A4Q
Selenium Tester
Foundation

Answer Sheet - Mock Exam V1.1

Released
Version 1.1 - 2019

Alliance for Qualification

Revision History

Version	Date	Remarks
Version 2018	5 August 2018	1. Release version
Version 2019 (1.1)	03/2019	Update Q14

Answer Key

Question Number	Correct Answer	K-Level	LO
1	D	Keywords	1
2	B	Keywords	1
3	A, D	STF-1.1	K2
4	A	STF-1.2	K2
5	D	STF-1.3	K2
6	B	STF-1.4	K2
7	C	STF-1.5	K2
8	A	STF-1.6	K2
9	C	STF-1.7	K2
10	C	Keywords	K1
11	C	Keywords	K1
12	C	STF-2.1	K3
13	B	STF-2.2	K3
14	C	STF-2.3	K3
15	D	STF-2.1	K2
16	A	STF-2.2	K2
17	B	STF-2.3	K2
18	A	Keywords	K1
19	B	Keywords	K1
20	A	STF-3.1	K3
21	B, D	STF-3.2	K3
22	D	STF-3.3	K3
23	B	STF-3.4	K3
24	A	STF-3.6	K3
25	B	STF-3.7	K3
26	D	STF-3.8	K3
27	C	STF-3.5	K4
28	C	STF-3.1	K2
29	B	STF-3.2	K2
30	A	STF-3.3	K2
31	A	STF-3.4	K2
32	B	STF-3.5	K2
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34	B	STF-3.7	K2
35	B, D	STF-3.8	K2
36	A	Keywords	K1
37	C	STF-4.1	K2
38	C	STF-4.2	K3
39	D	STF-4.3	K4
40	C	STF-4.4	K4

Questions with Justifications

Question 1   Keywords   K1

What is capture/playback?

A.   Incorrect. This is the definition of a wrapper given in the Glossary appendix in STF syllabus
B.   Incorrect. This is the syllabus definition for WebDriver
C.   Incorrect. This is the ISTQB Glossary for generic test automation architecture
D.   Correct. This is the ISTQB Glossary definition

Question 2   Keywords   K1

Which of the following is the BEST definition of a test oracle?

A.   Incorrect. This does not align with ISTQB Glossary definition of a test oracle
B.   Correct. The ISTQB Glossary defines a test oracle as a source to determine expected results to compare with the actual result of the system under test
C.   Incorrect. This does not align with ISTQB Glossary definition of of a test oracle
D.   Incorrect. This does not align with ISTQB Glossary definition of of a test oracle

Question 3   STF-1.1   K2

Which two of the following five answers are advantages to using test automation?

A.   Correct. As per section 1.1, automation allows us to run tests that manual testers cannot, for example, some reliability and performance testing
B.   Incorrect. As per section 1.1, false positives occur when automation failures are not SUT failures, but are due to defects in the automation itself
C.   Incorrect. As per section 1.1, concentrating on automation can make testers lose sight of risk management for the project
D.   Correct. As per section 1.1, long, boring, brain numbing tests can be automated to keep the testers from making inattention mistakes
E.   Incorrect. While the statement is true, technical debt is not a good thing, as per section 1.1 and the glossary

Question 4   STF-1.2   K2

What is the value of adding additional intelligence via programming to an automated script?

A.   Correct. As per section 1.2, by adding extra intelligence to the script, automation can add
        more value by more often actually completing the test rather than failing it early
B.   Incorrect. As per section 1.1, the added programming can add technical debt, especially if
        done poorly
C.   Incorrect. As per section 1.2, because an automated script requires more analysis, more
        design, more engineering and more maintenance than a manual script, we must figure in the
        cost of creating it
D.   Incorrect. As per section 1.2, adding intelligence to the script through added programming
        can prevent many failures and add value to the testing

Question 5   STF-1.3   K2

Which of the following is NOT an interface level that we could use automation for testing?

A.   Incorrect. The GUI level can be used for automation as per section 1.3
B.   Incorrect. The service level can be used for SOAP, REST, etc. testing as per section 1.3
C.   Incorrect. The protocol level can be used for HTTP, HTTPS, etc. testing as per section 1.3
D.   Correct. The abstract level is not an automation level that we can use automation for. As
        per section 1.3, this is not a level of interface that automation would use. Instead, we
        discuss in section 1.2, and in several other places in the syllabus the advantage of using
        abstraction in different ways

Question 6   STF-1.4   K2

Which of the following is a potential benefit that can be obtained by using Selenium WebDriver?

