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FOUNDATION LEVEL 4.0

EXAM PREPARATION

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FOUNDATION LEVEL 4.0
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ISTQB CTFL ver. 4

Exam Preparation

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Chapter 1 - Fundamentals of Testing

1.1 Basic Questions (30x)

? Q1

What is the main purpose of software testing?

- A) Only executing tests
- B) Detecting defects and evaluating software quality
- C) Developing software
- D) Creating software documentation

? Q2

What does dynamic testing involve?

- A) Reviewing documents
- B) Executing the software
- C) Static analysis
- D) Writing test cases

? Q3

Which of the following is not a typical testing objective?

- A) Evaluating work products
- B) Triggering defects
- C) Ensuring insufficient coverage
- D) Building confidence in quality

? Q4

What is the main focus of validation in testing?

- A) Checking if the system meets specified requirements
- B) Checking if the system meets user needs
- C) Reviewing test plans
- D) Writing code

? Q5

Which activity is not part of debugging?

- A) Reproducing a defect
- B) Fixing the root cause of a defect
- C) Executing dynamic tests
- D) Diagnosing the root cause

?

Q6

Why is exhaustive testing considered impossible?

- A) It is too expensive
- B) It requires too many resources
- C) It is only feasible in trivial cases
- D) All of the above

?

Q7

What does the principle "Testing shows the presence, not the absence of defects" imply?

- A) Testing proves that software is defect-free
- B) Testing can only show that defects exist
- C) Testing ensures that no defects remain
- D) Testing is unnecessary

?

Q8

Which activity is not part of test closure activities?

- A) Test planning
- B) Archiving testware
- C) Decommissioning the test environment
- D) Creating a test completion report

?

Q9

Which factor is not listed as an influence on the test process?

- A) Stakeholders
- B) Business domain
- C) Developer's salary
- D) Project constraints

?

Q10

What is testware?

- A) Tools used for testing

- B) Work products created during testing
- C) A type of software defect
- D) A testing method

❓ Q11

Which skill is not considered particularly relevant for testers?

- A) Attention to detail
- B) Good communication skills
- C) Ability to sing
- D) Analytical thinking

❓ Q12

What does the whole-team approach in testing emphasize?

- A) Only testers are responsible for quality
- B) Everyone in the team is responsible for quality
- C) Testers work in isolation
- D) Developers handle all testing

❓ Q13

What is the main advantage of independent testers?

- A) They always find more defects
- B) They provide different perspectives and biases
- C) They are cheaper than developers
- D) They write better code

❓ Q14

Which of the following is a form of quality control?

- A) Software development
- B) Testing
- C) Marketing
- D) Customer feedback

❓ Q15

For what purpose is root cause analysis typically conducted?

- A) Finding new features
- B) Identifying the underlying problem

- C) Planning the next project
- D) Writing user manuals

?

Q16

What does test planning involve?

- A) Defining test objectives and selecting an approach
- B) Executing tests
- C) Debugging software
- D) Writing user documentation

?

Q17

Which type of testing does not involve executing software?

- A) Dynamic testing
- B) Static testing
- C) Regression testing
- D) Confirmation testing

?

Q18

What is one of the main objectives of regression testing?

- A) Identifying new features
- B) Ensuring that defect fixes do not introduce new defects
- C) Writing new test cases
- D) Reviewing test plans

?

Q19

What does the absence of error fallacy refer to?

- A) The belief that software without defects is perfect
- B) Thinking that testing is unnecessary
- C) Assuming that verification ensures system success
- D) Ignoring validation

?

Q20

Which activity is not part of test implementation?

- A) Creating test data
- B) Writing code
- C) Creating automated test scripts

- D) Setting up the test environment

?

Q21

What is the role of test monitoring and control?

- A) Reviewing the progress of test activities and making adjustments
- B) Writing test cases
- C) Debugging defects
- D) Developing software

?

Q22

What is a common outcome of test closure activities?

- A) New test cases
- B) Test completion report
- C) Test scripts
- D) Test data

?

Q23

What is one of the general skills required for testing?

- A) Ability to program in multiple languages
- B) Analytical thinking
- C) Sales skills
- D) Marketing knowledge

?

Q24

What is the purpose of confirmation testing?

- A) Confirming that new features work
- B) Checking if defect fixes have resolved the issue
- C) Writing new test plans
- D) Reviewing existing test cases

?

Q25

What is the difference between testing and quality assurance (QA)?

- A) Testing is product-focused; QA is process-focused
- B) QA is only for software development
- C) Testing and QA are the same
- D) Testing focuses on prevention

?

Q26

Which principle states that defects cluster together?

- A) Exhaustive testing is impossible
- B) Early testing saves time and money
- C) Defects are concentrated in specific areas
- D) Tests become less effective over time

?

Q27

What does the principle "Tests wear out" mean?

- A) Testers become fatigued
- B) Repeated tests become less effective
- C) Software degrades over time
- D) Testing is unnecessary over time

?

Q28

Which factor is not considered in the testing process?

- A) Stakeholder expectations
- B) Technical factors
- C) Project constraints
- D) Personal preferences of the tester

?

Q29

What is the main focus of the testing role?

- A) Test planning and control
- B) Test analysis and execution
- C) Marketing and sales
- D) Product design

?

Q30

What is one of the main tasks in test design?

- A) Defining test objectives
- B) Creating test cases
- C) Debugging software
- D) Writing user manuals

1.2 ✓ Answers of Basic Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	B) Detecting defects and evaluating software quality.	FL-1.1.1	The main goal of testing is to identify defects and assess software quality.
Q2	B) Executing the software.	FL-1.2.1	Dynamic testing involves running the software and observing its behavior.
Q3	C) Ensuring insufficient coverage.	FL-1.1.2	The goal of testing is to improve coverage, not reduce it.
Q4	B) Checking if the system meets user needs.	FL-1.2.2	Validation ensures the system fulfills the actual needs of users.
Q5	C) Executing dynamic tests.	FL-1.3.1	Debugging focuses on identifying and fixing defects, not executing tests.
Q6	D) All of the above.	FL-1.1.3	Comprehensive testing is impractical due to cost, time, and resource limitations.
Q7	B) Testing can only show that defects exist.	FL-1.1.4	Testing cannot prove the absence of defects, only their presence.
Q8	A) Test planning.	FL-1.4.1	Test planning is part of the initial test process, not closure activities.
Q9	C) Developer's salary.	FL-1.1.5	The salary of developers does not influence the testing process.
Q10	B) Work products created during testing.	FL-1.5.1	Testware includes all work products used and produced in testing.
Q11	C) Ability to sing.	FL-1.6.1	Singing is not a required skill for software testers.
Q12	B) Everyone in the team is responsible for quality.	FL-1.1.6	Quality is a shared responsibility among the entire team.
Q13	B) They provide different perspectives and biases.	FL-1.6.2	Independent testers offer an unbiased view, improving defect detection.
Q14	B) Testing.	FL-1.1.7	Testing is a key quality control activity in software development.
Q15	B) Identifying the underlying problem.	FL-1.1.8	Root cause analysis helps find and eliminate the cause of defects.

Question Number	Correct Answer	Related Chapter	Explanation
Q16	A) Defining test objectives and selecting an approach.	FL-1.3.1	Test planning defines the scope, objectives, and approach for testing.
Q17	B) Static testing.	FL-1.2.1	Static testing evaluates work products without executing the software.
Q18	B) Ensuring that defect fixes do not introduce new defects.	FL-1.2.2	Regression testing ensures that new changes do not negatively impact existing functionality.
Q19	C) Assuming that verification ensures system success.	FL-1.1.4	A system can be verified but still not fulfill user needs, hence validation is necessary.
Q20	B) Writing code.	FL-1.3.2	Test implementation focuses on setting up tests, not software development.
Q21	A) Reviewing the progress of test activities and making adjustments.	FL-1.3.3	Test monitoring tracks progress and makes necessary adjustments.
Q22	B) Test completion report.	FL-1.4.1	The test completion report summarizes test outcomes and findings.
Q23	B) Analytical thinking.	FL-1.6.1	Analytical thinking is crucial for test design, analysis, and problem-solving.
Q24	B) Checking if defect fixes have resolved the issue.	FL-1.2.2	Confirmation testing ensures that defects have been successfully fixed.
Q25	A) Testing is product-focused; QA is process-focused.	FL-1.1.6	QA ensures that the right processes are followed, while testing verifies the product.
Q26	C) Defects are concentrated in specific areas.	FL-1.1.5	The defect clustering principle states that most defects are found in a small portion of the system.
Q27	B) Repeated tests become less effective.	FL-1.1.5	Running the same tests repeatedly may not find new defects.
Q28	D) Personal preferences of the tester.	FL-1.1.5	Testing should be based on standards and project needs, not individual preferences.
Q29	B) Test analysis and execution.	FL-1.3.2	The tester's role primarily involves test case creation, execution, and analysis.

Question Number	Correct Answer	Related Chapter	Explanation
Q30	B) Creating test cases.	FL-1.3.1	Test design focuses on defining and specifying test cases.

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1.3 Intermediate Questions (20x)

? Q1

Which of the following is NOT a typical test objective?

- a) Preventing defects by continuously improving development processes.
- b) Ensuring the test object is free from defects before release.
- c) Providing confidence in the quality of the test object.
- d) Finding failures before the software is released.

? Q2

Which of the following statements correctly describes the difference between testing and debugging?

- a) Debugging involves the execution of test cases, while testing identifies and fixes failures.
- b) Testing identifies failures, while debugging investigates and removes the root causes of failures.
- c) Testing prevents defects, while debugging ensures quality assurance.
- d) Debugging is performed by independent test teams, whereas testing is performed only by developers.

? Q3

Which of the following is a valid reason for testing software?

- a) To eliminate all possible defects in the software.
- b) To check whether the software meets user needs and requirements.
- c) To replace the need for static analysis and reviews.
- d) To verify that developers followed the correct coding style.

? Q4

Which of the following is an example of a defect in a system?

- a) A tester finds that clicking a button produces no response.
- b) A developer misreads a requirement and implements an incorrect function.
- c) The system runs slowly on outdated hardware.
- d) A user enters an incorrect password and is denied access.

? Q5

Which of the following is an example of a failure?

- a) A system crash caused by an unhandled exception.
- b) A missing requirement in a specification.

- c) A tester forgetting to execute a test case.
- d) An incorrect variable name in the source code.

?

Q6

A team is following an Agile development model. How can testers contribute to early defect detection?

- a) By running tests only at the end of each iteration.
- b) By participating in backlog refinement and reviewing acceptance criteria.
- c) By performing only automated regression testing.
- d) By waiting until the code is complete before testing.

?

Q7

A software tester finds an issue where a login form accepts empty passwords. What type of issue is this?

- a) Failure
- b) Defect
- c) Root cause
- d) Mistake

?

Q8

Which testing principle explains why exhaustive testing is not feasible?

- a) Testing depends on the environment.
- b) Early testing saves time and cost.
- c) Exhaustive testing is impossible.
- d) Testing proves the absence of defects.

?

Q9

A tester finds a defect in the software but decides not to report it because it does not seem important. What principle of testing is being ignored?

- a) Testing depends on the context.
- b) Defects cluster together.
- c) Testing is context-independent.
- d) Absence-of-errors fallacy.

?

Q10

Which of the following is true about software testing?

- a) Testing improves software reliability but cannot prove the absence of defects.
- b) If testing finds no defects, the software is guaranteed to work correctly.

- c) The primary goal of testing is to prove that the software works correctly.
- d) Complete testing is always possible with modern tools.

?

Q11

A developer writes incorrect logic in a function due to a misunderstanding of the specification. What is this an example of?

- a) Defect
- b) Error
- c) Failure
- d) Root cause

?

Q12

What is the primary purpose of acceptance testing?

- a) To evaluate whether the software meets business requirements.
- b) To test individual components in isolation.
- c) To validate code quality through static analysis.
- d) To identify the presence of security vulnerabilities.

?

Q13

What does the "absence-of-errors fallacy" in software testing imply?

- a) If no defects are found, the software is ready for production.
- b) Software testing should only focus on finding defects.
- c) Finding and fixing defects does not guarantee the software meets user needs.
- d) More defects are found by focusing on functional testing rather than security testing.

?

Q14

Which of the following statements is TRUE regarding static and dynamic testing?

- a) Dynamic testing is performed before static testing.
- b) Static testing is only useful for verifying UI elements.
- c) Static testing can detect defects without executing the code.
- d) Dynamic testing is more cost-effective than static testing.

?

Q15

A tester is reviewing a requirement specification document for inconsistencies. What type of testing is this?

- a) Unit testing
- b) Dynamic testing

- c) Static testing
- d) Regression testing

?

Q16

Which of the following statements about software failures is correct?

- a) Failures only occur due to defects in the code.
- b) All failures can be traced back to testing errors.
- c) Failures can be caused by environmental conditions as well as defects.
- d) Failures do not impact end users if handled properly.

?

Q17

A developer forgets to initialize a variable, which later causes an application to crash when executed. What is the **root cause** of this issue?

- a) The application crash
- b) The uninitialized variable in the code
- c) The failed test case
- d) The incorrect input from the user

?

Q18

Which of the following BEST explains the importance of testing?

- a) Testing completely eliminates software defects before release.
- b) Testing improves confidence in software by detecting issues early.
- c) Testing should be done only after development is completed.
- d) Testing is primarily for compliance purposes.

?

Q19

What is the main advantage of finding defects early in the software development lifecycle?

- a) It increases testing time.
- b) It reduces the cost and effort needed to fix defects.
- c) It guarantees defect-free software.
- d) It eliminates the need for user acceptance testing.

?

Q20

Which of the following is a reason why software testing cannot ensure that a program is completely free of defects?

- a) Software testing is performed manually.

- b) The complexity of software makes exhaustive testing impractical.
- c) Testers lack the skills to detect all defects.
- d) Modern development tools prevent all software defects.

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1.4 Answers of Intermediate Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	b) Ensuring the test object is free from defects before release.	FL-1.1.1	Testing reduces risk but does not guarantee a defect-free product.
Q2	b) Testing identifies failures, while debugging investigates and removes the root causes of failures.	FL-1.1.2	Testing finds defects; debugging is the process of analyzing and fixing them.
Q3	b) To check whether the software meets user needs and requirements.	FL-1.2.1	Testing ensures that software functions as intended and meets user expectations.
Q4	b) A developer misreads a requirement and implements an incorrect function.	FL-1.2.3	A defect is introduced when the developer incorrectly implements the requirement.
Q5	a) A system crash caused by an unhandled exception.	FL-1.2.3	A failure occurs when a system does not behave as expected during execution.
Q6	b) By participating in backlog refinement and reviewing acceptance criteria.	FL-1.2.1	Early involvement of testers helps prevent defects before coding begins.
Q7	b) Defect	FL-1.2.3	A defect is an incorrect implementation in the software that could cause a failure.
Q8	c) Exhaustive testing is impossible.	FL-1.3.1	It is not feasible to test all possible inputs, outputs, and states of a system.
Q9	b) Defects cluster together.	FL-1.3.1	Most defects are found in a small number of modules due to complex functionalities.
Q10	a) Testing improves software reliability but cannot prove the absence of defects.	FL-1.3.1	Testing can show that defects exist but cannot prove that none remain.
Q11	b) Error	FL-1.2.3	An error is a human mistake that can introduce defects into the software.

Question Number	Correct Answer	Related Chapter	Explanation
Q12	a) To evaluate whether the software meets business requirements.	FL-1.1.1	Acceptance testing ensures the system meets the business and user needs.
Q13	c) Finding and fixing defects does not guarantee the software meets user needs.	FL-1.3.1	Fixing all defects does not ensure the software is useful or meets expectations.
Q14	c) Static testing can detect defects without executing the code.	FL-1.2.2	Static testing identifies defects in requirements and code without running the program.
Q15	c) Static testing	FL-1.2.2	Reviewing documentation for defects is a type of static testing.
Q16	c) Failures can be caused by environmental conditions as well as defects.	FL-1.2.3	Failures can result from software defects or external factors like hardware issues.
Q17	b) The uninitialized variable in the code	FL-1.2.3	The root cause is the mistake that introduced the defect, which later caused a failure.
Q18	b) Testing improves confidence in software by detecting issues early.	FL-1.2.1	Testing helps uncover defects early, reducing costs and improving quality.
Q19	b) It reduces the cost and effort needed to fix defects.	FL-1.2.1	Fixing defects early is cheaper and more efficient than fixing them later.
Q20	b) The complexity of software makes exhaustive testing impractical.	FL-1.3.1	It is impossible to test all possible inputs, paths, and interactions in software.

1.5 Questions from exam sets

? Q1

Which of the following statements describes an achievable test objective?

- a) To prove that there are no unfixed defects in the system under test
- b) To prove that there will be no failures after the implementation of the system into production
- c) To reduce the risk level of the test object and to build confidence in the quality level
- d) To verify that there are no untested combinations of inputs

? Q2

What is the main difference between testing and debugging?

- a) Testing is the process of finding defects, while debugging is the process of fixing defects.
- b) Testing verifies requirements, while debugging verifies design.
- c) Testing is the process of running software, while debugging is the process of analyzing the software.
- d) Testing is the process of defect prevention, while debugging is the process of defect elimination.

? Q3

Which of the following best describes why testing is necessary in the software development lifecycle?

- a) Dynamic testing is the only way to evaluate the quality of a test object.
- b) Testing ensures that users understand and comprehend the needs of the developers.
- c) Testing is carried out exclusively to meet regulatory standards.
- d) Testing helps identify defects, which improves the quality of the test object.

? Q4

Which of the following statements about quality assurance (QA) and/or quality control (QC) is correct?

- a) QA is a corrective approach
- b) Testing is a part of QC
- c) Testing is another term for QC
- d) Quality control is a preventive approach

? Q5

A phone ringing in a neighboring cubicle distracts a software developer causing them to improperly code the logic that checks the upper boundary of an input variable. Later, during system testing, a tester notices that this input field accepts invalid input values.

Which of the following terms accurately describes the incorrectly coded check of the upper boundary in this

scenario?

- a) Root cause
- b) Failure
- c) Error
- d) Defect

❓ Q6

You are part of a team testing a new system. You've noticed that no changes have been made to the existing regression test cases for several iterations, and no new bugs have been uncovered by regression testing. Your manager is satisfied, but you are not.

Which testing principle best explains your skepticism?

- a) Old tests become less effective
- b) Absence-of-errors fallacy
- c) Defects cluster together
- d) Exhaustive testing is impossible

1.6 ✓ Answers from exam sets

Question Number	Correct Answer	Related Chapter	Explanation	Related Set	Question Number in Set
Q1	c) To reduce the risk level of the test object and to build confidence in the quality level.	FL-1.1.1	Testing finds defects and failures, reducing risk and increasing confidence in the quality of the test object .	Set A	Q1
Q2	a) Testing is the process of finding defects, while debugging is the process of fixing defects.	FL-1.1.2	Debugging finds, analyzes, and eliminates the causes of failures, while testing identifies defects .	Set A	Q2
Q3	d) Testing helps identify defects, which improves the quality of the test object.	FL-1.2.1	Testing finds defects so they can be fixed, indirectly improving quality .	Set B	Q1
Q4	b) Testing is a part of QC.	FL-1.2.2	Testing is a form of quality control; QA is a process-oriented preventive approach .	Set B	Q2
Q5	d) Defect.	FL-1.2.3	The problem in the code is a defect, as defects are introduced by human error .	Set F	Q2
Q6	a) Old tests become less effective.	FL-1.3.1	This principle states that if the same tests are repeated over and over again, they eventually stop finding new defects .	Set A	Q3

Chapter 2 - Testing Throughout the Software Development Lifecycle

2.1 Basic Questions (30x)

? Q1

What does a Software Development Life Cycle model (SDLC) represent?

- a) Detailed design document
- b) Abstract representation of the software development process
- c) User manual
- d) Test plan

? Q2

Which of the following is a sequential development model?

- a) Spiral model
- b) V-model
- c) Prototyping
- d) Unified process

? Q3

What is an example of an iterative development model?

- a) Waterfall model
- b) V-model
- c) Spiral model
- d) Acceptance Test-Driven Development (ATDD)

? Q4

In which development model are Acceptance Test-Driven Development (ATDD) and Behavior-Driven Development (BDD) used?

- a) Sequential development model
- b) Iterative development model
- c) Incremental development model
- d) Agile development model

? Q5

What must be adapted in the SDLC to ensure success?

- a) Documentation
- b) Testing
- c) User requirements
- d) Coding standards

❓ Q6

In which SDLC model are testers typically involved in requirements reviews, test analysis, and test design in the early stages?

- a) Iterative development model
- b) Incremental development model
- c) Agile development model
- d) Sequential development model

❓ Q7

Which development model assumes that each iteration delivers a functional prototype or product increment?

- a) Waterfall model
- b) V-model
- c) Iterative development model
- d) Agile development model

❓ Q8

What type of testing is preferred in agile projects?

- a) Extensive documentation-based testing
- b) Experience-based testing
- c) Manual testing only
- d) Automated testing only

❓ Q9

What do good testing practices involve regardless of the SDLC model?

- a) Skipping test activities
- b) Testing only at the end of the development process
- c) Appropriate testing activity for each development activity
- d) Ignoring test documentation

❓ Q10

Which approach is followed by TDD, ATDD, and BDD?

- a) Waterfall approach
- b) Shift-Left approach
- c) V-model approach
- d) Big-Bang approach

❓ Q11

Which development approach uses the Given/When/Then format?

- a) TDD
- b) ATDD
- c) BDD
- d) V-model

❓ Q12

What is the main goal of DevOps?

- a) Isolating development and operations
- b) Creating synergy through collaboration between development and operations
- c) Replacing manual testing with automated testing
- d) Developing software without testing

❓ Q13

Which practice does Continuous Integration (CI) promote in testing?

- a) Shift-Left approach
- b) Shift-Right approach
- c) No testing
- d) Manual testing only

❓ Q14

What is a risk associated with DevOps?

- a) Lack of CI/CD tools
- b) Increased manual testing
- c) High level of automated testing
- d) No need for testing

❓ Q15

What is the main idea of the Shift-Left approach?

- a) Testing should be done later in the SDLC
- b) Testing should be done earlier in the SDLC
- c) Testing should be skipped
- d) Testing should be done only at the end of the SDLC

❓ Q16

Which activity is part of the Shift-Left approach?

- a) Writing test cases after the code has been written
- b) Performing non-functional tests only at the system level
- c) Completing static analysis before dynamic testing
- d) Ignoring specification reviews

❓ Q17

When are retrospectives commonly conducted?

- a) At the start of a project
- b) During the coding phase
- c) At the end of a project or iteration
- d) After the product release

❓ Q18

What is a benefit of conducting retrospectives for testing?

- a) Skipping testing phases
- b) Increased test effectiveness and efficiency
- c) Reduced team collaboration
- d) Avoiding process improvements

❓ Q19

What are test levels?

- a) Groups of unrelated testing activities
- b) Instances of the testing process related to different development stages
- c) Different levels of coding
- d) Phases of project management

❓ Q20

Which test level focuses on testing components in isolation?

- a) System testing

- b) Acceptance testing
- c) Component testing
- d) Integration testing

❓ Q21

What is the main focus of system testing?

- a) Testing components in isolation
- b) Testing interfaces between components
- c) Testing the overall behavior and capabilities of the system
- d) Testing user acceptance criteria

❓ Q22

Which test level requires test environments that resemble the production environment?

- a) Component testing
- b) System testing
- c) Acceptance testing
- d) System integration testing

❓ Q23

What is the main goal of functional testing?

- a) Verifying non-functional quality attributes
- b) Verifying functional completeness, correctness, and appropriateness
- c) Evaluating system performance
- d) Ensuring compatibility

❓ Q24

Which standard provides a classification of non-functional software quality attributes?

- a) ISO/IEC 12207
- b) ISO/IEC 25010
- c) ISO/IEC 14764
- d) ISO/IEC 29119

❓ Q25

What is the main goal of black-box testing?

- a) Verifying system behavior against its specifications
- b) Covering the underlying structure of the system

- c) Evaluating code quality
- d) Reviewing design documents

❓ Q26

What does confirmation testing validate?

- a) That the software operates within a specified time
- b) That a defect has been successfully fixed
- c) That the system can be ported to a new platform
- d) That the design meets user requirements

❓ Q27

What is the main goal of regression testing?

- a) Confirming new features
- b) Ensuring changes do not negatively affect existing functionality
- c) Testing performance efficiency
- d) Reviewing test plans

❓ Q28

What typically determines the scope of maintenance testing?

- a) The developer's expertise
- b) The risk of the change
- c) Customer requirements
- d) Coding standards

❓ Q29

What is an example of a trigger for maintenance testing?

- a) Project budget planning
- b) Upgrades or migrations of the operating environment
- c) Writing the test plan
- d) Developing the user manual

❓ Q30

What does maintenance testing involve?

- a) Ignoring system changes
- b) Evaluating the success of the implementation and checking for regressions
- c) Skipping impact analysis

- d) Avoiding testing of the system

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2.2 ✓ Answers of Basic Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	b) Abstract representation of the software development process.	FL-2.1.1	The SDLC represents the entire process of software development from requirements to maintenance.
Q2	b) V-model.	FL-2.1.2	The V-model follows a sequential structure where each development phase has a corresponding test phase.
Q3	c) Spiral model.	FL-2.1.2	The Spiral model follows an iterative approach, refining the product over multiple cycles.
Q4	d) Agile development model.	FL-2.1.3	Agile methodologies use ATDD and BDD for test-driven development.
Q5	c) User requirements.	FL-2.1.4	The SDLC must be adapted based on user requirements to ensure the product meets expectations.
Q6	d) Sequential development model.	FL-2.1.4	In sequential models like V-model, testers are involved in the early requirement stages.
Q7	d) Agile development model.	FL-2.1.5	Agile assumes that each iteration delivers a working software increment.
Q8	b) Experience-based testing.	FL-2.2.1	Agile projects prefer exploratory and experience-based testing due to fast-paced development cycles.
Q9	c) Appropriate testing activity for each development activity.	FL-2.2.2	Good testing practices involve aligning testing with the development lifecycle.
Q10	b) Shift-Left approach.	FL-2.2.3	TDD, ATDD, and BDD shift testing activities earlier in the development process.
Q11	c) BDD.	FL-2.2.3	BDD uses Given/When/Then to define expected behavior in tests.
Q12	b) Creating synergy through collaboration between development and operations.	FL-2.2.4	DevOps integrates development and operations for faster, reliable software delivery.

Question Number	Correct Answer	Related Chapter	Explanation
Q13	a) Shift-Left approach.	FL-2.2.4	CI promotes earlier and frequent testing in the development lifecycle.
Q14	c) High level of automated testing.	FL-2.2.4	DevOps requires extensive automation, which may lead to over-reliance and maintenance risks.
Q15	b) Testing should be done earlier in the SDLC.	FL-2.2.5	Shift-Left emphasizes early testing to detect defects sooner.
Q16	c) Completing static analysis before dynamic testing.	FL-2.2.5	Static analysis is a key part of the Shift-Left approach, detecting issues early.
Q17	c) At the end of a project or iteration.	FL-2.3.1	Retrospectives are held at the end of an iteration to evaluate improvements.
Q18	b) Increased test effectiveness and efficiency.	FL-2.3.1	Retrospectives improve processes, leading to more effective testing.
Q19	b) Instances of the testing process related to different development stages.	FL-2.4.1	Test levels correspond to different stages of software testing.
Q20	c) Component testing.	FL-2.4.2	Component testing ensures that individual software units work correctly in isolation.
Q21	c) Testing the overall behavior and capabilities of the system.	FL-2.4.3	System testing verifies that the complete system functions as expected.
Q22	c) Acceptance testing.	FL-2.4.3	Acceptance tests are conducted in an environment that closely resembles production.
Q23	b) Verifying functional completeness, correctness, and appropriateness.	FL-2.5.1	Functional testing ensures that the system meets functional requirements.
Q24	b) ISO/IEC 25010.	FL-2.5.2	This standard defines non-functional software quality attributes.
Q25	a) Verifying system behavior against its specifications.	FL-2.5.3	Black-box testing focuses on functional correctness based on specifications.
Q26	b) That a defect has been successfully fixed.	FL-2.6.1	Confirmation testing ensures that a previously reported defect no longer exists.

Question Number	Correct Answer	Related Chapter	Explanation
Q27	b) Ensuring changes do not negatively affect existing functionality.	FL-2.6.2	Regression testing ensures that modifications do not introduce new defects.
Q28	b) The risk of the change.	FL-2.7.1	The scope of maintenance testing depends on the risk associated with system changes.
Q29	b) Upgrades or migrations of the operating environment.	FL-2.7.1	Changes in the system environment often trigger the need for maintenance testing.
Q30	b) Evaluating the success of the implementation and checking for regressions.	FL-2.7.1	Maintenance testing ensures that updates do not cause regressions.

2.3 Intermediate Questions (20x)

? Q1

Which of the following best describes the role of testing in the software development lifecycle (SDLC)?

- a) Testing should begin only after the code is fully implemented.
- b) Testing is an isolated phase that occurs before deployment.
- c) Testing should be integrated throughout all phases of the SDLC.
- d) Testing is only required for safety-critical systems.

? Q2

Which of the following is a key benefit of performing testing during early development phases?

- a) Reduces the overall cost of fixing defects.
- b) Increases the number of defects found in production.
- c) Eliminates the need for regression testing.
- d) Reduces the need for developers to follow coding standards.

? Q3

Which of the following is NOT a characteristic of maintenance testing?

- a) It is performed on software that is already in use.
- b) It verifies that system changes have not introduced new defects.
- c) It is only performed for software that has been in production for over a year.
- d) It includes regression testing after updates.

? Q4

What is the primary purpose of regression testing?

- a) To confirm that no new defects have been introduced after changes.
- b) To ensure new functionalities work as expected.
- c) To test the performance of a system under load.
- d) To replace the need for unit testing.

? Q5

Which of the following testing levels is MOST likely to include tests based on business requirements?

- a) Unit testing
- b) Integration testing
- c) System testing

- d) Component testing

?

Q6

A developer integrates several modules of an application and runs a set of tests to verify that they interact correctly. What type of testing is the developer performing?

- a) Unit testing
- b) System testing
- c) Integration testing
- d) Regression testing

?

Q7

Which of the following best describes confirmation testing?

- a) Testing performed to check whether a defect has been successfully fixed.
- b) Testing to verify the impact of a code change on the entire system.
- c) Testing to confirm system performance under expected load.
- d) Testing performed to confirm compliance with industry standards.

?

Q8

Which of the following is an example of risk-based testing?

- a) Writing test cases only for functional requirements.
- b) Prioritizing test execution based on the probability and impact of failures.
- c) Running all test cases regardless of their relevance to current changes.
- d) Automating all tests to eliminate risk.

?

Q9

Which of the following test levels focuses on interactions between components?

- a) System testing
- b) Integration testing
- c) Unit testing
- d) Acceptance testing

?

Q10

Which of the following statements about acceptance testing is TRUE?

- a) It ensures all components of the system are functioning at a code level.
- b) It verifies the system meets business needs and stakeholder expectations.
- c) It is always performed before system testing.

