

**ASTQB Certified Tester  
Test Automation Strategy  
Sample Exam Answers**



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American Software Testing Qualifications Board

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**49 points possible. 32 points to pass. 60 minutes.**

- 1. (1 pt.) If you want to create test automation that will interact with the software the user sees and interacts with, what should be your target?**
- a. The APIs
  - b. The libraries of the SUT
  - c. The protocols used by the SUT
  - d. The GUI

**D is correct. Access through the graphical user interface, the GUI, will exercise the software that the user sees and interacts with. A, B and C access software that the SUT uses, but that is not visible to the user. (CT-TAS-1.1.1 (K2) Explain the objectives and relevance of test automation)**

**2. (1 pt.) Which of the following is required for testing APIs?**

- a. They must have complete error recovery
- b. They must work with a standard interface and be fully documented
- c. They must be exposed to the public
- d. They must be able to handle any combination of data

**C is correct. This is a requirement for testing an API – you must be able to access it to test it. If an API is not made public, accessing it may not be possible. A and B should be in place but are not requirements to be able to test. Plenty of testing occurs on software that is not well documented or has missing aspects in its error recovery. D is not correct because an API handles only a defined set of data. That data definition must be known to the tester to ensure proper data testing occurs. (CT-TAS-1.1.2 (K2) Identify technical success factors of a test automation project)**

**3. (1 pt.) Why is it important to have a stable test environment and test data when executing automated tests?**

- a. This enables the environment and data to be shared with manual testing
- b. The test results are reliable and repeatable
- c. The false positives are minimized
- d. It's better to have instability in the environment and data as that expands test coverage

**B is correct. Only with a controlled environment and data can the results be reliable and repeatable. A is not correct because this isn't a factor under considerable and, in fact, it's usually better to have a separate environment for automation because of the data stability. C is not correct because real negatives will definitely happen, and false positives are less likely as the tests are more likely to fail due to environment issues than to pass. D is not correct because while this is sometimes true for manual testing it will just break the test automation. (CT-TAS-1.1.2 (K2) Identify technical success factors of a test automation project)**

- 4. (1 pt.) When creating a full test automation solution for a SUT, how much test automation code should be expected to be needed?**
- a. None as this is not possible because full automation solutions don't exist
  - b. As much as or more than the SUT
  - c. Slightly less than the SUT
  - d. Normally 20-35% as much as the SUT code

**B is correct. Test automation code is often the same as or more lines of code than the actual SUT. (CT-TAS-1.1.2 (K2) Identify technical success factors of a test automation project)**

- 5. (1 pt.) Which of the following is the most important to have in place before preparing to start a large automation project?**
- a. Implementing a tool to use for the automation implementation
  - b. An accepted ROI
  - c. Clearly defined and accurate test cases
  - d. A test plan

**B is correct. An ROI that has been researched and accepted by the stakeholders is vital before starting an automation project. The tools can be selected and implemented after the ROI is approved. C and D are more pertinent to manual testing although there may be an automation test plan. (CT-TAS-1.1.3 (K2) Define appropriate criteria in selecting candidate projects for test automation)**

- 6. (1 pt.) Your organization would like to get some test automation developed for a mobile application. They don't have the technical people to do the work and are reluctant to invest in tools, but they acknowledge the need for test automation for this particular application. Which of the following is the best solution to pursue?**
- a. Vendor-based
  - b. Outsourced
  - c. In-house
  - d. Tools-based

**B is correct. This is a great example of an organization that should use an outsourcing company to do the implementation of the test automation. (CT-TAS-2.1.1 (K2) Compare alternative technical solutions with regard to cost of ownership)**

- 7. (1 pt.) You have a team of 10 test automation engineers, but only five of them will be using the tool at any one time. You are paying for 10 licenses. What type of model are you using?**
- a. Open source
  - b. Per machine/user
  - c. Floating
  - d. Runtime

**B is correct, you are using a per user license. Given the scenario, there could be significant cost savings with a floating license because then you'd only pay for five. (CT-TAS-2.1.2 (K2) Explain licensing model considerations for test automation tools)**

- 8. (1 pt.) In what way is the test management system a consideration in the test automation budget?**
- a. It isn't a factor
  - b. Since the test management system will create the defect reports for defects found by the test automation, the defect fields must be clearly defined and that will take time and effort
  - c. The test management system dashboards and reporting will have to be updated to provide a real-time risk mitigation status to the test automation
  - d. The test management system will have an interface with the test automation tools to provide updates for test execution

