ISTQB

Exam Questions CT-TAE

Certified Tester Test Automation Engineer

NEW QUESTION 1
Your goal is to verify completeness, consistency and correct behavior of an automated test suite. The TAS has been proven to successfully install in the SUT environment. All the preliminary checks to verify the correct functioning of the automated test environment and test tool configuration, installation and setup have successfully completed.
Which of the following is NOT a relevant check for achieving your goal in this scenario?

A. Checking whether all the test cases contain the expected results
B. Checking whether the post condition have been fulfilled for all the test cases
C. Checking whether the loading of the TAS is repeatable in the SUT environment
D. Checking whether all the test cases produce repeatable outcomes

Answer: D

NEW QUESTION 2
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 3
What is NOT a factor in considering when you are asked to ensure an effective transition from manual to automated tests?

A. Complexity to automate the manual test cases
B. Correctness of test data and test cases
C. The look and feel of the SUT
D. The controllability of the SUT

Answer: C

NEW QUESTION 4
You have executed an automated test suite for a product that was released into production. Although all the tests passed, there was a major failure in production in an area that was covered well by your automated tests.
You have run the automated tests again and one of the tests is now failing and this is directly related to the production defect that was raised. You decide to run the automated test suite again on the same version of the SUT and the test now passes.
What SHOULD you do now to verify the validity of the automated tests?

A. Remove the intermittently failing test from the test suite and investigate the reason why the test sometimes passes and sometimes fails.
B. Check that the production defect that was reported was an actual defect
C. Run the automated test suite again and if the test now passes - do nothing
D. Reference: https://www.researchgate.net/publication/341396240_Intermittently_Failing_Tests_in_the_ Embedded_Systems_Domain

Answer: A

NEW QUESTION 5
You identified a suitable project to pilot an automation tool and planned and conduced a pilot. The pilot has been successful and tool Is being deployed within your organization, with a plan to increase tool use by the one project at a time. During this rollout some test processes will be changed slightly to gain additional benefits from using the tool.
In the pilot project, a small set of manual tests were automated for the first time. You are currently monitoring the test automation efficiency and this reveals that the automation regime for the tests is not yet mature.
Which of the following statements is TRUE?

A. The approach used for deployed this tool is aligned to the standard success factor for deployment
B. The pilot project should have been critical so that maximum benefits were delivered
C. The target defined for the project was inappropriate, because the automation regime for the automated tests at the end of the pilot is not yet mature.
D. The test process should be radically changed to gain additional benefits from using the tool.

Answer: A

NEW QUESTION 6
A SUT has an existing automated test suite.
Which of the following statements relating to the introduction of new features in the SUT is TRUE?

A. Automated tests are not affected by the introduction of a new feature and running them against the new SUT is a waste of effort
B. The introduction of a new feature could require updates or additions to the testware components
C. The test automation engineer should work with the business analysts to ensure the new feature is testable
D. It is generally more difficult to automate test cases for a new feature as the development has not yet started

Answer: B

NEW QUESTION 7
You are reviewing the testability of your SUT.
Which of the following BEST refers to the characteristic of OBSERVABILITY?

A. The ability of the SUT to perform its intended function for a specified period of time
B. The ability to exercise the SUT by entering inputs, triggering events and invoking methods
C. The ability of the SUT to prevent unauthorized access to its components or data.
D. The ability to identify states, outputs, intermediate result and error messages in the SUT

Answer: D

NEW QUESTION 8
You are implementing a TAS for a system that has been live for over three years, using a hybrid waterfall and agile lifecycle. Live updates are made on a monthly basis.
There is no test team, with developers designing and executing unit and integration tests with some degree of automation and business analysts designing and executing manual tests at the system level. No formal test process exists, although the system has proved relatively stable for most of the time.
Unfortunately, the last two monthly releases were problematic with regression defects found in production. Your priority is the automation of functional regression tests at the system level, the budget for this has been approved by project stakeholders.
The Business Analysts have identified which test cases are most suitable for regression. You must use the organisation's long standing commercial automation tool which has passed a proof of concept in the platform for the system in question.
Which of the following suitability criteria needs the MOST attention for the TAS?

A. Technical planning in support of ROI analysis
B. Frequency of use.
C. Compatibility and tool support
D. Maturity of the test process

Answer: C

Explanation:
Reference: https://www.softwaretestinghelp.com/guide-to-functional-testing/

NEW QUESTION 9
You are testing a major enhancement to an air traffic control user interface. You have use of a sophisticated pre-production test environment, created specifically for large scale automated regression, performance and security testing. The window for regression testing is limited and must successfully conclude, with no major regressions remaining, before the non-functional testing starts.
You have been using the same version of the TAS for the last few releases, each time completing the automated regression test suite in a single overnight run. However, due to the latest enhancements for the SUT, you believe there is a risk that the test suite may no longer complete
overnight and therefore delay performance and security testing.
Which option would be the BEST and MOST cost-efficient approach to mitigate this risk?