- d) It is focused only on performance and load testing.

?

Q11

Which of the following statements is TRUE about the Shift-Left approach?

- a) It involves moving testing to later stages of development.
- b) It ensures testing is conducted as early as possible in the SDLC.
- c) It eliminates the need for unit testing.
- d) It focuses only on automated testing.

?

Q12

Which of the following is a key goal of DevOps testing?

- a) To completely replace manual testing with automation.
- b) To integrate testing into continuous delivery and deployment pipelines.
- c) To execute testing only in production environments.
- d) To eliminate the need for exploratory testing.

?

Q13

Which of the following statements about test levels is TRUE?

- a) Unit testing validates that the entire system meets business requirements.
- b) Integration testing focuses on verifying individual software components.
- c) System testing validates the functionality of the entire software application.
- d) Acceptance testing is performed before component testing.

?

Q14

Which of the following best describes exploratory testing?

- a) Testing performed by executing pre-defined test cases.
- b) Testing based on simultaneous learning, test design, and execution.
- c) Testing that focuses only on non-functional requirements.
- d) A structured approach to automation testing.

?

Q15

What is the primary advantage of using continuous testing in an Agile environment?

- a) Reduces the need for developers to follow coding guidelines.
- b) Allows for immediate feedback on software quality.
- c) Eliminates the need for system testing.
- d) Ensures all defects are found before release.

?

Q16

Which of the following testing activities is most relevant during the design phase of software development?

- a) Test case execution
- b) Test planning and static testing
- c) Regression testing
- d) Load and performance testing

?

Q17

Which of the following testing types is typically performed after a defect is fixed?

- a) Load testing
- b) Regression testing
- c) Stress testing
- d) Static testing

?

Q18

Which of the following statements about testing in Agile projects is TRUE?

- a) Testing is performed only at the end of each iteration.
- b) Test automation is mandatory in Agile projects.
- c) Testing is integrated throughout the development cycle.
- d) Agile projects do not require regression testing.

?

Q19

Which of the following test types is primarily used to determine if an application meets regulatory requirements?

- a) Functional testing
- b) Compliance testing
- c) Load testing
- d) Stress testing

?

Q20

Which of the following is an example of maintenance testing?

- a) Testing to ensure that a recent defect fix has not introduced new issues.
- b) Testing a newly developed system before release.
- c) Testing an individual component of the system in isolation.
- d) Testing to confirm that a project is within budget.

2.4 ✓ Answers of Intermediate Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	c) Testing should be integrated throughout all phases of the SDLC.	FL-2.1.1	Testing should be continuous, starting as early as possible to detect defects sooner.
Q2	a) Reduces the overall cost of fixing defects.	FL-2.1.1	Detecting and fixing defects early reduces costs significantly compared to later in the SDLC.
Q3	c) It is only performed for software that has been in production for over a year.	FL-2.3.1	Maintenance testing applies to any system in production, regardless of duration.
Q4	a) To confirm that no new defects have been introduced after changes.	FL-2.2.3	Regression testing ensures previously working functionality remains unaffected after updates.
Q5	c) System testing	FL-2.2.1	System testing validates that the entire software meets business and functional requirements.
Q6	c) Integration testing	FL-2.2.1	Integration testing ensures that different components interact correctly within the system.
Q7	a) Testing performed to check whether a defect has been successfully fixed.	FL-2.2.3	Confirmation testing is performed to verify that a reported defect has been properly fixed.
Q8	b) Prioritizing test execution based on probability and impact of failures.	FL-5.2.3	Risk-based testing focuses on the likelihood and severity of potential failures.
Q9	b) Integration testing	FL-2.2.1	Integration testing evaluates how different components or modules interact with each other.
Q10	b) It verifies the system meets business needs and stakeholder expectations.	FL-2.2.1	Acceptance testing ensures the system aligns with business goals and user requirements.
Q11	b) It ensures testing is conducted as early as possible in the SDLC.	FL-2.1.5	The Shift-Left approach moves testing earlier to reduce the cost of defects and improve quality.

Question Number	Correct Answer	Related Chapter	Explanation
Q12	b) To integrate testing into continuous delivery and deployment pipelines.	FL-2.1.4	DevOps promotes automated and continuous testing throughout development and deployment.
Q13	c) System testing validates the functionality of the entire software application.	FL-2.2.1	System testing evaluates the complete software system against specified requirements.
Q14	b) Testing based on simultaneous learning, test design, and execution.	FL-4.4.2	Exploratory testing is an informal approach where testers actively explore the system for defects.
Q15	b) Allows for immediate feedback on software quality.	FL-2.1.6	Continuous testing provides rapid feedback to developers, enabling quicker defect resolution.
Q16	b) Test planning and static testing	FL-2.1.2	Early test planning and static analysis help identify defects before implementation.
Q17	b) Regression testing	FL-2.2.3	Regression testing ensures recent changes do not negatively impact existing functionality.
Q18	c) Testing is integrated throughout the development cycle.	FL-2.1.1	Agile testing occurs continuously and is an integral part of the development cycle.
Q19	b) Compliance testing	FL-2.2.2	Compliance testing verifies adherence to legal, security, and regulatory requirements.
Q20	a) Testing to ensure that a recent defect fix has not introduced new issues.	FL-2.3.1	Maintenance testing includes regression testing after updates or modifications to a system.

2.5 Questions from exam sets

? Q1

Which of the following statements describes a good practice for testing in all software lifecycle models (SDLC)?

- a) Test activities for a testing phase begin during the corresponding development phase.
- b) A testing phase in the software lifecycle model starts when the preceding testing phase is completed.
- c) Testing is considered as a separate phase. It begins when development is completed.
- d) Testing is added to development as an increment.

? Q2

Which of the following described development approaches does NOT define testing as a driver of software development?

- a) Tests are created first. Then the code is written.
- b) Test cases drive the coding.
- c) The desired behavior of an application is defined by test cases.
- d) Tests are derived from acceptance criteria and partially automated.

? Q3

Which of the following statements BEST describes the Shift-Left approach in software development lifecycle (SDLC) testing?

- a) Test activities start as early as possible in the SDLC and are conducted in parallel with development activities.
- b) Test activities start as late as possible in the SDLC and are conducted after the development activities.
- c) Test activities start in the middle of the SDLC and are conducted in parallel with development activities.
- d) Test activities are distributed across multiple phases of the SDLC and conducted in each phase according to the maturity level of the product.

? Q4

As a tester in a project following the iterative-incremental development model, which of the following statements should you consider to optimally integrate the testing activities?

- a) You plan testing as a one-time activity once all increments of the product have been implemented.
- b) Static tests should only take place at the component testing level to find as many code-related

fault conditions early as possible.

- c) Since quick feedback on the quality of an increment is important, testers should ideally perform regression tests manually.
- d) Due to the delivery of new increments over various iterations, it is important to build comprehensive regression tests.

❓ Q5

Which of the following statements about DevOps is CORRECT?

- a) To speed up releases, continuous integration is used to encourage developers to submit code quickly without the need to complete component testing.
- b) To be able to update and release systems faster, automated regression tests are required to reduce the danger of regression.
- c) To treat both developers and operations equally, the testers will allocate more effort to release testing to operations by using a shift-right approach.
- d) To create increased synergy between testers, developers, and operations, the testing must become fully automated with no manual testing.

❓ Q6

Which of the following decisions should NOT trigger maintenance testing?

- a) The decision to test the maintainability of the software.
- b) The decision to test the system after migrating to a new operating platform.
- c) The decision to retest a system after fixing major defects.
- d) The decision to verify the impact of environmental changes on a system.

2.6 ✓ Answers from exam sets

Question Number	Correct Answer	Related Chapter	Explanation	Related Set	Question Number in Set
Q1	a) Test activities for a testing phase begin during the corresponding development phase.	FL-2.1.2	Testing should begin during development, such as test analysis and test design, to detect and fix defects early .	Set E	Q9
Q2	d) Tests are derived from acceptance criteria and partially automated.	FL-2.1.3	This approach does not define test-driven development because the test cases are designed based on acceptance criteria but not necessarily before development .	Set E	Q10
Q3	a) Test activities start as early as possible in the SDLC and are conducted in parallel with development activities.	FL-2.1.5	The Shift-Left approach implements early testing, where test activities begin as early as possible and are conducted in parallel with development .	Set E	Q11
Q4	d) Due to the delivery of new increments over various iterations, it is important to build comprehensive regression tests.	FL-2.1.1	Frequent delivery of increments requires comprehensive regression testing to mitigate regression risks .	Set E	Q12
Q5	b) To be able to update and release systems faster, automated regression tests are required to reduce the danger of regression.	FL-2.1.4	DevOps improves testing through automation, reducing regression risks by increasing automated regression testing .	Set B	Q12
Q6	a) The decision to test the maintainability of the software.	FL-2.3.1	Maintenance testing is triggered by software, environment, or data changes, not merely to	Set B	Q13

Question Number	Correct Answer	Related Chapter	Explanation	Related Set	Question Number in Set
assess maintainability .					

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Chapter 3 - Static Testing

3.1 Basic Questions (30x)

? Q1

What is a difference between static and dynamic testing?

- a) Static testing requires executable code, dynamic testing does not.
- b) Static testing can check non-executable work products, while dynamic testing can only check executable work products.
- c) Static testing requires more effort than dynamic testing.
- d) Static testing finds defects only indirectly, dynamic testing finds defects directly.

? Q2

Which type of analysis can identify problems before dynamic testing is performed?

- a) Dynamic analysis
- b) Error analysis
- c) Static analysis
- d) Functional analysis

? Q3

Which type of products can be statically tested?

- a) Only source code
- b) Requirements documents, test plans, test cases, project documentation
- c) Only test plans and test cases
- d) Only executable files

? Q4

Which products are not suitable for static testing?

- a) Requirements documents
- b) Test plans
- c) Source code
- d) Third-party executable files

? Q5

Why is it beneficial to perform static tests early in the SDLC?

- a) To shorten development time
- b) To find fewer defects
- c) To increase costs
- d) To find defects in the earliest phases

❓ Q6

Which stakeholders should be involved in static tests?

- a) Only developers
- b) Only testers
- c) Testers, business representatives, and developers
- d) Only managers

❓ Q7

Which defects can be more easily and/or cost-effectively found by static tests?

- a) Runtime errors
- b) Inconsistencies, ambiguities, contradictions
- c) Memory leaks
- d) Performance issues

❓ Q8

Which tests can measure quality attributes that do not depend on executing the code?

- a) Dynamic tests
- b) Static tests
- c) Load tests
- d) Security tests

❓ Q9

What is an example of a static analysis tool?

- a) Debugger
- b) Performance monitor
- c) Spell checker
- d) Load testing tool

❓ Q10

What is the purpose of the planning phase in the review process?

- a) To fix defects

- b) To end the review
- c) To define the scope and objectives of the review
- d) To evaluate participants

❓ Q11

What is the main purpose of the communication and analysis phase?

- a) To fix defects
- b) To create documents
- c) To analyze anomalies and determine their status
- d) To plan the review

❓ Q12

Which role decides what should be reviewed and provides resources?

- a) Manager
- b) Author
- c) Moderator
- d) Scribe

❓ Q13

Which role creates and fixes the work product to be reviewed?

- a) Manager
- b) Author
- c) Moderator
- d) Scribe

❓ Q14

Which role ensures the effective execution of review sessions?

- a) Manager
- b) Author
- c) Moderator
- d) Scribe

❓ Q15

Which role conducts individual reviews?

- a) Manager
- b) Author

- c) Moderator
- d) Reviewer

❓ Q16

Which role has overall responsibility for the review?

- a) Manager
- b) Author
- c) Moderator
- d) Review leader

❓ Q17

Which type of review does not follow a defined process and does not require a formal documented result?

- a) Informal review
- b) Walkthrough
- c) Technical review
- d) Inspection

❓ Q18

Which type of review is led by the author and can have multiple objectives?

- a) Informal review
- b) Walkthrough
- c) Technical review
- d) Inspection

❓ Q19

Which type of review is conducted by technically qualified reviewers and led by a moderator?

- a) Informal review
- b) Walkthrough
- c) Technical review
- d) Inspection

❓ Q20

Which type of review is the most formal and follows the full generic process?

- a) Informal review
- b) Walkthrough
- c) Technical review

- d) Inspection

?

Q21

What are success criteria for reviews?

- a) Evaluating participants
- b) Creating documentation
- c) Clear objectives and measurable exit criteria
- d) Conducting reviews on large sections

?

Q22

Which phase ensures that all participants have access to the work product and understand their roles?

- a) Planning
- b) Review initiation
- c) Individual review
- d) Communication and analysis

?

Q23

Which phase includes the evaluation of the quality of the work product through individual review?

- a) Planning
- b) Review initiation
- c) Individual review
- d) Communication and analysis

?

Q24

Which phase includes the creation of a defect report for each identified issue?

- a) Planning
- b) Review initiation
- c) Individual review
- d) Fixing and reporting

?

Q25

Which type of review collects metrics to improve the SDLC and the review process?

- a) Informal review
- b) Walkthrough
- c) Technical review
- d) Inspection

?

Q26

Which role cannot act as a review leader or scribe when conducting inspections?

- a) Manager
- b) Author
- c) Moderator
- d) Scribe

?

Q27

What type of defects can be detected by static testing but not by dynamic testing?

- a) Runtime errors
- b) Memory leaks
- c) Performance issues
- d) Unreachable code

?

Q28

What is an example of a quality attribute that can be measured through static testing?

- a) Performance efficiency
- b) Maintainability
- c) Memory consumption
- d) Response time

?

Q29

Which activities are included in the review process?

- a) Only planning and fixing
- b) Only communication and analysis
- c) Only individual review and planning
- d) Planning, review initiation, individual review, communication and analysis, fixing and reporting

?

Q30

Why is it important to conduct reviews on small portions?

- a) To find more defects
- b) To require less time
- c) To simplify planning
- d) To maintain the reviewers' focus

3.2 ✓ Answers of Basic Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	b) Static testing can check non-executable work products, while dynamic testing can only check executable work products.	FL-3.1.1	Static testing applies to various work products, unlike dynamic testing.
Q2	c) Static analysis.	FL-3.2.1	Static analysis finds defects before execution.
Q3	b) Requirements documents, test plans, test cases, project documentation.	FL-3.1.1	Static testing is applicable to multiple documentation types.
Q4	d) Third-party executable files.	FL-3.1.1	Static testing requires access to internal work products.
Q5	d) To find defects in the earliest phases.	FL-3.1.2	Early static testing reduces the cost of fixing defects.
Q6	c) Testers, business representatives, and developers.	FL-3.2.2	Reviews benefit from multiple stakeholder perspectives.
Q7	b) Inconsistencies, ambiguities, contradictions.	FL-3.2.3	Static testing detects issues related to requirements and design inconsistencies.
Q8	b) Static tests.	FL-3.2.1	Static analysis evaluates code quality without execution.
Q9	c) Spell checker.	FL-3.2.1	Static analysis tools detect textual inconsistencies in documents.
Q10	c) To define the scope and objectives of the review.	FL-3.3.1	Reviews require clear goals to be effective.
Q11	c) To analyze anomalies and determine their status.	FL-3.3.1	This phase identifies and categorizes defects.
Q12	a) Manager.	FL-3.3.1	The manager decides on review content and resources.
Q13	b) Author.	FL-3.3.1	The author prepares and updates work products.
Q14	c) Moderator.	FL-3.3.1	The moderator ensures structured review execution.

Question Number	Correct Answer	Related Chapter	Explanation
Q15	d) Reviewer.	FL-3.3.1	Reviewers analyze work products for defects.
Q16	d) Review leader.	FL-3.3.1	The review leader is responsible for overall execution.
Q17	a) Informal review.	FL-3.3.2	Informal reviews lack formal structure and documentation.
Q18	b) Walkthrough.	FL-3.3.2	Walkthroughs allow discussion and learning among participants.
Q19	c) Technical review.	FL-3.3.2	Technical reviews focus on correctness and improvement.
Q20	d) Inspection.	FL-3.3.2	Inspections follow a highly structured process.
Q21	c) Clear objectives and measurable exit criteria.	FL-3.3.2	Successful reviews require clear goals and criteria for completion.
Q22	b) Review initiation.	FL-3.3.1	In the review initiation phase, participants receive materials and understand their roles.
Q23	c) Individual review.	FL-3.3.1	Individual reviews focus on evaluating the work product for quality.
Q24	d) Fixing and reporting.	FL-3.3.1	This phase includes recording and addressing defects.
Q25	d) Inspection.	FL-3.3.2	Inspections gather data to improve development and review processes.
Q26	b) Author.	FL-3.3.2	The author cannot act as the review leader or scribe in an inspection.
Q27	d) Unreachable code.	FL-3.2.1	Static analysis can detect dead code that will never execute, which dynamic testing cannot identify.
Q28	b) Maintainability.	FL-3.2.1	Maintainability can be assessed through static analysis techniques.

Question Number	Correct Answer	Related Chapter	Explanation
Q29	d) Planning, review initiation, individual review, communication and analysis, fixing and reporting.	FL-3.3.1	The full review process includes all these activities.
Q30	d) To maintain the reviewers' focus.	FL-3.3.2	Reviewing smaller portions ensures higher reviewer concentration and effectiveness.

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3.3 Intermediate Questions (20x)

? Q1

Which of the following best describes static testing?

- a) It involves executing the software to detect defects.
- b) It is performed without executing the software.
- c) It requires automated tools to find defects.
- d) It is only used for performance testing.

? Q2

Which of the following work products can be reviewed using static testing?

- a) Source code
- b) Test cases
- c) Requirement specifications
- d) All of the above

? Q3

Which of the following is an advantage of static testing over dynamic testing?

- a) Static testing helps in finding defects earlier in the software lifecycle.
- b) Static testing does not require test cases.
- c) Static testing is only applicable after the code is written.
- d) Static testing eliminates the need for dynamic testing.

? Q4

Which of the following is NOT a type of static testing?

- a) Code walkthrough
- b) Peer review
- c) Exploratory testing
- d) Inspection

? Q5

Which of the following is a primary objective of static testing?

- a) To detect defects before execution.
- b) To replace dynamic testing.
- c) To ensure 100% test coverage.

- d) To validate system performance under load.

?

Q6

A business analyst is reviewing a requirements document for inconsistencies before development begins.
What type of testing is being performed?

- a) Unit testing
- b) Static testing
- c) System testing
- d) Regression testing

?

Q7

Which of the following review types is the most formal?

- a) Informal review
- b) Technical review
- c) Walkthrough
- d) Inspection

?

Q8

Which of the following is a key characteristic of an informal review?

- a) It follows a structured review process.
- b) It is performed with minimal documentation.
- c) It requires management approval.
- d) It always results in formal defect reports.

?

Q9

Which of the following roles is responsible for leading a formal review?

- a) Author
- b) Facilitator
- c) Tester
- d) Developer

?

Q10

Which of the following is a key benefit of performing static testing early in the software development lifecycle?

- a) It reduces the cost of fixing defects.
- b) It eliminates the need for integration testing.

- c) It ensures 100% defect detection.
- d) It prevents the need for user acceptance testing.

?

Q11

Which of the following statements about walkthroughs is TRUE?

- a) Walkthroughs are typically led by the author.
- b) Walkthroughs require a detailed test plan.
- c) Walkthroughs only apply to code reviews.
- d) Walkthroughs do not involve any discussions.

?

Q12

Which of the following best describes an inspection?

- a) It is an informal review process with minimal documentation.
- b) It is a structured review process with predefined roles.
- c) It does not involve any defect detection.
- d) It is conducted only by developers.

?

Q13

Which of the following is a success factor for an effective review?

- a) Reviews should be conducted as quickly as possible.
- b) The review team should include different stakeholders.
- c) Only managers should conduct reviews.
- d) Defects found in reviews should not be documented.

?

Q14

Which of the following statements is TRUE about static testing?

- a) It is less effective at detecting defects than dynamic testing.
- b) It requires executing test cases.
- c) It helps find defects early without executing code.
- d) It is only useful for testing security.

?

Q15

Which of the following is an important factor for a successful review meeting?

- a) Only developers should participate.
- b) The review should be conducted in a formal manner with predefined roles.
- c) Reviews should focus only on business requirements.

- d) Reviews should avoid identifying defects.

?

Q16

Which of the following artifacts can be evaluated using static testing?

- a) Requirements documents
- b) Source code
- c) Test cases
- d) All of the above

?

Q17

A manager notices that defect leakage is high in production releases. Which of the following actions could help reduce this issue?

- a) Increase the number of informal reviews.
- b) Implement formal inspections in the development process.
- c) Remove static testing from the workflow.
- d) Perform testing only at the system level.

?

Q18

What is the main reason for conducting a peer review?

- a) To evaluate the test strategy.
- b) To identify defects in work products early.
- c) To replace dynamic testing.
- d) To validate software performance.

?

Q19

What is a key difference between inspections and walkthroughs?

- a) Inspections are formal, while walkthroughs are less formal.
- b) Walkthroughs require management approval.
- c) Inspections do not involve defect detection.
- d) Walkthroughs always include external stakeholders.

?

Q20

Which of the following is NOT a key benefit of static testing?

- a) Reduces the cost of fixing defects.
- b) Improves communication within the team.
- c) Eliminates the need for system testing.

- d) Increases efficiency in defect detection.

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3.4 ✓ Answers of Intermediate Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	b) It is performed without executing the software.	FL-3.1.1	Static testing detects defects in artifacts (e.g., code, documents) without running the software.
Q2	d) All of the above.	FL-3.1.1	Static testing applies to source code, test cases, and requirement specifications, among other work products.
Q3	a) Static testing helps in finding defects earlier in the software lifecycle.	FL-3.1.2	By reviewing work products early, static testing can catch defects before code execution, reducing downstream costs.
Q4	c) Exploratory testing.	FL-3.1.3	Exploratory testing is a dynamic testing technique; it involves executing the software rather than reviewing it statically.
Q5	a) To detect defects before execution.	FL-3.1.1	The primary objective of static testing is to identify defects in documents and code without executing the system.
Q6	b) Static testing.	FL-3.1.1	Reviewing a requirements document for inconsistencies is a classic example of static testing.
Q7	d) Inspection.	FL-3.2.4	Inspections are the most formal type of review, involving a structured process and predefined roles.
Q8	b) It is performed with minimal documentation.	FL-3.2.4	Informal reviews (e.g., ad hoc reviews) are characterized by their unstructured nature and minimal documentation.
Q9	b) Facilitator.	FL-3.2.3	In a formal review, the facilitator (or moderator) leads the meeting to ensure the process is followed correctly.
Q10	a) It reduces the cost of fixing defects.	FL-3.1.2	Detecting defects early through static testing is less costly than fixing them later in the development cycle.
Q11	a) Walkthroughs are typically led by the author.	FL-3.2.4	In a walkthrough, the author of the work product leads the session, explaining the content to reviewers.

Question Number	Correct Answer	Related Chapter	Explanation
Q12	b) It is a structured review process with predefined roles.	FL-3.2.4	Inspections are formal, structured processes that involve predefined roles, procedures, and detailed documentation.
Q13	b) The review team should include different stakeholders.	FL-3.2.5	A diverse review team (including developers, testers, and domain experts) enhances defect detection through varied perspectives.
Q14	c) It helps find defects early without executing code.	FL-3.1.3	Static testing uncovers defects in design, requirements, or code without the need for execution, enabling early remediation.
Q15	b) The review should be conducted in a formal manner with predefined roles.	FL-3.2.5	Formal review meetings with predefined roles ensure that the process is systematic and effective in identifying defects.
Q16	d) All of the above.	FL-3.1.1	Various artifacts—including requirements documents, source code, and test cases—can be evaluated using static testing methods.
Q17	b) Implement formal inspections in the development process.	FL-3.2.5	Formal inspections provide a structured approach to review work products, which can reduce defect leakage into production.
Q18	b) To identify defects in work products early.	FL-3.2.3	Peer reviews (a type of static testing) are conducted to catch defects early before they propagate into later stages.
Q19	a) Inspections are formal, while walkthroughs are less formal.	FL-3.2.4	Inspections follow a highly structured, formal process, whereas walkthroughs are generally informal discussions led by the author.
Q20	c) Eliminates the need for system testing.	FL-3.1.2	Although static testing is effective for early defect detection, it does not replace the need for dynamic/system testing; it only complements it.

3.5 Questions from exam sets

? Q1

Which of the following list of work products can NOT be checked with a static testing technique?

- a) Test cases and executable test scripts
- b) Requirements specification and acceptance criteria
- c) Proprietary third-party executable code
- d) Project documentation and models

? Q2

Which of the following statements applies to the differences between static and dynamic testing?

- a) During static testing, failures are found
- b) Static testing measures inadequate software performance
- c) The exclusive goal of static testing is to detect defects as early as possible
- d) A lack of coverage of critical safety requirements can be revealed during static testing

? Q3

Which of the following is NOT a benefit of static testing?

- a) Evaluating and remediating anomalies discovered through static analysis can take a significant amount of time and resources.
- b) Fixing defects found during static testing is generally much less expensive than fixing defects found during dynamic testing.
- c) Finding coding defects that might not have been found by only performing dynamic testing.
- d) Detecting gaps and inconsistencies in requirements.

? Q4

Which of the following statements about formal reviews (e.g., inspections) is TRUE?

- a) The technical review is led by the author.
- b) The review process consists of several activities, such as planning, communication and analysis, troubleshooting, and reporting.
- c) Work products to be reviewed are distributed during the review meeting.
- d) Defects found during the review are not reported since they are found during dynamic testing anyway.

? Q5

Which of the following is a benefit of early and frequent stakeholder feedback?

- a) Managers are aware of which developers are less productive at an early stage.
- b) It allows project managers to reduce their stakeholder interactions.
- c) It facilitates early communication of potential quality issues.
- d) End users better understand why the deployment of the application is delayed.

?

Q6

Given the following task descriptions from the review process

1. The quality characteristics to be evaluated and the exit criteria are defined.
2. Everyone has access to the work product.
3. Anomalies are identified in the work product.
4. Anomalies are analyzed and discussed.

And the following review activities

- A. Individual review
- B. Review initiation
- C. Planning
- D. Communication and analysis

Which assignment of task to activity is CORRECT?

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

3.6 ✓ Answers from exam sets

Question Number	Correct Answer	Related Chapter	Explanation	Related Set	Question Number in Set
Q1	c) Proprietary third-party executable code	FL-3.1.1	Third-party executable code is legally protected and cannot be checked using static testing techniques .	Set F	Q15
Q2	d) A lack of coverage of critical safety requirements can be revealed during static testing	FL-3.1.3	Static testing does not detect failures but can uncover missing or incomplete safety requirements .	Set F	Q16
Q3	a) Evaluating and remediating anomalies discovered through static analysis can take a significant amount of time and resources.	FL-3.1.2	Static analysis, while useful, can be time-consuming for complex systems .	Set A	Q15
Q4	b) The review process consists of several activities, such as planning, communication and analysis, troubleshooting, and reporting.	FL-3.2.2	Reviews have structured activities that help improve software quality before execution .	Set F	Q17
Q5	c) It facilitates early communication of potential quality issues.	FL-3.2.1	Early feedback allows quick identification and resolution of potential quality issues .	Set B	Q16
Q6	d) 1C, 2B, 3A, 4D	FL-3.2.2	The correct assignment of review activities aligns with the review process structure .	Set B	Q17



Chapter 4 - Test Analysis and Design

4.1 Basic Questions (30x)

? Q1

What do test techniques support?

- a) Test analysis and test planning
- b) Test analysis and test design
- c) Test implementation and test execution
- d) Test execution and test closure

? Q2

How do test techniques help testers?

- a) Define test conditions, identify test objects, and generate test data
- b) Develop test cases, automate tests, and create reports
- c) Create test environments, implement tests, and fix defects
- d) Create test plans, write test reports, and prioritize tests

? Q3

How are test techniques classified in this syllabus?

- a) Black-box, Grey-box, Experience-based
- b) White-box, Grey-box, Experience-based
- c) Black-box, White-box, Experience-based
- d) Black-box, White-box, Grey-box

? Q4

What are black-box test techniques based on?

- a) Analysis of the internal structure of the test object
- b) Analysis of the specified behavior of the test object
- c) Analysis of user requirements
- d) Analysis of test data

? Q5

What are white-box test techniques based on?

- a) Analysis of user requirements
- b) Analysis of the specified behavior of the test object
- c) Analysis of the internal structure of the test object
- d) Analysis of test data

?

Q6

What does the effectiveness of experience-based test techniques depend on?

- a) The experience of developers
- b) The experience of testers
- c) The quality of test specifications
- d) The number of test cases

?

Q7

What is equivalence partitioning?

- a) A method for analyzing user requirements
- b) A method for creating test data
- c) A technique to partition data into groups
- d) A technique for defining test environments

?

Q8

What is a valid partition in equivalence partitioning?

- a) A partition that contains only invalid values
- b) A partition that should be ignored
- c) A partition that contains only valid values
- d) A partition that contains overlapping values

?

Q9

How is coverage measured in equivalence partitioning?

- a) Number of executed test cases / Number of identified partitions
- b) Number of executed test cases / Total number of test cases
- c) Number of tested partitions / Number of identified partitions
- d) Number of executed test cases / Number of valid test cases

?

Q10

What is the difference between 2-value BVA and 3-value BVA?

- a) 2-value BVA tests only middle values, 3-value BVA tests only boundary values

- b) 2-value BVA tests two values per boundary, 3-value BVA tests three values per boundary
- c) 2-value BVA tests only the upper boundaries, 3-value BVA tests only the lower boundaries
- d) 2-value BVA tests all values, 3-value BVA tests only some values

?

Q11

What is the strength of the decision table test technique?

- a) It is easy to apply
- b) It helps identify all combinations of conditions
- c) It requires little time effort
- d) It is suitable for all test objects

?

Q12

What does a state transition diagram model?

- a) The behavior of a system through its possible states and transitions
- b) The internal structures of a system
- c) User requirements and test data
- d) Test environments and test cases

?

Q13

How is coverage measured in the state transition testing technique?

- a) Number of tested states / Number of identified states
- b) Number of tested transitions / Number of identified transitions
- c) Number of tested states and transitions / Number of identified states and transitions
- d) Number of executed test cases / Number of identified test cases

?

Q14

Which technique uses the full software implementation for testing?

- a) Black-box technique
- b) White-box technique
- c) Experience-based techniques
- d) Equivalence partitioning

?

Q15

What is a weakness of white-box techniques?

- a) They do not require specifications
- b) They can miss errors due to specification defects

- c) They do not consider software implementation
- d) They are not suitable for static tests

?

Q16

What is a strength of white-box techniques?

- a) They fully consider specifications
- b) They ignore software implementation
- c) They provide an objective measurement of coverage
- d) They are always automated

?

Q17

What is error guessing?

- a) A method for creating user requirements
- b) A method for creating test environments
- c) A technique for predicting defects based on experience
- d) A method for analyzing specifications

?

Q18

How is exploratory testing often structured?

- a) Using equivalence partitioning
- b) Using decision tables
- c) Using session-based testing
- d) Using state transition diagrams

?

Q19

What is checklist-based testing?