**D is correct. The test management system should be able to upload and reporting on the test automation execution results. This will be needed to produce overall coverage reports and current execution status. A is not correct because it definitely is a factor to be considered. B is not correct because, although some systems try to do this, it usually results in a lot of false negatives when defects are reported that are not valid. Either way, the time and effort would not be in defining the fields but rather in building the interface. C is not correct because real-time risk mitigation directions to the test automation would be extremely complicated to implement (but very cool!) and would be difficult to maintain. (CT-TAS-2.1.3 (K2) Provide examples of factors to be considered when defining a test automation implementation strategy)**

**9. (1 pt.) On the automation team, who is expected to have programming and technical architecture knowledge?**

- a. The SME
- b. The test manager
- c. The test analyst
- d. The test automation engineer

**D is correct. It's great if the others have some technical knowledge, but the TAE must have it. (CT-TAS-2.2.1 (K2) Summarize the roles and skills necessary for a successful test automation solution (TAS))**

**10. (1 pt.) In the umbrella test model, what is the primary focus of the test automation?**

- a. UI testing
- b. Services testing
- c. Unit testing
- d. Integration testing

**A is correct. In the umbrella model, the majority of the test automation is conducted at the UI level. (CT-TAS-3.1.1 (K2) Explain test automation distribution across test levels)**



**11. (2 pts.) You are testing the UI level of a banking application. You are finding that it works fine on most transactions, but anytime an address is used, there are errors regarding expected format even though the format being entered is correct per the requirements. What level of testing was probably missed which has resulted in these errors occurring?**

- a. Unit
- b. API
- c. Contract
- d. UI

**C is correct. Contract testing appears to be needed because the APIs generally work but can't seem to successfully pass addresses back and forth, implying there is probably a contract issue with the address format. B is not correct because just testing the APIs individually wouldn't catch this because each API can handle an address that's in the format it is expecting. (CT-TAS-3.1.2 (K3) Define a test automation approach for each test level)**

**12. (1 pt.) If there is a major focus on building test automation that can be executed in the production or pre-production environments to provide end-to-end testing on the completed system, what approach is being used?**

- a. Shift left
- b. Shift right
- c. Shift up
- d. Shift down

**B is correct. This is an example of shift right testing, moving the testing later in the SDLC. (CT-TAS-3.1.3 (K2) Define ways to optimize test automation distribution to achieve shift left and shift right approaches)**

**13. (1 pt.) Which of the following is a true statement regarding test automation in a V-model project?**

- a. Test automation starts later than in an Agile project
- b. Test automation starts earlier than in an Agile project
- c. Test automation is not possible due to the long development cycles
- d. Test automation will result in a higher ROI than in an Agile project

**A is correct. Because testing doesn't get engaged until the coding is done, the test automation starts later as well (although earlier than in a waterfall project) C and D are not correct because, although the ROI will be lower than an Agile project due to the later availability of the automation, it is possible to do the automation. The ROI will come later when the automation is run many times during the life of the software. (CT-TAS-3.2.1 (K2) Explain how test automation projects conform with legacy lifecycle models)**

**14. (1 pt.) In the ideal Agile software development project, when should the automated test cases for a sprint be integrated into the CI/CD pipeline?**

- a. At the beginning of the sprint
- b. Before the end of the sprint
- c. Immediately before SIT begins
- d. Immediately after UAT

**B is correct. In the ideal model, the automated test cases for a sprint should be developed and implemented into the CI/CD pipeline before the end of that sprint. (CT-TAS-3.2.2 (K2) Explain how test automation projects conform with Agile software development best practices that support test automation)**

- 15. (2 pts.) Your team is developing a new mobile application. This will be the first time the organization has attempted to implement a DevOps approach. The product is being developed by three Agile teams, one doing the front end, one doing the web services, and one handling the database transactions. The web services developers have developed the automated unit tests which they are running on their own machines prior to deployment. What do they need to do to comply with best practices?**
- a. They need to ensure another developer has reviewed and can execute the tests
  - b. They need to deploy the tests into the DevOps pipeline and ensure they are executed in the deployment environment each time code is deployed
  - c. They need to deploy the tests into the DevOps pipeline and ensure the tests are executed in the test environment each time new code is deployed and built
  - d. They need to implement infrastructure as code to create the test environment, then deploy the tests into the DevOps pipeline and ensure the tests are executed in the newly build test environment each time new or changed code is deployed and built