A.   Incorrect. Per section 1.4, this is a risk, rather than a potential benefit
B.   Correct. Per section 1.4, this is a potential benefit, rather than a risk
C.   Incorrect. The pesticide paradox (explained in the ISTQB Foundation syllabus) tells us that
        automated tests, when run over and over, tend to find fewer and fewer bugs. As section 1.4
        says, "Manual testers are more efficient at finding bugs than is automation"
D.   Incorrect. As explained in section 1.6, "automation tends to be quite expensive in both
        human effort and tool resources. There is little to no positive return on investment in the
        short run; value comes over the long run. Years rather than months."

Question 7   STF-1.5   K2

Into which part of the test adaptation layer does Selenium fit?

As stated in section 1.5, "Selenium WebDriver fits into the test adaptation layer, providing a programmatic way to access the SUT through the browser interface." Since the browser interface is a graphical user interface, the correct answer is C.

Question 8   STF-1.6   K2

Consider the following metrics that might be useful, given in the syllabus:

Of the metrics, i, ii, and iii are generally useful to measure regression test automation return on investment. Selenium is used to test application features across various browsers, as explained in the syllabus, so vi and vii are useful. Selenium is less useful for integration testing and unit testing, so iv and v are unlikely to be useful.
Therefore, the correct answer is A.

Question 9   STF-1.7   K2

Which of the following Selenium tools can run tests across multiple machines?

As stated in section 1.7 of the syllabus, "Selenium Grid…enables running test scripts across many machines with many configurations." Therefore, C is correct.

Question 10   Keywords   K1

What is XPath?

A.   Incorrect. This is the definition of a CSS selector from the syllabus appendix
B.   Incorrect. This is the definition of a python function from the syllabus appendix
C.   Correct. This is the definition from the syllabus appendix
D.   Incorrect. This is the definition of an iframe from the syllabus appendix

Question 11   Keywords   K1

What is a tag in HTML?

A.   Incorrect. By definition. See the Glossary appendix in STF syllabus
B.   Incorrect. By definition. See the Glossary appendix in STF syllabus
C.   Correct. By definition. See the Glossary appendix in STF syllabus
D.   Incorrect. By definition. See the Glossary appendix in STF syllabus

Question 12   STF-2.1   K3

Given the following code, which of the options best represents the resulting web page?

A.   Incorrect. Per section 2.1, the h1 heading should be more visually important than paragraph
         text, and the list should be unordered
B.   Incorrect. Per section 2.1, the list should be unordered
C.   Correct. Per section 2.1, the h1 heading is more visually important than paragraph text, and
         the list is unordered
D.   Incorrect. Per section 2.1, the comment should not be displayed and the list should be
         unordered

Question 13   STF-2.2   K3

Consider the following XML document:
Which of the following XPath expressions will find the value of UoM attribute for temperature in
New York?

A.   Incorrect. This XPath expression gives the text of the node, not an attribute
B.   Correct. This XPath finds the UoM attribute of the proper node
C.   Incorrect. There is no need to add text() function to the value of a node
D.   Incorrect. This is not a valid XPath expression

Question 14   STF-2.3   K3

Consider the following HTML document:
Which HTML element or elements will be found with the following CSS selector?

The correct answer is C. Let's decompose the selector given in the question:

`.big` – finds all elements which have the "big" class (there are two of them)
`.button` – finds all elements with the "button" class; there are two such elements, but only one is preceded by an element with the "big" class
.big + .button - finds the element with the "button" class that is immediately preceded by an element with the "big" class, which is the "Cancel" button

Question 15   STF-2.1   K2

Which of the following tags opens a new section?

In section 2.1, table 2, the "<div>" tag "defines a section in the document."
Therefore, the correct answer is D.

Question 16   STF-2.2   K2

Which of the following statements BEST captures the purpose of XPath in Selenium automation?

A.   Correct. As explained in section 2.1.1, "Automation with Selenium requires an understanding of HTML tags. To automate any GUI, the automator must be able to identify each unique control in the screen being manipulated." As explained in section 2.2, XPath is a way to navigate XML documents, with a web page being treated as an XML document.
B.   Incorrect. While section 2.2 does describe in detail the creation of XPath expressions, these expressions are used to locate objects. As explained in section 2.1.1, "Automation with Selenium requires an understanding of HTML tags. To automate any GUI, the automator must be able to identify each unique control in the screen being manipulated."
C.   Incorrect. According to section 2.3, this is the purpose of CSS, which "prescribe how the various HTML elements in a set of HTML documents should render, on the screen, on paper, or in other media"
D.   Incorrect. As stated in section 2.2, "XML always describes a tree format," while XPath is for navigating that tree

Question 17   STF-2.3   K2

Which of the following is NOT a way to use CSS in an HTML document?