- a) A technique where tests are designed based on user requirements
- b) A technique where tests are designed based on experience and knowledge
- c) A technique where tests are designed based on specifications
- d) A technique where tests are designed based on code coverage

?

Q20

What are the three C's of a user story?

- a) Card, Conversation, Confirmation
- b) Code, Conversation, Confirmation
- c) Card, Code, Confirmation

- d) Card, Conversation, Code

?

Q21

What does the acronym INVEST stand for in relation to user stories?

- a) Independent, Negotiable, Valuable, Estimable, Small, Testable
- b) Independent, Negotiable, Visible, Estimable, Small, Testable
- c) Independent, Negotiable, Valuable, Extensive, Small, Testable
- d) Independent, Negotiable, Valuable, Estimable, Simple, Testable

?

Q22

What are acceptance criteria?

- a) Conditions a user story must meet to be accepted by stakeholders
- b) Conditions a user story must meet to be developed
- c) Conditions a user story must meet to be tested
- d) Conditions a user story must meet to be implemented

?

Q23

Which formatting is commonly used for acceptance criteria?

- a) Given/When/Then
- b) If/Else
- c) Case/Switch
- d) While/Do

?

Q24

What is ATDD?

- a) A method where test cases are created after the implementation of the user story
- b) A method where test cases are created before the implementation of the user story
- c) A method where test cases are created simultaneously with the implementation of the user story
- d) A method where test cases are created only manually

?

Q25

What is the goal of a specification workshop in ATDD?

- a) To create the user story
- b) To analyze and write acceptance criteria
- c) To implement the code
- d) To automate the tests

?

Q26

What should typically be the first step in ATDD?

- a) Creation of the test environment
- b) Creation of acceptance criteria
- c) Creation of test cases
- d) Execution of the tests

?

Q27

How should test cases be expressed in ATDD?

- a) In natural language to be understandable for stakeholders
- b) In programming language to be understandable for developers
- c) In technical terms to be understandable for testers
- d) In formal specifications to be understandable for analysts

?

Q28

What is the result when acceptance tests are captured in an automated framework?

- a) The acceptance tests become executable requirements
- b) The acceptance tests become manual tests
- c) The acceptance tests become non-functional tests
- d) The acceptance tests become exploration tools

?

Q29

What should be the scope of test cases in ATDD?

- a) They should cover all aspects of the user story
- b) They should go beyond the user story
- c) They should only cover positive cases
- d) They should only cover negative cases

?

Q30

How should a user story test case in ATDD begin?

- a) With an error condition
- b) With a sequence of activities confirming correct behavior
- c) With a review of documentation
- d) With an analysis of user requirements

4.2 ✓ Answers of Basic Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	b) Test analysis and test design.	FL-4.1.1	Test techniques help define and design test cases effectively.
Q2	a) Define test conditions, identify test objects, and generate test data.	FL-4.1.1	Test techniques support the tester in specifying test conditions and selecting test data.
Q3	c) Black-box, White-box, Experience-based.	FL-4.1.1	These are the three primary classifications of test techniques.
Q4	b) Analysis of the specified behavior of the test object.	FL-4.1.2	Black-box testing is based on functional specifications, not internal structures.
Q5	c) Analysis of the internal structure of the test object.	FL-4.1.2	White-box testing techniques are based on the system's internal structure.
Q6	b) The experience of testers.	FL-4.1.3	Experience-based techniques rely on a tester's knowledge to identify defects.
Q7	c) A technique to partition data into groups.	FL-4.2.1	Equivalence partitioning divides input data into classes to reduce test cases.
Q8	c) A partition that contains only valid values.	FL-4.2.1	Equivalence partitions classify valid and invalid values separately.
Q9	c) Number of tested partitions / Number of identified partitions.	FL-4.2.1	Equivalence partitioning coverage measures how many partitions are tested.
Q10	b) 2-value BVA tests two values per boundary, 3-value BVA tests three values per boundary.	FL-4.2.2	Boundary value analysis (BVA) tests edge cases; the 3-value approach adds additional checks.
Q11	b) It helps identify all combinations of conditions.	FL-4.2.3	Decision tables effectively model all possible input combinations.
Q12	a) The behavior of a system through its possible states and transitions.	FL-4.2.4	State transition diagrams help model system behavior under different conditions.

Question Number	Correct Answer	Related Chapter	Explanation
Q13	b) Number of tested transitions / Number of identified transitions.	FL-4.2.4	State transition coverage measures tested transitions versus total transitions.
Q14	b) White-box technique.	FL-4.3.1	White-box techniques use the full implementation of software for testing.
Q15	b) They can miss errors caused by specification defects.	FL-4.3.2	White-box testing focuses on code logic and may overlook missing requirements.
Q16	c) They provide an objective measurement of coverage.	FL-4.3.2	White-box techniques help track structural coverage like statement or branch coverage.
Q17	c) A technique for predicting defects based on experience.	FL-4.4.1	Error guessing leverages experience to find likely defect-prone areas.
Q18	c) Session-based testing.	FL-4.4.2	Exploratory testing is often structured using session-based testing.
Q19	b) A technique where tests are designed based on experience and knowledge.	FL-4.4.3	Checklist-based testing ensures known risk areas are tested systematically.
Q20	a) Card, Conversation, Confirmation.	FL-4.5.2	These are the three key components of a User Story in Agile.
Q21	a) Independent, Negotiable, Valuable, Estimable, Small, Testable.	FL-4.5.2	INVEST criteria define high-quality user stories.
Q22	a) Conditions that a user story must meet to be accepted by stakeholders.	FL-4.5.2	Acceptance criteria define when a feature is considered "done."
Q23	a) Given/When/Then.	FL-4.5.2	The Given/When/Then format structures acceptance criteria in Agile.
Q24	b) A method where test cases are created before user story implementation.	FL-4.5.3	Acceptance Test-Driven Development (ATDD) creates tests before coding begins.

Question Number	Correct Answer	Related Chapter	Explanation
Q25	b) Analyze and write acceptance criteria.	FL-4.5.3	Specification workshops refine acceptance criteria before development.
Q26	b) Create acceptance criteria.	FL-4.5.3	ATDD starts with defining acceptance criteria before creating test cases.
Q27	a) In natural language to be understandable for stakeholders.	FL-4.5.3	ATDD test cases must be clear for all team members, including business stakeholders.
Q28	a) Acceptance tests become executable requirements.	FL-4.5.3	In ATDD, automated acceptance tests act as live documentation.
Q29	a) They should cover all aspects of the user story.	FL-4.5.3	ATDD test cases ensure full validation of user story functionality.
Q30	b) With a sequence of activities confirming correct behavior.	FL-4.5.3	A well-defined test should validate expected behavior first.

4.3 Intermediate Questions (20x)

? Q1

Which of the following best describes the purpose of test analysis and design?

- a) To determine which test cases should be executed dynamically.
- b) To define test conditions and design test cases based on requirements.
- c) To execute test cases and evaluate test results.
- d) To replace the need for static testing.

? Q2

Which of the following is an example of equivalence partitioning?

- a) Testing values at the exact boundary limits.
- b) Dividing input values into groups where the system should behave the same.
- c) Writing test cases that execute all branches of a decision structure.
- d) Running exploratory testing without predefined test cases.

? Q3

A system accepts an integer input between 1 and 100. Which of the following is an example of boundary value analysis?

- a) Testing values 50, 75, and 99.
- b) Testing values 1, 2, 100, and 101.
- c) Testing only the value 50.
- d) Testing a mix of valid and invalid values randomly.

? Q4

Which of the following test techniques is most suitable when business rules are represented in a structured format?

- a) Decision table testing
- b) Exploratory testing
- c) Boundary value analysis
- d) Error guessing

? Q5

Which test technique is particularly useful when testing an application that changes states based on user inputs?

- a) State transition testing

- b) Statement testing
- c) Equivalence partitioning
- d) Use case testing

?

Q6

Which of the following statements about white-box testing techniques is TRUE?

- a) They focus on the functionality of the system without considering internal logic.
- b) They require knowledge of the internal code structure.
- c) They can be applied without access to source code.
- d) They replace the need for black-box testing.

?

Q7

Which of the following is an example of statement coverage?

- a) Ensuring all possible paths in the code are executed at least once.
- b) Ensuring that all statements in the code are executed at least once.
- c) Ensuring that all conditions in a decision structure are executed.
- d) Ensuring that all user workflows are executed.

?

Q8

Which of the following describes the main purpose of exploratory testing?

- a) To execute predefined test scripts.
- b) To discover defects by learning the system and designing tests dynamically.
- c) To evaluate test coverage metrics.
- d) To automate test case execution.

?

Q9

Which of the following best describes error guessing?

- a) A technique that relies on tester experience to predict where defects might occur.
- b) A formal technique that requires extensive documentation.
- c) A statistical technique based on historical defect data.
- d) A technique that ensures 100% test coverage.

?

Q10

Which of the following BEST describes the relationship between test techniques and test coverage?

- a) Test techniques define how to measure test coverage.
- b) Test coverage is independent of the test techniques used.

- c) Test techniques guarantee 100% test coverage.
- d) Test coverage ensures the absence of defects.

?

Q11

A test case for an online form includes entering different types of valid and invalid input data. Which of the following test techniques is being applied?

- a) Equivalence partitioning
- b) Branch testing
- c) White-box testing
- d) Code coverage testing

?

Q12

Which of the following test techniques is primarily used for validating workflows in a system?

- a) State transition testing
- b) Use case testing
- c) Decision table testing
- d) Statement testing

?

Q13

Which of the following BEST describes acceptance criteria in user stories?

- a) A set of preconditions that must be met before testing begins.
- b) A set of statements that define when a feature is considered completed.
- c) A list of functional requirements.
- d) A set of regression test cases.

?

Q14

Which of the following BEST describes the purpose of acceptance test-driven development (ATDD)?

- a) To automate all functional tests.
- b) To define acceptance criteria before development starts.
- c) To execute tests in production environments.
- d) To replace the need for exploratory testing.

?

Q15

Which test technique is primarily used to ensure that all logical conditions within a decision-making process are tested?

- a) Statement coverage

- b) Branch coverage
- c) Equivalence partitioning
- d) Decision table testing

?

Q16

Which of the following is a primary reason for using checklist-based testing?

- a) It ensures that only predefined test scripts are executed.
- b) It helps testers cover common areas where defects are likely to occur.
- c) It eliminates the need for formal test design.
- d) It guarantees that all software paths are tested.

?

Q17

Which of the following test techniques is most suitable for verifying security vulnerabilities?

- a) Exploratory testing
- b) Equivalence partitioning
- c) Checklist-based testing
- d) Penetration testing

?

Q18

Which of the following is a key advantage of using use case testing?

- a) It validates system behavior based on real-world scenarios.
- b) It ensures 100% statement coverage.
- c) It is a white-box testing technique.
- d) It replaces the need for regression testing.

?

Q19

Which of the following is a key benefit of test case prioritization?

- a) It ensures that all test cases are executed in a fixed order.
- b) It allows testers to focus on high-risk areas first.
- c) It guarantees defect-free software.
- d) It eliminates the need for exploratory testing.

?

Q20

Which of the following statements about test case design is TRUE?

- a) Test cases should always include both valid and invalid inputs.
- b) Test cases should be designed only after development is complete.

- c) Test cases should never be automated.
- d) Test cases are unnecessary in Agile development.

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4.4 ✓ Answers of Intermediate Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	b) To define test conditions and design test cases based on requirements.	FL-4.1.1	Test analysis and design involve deriving test conditions, cases, and procedures from requirements.
Q2	b) Dividing input values into groups where the system should behave the same.	FL-4.2.1	Equivalence partitioning ensures that all values within a partition behave identically.
Q3	b) Testing values 1, 2, 100, and 101.	FL-4.2.2	Boundary value analysis tests values at and just beyond the specified input range.
Q4	a) Decision table testing.	FL-4.2.3	Decision tables are useful for testing business rules with multiple conditions.
Q5	a) State transition testing.	FL-4.2.4	State transition testing ensures that the system transitions correctly based on inputs.
Q6	b) They require knowledge of the internal code structure.	FL-4.3.1	White-box testing techniques analyze the internal workings of a system.
Q7	b) Ensuring that all statements in the code are executed at least once.	FL-4.3.1	Statement coverage ensures that each line of code runs at least once.
Q8	b) To discover defects by learning the system and designing tests dynamically.	FL-4.4.2	Exploratory testing is an adaptive, experience-based technique.
Q9	a) A technique that relies on tester experience to predict where defects might occur.	FL-4.4.1	Error guessing uses intuition and experience to find defects.
Q10	a) Test techniques define how to measure test coverage.	FL-4.1.1	Test techniques provide structured ways to achieve measurable test coverage.
Q11	a) Equivalence partitioning.	FL-4.2.1	Equivalence partitioning categorizes valid and invalid input data into groups.
Q12	b) Use case testing.	FL-4.2.4	Use case testing focuses on user interactions and workflows.

Question Number	Correct Answer	Related Chapter	Explanation
Q13	b) A set of statements that define when a feature is considered completed.	FL-4.5.2	Acceptance criteria define conditions for user story completion.
Q14	b) To define acceptance criteria before development starts.	FL-4.5.3	ATDD focuses on writing acceptance tests before implementation.
Q15	b) Branch coverage.	FL-4.3.2	Branch coverage ensures that all decision paths in the code are tested.
Q16	b) It helps testers cover common areas where defects are likely to occur.	FL-4.4.3	Checklist-based testing ensures consistency by following predefined checks.
Q17	d) Penetration testing.	FL-4.4.3	Penetration testing checks for security vulnerabilities.
Q18	a) It validates system behavior based on real-world scenarios.	FL-4.2.4	Use case testing ensures that business processes work correctly.
Q19	b) It allows testers to focus on high-risk areas first.	FL-4.1.5	Test prioritization focuses effort on areas with the greatest risk impact.
Q20	a) Test cases should always include both valid and invalid inputs.	FL-4.1.1	Effective test cases must evaluate both expected and unexpected conditions.

4.5 Questions from exam sets

? Q1

Customers of the TestWash car wash chain have cards with a record of the number of washes they have bought so far. The initial value is 0. After entering the car wash, the system increases the number on the card by one. This value represents the number of the current wash. Based on this number, the system decides what discount the customer is entitled to.

For every tenth wash, the system gives a 10% discount, and for every twentieth wash, the system gives a further 40% discount (i.e., a 50% discount in total).

Which of the following sets of input data (understood as the numbers of the current wash) achieves the highest equivalence partition coverage?

- a) 19, 20, 30
- b) 11, 12, 20
- c) 1, 10, 50
- d) 10, 29, 30, 31

? Q2

A wine storage system uses a control device to measure the temperature (T) of the wine cellar (measured in °C, rounded to the nearest degree) and alerts the user if the optimal temperature is exceeded or not met:

- If $11 \leq T \leq 13$, the system reports: "Optimal temperature"
- If $T < 11$, the system reports: "The temperature is too low!"
- If $T > 13$, the system reports: "The temperature is too high!"

You apply the 3-value boundary value analysis to verify the expected behavior of the controller. The test input is a temperature provided by the device in °C.

Which test inputs achieve 100% coverage?

- a) 11, 12, 13
- b) 9, 13, 15
- c) 9, 10, 11, 12, 13, 14, 15
- d) 10, 11, 12, 13, 14

? Q3

Which of the following statements BEST describes the difference between decision table testing and branch testing?

- a) In decision table testing, the test cases are derived from the decision statements in the code. In branch testing, the test cases are derived from knowledge of the control flow of the test object.

- b) In decision table testing, the test cases are derived from the specification that describes the business logic. In branch testing, the test cases are based on anticipation of potential defects in the source code.
- c) In decision table testing, the test cases are derived from knowledge of the control flow of the test object. In branch testing, test cases are derived from the specification that describes the business logic.
- d) In decision table testing, the test cases are independent of how the software is implemented. In branch testing, test cases can be created only after the design or implementation of the code.

?

Q4

Which of the following statements provides the BEST justification for using exploratory testing?

- a) The existing test strategy requires that testers use black-box test techniques.
- b) The specification is written in a formal language that can be processed by a tool.
- c) The testers are members of an agile team and have good programming skills.
- d) The testers are experienced in the business domain and have good analytical skills.

4.6 ✓ Answers from exam sets

Question Number	Correct Answer	Related Chapter	Explanation	Related Set	Question Number in Set
Q1	a) 19, 20, 30	FL-4.2.1	19 covers the "no discount" partition, 20 covers the "50% discount" partition, and 30 covers the "10% discount" partition. These three values cover all three valid equivalence partitions .	Set B	Q20
Q2	c) 9, 10, 11, 12, 13, 14, 15	FL-4.2.2	To achieve 100% coverage in 3-value boundary value analysis, all boundary values and their adjacent values must be tested .	Set B	Q21
Q3	d) In decision table testing, the test cases are independent of how the software is implemented. In branch testing, test cases can be created only after the design or implementation of the code.	FL-4.1.1	Decision table testing is a black-box technique, while branch testing is a white-box technique requiring knowledge of the control flow .	Set B	Q19
Q4	d) The testers are experienced in the business domain and have good analytical skills.	FL-4.4.2	Exploratory testing is most effective when testers have strong domain knowledge and analytical skills .	Set B	Q26



Chapter 5 - Managing the Test Activities

5.1 Basic Questions (30x)

? Q1

What does a test plan describe?

- a) The quality of the software
- b) The number of defects
- c) The objectives, resources, and processes of a test project
- d) The developer team structure

? Q2

What is the purpose of a test plan?

- a) To document development errors
- b) To manage developer tasks
- c) To describe user requirements
- d) To ensure adherence to test objectives and strategies

? Q3

Which document can contain more details about test plans?

- a) ISO/IEC 25010
- b) IEEE 829
- c) ISO/IEC/IEEE 29119-3
- d) ISTQB Standard

? Q4

What role do testers play in release planning?

- a) They write the code
- b) They create the user interface
- c) They participate in creating testable user stories and acceptance criteria
- d) They design the UI/UX

? Q5

What is iteration planning?

- a) Planning of the entire development cycle
- b) Planning for the end of a single iteration
- c) Planning the test environment
- d) Budget planning

❓ Q6

What do entry criteria define?

- a) The number of test cases
- b) The test results
- c) The prerequisites for carrying out a specific activity
- d) The types of defects

❓ Q7

What do exit criteria define?

- a) The number of testers
- b) The types of tests
- c) The availability of the test environment
- d) What must be achieved to declare an activity as completed

❓ Q8

What are exit criteria called in Agile software development?

- a) Definition of Ready
- b) Definition of Done
- c) Acceptance Criteria
- d) User Story

❓ Q9

What does test effort estimation include?

- a) The cost of defect fixing
- b) The number of test cases
- c) The prediction of effort required to achieve a test project's objectives
- d) Developer tasks

❓ Q10

Which estimation method is based on ratios?

- a) Wideband Delphi

- b) Extrapolation
- c) Ratio-based estimation
- d) Three-point estimation

❓ Q11

What is extrapolation?

- a) A method for defect fixing
- b) An approach for test case design
- c) A metrics-based estimation technique
- d) A budget planning method

❓ Q12

How does the Wideband Delphi method work?

- a) By analyzing user requirements
- b) Through iterative, experience-based estimates from experts
- c) Using mathematical models
- d) Through historical data analysis

❓ Q13

How is the three-point estimation calculated?

- a) $(a + b + m) / 3$
- b) $(a + 4*m + b) / 6$
- c) $(a + 2*m + b) / 3$
- d) $(a + m + b) / 4$

❓ Q14

Which method for prioritizing test cases is based on risks?

- a) Coverage-based prioritization
- b) Requirements-based prioritization
- c) Risk-based prioritization
- d) Time-based prioritization

❓ Q15

Which method for prioritizing test cases is based on requirements?

- a) Risk-based prioritization
- b) Coverage-based prioritization

- c) Requirements-based prioritization
- d) Cost-based prioritization

?

Q16

What is a test pyramid?

- a) A model for budget planning
- b) A development framework
- c) A model that illustrates how different tests have different levels of granularity
- d) A defect resolution process

?

Q17

What are test quadrants?

- a) A communication model
- b) A defect resolution approach
- c) A model that groups test levels with corresponding test types, activities, techniques, and work products
- d) A model for team structure

?

Q18

What are the main activities of risk management?

- a) Risk analysis and risk control
- b) Defect fixing and test planning
- c) Budget planning and time allocation
- d) Requirements analysis and code review

?

Q19

What is a risk?

- a) A successful test case
- b) A project objective
- c) A potential event that could have a negative effect
- d) A development tool

?

Q20

What types of risks exist in software testing?

- a) Security and maintenance risks
- b) Project and budget risks

- c) Development and communication risks
- d) Project and product risks

?

Q21

What does product risk analysis include?

- a) Test case analysis and test case creation
- b) Budget and time planning
- c) Risk identification and risk assessment
- d) Development monitoring and defect fixing

?

Q22

What does product risk control include?

- a) Defect fixing and development monitoring
- b) Test case prioritization and test case creation
- c) Budget planning and time allocation
- d) Risk mitigation and risk monitoring

?

Q23

What are test metrics?

- a) A communication tool
- b) Development tools
- c) Metrics that support test monitoring and test control
- d) Code analysis methods

?

Q24

What does a test progress report include?

- a) Project plan and timeline
- b) Communication strategies and budget
- c) Test period, test progress, test metrics, and new/updated risks
- d) Developer tasks and user requirements

?

Q25

Which types of communication exist for reporting test status?

- a) Verbal communication, dashboards, electronic communication channels, online documentation, formal test reports
- b) Only verbal communication and dashboards

- c) Only electronic communication channels and online documentation
- d) Only formal test reports and dashboards

?

Q26

What does configuration management include?

- a) Budget planning and test case creation
- b) Defect analysis and test case analysis
- c) Identification, control, and tracking of work products as configuration items
- d) Communication strategies and risk analysis

?

Q27

What does defect management include?

- a) Test case prioritization and test case analysis
- b) Defect fixing and development monitoring
- c) A workflow for handling individual anomalies from detection to closure and rules for classification
- d) Budget planning and time allocation

?

Q28

What should a typical defect report include?

- a) Budget and schedule
- b) Developer tasks and communication strategies
- c) Unique identifier, title, date, test object, test environment, defect description, severity, priority, and status
- d) User requirements and test case description

?

Q29

What are typical test closure reports?

- a) Project plans and budget reports
- b) Developer tasks and communication strategies
- c) Defect analysis and test case prioritization
- d) Test summaries, quality evaluations, deviations from the test plan, test metrics, and unresolved risks

?

Q30

What is the purpose of test reporting?

- a) Defect fixing and development monitoring

- b) Communication strategies and risk analysis
- c) Test case prioritization and test case creation
- d) Summarizing and communicating test results during and after testing

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5.2 ✓ Answers of Basic Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	c) The objectives, resources, and processes of a test project.	FL-5.1.1	A test plan outlines the test scope, objectives, resources, and processes.
Q2	d) To ensure adherence to test objectives and strategies.	FL-5.1.1	A test plan ensures that testing aligns with project goals and strategies.
Q3	c) ISO/IEC/IEEE 29119-3.	FL-5.1.1	ISO/IEC/IEEE 29119-3 provides standardized details about test plans.
Q4	c) They participate in creating testable user stories and acceptance criteria.	FL-5.1.2	Testers contribute to defining acceptance criteria and ensuring testability.
Q5	b) Planning for the end of a single iteration.	FL-5.1.2	Iteration planning focuses on preparing for a development cycle iteration.
Q6	c) The prerequisites for carrying out a specific activity.	FL-5.1.3	Entry criteria define conditions that must be met before a test starts.
Q7	d) What must be achieved to declare an activity as completed.	FL-5.1.3	Exit criteria define when testing is complete.
Q8	b) Definition of Done.	FL-5.1.3	In Agile, the "Definition of Done" describes when a feature is complete.
Q9	c) The prediction of effort required to achieve a test project's objectives.	FL-5.1.4	Test effort estimation helps allocate resources and plan testing activities.
Q10	c) Ratio-based estimation.	FL-5.1.4	Ratio-based estimation relies on predefined effort ratios for similar tasks.
Q11	c) A metrics-based estimation technique.	FL-5.1.4	Extrapolation uses historical data to estimate future test effort.

Question Number	Correct Answer	Related Chapter	Explanation
Q12	b) Through iterative, experience-based estimates from experts.	FL-5.1.4	The Wideband Delphi method involves expert discussions to refine estimates.
Q13	b) $(a + 4*m + b) / 6$.	FL-5.1.4	Three-point estimation uses optimistic (a), pessimistic (b), and most likely (m) values.
Q14	c) Risk-based prioritization.	FL-5.1.5	Risk-based testing prioritizes tests based on impact and likelihood of failure.
Q15	c) Requirements-based prioritization.	FL-5.1.5	Requirements-based prioritization focuses on verifying critical business needs first.
Q16	c) A model that illustrates how different tests have different levels of granularity.	FL-5.1.6	The test pyramid organizes tests by level, such as unit, integration, and UI.
Q17	c) A model that groups test levels with corresponding test types, activities, techniques, and work products.	FL-5.1.6	Test quadrants categorize testing types to improve test strategy coverage.
Q18	a) Risk analysis and risk control.	FL-5.2.3	Risk management includes identifying, analyzing, and controlling risks.
Q19	c) A potential event that could have a negative effect.	FL-5.2.2	A risk is an uncertain event that can negatively impact a project or product.
Q20	d) Project and product risks.	FL-5.2.2	Project risks affect timeline/resources, while product risks impact functionality.
Q21	c) Risk identification and risk assessment.	FL-5.2.3	Product risk analysis assesses potential quality issues in the product.
Q22	d) Risk mitigation and risk monitoring.	FL-5.2.3	Risk control involves reducing, monitoring, and addressing identified risks.
Q23	c) Metrics that support test monitoring and test control.	FL-5.3.1	Test metrics help measure progress, quality, and

Question Number	Correct Answer	Related Chapter	Explanation
			effectiveness.
Q24	c) Test period, test progress, test metrics, and new/updated risks.	FL-5.3.2	A test progress report provides an overview of testing progress and risk updates.
Q25	a) Verbal communication, dashboards, electronic communication channels, online documentation, formal test reports.	FL-5.3.3	Test status communication methods include multiple reporting formats.
Q26	c) Identification, control, and tracking of work products as configuration items.	FL-5.4.1	Configuration management ensures consistency of test artifacts.
Q27	c) A workflow for handling individual anomalies from detection to closure and rules for classification.	FL-5.5.1	Defect management involves tracking defects from discovery to resolution.
Q28	c) Unique identifier, title, date, test object, test environment, defect description, severity, priority, and status.	FL-5.5.1	A defect report contains key details for tracking and resolving defects.
Q29	d) Test summaries, quality evaluations, deviations from the test plan, test metrics, and unresolved risks.	FL-5.5.1	Test closure reports summarize test execution, quality, and remaining risks.
Q30	d) Summarizing and communicating test results during and after testing.	FL-5.3.2	Test reporting conveys testing progress, findings, and recommendations.

5.3 Intermediate Questions (20x)

? Q1

What is the primary purpose of a test plan?

- a) To define how testing will be performed and managed.
- b) To replace the need for a software development plan.
- c) To execute test cases and log defects.
- d) To eliminate the need for regression testing.

? Q2

Which of the following BEST describes the role of testers in release planning?

- a) Testers ensure that test cases are executed at the last stage of release.
- b) Testers determine the overall business strategy for the product release.
- c) Testers contribute by identifying risks and defining quality objectives.
- d) Testers do not participate in release planning.

? Q3

Which of the following describes an entry criterion for test execution?

- a) All planned test cases have been executed.
- b) The test environment is set up and validated.
- c) All critical defects found during testing have been fixed.
- d) The software has been deployed to production.

? Q4

Which of the following is an exit criterion for test execution?

- a) No defects were found during testing.
- b) All planned test cases have been executed, and exit conditions are met.
- c) Testing is stopped when time runs out.
- d) Developers approve the software for release.

? Q5

Which of the following is a common test estimation technique?

- a) Code coverage estimation
- b) Test case reduction method
- c) Expert-based estimation

- d) Automated estimation algorithm

?

Q6

Why is test case prioritization important?

- a) It ensures all test cases are executed in the correct order.
- b) It allows for the most critical test cases to be executed first.
- c) It eliminates the need for regression testing.
- d) It ensures that only automated tests are executed.

?

Q7

Which of the following statements about the test pyramid is TRUE?

- a) Unit tests form the largest portion of the test suite.
- b) System tests should be executed before unit tests.
- c) Performance testing is the foundation of the test pyramid.
- d) Manual testing is preferred over automated testing.

?

Q8

Which of the following is a key principle of risk-based testing?

- a) All test cases must be executed equally.
- b) Tests are prioritized based on the likelihood and impact of failure.
- c) Testing focuses only on functional requirements.
- d) Testing effort is reduced for high-risk areas.

?

Q9

Which of the following BEST describes a product risk?

- a) A risk that the project may run out of funding.
- b) A risk that the system may not perform as expected.
- c) A risk that the development team lacks experience.
- d) A risk that external regulations may change.

?

Q10

Which of the following is an example of project risk?

- a) A defect in the authentication module.
- b) The project team is unable to meet the deadline due to resource constraints.
- c) The software does not function on a specific device.
- d) A security vulnerability was found in the system.

?

Q11

Which of the following is a key benefit of performing a product risk analysis?

- a) It eliminates the need for a test plan.
- b) It ensures that all tests are executed in the correct order.
- c) It helps prioritize testing efforts based on potential failures.
- d) It guarantees 100% defect-free software.

?

Q12

Which of the following metrics is commonly used in test management?

- a) Number of test cases executed
- b) Code complexity score
- c) Developer productivity index
- d) Number of users in production

?

Q13

Which of the following BEST describes a key purpose of test reporting?

- a) To track and communicate the progress and results of testing activities.
- b) To document only failed test cases.
- c) To provide a detailed analysis of source code quality.
- d) To eliminate the need for defect tracking.

?

Q14

Which of the following is an important factor when communicating the status of testing?

- a) The number of lines of code written.
- b) The defect severity and impact on business objectives.
- c) The number of developers working on the project.
- d) The number of automated scripts available.

?

Q15

Which of the following is a key benefit of configuration management in testing?

- a) It prevents all possible test failures.
- b) It ensures that the correct versions of test artifacts are maintained.
- c) It allows tests to be executed in any order.
- d) It eliminates the need for defect management.

?

Q16

What is the primary goal of defect management?

- a) To execute all test cases related to a defect.
- b) To track and resolve defects effectively.
- c) To create as many defect reports as possible.
- d) To replace regression testing.

❓ Q17

Which of the following is an essential part of a defect report?

- a) A detailed code review of the defect.
- b) Steps to reproduce the defect.
- c) The name of the developer responsible for the defect.
- d) The total number of users affected.

❓ Q18

Which of the following is a key aspect of risk control in testing?

- a) Eliminating all risks before starting testing.
- b) Continuously monitoring and mitigating risks throughout testing.
- c) Executing only automated tests to reduce risks.
- d) Avoiding high-risk areas of the application.

❓ Q19

Which of the following is an important consideration when implementing test metrics?

- a) The relevance of the metric to test objectives.
- b) The ability of the metric to replace manual testing.
- c) The number of test cases that fail.
- d) The number of testers available.

