ISTQB®

Certified Tester
Foundation Level

CTFL 4.0

Chapter 6

– Summary –

– Questions & Answers –

– Exam Questions Distribution –

Swipe for more

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Examinable Learning Objectives :

Level 1 : Remember (K1)

- The candidate will remember, recognize and recall a term or concept.
- Action verbs : Identify, recall, remember, recognize.
- Exmaple : Identify typical test objectives.

Level 2 : Understand (K2)

- The candidate can select the reasons or explanations for statements related to the topic, and can summerize, compare, classify and give examples for the testing concept.
- Action verbs : Classify, compare, contrast, differentiate, ditinguish...
- Exmaple : Explain the activities of the review process.

Level 3 : Apply (K3)

- The candidate can carry out a procedure when confronted with a familiar task, or select the correct procedure and apply it to a given context.
- Action verbs : Apply, implement, prepare, use.
- Exmaple : Apply test case prioritization.

Chapter 6 Question Distribution in the Exam :

- There is a total of **2 questions** required for Chapter 6 :
  K1 = 1 question
  K2 = 1 question
  K3 = 0 questions
- Number of points for this chapter = 2

Question Distribution	K-Level	Number of Questions per LO (group)*	Suggested Points per Question	Probability of Appearance in the exam
Chapter 6				
FL-6.1.1	K2	1	1	1
FL-6.2.1	K1	1	1	1

Summary of Chapter 6

6.1 Tool Support for Testing

6.1.1 (K2) Explain how different types of test tools support testing

- **Management tools :** facilitate the management of the SDLC, requirements, tests, defects, and configurations.
- **Static testing tools :** support reviews and static analysis.
- **Test design and implementation tools :** assist in generating test cases, test data, and test procedures.
- **Test execution and coverage tools :** enable automated test execution and coverage measurement.
- **Non-functional testing tools :** perform non-functional testing, which is difficult or impossible to conduct manually.
- **DevOps tools :** support DevOps delivery pipelines, workflow tracking, and automated build processes.
- **Collaboration tools :** facilitate communication among team members.
- **Scalability and deployment tools :** virtual machines and containerization solutions for efficient deployment.

6.2 Benefits and Risks of Test Automation

6.2.1 (K1) Recall the benefits and risks of test automation

Benefits of using test automation:
- Saving time by reducing repetitive manual work.
- Prevention of human errors through consistency and repeatability.
- Providing measures that are too for humans to derive.
- Easier access to testing information to support test management and reporting.
- Reduced test execution times, leading to earlier defect detection, faster feedback, and quicker time to market.
- More time for testers to focus on designing deeper, more effective tests.

Risks of using test automation :
- Unrealistic expectations about the benefits of a tool.
- Inaccurate estimations of time, costs, effort...
- Using a test tool when manual testing is more appropriate.
- Relying on a tool too much (ignoring the need for human critical thinking).
- Dependency on the tool vendor.
- Using an open source software which may be abondonned (no further updates).
- The automation tool is not compatible with the development platform.
- Unsuitable tool may not comply with regulatory or safety requirements.
- Wrong allocation of effort to maintain testware.

Swipe for the questions part

Questions from Chapter 6 in the ISTQB exam

6.1.1 (K2) Explain how different types of test tools support testing

Which test activity does a data preparation tool support?

a) Test monitoring and control
b) Test analysis
c) Test design and implementation
d) Test completion

Select ONE option.

a) Is not correct. Test monitoring involves the ongoing checking of all activities and comparison of actual progress against the test plan. Test control involves taking the actions necessary to meet the test objectives of the test plan. No test data are prepared during these activities b) Is not correct. Test analysis includes analyzing the test basis to identify test conditions and prioritize them. Test design includes elaborating the test conditions into test cases and other testware. Test data are not prepared during these activities c) Is correct. Test implementation includes creating or acquiring the testware necessary for test execution (e.g., test data) d) Is not correct. Test completion activities occur at project milestones (e.g., release, end of iteration, test level completion), so it is too late for preparing test data	FL-6.1.1

Given the following test tool categories:

i. Collaboration tools
ii. DevOps tools
iii. Management tools
iv. Non-functional testing tools
v. Test design and implementation tools

Tools from which of the categories are MOST likely to facilitate test execution?

a) i, v
b) ii, iv
c) i, iii, v
d) ii, iii, iv

Select ONE options.

