

# ISTQB

## Exam Questions CT-TAE

Certified Tester Test Automation Engineer



#### NEW QUESTION 1

You are using a gTAA to create a TAS for a project. The TAS is aimed specifically at automating a suit of existing manual test cases for standalone desktop applications. All the interfaces between the TAS and SUT will be from the CUI of the application. Which of the following layers of the gTAA should you focus on for the TAS?

- A. The test Generation layer
- B. The Test Definition layer
- C. The Test Adaption layer
- D. The Test Execution layer

**Answer: C**

#### NEW QUESTION 2

You are working on a TAS for standalone application. The automated tests are developed based on a automation framework that allows interaction with GUI elements using on object orientated API. The GUI elements include menus, buttons, radio buttons, text toolbars and their properties. Whilst automating a test, you have discovered that the GUI elements of some third party components are not identifiable by the automated tool you are using. Which of the following is the FIRST step that you take to investigate this issue?

- A. Verify the testability support with the providers of the third party components
- B. Verify whether the GUI identification depends on the browser.
- C. Adopt an approach that uses the coordinates of the GUI elements instead
- D. Verify whether naming standards for variables and have been defined for the current automation solution

**Answer: A**

#### NEW QUESTION 3

Which of the following attributes should NOT be included in a test execution report associated with a suite of automated tests?

- A. Summary of the test execution results
- B. System/Application under test and its version
- C. Defect clusters identified during test execution
- D. Environment in which the tests have been executed

**Answer: C**

#### NEW QUESTION 4

When the SUT provides insight into the behaviour of the system, providing the users the with the status of the various actions performed so that they can check that expected behaviour equals actual behaviour, what is this called?

- A. Portability.
- B. Maintainability.
- C. Observability.
- D. Controllability.

**Answer: C**

#### Explanation:

Reference: <https://www.toptal.com/designers/ux-consultants/how-to-conduct-usability-testing-in-6-steps>

#### NEW QUESTION 5

You are implementing test automation for a project that has a business critical application A test execution tool is being used to run automated regression tests. The results from the test execution tool are very important and need to be 100% accurate. You want to merge the test automation results with the test management system that also records the manual test results so that managers can make informed decisions about the progress quickly. Which layer of the gTAA will be used to ensure the proper reporting occurs and the interfaces to the test management system are handled?

- A. The reporting layer
- B. The logging layer
- C. The execution layer
- D. The adaptation layer

**Answer: A**

#### NEW QUESTION 6

New features have been added for the current release of a SUT. Which action would NOT be appropriate for the TAE to perform when evaluating the impact on the TAS?

- A. Gather feedback from the Business Analysts to determine if the current TAS will meet the needs of the new features.
- B. Review existing keywords to see if they need to be modified.
- C. Run existing automated tests against the updated SUT to verify and record any changes to their correct operation.
- D. Evaluate compatibility with existing test tools and, where necessary, identify alternative solutions.

**Answer: A**

#### NEW QUESTION 7

Your organisation has successfully implemented a Test Automaton Solution (TAS) for a new project which has since been delivered into production via a number of sprints. A series of maintenance releases are now planned.  
Some improvements were made to the Test Automation Architecture (TAA) as a result of feedback from the early sprints. The TAA improvements affected the TA, and the TAS was changed for the final sprint.  
The new version of the TAS was generally well received but some performance and usability issues were encountered with the TAS which have yet to be addressed.  
The test automation engineers supporting the maintenance releases must decide whether to use the enhanced TAS or the version that was used successfully for previous sprints.  
What is the BEST action to take next?

- A. Perform an analysis of risks versus benefits for the enhanced TAS and then decide which version to use.
- B. Use the previous version because this was proven to work
- C. It will be too risky to use the new version, with unresolved issues, for a live system.
- D. Use the new version because, despite some issues, it works, and the live system should not be tested using a different TAS.
- E. Use the new version of the TAS for the first maintenance release on a trial basis
- F. If issues are encountered, switch to the previous version for later releases until the issues are resolved.

**Answer: D**

#### NEW QUESTION 8

You have been asked to automate a set of functional tests at system Test level via the CLI of the SUT for the first release of a software system. The automated tests will be delivered to the team in charge of maintenance testing, who will use them for part of the regression testing. They have the following requirements.

- \* 1. The automated tests must be as fast and cheap to maintain as possible
- \* 2. The cost of adding new automated tests must be as low as possible
- \* 3. The automated tests must have a high level of independence from the tool itself

Which of the following scripting techniques would be MOST suitable?

