary value analysis manually
d) Replace the existing test automation tool

Select ONE option.

Question #16 (1 Point)

What is a good reason to ask: “Is the test case highly repeatable?” when selecting and prioritizing test cases for test automation?

a) A highly repeatable test case will be easier to implement
b) A highly repeatable test case should not be automated
c) A highly repeatable test case has potential for a good ROI
d) A highly repeatable test case is already proven to run well

Select ONE option.

Question #17 (1 Point)

Which of the following is a challenge that can only be addressed by test automation?

a) There is a need to integrate test results into a development pipeline
b) There are still licenses for the test automation tool available
c) Manual intervention in executing test cases is needed
d) The specification is unclear, but testing must start now

Select ONE option.

Question #18 (1 Point)

Which of the following is a test condition that is difficult to automate?

a) It is possible to have many data combinations within the system
b) The UI must be consistent across different platforms
c) The system must work even if thousands of users are online
d) The functional suitability of the system must be tested on different devices

Select ONE option.

Question #19 (1 Point)

How does test automation facilitate getting a product to market in a timely manner?

a) By following a shift-left approach and enabling parallel test execution
b) Test automation facilitates timely product to market by reducing manual effort to develop test cases
c) Test automation helps decrease manual testing time by reducing the effort to cover the scope of testing
d) Test automation can cover more data combinations in the same time as manual testing

Select ONE option.

Question #20 (1 Point)
Which of the following is the best reason for automating confirmation testing of a defect?

a) To close a gap in the existing test automation
b) To ensure that the fix to a defect works and continues to work
c) To justify the time spent finding a defect based on its severity
d) To test the configuration management process

Select ONE option.

Question #21 (1 Point)
Which of the following approaches is MOST suitable for testing operationally relevant scenario "Update of the software"?

a) Failover testing
b) Backup and restore point testing
c) Security testing
d) Operational documentation review

Select ONE option.

Question #22 (1 Point)
Which of the following includes all the items that must be taken into account in a good test automation deployment strategy?

a) Test environment; people; application access; test script storage; test data provisioning
b) Tools; test data; application access; test script storage; software licenses
c) Test environment; tools; requirements; test script storage; test data provisioning
d) Test environment; tools; application access; test script storage; test data provisioning

Select ONE option.

Question #23 (1 Point)
Which of the following is NOT a consideration that a TAE should take into account when developing and deploying a TAS?

a) Test environment configuration
b) Test tool licensing requirements
c) Central storage for test scripts
d) Manual test case design techniques

Select ONE option.

Question #24 (1 Point)
Which one of the following technical issues can lead to a risk for the project/product?

a) Delays in introducing test automation
b) Wrongly defined keywords
c) Staffing issues
d) Delays in updating the TAS

Select ONE option.

Question #25 (1 Point)
Which of the following is important when mitigating test automation deployment risks?

a) The right people must be available during the deployment
b) The right time of the day for the deployment must be selected
c) The TAS needs to be controlled under configuration management
d) The SUT must already be installed

Select ONE option.

Question #26 (1 Point)
Which of the following would NOT be considered a component of the test automation environment?

a) Tools
b) System Under Test (SUT)
c) Test suites
d) Test Automation Architecture (TAA)

Select ONE option.

Question #27 (1 Point)
Which of the following option contains ALL correct MAJOR infrastructure components of test automation:

a) Network, interface with the SUT, host machines
b) Platform, network, code
c) Host machines, platform, proxy
d) Code, host machines, network

Select ONE option.

Question #28 (1 Point)

A Test Automation Engineer (TAE) is designing automated tests for a web application that stores records in a database. Which of the following statements is NOT correct regarding the definition of test automation data and interface requirements for this system?

a) The TAE can use browser automation for UI testing and an API for database interaction testing

b) The Test Automation Architecture (TAA) must be used to define all test conditions

c) Contract testing can be employed to verify compatibility between the web application and the database system

d) User interface testing should be performed on both desktop and mobile devices to ensure cross-platform compatibility

Select ONE option.

Question #29 (2 Points)

Sprint	Number of test cases at the end of the sprint	Savings achieved in the sprint	Cumulative savings	Investment in the sprint (implementation + maintenance)	Cumulative investment	Cumulative ROI
1	50	900	900	3155	4115	0.22
2	100	1800	2700	3310	7425	0.36
3	150	2700	5400	3465	10890	0.50
4	200	3600	9000	3620	14510	0.62
5	250	4500	13500	3775	18285	0.74
6	300	5400	18900	3930	22215	0.85
7	350	6300	25200	4085	26300	0.96
8	400	7200	32400	4240	30540	1.06
9	450	8100	40500	4395	34935	1.16
10	500	9000	49500	4550	39485	1.25

The above table shows the progress of and return on the automated test case development. The team has previously defined 500 test cases that were executed manually. The average test case manual execution time is 10 minutes, while with test automation it is decreased to 1 minute. All the savings and investment calculations are found in the table.

Which sprint is the turning point for the return on investment of the test automation development efforts?

a) Sprint 6
b) Sprint 7
c) Sprint 8
d) Sprint 9

Select ONE option.

