Sample Exam

Advanced Test Automation – Engineer

Answer Table

ASTQB Created - 2018

American Software Testing Qualifications Board

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ASTQB Advanced Test Automation - Engineer Sample Exam Answer Key

75 possible points. 49 required to pass (65%).

Question	Answer	Rationale	Learning Objective (LO)	Number of Points
1	A	A is correct. Per the syllabus, test resources can be used more efficiently and effectively with test automation. B is not correct because tests are usually executed more rapidly. C is not correct because automation will provide good repeatability, not variability. D is not correct because this is considered a potentially costly disadvantage.	ALTA-E-1.1.1	1
2	B	B is correct. By decoupling the GUI interaction from its appearance, the appearance can change (e.g., fields moving to different parts of the windows) without having to recode the test automation. A is not correct because it's just the opposite of what we want. C and D are not correct because the test strategy should concentrate on both the UI and the APIs.	ALTA-E-1.2.1	1
3	C	C is correct. The usage and error recovery capabilities of the APIs should be tested as that should be accessible to your software. A is not correct because testing is needed for the API and batch file processing. B is not correct because that is a part of the package that should already have been tested, but it would probably be a good idea to perform some UAT on it. It would not be the only thing to test though. D is not correct because the full processing of the batch files, including error recovery should be tested and automating the generation and injection of the batch files should be done.	ALTA-E-2.1.1	3
4	B	B is correct. Since the company has already invested a large amount in the existing tool it's better to look for a tool that can do just this part of the automation and can co-exist with the other tool. A is not correct because that would invalidate the major expenditure already made for the existing tool. C is not correct because it could be a dangerous assumption. D is not	ALTA-E-2.1.1	3

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		correct because you are seeing a complete automation solution and manually verifying the emails would be tedious and error prone.		
5	D	D is correct. Since they are using a custom table object, it might solve the problem if they change to a standard table object. This may not solve the problem, but it's definitely the first thing to try. A is not correct because this needs to be tested as a mobile application and the behavior could be different on a desktop. B is not correct because this will take a signficant amount of effort when D could provide the solution much more easily. C is not correct because the UI is already good. Changing it may be required if D doesn't work, but it's better to try D first.	ALTA-E-2.2.1	3
6	D	D is correct. Observability and controllability are characteristics in designing for testability.	ALTA-E-2.3.1	1
7	A	A is correct. Ensuring that the SUT will be compatible with existing test automation tools is important for ensuring that the SUT testing can be automated. B, C are not pertinent in designed the SUT for test automation but may be considerations in designing the SUT in general. D is unlikely to be wanted at all since the SUT should not be changed by the test automation.	ALTA-E-2.3.1	1
8	C	C is correct. These are the four layers of the generic Test Automation Architecture.	ALTA-E-3.1.1	1
9	B	B is correct. This is a data intensive set of testing that will be required with many values input and output values to be verified. Data-driven will be the most efficient scripting method and that should be defined at the test definition layer of the TAA.	ALTA-E-3.2.1	3
10	A	A is correct. Test generation will be automated based on the model that is used for the overall testing. B is not correct because the execution layer is still required. C is not correct because adaptation may be required depending on how the software is implemented. D is not correct because the model doesn't actually cover anything – the tests will still be needed if APIs are to be tested.	ALTA-E-3.2.2	1

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11	A	A is correct. This is the primary advantage. B is a disadvantage. C is not a guarantee and may not even be related depending on what is abstracted. D is not true – it's likely to degrade the performance.	ALTA-E-3.2.3	1
12	B	B is correct. This is a disadvantage in addition to its taking longer to implement and being more expensive. A is not correct. This is the primary advantage. C is not a guarantee and may not even be related depending on what is abstracted. D is not true – it's likely to degrade the performance.	ALTA-E-3.2.3	1
13	A	A is correct. Unless the TAS can know which rule will be executed, it can't anticipate the outcome and validate the result. B is not correct because the rules control the decision result, not the TAS. C is not correct because that would eliminate the usefulness of the automation. D is not correct because while this information would be helpful, particularly if an error occurs, this will not help the TAS deal with the changing data.	ALTA-E-3.2.4	3
14	C	C is correct. This is the safest method and should be the least effort if it was designed well in the first place. A is not correct because removing it may cause new issues in the code that were not seen before. B is not correct because of the potential security problems. D is not correct because there was no other way to test that the result was correct.	ALTA-E-3.2.4	3
15	C	C is correct. The adaptation layer is used to support the code needed to test APIs in general.	ALTA-E-3.3.1	2
16	C	C is correct. The execution layer contains the test logging and reporting which will need to occur to accurately report the test results.	ALTA-E-3.3.1	2
17	D	D is correct. The goal of re-usability is focused on re-using the entire TAS for different projects or products. A, B and C are also goals for the individual components, but not for the overall solution.	ALTA-E-3.3.2	1
18	C	C is correct. This is the right size project and the righ level of criticality to be a good pilot project. A is not correct because the project is large and will not show the value of the tool for at least two years. B is not correct because the project is	ALTA-E-4.1.1	2