- A. Data-driven scripting
- B. Keyword-driven scripting
- C. Linear scripting
- D. Structure scripting

**Answer: D**

#### NEW QUESTION 9

You are executing the first test run of a test automation suite of 200 tests. All the relevant information related to the state of the SUT and to the automated test execution is stored in a small database. During the Automated test run you observe that the first 10 tests pass, while an abnormal termination occurs when executing the 11th test. This test does not complete its execution and the overall execution of the suite is aborted. An immediate analysis of the abnormal termination is expected to be time consuming and you have been asked to produce a detailed report of the execution results for the first test run, as soon as possible.

What is the MOST important FIRST step to be taken immediately after the abnormal occurred when executing the 11th test?

- A. Re-run the test automation suite starting from the 12th test
- B. Return the database to a consistent state that allows subsequent tests to run
- C. Take a backup of the database in its current state
- D. So it can be analyzed later
- E. Re-run the test automation suite starting from the 1st test.

**Answer: C**

#### NEW QUESTION 10

Which of the following statements does NOT describe good practice for maintaining the TAS?

- A. The TAS must run in the development environment because development and programming knowledge are required for its maintainability
- B. The TAS must be under configuration management, along with the test suite, the testware artefacts and the test environment in which it runs
- C. The TAS must separate the test scripts from the environment in which it runs and from the associated harnesses and artefacts
- D. The TAS must consist of components that can be easily replaced without affecting the overall behavior of the TAS itself

**Answer: A**

#### NEW QUESTION 10

Designing the System Under Test (SUT) for testability is important for a good test automation approach and can also benefit manual test execution. Which of the following is NOT a consideration when designing for testability?

- A. Observability: The SUT needs to provide interface that give insight into the system.
- B. Re-useability: The code written for the SUT must be re-useable for other similar systems.
- C. Clearly defined architecture: The SUT Architecture needs to provide clear and understandable interfaces giving control and visibility on all test levels.
- D. Control: the SUT needs to provide interfaces that can be used to perform actions on SUT.

**Answer: B**

#### NEW QUESTION 14

A project consists of distributed teams working in a 24-hour environment, where activities happen at all hours of the day. This project adopts a CI (Continuous Integration) process when developer check-in code and consists of automated activities that include generating a build and deploying it to a test environment. Automated integration tests are run multiple times a day. The project has asked for a report containing the automation test results for every build, which must be available 24/7 to the project team.

Which of the following would be the BEST way to automatically provide this report?

- A. Store the execution results of the integration tests for the last build to a database (without overwriting the results from the previous builds), use this database to automatically update a dashboard containing the build history and test results accessible to the project team.
- B. Store the execution result of the integration tests for the last build to a database (overwriting the results from the previous build), automatically create a test execution report for this build send it via e-mail to the project team
- C. Store the execution results of the integration tests for the last build to a database (without overwriting the results from the previous builds). Automatically create a test execution report for this build and send it via e-mail to the project team
- D. Store the code coverage results of the integration tests for the last build to a database (without overwriting the results from the previous builds). And automatically create a chart showing the trend in code coverage and send via email to the project team.

**Answer:** A

#### NEW QUESTION 16

Which of the following is an important success factor for any significant automation project?

- A. The TAA must be designed for testability.
- B. The TAA is self-documenting
- C. The SUT must be designed for testability
- D. The SUT is self-documenting

**Answer:** C

#### Explanation:

Reference: <https://www.infoq.com/articles/success-test-automation/>

#### NEW QUESTION 20

You are the TAE for an Agile project which has six sprints for the current release. Sprint five is underway and the automated regression suite is due to start later today.

You have re-examined the results from the automated regression runs for the past four sprints. You notice that two test cases both reported a pass for sprints 1 and 4 but a fail for sprints 2 and 3. The failures have gone undetected and are therefore unexplained. Both test cases are closely coupled with other tests in the suite.

What course of action SHOULD you take?

- A. Run the regression suite as planned and see if the tests fail again if they do, determine the cause of failure.
- B. Remove the test cases from the regression suite and refer them to the test designer for manual testing for future sprints.
- C. Quarantine the test cases, run the regression suite without them, and perform root cause analysis on the test cases in parallel.
- D. Run the test cases manually no
- E. If they still pass, keep them in the regression suite, if they fail perform root cause analysis.

**Answer:** C

#### Explanation:

Reference: <https://www.softwaretestinghelp.com/regression-testing-tools-and-methods/>

#### NEW QUESTION 22

Consider a TAS deployed into production. The SUT is a web application and the test suite consists of a set of automated regression tests developed via GUI. A keyword-driven framework has been adopted for automating the regression tests. The tests are based on identification at low-levels of the web page components (e.g class indexes, tab sequence indexes and coordinates) in the next planned release the SUT will be subject to significant corrective maintenance (bug-fixes) and evolution (new features) Maintenance costs to update the test scripts should be as low as possible and the scripts must be highly reusable.