Section 2.3 lists external style sheets, internal style sheets, and inline styles as the three ways CSS is used. Outboard style does not exist.
Therefore, the correct answer is B.

Question 18   Keywords   K1

What is a wrapper function?

A.   Correct. Per the appendix
B.   Incorrect. This is an extension of the appendix definition of WebDriver
C.   Incorrect. This is an extension of the appendix definition of a framework
D.   Incorrect. This is an extension of the appendix definition of DOM

Question 19   Keywords   K1

Which of the following is NOT a user prompt?

A.   Incorrect. An alert pops up as a modal dialog which forces the user to deal with it before dealing with the underlying screen as described in section 3.8
B.   Correct. An iframe is an HTML inline frame which can hold another HTML document as defined in the glossary
C.   Incorrect. A prompt is similar to an alert in that it pops up as a modal dialog which forces the user to deal with it before dealing with the underlying screen as described in section 3.8
D.   Incorrect. A confirm is similar to an alert in that it pops up as a modal dialog which forces the user to deal with it before dealing with the underlying screen as described in section 3.8

Question 20   STF-3.1   K3

What will be the output of the execution of following piece of code from the file "question.py"?

A.   Correct. This is the proper sequence of the proper lines that will be printed by Python logging facility
B.   Incorrect. The assertion will not throw an exception because test_data equals "Hello world"
C.   Incorrect. Wrong sequence of printed lines
D.   Incorrect. The assertion will not throw an exception because test_data equals "Hello world"

Question 21   STF-3.2   K3

Given the following piece of code:
What will be the result of its execution (assume that the test environment is configured correctly and all drivers are present). Choose two:

A.   Incorrect. There is no navigation to https://python.org page
B.   Correct. There is no navigation on dr1 after getting https://python.org page
C.   Incorrect. The get in fifth line will rise an exception and stop execution of the script. The last line of the script will not be executed
D.   Correct. The python_title variable contains the title of https://python.org page, and not its URL, giving it as the argument to the get method will raise an exception
E.   Incorrect. See the justification for right answers

Question 22   STF-3.3   K3

Given a frame with an ID of "frameID", which of the following is/are the best line(s) of code for changing the context of the test script to back from the frame to the page that the frame is in?

A.   Incorrect. Per section 3.3, you need to use the `switch_to.default_content()` method, and that is not done in this option
B.   Incorrect. Per section 3.3, you need to use the `switch_to.default_content()` method, and that is not done in this option
C.   Incorrect. Per section 3.3, this is the code for going to the frame
D.   Correct. Per section 3.3, this is the correct code

Question 23   STF-3.4   K3

Take into account the following excerpt from a web page:
```
<a href="https://python.org" id="python"><img src="python.png" /></a>
```

Which of the following answers contains the proper Python code for taking a screenshot of the image python.png? Assume that the variable driver contains the reference to the WebDriver object for the web browser displaying the page from which the excerpt has been taken.

A.   Incorrect. This piece of code does not find the proper HTML element
B.   Correct. This piece of code first finds the element enclosing the picture we are interested in, and then takes a picture of it with screenshot method
C.   Incorrect. This piece of code uses wrong method to take a picture
D.   Incorrect. This piece of code uses the wrong method to take a picture

Question 24   STF-3.6   K3

Given a checkbox with an ID = "checkbox1", which line(s) of code will get the Boolean value for the selected state of the checkbox?

A.   Correct. Per section 3.6, after you locate the UI element, you can use the `is_selected()` method to get the selected state of the element as a boolean value

B.   Incorrect. Per section 3.6, you need to locate the UI element first, and that is not done in this option

C.   Incorrect. boolean is not an available Selenium WebDriver method in Python

D.   Incorrect. `find_element_by_state()` is not an available Selenium WebDriver method in Python

Question 25   STF-3.7   K3

Given a dropdown menu with an ID = "dropdown1" and a dropdown option in the dropdown with a class name = "option3", which line(s) of code will select the dropdown option?