A. Create a mirror of the pre-production test environment and split the regression test suite to run in parallel across the environments.
B. Split the regression test suite into multiple parts, running in the environment across consecutive nights.
C. Analyse the regression test suite and remove test coverage duplication and redundancy.
D. Introduce better coding practices for the automation scripts, including coding guidelines, reviews and improved static analysis.

Answer: A

Explanation:
Reference: https://www.guru99.com/regression-testing.html

NEW QUESTION 10
Which of the following statements about the reuse of TAS artefacts is TRUE?

A. Reusable TAS artefacts can include components (or parts of components) associated with different layers of the TAA
B. To enable reuse of TAS artefacts, a good design for reuse is built into the TAA and to further action are needed during the TAS lifecycle
C. Communications maintenance and improvements for reusing TAS artefacts are modify addressed during the design of the TAA
D. Reusable TAS artifacts associated with the definition layer of the TAA include the adaptors to the SUT components and/or interfaces

Answer: B

NEW QUESTION 10
Consider the following layers of the gTAA structure:
* a. Test generation layer
* b. Test definition layer
* c. Test execution layer
* d. Test execution layer
Consider the following capabilities associated with these layers.
Acquire all the necessary resources before each test and release all after run, in order to avoid interdependences between test
Allow the automated test scripts on an abstract level to interact with components, configurations and interfaces of the SUT.
Design test directives that allow configuring the algorithms used to automatically produce the test cases a given model of the SUT.
Allow the definition and implementation of test cases and data by means of templates and/or guidelines.
Which of the following BEST matches each layer with the appropriate capability?

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

Answer: C

NEW QUESTION 14
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 19
A major component of your organisation's Test Automaton Solution (TAS) is a popular open-source third-party capture-replay tool for automated functional testing.
Which two of the following must the Test Automation Engineer (TAE) ensure happens for this TAS?
a) The third party tool is placed under configuration management control.
b) The annual support and maintenance costs are agreed with the tool's vendor.
c) It is Important to obtain information about updates and new versions of the tool so that the third party tool is kept up to date.
d) Ensure that the TAS test scripts are integrated into the tool's framework.
e) Ensure that no changes are made to the tool, because modifications are not allowed for third party products.

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

Answer: A

NEW QUESTION 21
Consider a SUT that small run on multiple platform during the execution of automated test runs. In each test run an automated test suite needs to be executed, with the same version of the TAF, against the same version of the SUT of each platform. Each platform shall have its own dedicated test environment. Your goal is to implement a process as automated as possible (i.e with minimal manual intervention) that allows implementing a consistent setup of the TAS across the multiple test environments.
Which two of the following aspects are MOST relevant for achieving your goal in this scenario?
A) The configuration of the TAS uses automated installation scripts
B) The TAF saves the logs needed to debug errors in XML format
C) Features of the TAF not used by the automated tests have been tested
D) All the automated test cases contain the expected results
E) The TAS components are under configuration management

A. A and e
B. B and c
C. B and d
D. A and d

Answer: A

NEW QUESTION 24
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 learn in change 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 25
Your functional regression test automation suite ran successfully for the first two sprints and no failures were encountered during the runs. The automation suite records the status of each test case as either 'pass' or 'fail' and has excellent recovery capability built in.
For the third sprint, the TAS log reported several test cases with a status of 'fail'. You investigated each test case and found that most failures were due to a defect in one of the keyword scripts, rather than in the SUT. For those where the failure was in the SUT, defectreports were raised but several were returned by the developers asking for more information to enable them to reproduce the problem.
Which additional log items SHOULD you add to the TAS that would BEST improve failure analysis and defect reporting for future sprints?
a) Dynamic measurement information about the SUT.
b) A status of TAS error??, in additional to pass' and 'fail', for each test case.
c) Use of a colour coding scheme so that 'pass?? is in red and fail' is in green.
d) A counter to determine how many times each test case has been executed.

e) System configuration information including software/firmware and operating system versions.
f) A copy of the source code for all Keyword scripts executed.

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

Answer: B

NEW QUESTION 30
Assume that you are the TAE responsible for the correct functioning of a TAS, deployed in a test environment that consists of a few machines running the same version of the operating system. The TAS has been working and stable since its deployment, it has been used to run an automated test suite consisting of many similar automated test. The infrastructure team is planning to update the operating system on these machines by installing a new the service pack for security reasons. Since the vendor of the operating system assurance full backward compatibility, the infrastructure team assurance that there will be no impacts on the functioning of the TAS.
What is the BEST approach to confirm the correct functioning of the TAS in this scenario?