**B is correct. They need to deploy the tests into the same environment as the normal code deployment environment rather than in a separate environment. This keeps it within the pipeline and is a best practice. A is a good practice but is not a requirement for DevOps and indeed the execution of the tests should be automated. C and D both have the execution in the test environment which is not ideal for unit tests. Those environments would be needed for E2E tests. (CT-TAS-3.2.3 (K3) Plan for test automation projects to conform with DevOps best practices that support test automation in continuous testing)**

**16. (1 pt.) Which of the following tests is the best candidate for automation?**

- a. Error recovery test for a mobile app that requires frequent restarts of the phone
- b. UI test that validates that the navigation is suitable to various classes of users
- c. Critical workflow test that requires multiple users to provide approvals during the workflow
- d. Mortgage calculation test that requires input from multiple tables of data to determine the proper rate

**D is the best candidate. This testing will be error prone if done manually where the automation can do it quickly and accurately. If the tables are changing, the automation can have its own mocked tables or hard code the values as needed. A is not correct because it requires manual intervention to restart the phone. B is not correct because it requires a human opinion of usability. C is not correct because it is requiring multiple users to log in and perform functions. This could be automated, potentially, but it would be tricky to get the timing right and logging on and off the target can be difficult for some automation approaches. (CT-TAS-3.3.1 (K2) Explain criteria for determining the suitability of tests for test automation)**

**17. (1 pt.) Your team is working with a CI/CD pipeline. Up until now, all testing has been done manually with the integrated code being deployed to a test environment. If you want to implement automation, how could this change to incorporate best practices?**

- a. The test automation could be included in the pipeline and executed there for the early tests (unit, component integration)
- b. The test automation could replace the manual end-to-end testing and can be conducted in the test environments
- c. Automate some of the easier tests, but keep the cross-browser tests for manual testing
- d. Minimize test execution in the pipeline and concentrate on running the test automation in the near-production environment

**A is correct. Ideally, the test automation becomes integrated with the pipeline and is executed there for the unit and component integration tests. B is not correct because while it is likely to happen, it is not really best practice to just replace the manual tests with automated tests. C is not correct because cross-browser tests are excellent candidates for test automation. D is not correct because the goal is to maximize testing in the pipeline. (CT-TAS-3.3.2 (K2) Identify challenges that only test automation can address)**

**18. (1 pt.) You are automating a new web application. One of the test scenarios is to test the timeout function that times out the login if the application has been idle for more than one hour. Can this test be automated?**

- a. No, it requires too much time to wait for the timeout
- b. No, test automation can't do timing related tests
- c. Yes, but it will require manual intervention to time the timeout and then restart the automation to verify the outcome
- d. Yes, but you should check to be sure other tests can run efficiently while this one is waiting for the timeout

**D is correct. This can be automated but you just need to sure the other tests are paused while waiting on this one as it could significantly lengthen the time required for a test run. (CT-TAS-3.3.3 (K2) Identify test conditions that are difficult to automate)**

**19. (1 pt.) If there is an urgent need for a product to get to market as soon as possible, how can test automation help?**

- a. By shifting the testing to the left
- b. By shifting the testing to the right
- c. By minimizing the number of tests to be executed
- d. By limiting the test data that is exercised by the tests

**A is correct. Shifting testing to the left in the lifecycle means starting testing sooner and that is the best way to save time. B is not correct because that would push testing toward the end of the cycles. C is not correct because automation is likely to maximize the tests to be run. D is not correct because it is usually a wider set of data that is used by the test automation. (CT-TAS-4.1.1 (K2) Identify ways how Test Automation supports shorter time to market)**

**20. (1 pt.) What is an automated test called when it is used to test that a defect has been fixed and stays fixed?**

- a. Regression test
- b. Confirmation test
- c. Defect test
- d. Targeted test

**B is correct. This is a confirmation test, confirming that the fix works and stays implemented. A is not correct because regression testing is done to ensure that new changes have not introduced issues, not to confirm that fixes work. (CT-TAS-4.1.2 (K2) Identify ways in which test automation helps verify reported defects according to requirements)**



**21. (1 pt.) DevOps assumes involvement of the development and operations teams in the creation of a product. Which of the following tests is of particular interest to the operations team?**

- a. Unit testing
- b. Confirmation testing
- c. Installation testing
- d. System testing

**C is correct. Installation and uninstallation are usually the responsibility of the operations team so they will want to be sure this works correctly before they need to use it in production. (CT-TAS-4.1.3 (K2) Define approaches that allow for the development of operationally relevant scenarios for test automation)**