❓ Q20

Which of the following is a key challenge of defect management?

- a) Ensuring that all defects are resolved before release.
- b) Balancing defect resolution with project deadlines.
- c) Avoiding defect reporting to reduce workload.
- d) Ensuring only developers report defects.

5.4 ✓ Answers of Intermediate Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	a) To define how testing will be performed and managed.	FL-5.1.1	A test plan outlines the scope, objectives, and approach for testing.
Q2	c) Testers contribute by identifying risks and defining quality objectives.	FL-5.1.2	Testers assist in identifying risks and ensuring testability during release planning.
Q3	b) The test environment is set up and validated.	FL-5.1.3	Entry criteria ensure that conditions such as environment setup are met before test execution starts.
Q4	b) All planned test cases have been executed, and exit conditions are met.	FL-5.1.3	Exit criteria define when testing can be considered complete.
Q5	c) Expert-based estimation.	FL-5.1.4	Expert estimation relies on experienced professionals to predict testing efforts.
Q6	b) It allows for the most critical test cases to be executed first.	FL-5.1.5	Test prioritization ensures that critical tests are executed early, minimizing risk.
Q7	a) Unit tests form the largest portion of the test suite.	FL-5.1.6	The test pyramid recommends more unit tests than system or UI-level tests.
Q8	b) Tests are prioritized based on the likelihood and impact of failure.	FL-5.2.3	Risk-based testing focuses resources on high-impact, high-probability risks.
Q9	b) A risk that the system may not perform as expected.	FL-5.2.2	Product risks are related to software defects, functionality, and performance issues.
Q10	b) The project team is unable to meet the deadline due to resource constraints.	FL-5.2.2	Project risks relate to budget, timeline, and resource availability.
Q11	c) It helps prioritize testing efforts based on potential failures.	FL-5.2.3	Risk analysis directs testing to areas where failures could have the most impact.
Q12	a) Number of test cases executed.	FL-5.3.1	Common test metrics track progress, coverage, and defect trends.

Question Number	Correct Answer	Related Chapter	Explanation
Q13	a) To track and communicate the progress and results of testing activities.	FL-5.3.2	Test reporting documents testing progress, defect trends, and coverage.
Q14	b) The defect severity and impact on business objectives.	FL-5.3.3	Test status reporting should highlight business impact and defect severity.
Q15	b) It ensures that the correct versions of test artifacts are maintained.	FL-5.4.1	Configuration management tracks versions of test cases, scripts, and data.
Q16	b) To track and resolve defects effectively.	FL-5.5.1	Defect management ensures defects are logged, tracked, and fixed properly.
Q17	b) Steps to reproduce the defect.	FL-5.5.1	A defect report must include reproducible steps to help developers diagnose the issue.
Q18	b) Continuously monitoring and mitigating risks throughout testing.	FL-5.2.4	Risk control involves proactive monitoring and adjusting test focus as risks evolve.
Q19	a) The relevance of the metric to test objectives.	FL-5.3.1	Metrics should align with test goals, such as defect density or test execution rates.
Q20	b) Balancing defect resolution with project deadlines.	FL-5.5.1	Defect management must balance quality improvements with project time constraints.

5.5 Questions from exam sets

? Q1

Consider the following statement from a test plan:

"The correct functioning of components is verified using component tests and component integration tests. Evidence must be provided that 100% branch coverage is achieved for each component classified as critical."

Which part of the test plan does this definition belong to?

- a) Test environment
- b) Risk register
- c) Context of testing
- d) Test approach

? Q2

Your team follows a process that uses a continuous integration and delivery (CI/CD) pipeline with a shift-left approach. The first three steps in this process are:

1. Develop and deploy code
2. Submit code into a version control system and merge it into the "test" branch
3. Perform component testing for the submitted code

Which of the following criteria is BEST suited as an entry criterion for step (2) of this pipeline?

- a) The static analysis does not report any defect or no high-severity warnings for the submitted code.
- b) The version control does not report any conflicts when compiling and integrating the code into the "test" branch.
- c) The component tests are compiled and ready to run in the "test" branch.
- d) The statement coverage of the component test is at least 80%.

? Q3

How do testers add value to iteration and release planning?

- a) Testers determine the priority of the user stories to be developed.
- b) Testers focus only on refining the functional aspects of the system under test.
- c) Testers participate in risk analysis and determine testability of user stories.
- d) Testers enable the release of high-quality software through early test design during release planning.

? Q4

You want to estimate the test effort for a new project using estimation based on ratios. You calculate the test-to-development effort ratio using averaged data for both the development and test efforts from four historical projects similar to the new one.

The table below shows this historical data:

Project	Development Effort (\$)	Test Effort (\$)
P1	800,000	40,000
P2	1,200,000	130,000
P3	600,000	70,000
P4	1,000,000	120,000

The estimated development effort for the new project is \$800,000. What is your estimate of the test effort in this project?

- a) \$40,000
- b) \$80,000
- c) \$81,250
- d) \$82,500

Q5

Given the following test execution priorities and dependencies:

Test Case-ID	Priority	Technical Dependency	Logical Dependency
TC1	High	TC4	
TC2	Low		
TC3	High	TC4	
TC4	Medium		
TC5	Low	TC2	
TC6	Medium	TC5	

Which of the following test execution plans BEST addresses the priorities, technical and logical dependencies?

- a) TC1 → TC3 → TC4 → TC6 → TC2 → TC5
- b) TC4 → TC3 → TC1 → TC2 → TC5 → TC6
- c) TC4 → TC1 → TC3 → TC5 → TC6 → TC2
- d) TC4 → TC2 → TC5 → TC1 → TC3 → TC6

5.6 ✓ Answers from exam sets

Question Number	Correct Answer	Related Chapter	Explanation	Related Set	Question Number in Set
Q1	d) Test approach	FL-5.1.1	The test approach describes how testing will be conducted, including techniques and coverage criteria .	Set F	Q28
Q2	a) The static analysis does not report any defect or no high-severity warnings for the submitted code.	FL-5.1.3	The CI/CD approach and shift-left testing require static analysis as an early validation step before integration .	Set B	Q30
Q3	c) Testers participate in risk analysis and determine testability of user stories.	FL-5.1.2	Testers contribute by analyzing risk and ensuring that user stories are testable .	Set A	Q30
Q4	b) \$80,000	FL-5.1.4	The test effort is estimated using the historical test-to-development ratio of 10% .	Set B	Q31
Q5	c) TC4 → TC1 → TC3 → TC5 → TC6 → TC2	FL-5.1.5	Test cases should be executed in priority order while considering dependencies .	Set F	Q33

Chapter 6 - Test Tools

6.1 Basic Questions (30x)

? Q1

What are the benefits of test management tools?

- a) Increase in software performance
- b) Support for manual test execution
- c) Increase in test process efficiency through support of SDLC management
- d) Improvement of the user interface

? Q2

What do static test tools support?

- a) Execution of dynamic tests
- b) Review and static analysis
- c) Test data generation
- d) Test reporting

? Q3

Which tools support test case generation and test implementation?

- a) Test execution tools
- b) Test design and implementation tools
- c) Non-functional test tools
- d) Collaboration tools

? Q4

Which tools facilitate automated test execution and coverage measurement?

- a) Management tools
- b) Test design and implementation tools
- c) Test execution and coverage tools
- d) DevOps tools

? Q5

Which tools support the DevOps delivery pipeline?

- a) Management tools
- b) DevOps tools
- c) Static test tools
- d) Non-functional test tools

❓ Q6

Which tools enable non-functional testing that is difficult to perform manually?

- a) Test design and implementation tools
- b) Management tools
- c) Non-functional test tools
- d) Collaboration tools

❓ Q7

Which tools facilitate communication?

- a) Management tools
- b) Test design and implementation tools
- c) Test execution tools
- d) Collaboration tools

❓ Q8

Which tools support the scalability and standardization of deployment?

- a) Containerization tools and virtual machines
- b) Test execution and coverage tools
- c) Non-functional test tools
- d) Management tools

❓ Q9

Which example of a general tool is used in the test context?

- a) IDE
- b) Text editor
- c) Spreadsheet
- d) Graphics software

❓ Q10

Which benefit of test automation relates to time savings?

- a) Increase in test coverage

- b) Avoidance of human errors
- c) Time savings by reducing repetitive manual work
- d) Provision of objective evaluations

?

Q11

How does test automation contribute to consistency?

- a) Through manual test data creation
- b) Through systematic test data creation and consistent execution
- c) Through one-time test case execution
- d) Through the use of various test tools

?

Q12

Which benefit of test automation includes objective evaluation?

- a) Support of test management
- b) Avoidance of human errors
- c) Objective evaluation and provision of complex measurements
- d) Reduction of test execution time

?

Q13

How does test automation support test management and test reporting?

- a) Through manual test case execution
- b) Through provision of statistics, graphics, and aggregated data
- c) Through generation of test data
- d) Through manual test reporting

?

Q14

Which benefit of test automation relates to faster defect detection?

- a) Faster feedback and market release
- b) Provision of complex measurements
- c) Systematic test data creation
- d) Consistent execution of tests

?

Q15

How can testers benefit from the time savings of test automation?

- a) By increasing the error rate
- b) By implementing all tests manually

- c) By designing new, deeper, and more effective tests
- d) By reducing test coverage

?

Q16

Which unrealistic expectations can pose a risk of test automation?

- a) Reduction of manual work
- b) Improvement of test consistency
- c) Unrealistic expectations of a tool's benefits
- d) Provision of objective evaluations

?

Q17

Which risk of test automation includes inaccurate estimation of effort?

- a) Reduction of manual work
- b) Systematic test data creation
- c) Inaccurate estimates of time, cost, and effort
- d) Consistent execution of tests

?

Q18

When is manual testing more appropriate than using a test tool?

- a) When the tool provides objective evaluations
- b) When the tool enables systematic test data creation
- c) When manual testing is better suited
- d) When the tool reduces test execution time

?

Q19

What is the risk of excessive dependency on a test tool?

- a) Avoidance of human errors
- b) Ignoring the need for human critical thinking
- c) Reduction of manual work
- d) Systematic test data creation

?

Q20

What is the risk of dependency on the tool provider?

- a) The tool provider offers continuous support
- b) The tool provider offers training
- c) The tool provider discontinues the tool or provides poor support

- d) The tool provider improves functionality

?

Q21

What is the risk of using open-source software?

- a) Open-source software is regularly updated
- b) Open-source software is always secure
- c) Open-source software can be abandoned or require frequent updates
- d) Open-source software is always compatible

?

Q22

What is the risk of a test automation tool?

- a) The tool increases test coverage
- b) The tool reduces test execution time
- c) The tool is not compatible with the development platform
- d) The tool enables manual testing

?

Q23

What can be a problem when selecting an unsuitable tool?

- a) It increases test coverage
- b) It reduces test execution time
- c) It does not comply with regulatory requirements or security standards
- d) It improves the user interface

?

Q24

How can test management tools improve test process efficiency?

- a) By improving the user interface
- b) By supporting manual test execution
- c) By managing the SDLC, requirements, tests, and defects
- d) By increasing software performance

?

Q25

Which benefit of test automation includes the avoidance of human errors?

- a) Time savings by reducing repetitive manual work
- b) Increase in test coverage
- c) Avoidance of simple human errors through greater consistency
- d) Provision of objective evaluations

?

Q26

Which tools facilitate the automatic generation of test data?

- a) Management tools
- b) Static test tools
- c) Test design and implementation tools
- d) Collaboration tools

?

Q27

Which tools support workflow tracking and CI/CD?

- a) Non-functional test tools
- b) DevOps tools
- c) Test execution and coverage tools
- d) Static test tools

?

Q28

Which tools support test reporting by providing statistics and graphics?

- a) Collaboration tools
- b) Static test tools
- c) Test design and implementation tools
- d) Management tools

?

Q29

Which risk of test automation relates to the inadequate functionality of a tool?

- a) Realistic expectations of a tool's benefits
- b) Inaccurate estimates of time and effort
- c) Excessive dependency on the tool provider
- d) Inadequate functionality and usability of a tool

?

Q30

Which risk of test automation includes selecting an unsuitable tool?

- a) Increase in test coverage
- b) Reduction of test execution time
- c) Non-compliance with regulatory requirements
- d) Improvement of the user interface

6.2 ✓ Answers of Basic Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	c) Increase in test process efficiency through support of SDLC management.	FL-6.1.1	Test management tools enhance test planning, execution, and monitoring within the SDLC.
Q2	b) Review and static analysis.	FL-6.1.1	Static test tools support code reviews and static analysis without executing the code.
Q3	b) Test design and implementation tools.	FL-6.1.1	These tools assist in generating test cases and automating test script creation.
Q4	c) Test execution and coverage tools.	FL-6.1.1	Test execution tools automate running test cases and measure test coverage.
Q5	b) DevOps tools.	FL-6.1.1	DevOps tools support automation in CI/CD pipelines, including deployment and integration testing.
Q6	c) Non-functional test tools.	FL-6.1.1	Non-functional testing tools measure performance, security, and reliability, which are difficult to test manually.
Q7	d) Collaboration tools.	FL-6.1.1	Collaboration tools enhance communication between testing and development teams.
Q8	a) Containerization tools and virtual machines.	FL-6.1.1	These tools support scalable and standardized test environments for deployment.
Q9	c) Spreadsheet.	FL-6.1.1	Spreadsheets are commonly used for test case management and reporting.
Q10	c) Time savings by reducing repetitive manual work.	FL-6.2.1	Test automation significantly reduces manual effort for repetitive test cases.
Q11	b) Through systematic test data creation and consistent execution.	FL-6.2.1	Automation ensures that tests run consistently and use structured test data.
Q12	c) Objective evaluation and provision of complex measurements.	FL-6.2.1	Automation enables unbiased and precise evaluation of test results.

Question Number	Correct Answer	Related Chapter	Explanation
Q13	b) Through provision of statistics, graphics, and aggregated data.	FL-6.2.1	Automated test management tools provide real-time metrics for decision-making.
Q14	a) Faster feedback and market release.	FL-6.2.1	Automated tests detect defects earlier, improving release efficiency.
Q15	c) By designing new, deeper, and more effective tests.	FL-6.2.1	Time saved through automation allows testers to focus on complex test scenarios.
Q16	c) Unrealistic expectations of a tool's benefits.	FL-6.2.1	Expecting automation to eliminate all testing needs is a common misconception.
Q17	c) Inaccurate estimates of time, cost, and effort.	FL-6.2.1	Test automation requires effort for script creation, maintenance, and tool setup.
Q18	c) When manual testing is better suited.	FL-6.2.1	Some exploratory and usability testing is more effective when performed manually.
Q19	b) Ignoring the need for human critical thinking.	FL-6.2.1	Over-reliance on automation can lead to gaps in exploratory and user experience testing.
Q20	c) The tool provider discontinues the tool or provides poor support.	FL-6.2.1	Dependency on a vendor can become a risk if the tool is no longer supported.
Q21	c) Open-source software can be abandoned or require frequent updates.	FL-6.2.1	Open-source tools may lack continuous development and long-term support.
Q22	c) The tool is not compatible with the development platform.	FL-6.2.1	Compatibility issues may prevent automation tools from integrating into workflows.
Q23	c) It does not comply with regulatory requirements or security standards.	FL-6.2.1	Some test tools may fail to meet industry security or compliance regulations.
Q24	c) By managing the SDLC, requirements, tests, and defects.	FL-6.1.1	Test management tools streamline test case management and defect tracking.

Question Number	Correct Answer	Related Chapter	Explanation
Q25	c) Avoidance of simple human errors through greater consistency.	FL-6.2.1	Automation improves test consistency and reduces manual execution mistakes.
Q26	c) Test design and implementation tools.	FL-6.1.1	These tools support automated test case generation and scripting.
Q27	b) DevOps tools.	FL-6.1.1	DevOps tools assist with workflow automation, tracking, and CI/CD.
Q28	d) Management tools.	FL-6.1.1	Management tools provide reports on test progress and defect metrics.
Q29	d) Inadequate functionality and usability of a tool.	FL-6.2.1	Some tools lack required functionality or are too complex for efficient use.
Q30	c) Non-compliance with regulatory requirements.	FL-6.2.1	An unsuitable tool may fail to meet legal or compliance requirements.

6.3 Intermediate Questions (20x)

? Q1

Which of the following is a primary benefit of using test tools?

- a) They replace the need for manual testing.
- b) They increase efficiency by automating repetitive tasks.
- c) They eliminate all defects in the software.
- d) They guarantee 100% test coverage.

? Q2

Which type of tool is used to track test execution progress and defects?

- a) Test management tool
- b) Static analysis tool
- c) Performance testing tool
- d) Debugging tool

? Q3

Which of the following test tools is used to measure system performance under load?

- a) Test management tool
- b) Performance testing tool
- c) Static analysis tool
- d) Exploratory testing tool

? Q4

Which of the following is a risk of test automation?

- a) Automated tests always find more defects than manual testing.
- b) High maintenance costs due to frequent software changes.
- c) Automation eliminates the need for test planning.
- d) Test automation ensures 100% statement coverage.

? Q5

Which of the following is NOT a benefit of test automation?

- a) Increased test execution speed
- b) Reduced manual effort for repetitive tests
- c) Elimination of all defects in the software

- d) Consistent test execution

?

Q6

Which type of tool helps analyze source code without executing it?

- a) Static analysis tool
- b) Test execution tool
- c) Performance testing tool
- d) Debugging tool

?

Q7

Which of the following is an example of a dynamic testing tool?

- a) Test case management tool
- b) Code review tool
- c) Performance testing tool
- d) Requirement management tool

?

Q8

Which of the following is a limitation of automated testing?

- a) Automated tests require no human intervention.
- b) Automation tools are capable of identifying usability issues.
- c) Automated tests need regular maintenance.
- d) Automation removes the need for exploratory testing.

?

Q9

Which type of tool would be most useful for ensuring code follows coding standards?

- a) Static analysis tool
- b) Performance testing tool
- c) Load testing tool
- d) Debugging tool

?

Q10

Which of the following test automation strategies is the most effective?

- a) Automating all test cases, including exploratory tests.
- b) Automating repetitive and regression test cases.
- c) Only using automation for security testing.
- d) Avoiding automation and relying only on manual testing.

?

Q11

Which of the following is an example of an open-source test automation tool?

- a) Selenium
- b) HP ALM
- c) Microsoft Test Manager
- d) IBM Rational Functional Tester

?

Q12

Which of the following is an essential consideration when selecting a test tool?

- a) The tool should be selected based on the vendor's popularity.
- b) The tool should align with the organization's testing needs.
- c) The tool should replace all forms of manual testing.
- d) The tool should require no training for testers.

?

Q13

Which of the following is an example of a debugging tool?

- a) JIRA
- b) Selenium
- c) GDB
- d) JMeter

?

Q14

Which type of tool helps manage test case creation and execution?

- a) Test management tool
- b) Static analysis tool
- c) Performance monitoring tool
- d) Debugging tool

?

Q15

Which of the following statements about test automation frameworks is TRUE?

- a) Test automation frameworks define coding standards for test scripts.
- b) Test automation frameworks eliminate the need for test execution.
- c) A test automation framework guarantees 100% defect-free software.
- d) Test automation frameworks only apply to unit testing.

?

Q16

Which of the following statements about test execution tools is TRUE?

- a) They require manual input for each test execution.
- b) They execute predefined test scripts automatically.
- c) They can only be used for functional testing.
- d) They eliminate the need for human testers.

Q17

Which of the following is an important consideration when maintaining automated test scripts?

- a) Automated tests should never be updated.
- b) Automated tests must be updated when the application changes.
- c) Automated tests only need maintenance if they fail.
- d) Automated test scripts require no monitoring after implementation.

Q18

Which of the following is a key challenge of test automation?

- a) Test automation guarantees all defects are found.
- b) Automation requires significant initial investment and maintenance.
- c) Automated tests do not require validation.
- d) Automation removes the need for test reporting.

Q19

Which of the following is a benefit of using test management tools?

- a) They eliminate the need for test execution.
- b) They help track and manage test cases and results.
- c) They replace the need for test reporting.
- d) They ensure all defects are automatically fixed.

Q20

Which of the following is a good practice when introducing a new test tool?

- a) Ensure training is provided to the team.
- b) Immediately replace all existing tools.
- c) Avoid customizing the tool to fit project needs.
- d) Assume all testers will adapt without support.

6.4 ✓ Answers of Intermediate Questions

Question Number	Correct Answer	Related Chapter	Explanation
Q1	b) They increase efficiency by automating repetitive tasks.	FL-6.1.1	Test tools improve efficiency but do not replace manual testing entirely.
Q2	a) Test management tool.	FL-6.1.1	Test management tools help track test cases, execution, and defect reports.
Q3	b) Performance testing tool.	FL-6.1.1	Performance testing tools evaluate system behavior under different loads.
Q4	b) High maintenance costs due to frequent software changes.	FL-6.2.1	Automation requires regular updates when applications change.
Q5	c) Elimination of all defects in the software.	FL-6.2.1	Automation aids testing but does not eliminate all defects.
Q6	a) Static analysis tool.	FL-6.1.1	Static analysis tools review source code without executing it.
Q7	c) Performance testing tool.	FL-6.1.1	Performance testing is a dynamic testing technique.
Q8	c) Automated tests need regular maintenance.	FL-6.2.1	Automated tests must be updated as the application evolves.
Q9	a) Static analysis tool.	FL-6.1.1	Static analysis tools enforce coding standards and detect violations.
Q10	b) Automating repetitive and regression test cases.	FL-6.2.1	Automated testing is best used for repetitive and regression tests.
Q11	a) Selenium.	FL-6.1.1	Selenium is an open-source test automation tool.
Q12	b) The tool should align with the organization's testing needs.	FL-6.1.1	Test tools must fit project and business requirements.
Q13	c) GDB.	FL-6.1.1	GDB is a debugging tool used for software troubleshooting.
Q14	a) Test management tool.	FL-6.1.1	Test management tools assist in organizing and tracking test activities.

Question Number	Correct Answer	Related Chapter	Explanation
Q15	a) Test automation frameworks define coding standards for test scripts.	FL-6.2.1	Frameworks provide structure and best practices for automation.
Q16	b) They execute predefined test scripts automatically.	FL-6.2.1	Test execution tools automate running test cases and logging results.
Q17	b) Automated tests must be updated when the application changes.	FL-6.2.1	Automated tests need maintenance to remain effective.
Q18	b) Automation requires significant initial investment and maintenance.	FL-6.2.1	Test automation has upfront and ongoing costs that must be considered.
Q19	b) They help track and manage test cases and results.	FL-6.1.1	Test management tools centralize test planning, execution, and reporting.
Q20	a) Ensure training is provided to the team.	FL-6.1.1	Successful tool adoption requires training and support for testers.

6.5 Questions from exam sets

? Q1

Which of the following testing tools is most useful for reporting the number of defects in the test object?

- a) Management tool
- b) Static test tool
- c) Test coverage tool
- d) Tool to support scalability

? Q2

Which of the following is a potential benefit of test automation?

- a) Test automation enables more objective evaluation and delivery of measurements that are too complicated for humans to derive.
- b) For test automation, you can estimate very precisely the effort required for introduction, maintenance, and training.
- c) Test automation increases confidence in test results because it eliminates human critical thinking.
- d) Test automation always complies with regulatory requirements and security standards.

? Q3

Which of the following is MOST likely to apply to test automation?

- a) Test automation provides measurement of more complex coverage criteria.
- b) Test automation gives some of the responsibility for the testing to the tool vendor.
- c) Test automation removes the need for critical thinking when analyzing test results.
- d) Test automation generates system-level test cases from an analysis of the program code.

? Q4

Which item correctly identifies a potential risk with test automation?

- a) There may be unknown side effects in operational use.
- b) Unrealistic expectations regarding the functionality of a tool.
- c) Test tools may not be reliable enough.
- d) The amount of time that is available for manual testing may be reduced in the long run.

? Q5

Which of the following statements best describes the potential benefit of using tools for automated test execution?

- a) Implementing regression tests is easier since they can be implemented directly with a test script.

- b) There is a more efficient assessment of the test object by the automation tool.
- c) Using a test tool when manual testing is more appropriate.
- d) Regression tests can be conducted more quickly, thus providing faster feedback to the team.

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6.6 ✓ Answers from exam sets

Question Number	Correct Answer	Related Chapter	Explanation	Related Set	Question Number in Set
Q1	a) Management tool	FL-6.1.1	Management tools support defect tracking and reporting, which is crucial for managing the defect lifecycle .	Set F	Q39
Q2	a) Test automation enables more objective evaluation and delivery of measurements that are too complicated for humans to derive.	FL-6.2.1	Automation improves objectivity by providing precise measurements that are difficult for humans to calculate .	Set F	Q40
Q3	a) Test automation provides measurement of more complex coverage criteria.	FL-6.2.1	Automation tools can generate test coverage reports that measure criteria that would otherwise be hard to track manually .	Set B	Q40
Q4	b) Unrealistic expectations regarding the functionality of a tool.	FL-6.2.1	A common risk of test automation is unrealistic expectations about its capabilities and benefits .	Set A	Q40
Q5	d) Regression tests can be conducted more quickly, thus providing faster feedback to the team.	FL-6.2.1	Automated test execution allows for rapid and repeatable regression testing, leading to faster feedback loops .	Set E	Q40

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Foundation Level Sample Exam

SET A (v2.1) – GTB edition –

CTFL Syllabus Version v4.0

ISTQB® Certified Tester Foundation Level

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Revision History

Version	Date	Remarks
1.0	12.04.2023	Release version
2.1	15.10.2023	Revision by GTB AG Exam (arrangement of questions changed, roman type questions eliminated, questions replaced and modified), revision after BETA reviews by GTB members, TAG and university lecturers. Final GTB edition

Introduction

This is a sample exam. It helps candidates to prepare for the actual certification exam. Questions are included whose structure, layout and format are like a regular ISTQB®/ GTB Certified Tester Foundation Level exam. It is strictly forbidden to use the exam questions as content of a certification exam.

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- 4) Exactly one correct solution is expected for almost every question. The exceptions explicitly mention the possibility of multiple answers.

Exam notes

Number of questions: 40

Duration of the exam: 60 minutes

Total score: 40 (one point per question)

Score to pass the exam: 26 (or more)

Percentage of passing the exam: 65% (or more)

Feedback on this sample exam as a whole (40 questions) or on individual questions was provided in the German-language BETA versions of SET A in the period June - August 2023 by: Armin Born (STB), Bettina Buth (HS-Anhalt), Klaus Erlenbach (imbus AG), Sabine Gschwandtner (imbus), Michaela Huhn (HS Ostfalia), Jörn Münzel (former GTB), Paul Müller (SQL/ATB), Reto Müller (STB), Arnd Pehl (imbus AG), Horst Pohlmann (GTB/TH-OWL), Stephan Weissleder (GTB), Marc-Florian Wendland (GTB), Volkmar Richter (HS Anhalt), Ralf Reissing (GTB/Hochschule Coburg).

The preparation of the English version was supported by Ecaterina Irina Manole, Debra Friedenberg, and Horst Pohlmann.

Note: Compared to the original English version, considerable adaptations have been made; some questions have also been replaced.

Question 1	FL-1.1.1	K1	Score	1.0
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Which of the following statements describes an achievable test objective?

Please choose ONE option! (1 out of 4)

a)	To prove that there are no unfixed defects in the system under test	<input type="checkbox"/>
b)	To prove that there will be no failures after the implementation of the system into production	<input type="checkbox"/>
c)	To reduce the risk level of the test object and to build confidence in the quality level	<input checked="" type="checkbox"/>
d)	To verify that there are no untested combinations of inputs	<input type="checkbox"/>

FL-1.1.1 (K1) Identify typical test objectives

Justification:

- a) FALSE – It is impossible to prove that there are no remaining defects in the system under test. (see testing principle 1, see section 1.3, principles of testing)
- b) FALSE – (see testing principle 1, see section 1.3, principles of testing)
- c) CORRECT – Testing finds defects and failures which reduces the level of risk and at the same time gives more confidence in the quality level of the test object (see section 1.1.1; 4th + 8th bullet point).
- d) FALSE – It is impossible to test all combinations of inputs (see testing principle 2, see section 1.3, principles of testing)

Question 2	FL-1.1.2	K2	Score	1.0
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What is the main difference between testing and debugging?

Please choose ONE option! (1 out of 4)

a)	Testing is the process of finding defects, while debugging is the process of fixing defects.	<input checked="" type="checkbox"/>
b)	Testing verifies requirements, while debugging verifies design.	<input type="checkbox"/>
c)	Testing is the process of running software, while debugging is the process of analyzing the software.	<input type="checkbox"/>
d)	Testing is the process of defect prevention, while debugging is the process of defect elimination.	<input type="checkbox"/>

FL-1.1.2 (K2) Differentiate testing from debugging

Justification: (cf. ISTQB® Foundation Level Syllabus V.4.0; Section 1.1.2)

- a) CORRECT – Debugging is the process of finding, analyzing, and eliminating the causes of failures in a component or system after, among other things, dynamic testing for the purpose of debugging (see Syllabus V.4.0, Section 1.1.2).
- b) FALSE – Testing and debugging are not limited to requirements review and design.
- c) FALSE – Testing and debugging involve both the execution and analysis of software.
- d) FALSE – Testing and debugging both aim to prevent and eliminate defects.

Question 3	FL-1.3.1	K2	Score 1.0
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You are part of a team testing a new system. You've noticed that no changes have been made to the existing regression test cases for several iterations, and no new bugs have been uncovered by regression testing. Your manager is satisfied, but you are not.

Which testing principle best explains your skepticism?

Please choose ONE option! (1 out of 4)

a)	Old tests become less effective	<input checked="" type="checkbox"/>
b)	Absence-of-errors fallacy	<input type="checkbox"/>
c)	Defects cluster together	<input type="checkbox"/>
d)	Exhaustive testing is impossible	<input type="checkbox"/>

FL-1.3.1 (K2) Explain the seven testing principles

Justification:

- a) CORRECT – This principle means that if the same tests are repeated over and over again, eventually these tests no longer find any new defects. This is probably why the tests all passed in this release as well (cf. Syllabus 4.0, section 1.3, point 5 “Tests wear out”).
- b) FALSE – This principle says about the mistaken belief that just finding and fixing a large number of defects will ensure the success of a system (cf. Syllabus 4.0, section 1.3, point 7)
- c) FALSE – This principle says that a small number of components usually contain most of the defects (cf. Syllabus 4.0, section 1.3, point 4)
- d) FALSE – This principle states that testing all combinations of inputs and preconditions is not feasible (cf. Syllabus 4.0, section 1.3, point 2).

Question 4	FL-1.4.1	K2	Score 1.0
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You work in a team that develops a mobile application for ordering food. In the current iteration the team decides to implement the payment functionality.

Which of the following activities is a part of test analysis?