A. Verify the behavior of the automated tests by running a small tests, then gradually runthe remaining tests to confirm the correct functioning of the whole automated test suite.
B. Make sure that the infrastructure team has completed installing the service pack on the machines where SUT is running, then run the whole automated test suite to verify its behavior
C. Verify the behavior of the whole automated test suite by running all the automated tests
D. Do not run any tests because you can immediately confirm the correct functioning of the automated test suite

Answer: A

NEW QUESTION 35
You have inherited a TAS that is working well it uses keyword-driven scripting and was well architected. The automation architect who built the system has now moved on to another company. The TAS is working across several projects and has a multiple library of keywords, categorised by project. The individual project teams maintain these keyword scripts.
Based only on the given information, what is the MOST significant risk for the TAS?

A. The keyword driven scripts may become out of date if not maintained
B. The level of abstraction, coupled with the departure of the architect may make the system hard to maintain
C. New projects may not work as well with the TAS as the current projects
D. Because the keyword scripts are maintained by different teams, there is a likelihood that good coding standards are not followed

Answer: B

NEW QUESTION 38
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 system.
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 39
In order to achieve re-use of a TAS, where SHOULD the design for reuse occur?

A. At the code level
B. At the framework level.
C. At the TAS level
D. At the TAA level

Answer: C

NEW QUESTION 43
You are working as a TAE for a company who have been using a web test execution tool for a number of years. The tool has been used successfully on ten web applications in the past.
The company are developing a new web application which has a friendly User Interface, but the developers have used an object throughout the application which the tool is unable to recognise. As a result, you have no way of capturing the object or verifying the contents using the automation tool.
What is the first thing you should do about this problem?

A. See if the application can be run on a desktop and if the object can be recognised on the desktop by the tool.
B. Investigate whether the object can be recognised by other test execution tools in the market
C. Ask the developers to remove the object and replace it with some text fields
D. Ask the developers if they can change the object to something that can be recognised by the tool

Answer: B

Explanation:
Reference: https://www.softwaretestinghelp.com/web-application-testing/

NEW QUESTION 48
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 51
Consider a TAS that exclusively uses the APIs of a SUT. To make this work, significant changes have been required to the SUT by adding a set of dedicated test interfaces to the APIs. All the automated tests will use these test interfaces when interacting with the SUT. Assume that you are currently verifying the correctness of the automated test environment and test tool setup.
Which of the following would you expect to be the MOST specific risk associated with this scenario?

A. The connectivity from the TAS to the dedicated test interfaces will not work
B. The process of configuring the TAS will be error-phone due to manual intervention
C. The automated test cases will not contain the expected result
D. False alarms, that are unlikely to occur in the real world, will be observed during testing

Answer: D

NEW QUESTION 52
A regression test suite consist of 500 test cases which are all executed manually. The business case for a pilot project is based on the adoption of test automation using acommercial tool that will reduce the execution time by a factor of 90% for 100% of the tests in the regression test suite. The pilot project lasted one month (as planned) and you are currently its results. At the end of the pilot project, 40% of the regression tests have been automated and their execution time has been reduce by 60%.
Which of the following statements is TRUE in this scenario?

A. The duration of the pilot project was too short –it should last unit the success factors are achieved
B. The target defined for the business case is too accurate –it should not be measureable
C. The project selected for the pilot is too critical –if should not be too critical or too trivial
D. The target defined for the business case seems difficult to hit – it should be realistic

Answer: D

NEW QUESTION 57
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 61
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 62
If you are tracking the frequency that a test automation code reports a defect that is not really a defect, what metric are you gathering?

A. Tool scripting metrics
B. Automation code defect density

C. Trend metrics
D. The number of false-fail results

Answer: D

Explanation:
Reference: https://www.sealights.io/regression-testing/11-test-automation-metrics-and- their-pros-cons/

NEW QUESTION 66
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 68
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 are 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 72
You are a TAE working for a software house which provides quarterly releases of its software to its customers. There are many different versions of the SUT that need to be tested simultaneously by different tests teams.
Your TAS is complex and you need to ensure it remains consistent across the different SUT environments. What is the BEST and MOST efficient way to ensure each of the test teams use the same version of the TAS to test the different versions of the SUT?

A. Due to the complexities involved and the high risks associated with these releases, it would be best to revert to manual testing.
B. Produce comprehensive documentation of the TAS, installation and usage guidelines and provide training for each team member.
C. Install the TAS is a central repository and have an automated installation and configuration of the TAS from this repository to each of the SUT environments.
D. Develop a tool to track historical test results across the different SUT environments and look for trends.