Which of the following statements is most likely to be TRUE?

- A. The keyword-driven framework is not suitable, it would be better to adopt a structured- scripting approach
- B. False positive errors are likely to occur when running the automated tests on the new releases without modifying the test
- C. The total execution time of the automated regression test suite will decrease for each planned release.
- D. The keyword-driven framework introduces a level abstraction that is too high and makes it difficult what really happens

**Answer:** A

#### NEW QUESTION 26

Which of the following describes how a test execution report is likely to be used?

- A. To understand which test step caused the failure in a test case
- B. To identify problematic areas of the SUT by keeping a history showing which test cases fail the most
- C. To measure coverage of the test basis by a test suite
- D. To record how a test case failure has been fixed

**Answer:** B

#### Explanation:

Reference: <https://www.guru99.com/how-test-reports-predict-the-success-of-your-testing-project.html>

#### NEW QUESTION 30

Which of the following success factors for a test automation project is TRUE?

- A. Automated tests must be designed to capture only the data that is strictly needed for comparing expected and actual results
- B. The test cases to be automated first must always be selected based on the number of times a test will need to be run
- C. The test cases to be automated must have a high dependency on particular data values
- D. Automated tests that fail due to changes in the requirements of the SUT should be promptly fixed rather than disabled from the test suite

Answer: D

### NEW QUESTION 33

What represents good practice when automating a manual regression test suite?

- A. Test data shared between tests should, where feasible, be stored and accessed from a single source to avoid duplication or introduction of error.
- B. All existing manual tests should be decomposed into several smaller automated tests to reduce functional overlap.
- C. Remove inter-dependencies between tests to reduce automation failures and costly error analysis.
- D. Once a manual test has been automated, execute it immediately to identify whether it operates correctly.

Answer: D

### Explanation:

Reference: <https://www.softwaretestinghelp.com/manual-to-automation-testing-process-challenges/>

### NEW QUESTION 34

Consider a TAS that uses a keyword-driven framework. The SUT is a web application and there is a large set of keywords available for writing the automated tests that relate to highly specific user actions linked directly to the GUI of the SUT. The automated test written with the keywords are statically analyzed by a custom tool which highlights repeated instances of identical sequence of keywords. The waiting mechanism implemented by the TAS for a webpage load is based on a synchronous sampling within a given timeout. The TAS allows checking a webpage load every second until a timeout value

- A. Changing the scripting approach to data-driven scripting
- B. Implementing keywords with a higher level of granularity
- C. Changing the wait mechanism to explicit hard-coded waits
- D. Establishing an error recovery process for TAS and SUT

Answer: C

### NEW QUESTION 36

You have implemented a keyword-driven scripting framework, which uses a test execution tool to run the tests. This has been in use for the past year and all of the teams now use this framework as the standard approach for test execution.

The teams all work on different aspects of the SUT and they have all experienced significant benefits in the use of this scripting framework. However, on closer examination, you have discovered that there are numerous instances where the teams have the same functionality to test but are using different keywords. One of your objectives for improvement is to create consistency among the teams. What is the BEST way to handle this situation?

- A. Move to a model-based approach to scripting where the models include the keywords.
- B. Do nothing, each team is working in isolation and they are all experiencing significant benefits in the way they are currently working.
- C. Provide each team with a set of guidelines and naming conventions for keywords.
- D. Create a central library of keywords and associated definitions for each team to use.

Answer: D

### Explanation:

Reference: <https://www.scriptworks.io/blog/automation-testing-framework/>

### NEW QUESTION 38

You are using a gTAA to create a TAS for a project. The TAS is aimed at automatically generating and executing test cases based on a use-case modeling approach that uses UML as a modeling language. All the interaction between TAS and SUT will only be at the API and GUI level. Which of the following components of the gTAA would you EXCLUDE from the TAS?

- A. The test reporting component of the test execution layer.
- B. The Test execution component of the test generation layer
- C. The test execution (test engine) of the test execution layer
- D. The Command Line Interface (CLI) component of the test adaptation layer

Answer: D

### NEW QUESTION 41

What is the PRIMARY advantage of using abstraction in the TAA?

- A. It makes it more flexible for future reuse and improvements
- B. It requires a higher skill level to implement
- C. It ensures that any scripting method will be supported
- D. It improves the performance of the TAS

Answer: A

### Explanation:

Reference: <https://www.techtarget.com/whatis/definition/abstraction>

### NEW QUESTION 42

Which of the following statements BEST describe aspects of the SUT to consider when designing a TAA?