Please choose ONE option! (1 out of 4)

a)	Perform the effort estimation for testing the integration of the mobile application with the payment service.	<input type="checkbox"/>
b)	Decide whether to test the ability to split payments among multiple users.	<input checked="" type="checkbox"/>
c)	Using boundary value analysis (BVA) to derive the test data for the test cases that check the correct payment processing for the minimum allowed amount to be paid.	<input type="checkbox"/>
d)	Analysis of the deviation between the actual and the expected result after the execution of a test case.	<input type="checkbox"/>

FL-1.4.1 (K2) Summarize the different test activities and tasks

Justification:

- a) FALSE – Estimating the test effort is part of test planning (cf. syllabus V.4.0; section 5.1.4)
- b) CORRECT – This is an example of the definition of test conditions, which is a part of test analysis. (cf. syllabus V.4.0; section 1.4.1, part test analysis).
- c) FALSE – The use of test techniques (e. g., boundary value analysis (BVA) to derive test data is part of test design (cf. Syllabus V.4.0; Section 1.4.1, Test design part) or test means (e. g., test data) required for test realization (cf. Syllabus V.4.0; Section 1.4.1, part Test Realization).
- d) FALSE – The analysis between the actual and the expected result after the execution of a test case is part of the test execution. (cf. syllabus V.4.0; section 1.4.1, part test execution).

Question 5	FL-1.4.4	K2	Score	1.0
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Which of the following statements BEST describes how value is added by establishing and maintaining traceability between the test base and the test ware?

Please choose ONE option! (1 out of 4)

a)	Maintenance testing can be fully automated on the basis of changes to the original requirements.	<input type="checkbox"/>
b)	Whether or not the targeted coverage has been achieved can be more efficiently determined.	<input checked="" type="checkbox"/>
c)	The test management role can determine which testers found the defects with the highest severity.	<input type="checkbox"/>
d)	Code areas that may be affected by side effects of a change can be targeted through regression testing.	<input type="checkbox"/>

FL-1.4.4 (K2) Explain the value of maintaining traceability

Justification:

- a) FALSE – Traceability allows requirements to be linked to test cases (see CTFL Syllabus 4.0, Section 1.4.4, 3rd paragraph), but it does not help automate test cases.
- b) CORRECT – If test cases are linked to requirements, the addition of a new test case (with traceability) can determine whether previously uncovered requirements or parts of requirements are covered by the new test case (see CTFL Syllabus 4.0, Section 1.4.4, 1st bullet).
- c) FALSE – The traceability between test base and test ware does not provide information about which testers have identified the high severity defects. One could determine this through evaluations in the defect management tool if necessary, but in terms of the syllabus, it is never about evaluating individuals.
- d) FALSE – Traceability from test base to test ware allows analysis between requirements and associated test cases for test coverage. Therefore, derivations can be determined when a requirement change is made to the associated test cases (see CTFL Syllabus 4.0, Section 1.4.4, 1st bullet point). Areas (in the code) that are affected by a change and for which side effects could be determined cannot be determined with this traceability.

Question 6	FL-1.4.5	K2	Score	1.0
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Which of the following statements BEST compares the different roles in testing?

Please choose ONE option! (1 out of 4)

a)	The testing role executes test cases, the test management role plans and monitors the testing activities and reports the deviation to all testers.	<input type="checkbox"/>
b)	The testing role performs test analysis and test design activities, creates and executes test cases, and the test management role coordinates testing resources and reports to stakeholders.	<input checked="" type="checkbox"/>
c)	The testing role decides the tests to be automated and prioritizes test cases, and the test management role analyzes risks and prioritizes tests.	<input type="checkbox"/>
d)	The testing role performs static and dynamic component testing, and the test management role performs system testing and acceptance testing.	<input type="checkbox"/>

FL-1.4.5 (K2) Compare the different roles in testing.

Justification: (cf. ISTQB® Foundation Level Syllabus V.4.0; Section 1.4.5)

- a) FALSE – Reporting deviations is assigned to the testing role and not to the test management role. (See also CTFL Syllabus V.4.0; Section 1.4.5; 3rd paragraph; last sentence: "The testing role focuses primarily on the activities of test analysis, test design, test implementation, and test execution." Test execution "(...) reporting of the deviation based on the observed failure effects (see Section 5.5)).
- b) CORRECT – because it describes the main tasks of each role in testing in a meaningful way. The testing role executes test cases, creates and designs test cases, performs test analysis and design activities, and reports defects; the Test Management role coordinates test resources and reports to stakeholders. (See CTFL Syllabus V.4.0; Section 1.4.5, 2nd + 3rd par.).
- c) FALSE – because it confuses the roles of testing. The role of testing does not solely prioritize test cases and does not alone decide which tests to automate.
- d) FALSE – because it oversimplifies the types of tests that each role can perform. The testing role is not limited to component testing. The test management role monitors the tests, it does not execute the test. Further, there is no restriction on specific levels of testing.

Question 7	FL-1.5.3	K2	Score	1.0
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Which of the following BEST explains a benefit of independence of testing?

Please choose ONE option! (1 out of 4)

a)	The use of an independent test team allows project management to assign responsibility for the quality of the final deliverable to the test team.	<input type="checkbox"/>
b)	If a test team external to the organization can be afforded, then there are distinct benefits in terms of this external team not being so easily swayed by the delivery concerns of project management and the need to meet strict delivery deadlines.	<input type="checkbox"/>
c)	An independent test team can work separately from the developers, need not be distracted with project requirement changes, and can restrict communication with the developers to defect reporting through the defect management system.	<input type="checkbox"/>
d)	When specifications contain ambiguities and inconsistencies, assumptions are made by developers on their interpretation, and an independent test team can be useful in questioning those assumptions and the interpretation made by the developer.	<input checked="" type="checkbox"/>

FL-1.5.3 (K2) Distinguish the benefits and drawbacks of independence of testing

Justification:

- a) FALSE – Quality should be the responsibility of everyone working on the project and not the sole responsibility of the test team
- b) FALSE – First, it is not a benefit if an external test team does not meet delivery deadlines, and second, there is no reason to believe that external test teams will feel they do not have to meet strict delivery deadlines
- c) FALSE – It is bad practice for the test team to work in complete isolation, and we would expect an external test team to be concerned with changing project requirements and communicating well with developers
- d) CORRECT – Specifications are never perfect, meaning that assumptions will have to be made by the developer. An independent tester is useful in that they can challenge and verify the assumptions and subsequent interpretation made by the developer (cf. CTFL Syllabus, section 1.5.3, 3. Par., last sentence).

Question 8	FL-1.5.2	K1	Score	1.0
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How is the whole team approach present in the interactions between testers and business representatives?

Please choose ONE option! (1 out of 4)

a)	Business representatives decide together with project management on test automation approaches	<input type="checkbox"/>
b)	Testers help business representatives to define test strategy	<input type="checkbox"/>
c)	Business representatives are not part of the whole team approach	<input type="checkbox"/>
d)	Testers help business representatives to create suitable acceptance tests	<input checked="" type="checkbox"/>

FL-1.5.2 (K1) Recall the advantages of the whole team approach

Justification:

- a) FALSE – The test automation approach is defined by testers with the help of developers and business representatives (See Syllabus V.4.0; Section 1.5.2; Paragraph 3).
- b) FALSE – The test strategy is decided in collaboration with the developers (See Syllabus V.4.0; Section 1.5.2; Paragraph 3).
- c) FALSE – Testers, developers, and business representatives are part of the whole team approach (See Syllabus V.4.0; Section 1.5.2; Paragraph 3).
- d) CORRECT – Testers will work closely with business representatives to ensure that the desired quality levels are achieved. This includes supporting and collaborating with them to help them create suitable acceptance tests (See Syllabus V.4.0; Section 1.5.2; Paragraph 3).

Question 9	FL-2.1.2	K2	Score	1.0
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Which of the following statements BEST describes a good practice for testing that applies to all software development lifecycles?

Please choose ONE option! (1 out of 4)

a)	Testing should be performed only after development is complete.	<input type="checkbox"/>
b)	Testing should be performed under the leadership of development.	<input type="checkbox"/>
c)	Testing should start early in the development process.	<input checked="" type="checkbox"/>
d)	Testing should be performed in a development test environment.	<input type="checkbox"/>

FL-2.1.2 (K2) Identify good practices for testing that apply to all software development life cycles.

Justification:

- a) FALSE – Testing should NOT be done after development is complete, as this can lead to late discovery of bugs and increase the cost of fixing bugs. (cf. CTFL Syllabus 4.0, Section 2.1.2, 3rd bullet point).
- b) FALSE – Testing should not be led by development because developers may not be able to identify their own bugs. (CTFL Syllabus 4.0, section 2.1.2, clauses 1.4.5, 2nd paragraph, last sentence).
- c) CORRECT – Testing should begin early in the development process to detect defects as early as possible and minimize the cost of fixing defects. (See also: CTFL Syllabus 4.0, Section 2.1.2., 3. bullet point and Section 1.3).
- d) FALSE – Testing should not be performed in a development test environment as this may not identify all problems that may occur on other environments. Testing should be performed in a representative test environment. (See CTFL Syllabus 4.0, Section 2.1.5, last bullet point).

Question 10	FL-2.1.3	K1	Score	1.0
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Which of the following statements BEST describes the acceptance test-driven development (ATDD) approach?

Please choose ONE option! (1 out of 4)

a)	In ATDD, acceptance criteria are typically created based on the given/when/then format.	<input type="checkbox"/>
b)	In ATDD, test cases are developed first and then the software is implemented incrementally against the test cases and defined acceptance criteria.	<input type="checkbox"/>
c)	In ATDD, tests are derived from acceptance criteria as part of the system design.	<input checked="" type="checkbox"/>
d)	With ATDD, tests are based on the desired behavior of the software, which makes it easier for team members to understand the tests and the defined acceptance criteria.	<input type="checkbox"/>

FL-2.1.3 (K1) Recall the examples of test-first approaches to development

Justification:

- a) FALSE – This format is more often used in behavior-driven development (BDD) (See CTFL Syllabus V.4.0; Section 2.1.3, 3rd listed approach).
- b) FALSE – It is the description of test-driven development (TDD) (See CTFL Syllabus V.4.0; Section 2.1.3, 1st listed approach).
- c) CORRECT – In acceptance test-driven development (ATDD) tests are written from acceptance criteria as part of the business requirements (See CTFL Syllabus V.4.0; Section 2.1.3, 3rd listed approach, 1. Bullet point).
- d) FALSE – The desired behavior is used in behavior-driven development(BDD). (See CTFL Syllabus V.4.0; Section 2.1.3, 3rd listed approach).

Question 11	FL-2.1.5	K2	Score	1.0
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Which of the following is NOT an example of the shift left approach?

Please choose ONE option! (1 out of 4)

a)	Reviewing the user requirements before they are formally accepted by the stakeholders	<input type="checkbox"/>
b)	Create component test cases before programming the associated code	<input type="checkbox"/>
c)	Executing a performance efficiency test for a component during component testing	<input type="checkbox"/>
d)	Execution of non-functional tests, starting during system level testing	<input checked="" type="checkbox"/>

FL-2.1.5 (K2) Explain the shift-left approach

Justification:

- a) FALSE – Early review is an example of the shift left approach (CTFL Syllabus V.4.0; Section 2.1.5, 1st bullet point, mutatis mutandis).
- b) FALSE – TDD is an example of the shift left approach (CTFL Syllabus V.4.0; Section 2.1.5, 2nd bullet point).
- c) FALSE – Early non-functional testing is an example of the shift left approach (CTFL Syllabus V.4.0; Section 2.1.5, 5th bullet point).
- d) CORRECT – Early non-functional testing is an example of the shift-left approach, but NOT until the system test level is NOT an example of the shift-left approach. (CTFL Syllabus V.4.0; Section 2.1.5, 5th bullet point)

Question 12	FL-2.1.6	K2	Score	1.0
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Which of the arguments below would you use to convince your manager to organize retrospectives at the end of each release cycle?

Please choose ONE option! (1 out of 4)

a)	Retrospectives are very popular these days and clients would appreciate it if we added them to our processes.	<input type="checkbox"/>
b)	Performing regular retrospectives will save the organization money because end user representatives do not provide immediate feedback about the product.	<input type="checkbox"/>
c)	Process weaknesses identified during the retrospective can be analyzed and serve as a to do list for the organization's continuous process improvement program.	<input checked="" type="checkbox"/>
d)	Retrospectives embrace the five values including courage and respect, which are crucial to maintain continuous improvement in the organization.	<input type="checkbox"/>

FL-2.1.6 (K2) Explain how retrospectives can be used as a mechanism for process improvement

Justification:

- a) FALSE – Retrospectives are more useful for identifying improvement opportunities and have little importance for clients
- b) FALSE – Business representatives are not giving feedback about the product itself. Therefore, there is no financial gain to the organization.
- c) CORRECT – Regularly conducted retrospectives, when appropriate follow up activities occur, are critical to continual improvement of development and testing (cf. ISTQB® Foundation Level Syllabus V.4.0; Section 2.1.6, 2nd paragraph, 2nd sentence.)
- d) FALSE – The option focuses on the social aspects of a retrospective, which are important but do not reflect the main goals of the retrospective.

Question 13	FL-2.2.1	K2	Score	1.0
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Which types of defects (1-4) fit which test levels (A-D) BEST?

1. Defects in system behavior as it deviates from the user's business needs
 2. Defects in communication between components
 3. Defects in an isolated component
 4. Defects in an incorrectly implemented user story.
- A. Component testing
B. Component Integration testing
C. System testing
D. Acceptance testing

Please choose ONE option! (1 out of 4)

a)	1D, 2B, 3A, 4C	<input checked="" type="checkbox"/>
b)	1D, 2B, 3C, 4A	<input type="checkbox"/>
c)	1B, 2A, 3D, 4C	<input type="checkbox"/>
d)	1C, 2A, 3B, 4D	<input type="checkbox"/>

FL-2.2.1 (K2) Distinguish the different test levels

Justification:

The test basis for acceptance testing is the user's business needs (1D). (see CTFL Syllabus 4.0, Bulletpoint Acceptance Test, 1st sentence).

The communication between the components is tested during the component integration test of the components (2B). (see CTFL Syllabus 4.0, bullet point component integration test, 1st sentence).

Defects in an isolated component can be detected in the Component Test (3A) because this test checks the internal structure and functionality of a single component. (See CTFL Syllabus 4.0, Bullet Component Test, 1st sentence).

Business rules are the test basis for system testing (4C).

Hence a) is CORRECT.

Question 14	FL-2.3.1	K2	Score 1.0
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Your organization's test strategy suggests that once a system is planned for retirement, data migration to a new system shall be tested.

As part of what test activity is this testing MOST likely to be performed?

Please choose ONE option! (1 out of 4)

a)	Maintenance testing	<input checked="" type="checkbox"/>
b)	Regression testing	<input type="checkbox"/>
c)	Component testing	<input type="checkbox"/>
d)	Component integration testing	<input type="checkbox"/>

FL-2.3.1 (K2) Summarize maintenance testing and its triggers

Justification:

- a) CORRECT – When a system is retired, this can require testing of data migration, which is a form of maintenance testing. This is a type of test performed when a system is retired or modified to ensure that functionality and performance are maintained. The need to migrate data falls under migration. Changing to a successor system falls under system replacement, both of which are triggers for maintenance testing). (Syllabus V.4.0; Section 2.3, bullets 2 and 3).
- b) FALSE – Regression testing verifies whether a fix accidentally affected the behavior of other parts of the code, but now we are talking about data migration to a new system
- c) FALSE – Component testing focuses on individual hardware or software components, not on data migration
- d) FALSE – Component integration testing focuses on interactions between components and/or systems, not on data migration

Question 15	FL-3.1.2	K2	Score	1.0
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Which of the following is NOT a benefit of static testing?

Please choose ONE option! (1 out of 4)

a)	Evaluating and remediating anomalies discovered through static analysis can take a significant amount of time and resources	<input checked="" type="checkbox"/>
b)	Fixing defects found during static testing is generally much less expensive than fixing defects found during dynamic testing	<input type="checkbox"/>
c)	Finding coding defects that might not have been found by only performing dynamic testing	<input type="checkbox"/>
d)	Detecting gaps and inconsistencies in requirements	<input type="checkbox"/>

FL-3.1.2 (K2) Explain the value of static testing

Justification:

- a) CORRECT – The (manual) evaluation and resolution of anomalies uncovered by static analysis can require significant time and resources." This is a potential disadvantage of static testing, especially when the test object is very complex and large. (cf. CTFL Syllabus V.4.0; Section 3.1.2, last paragraph).
- b) FALSE – This is a clear advantage of static testing, as it improves the quality of the test object and reduces troubleshooting and maintenance costs. (cf. CTFL Syllabus V.4.0; Section 3.1.2, 1st paragraph).
- c) FALSE – This is an advantage of static testing. Static testing does not execute, but finds errors in the code that may not be reached in dynamic testing. (cf. CTFL Syllabus V.4.0; Section 3.1.2, 1st paragraph).
- d) FALSE – This is an advantage of static testing. This is because static testing can help increase requirements quality and reduce the risk of misinterpretation or misunderstanding. (cf. CTFL Syllabus V.4.0; Section 3.1.2, 2nd paragraph, Section 3.1.3, 1st paragraph).

Question 16	FL-3.2.1	K1	Score	1.0
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Which of the following is a benefit of early and frequent feedback by stakeholders?

Please choose ONE option! (1 out of 4)

a)	It improves the test process for future projects	<input type="checkbox"/>
b)	It forces customers to prioritize their requirements based on agreed risks	<input type="checkbox"/>
c)	It is the only way to measure the quality of changes	<input type="checkbox"/>
d)	It helps avoid requirements misunderstandings	<input checked="" type="checkbox"/>

FL-3.2.1 (K1) Identify the benefits of early and frequent stakeholder feedback

Justification:

- a) FALSE – Feedback can improve the test process, but if one only wants to improve future projects, the feedback does not need to come early or frequently
- b) FALSE – Feedback is not used to prioritize requirements
- c) FALSE – The quality of changes can be measured in multiple ways
- d) CORRECT – Early and frequent feedback enables potential quality problems, such as misunderstood requirements, to be identified at an early stage. (see ISTQB® Foundation Level Syllabus V.4.0; Section 3.2.1, 1st paragraph).

Question 17	FL-3.2.4	K2	Score	1.0
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Your organization's reviews have the following characteristics:

- The main purpose is to communicate or train reviewers.
- The meeting is led by the author of the work product.
- There is individual independently preparation of the reviewer before the meeting.
- A review report is produced.

Which of the following review types is MOST likely being used?

Please choose ONE option! (1 out of 4)

a)	Informal review	<input type="checkbox"/>
b)	Walkthrough	<input checked="" type="checkbox"/>
c)	Technical review	<input type="checkbox"/>
d)	Inspection	<input type="checkbox"/>

FL-3.2.4 (K2) Compare and contrast the different review types

Justification:

Considering the attributes:

- The primary purpose is to communicate and educate reviewers as an important goal of a walkthrough (see CTFL Syllabus V.4.0; Section 3.2.4, Types of Reviews).
- The review meeting is led by the author of the work product – this is not allowed for inspections and is typically not done in technical reviews. A moderator is needed in walkthroughs and is allowed for informal reviews (See CTFL Syllabus V.4.0; Section 3.2.4, Types of Reviews).
- Individual reviewers find potential anomalies during preparation – all types of reviews can include individual reviewers (even informal reviews) (See CTFL Syllabus V.4.0; Section 3.2.4, Types of Reviews).
- A review report is produced – all types of reviews can produce a review report, although informal reviews do not require documentation (See CTFL Syllabus V.4.0; Section 3.2.4, Types of Reviews).

Hence b) is CORRECT.

Question 18	FL-3.2.5	K1	Score 1.0
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Which of these statements is NOT a factor that contributes to successful reviews?

Please choose ONE option! (1 out of 4)

a)	Participants should dedicate adequate time for the review.	<input type="checkbox"/>
b)	Splitting large work products into small parts is recommended so that reviewers (reviewers) do not lose focus.	<input type="checkbox"/>
c)	Establishing clear objectives and measurable exit criteria for the review.	<input type="checkbox"/>
d)	Management's personal involvement in communicating findings.	<input checked="" type="checkbox"/>

FL-3.2.5 (K1) Recall the factors that contribute to a successful review

Justification:

- a) FALSE – Adequate time for individuals is a success factor (Syllabus V.4.0; Section 3.2.5, 5th bullet point).
- b) FALSE – Splitting work products into small adequate parts is a success factor (CTFL Syllabus V.4.0; Section 3.2.5, 3rd bullet point).
- c) FALSE – Establishing clear objectives and measurable exit criteria for the review is a success factor according to the syllabus and in practice. (CTFL Syllabus V.4.0; Section 3.2.5, 1st bullet point).
- d) CORRECT – Management is responsible for the budget and for supporting the review process, but should not be personally involved in communicating the findings. (CTFL Syllabus V.4.0; Section 3.2.5, 6th bullet point and Section 3.2.3, 1st bullet point of bullet point list).

Question 19	FL-4.1.1	K2	Score 1.0
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Which of the following is a characteristic of experience-based test techniques?

Please choose ONE option! (1 out of 4)

a)	Test cases are created based on detailed design information	<input type="checkbox"/>
b)	The number of interfaces tested is used to measure the coverage	<input type="checkbox"/>
c)	The techniques heavily rely on the tester's knowledge of the software and the business domain	<input checked="" type="checkbox"/>
d)	The test cases are used to identify deviations from the requirements	<input type="checkbox"/>

FL-4.1.1 (K2) Distinguish black-box, white-box and experience-based test techniques

Justification:

- a) FALSE – This is a common characteristic of white-box test techniques. Test conditions, test cases and test data are derived from a test base that may include code, software architecture, detailed design or any other source of information regarding the structure of the software.
- b) FALSE – This is a common characteristic of white-box test techniques. The degree of coverage is measured based on the tested interfaces.
- c) CORRECT – This is a common feature of experience-based testing methods. This knowledge and experience, including the expected use of the software, its environment, the likely defects and the distribution of these defects, is used to define tests. (cf. ISTQB® Foundation Level Syllabus V.4.0; Section 4.1).
- d) FALSE – This is a common characteristic of black-box test techniques. Test cases may be used to detect gaps in the requirements and the implementation of the requirements, as well as deviations from the requirements.

Question 20	FL-4.2.1	K3	Score 1.0
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You are testing the software for a self-service American gas pump. After lifting the nozzle and selecting the desired grade of fuel, the customer enters the desired amount of fuel in gallons using a keypad. The keypad allows only numeric entry. Between 0.1 and 50.0 gallons can be dispensed per fill-up.

Which of the following answers represents a minimum set of input values that covers all valid and invalid fuel quantity equivalence partitions?

Please choose ONE option! (1 out of 4)

a)	0.0; 20.0; 60.0	<input checked="" type="checkbox"/>
b)	0.0; 0.1; 50.0	<input type="checkbox"/>
c)	0.0; 0.1; 50.0; 70.0	<input type="checkbox"/>
d)	-0.1; 0.0; 0.1; 49.9; 50.0; 50.1	<input type="checkbox"/>

FL-4.2.1 (K3) Apply equivalence class partitioning to derive test cases.

Justification: (see ISTQB® Certified Tester Syllabus Foundation Level 4.0)

There are three equivalence classes for this input parameter (see CTFL Syllabus 4.0, Section 4.2.1):

- No quantity is entered and therefore no sale is completed (0.0 gallons) - Invalid class.
- A valid quantity is entered and the sale occurs (0.1 to 50.0 gallons) - valid class
- An invalid quantity is entered and therefore no sale is completed (>50.0 gallons) - invalid class

For this:

- a) **CORRECT** – This list of input values defines exactly one test case per equivalency class (see CTFL Syllabus 4.0, Section 4.2.1, 5th paragraph).
- b) FALSE – This list of input values does not cover invalidly exceeding the 50.0 gallon maximum allowed (see CTFL Syllabus 4.0, Section 4.2.1, 5th paragraph).
- c) FALSE – This set of input values represents two tests for the valid equivalence class, which is not the minimum of one test (see CTFL Syllabus 4.0, Section 4.2.1, 5th paragraph).
- d) FALSE – This set of input values covers three boundary values each for the two boundaries values 0.1 and 50.0, not the minimum number required to cover the equivalence classes (see CTFL Syllabus 4.0, Section 4.2.1, 5th paragraph).

Question 21	FL-4.2.2	K3	Score 1.0
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You are testing an e-commerce system that sells bulk food items such as spices, flour, and sugar. The units in which the items are sold are either grams or kilograms. Regardless of the units, the smallest valid order quantity is 0.5 units (e. g., half a gram of cardamom pods) and the largest valid order quantity is 25.0 units (e. g., 25 kilograms of sugar). The accuracy of the order quantity is 0.1 units.

Which of the following input values cover only the limits with 2-value limit analysis for the order quantity?

Please choose ONE option! (1 out of 4)

a)	0.3; 24.9; 25.2	<input type="checkbox"/>
b)	0.4; 0.5; 0.6; 24.9; 25.0; 25.1	<input type="checkbox"/>
c)	0.4; 0.5; 25.0; 25.1	<input checked="" type="checkbox"/>
d)	0.5; 0.6; 24.9; 25.0	<input type="checkbox"/>

FL-4.2.2 (K3) Apply boundary value analysis to derive test cases.

Justification: (cf. ISTQB® Syllabus Foundation Level 4.0).

There are three equivalence classes whose boundaries are shown as follows:

- Invalid to low (0.4 and below)
- Valid (0.5 to 25.0)
- Invalid too high (25.1 and higher)

The 2-value boundary value analysis (see CTFL Syllabus 4.0, Section 4.2.2, 4th paragraph) defines two cover elements for each limit value of an ordered class, the boundary value and its closest neighbor belonging to the adjacent class. So here 0.5 (limit value) and 0.4 (adjacent class) and 25.0 and 25.1.

Therefore:

- a) FALSE – These values cover the individual equivalence classes, but not their boundary values (see CTFL Syllabus 4.0, Sections 4.2.1 and 4.2.2).
- b) FALSE – These input values would be correct if the 3-value method were used. The four boundaries of the 2-value method (see answer c) are included in this set of input values, but the 2-value method was explicitly asked for. (See CTFL 4.0, section 4.2.2, 5th paragraph).
- c) **CORRECT** – This set of input values covers the four boundaries selected by using the 2-value method (see CTFL Syllabus 4.0, Section 4.2.2, 4th paragraph).
- d) FALSE – These four values are all included in the valid equivalence class, the boundary values from the two invalid equivalence classes are missing (see CTFL Syllabus 4.0, Section 4.2.2, 4th paragraph).

Question 22	FL-4.2.3	K3	Score 1.0
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Newly hired employees of a company can agree on individual goals with their superiors, the achievement of which is linked to their bonus. However, this bonus is only paid to them if they have been employed by the company for more than one year.

This situation can be illustrated in a decision table:

Test Case-ID		T1	T2	T3	T4	T5
Condition1	Employment longer than one year?	YES	NO	NO	YES	NO
Condition2	Target agreed?	NO	NO	YES	YES	YES
Condition3	Target achieved?	NO	NO	YES	YES	NO
Action	Payment of the bonus?	NO	NO	NO	YES	NO

Which of the following test cases describes a real-world situation that is missing from the above decision table?

Please choose ONE option! (1 out of 4)

- | | | |
|----|---|-------------------------------------|
| a) | Condition1 = YES, Condition2 = NO, Condition3 = YES, Action = NO | <input type="checkbox"/> |
| b) | Condition1 = YES, Condition2 = YES, Condition3 = NO, Action = YES | <input type="checkbox"/> |
| c) | Condition1 = NO, Condition2 = NO, Condition3 = YES, Action = NO | <input type="checkbox"/> |
| d) | Condition1 = YES, Condition2 = YES, Condition3 = NO, Action = NO | <input checked="" type="checkbox"/> |

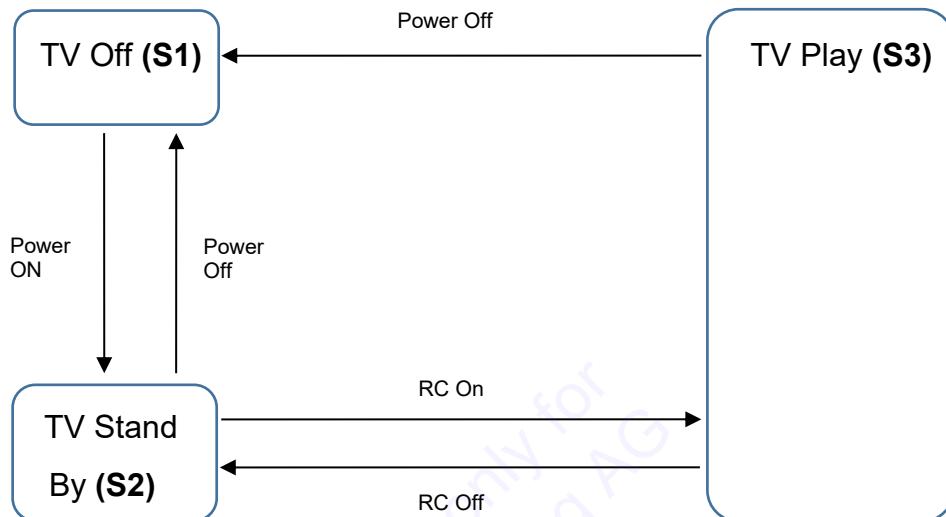
FL-4.2.3 (K3) Apply decision table testing to derive test cases.

Justification: (see ISTQB® Certified Tester Syllabus Foundation Level 4.0)

- a) FALSE – The combination of conditions is an infeasible combination, because if no goal has been agreed, then the goal that has not been agreed cannot be achieved. Therefore, it is not a valid scenario that occurs in practice. (See CTFL Syllabus 4.0, Section 4.2.3, Paragraph 4).
- b) FALSE – The combination of conditions is a valid, occurring situation, but the action is technically incorrect. Since the objective was not achieved, no award should be made. (See CTFL Syllabus 4.0, Section 4.2.3, 2nd paragraph).
- c) FALSE – The combination of conditions is an infeasible combination because if no objective was agreed, then the unagreed objective cannot be achieved. Therefore, it is not a valid scenario that occurs in practice. (See CTFL Syllabus 4.0, Section 4.2.3, 4th paragraph) (see answer a)).
- d) CORRECT – The test case describes the technically correct situation (counterpart to answer b) that failure to achieve the agreed target results in non-payment of the bonus if the employee is employed for more than one year. This situation may occur in practice, but is not included in the decision table. (See CTFL Syllabus 4.0, Section 4.2.3, 2nd paragraph).

Question 23	FL-4.2.4	K3	Score 1.0
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Which of the following statements about the state transition diagram and test case table below is TRUE?



Test case	1	2	3	4	5
Initial state	S1	S2	S2	S3	S3
Input	Power On	Power Off	RC On	RC Off	Power Off
Final state	S2	S1	S3	S2	S1

Please choose ONE option! (1 out of 4)

- | | | |
|----|--|-------------------------------------|
| a) | The test cases execute all transitions in the state transition diagram, achieving 100% coverage of all transitions. | <input type="checkbox"/> |
| b) | The test cases execute all valid transitions in the state transition diagram. This achieves 100% 0-switch coverage. | <input checked="" type="checkbox"/> |
| c) | The test cases execute only some of the valid transitions in the state transition diagram. Therefore, the 0-switch coverage is less than 100%. | <input type="checkbox"/> |
| d) | Test Case 2 is not required for 100% 0-switch coverage, since state S1 is already covered by Test Case 5. | <input type="checkbox"/> |

FL-4.2.4 (K3) Apply state transition testing to derive test cases from given requirements.