**22. (1 pt.) How does test tool licensing affect the strategic selection of the test automation tool?**

- a. Cost
- b. ROI
- c. Access from multiple test environments
- d. Number of licenses that will be available to the developers

**C is correct. This is the item that must be addressed in the test automation strategy. The other items should be considered when the tool is being considered for purchase and the business case is being justified. (CT-TAS-4.2.1 (K2) Define a test automation deployment strategy)**

**23. (1 pt.) Why is it necessary to track versions of the test automation software?**

- a. Because different versions may be needed for different configurations of the test environment
- b. Because you may need to roll back to a previous version when a defect in the SUT is discovered
- c. Because it's easier to track the productivity of the automation engineers when all changes are versioned
- d. Because the developers will be able to see what changes are being made to the automation and will know what defects will be detected by a particular version

**A is correct. There may be a need for a version to be altered for a specific environment to have the correct URL, user files, etc. It is also possible that these differences are parameterized, and the appropriate variables are loaded depending on the parameter settings. B is not correct because this is usually done on the SUT to see if the defect is new or existed in a previous release and just wasn't found. C is not correct because this is not the best way to track productivity. A poor automation engineer may have to make many changes to their code – this doesn't mean they are more productive. D is not correct because it doesn't make sense. (CT-TAS-4.2.1 (K2) Define a test automation deployment strategy)**

**24. (1 pt.) You have developed test automation for a big Enterprise Resource Planning (ERP) system. This is a Software as a Service (SaaS) cloud product that will be updated by the vendor at regular intervals. Which of the following is a risk with the test automation software for this system?**

- a. It may not migrate cleanly to a new test environment
- b. The test data cannot be created prior to the deployment
- c. It may be too hard to decipher the test results because it is a cloud implementation
- d. It may be difficult to maintain the test engineers who know the system to make future updates

**D is correct. Because these updates will occur over a long period of time, it is important to keep knowledgeable test automation engineers to make the changes. If the updates aren't made, the automation becomes out of sync with the SUT and the automation becomes less valuable. A is not correct because there is not necessarily a change in the test environment. B is not correct because the data shouldn't change. C is not correct because whether or not the system is in the cloud shouldn't affect the ability to decipher the test results. (CT-TAS-4.2.2 (K2) Identify test automation risks in deployment)**

**25. (1 pt.) What is the primary purpose of running the test automations suite to regression test a new release of the SUT?**

- a. To detect if anything has changed
- b. To detect if anything that used to work is not working
- c. To verify defect fixes and to update the TAS as needed
- d. To get practice with running the test automations suite

**B is correct. You want to know if there are any regressions in the software – meaning that something that used to work no longer works as expected. A is not correct although it often happens and requires an update to the TAS. C is actually confirmation testing, and the maintenance updates may be required with any release. This should show up in regression testing if the regression test suite was working around a defect. D is not correct as that is not the purpose of execution. (CT-TAS-4.2.3 (K2) Define approaches to mitigate test deployment risks)**

**26. (1 pt.) What is the purpose of a test automation suite?**

- a. It is a way of logically grouping related test cases together
- b. It is a required component of the TAF
- c. It is a collection of output files created by the test automation scripts
- d. It is a risk traceability matrix used specifically for test automation

**A is correct. B is not correct because it is not a required component although it may be a component. C and D are just not correct. (CT-TAS-4.3.1 (K2) Define test automation components in the test environment)**

**27. (1 pt.) Which of the following is a consideration when multiple machines will be executing the tests automation in parallel to simulate realistic user scenarios?**

- a. Real users will need to log into each machine prior to execution
- b. Gathering the test results will be difficult
- c. The machines will need to be on the same network and may need to be able to communicate with each other
- d. The machines will need to be configured identically so as not to skew the test results due to some machines having more memory, etc.

**C is correct. It is likely that the machines will need to be on the same network and may have to be able to communicate to each other particularly if there are timing aspects to the execution of the test automation steps. A is not correct as this can be automated. B may be true but should be something that can be automated. D would be wonderful but is unlikely to occur and is not a requirement – in fact the differentiation between machines may give more realistic results. (CT-TAS-4.3.2 (K2) Identify infrastructure components and dependencies of test automation)**

**28. (1 pt.) Some test automation scripts verify the data by directly accessing the database and verifying the values there. Is this a good practice?**

- a. No, it will tend to introduce false negatives due to scripting errors
- b. No, it is an unrealistic access of the data
- c. Yes, it allows verification of the expected data changes
- d. Yes, it's a good practice for the test automation engineers to understand the database structure and this will make that understanding a requirement