- A. All the interaction between SUT and TAS should be logged with the highest level of detail
- B. All the internal test interfaces of the SUT should be removed prior to the product release

- C. All the interface of the SUT affected by the tests should be controllable by the TAA
- D. All the external test interfaces of the SUT should be removed prior to the product release

**Answer:** A

#### NEW QUESTION 45

If model-based testing has been selected for the overall test automation approach for a project, how does that influence the layers of the TAA?

- A. All layers are used, but the test generation layer will be automated based on the defined model
- B. There will be no need for the execution layer
- C. No adaptation will be needed because the interfaces will be defined by the model
- D. There will be no need to design the tests for the API because those will be covered by the model

**Answer:** A

#### Explanation:

Reference: <https://www.guru99.com/automation-testing.html>

#### NEW QUESTION 50

You are planning the pilot for an in-house developed Test Automation solution (TAS).

Which two of the following would be important steps to take as part of the planning process?

- a) Review your organisation's current projects and identify which one would be most suitable to pilot the TAS.
- b) Ensure that the developers will provide the necessary commitment for the TAS deployment activities.
- c) Run a series of training workshops for new users of the TAS before they are asked to use it.
- d) Develop a project plan for the pilot and reserve the necessary budget and resources for its implementation.
- e) Ask the developers to provide any missing functionality during the deployment activities.

- A. a and b
- B. b and d
- C. c and d
- D. c and e

**Answer:** B

#### NEW QUESTION 53

Consider A TAS for testing a desktop application via its GUI. All the test cases of the automated test suite contain the same identical sequences of steps at the beginning (to create the necessary objects when doing a preliminary configuration of the test environment and at the end (to remove everything created –specifically for the test itself during the preliminary configuration of the test environment). All automated test cases use the same set of assertion functions from a shared library, for verifying the values in the GUI fields ( e.g text boxes).

What is the BEST recommendation for improving the TAS?

- A. Implementing keywords with higher level of granularity
- B. Improving the architecture of the application in order to improve its testability
- C. Adopting a set of standard verification methods for use by all automated tests
- D. Implementing standard setup and teardown functions at test case level

**Answer:** A

#### NEW QUESTION 57

What are the four horizontal layers of the gTAA?

- A. Test adaptation, test execution, test design, test definition
- B. Test generation, test execution, test definition, test APIs
- C. Test generation, test definition, test execution, test adaptation
- D. Test definition, test execution, test reporting, test adaptation

**Answer:** C

#### Explanation:

Reference: <https://www.slideshare.net/jannatindia/chapter-3-the-generic-test-automation-architecture>

#### NEW QUESTION 60

The Test Automation Manager has asked you to provide a solution for collecting metrics from the TAS that measures code coverage every time the automated regression test pack is run. The metrics must be trend based to ensure that the scope of the regression test pack continues to reflect enhancements made to the SUT - coverage must not drop and should ideally increase. The solution must be as automated as possible to avoid unnecessary manual overheads and errors. Which of the following approaches would BEST meet these requirements?

- A. Test automation cannot measure code coverage for the SUT, only the code for the automation tools and script
- B. The automated test cases would need to be run manually with a code coverage and reporting tool running in the background.
- C. The automated testware would record overall code coverage for each run and add the figure to a new row in a pre-formatted Excel spreadsheet
- D. You would then present the spreadsheet to stakeholders so they could look for changes in coverage.
- E. The automated testware would record overall code coverage for each run, export the data to a pre-formatted Excel spreadsheet that automatically updates a trend analysis bar chart for you to distribute to stakeholders.
- F. The automated testware would record the pass/fail rate of each regression test case, export the data to a pre-formatted Excel spreadsheet that automatically updates a trend analysis success rate bar chart and emails it to stakeholders.

**Answer:** C

**NEW QUESTION 61**

Consider a TAS that is going to be deployed for the first time. The TAS requires share resources and run it its own test environment. The infrastructure for the TAS has been created along with maintenance procedures. It is very unlikely the TAS will be required to work in other target Environments. There is a high-risk that when the TAS is deployed in its own test environment, a number of existing application will no longer work because of conflicts with the existing shared resources. Which of the following activities would you expect to be MOST effective at mitigating the risk associated with the first deployment of the TAS?

- A. Testing the TAS for application compatibility issues in the target environment
- B. Testing the TAS for its ability to be implemented in other target test environments.
- C. Testing the TAS for regressions due to optimization that fix non-functional issues.
- D. Testing the TAS for ITS ability to run a shared test environment

**Answer: B**

**NEW QUESTION 66**

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