Considering each of the listed tool categories: i. Collaboration tools – facilitate communication. Communication does not include the facilitation of test execution ii. DevOps tools - support the DevOps delivery pipeline, workflow tracking, automated build process(es) and CI/CD. The delivery pipeline and CI/CD both include the facilitation of test execution, such as component testing for CI iii. Management tools – increase the test process efficiency by facilitating management of the SDLC, requirements, tests, defects and configuration. The management of these items does not include the facilitation of test execution iv. Non-functional testing tools – allow the tester to perform non-functional testing that is difficult or impossible to perform manually. Non-functional testing can include both static testing and dynamic testing, including test execution v. Test design and implementation tools – facilitate generation of test cases, test data and test procedures. The generation of this testware does not include the facilitation of test execution Thus: a) Is not correct b) Is correct. Both DevOps tools (ii) and Non-functional testing tools (iv) facilitate test execution c) Is not correct d) Is not correct	FL-6.1.1

Tools from which of the following categories help with the organization of test cases, detected defects and configuration management?

a) Test execution and coverage tools
b) Test design and implementation tools
c) Defect management tools
d) Test management tools

Select ONE option.

a) Is not correct. Test execution and coverage tools facilitate the automated execution of test cases and the measurement of the coverage achieved by running those test cases. However, these tools do not help with the organization of defects and configuration management b) Is not correct. Test design and implementation tools facilitate the generation of test cases, test data and test procedures, but they do not help with the organization of defects and configuration management c) Is not correct. Defect management tools are used to manage defects but are not testing tools and are not used to organize test cases or configuration management d) Is correct. Test management tools increase the test process efficiency by facilitating the management of the software development lifecycle (SDLC), requirements, tests, defects, and configuration management	FL-6.1.1

Given the following descriptions:

1. Support workflow tracking
2. Facilitate communication
3. Virtual machines
4. Support reviews

And the following test tool categories:

A. Static testing tools
B. Tools supporting scalability and deployment standardization
C. DevOps tools
D. Collaboration tools

Which of the following BEST matches the descriptions and categories?

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

Select ONE option.

Considering each of the listed tool categories and their descriptions: A. Static testing tools – support the tester in performing reviews and static analysis (4) B. Tools supporting scalability and deployment standardization – For example, virtual machines, containerization tools (3) C. DevOps tools – support the DevOps delivery pipeline, workflow tracking, automated build process(es), continuous integration/continuous delivery (CI/CD) (1) D. Collaboration tools – facilitate communication (2) Thus: a) Is not correct b) Is not correct c) Is correct. The correct match is: 1C, 2D, 3B, 4A d) Is not correct	FL-6.1.1

What is the primary purpose of a test execution tool?

a. It runs automated test scripts to test the test object
b. It automatically records defects in the defect tracking system
c. It analyzes code to determine if there are any coding standard violations
d. It tracks test cases, defects and requirements traceability

A is correct. This is the primary purpose of the test execution tools.

B may be something the tool can do, but this is not the primary purpose.

C is a static analysis tool and D is a test management tool.

Which of the following is an example of a tool that supports static testing?

a. A tool that assists with tracking the results of reviews
b. A defect tracking tool
c. A test automation tool
d. A tool that helps design test cases for security testing

A is correct. Reviews are a form of static testing and a tool that supports reviews is an example of a tool that supports static testing.

B is an example of a management tool used for defect management.

C is an example of a test execution tool.

D is an example of a test design tool.