Justification: (see CTFL CORE Syllabus 4.0).

The proposed test cases cover exactly all five possible valid transitions in the given state transition diagram (S1-> S2, S2-> S1, S2-> S3, S3-> S2, S3-> S1).

Therefore:

- a) FALSE – because no invalid transitions, such as S1->S3, are executed.
- b) CORRECT – because all 5 valid transitions are performed.
- c) FALSE – because all valid transitions are executed (see b).
- d) FALSE – because the 0-switch overlap is not a matter of overlapping states, but of overlapping transitions.

Question 24	FL-4.3.1	K2	Score	1.0
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Which of the following describes statement coverage?

Please choose ONE option! (1 out of 4)

a)	It is a metric for calculating and measuring the percentage of test cases executed.	<input type="checkbox"/>
b)	It is a metric that indicates the percentage of statements in the code that have already been executed by test cases.	<input checked="" type="checkbox"/>
c)	It is a metric for measuring the number of statements in the code executed by test cases that did not reveal a failure.	<input type="checkbox"/>
d)	It is a metric that provides true/false confirmation that all statements are covered by executed test cases.	<input type="checkbox"/>

FL-4.3.1 (K2) Explain statement testing

Justification: (cf. ISTQB® Certified Tester Syllabus Foundation Level 4.0)

- a) FALSE – Statement coverage measures the percentage of statements executed (covered) by test cases and is not related to the number of test cases executed (see CTFL syllabus 4.0, section 4.3.1, paragraph 1).
- b) CORRECT – Statement testing aims to execute statements in code through test cases until acceptable statement coverage is achieved. Statement coverage is measured as the number of statements executed by test cases divided by the total number of executable statements in the test object, expressed as a percentage (see CTFL 4.0, Section 4.3.1, Paragraph 1).
- c) FALSE – Statement coverage measures only executed instructions, regardless of whether or not any failures or defects were determined with them (see CTFL 4.0, Section 4.3.1, 1st and 2nd paragraphs).
- d) FALSE – Statement coverage is a metric that gives percentages and does not make a true/false statement (see CTFL Syllabus 4.0, Section 4.3.1, Paragraph 1). A true/false statement could be determined for the test objective of percent statement coverage, e. g., 100% statement coverage, but not for the statement coverage itself.

Question 25	FL-4.3.3	K2	Score	1.0
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Which of the following statements is NOT true for white-box testing?

Please choose ONE option! (1 out of 4)

a)	White-box testing is testing based on the analysis of the internal structure of a component or system.	<input type="checkbox"/>
b)	White-box coverage metrics can help identify additional tests to increase code coverage.	<input type="checkbox"/>
c)	White-box testing techniques can be used in addition to black-box testing techniques to increase confidence in the code.	<input type="checkbox"/>
d)	White-box testing can help identify unimplemented requirements.	<input checked="" type="checkbox"/>

FL-4.3.3 (K2) Explain the value of White-Box Testing

Justification

- a) FALSE – see glossary definition for white box testing.
- b) FALSE – White box coverage measurements provide an objective measure of coverage and provide the information necessary to create additional tests to increase coverage. (See Syllabus V.4.0; Section 4.3.3, 1st paragraph, 1st sentence).
- c) FALSE – White-box test techniques can be used in a complementary manner to black-box test techniques. In fact, this is recommended. (See Syllabus V.4.0; Section 4.3.3, 3rd paragraph).
- d) CORRECT – This is the weakness of the white-box test techniques. They are unable to identify the missing implementation because they are based only on the structure of the test object and not on the requirements specification. (cf. Syllabus V.4.0; Section 4.3.3, 1st paragraph, last sentence).

Question 26	FL-4.4.1	K2	Score 1.0
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Which of the following BEST describes the concept behind error guessing?

Please choose ONE option! (1 out of 4)

a)	Error guessing involves using your knowledge and experience of past defects and failures, and typical errors made by developers.	<input checked="" type="checkbox"/>
b)	Error guessing involves using your personal experience of development and the errors you previously made as a developer.	<input type="checkbox"/>
c)	Error guessing requires you to imagine that you are the user of the test object and to guess errors the user might make while interacting with it.	<input type="checkbox"/>
d)	Error guessing requires you, as a tester, to duplicate the development tasks so that defects and failures a developer might make can be identified.	<input type="checkbox"/>

Justification:

- a) CORRECT – The basic concept behind error guessing) is that the tester tries to guess what erroneous actions a developer might have taken and what defects might be present in the test object, based on past experience. This method is based on the assumption that defects are repetitive or similar. You can design your test cases to detect these potential defects. (CTFL Syllabus V.4.0; Section 4.4.1, 1st paragraph)
- b) FALSE – Although a tester who was formerly a developer can use his or her personal experience to identify test cases intuitively, the test technique is not based on prior development knowledge.
- c) FALSE – Error Guessing is not just a usability test technique to guess how users might interact incorrectly with the test object, but goes far beyond that (see option a).
- d) FALSE – Performing the development task yourself has several weaknesses that make it impractical, such as the fact that the tester would need to have the same skills as the developer, and the time required to perform the development yourself. It is not error guessing.

Question 27	FL-4.4.2	K2	Score 1.0
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The release of a brand-new application has been delayed and testing has started late, but you have very detailed domain knowledge and good analytical skills. The full requirements specification has not yet been shared with you, and management is asking for early test results.

What is the BEST test technique to use in this situation?

Please choose ONE option! (1 out of 4)

a)	Checklist-based testing	<input type="checkbox"/>
b)	Error guessing	<input type="checkbox"/>
c)	Exploratory testing	<input checked="" type="checkbox"/>
d)	Branch testing	<input type="checkbox"/>

FL-4.4.2 (K2) Explain exploratory testing

Justification:

- a) FALSE – This is a new product. You probably do not have a checklist for this product.
- b) FALSE – This is a new product. You probably don't have enough information to intuitively identify defects.
- c) CORRECT – Exploratory testing is most useful when few specifications are available and/or the testing schedule is tight. (CTFL Syllabus V.4.0; Section 4.4.2, 3rd paragraph, 1st sentence).
- d) FALSE – Statement testing is time-consuming, and your management is now asking for initial test results.

Question 28	FL-4.5.2	K2	Score 1.0
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Which of the following activities describes the BEST way to formulate acceptance criteria for a given user story?

Please choose ONE option! (1 out of 4)

a)	Performing retrospectives to determine the actual needs of the stakeholders	<input type="checkbox"/>
b)	Using the given/when/then format to describe an example test condition	<input checked="" type="checkbox"/>
c)	Using verbal communication to reduce the risk of misunderstanding the acceptance criteria by others	<input type="checkbox"/>
d)	Documenting risks related to a given user story in a test plan to facilitate the risk-based testing	<input type="checkbox"/>

FL-4.5.2 (K2) Classify the different options for writing acceptance criteria

Justification:

- a) FALSE – Retrospectives are used to gain knowledge and improve the development and testing process, not to document acceptance criteria for a user story.
- b) CORRECT – This is a standard method for documenting acceptance criteria for a user story (see CTFL Syllabus V.4.0; Section 4.5.1, 3rd paragraph, 1st bullet).
- c) FALSE – Oral communication does not allow acceptance criteria to be physically documented as part of a user story ("card" aspect in the 3C model) (see CTFL Syllabus V.4.0; Section 4.5.1, 1st paragraph, 1st bullet).
- d) FALSE – Acceptance criteria refer to a user story, not to a test plan. Furthermore, acceptance criteria are the conditions that must be met to determine whether the user story is complete. Risks are not such conditions

Question 29	FL-4.5.3	K3	Score 1.0
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Your team is following the Acceptance Test-Driven Development (ATDD) approach and analyzes the following user-story to create test cases.

As a registered customer, I want to be able to view my past orders on the company's website to keep track of my purchases.

Your team has identified the following list of test cases. Which of the test cases is NOT relevant to this user-story?

Please choose ONE option! (1 out of 4)

a)	Input: The customer logs into their account on the website and clicks the "View Order History" button. Expected output: The system displays a list of all the customer's previous orders, including date, order number, and total cost.	<input type="checkbox"/>
b)	Input: The logged-in customer clicks on an order in the list of his orders. Expected output: The system displays each purchased item with price and quantity.	<input type="checkbox"/>
c)	Input: The logged-in customer clicks the "Sort Ascending" button on the order history screen. Expected output: The system displays the order history sorted in ascending order by order number.	<input type="checkbox"/>
d)	Input: A newly registered customer logs in and enters a first order. Expected output: The system accepts the order and stores the associated data.	<input checked="" type="checkbox"/>

FL-4.5.3 (K3) Use acceptance test-driven development (ATDD) to derive test cases

Justification: (cf. ISTQB® Certified Tester Syllabus Foundation Level 4.0)

- a) FALSE – The test case matches the user story because it tests an important aspect (customer is a registered customer and has a history) of the user story (see CTFL Syllabus 4.0, section 4.5.3, 4th and 5th paragraph).
- b) FALSE – The test case matches the user story because it tests a potential aspect (customer should get an overview of his purchases) of the user story (see CTFL Syllabus 4.0, section 4.5.3, 4th and 5th paragraph).
- c) FALSE – The test case matches the user story because it tests a potential aspect (customer should get an overview of his purchases) of the user story (see CTFL Syllabus 4.0, Section 4.5.3, 4th and 5th paragraphs).
- d) CORRECT – The test case has NO relevance to the user story because a newly registered customer has no order history. The test case may be relevant to an online ordering system in principle, but not to this user story. (see CTFL Syllabus 4.0, section 4.5.3)

Question 30	FL-5.1.2	K1	Score	1.0
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How do testers add value to iteration and release planning?

Please choose ONE option! (1 out of 4)

a)	Testers determine the priority of the user stories to be developed.	<input type="checkbox"/>
b)	Testers focus only on refining the functional aspects of the system under test.	<input type="checkbox"/>
c)	Testers participate in risk analysis and determine testability of user stories.	<input checked="" type="checkbox"/>
d)	Testers enable the release of high quality software through early test design during release planning.	<input type="checkbox"/>

FL-5.1.2 (K1) Recognize how a tester adds value to iteration and release planning

Justification:

- a) FALSE – The priorities for the user stories are set by the business representative together with the development team.
- b) FALSE – The testers focus on both functional and non-functional aspects of the system under test. (see ISTQB® Foundation Level Syllabus V.4.0; is part of the added value, see 5.1.2 - 3rd paragraph, but the 'only' makes it false).
- c) CORRECT – According to the syllabus, this is one of the ways in which testers add value to iteration planning. (see ISTQB® Foundation Level Syllabus V.4.0; Section 5.1.2, 3rd paragraph, 2nd sentence).
- d) FALSE – Early test design is not part of release planning and certainly not during release planning - contradiction in terms (see ISTQB® Foundation Level Syllabus V.4.0; Section 5.1.2, 2nd paragraph).

Question 31	FL-5.1.3	K2	Score 1.0
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Which ONE of the following options is an exit criterion for testing a system?

Please choose ONE option! (1 out of 4)

a)	Test environment readiness	<input type="checkbox"/>
b)	The ability to log in to the test object by the tester	<input type="checkbox"/>
c)	Expected defect density is reached and defects are reported	<input checked="" type="checkbox"/>
d)	Requirements are translated into given/when/then format	<input type="checkbox"/>

FL-5.1.3 (K2) Compare and contrast entry criteria and exit criteria

Justification:

- a) FALSE – Test environment readiness is a resource availability criterion; hence it belongs to the entry criteria (cf. CTFL Syllabus V.4.0; Section 5.1.3, 2nd paragraph).
- b) FALSE – This is a resource availability criterion; hence it belongs to the entry criteria (cf. CTFL Syllabus V.4.0; Section 5.1.3, 2nd paragraph).
- c) CORRECT – Estimated defect density is a measure of diligence; hence it belongs to the exit criteria. The complete reporting of all defects found in the test is also a closure criterion and therefore also belongs to the exit criteria. The peculiarity here is that two defined exit criteria are linked. (cf. CTFL syllabus V.4.0; section 5.1.3, 3rd paragraph).
- d) FALSE – Requirements translated into a given format result in testable requirements; hence it belongs to the entry criteria (cf. CTFL Syllabus V.4.0; Section 5.1.3, 2nd paragraph).

Question 32	FL-5.1.4	K3	Score 1.0
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Your team uses the three-point estimation technique to estimate the test effort for a new high-risk feature. The following estimates were made:

- most optimistic estimation: 2 person-hours
- most likely estimation: 11 person-hours
- most pessimistic estimation: 14 person-hours

What is the final estimate?

Please choose ONE option! (1 out of 4)

a)	9 person-hours	<input type="checkbox"/>
b)	10 person-hours	<input checked="" type="checkbox"/>
c)	11 person-hours	<input type="checkbox"/>
d)	14 person-hours	<input type="checkbox"/>

FL-5.1.4 (K3) Use estimation techniques to calculate the required test effort

Justification:

In the three-point estimation technique

$$E = (\text{most optimistic} + 4 \times \text{most likely} + \text{most pessimistic})/6,$$

$$E = (2 + (4 \times 11) + 14)/6 = 10.$$

Hence b) is CORRECT.

Question 33	FL-5.1.5	K3	Score 1.0
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You are testing a mobile application that allows users to find a nearby restaurant based on the type of food they want to eat. Consider the following list of test cases, priorities (i. e., a smaller number means a higher priority), and dependencies:

Test case number	Test condition covered	Priority	Logical dependency on
TC 001	Select type of food	3	none
TC 002	Select restaurant	2	TC 001
TC 003	Get directions	1	TC 002
TC 004	Call restaurant	2	TC 002
TC 005	Make reservation	3	TC 002

Which of the following test cases should be executed as the third one?

Please choose ONE option! (1 out of 4)

a)	TC 003	<input checked="" type="checkbox"/>
b)	TC 005	<input type="checkbox"/>
c)	TC 002	<input type="checkbox"/>
d)	TC 001	<input type="checkbox"/>

FL-5.1.5 (K3) Apply test case prioritization

Justification:

Test TC 001 must come first, followed by TC 002, to satisfy dependencies. Afterwards, TC 003 to satisfy priority and then TC 004, followed by TC 005.

- a) CORRECT.
- b) FALSE.
- c) FALSE.
- d) FALSE.

Question 34	FL-5.1.7	K2	Score	1.0
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Consider the following tests (1-4) and testing quadrants (A-D):

1. Usability testing
 2. Component testing
 3. Functional testing
 4. Reliability testing
- A. Testing quadrant Q1: technology facing, supporting the team
 - B. Testing quadrant Q2: business facing, supporting the team
 - C. Testing quadrant Q3: business facing, critical consideration of the product
 - D. Testing quadrant Q4: technology facing, critical consideration of the product

How do the following test categories map onto the testing quadrants?

Please choose ONE option! (1 out of 4)

a)	1C, 2A, 3B, 4D	<input checked="" type="checkbox"/>
b)	1D, 2A, 3C, 4B	<input type="checkbox"/>
c)	1C, 2B, 3D, 4A	<input type="checkbox"/>
d)	1D, 2B, 3C, 4A	<input type="checkbox"/>

FL-5.1.7 (K2) Summarize the testing quadrants and their relationships with test levels and test types

Justification:

Usability testing is in Q3 (1 – C)
Component testing is in Q1 (2 – A)
Functional testing is in Q2 (3 – B)
Reliability testing is in Q4 (4 – D)

Hence a) is CORRECT.

Question 35	FL-5.2.4	K2	Score 1.0
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During a risk analysis the following risk was identified and assessed:

- **Risk: Search result response time is too long**
- **Risk likelihood: medium; risk impact: high**
- **Response to risk:**
 - **an independent test team performs performance testing during system testing**
 - **a selected sample of end users performs alpha and beta acceptance testing before the release**

What kind of actions were proposed above to respond to the identified risk?

Please choose ONE option! (1 out of 4)

a)	Risk acceptance	<input type="checkbox"/>
b)	Contingency plan	<input type="checkbox"/>
c)	Risk mitigation	<input checked="" type="checkbox"/>
d)	Risk transfer	<input type="checkbox"/>

FL-5.2.4 (K2) Explain what measures can be taken in response to analyzed product risks

Justification:

- a) FALSE – The risk is not accepted; concrete actions are proposed
- b) FALSE – No contingency plans are proposed
- c) **CORRECT** – The proposed actions are related to testing, which is a form of risk mitigation (See CTFL Syllabus V.4.0; Section 5.1.7, latest bullet point list).
- d) FALSE – The risk is not transferred but mitigated

Question 36	FL-5.3.2	K2	Score 1.0
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Which of the following statements about the purpose and content of test reports is true?

Please choose ONE option! (1 out of 4)

a)	Test completion reports are prepared and distributed on a regular basis to keep stakeholders up to date on progress.	<input type="checkbox"/>
b)	A test progress report includes, among other things, an assessment of the quality of the product and any deviations from the schedule.	<input type="checkbox"/>
c)	A test completion report is generated when a test level has been completed and builds on test progress reports and additional data.	<input checked="" type="checkbox"/>
d)	Test progress reports are generated during test completion to demonstrate that the exit criteria have been met.	<input type="checkbox"/>

FL-5.3.2 (K2) Summarize the purposes, content, and audiences for test reports

Justification: (see. ISTQB® CTFL Syllabus 4.0)

- a) FALSE – because test completion reports are not generated periodically for any purpose; these are test progress reports. (See clause 4.0, section 5.3.2, paragraph 2).
- b) FALSE – because this is typical test completion report information. (See syllabus 4.0, section 5.3.2, paragraph 3, list items 2 and 3).
- c) CORRECT – because test completion reports are created and distributed at times when substantially similar tasks have been completed, e. g., a project, a test level, a test type, an iteration, etc. (see Syllabus 4.0, Section 5.3.2, paragraph 1, last sentence; paragraph 3).
- d) FALSE – because test progress reports are generated continuously during test monitoring and control, whereas test completion reports are generated at test completion. In addition, the test completion report documents that the exit criteria have been met (see clause 4.0, section 5.3.2, paragraph 3).

Question 37	FL-5.4.1	K2	Score 1.0
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You need to update one of the automated test scripts to align with a new requirement.

Which process indicates that a new version of the test script should be added to the test repository?

Please choose ONE option! (1 out of 4)

a)	Traceability management	<input type="checkbox"/>
b)	Maintenance testing	<input type="checkbox"/>
c)	Configuration management	<input checked="" type="checkbox"/>
d)	Requirements management	<input type="checkbox"/>

FL-5.4.1 (K2) Summarize how configuration management supports testing

Justification:

- a) FALSE – Traceability is the relationship between two or more work products, not between different versions of the same work product.
- b) FALSE – Maintenance testing is about testing changes; it is not related closely to versioning.
- c) CORRECT – To support testing, configuration management may involve the version control of all test items (see CTFL Level Syllabus V.4.0; Section 5.4, 4th paragraph, 1st sentence).
- d) FALSE – Requirements engineering is the elicitation, documentation, and management of requirements; it is not closely related to test script versioning.

Question 38	FL-5.5.1	K3	Score 1.0
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In your role as project lead, you received the following defect report from the developers stating that the anomaly described is not reproducible.

Application hangs up

ID 713-20230401 2022-May-03 – John Doe – Rejected

The application hangs up after entering "Test input: \$ä" in the Name field on the new user creation screen. I tried logging out and logging in with test_admin01 account, same problem. Tried with other test administrator accounts, same problem. No defect message received; the log (see attachment) contains a fatal defect message. Based on test case TC-1305, the application should accept the provided input and create the user. Please fix this issue with high priority as this feature is related to REQ-0012 which is an important new functional requirement.

What important information is MISSING from this test report that would have been useful for the developers?

Please choose ONE option! (1 out of 4)

a)	Expected result and actual result	<input type="checkbox"/>
b)	References and defect status	<input type="checkbox"/>
c)	Test environment and test item	<input checked="" type="checkbox"/>
d)	Priority and severity (incl. version)	<input type="checkbox"/>

FL-5.5.1 (K3) Prepare a defect report

Justification:

- a) FALSE – Expected result and actual result. The expected result is "The application should accept the input and create the user". The actual result is "The application hangs after typing "Test input: \$ä"". So both are present.
- b) FALSE – references and state. There is a reference to the test case and its associated requirement, and the defect is rejected. So both are present.
- c) CORRECT – Test environment and test item. We do not know in which test environment the anomaly was found, nor do we know which test object or application (and which version) is involved. (see ISTQB® Foundation Level Syllabus V.4.0; Section 5.5, 3rd paragraph, 3rd bullet).
- d) FALSE – Priority and severity. The defect report states that the anomaly is urgent, that it is a common problem (i. e. many if not all test administration accounts are affected), and that the impact on business stakeholders is high. So both are covered.

Question 39	FL-6.1.1	K2	Score	1.0
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Which test activity does a data preparation tool support?

Please choose ONE option! (1 out of 4)

a)	Test monitoring and control	<input type="checkbox"/>
b)	Test analysis and design	<input type="checkbox"/>
c)	Test implementation and execution	<input checked="" type="checkbox"/>
d)	Test completion	<input type="checkbox"/>

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

Justification:

- a) FALSE – 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) FALSE – Test analysis involves analyzing the test base to identify and prioritize test conditions. Test design involves the creation of test conditions in the form of test cases and other testware. Test data requirements are defined and created during implementation.
- c) CORRECT – Test design and implementation tools - facilitate the creation of test cases, test data, and test runs. (cf. CTFL Syllabus V.4.0; Section 6.1, 3rd bullet point).
- d) FALSE – 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

Question 40	FL-6.2.1	K1	Score	1.0
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Which item correctly identifies a potential risk with test automation?

Please choose ONE option! (1 out of 4)

a)	There may be unknown side effects in operational use	<input type="checkbox"/>
b)	Unrealistic expectations regarding functionality of a tool	<input checked="" type="checkbox"/>
c)	Test tools may not be reliable enough	<input type="checkbox"/>
d)	The amount of time that is available for manual testing may be reduced in the long run	<input type="checkbox"/>

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

Justification:

- a) FALSE – Test automation does not lead to unknown side-effects when used in an operational environment.
- b) CORRECT – The unrealistic expectation is that in some cases management believes that the introduction of a test tool will solve all problems. (See CTFL Syllabus V.4.0; Section 6.2, Test Automation, 1st bullet).
- c) FALSE – Test tools must be selected so that they can be relied upon.
- d) FALSE – Implementing test automation can reduce the resources needed for manual testing in the interim. In the long run, saving time is a benefit of test automation. So, this is a benefit, not a risk.

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Sample Exam paper– SET A – GTB edition



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Foundation Level Sample Exam

SET B (v1.3.2) – GTB Edition –

CTFL Syllabus Version v4.0

ISTQB® Certified Tester Foundation Level

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ISTQB® Exam Working Group 2023

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Revision History

Version	Date	Remarks
1.3.1	30.06.2024	Initial GTB edition
1.3.1c	21.07.2024	Final GTB edition
1.3.2	20.11.2024	Correction Q4 (reason), Q6 (wording), Q20 (wording), Q21 (justificaton), Q23 (justification), Q24 (typo), Q30 (typo), Q36 (typo).

Introduction

This is a sample exam. It helps candidates to prepare for the actual certification exam. Questions are included whose structure, layout and format are like a regular ISTQB®/ GTB Certified Tester Foundation Level exam. It is strictly forbidden to use the exam questions as content of a certification exam.

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- 4) Exactly one correct solution is expected for almost every question. The exceptions explicitly mention the possibility of multiple answers.

Exam notes

Number of questions: 40

Duration of the exam: 60 minutes

Total score: 40 (one point per question)

Score to pass the exam: 26 (or more)

Percentage of passing the exam: 65 % (or more)

Feedback on this sample exam as a whole (40 questions) or on individual questions was provided in the German-language BETA versions of SET B in the period March - June 2024 by: Jörn Münzel, Stephan Weissleder, Horst Pohlmann, Marc-Florian Wendland, Ecaterina Irina Manole, Jessica Heymann (Sogeti), Jürgen Beniermann (Sogeti und GTB), Sabine Gschwandtner (imbus), Markus Thaler (Qytera), Sabine Gschwandtner (imbus), Daniel Moretz (WAMECON Academy), Sören Schmock (ITGAIN), Joachim Schulz (sepp.med), Arnd Prehl (imbus) und Paul Müller (Software Quality Lab).

Ecaterina Irina Manole, Horst Pohlmann and Debbie Friedenberg contributed to the English-language version and the amended questions to the English-language version.

Question 1	FL-1.2.1	K2	Score	1.0
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Which of the following best describes why testing is necessary in the software development lifecycle?

Select ONE option! (1 out of 4)

a)	Dynamic testing is the only way to evaluate the quality of a test object.	<input type="checkbox"/>
b)	Testing ensures that users understand and comprehend the needs of the developers.	<input type="checkbox"/>
c)	Testing is carried out exclusively to meet regulatory standards.	<input type="checkbox"/>
d)	Testing helps identify defects, which improves the quality of the test object.	<input checked="" type="checkbox"/>

FL-1.2.1 (K2) Exemplify, why testing is necessary [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 1.2.1)

- a) FALSE – While dynamic testing is an important means of quality evaluation, it is not the only means. There are also other means such as code reviews and inspections.
- b) FALSE – This statement does not make sense. Users do not need to be able to understand the needs of developers. Rather, testing ensures that the needs of users are taken into account during the development cycle (see Section 1.2.1, 3rd paragraph).
- c) FALSE – Although testing can help meet regulatory requirements, the CTFL 4.0 syllabus highlights that testing also fulfills other important aspects, such as assessing quality and supporting release decision making in the SDLC.
- d) CORRECT – The CTFL 4.0 syllabus explains that testing identifies defects that can be resolved by debugging, which implicitly contributes to a higher quality of the test object.

Question 2	FL-1.2.2	K1	Score	1.0
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Which of the following statements about quality assurance (QA) and/or quality control (QC) is correct?

Select ONE Option! (1 out of 4)

a)	QA is a corrective approach	<input type="checkbox"/>
b)	Testing is a part of QC	<input checked="" type="checkbox"/>
c)	Testing is another term for QC	<input type="checkbox"/>
d)	Quality control is a preventive approach	<input type="checkbox"/>

FL-1.2.2. (K1) Recall the relation between testing and quality assurance [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 1.2.2)

- a) FALSE – Quality assurance is not a corrective approach, but a preventive one. (see [CTFL 4.0], Section 1.2.2, 3rd paragraph, 1st sentence)
- b) CORRECT – Testing is a form of quality control. (see [CTFL 4.0], Section 1.2.2, 1st paragraph, last sentence)
- c) FALSE – Testing and quality control are not synonyms. Testing is one of the most important forms of quality control, other (non-testing) forms are formal methods such as model checking and proof of correctness or simulation and prototyping. (see [CTFL 4.0], Section 1.2.2, 2nd paragraph, last sentence)
- d) FALSE – Quality control is not a preventive approach, it is a corrective approach. (see [CTFL 4.0], Section 1.2.2, 2nd paragraph, 1st sentence)

Question 3	FL-1.3.1	K2	Score 1.0
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A tester has been testing software applications on mobile devices for a period of 5 years. Over this extended period, the tester has not modified the existing test cases or created any new test cases. With newer versions of the mobile platform, more failures have been reported by users. Which principle of testing did the tester not consider?

Select ONE option! (1 out of 4)

a)	Testing depends on the context	<input type="checkbox"/>
b)	Complete testing is not possible	<input type="checkbox"/>
c)	Tests wear out	<input checked="" type="checkbox"/>
d)	Defects cluster together	<input type="checkbox"/>

FL-1.3.1 (K2) Explain the seven testing principles [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Testing depends on the context, whether manual or automated (see [CTFL 4.0], Section 1.3; 6th principle). However, this does not change the fact that, as described above, fewer errors are being uncovered.
- b) FALSE – Complete testing is, except in trivial cases, impossible, no matter how much effort is invested in testing (see [CTFL 4.0], Section 1.3; 2nd principle). However, this does not result in fewer errors being uncovered, as described above.
- c) CORRECT – The principle "Tests wear out" (see [CTFL 4.0], Section 1.3, 5th principle) states that repeating unchanged tests becomes increasingly ineffective in finding defects ("Repetitions have no effectiveness"). To find new defects, existing tests and test data must be modified, and new tests must be created.
- d) FALSE – In general, defects often occur in clusters in few components (see [CTFL 4.0], Section 1.3; 4th principle). However, this is not related to the fact that, as described above, fewer defects are being uncovered.

Question 4	FL-1.4.3	K2	Score 1.0
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Consider the following test artifact:

Test Charter	#04.018	Session Duration: 1h
Explore	the registration page	
With	various incorrect input sets	
To discover	Errors in the registration process with incorrect inputs	

In which test activity is this test artifact created?

Select ONE option! (1 out of 4)

a)	Test Planning	<input type="checkbox"/>
b)	Test Monitoring and Control	<input type="checkbox"/>
c)	Test Analysis	<input type="checkbox"/>
d)	Test Design	<input checked="" type="checkbox"/>

FL-1.4.3 (K2) Differentiate the testware that supports the test activities [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 1.4.3)

- a) FALSE – Test planning involves the creation or updating of a test concept. A test concept is a document that describes the scope, approach, resources, and schedule of planned test activities. A test charter is not a test concept but a more flexible and informal document that guides a testing session in exploratory testing (see [CTFL 4.0], Section 1.4.3).
- b) FALSE – Test monitoring and control involve checking the status of test activities, identifying deviations from planned or expected results, and reporting on test progress and quality. A test charter is not a report or status update but a document that specifies what to investigate, how to investigate, and what to look for in exploratory testing (see [CTFL 4.0], Section 1.4.3).
- c) FALSE – Test analysis involves analyzing the test basis (e.g., requirements, design, architecture, etc.) and defining what should be tested in the form of test conditions. A test condition is an element or event of a component or system that can be verified by one or more test cases. A test charter is not a list of test conditions but a document that defines the scope, objectives, and approach of a testing session for exploratory testing (see [CTFL 4.0], Section 1.4.3).
- d) CORRECT – Test design is the derivation and specification of test cases from test conditions. A test case is a set of inputs, preconditions, actions (if applicable), expected results, and postconditions developed for a specific test objective or condition. A test charter is a form of test design that specifies what to test, how to test, and what to look for in exploratory testing. (see ISTQB Foundation Level Syllabus 4.0). The above test artifact is a test charter. Test charters are the result of test development (see [CTFL 4.0], Section 1.4.3). Consequently, d) is CORRECT.

Question 5	FL-1.4.2	K2	Score	1.0
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Which of the following will MOST likely impact how testing is performed for a given test object?