Answer: C

NEW QUESTION 73
The GUI of a Customer Relationship Management (CRM) application has been delivered through internet Explorer with proprietary Active X and Java controls. This implementation enables rich client capabilities, but specific commercial automation tools are necessary to automate test cases at GUI of functional test cases. This is to demonstrate whether a small set of the commercial are able to properly recognize actions taken by a tester when interacting with GUI of the CRM application.
Which of the following scripting techniques would be MOST suitable in this scenario?

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

Answer: D

NEW QUESTION 78
Your TAS has been running successfully on a Windows/GUI based SUT for some years. The SUT has undergone minimal change over the years to maintain business as usual, deploying six-monthly releases for minor enhancements and bug fixes using a waterfall lifecycle.
The TAS has not changed at all during this period. The current project for the SUT will be using the Scrum methodology to deliver a more modern, competitive, user interface. It is in the release planning stage with an agreed release backlog and set of sprints outlined.
The move from lengthy waterfall releases to shorter sprints has led you to conduct a review of the current TAS to make sure it is robust and fully optimised for the timescale challenges of the new project.
What two steps would be BEST to undertake during the review?
a) Ensure that new automation code is using the same naming conventions as existing code.
b) Perform a full regression run in Sprint 1 to identify what improvements could be made to the TAS for future sprints.
c) Ensure that the TAS is using the latest libraries for the operating system.
d) Review the functions that act upon the controls for the GUI for possible consolidation.
e) Involve the test team to see what ease-of-use improvements they would like to see made to the TAS.

A. c and d
B. b and c

C. a and b
D. d and e

Answer: B

NEW QUESTION 81
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 84
As a TAE you are evaluating a functional test automation tool that will be for several projects within your organization. The projects require that tool to work effectively and efficiently with SUT??s in distributed environments. The test automated tool also needs to interface with other existing test tools (test management tool and defect tracking tool.) The existing test tools subject to planned updates and their interface to the test automated tool may not work property after these updates.
Which of the following are the two LEAST important concerns related to the evaluation of the test automation in this scenario?
A) Is the test automation tool able to launch processors and execute test cases on multiple machines in different environments?
B) Does the test automation tool support a licensing scheme that allows accessing different sets?
C) Does the test automation tool have a large feature set, but only part of the features
will be sets?
D) Do the release notes for the planned updates on existing specify the impacts on their interfaces to other tools?
Does the test automation tool need to install specific libraries that could impact the SUT?

A. A and C
B. A and E
C. B and E
D. C and D

Answer: C

NEW QUESTION 85
Which of the following BEST describes why it is important to separate test definition from test execution in a TAA?

A. It allows developing steps of the test process without being closely tied to the SUT interface.
B. It allow choosing different paradigms (e.g event-driven) for the interaction TAS and SUT
C. It allows specify test cases without being closely tied to the tool to run them against the SUT
D. It allows testers to find more defects on the SUT

Answer: C

NEW QUESTION 86
A web application was released into production one year ago, it has regular release which follow a V-model lifecycle and testing is well-established and fully integration into the development lifecycle. You have been asked to implement a TAS for the regression test suite. The regression tests have been developed via the GUI and are expected to be run at least four times a month, for each planned release, for the whole operation solution life of thesystem (six years). Each screen of the GUI uses several third-party controls which are not compatible with the existing automation solutions. The environment for the automation will be stable, fully controllable and separated from other environments (development, staging, production).
What could be the MOST problematic for this TAS?

A. Maturity of the test process
B. Complexity to automate
C. Frequency of use
D. Sustainability of the automated environment

Answer: D

NEW QUESTION 90
You have been asked to develop test automation for a legacy system that is going to go through a series of infrastructure migrations. The scripts will be used to verify basic functionality during these infrastructure changes Your Test Analysts have some programming skills and need a solution that is simple and fast. Maintainability of the scripts is not a consideration because no changes to the software are anticipated.
Which of the following is the BEST scripting approach in this situation?

A. Structured scripting
B. Capture-replay scripting
C. Model-Based scripting
D. Linear scripting

Answer: B

NEW QUESTION 92
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 94
Which of the following CORRECTLY describes how automation SHOULD be applied to confirmation testing?

A. Confirmation tests are not good candidates for automation as they are not designed to run many times
B. Confirmation tests should only be automated if they fail to pass on the first attempt
C. Confirmation tests can be automated and incorporated into an automated regression suite to show whether defects that were previously fixed reoccur
D. A confirmation test should only be automated after it has been run manually

Answer: C

NEW QUESTION 98
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