A.   Incorrect. Per section 3.7, you need to locate the dropdown first, and that is not done in this option

B.   Correct. Per section 3.7, after you locate the dropdown, you can use the `find_element_by_class_name` method to find the option, and then use the `click()` method to click on the option

C.   Per section 3.5 and 3.7, `find_element_by_class` should be `find_element_by_class_name` and `click` should be `click()`. Also, the ID and class name should be in quotes

D.   Incorrect. Per section 3.7, you need to locate the dropdown first, and that is not done in this option. Also, the class name should be in quotes

Question 26   STF-3.8   K3

Which line(s) of code will allow you to get the text from an alert?

A.   Incorrect. Per section 3.8, you need the text method applied to the `alert` in the second
         line to get the text within the alert; 'in alert' applies to assert statements, not
         `find_element_by_text`
B.   Incorrect. Per section 3.8, you need the `text` method applied to the `alert` in the second
         line to get the text within the alert; this is not done
C.   Incorrect. Per section 3.8, you should switch context to the alert first, but you don't. Also,
         you need the text method applied to the `alert` in the second line to get the text within the
         alert
D.   Correct. Per section 3.8, you need to switch context to the alert first, then get the alert text
         via the `text` method

Question 27   STF-3.5   K4

For efficiency, you want to create generic functions for locating WebElements.   Which of the
following is the BEST approach for such a generic function?

A.   Incorrect. Per section 3.5, IDs are not appropriate for code which is used in multiple places;
         also a tester may not be allowed to modify the SUT to add IDs
B.   Incorrect. Per section 3.5, a tester may not be allowed to modify the SUT to add class names
C.   Correct. Per section 3.5, you can use XPath in generic locators, using the different "By"
         strategies (by id, by class, etc.)
D.   Incorrect. There is no indication that there is link text assigned to the WebElements you
         need to locate

Question 28   STF-3.1   K2

Which of the following sentences about logging and reporting in test automation is correct?

A.   Incorrect. Logging shows details of test execution and reporting shows which test passed
         and which failed
B.   Incorrect. Logging in test execution usually shows errors of execution, but it also can show
         test data and which steps have been executed. Reporting shows which test passed and
         which failed.
C.   Correct. See STF syllabus section 3.1 for explanation
D.   Incorrect. Script sometimes contain decisions and loops, and exact execution sequence
         cannot be determined from the code of test scripts only. Logging is necessary. Also log
         usually contains concrete test data that have been used during test executions.

Question 29   STF-3.2   K2

Assuming that multiple tabs are open in a Chrome browser whose webdriver object has an identifier of "driver", how can the entire browser and all of its tabs be closed at once?

A.   Incorrect. driver.close() does not take an argument as defined in section 3.2.3 and our exercises
B.   Correct. This is the correct syntax as defined in section 3.2.3 and our exercises
C.   Incorrect. This will close the active window only, not the entire browser as defined in our exercises and section 3.2.3
D.   Incorrect. driver.quit() does not take an argument as defined in our exercises and section 3.2.3

Question 30   STF-3.3   K2

After working with a specific frame in a web page, which one of the following is the BEST approach to change the context back to the whole page?

A.   Correct. Per section 3.3, the switch_to.default_content() method is the best approach
B.   Incorrect. There is no JavaScript frame.back
C.   Incorrect. There is no method called getpage()
D.   Incorrect. Per section 3.3, windows have handles, not frames

Question 31   STF-3.4   K2

Which method of webdriver object takes screenshot of the whole screen and writes it to a file?

A.   Correct. Per section 3.4, this method takes a screenshot and saves it to PNG file
B.   Incorrect. This is a method of webelement not webdriver
C.   Incorrect. Method `get_screenshot_as_file` takes one argument
D.   Incorrect. Method `get_screenshot_as_file(<filename>)`, takes a screenshot and writes it to a file

Question 32   STF-3.5   K2

What is the main advantage of locating web page elements by their ID.

A.   Incorrect. While it is true, this is not a very important trait of this location strategy
B.   Correct. See the XML standard
C.   Incorrect. This is not true. The HTML and XML tags do not have to have an id attribute to form valid HTML and XML documents
D.   Incorrect. This is not true. It can be used in locating elements by id, CSS selector and XPath, but not in e.g., partial link or tag name strategy

Question 33   STF-3.6   K2

You want to get information on a particular WebElement. You ensure that the element does exist, and then call the method

```
ret_value = target_element.get_attribute('text')
```

Under what conditions might you get the return value None? Choose the most correct answer.