**C is correct. By directly accessing the database, the tester can see that the values were updated and stored correctly without having to access the data via a different exposed interface. This access does need to be securely and read only so no data is accidentally altered. (CT-TAS-4.3.3 (K2) Define test automation data and interface requirements for integration within the system under test)**

**29. (2 pts.) You have calculated the following expected savings from the test automation:**

Time to run a test case manually	20 minutes
Time to run an automated test cases	5 minutes
Number of test cases	200
Number of test runs	10

**Given these numbers which of the following is the correct expected savings (in minutes)?**

- a. 3,000,000 minutes
- b. 300,000 minutes
- c. 30,000 minutes
- d. 30 minutes

**C is correct.  $20-5 = 15$ .  $15*200*10 = 30,000$  (CT-TAS-5.1.1 (K3) Perform a basic return on investment calculation for implementation of test automation at the project level)**

30. (2 pts.) You are calculating the expected investment for a test automation project. You have acquired the following data:

Time to set up the test automation	2400 minutes
Time to implement a test	60 minutes
Number of tests to be implemented	50
Average maintenance time per test	10 minutes
Time to run an automated test	30
Percentage of failed tests	10%
Number of tests defined	50
Number of test runs	50

**Given this information, what is the investment cost for the test automation?**

- a. 3,240,000 minutes
- b. 324,000 minutes
- c. 32,400 minutes
- d. 3,240 minutes

**C is correct. The investment cost for this example is:  $2400 + (60 * 250) + ((10 + 50) * .10 * 50 * 50) = 2400 + 15,000 + 15,000 = 32,400$  minutes. (CT-TAS-5.1.1 (K3) Perform a basic return on investment calculation for implementation of test automation at the project level)**



**31. (1 pt.) If you have just run you test automation suite and it reported 50 failures when it normally reports 1 or 2, what should you do?**

- a. Write a defect report for each failure so the developer sorts it out
- b. Write a defect report for each failure so the automation engineer can fix the automation in all the appropriate places
- c. Look for a cascading defect where one issue has caused multiple failures
- d. Verify that the screen shots are all valid and that there wasn't an internal failure of the test automation

**C is correct. This is likely a problem where one defect is causing multiple failures. It is probably warranted to see if there is a better way to handle this kind of issue if this becomes a common occurrence (such as exiting the test when certain issues are found). (CT-TAS-5.2.1 (K2) Classify metrics for test automation)**

- 32. (2 pts.) You are working in an organization that always prefers to use commercial test automation tools. The previous project implemented a very expensive tool, but the team wasn't able to get much automation implemented due to issues with the tool being inflexible. The project was abandoned, and the team quit. You are now picking a tool for your project. What should you do?**
- a. Avoid using that tool
  - b. Investigate the technical issues with the tool to see if there were feasible implementation alternatives that the team didn't consider
  - c. Ensure your project has adequate time for a tool failure and time to learn a new tool in case the first one doesn't work
  - d. Go with an open-source tool that will give you better flexibility and control over implementation

**B is correct. You first need to understand what happened with the other project and if the technical issues were really insurmountable or if the team just didn't have the skills/time required. A maybe be the right answer, but you won't know that until you investigate. C is not correct as it is highly unlikely someone will let you budget in that kind of time. It's tantamount to planning to fail. D is not correct because the company wants to use commercial tools - so those options must be investigated first. (CT-TAS-5.3.1 (K3) Identify organizational considerations for use of test automation)**

**33. (2 pts.) You are working on a test automation project for an immigration system. There are already a large number of manual test cases that have been used for several years. The coverage of these test cases has been determined to be very good and the test cases are prioritized in terms of criticality to the system and the users. Given just this information, what should be your first priority for test automation?**

- a. To automate the end-to-end user flows
- b. To automate the existing manual tests, in priority order
- c. To train your team regarding immigration practices and rules
- d. To train the business users in how to generate test automation code from the requirements

**B is correct. You already know you have a good set of manual tests, and they are already prioritized, so these should be the main focus of the test automation (per the syllabus). A is not correct as these may not be documented and tend to be more brittle than automation that is more functionally focused. C is not correct because the test automation engineers don't need to know this level of detail as the test cases are already written. D would not be the best use of resources. (CT-TAS-5.3.2 (K3) Analyze project characteristics that help determine optimal implementation of test automation test objectives)**