Select one Option! (1 out of 4)

a)	The average level of experience of the organization's marketing team	<input type="checkbox"/>
b)	The knowledge of users that a new system is being developed for them	<input type="checkbox"/>
c)	The number of years of testing experience of the test team members	<input checked="" type="checkbox"/>
d)	The organizational structure of the users for the application to be developed	<input type="checkbox"/>

FL-1.4.2 (K2) Explain the impact of context on the test process [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 1.4.2)

- a) FALSE – It is very unlikely that the average experience level of the marketing team (most of whom work in marketing) will have any influence on how the tests for a particular test object are conducted. Similarly, it is unlikely that the team will be involved in the test execution if it is an acceptance test. Marketing may exert influence through specific requirements from market needs and thus prioritize tests, but without any concrete influence on test execution (see [CTFL 4.0], section 1.4.2, 3rd bullet point).
- b) FALSE – The level of knowledge of users that a new system is being built for them is unlikely to affect how testing is performed. Any user involvement that could affect how testing is performed is more likely to be as a result of decisions made by the testers, customer and project manager. (see [CTFL 4.0], Section 1.4.2, 1st bullet point)
- c) CORRECT – The number of years' experience of the members of the performance testing team will help to determine the capabilities and knowledge (e.g., of different tools and defect types) that the team members will apply when they are testing. (see [CTFL 4.0], Section 1.4.2, 2nd bullet point)
- d) FALSE – The organizational structure of the users of the system to be developed is rather unknown and will normally not affect the test execution. If a target organization is known, this may have an impact on a role model and thus on the requirements, but not directly on the test execution. One organization that does have an impact is the organization of the development and test team. However, this is not the content of the option. (see [CTFL 4.0], section 1.4.2, 6th bullet point).

Frage 6	FL-1.4.4	K2	Punkte 1.0
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Consider the following testing activities:

1. Selecting regression tests
2. Evaluating completeness of test execution
3. Identifying which user stories have open defect reports
4. Evaluating whether the number of tests for each requirement is consistent with the level of product risk

Consider the following ways traceability can help testing:

- A. Improve understandability of test status reports to include status of test basis items
- B. Make testing activities auditable
- C. Provide information to assess process quality
- D. Analyze the impact of changes

Which of the following best matches the testing activity with how traceability can assist that activity?

Select one Option! (1 out of 4)

a)	1D, 2B, 3C, 4A	<input type="checkbox"/>
b)	1B, 2D, 3A, 4C	<input type="checkbox"/>
c)	1D, 2C, 3A, 4B	<input type="checkbox"/>
d)	1D, 2B, 3A, 4C	<input checked="" type="checkbox"/>

FL-1.4.4 (K2) Explain the value of maintaining traceability

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

Traceability assists with:

- Selecting regression tests in terms of analyzing the impact of changes (1D)
- Evaluating completeness of test execution which makes testing auditable (2B)
- Identifying which user stories have open defect reports which improves understandability of test status reports to include status of test basis items (3A)
- Evaluating whether the number of tests for each requirement is consistent with the level of product risk which provides information to assess test process quality (i.e., alignment of test effort with risk) (4C)

Thus:

- a) FALSE
- b) FALSE
- c) FALSE
- d) CORRECT

Question 7	FL-1.5.1	K2	Score	1.0
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You are part of a test team involved in the development of a helicopter control system. Recently, an experienced helicopter pilot was hired as a tester for the test team. What positive effects are the new tester's general competencies **LIKELY to have on the test team?**

Select one Option! (1 out of 4)

a)	The application of 3-value boundary value analysis for a more thorough test design in system testing.	<input type="checkbox"/>
b)	Inconsistencies and ambiguities in the technical requirements are effectively revealed.	<input checked="" type="checkbox"/>
c)	The use of a tool for automating state-transition testing.	<input type="checkbox"/>
d)	Test results are communicated more constructively and defensively to the developers.	<input type="checkbox"/>

FL-1.5.1 (K2) Give examples of the generic skills required for testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 1.5.1)

- a) FALSE – The ability to use test techniques such as the 3-value boundary value analysis belongs to the category of "test knowledge" (see first bullet point). It is not clear from the question that the new tester has dedicated test knowledge.
- b) CORRECT – Domain knowledge that can be used to understand and communicate with end-users and business representatives is one of the generic skills required by testers. Domain knowledge that the new tester brings to the table according to the question is certainly helpful when it comes to effectively detecting inconsistencies and inaccuracies. This knowledge falls into the category "knowledge in the application domain" (see 6th bullet point) A tester with experience as a pilot is effective in reviewing requirements.
- c) FALSE – The ability to use a tool for automated state-transition testing belongs to the category "test knowledge" (see first bullet point). It is not clear from the question that the new tester has dedicated test knowledge.
- d) FALSE – A more constructive and defensive communication of test results belongs to the category "good communication skills" (see third bullet point). It is not clear from the question that the new tester has good communication skills.

Question 8	FL-1.5.2	K1	Score	1.0
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Which of the following is an advantage of the whole-team approach?

Select one Option! (1 out of 4)

a)	It allows team members to take on any role at any time.	<input type="checkbox"/>
b)	Only one team is needed to support the entire development project.	<input type="checkbox"/>
c)	Testers can work in isolation without distracting developers or business representatives with test-specific information.	<input type="checkbox"/>
d)	It generates a team synergy that benefits the entire project.	<input checked="" type="checkbox"/>

FL-1.5.2 (K1) Recall the advantages of the whole team approach [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 1.5.2)

- a) FALSE – The whole-team approach is based on the idea of interdisciplinary teams (see [CTFL 4.0], Section 1.5.2, 2nd paragraph), i.e. if a team member is qualified for a task, he or she can take on it. However, this does not mean that a team member can take on any role at any time. As a rule, a person only takes on the role(s) of the role for which he or she is competent. Performing a task for which you are not suitable does not help the team and the project.
- b) FALSE – The whole-team approach refers to the way a single team works (typically in agile software development) (see [CTFL 4.0], Section 1.5.2, 1st and 2nd paragraphs). The approach does not imply that only one team is needed for a complete project.
- c) FALSE – The Whole Team approach is based on the idea of creating synergies between team members by sharing important information between members. This promotes cooperation and creates a common understanding. Testers should therefore definitely share test-specific information with team members. (see [CTFL 4.0], Section 1.5.2, 3rd paragraph, last sentence)
- d) CORRECT – By making the most of the different skills of each team member, the Whole-Team Approach fosters team dynamics, good communication and collaboration, and creates a team synergy that benefits the entire project. (see [CTFL 4.0], Section 1.5.2, 2nd paragraph)

Question 9	FL-2.1.1	K2	Score 1.0
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Which of the following statements about the choice of software development lifecycle and its relation to testing is CORRECT?

Select one Option! (1 out of 4)

- | | | |
|----|--|-------------------------------------|
| a) | If agile software development is used, system test automation replaces the need for regression testing | <input type="checkbox"/> |
| b) | If a sequential development model is used, then the dynamic testing is typically performed at a later stage in the lifecycle. | <input checked="" type="checkbox"/> |
| c) | If an iterative development model is used, then component testing is typically performed manually by developers. | <input type="checkbox"/> |
| d) | If an incremental development model is used, then static testing is carried out in early increments and dynamic testing in later increments. | <input type="checkbox"/> |

FL-2.1.1 (K2) Explain the impact of the chosen software development lifecycle on testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 2.1.1)

- a) FALSE – In agile (iterative-incremental) software development, deliverables are produced in each iteration, and the frequent delivery of increments necessitates extensive regression testing, if possible at all test levels used. Although some (or all) of this regression testing may be automated, the regression testing (automated or not) cannot be replaced by system test automation. Comprehensive test automation of the regression tests facilitates the procedure. System and acceptance testing of new features tends to be experience-based and manual. (see [CTFL 4.0], section 2.1.1, 3rd and 4th paragraphs) Therefore, only an automated system test is not the correct implementation of the agile software development model with regard to testing.
- b) CORRECT – If a sequential development model is used, then early in the lifecycle no code is available for execution, and so during this time static testing (e.g., reviews) is performed. Later in the lifecycle, when code is available for execution, dynamic testing is possible (see [CTFL 4.0], section 2.1.1, 2nd paragraph). Note, however, that preparation for dynamic testing will often occur early in any software development lifecycle.
- c) FALSE – If an iterative development model, like agile software development, is used, then component tests may well be used for regression testing for each iteration (see [CTFL 4.0], section 2.1.1, 3rd paragraph). Whether the component tests are then manual or automated or mixed (new plus regression tests) and carried out by developers or testers is a project-specific decision (cost-benefit, efficiency). This is not the influence of the software development model.
- d) FALSE – In most incremental development models, executable and deliverable results are created in each increment, so that both static and dynamic tests make sense at all test levels for a created increment (see [CTFL 4.0], section 2.1.1, 3rd paragraph). The distribution of static tests to early increments and dynamic tests to late increments is therefore not correct.

Question 10	FL-2.1.2	K1	Score	1.0
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Which of the following is a good testing practice that applies to all software development lifecycles?

Select one BEST Option! (1 out of 4)

a)	Testers should review work products as part of the next development phase	<input type="checkbox"/>
b)	Testers should review work products of a software development activity as soon as drafts are available	<input checked="" type="checkbox"/>
c)	Testers should only review work products of a software development activity as part of the test analysis and design activities	<input type="checkbox"/>
d)	Testers should review work products immediately after they are released for use	<input type="checkbox"/>

FL-2.1.2 (K1) Recall good testing practices that apply to all software development lifecycles [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 2.1.2)

- a) FALSE – Testers should review work products as soon as drafts are available to enable early testing as part of a shift-left approach or 3rd principle of testing regardless of the SDLC chosen. (see [CTFL 4.0], section 2.1.2, 4th bullet point, as well as sections 2.1.5 and 1.3). Waiting until the next development phase could lead to unnecessary error states in derived results and thus to unnecessary development (and test) work. (see [CTFL 4.0], section 1.3).
- b) CORRECT – Testers should review work products as soon as drafts are available to enable early testing as part of a shift-left approach regardless of the SDLC chosen and to avoid unnecessary follow-up errors (see [CTFL 4.0], section 2.1.2, 4th bullet point, as well as sections 2.1.5 and 1.3).
- c) FALSE – Test analysis analyzes the test basis to identify testable features and determine the associated test conditions. The test design then includes the elaboration of the test conditions into test cases. (see [CTFL 4.0], Section 1.4.1, 4th and 5th paragraphs) The verification of a work product, independent of the SDLC, serves quality control and so that all development activities are subject to quality control (see [CTFL 4.0], Section 2.1.2, 1st bullet point) and should therefore be carried out BEFORE test analysis starts. This is true regardless of the fact that test analysis and design should start in the same development phase to support the shift-left approach. (see [CTFL 4.0], Section 2.1.2, 3rd bullet point)
- d) FALSE – Testers should review work products as soon as drafts are available to allow early testing as part of a shift-left approach, regardless of the SDLC chosen. (see [CTFL 4.0], section 2.1.2, 4th bullet point, and section 2.1.5) Waiting until release for use means that the defects found during the tester's review are still contained in the released work product and may lead to subsequent defects in development activities based on it and started in parallel.

Question 11	FL-2.1.3	K1	Score 1.0
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Which of the following is an example of a test-first approach to development?

Select one Option! (1 out of 4)

a)	Test-Driven Development	<input checked="" type="checkbox"/>
b)	Coverage-Driven Development	<input type="checkbox"/>
c)	Quality-Driven Development	<input type="checkbox"/>
d)	Feature-Driven Development	<input type="checkbox"/>

FL-2.1.3 (K1) Recall the examples of test-first approaches to development [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 2.3.1)

- a) **CORRECT** – Test-Driven Development (TDD) is a well-known example of a test-first approach to development (see [CTFL 4.0], section 2.1.1, 2nd paragraph).
- b) **FALSE** – Coverage-Driven Development is not an example of a test-first approach to development. Testing recognizes coverage (Glossary: The degree to which certain coverage elements have been executed by a test suite, expressed as a percentage) as an approach to determine a status. However, this has no relation to the point in time when testing takes place.
- c) **FALSE** – Quality-Driven Development is not an example of a test-first approach to development. Every development should have a clear picture of which properties (quality characteristics) the target system should fulfill. However, this has no relation to the point in time when testing takes place.
- d) **FALSE** – Feature-Driven Development is not an example of a test-first approach to development, but is, instead, an agile software development methodology based around delivering features (as opposed to user stories in Scrum)

Question 12	FL-2.1.4	K2	Score	1.0
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Which of the following statements about DevOps is CORRECT?

Select one Option! (1 out of 4)

a)	To speed up releases, continuous integration is used to encourage developers to submit code quickly without the need to complete component testing.	<input type="checkbox"/>
b)	To be able to update and release systems faster, automated regression tests are required to reduce the danger of regression.	<input checked="" type="checkbox"/>
c)	To treat both developers and operations equally, the testers will allocate more effort to release testing to operations by using a shift-right approach.	<input type="checkbox"/>
d)	To create increased synergy between testers, developers and operations, the testing must become fully automated with no manual testing.	<input type="checkbox"/>

FL-2.1.4 (K2) Summarize how DevOps might have an impact on testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 2.1.4)

- a) FALSE – DevOps enables teams to create, test and release high-quality code faster through a DevOps delivery pipeline. But it also requires developers to deliver the associated unit tests: continuous integration (CI) promotes a shift-left approach to testing by encouraging developers to deliver high-quality code along with unit tests and static analysis. (see [CTFL 4.0], section 2.1.4, 1st paragraph and 2nd bullet point).
- b) CORRECT – DevOps improves testing in several ways through automation in the delivery chain that reduces the need for repetitive manual testing; by increasing the scope and range of automated regression testing, the risk of regression is minimized. (see [CTFL 4.0], section 2.1.4, 5th and 6th bullet points).
- c) FALSE – DevOps promotes a cultural shift within an organization to bridge the gap between development (including testing) and operations while treating their respective tasks equally. (see [CTFL 4.0], section 2.1.4, 1st paragraph) However, this does not include a shift-right approach, but rather a shift-left approach (early testing) and also not by running the acceptance test in parallel with a productive delivery. The acceptance test remains a prerequisite for productive release and delivery.
- d) FALSE – Automated processes such as Continuous Integration/Continuous Delivery (CI/CD) in DevOps enable stable test environments and reduce the need for repetitive manual testing through automation (e.g. automated regression testing). (see [CTFL 4.0], section 2.1.4, 3rd, 5th and 6th bullet points) Although DevOps brings a high level of automated testing, manual testing is still required - especially from a user perspective. (see [CTFL 4.0], section 2.1.4, last paragraph)

Question 13	FL-2.2.1	K2	Score	1.0
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Which of the following is MOST likely to be performed as part of system testing?

Select one Option! (1 out of 4)

a)	End-to-end security testing of a credit management system by an independent test team.	<input checked="" type="checkbox"/>
b)	Testing the interaction of a currency exchange system with an external banking system or with the system of an external bank.	<input type="checkbox"/>
c)	Beta testing of a learning system by trainers of training providers.	<input type="checkbox"/>
d)	Testing the interactions between the user interface and database of a human resources system.	<input type="checkbox"/>

FL-2.2.1 (K2) Distinguish the different test levels [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 2.2.1)

- a) CORRECT – System testing examines the behavior and capabilities of the entire system and includes non-functional testing of quality characteristics, including IT security testing. System testing is often performed by an independent test team based on system specifications. (see [CTFL 4.0], section 2.2.1, 3rd bullet point)
- b) FALSE – This option describes a system integration test measure. This examines the interfaces to other systems and external services. (see [CTFL 4.0], section 2.2.1, 4th bullet point)
- c) FALSE – Beta testing may be performed as part of an acceptance test (see [CTFL 4.0], section 2.2.1, 5th bullet point). The beta test is a type of acceptance test that is performed at a location external to the developer's test environment by parties outside the vendor organization. (see glossary)
- d) FALSE – This option describes a component integration test measure. Component integration testing tests the interfaces and interactions between the components of a system, e.g. between the user interface and the database. (see [CTFL 4.0], section 2.2.1, 2nd bullet point)

Question 14	FL-2.3.1	K2	Score	1.0
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Which of the following decisions should NOT trigger maintenance testing?

Select ONE option! (1 out of 4)

a)	The decision to test the maintainability of the software	<input checked="" type="checkbox"/>
b)	The decision to test the system after migrating to a new operating platform	<input type="checkbox"/>
c)	The decision to test the recoverability of archived data after decommissioning	<input type="checkbox"/>
d)	The decision to test after applying a "hotfix" to the production version	<input type="checkbox"/>

FL-2.3.1 (K2) Summarize maintenance testing and its triggers [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – Maintainability is a quality attribute that does not depend on code execution ([CTFL 4.0], Section 3.1.3, 1st paragraph, 5th bullet point). Therefore, it is NOT a trigger for maintenance testing, which is performed as dynamic testing in response to changes in the code or environment (see [CTFL 4.0], Section 2.3, 3rd paragraph including bullet points).
- b) FALSE – This is a trigger for maintenance testing (see [CTFL 4.0], Section 2.3, 3rd paragraph, 2nd bullet point). After a platform migration, it is important to verify the functionality and interoperability of the software.
- c) FALSE – This is a trigger for maintenance testing (see [CTFL 4.0], Section 2.3, 3rd paragraph, 3rd bullet point). It is relevant to ensure that archived data can be properly restored.
- d) FALSE – This is a trigger for maintenance testing (see [CTFL 4.0], Section 2.3, 3rd paragraph, 1st bullet point). After a hotfix, it is important to verify the impact on existing functionality.

Question 15	FL-3.1.2	K2	Score 1.0
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Which of the following statements BEST describes the use of static testing?

Select ONE option! (1 out of 4)

a)	Static testing can uncover defects that cannot be found by dynamic tests.	<input checked="" type="checkbox"/>
b)	Defects in the code can be more efficiently found by dynamic tests than by static tests.	<input type="checkbox"/>
c)	Static testing can only be performed in a late phase of the SDLC.	<input type="checkbox"/>
d)	To make static testing as efficient as possible, as few stakeholders as possible should be involved.	<input type="checkbox"/>

FL-3.1.2 (K2) Explain the value of static testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) **CORRECT** – because there are defects that can only be detected through static tests (see [CTFL 4.0], Section 3.1.2, 1st paragraph, last sentence).
- b) **FALSE** – Static tests can uncover defects more efficiently, i.e., earlier and usually with fewer resources, than dynamic tests (see [CTFL 4.0], Section 3.1.2, 4th paragraph, 1st sentence).
- c) **FALSE** – Static testing can be employed in the early phases of the SDLC (see [CTFL 4.0], Section 3.1.2, 2nd paragraph, 3rd sentence).
- d) **FALSE** – One advantage of static tests, especially reviews, is the improvement of communication and mutual understanding among stakeholders. Therefore, a large number of stakeholders should be involved in static tests (see [CTFL 4.0], Section 3.1.2, 2nd paragraph, last sentence).

Question 16	FL-3.2.1	K1	Score	1.0
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Which of the following is a benefit of early and frequent stakeholder feedback?

Select one Option! (1 out of 4)

a)	Managers are aware of which developers are less productive at an early stage	<input type="checkbox"/>
b)	It allows project managers to reduce their stakeholder interactions	<input type="checkbox"/>
c)	It facilitates early communication of potential quality issues	<input checked="" type="checkbox"/>
d)	End users better understand why the deployment of the application is delayed	<input type="checkbox"/>

FL-3.2.1 (K1) Identify the benefits of early and frequent stakeholder feedback [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 3.2.1)

Early and frequent feedback from stakeholders is used for communication to prevent misunderstandings about requirements and to eliminate potential problems (see [CTFL 4.0], section 3.2.1, 1st and 2nd paragraphs). Therefore:

- a) FALSE – It is not about evaluating people and their performance.
- b) FALSE – A reduction of interactions by the project manager will not be an advantage, as important feedback may be lost or come too late (see [CTFL 4.0], section 3.2.1, 1st and 2nd paragraphs).
- c) CORRECT – Obtaining early and frequent feedback from those involved in the software development process can be very beneficial because it facilitates early communication of potential quality issues, helps avoid misunderstandings about requirements, and ensures that changes to stakeholders' requirements are understood and implemented more quickly (see [CTFL 4.0], section 3.2.1, 1st and 2nd paragraphs).
- d) FALSE – It is a potential benefit of feedback and communication to avoid scheduling problems rather than to justify them, e.g. by clarifying requirements or prioritizing requests (see [CTFL 4.0], section 3.2.1, 1st paragraph).

Question 17	FL-3.2.2	K2	Score	1.0
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Given the following task descriptions from the review process:

1. The quality characteristics to be evaluated and the exit criteria are defined
2. Everyone has access to the work product
3. Anomalies are identified in the work product
4. Anomalies are analyzed and discussed

And the following review activities

- A. Individual review
- B. Review initiation
- C. Planning
- D. Communication and analysis

Which assignment of task to activity is CORRECT?

Select one Option! (1 out of 4)

a)	1B, 2C, 3D, 4A	<input type="checkbox"/>
b)	1B, 2D, 3C, 4A	<input type="checkbox"/>
c)	1C, 2A, 3B, 4D	<input type="checkbox"/>
d)	1C, 2B, 3A, 4D	<input checked="" type="checkbox"/>

FL-3.2.2 (K2) Summarize the activities of the review process [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 3.2.2)

Considering each of the listed task descriptions:

1. The quality characteristics to be evaluated and the exit criteria are selected - (Planning (C): Defining the review scope, purpose, work product to be reviewed, **quality characteristics to be evaluated**, areas of focus, **exit criteria**, supporting information such as standards, effort, and timeframes.) (see [CTFL 4.0], section 3.2.2, 1st bullet point)
2. Everyone has access to the work product - (Review initiation (B): Ensuring all **participants have access to the work product** and necessary resources, and clarifying their roles and responsibilities, and receives everything they need to conduct the review. (see [CTFL 4.0], section 3.2.2, 2nd bullet point).)
3. Anomalies are identified in the work product - (Individual review (A): Evaluating the work product's quality, **identifying** and logging **anomalies**, recommendations, and questions using review techniques like checklist-based and scenario-based reviewing.) (see [CTFL 4.0], section 3.2.2, 3rd bullet point)
4. Anomalies are analyzed and discussed - (Communication and analysis (D): **Analyzing and discussing each anomaly**, determining its status, ownership, and required actions, and making review decisions, normally in a meeting. This could include determining the need for a follow-up review.) (see [CTFL 4.0], section 3.2.2, 4th bullet point)

Thus:

- a) FALSE
- b) FALSE
- c) FALSE
- d) CORRECT – The correct match is: 1C, 2B, 3A, 4D

Question 18	FL-3.2.3	K1	Score 1.0
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The generic review process recognizes the following roles, among others:

1. Scribe
2. Review leader
3. Facilitator
4. Manager

In the context of reviews, these roles can take on the following responsibilities:

- A. Ensures the effective running of review meetings and the setting up of a safe review environment
- B. Records review information, such as decisions and new anomalies found during the review meeting
- C. Decides what is to be reviewed and provides resources, such as staff and time for the review
- D. Takes overall responsibility for the review such as organizing when and where the review will take place

Which of the following assignments of roles to responsibilities is correct?

Select one Option! (1 out of 4)

a)	1A, 2B, 3D, 4C	<input type="checkbox"/>
b)	1A, 2C, 3B, 4D	<input type="checkbox"/>
c)	1B, 2D, 3A, 4C	<input checked="" type="checkbox"/>
d)	1B, 2D, 3C, 4A	<input type="checkbox"/>

FL-3.2.3 (K1) Recall which responsibilities are assigned to the principal roles when performing reviews [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 3.2.3)

Considering each of the listed roles:

1. Scribe (or Recorder) – responsible for gathering feedback from reviewers and documenting review information, such as decisions made, and any new anomalies identified during the review meeting. (Records review information, such as decisions and new anomalies found during the review meeting - B) (see [CTFL 4.0], section 3.2.3, 4th bullet point)
2. Review Leader – responsible for overseeing the review process, such as selecting the review team members, scheduling review meetings, and ensuring that the review is completed successfully. (Takes overall responsibility for the review such as organizing when and where the review will take place - D) (see [CTFL 4.0], section 3.2.3, 6th bullet point)
3. Facilitator (or Moderator) – responsible for ensuring that the review meetings run effectively, including managing time, mediating discussions, and creating a safe environment where everyone can voice their opinions freely. (Ensures the effective running of review meetings and the setting up of a safe review environment - A) (see [CTFL 4.0], section 3.2.3, 3rd bullet point)
4. Manager – responsible for deciding what needs to be reviewed and allocating resources, such as staff and time, for the review. (Decides what is to be reviewed and provides resources, such as staff and time for the review - C) (see [CTFL 4.0], section 3.2.3, 1st bullet point)

Thus:

- a) FALSE
- b) FALSE
- c) CORRECT – The correct match is: 1B, 2D, 3A, 4C
- d) FALSE

Question 19	FL-4.1.1	K2	Score 1.0
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Which of the following statements BEST describes the difference between decision table testing and branch testing?

Select one Option! (1 out of 4)

a)	In decision table testing, the test cases are derived from the decision statements in the code. In branch testing, the test cases are derived from knowledge of the control flow of the test object.	<input type="checkbox"/>
b)	In decision table testing, the test cases are derived from the specification that describes the business logic. In branch testing the test cases are based on anticipation of potential defects in the source code.	<input type="checkbox"/>
c)	In decision table testing, the test cases are derived from knowledge of the control flow of the test object. In branch testing, test cases are derived from the specification that describes the business logic.	<input type="checkbox"/>
d)	In decision table testing, the test cases are independent of how the software is implemented. In branch testing, test cases can be created only after the design or implementation of the code.	<input checked="" type="checkbox"/>

FL-4.1.1 (K2) Distinguish black-box, white-box and experience-based test techniques
[CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.1.1)

Basics:

- **Black box test techniques** (also known as specification-based test techniques) are based on an analysis of the specified behavior of the test object without knowledge of the internal structure. The test cases are therefore created independently of the implementation of the software.
- **White-box test techniques** (also known as structure-based techniques) are based on an analysis of the internal structure and processing of the test object. As the test cases are dependent on the design of the software, they can only be created after the design or implementation of the test object.
- **Experience-based testing methods** effectively use the knowledge and experience of testers to design and implement test cases.
- The **decision table test** belongs to the black box test techniques (see [CTFL 4.0], section 4.2.3)
- The **branch test** belongs to the white-box test techniques (see [CTFL 4.0], section 4.3.2)
 - a) FALSE – Decision table testing is a black-box test technique, so it is specification-based, not structure-based – the test cases are NOT based on the decisions in the source code. In branch testing, the test cases are derived from knowledge of the control flow of the test object. This statement is basically correct.
 - b) FALSE – In decision table testing, the test cases are derived from the specification that describes the business logic. This statement is basically correct. The anticipation of potential defects is used in error guessing (an experience-based test technique) and not in branch testing (a structure-based test techniques). This statement is therefore not correct.
 - c) FALSE – If a test case is based on knowledge of the control flow of the test object, it is a white-box test procedure. The testing of decision tables is usually based on an analysis of the business logic and is a black-box test procedure. This statement is therefore incorrect. In branch testing, test cases are not derived from the specification - this would belong to a black-box test procedure. This statement is therefore not correct.
 - d) CORRECT – Decision table testing is a black-box test technique, so it is based on an analysis of the specified behavior of the test object without reference to its internal structure. Therefore, the test cases are independent of how the software is implemented. Branch testing is a white-box test technique, so test cases are based on an analysis of the test object's internal structure and processing. As the test cases are dependent on how the software is designed and coded, they can only be created after the design or implementation of the test object.

Question 20	FL-4.2.1	K3	Score 1.0
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Customers of the TestWash car wash chain have cards with a record of the number of washes they have bought so far. The initial value is 0. After entering the car wash, the system increases the number on the card by one. This value represents the number of the current wash. Based on this number the system decides what discount the customer is entitled to.

For every tenth wash the system gives a 10 % discount, and for every twentieth wash, the system gives a further 40 % discount (i.e., a 50 % discount in total).

Which of the following sets of input data (understood as the numbers of the current wash) achieves the highest equivalence partition coverage?

Select one Option! (1 out of 4)

a)	19, 20, 30	<input checked="" type="checkbox"/>
b)	11, 12, 20	<input type="checkbox"/>
c)	1, 10, 50	<input type="checkbox"/>
d)	10, 29, 30, 31	<input type="checkbox"/>

FL-4.2.1 (K3) Use equivalence partitioning to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.2.1)

- a) CORRECT – 19 covers the “no discount” partition, 20 covers the “50 % discount” partition, and 30 covers the “10 % discount” partition. These three values cover all three of the valid equivalence partitions.
- b) FALSE – 11 and 12 cover the “no discount” partition, while 20 covers the “50 % discount” partition. The “10 % discount” equivalence class is not covered. So covering two of the three valid equivalence partitions.
- c) FALSE – 1 covers the “no discount” partition, while 10 and 50 cover the “10 % discount” partition. The “50 % discount” partition is not covered, so overall two of the three valid equivalence partitions are covered.
- d) FALSE – 29 and 31 cover the “no discount” partition, while 10 and 30 cover the “10 % discount” partition. The “50 % discount” partition is not covered, so overall two of the three valid equivalence partitions are covered

Question 21	FL-4.2.2	K3	Score 1.0
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A wine storage system uses a control device to measure the temperature (T) of the wine cellar (measured in °C, rounded to the nearest degree) and alerts the user if the optimal temperature is exceeded or not met:

- If $11 \leq T \leq 13$, the system reports: "optimal temperature"
- If $T < 11$, the system reports: "The temperature is too low!"
- If $T > 13$, the system reports: "The temperature is too high!"

You apply the 3-value boundary value analysis to verify the expected behavior of the controller. The test input is a temperature provided by the device in °C.

Which test inputs achieve 100 % coverage?

Select ONE option! (1 out of 4)

a)	11, 12, 13	<input type="checkbox"/>
b)	9, 13, 15	<input type="checkbox"/>
c)	9, 10, 11, 12, 13, 14, 15	<input checked="" type="checkbox"/>
d)	10, 11, 12, 13, 14	<input type="checkbox"/>

FL-4.2.2 (K3) Use boundary value analysis to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, Section 4.2.2)

There are three equivalence classes: EC1: {..., 9, 10}, EC2: {11 ... 13}, and EC3: {14, 15 ...}.

To achieve 100 % coverage in the 3-value boundary value analysis, we must test all coverage elements, including the identified boundary values and their neighbors (see [CTFL 4.0]).

The boundary values are 10, 11, 13, and 14 (excluding negative values and values outside the range boundary). In the 3-value boundary value analysis, we must now use the boundary values and their two neighbors:

- 10: 9, 10, 11
- 11: 10, 11, 12
- 13: 12, 13, 14
- 14: 13, 14, 15

(The special feature here is that the values 11 and 13 are the upper and lower limit for the neighbor. These values must therefore only be used once in a test case, so answer c.) is correct.)

- a) FALSE – This would correspond to the 3-value boundary value analysis for EC2.
- b) FALSE – This would correspond to a pure equivalence class partitioning, as only one value from the respective equivalence class is used.
- c) CORRECT – This corresponds to the identified values for the 3-value boundary value analysis.
- d) FALSE – This corresponds to the 2-value boundary value analysis for all equivalence classes.

Question 22	FL-4.2.3	K3	Score 1.0
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The following decision table contains the rules for determining the risk of atherosclerosis based on the measured value of cholesterol and the patient's blood pressure.