Question #30 (2 Points)

You have recently taken over the leadership of a test team that is responsible for the end-to-end validation of UI testing of a retail store. The team consists of one manual tester and one TAE. There have been constant complaints about testing, primarily highlighting both manual and test automation being time-consuming. There is no opportunity to add more TAEs to the group.

The TAF is currently not integrated into the CI/CD pipeline, and there has not been an ROI calculation performed yet. For that, the time numbers are provided in minutes below. Test execution is based on each sprint.

1. Time to run a test case manually
2. Number of automated test scripts implemented
3. Average maintenance time of an automated test script
4. Number of test cases
5. Average time to develop automated test scripts
6. Time to run an automated test case

Which two options cover the inputs for a Return on Investment calculation?

a) 1, 2, 5
b) 2, 3, 5
c) 4, 5, 6
d) 1, 4, 6
e) 3, 4, 6

Select TWO options.

Question #31 (1 Point)

Which of the following metrics is important to collect to track the percentage of requirements covered by automated test cases?

a) Number of automated test cases
b) Functional coverage of test automation
c) Pass-fail ratio
d) Code coverage

Select ONE option.

Question #32 (2 Points)

You join a product development team as a new hire and as the only TAE. While developing the automated test cases, you see that some of your test cases are unreliable, not repeatedly providing the same test results due to changing test data. It turns out that other testers are using some of the same testware as your TAS.

Which of the following organizational considerations did you miss to identify before starting the TAS development work?

a) Policies and practices for software development
b) Existing active test automation projects and their status
c) Test tools and licenses
d) Availability of separate test data and test environments

Select ONE option.

Question #33 (2 Points)

The CIO of a healthcare company hires you as a consultant for a 6-week assessment. Your responsibility is to provide a list of recommendations on how the company could improve their test automation practices across the organization.

Which of the following project characteristics will help you define successful test automation goals that will enable you and the CIO to convince the TAEs to follow the recommended changes?

a) Management support and budgeting
b) Maturity of the project
c) Team knowledge and relevant experience
d) Create a new architecture

Select ONE option.

Question #34 (2 Points)

You join a company as a Quality Architect. Your first assignment is evaluating the TAS of a small subdepartment of the IT department. This group is focused on payment solutions. Currently, the TAS is only capable of checking the API's status and ability to connect to services. Which of the following quality characteristics should you evaluate first?

a) Portability
b) Reliability
c) Maintainability
d) Functional completeness

Select ONE option.

Question #35 (1 Point)

Which one of the following decisions is NOT typically made by a strategic test automation person during the consolidation of test automation reports?

a) Advise business representatives on new features to be added in future releases
b) Advise developers on areas to improve in the code
c) Identify trends and perform root cause analysis
d) Advise on overall software development processes

Select ONE option.

Question #36 (1 Point)

Which describes the analysis needed to ensure that the same test automation steps are not repeated across multiple scripts?

a) Cost transitioning
b) Data sharing
c) Functional overlap
d) Test execution preconditions

Select ONE option.

Question #37 (1 Point)

What factors should be considered from a quality assurance perspective to provide a smooth and easy transition from manual tests to automated ones?

a) Test tool licenses
b) Component testing coverage
c) Coverage
d) Availability of the CI/CD System

Select ONE option.

Question #38 (1 Point)

What CI/CD process is leveraged to include an additional step for automated UI tests within the application build process?

a) Build orchestration tool
b) Pipelines
c) Test harness
d) Code repository

Select ONE option.

Question #39 (2 Points)

Your organization has invested in the development of a brand-new TAS. It has been utilized as both a standalone tool for the test team and leveraged within the CI/CD pipeline. You are responsible for evaluating its effectiveness and suggesting areas for improvement. After three sprint cycles, you make the following observations:

1. Although test cases are automated, there is a significant amount of manual hours spent creating initial user accounts and enabling their access within the application database.
2. The team is spending a significant amount of time updating test automation code related to the application home page in several different automated test cases. This is because developers have been refactoring and renaming object properties.
3. As the team creates more automated test cases, the CI/CD process seems to be losing its velocity.

Which of the following set of changes should be made to address these observations?

a) Only use one user account for all test cases, do not automate the home page since it is changing constantly, and add more hardware resources to the CI/CD environment.
b) Create automated precondition test scripts, identify opportunities to decompose and modularize test scripts, and decrease the pipeline scope of integrated tests to the most critical ones.
c) Virtualize the database with default data, ask the developers to stop changing object properties on the home page, and only use one automated test case in the CI/CD pipeline.
d) Ask the development team to create a batch process that will create user accounts for the test team, ask for more TAEs on the team to keep up with changes, and do not include UI tests in the CI/CD pipeline.

Select ONE option.

Question #40 (2 Points)

You join an ongoing project where there is a TAS that needs some refactoring and functional extension due to recent business requests. There is documentation for the TAS which was updated based on the project load and capacity.

Which of the following steps should be considered during refactoring the existing functionality of the TAS?

i. Ignore the documentation as it was outdated already
ii. Disable the failing test suites
iii. Make a list of additional possible improvements
iv. Update the documentation of the TAS based on the changes
v. Change the dependencies of the TAS without any investigations

a) i, ii, v
b) ii, iv
c) i, iii, v
d) iii, iv

Select ONE option.