**34. (2 pts.) You are creating a test automation strategy for a new flagship product for your company. You know that management is reluctant to commit to an automation effort. What must you present to them to convince them to back a new automation effort?**

- a. The backgrounds and experience of the proposed test automation team
- b. The business value of the test automation
- c. The cost of the automation effort compared to the development effort, including tools
- d. The comparison of the current product with competitor products

**B is correct. You must demonstrate a business value for the test automation product before they will be interested in seeing the makeup of the team and the anticipated costs. D doesn't make sense. (CT-TAS-5.3.2 (K3) Analyze project characteristics that help determine optimal implementation of test automation test objectives)**

**35. (1 pt.) How can test automation reporting indicate that there is a need to shift the testing more to the left?**

- a. By finding significant issues that are occurring at the functional component level
- b. By finding significant issues that are occurring in the integration of individual components
- c. By finding significant issues that are occurring when testing user transactions
- d. By finding significant issues that are occurring in end-to-end workflows

**A is correct as this is the farthest left the testing can be shifted. B may also be correct, but A should be done first and then expanded to B. C and D are both indications for shifting testing more to the right. (CT-TAS-5.4.1 (K2) Analyze test report data to inform decision making)**

- 36. (1 pt.) How does creating re-usable components help the test automation effort?**
- a. It slows it down, allowing more time for analysis
  - b. It employs automation architects to define the test automation solution
  - c. It allows components to be created and maintained in one place, but used in many
  - d. It supports a distributed execution environment which can allow more automation agents to run concurrently

**C is correct. Creating re-usable components is more efficient both in terms of development and maintenance time. (CT-TAS-6.1.1 (K2) Describe the factors and planning activities in transitioning from manual testing to test automation)**

- 37. (1 pt.) What happens to manual testers when a test automation suite has automated most of the testing they have historically done?**
- a. They need to find new jobs
  - b. They need to become test automation engineers
  - c. They now have time to broaden the test coverage
  - d. They now have time to create more test data

**C is correct. The manual testers should focus their energies on expanding the overall test coverage. (CT-TAS-6.1.1 (K2) Describe the factors and planning activities in transitioning from manual testing to test automation)**

**38. (1 pt.) What should be done prior to deploying a new set of tests into the TAS in a continuous testing environment?**

- a. The existing tests should be regression tested
- b. The new tests should be tested
- c. The new tests should undergo performance and security testing
- d. The pipeline should be extended to capture test metrics and defect information

**B is correct. The tests need to be tested to see if they work correctly. This may include C, but not necessarily. (CT-TAS-6.1.2 (K2) Describe the factors and planning activities in transitioning from test automation to continuous testing)**

**39. (2 pts.) Your test automation is failing during execution. You have done root cause analysis and have determined that the problems are almost always due to data. In particular, the data is either not there or it is not in the right state. For example, you have a test that is supposed to find and delete unused user accounts, but there are no unused accounts available to delete. What do you need to do to fix this issue?**

- a. Programmatically create the pre-conditions required by the tests
- b. Manually alter the data before you execute the tests
- c. Get the database people to search and provide you with a list of valid test data
- d. Skip this test until data is available

**A is correct. In this case you need test data that is in a particular state – unused – but the database doesn't have any of this information. You need to have a way to populate the database with known unused users so the test can run. B and C would not be feasible for multiple executions of the tests. D is unlikely to be the right solution because this is a needed test, or you would not have automated it. (CT-TAS-6.2.1 (K3) Conduct an evaluation of the test automation assets and practices to identify improvement areas)**



**40. (2 pts.) Your automation team has been adding automated tests into the CI/CD pipeline as new features are developed. The developers are now complaining that the pipeline is being slowed by the tests. They think there are too many tests being run. What should you do?**

- a. Ignore the developers, the tests are needed
- b. Conduct performance testing for the tests to see if they are as efficient as possible
- c. Review the tests being executed and include only the critical ones in the pipeline and run the rest as a regression test suite overnight
- d. Implement batch execution where all the tests are divided into three sets and have only one set at a time be executed for a deployment

**C is correct. There are probably a lot of tests that don't have to be executed each time so reduce the pipeline set to the critical tests and push the rest into a regression test suite that is only run periodically. B might be warranted, but if proper practices have been in place, each test should be executing efficiently already. There might be a need to increase the performance capability of the test system. D is not correct because this can result in critical tests being missed. (CT-TAS-6.2.1 (K3) Conduct an evaluation of the test automation assets and practices to identify improvement areas)**