A.   Incorrect. While partially correct, if the WebElement had a property of `'text'` it would return that value as discussed in section 3.6 of the syllabus
B.   Incorrect. While partially correct, if the WebElement had an attribute of `'text'` it would return that value as discussed in section 3.6 of the syllabus
C.   Incorrect. Visibility has no bearing on the `get_attribute()` method as discussed in section 3.6
D.   Correct. Only if neither property nor attribute of `'text'` existed, the method would return None as discussed in section 3.6

Question 34   STF-3.7   K2

In the web application you are testing, you need to type text in a textbox. Which of the following is the BEST approach for typing text in a textbox using WebDriver?

A.   Incorrect. Per section 3.8 and the course for 3.3, the `switch_to` class is used for switching the context to windows, frames, and alerts, not for locating an element
B.   Correct. Per section 3.7, you will want to first clear the element, then type the string desired
C.   Incorrect. Per section 3.5, an absolute XPath is discouraged because it can break with the smallest change to the HTML structure
D.   Incorrect. There is no WebDriver `text(string_to_type)` method

Question 35   STF-3.8   K2

Which two of the following methods close an alert shown by web browser?

A.   Incorrect. This method closes active window in web browser
B.   Correct. This method dismisses an alert and closes it
C.   Incorrect. There is no such method in an alert object
D.   Correct. This method accepts an alert and closes it
E.   Incorrect. This method closes the web browser

Question 36   Keywords   K1

Which of the following is a good definition for a Page Object Pattern?

A.   Correct. This is based on the definition from the appendix
B.   Incorrect. This is the definition for a wrapper from the appendix
C.   Incorrect. This is the definition for Document Object Model (DOM) from the appendix
D.   Incorrect. This is the definition for a hook from the appendix

Question 37   STF-4.1   K2

In the web application you are testing, you get the state of several checkboxes. Which of the following is the BEST approach for making your test scripts maintainable?

A.   Incorrect. Per section 3.5, IDs must be unique in the DOM, and since the checkbox could be in reused code, more information is required to know if this is sound; also, it not possible to assign an ID to a state
B.   Incorrect. In HTML, tags are reserved words that identify elements and they cannot be interpreted if a programmer creates one
C.   Correct. Per section 4.1, code that is used repeatedly should be put in functions
D.   Incorrect. Per section 4.4, keywords are business actions or steps in a test case, and they would not apply in this case

Question 38   STF-4.2   K3

In the web application you are testing, a modal dialog should be dismissed when you click on the cancel button. Given the following code:

```
from selenium.webdriver.support import expected_conditions as EC
from selenium.webdriver.common.by import By
from selenium.common.exceptions import TimeoutException
def verify_dialog_dismissed(driver, element_id):
 try:
     element = wait(driver,5).until\
     (EC.[convenience method]((By.ID, element_id)))
 except TimeoutException:
     element = None
 return element
```

Which of the following wait convenience methods is the MOST appropriate to *replace*
[convenience method] above to know that the dialog has been dismissed?

A.   Incorrect. `title_is` does not tell you if an element is visible or invisible, and we want to know that it is invisible

B.   Incorrect. It should be inferred that if an is clickable, it is visible

C.   Correct. It should be inferred that when a dialog element is invisible, the dialog has been dismissed

D.   Incorrect. Being present means that an element may be visible or invisible, but we want to know that it is invisible

Question 39   STF-4.3   K4

Consider the following HTML excerpt containing a login form:

```
<form>
  User: <input type="edit" id="user" name="user" />
  <br/>
  Password: <input type="edit" id="password" name="password" />
  <br/>
  <button type="submit" name="login">Log in</button> 
  <button type="submit" name="cancel" >Cancel</button>
</form>
```

Which of the following functions is the best implementation of a method of a Page Object class for this form:

A.   Incorrect. This implementation does something else than its name says. Apart from clicking *Cancel* button it also writes "admin" in the *user* edit box.

B.   Incorrect. This function clicks *Cancel* button, but its name says `login`

C.   Incorrect. This form has no link *remind*

D.   Correct. This function clicks the *Cancel* button. This is one of the business operations, that can be done using this form.

Question 40   STF-4.4   K4

Consider the following test step:

Make a wire transfer from the customer account to the provider account as a payment for purchased goods.

Which of the following sets of data will be the best parameter set for a keyword implementing this test step?

A.   Incorrect. Customer name and provider name are not sufficient to make a wire transfer. Their account numbers are needed.

B.   Incorrect. Payment date is not sufficient to make a wire transfer, it actually is not mandatory. Amount to be payed and currency is needed for every wire transfer.

C.   Correct. There are three data items mentioned in this test step: customer data, provider data and payment data. The latter is decomposed in this answer into amount and currency.

D.   Incorrect. There is no provider data in this set