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		critical and already in trouble. D is not correct because the primary use of the tool will be for in-house development and showing this automation would not prove the tool would work for most of the development done by your company.		
19	C	C is correct. The actual usage information should be captured and used to determine the effectiveness of the TAS and to understand which areas of the TAS are receiving the most usage. A and B are interesting to track, but don't tell you about the actual usage or effectiveness. D is not correct because while the defect information might be interesting, the management reporting of the defects doesn't really tell you about effectiveness.	ALTA-E-4.1.1	2
20	B	B is correct. The keyword-driven scripts use a high level of abstraction and the architect has created this complex TAS which, although working well now, may be difficult to maintain without his knowledge and background. A and C are not correct because this has not yet been a problem and is not the most significant risk at this time. D is not correct because there is no indication that good coding standards are not being applied.	ALTA-E-4.2.1	3
21	C	C is correct. The biggest risk with this system is that the TAS may be difficult to understand and the person who architected it has left. Documenting it now will make maintenance easier in the future. A is not correct because there is no reason to think this will lower risk. In fact, it may increase it because of the number of scripts that will change. B is a good idea, but will not address the major risk. D is not correct because there may not be the knowledge and resources to do the scripting for all projects from one central group.	ALTA-E-4.2.1	3
22	A	A is correct. The application of good naming standards and conventions for the parts of the test suite and the TAS make it easier for someone to read, understand, change and maintain the code. B is not correct because duplicate names could occur with any naming strategy and should always be prohibited. C is not correct because the naming isn't a factor in the check in/out functions. D is not correct because the software teams should use the	ALTA-E-4.3.1	1

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		standard conventions, not make up their own.		
23	**B**	B is correct. Because regression testing is taking the most time from the manual testers, automating the regression tests should be the first task for the test automation. The best judge of the effectiveness of this automation will be the equivalent manual test effort (EMTE) to run the same tests. A is not correct because code coverage is not the goal – rather regression test coverage. C is not correct because the primary focus of the test automation will be on regression testing which should have a low yield of defects. D is not correct because the first priority for the automaton is the regression tests, not the build acceptance tests.	ALTA-E-5.2.1	2
24	**C**	C is correct. Since the options are either to update the automation or resort to manual testing for the reports, you need to know how the 60 days compares to the equivalent manual test effort per execution (and the number of planned executions over the life of the project). A is not helpful in this case. B is useful information, but needs to be considered in terms of C. D is not correct because this time does not influence whether or not to update the code.	ALTA-E-5.2.1	2
25	**A**	A is correct. These are examples of tool scripting metrics.	ALTA-E-5.1.1	1
26	**D**	D is correct. This is an example of a false-fail – when the code indicates that a failure occurred but it wasn't really a failure.	ALTA-E-5.1.1	1
27	**B**	B is correct. You need to know the memory reading at the start and stop of each test, you need to know which test is currently executing (to see which one is failing), you need to know which tests are passing and failing and you need to know if multiple cycles of the same tests are being executed (since the problem might only occur during the 3rd cycle). 1 is not needed because the start and stop time of each test is not helpful for figuring out the memory problem. 6 is not needed because there is no indication that random data is being used. 7 is not needed and would take up a lot of space because a screen shot is unlikely to be helpful for every failed case. If you could get a screen shot of just	ALTA-E-5.3.1	3