6.2.1 (K1) Recall the benefits and risks of test automation

Which item correctly identifies a potential risk of performing test automation?

a) It may introduce unknown regressions in production
b) Sufficient efforts to maintain testware may not be properly allocated
c) Testing tools and associated testware may not be sufficiently relied upon
d) It may reduce the time allocated for manual testing

Select ONE option.

a) Is not correct. Test automation does not introduce unknown regressions in production b) Is correct. Wrong allocation of effort to maintain testware is a risk c) Is not correct. Test tools must be selected so that they and their testware can be relied upon d) Is not correct. The primary goal of test automation is to reduce manual testing. So, this is a benefit, not a risk	FL-6.2.1

Which of the following is MOST likely to be a risk of test automation?

a) The detection of additional high-severity defects
b) Providing measures that are too complicated for humans to derive
c) Incompatibility with the development platform
d) Substantially reduced test execution times

Select ONE options.

a) Is not correct. The detection of additional high-severity defects would be a benefit of test automation, rather than a risk b) Is not correct. The provision of measures that are too complicated for humans to derive themselves is normally considered to be a benefit of test automation c) Is correct. If the test automation is incompatible with the development platform, then it will not be able to integrate them, and, for instance, pass test inputs to the test object and receive test results from the test object d) Is not correct. Substantially reduced test execution times would normally be considered a benefit that is provided by test automation	FL-6.2.1

Which of the following is MOST likely to be a benefit of test automation?

a) The capability of generating test cases without access to the test basis
b) The achievement of increased coverage through more objective assessment
c) The increase in test execution times available with higher processing power
d) The prevention of human errors through greater consistency and repeatability

Select ONE option.

a) Is not correct. 'The capability of generating test cases without access to the test basis' is not possible. The generation of test cases by either testers or tools requires access to the test basis b) Is not correct. 'The achievement of increased coverage through more objective assessment' is not a direct benefit of test automation. Test automation will provide more objective assessment of coverage, however that objective assessment will not increase the coverage. Only by using the results of the coverage to write further test cases can the coverage possibly be increased c) Is not correct. 'The increase in test execution times available with higher processing power' is a contradictory statement as higher processing power would normally reduce execution times, and increased execution times are not a benefit as the testing would take longer d) Is correct. The prevention of human errors through greater consistency and repeatability is a benefit of test automation as test automation cannot suffer from human errors. For instance, it means that tests are consistently derived from requirements, test data is created in a systematic manner, and tests are executed by a tool in the same order with the same frequency	FL-6.2.1

Which of the following is MOST likely to be a benefit of test automation?

a) It provides coverage measures that are too complicated for humans to derive
b) It shares responsibility for the testing with the tool vendor
c) It removes the need for critical thinking when analyzing test results
d) It generates test cases from an analysis of the program code

Select ONE option.

a) Is correct. Test automation can provide measures that are too complicated for humans to derive, such as white-box test coverage measures for all but the most trivial code b) Is not correct. By using test tools the responsibility for the testing is NOT shared with the tool vendor as the vendor is not involved in the testing, and it is the tester's responsibility. The only possible responsibility that could be assigned to the tool vendor is if the tool fails to work as expected and provides incorrect test results c) Is not correct. Testers still need to perform critical thinking when analyzing anomalies in the test results to determine their likely cause d) Is not correct. Neither testers nor tools can generate test cases simply from an analysis of the program code as the code is the implementation and provides no information on the expected results, which will need to come from another part of the test basis, such as the design specification	FL-6.2.1

Which of the following is a risk with test automation?

a. Using an automation tool that will not be supported in the future
b. Developing test automation for particularly tedious manual testing areas
c. Using technical testers to implement the automation
d. Developing automated reporting

A is correct. That is a known risk with test automation because it will be dependent upon the tool used for implementation and that tool might fall out of support by the vendor or the community.

B, C and D are expected results from automation and are not risks.

Which of the following is a benefit of test automation?

a. Test execution is faster
b. Manual testing becomes obsolete
c. ROI is easy to determine
d. Test implementation is faster

A is correct. Test execution should be faster with automation than with manual testing, once the test cases have been developed.

Developing automation takes more time than writing manual test cases (usually) so D is incorrect.

B is incorrect because manual testing isn't obsolete, it can concentrate on new areas.

C is not correct because return on investment (ROI) can be tricky to calculate as it has to be based on equivalent manual test effort.

Conclusion

In this document :

- **We identified the examinable learning objectives.**
- **We presented the probability of questions for each part of chapter 6.**
- **We summarized chapter 6.**
- **We provided section-wise questions and their answers for chapter 6.**

If you need any assistance or have questions, feel free to reach out! 😊

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