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		the last one, that would be more interesting particularly if there is an error message displayed, but once the failing case is identified, more instrumentation for that test could be added.		
28	C	C is correct. The test execution report is a summary report showing trends and summarized information for the stakeholders. A, B and D are examples of information that would be found in the test logs rather than in the execution report.	ALTA-E-5.4.1	1
29	B	B is correct. Since these tests are no longer yielding defects, they should be moved to the regression test suite where they can be used to detect unexpected regressions. A is not correct because the code could break tomorrow and the tests are still needed to make sure any new problems are detected. C is not correct because this would be too late to fix any issues that might be found. D is not correct because the functional suite will become too large to run efficiently, particularly if it's used for the build acceptance test.	ALTA-E-6.1.1	2
30	C	C is correct. Manual testers will always be needed and their domain knowledge will always be necessary for building the keyword and data-driven input files.	ALTA-E-6.1.2	1
31	A	A is correct. When data is shared between tests, the data should be stored and accessed externally. This may mean that one test writes the data to a database and the next test retrieves it. This allows the tests to run somewhat independently and also allows the data to be modified or injected for subsequent tests. B, C and D are incorrect because they result in tight coupling between the tests and as a result the execution order must always be the same. This limits the flexibility of execution and eliminates the opportunity to run just one script in the set.	ALTA-E-6.2.1	1
32	A	A is correct. Since there has already been an investment made in keyword-driven scripting, adding more keywords to accommodate the new functionality should be the first choice. B,C and D are not justified and would likely cost more and potentially break the existing scripts.	ALTA-E-6.3.1	1

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33	C	C is correct. The purpose of automating confirmation testing is to make sure the fix stays fixed. The initial testing is done to verify that the fix is good. The automation is used for subsequent executions to ensure the fix is still in place. A is not correct because this is regression testing. B is not correct because this is done via manual testing. D is not correct because it's a focused area of functionality only.	ALTA-E-6.4.1	1
34	D	D is correct. Because you will be needing to do more of these, you will need an automated process. The TAS should be installed from a central repository so that any configuration changes are made back to the central copy rather than perpetuating from installation to installation. A and B are not scalable and you will soon be spending all of your time doing installations. C is not correct because it is copying from one TAS to the next rather than from a central repository.	ALTA-E-7.1.1	2
35	C	C is correct. This is the fastest and most adaptive way to deal with the problem. This will let your scripts change without information from the developers and will ensure that your automation has the best chance of running successfully. A is not correct beause this is already not working. B is not correct because, although this would make the developers tell you what they are using, it would waste time. D is not correct because hard-coded data is almost never the correct approach due to the inflexibility.	ALTA-E-7.1.1	2
36	C	C is correct. You want to be sure that the gold copy gives results that are the same as the working TAS (the one used to create the gold copy). If this works, then you will know that you have replicated the TAS correctly. A is incorrect. A known failing script should still fail. B is incorrect because just finishing does not say the suite of tests produced the correct results. D is not correct because a new feature is not the goal of the tests.	ALTA-E-7.2.1	2
37	C	C is correct. In this scenario, the new functionality is most likely to break so that is the area that should be monitored closely to make sure that the functionality and the new test automation scripts are working correctly. A, B and D are not correct because these areas of the	ALTA-E-7.2.1	2

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		software should be more stable. Of course, you would still want to monitor to be sure you are getting the results you expect, but the most likely problems will be with the new software, both the new functionality and the new scripts.		
38	D	D is correct. The problem appears to be in verifying if the result received equals the results expected, so it is likely that the problem lies in the verification functions. Since the problems seem to be introduced each time new scripts are added, there probably is not a common verification function, or if there is, it is not being used. A is not correct as there is no indication that the false-positives are due to the software continuing processing when it should not. B is not correct because this problem seems to be isolated to the verification rather than the overall coding. C is not correct because the TAS and SUT error recovery mechanisms do not need to be compatible.	ALTA-E-8.1.1	3
39	C	C is correct. Since the problem is isolated to one web service, the script should restart the service, wait for it to be operational and then continue with the execution. It will also be important to log that the service restart occurred so that the problem with the service being down is noted. If the restart fails, the script should then either quit or continue. A is not correct because that will not help to get the automation running. B is not correct because the scripts will just fail again when they find the down service and this could become an endless loop. D is not correct because rebooting the entire system is not needed as only one service is down. If more than one service is down, C would still work as it would restart them as it encountered them.	ALTA-E-8.1.1	3
40	D	D is correct. You want to work with the other automators to understand the nuances of each of the controls. If changes are made, everyone will have to retest their usage of the control to make sure it still meets their needs. If different controls are needed, it is likely that the names of the controls need to be clearer since they all seem to be categorized as table controls. A is not correct because this creates another control rather than trying to consolidate. B is not the best solution because it is likely to end up with another control. C is dangerous because you may not know how	ALTA-E-8.2.1	3

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		the capabilities are used and the code that uses the existing control is likely to need to change.		