	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5
Conditions					
Cholesterol (mg/dl)	≤124	≤ 124	125 – 200	125 – 200	≥ 201
Blood pressure (mm Hg)	≤ 140	> 140	≤ 140	> 140	–
Action					
Risk level	very low	low	medium	high	very high

You designed the test cases with the following test input data:

- | | |
|------------------------------|----------------------------|
| TC1: Cholesterol = 125 mg/dl | Blood pressure = 141 mm Hg |
| TC2: Cholesterol = 200 mg/dl | Blood pressure = 201 mm Hg |
| TC3: Cholesterol = 124 mg/dl | Blood pressure = 201 mm Hg |
| TC4: Cholesterol = 109 mg/dl | Blood pressure = 200 mm Hg |
| TC5: Cholesterol = 201 mg/dl | Blood pressure = 140 mm Hg |

What is the decision table coverage achieved by these test cases?

Select one Option! (1 out of 4)

a)	40 %	<input type="checkbox"/>
b)	60 %	<input checked="" type="checkbox"/>
c)	80 %	<input type="checkbox"/>
d)	100 %	<input type="checkbox"/>

FL-4.2.3 (K3) Use decision table testing to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.2.3)

There are five columns in the decision table. Each test case covers one of them.

TC1 and TC2 both cover Rule 4

TC3 and TC4 both cover Rule 2

TC5 covers Rule 5

So, these five test cases cover three out of five columns, achieving a coverage of $(3/5)*100\% = 60\%$. (see [CTFL 4.0], section 4.2.3, 5th paragraph)

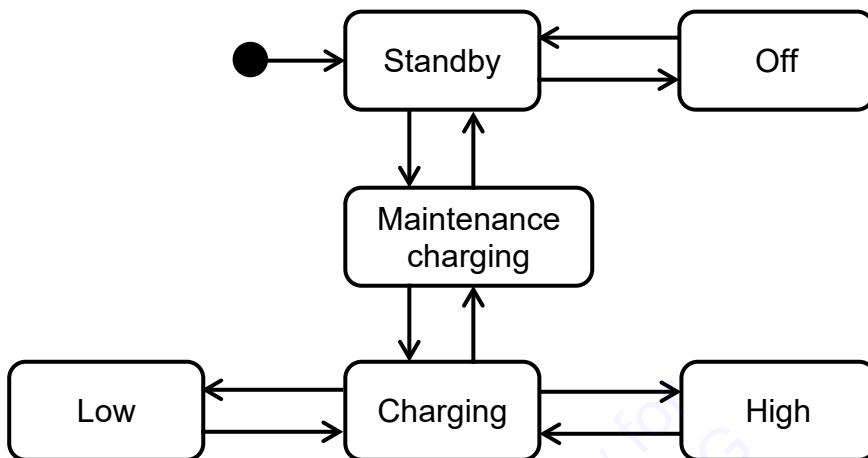
Therefore, option b) is the CORRECT option.

Thus:

- a) FALSE
- b) CORRECT**
- c) FALSE
- d) FALSE

Question 23	FL-4.2.4	K3	Score 1.0
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Given the following state transition diagram for the software of a battery charger:



Which of the following test cases includes both valid and invalid transitions?

Select ONE option! (1 out of 4)

- | | | |
|----|---|-------------------------------------|
| a) | Start → Standby → Off → Standby → Maintenance charging → Standby | <input type="checkbox"/> |
| b) | Start → Standby → Maintenance charging → Charging → High → Charging | <input type="checkbox"/> |
| c) | Start → Standby → Maintenance charging → Charging → Low → Charging | <input type="checkbox"/> |
| d) | Start → Standby → Off → Standby → Charging → Low → Charging | <input checked="" type="checkbox"/> |

FL-4.2.4 (K3) Use state transition testing to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

The state transition diagram shows 10 valid transitions. The transition from "Off" to "High," executed by test case D, is not included in the state diagram and is therefore an invalid transition (see [CTFL 4.0], Section 4.2.4):

- a) FALSE – This test case only executes valid transitions as it traverses the states according to the diagram.
- b) FALSE – This test case only executes valid transitions as it traverses the states according to the diagram.
- c) FALSE – This test case only executes valid transitions as it traverses the states according to the diagram.
- d) CORRECT – In this test case, the invalid transition from "Standby" to "Charging" is executed.

Therefore, test case d) is the one that includes an invalid transition alongside valid transitions.

Question 24	FL-4.3.1	K2	Score	1.0
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You run two test cases, T1 and T2, on the same code. Test T1 achieved 40 % statement coverage and test T2 achieved 65 % statement coverage.

Based on the information above, which of the following sentences must be true?

Select one Option! (1 out of 4)

a)	The test suite composed with tests T1 and T2 achieves 105 % statement coverage	<input type="checkbox"/>
b)	There exists at least one statement that must have been executed by both T1 and T2	<input checked="" type="checkbox"/>
c)	At least 5 % of the statements in the code under test are non-executable	<input type="checkbox"/>
d)	The test suite composed of tests T1 and T2 achieves full branch coverage	<input type="checkbox"/>

FL-4.3.1 (K2) Explain statement testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.3.1)

- a) FALSE – Coverage is always defined as the percentage of the covered elements. Therefore, it cannot exceed 100 %. (see [CTFL 4.0], section 4.3.1, 1st paragraph)
- b) CORRECT – If the statements executed by T1 and T2 were disjoint, the coverage of the test suite {T1, T2} would be 105 %, which is impossible (see answer a). Therefore, at least 5 % of executable statements must have been executed by both T1 and T2.
- c) FALSE – Statement coverage does not tell us anything about the number of non-executable statements in the code, because it only shows the instructions that have been executed so far. Whether code that has not yet been executed is inaccessible and therefore non-executable code can only be determined through analysis.
- d) FALSE – Even, if a test suite achieves 100 % statement coverage, this does not automatically mean that 100 % branch coverage has been achieved. A measurement of the branch coverage is necessary for this. (see [CTFL 4.0], section 4.3.1, 2nd paragraph and section 4.3.2, 4th paragraph)

Question 25	FL-4.3.2	K2	Score	1.0
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Let the branch coverage metric be defined as $BCov = (X / Y) * 100\%$.

What do X and Y represent in this formula?

Select one Option! (1 out of 4)

a)	X = number of decision outcomes exercised by the test cases Y = total number of decision outcomes in the code	<input type="checkbox"/>
b)	X = number of conditional branches exercised by the test cases Y = total number of branches in the code	<input type="checkbox"/>
c)	X = number of branches exercised by the test cases Y = total number of branches in the code	<input checked="" type="checkbox"/>
d)	X = number of conditional branches exercised by the test cases Y = total number of decision outcomes in the code	<input type="checkbox"/>

FL-4.3.2 (K2) Explain branch testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.3.2)

Branch testing is a white-box test technique in which the coverage items are branches. A branch is a transfer of control between two nodes in the control flow graph, which shows the possible sequences in which source code statements are executed in the test object. Each transfer of control can be either unconditional (i.e., straight-line code) or conditional (i.e., a decision outcome). Coverage is measured as the number of branches exercised by the test cases divided by the total number of branches, and is expressed as a percentage.

Thus:

- a) FALSE – A decision outcome is a conditional branch. For branch testing, X counts not only conditional, but also unconditional branches. Therefore, the statement about X is not correct, the unconditional branches are missing. The same applies to the statement for Y.
- b) FALSE – Branch coverage counts not only conditional, but also unconditional branches
- c) CORRECT – Branch coverage is measured as the number of branches exercised by the test cases divided by the total number of branches, and is expressed as a percentage

$$BCov = (X / Y) * 100\%$$
- d) FALSE – Both X and Y count only conditional branches and do not take into account the unconditional branches (see a)).

Question 26	FL-4.4.2	K2	Score 1.0
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Which of the following statements provides the BEST justification for using exploratory testing?

Select one Option! (1 out of 4)

a)	The existing test strategy requires that testers use black-box test techniques.	<input type="checkbox"/>
b)	The specification is written in a formal language that can be processed by a tool.	<input type="checkbox"/>
c)	The Testers are the members of an agile team and have good programming skills.	<input type="checkbox"/>
d)	The Testers are experienced in the business domain and have good analytical skills.	<input checked="" type="checkbox"/>

FL-4.4.2 (K2) Explain exploratory testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.4.2)

Exploratory testing is useful when there are few or inadequate specifications or there is significant time pressure on the testing. Exploratory testing is also useful to complement other more formal test techniques. Exploratory testing will be more effective if the tester is experienced, has domain knowledge and has a high degree of essential skills, like analytical skills, curiosity and creativeness.

Thus:

- a) FALSE – Exploratory testing is not a black-box test technique therefore the statement has no relation to a justification of an exploratory test.
- b) FALSE – Exploratory testing is useful when the specifications are poorly written. A formally described specification that can be processed by tools justifies the use of a static analysis and automated tests rather than the use of exploratory tests.
- c) FALSE – Agile teams and agile development can use exploratory testing for new features, but programming skills have nothing to do with exploratory testing or do not support efficient implementation. Therefore, this is not a justification.
- d) CORRECT – Exploratory testing will be more effective if the tester is experienced, has domain knowledge and has a high degree of essential skills, like analytical skills, curiosity and creativeness

Question 27	FL-4.4.3	K2	Score 1.0
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Which of the following is the BEST example of a test condition when using checklist-based testing?

Select one Option! (1 out of 4)

a)	"The developer made an error when implementing the code"	<input type="checkbox"/>
b)	"The achieved statement coverage exceeds 85 %"	<input type="checkbox"/>
c)	"The program works correctly regarding functional and non-functional requirements"	<input type="checkbox"/>
d)	"The error messages are written in language that the user can understand"	<input checked="" type="checkbox"/>

FL-4.4.3 (K2) Explain checklist-based testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.4.3)

- a) FALSE – Checklists should contain test conditions to be tested and not general assumptions. The fact that developers make mistakes can be an experience. In order to turn this into one or more elements as test conditions for a checklist, this experience should be concretized: which incorrect actions happen frequently and which defects or which defects can be derived as test conditions. (see [CTFL 4.0], section 4.4.3, 1st paragraph).
- b) FALSE – Checklists should not contain items that are better suited as exit criteria. This is an example of an exit criterion (see [CTFL 4.0], section 4.4.3, 1st paragraph).
- c) FALSE – Checklists should not contain items that are too general. This is a very general item, which practically describes the goal of testing and not a specific test condition. It should be possible to test each element individually and directly (see [CTFL 4.0], section 4.4.3, 2nd paragraph).
- d) CORRECT – This is an example of a test condition that can be checked by a human based on their knowledge and experience of what is important to the user (see [CTFL 4.0], section 4.4.3, 1st paragraph).

Question 28	FL-4.5.2	K2	Score 1.0
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Consider the following acceptance criteria for a user story written from the perspective of an online store owner.

Given that the user is logged in and on the homepage:

When the user clicks on the "Add Item" button,

Then the "Create Item" form should appear,

And the user should be able to input a name and price for the new item.

In what format is this acceptance criteria written?

Select one Option! (1 out of 4)

a)	Rule-oriented	<input type="checkbox"/>
b)	Scenario-oriented	<input checked="" type="checkbox"/>
c)	Product-oriented	<input type="checkbox"/>
d)	Process-oriented	<input type="checkbox"/>

FL-4.5.2 (K2) Classify the different options for writing acceptance criteria [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 4.5.2)

- a) FALSE – The rule-oriented format includes formats like bullet point verification lists or tabulated forms of input-output mappings, explicitly showing the rules to be followed. (see [CTFL 4.0], section 4.5.2, 3rd paragraph, 2nd bullet point). Given/When/Then is a scenario-oriented format because it describes a scenario to be verified.
- b) CORRECT – The acceptance criterion uses the given/if/then format, which is scenario-oriented (see [CTFL 4.0], section 4.5.2, 3rd paragraph, 1st bullet point).
- c) FALSE – There is no "product-oriented" format of acceptance criteria that is universally defined.
- d) FALSE – There is no "process-oriented" format of acceptance criteria that is universally defined.

Question 29	FL-4.5.3	K3	Score	1.0
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Please consider the following User Story:

"As a coach of a football team, I want to be able to retrieve the eligibility list for a match day in DFBNET so that I can assign the squad for the next match day."

Which test case is BEST suited for acceptance test-driven development of the User Story?

Select one option! (1 out of 4)

a)	Login as a coach into DFBNET; select the upcoming match days for my team; download the eligibility lists.	<input type="checkbox"/>
b)	GIVEN: I am logged in as a coach in DFBNET with my coach ID AND GIVEN: I have selected the next match day, WHEN I select "load eligibility list", THEN a list of eligible players for the next match day is displayed to me	<input checked="" type="checkbox"/>
c)	Login as team manager; select the next match day; load eligibility list; remove players who are not eligible to play.	<input type="checkbox"/>
d)	GIVEN: I have selected the next match days for my team WHEN I select a match day AND WHEN I load the eligibility list for this match day, THEN all eligible players for this match day should be displayed to me.	<input type="checkbox"/>

FL-4.5.3 (K3) Use acceptance test-driven development (ATDD) to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – NOT SUITABLE - because the User Story will not be accurately represented. In this test case, a list of match days is retrieved, and for each of these match days, the eligibility lists are loaded. However, this is not required or specified in the User Story. The User Story only demands the eligibility list for one match day to be loaded.
- b) CORRECT – MOST SUITABLE - In this test case, after logging in as a coach, the eligibility list for the next match day is loaded and displayed. This aligns with the specification of the User Story. This option is the most suitable as it clearly defines the specific steps for accepting the functionality and integrates the acceptance criteria directly into the test case.
- c) FALSE – NOT SUITABLE - The User Story clearly specifies that the coach wants to view the eligibility list for one match day to assemble their team. There is no mention of a team manager.
- d) FALSE – NOT SUITABLE - While this test case appropriately tests the functionality specified in the User Story, it does not consider that the user is logged in as a coach in the DFBNET. Since the requested functionality is explicitly tailored to the role of the coach, this test case is not the best suited for accepting the User Story.

Question 30	FL-5.1.3	K2	Score 1.0
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Your team follows the process, which uses a continuous integration and delivery (CI/CD) pipeline with a shift-left approach. The first three steps in this process are:

- (1) Develop and deploy code
- (2) Submit code into a version control system and merge it into the “test” branch
- (3) Perform component testing for the submitted code

Which of the following criteria is BEST suited as an entry criterion for step (2) of this pipeline?

Select one Option! (1 out of 4)

a)	The Static analysis does not report any defect or no high severity warnings for the submitted code	<input checked="" type="checkbox"/>
b)	The Version control does not report any conflicts when compiling and integrating the code into the “test” branch	<input type="checkbox"/>
c)	The Component tests are compiled and ready to run in the “Test” branch.	<input type="checkbox"/>
d)	The Statement coverage of the component test is at least 80%.	<input type="checkbox"/>

FL-5.1.3 (K2) Compare and contrast entry criteria and exit criteria [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 5.1.3)

- a) CORRECT – The CI-CD approach together with the shift-left approach promotes early testing so that developers are encouraged to deliver their high-quality code together with the unit tests and static analysis (see [CTFL 4.0], section 2.1.4 and 2.1.5). Therefore, the results of the static analysis are a useful and measurable input criterion before integrating the code into the CI-CD pipeline, comparable to a smoke test (see [CTFL 4.0], section 5.1.3, 2nd paragraph).
- b) FALSE – This is something that can be checked *after* step (2) is performed, because merge conflict reporting can be done *after* the code is submitted and merged.
- c) FALSE – This fits better as the entry criterion for step (3), as it has no relevance for step (2).
- d) FALSE – This fits better as the exit criterion for step (3)

Question 31	FL-5.1.4	K3	Score 1.0
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You want to estimate the test effort for a new project using estimation based on ratios. You calculate the test-to-development effort ratio using averaged data for both the development and test efforts from four historical projects similar to the new one. The table below shows this historical data.

Project	Development effort (\$)	Test effort (\$)
P1	800,000	40,000
P2	1,200,000	130,000
P3	600,000	70,000
P4	1,000,000	120,000

The estimated development effort for the new project is \$800,000. What is your estimate of the test effort in this project?

Select one Option! (1 out of 4)

a)	\$40,000	<input type="checkbox"/>
b)	\$80,000	<input checked="" type="checkbox"/>
c)	\$81,250	<input type="checkbox"/>
d)	\$82,500	<input type="checkbox"/>

FL-5.1.4 (K3) Use estimation techniques to calculate the required test effort [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 5.1.4)

The estimation method used is based on ratios derived from the average values of historical and similar projects as key figures. (see [CTFL 4.0], section 5.1.4, 3rd paragraph)

The average development effort is \$900,000 and the average test effort is \$90,000 (calculated from the four projects).

The average test-to-development effort ratio is 1:10 (\$90,000 : \$900,000), which means that historically, on average, the test effort is 10 % of the development effort.

So if the development effort is estimated to be \$800,000, the estimated test effort is estimated as:

$$10 \% * \$800,000 = 0.1 * \$800,000 = \$80,000.$$

Thus:

- a) FALSE
- b) CORRECT**
- c) FALSE
- d) FALSE

Question 32	FL-5.1.5	K3	Score 1.0
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You have been asked to establish an optimal, risk-based execution sequence for the following test cases, which have already been prioritized and examined for any dependencies:

Test case-ID	Priority	Dependent on
T1	3	-
T2	1	T1
T3	3	T2
T4	3	T2
T5	1	T3
T6	2	T4

Priority 1 is more urgent than Priority 2, and so forth.

Which of the following test sequences takes into account the dependencies and priorities mentioned above?

Select ONE option! (1 out of 4)

- | | | |
|----|-----------------------------|-------------------------------------|
| a) | T1 → T2 → T4 → T5 → T3 → T6 | <input type="checkbox"/> |
| b) | T1 → T2 → T3 → T4 → T5 → T6 | <input type="checkbox"/> |
| c) | T1 → T2 → T4 → T3 → T5 → T6 | <input type="checkbox"/> |
| d) | T1 → T2 → T3 → T5 → T4 → T6 | <input checked="" type="checkbox"/> |

FL-5.1.5 (K3) Apply test case prioritization [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – T5 depends on T3, meaning that T3 must be executed before T5.
- b) FALSE – T5 is more urgent than T4, so after the execution of T3, T5 should be executed next.
- c) FALSE – T5 is more urgent than T4, so T4 should be executed after T3 and T5, not before.
- d) CORRECT – This test execution plan correctly considers dependencies and priorities. The test case with the highest priority (T5) requires T3. Consequently, T3 is executed earlier than the equally prioritized test case T4. T4 is executed after T5, so that T6 can be executed conclusively.

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Question 33	FL-5.1.7	K2	Score	1.0
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According to the testing quadrants model, which of the following items is assigned to quadrant Q1 (“technology facing” and “support the team”)?

Select one Option! (1 out of 4)

a)	Usability testing	<input type="checkbox"/>
b)	Smoke tests	<input type="checkbox"/>
c)	User acceptance testing	<input type="checkbox"/>
d)	Component integration tests	<input checked="" type="checkbox"/>

FL-5.1.7 (K2) Summarize the testing quadrants and their relationships with test levels and test types [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 5.1.7)

- a) FALSE – Usability testing is business-oriented tests that criticize the product (Q3)
- b) FALSE – Smoke tests are tests that take a critical look at the product (Q4).
- c) FALSE – User acceptance testing is business-oriented tests that criticize the product (Q3)
- d) CORRECT – Component integration testing is technology facing testing that supports the team (guides the development) (Q1)

Question 34	FL-5.2.4	K2	Score 1.0
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In the context of risk management, identify the statement that NOT accurately depict the relationship between product risk and test planning?

Select ONE option! (1 out of 4)

a)	The potential impact of IT security vulnerabilities was evaluated as significantly high, leading to an increase in the exit criterion for the IT security test to 99 successful test cases.	<input type="checkbox"/>
b)	The required quality of the network module is ambiguous, resulting in the execution of additional risk analyses in this area.	<input checked="" type="checkbox"/>
c)	Users reported problems with the user interface of the existing system, which led to the planning of extra usability tests for the new system.	<input type="checkbox"/>
d)	The loading time of web pages is crucial for the success of the new website, therefore a performance testing expert is being incorporated into the project.	<input type="checkbox"/>

FL-5.2.4 (K2) Explain what measures can be taken in response to analyzed product risks [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – The topic of IT security vulnerabilities is assessed as a high product risk, and as a measure to mitigate risk, the issue of IT security testing including high coverage is chosen. This is a sensible measure in terms of risk mitigation (see [CTFL 4.0], Section 5.2.4, 2nd paragraph and 4th bullet point).
- b) CORRECT – If the quality of a module is unclear, additional risk analysis is necessary, but this is not a task of risk control. Test planning should aim to eliminate uncertainties and ensure quality (see [CTFL 4.0], Section 5.2.4).
- c) FALSE – Since users had issues with the user interface of the previous system, the product risk for the usability of the new user interface is assessed as very high, leading to further usability tests being planned. This risk mitigation measure (more tests in the appropriate test method, higher coverage) is sensible, and thus, this statement is meaningful within the framework of risk management (see [CTFL 4.0], Section 5.2.4, 2nd paragraph and 4th bullet point).
- d) FALSE – Since the time taken to load web pages is deemed crucial to the success of the new website, website performance is assessed as a risk. The selection of testers with the right level of experience and skills suitable for a particular risk type is a sensible risk mitigation measure (see [CTFL 4.0], Section 5.2.4, 2nd paragraph and 1st bullet point). Therefore, deploying a performance test expert is meaningful within the framework of risk management.

Question 35	FL-5.3.1	K1	Score	1.0
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Which of the following is a product quality metric?

Select one Option! (1 out of 4)

a)	Mean time to failure	<input checked="" type="checkbox"/>
b)	Number of defects found	<input type="checkbox"/>
c)	Requirements coverage	<input type="checkbox"/>
d)	Defect density	<input type="checkbox"/>

FL-5.3.1 (K1) Recall metrics used for testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 5.3.1)

- a) CORRECT – Product quality metrics measure quality characteristics. Mean time to failure measures maturity, so it is a product quality metric (see [CTFL4.0], section 5.3.1, 3rd bullet point)
- b) FALSE – This is an example of a defect metric, not a product quality metric (see [CTFL4.0], section 5.3.1, 4th bullet point)
- c) FALSE – This is an example of a coverage metric, not a product quality metric (see [CTFL4.0], section 5.3.1, 6th bullet point)
- d) FALSE – This is an example of a defect metric, not a product quality metric (see [CTFL4.0], section 5.3.1, 4th bullet point)

Question 36	FL-5.3.3	K2	Score	1.0
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Imagine you are part of an agile team based in North America. Your team is developing a product for a client located in Europe. The team adhere to the DevOps approach and utilizes a continuous integration/continuous delivery pipeline for development.

Given the geographical distance and the agile nature of the project, which of the following communication methods would be the LEAST effective for conveying test progress to the client?

Select one Option! (1 out of 4)

a)	In-person meetings (Face-to-face)	<input checked="" type="checkbox"/>
b)	Interactive Dashboards	<input type="checkbox"/>
c)	Email Updates	<input type="checkbox"/>
d)	Video conferencing	<input type="checkbox"/>

FL-5.3.3 (K2) Exemplify how to communicate the status of testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 5.3.3)

According to the syllabus, only face-to-face communication across different time zones is not always possible. See [CTFL4.0], section 5.3.3, paragraph 2, sentence 2. Therefore option a) is correct.

- a) **CORRECT** – The client is in a different location and time zone, so it may be difficult to communicate face-to-face (see [CTFL4.0], section 5.3.3, paragraph 2, sentence 2).
- b) FALSE – Dashboards are usually available to any user at any time, so the difference in time zones will not be as much of a hindrance to communication as verbal, face-to-face communication.
- c) FALSE – Although the time difference between Europe and America is several hours, and this may cause some inconvenience, it is certainly not as great as with communicating face-to-face.
- d) FALSE – Video conferencing tools are a convenient means of communication. Although communication between Europe and America during working hours usually requires one party to connect in the very early or very late hours, this is not as much of an inconvenience as verbal, face-to-face communication.

Question 37	FL-5.4.1	K2	Score 1.0
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Which of the following BEST describes an example of how configuration management (CM) supports testing?

Select one Option! (1 out of 4)

a)	Using the version number of the environment, the CM tool can retrieve the version numbers of libraries, stubs and drivers used in that environment.	<input checked="" type="checkbox"/>
b)	The change of baselines can be flexibly and pragmatically supported by using CM tools, should the testers consider this necessary due to unexpected events during test execution.	<input type="checkbox"/>
c)	Configuration management supports the tracing of test scripts and test cases. Test results, on the other hand, are managed by defect management.	<input type="checkbox"/>
d)	In configuration management, complex configuration items are summarized by a baseline. To establish this as a baseline, testers can no longer return to an earlier baseline at a later time.	<input type="checkbox"/>

FL-5.4.1 (K2) Summarize how configuration management supports testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 5.4.1)

- a) CORRECT – For a complex configuration item (e.g. a test environment), KM records the elements that make it up, their relationships and versions (see [CTFL4.0], section 5.4, paragraph 2, sentence 2).
- b) FALSE – A formal change control process is required to change baselines (see [CTFL4.0], section 5.4, paragraph 2, sentence 2)
- c) FALSE – Configuration management also supports the tracking of test results (see [CTFL4.0], section 5.4, paragraph 1).
- d) FALSE – It is possible to revert to a previous baseline. See [CTFL4.0], section 5.4, paragraph 3, sentence 2. This is also necessary, for example, to be able to track previous results.

Question 38	FL-5.5.1	K3	Score 1.0
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You are testing a sort function that uses a list of numbers as an input and returns the same numbers sorted in ascending order.

The log from the test execution looks as follows:

Environment configuration: sort function build 2.002.2182, test case set: TCS-3, # of TCs: 5

Test run ID: 736

Start 12:43:21.003

12:43:21.003	Execution of TC1.	Input: 3.	Output: 3.	Result: passed
12:43:21.003	Execution of TC2.	Input: 3, 11, 6, 5.	Output: 3, 5, 6, 11.	Result: passed
12:43:21.004	Execution of TC3.	Input: 8, 7, 3, 7, 1.	Output: 1, 3, 7, 8.	Result: failed
12:43:21.005	Execution of TC4.	Input: -2, -2, -2, -3, -3.	Output: -3, -2.	Result: failed
12:43:21.005	Execution of TC5.	Input: 0, -2, 0, 3, 4, 4.	Output: -2, 0, 3, 4.	Result: failed

End 12:43:21.005

Total time of test cycle: 0:00:00.002

Which of the following provides the BEST description of the failure that can be used in a defect report?

Select one Option! (1 out of 4)

- | | | |
|----|---|-------------------------------------|
| a) | The system fails to sort several sets of numbers. Reference: TC3, TC4, TC5. | <input type="checkbox"/> |
| b) | The system seems to disregard duplicates while sorting. Reference: TC3, TC4, TC5. | <input checked="" type="checkbox"/> |
| c) | The system fails to sort negative numbers. Reference: TC4, TC5. | <input type="checkbox"/> |
| d) | TC3, TC4 and TC5 have defects (duplicate input data) and should be corrected. | <input type="checkbox"/> |

FL-5.5.1 (K3) Prepare a defect report [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 5.5.1)

- a) FALSE – While the sentence is true, it does not provide much value for the developer. The observed deviations allow for a more detailed analysis. Option b) is therefore preferable.
- b) CORRECT – From the test results it seems that the system ignores duplicates and sorts the list disregarding the repetitions. This is probably the cause of failures in TC3, TC4, TC5. Such information may help the developer to find the defect and fix it more efficiently.
- c) FALSE – The system does not fail in sorting negative numbers. The problem is rather in disregarding duplicates
- d) FALSE – The test cases TC3, TC4 and TC5 fail, but we are not aware that the test cases have any defects. The specification does not state that duplicates may not be used or that all numbers must be different.

Question 39	FL-6.1.1	K2	Score	1.0
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Consider the following descriptions:

- 1. Support for tracking workflows**
- 2. Facilitate communication**
- 3. Virtual machines**
- 4. Support for evaluation of 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 tool categories?

Select one Option! (1 out of 4)

a)	1A, 2B, 3C, 4D	<input type="checkbox"/>
b)	1B, 2D, 3C, 4A	<input type="checkbox"/>
c)	1C, 2D, 3B, 4A	<input checked="" type="checkbox"/>
d)	1D, 2C, 3A, 4B	<input type="checkbox"/>

FL-6.1.1 (K2) Explain how different types of test tools support testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 6.1.1)

Considering each of the listed tool categories and their descriptions:

- A. Static testing tools – support the tester in performing reviews and static analysis (4) (see [CTFL4.0], section 6.1.1, bullet point 2)
- B. Tools supporting scalability and deployment standardization – For example, virtual machines containerization tools (3) (see [CTFL4.0], paragraph 6.1.1, indent 8)
- C. DevOps tools – support the DevOps delivery pipeline, workflow tracking, automated build process(es), continuous integration/continuous delivery (CI/CD) (1) (see [CTFL4.0], paragraph 6.1.1, bullet point 6)
- D. Collaboration tools – facilitate communication (2) (see [CTFL4.0], paragraph 6.1.1, indent 7)

Thus:

- a) FALSE
- b) FALSE
- c) CORRECT – The correct match is: 1C, 2D, 3B, 4A
- d) FALSE

Question 40	FL-6.2.1	K1	Score	1.0
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Which of the following is MOST likely to apply to test automation?

Select one Option! (1 out of 4)

a)	Test automation provides measurement of more complex coverage criteria.	<input checked="" type="checkbox"/>
b)	Test automation gives some of the responsibility for the testing to the tool vendor.	<input type="checkbox"/>
c)	Test automation removes the need for critical thinking when analyzing test results.	<input type="checkbox"/>
d)	Test automation generates system-level test cases from an analysis of the program code.	<input type="checkbox"/>

FL-6.2.1 (K1) Recall the benefits and risks of test automation [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 6.1.2)

- a) 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 (see [CTFL4.0], section 6.2, bullet point 3)
- b) FALSE – 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 (see [CTFL4.0], section 6.2, bullet point 11).
- c) FALSE – Testers still need to perform critical thinking when analyzing anomalies in the test results to determine their likely cause (see [CTFL4.0], section 6.2, bullet point 10).
- d) FALSE – 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 (see [CTFL4.0], section 6.2, bullet point 7).

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Sample Exam Paper – SET B – GTB edition



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ISTQB® Certified Tester Foundation Level

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Revision History

Version	Date	Remarks
		Note: The present sample exam was mainly derived and further developed from previous Sample Exam questions on the ISTQB® CTFL syllabus 2018 (v3.1) and additional newly created questions.
0.1	10.10.2023	Internal BETA 01 DRAFT version
0.2	11.11.2023	Incorporation of the reviewers' findings into German version.
0.3	29.11.2023	Question 26 replaced as similar question is already included in Sample Exam SET A; v0.2 improved according to reported findings from 2 nd review.
0.4	29.02.2024	Findings from the review incorporated by 31.01.2024.
0.5	12.03.2024	Internal review and findings incorporated
0.6	27.03.2024	English version added
0.7	27.07.2024	Double questions eliminated
1.0	28.07.2024	Final GTB edition
1.1	30.10.2024	Correction of Q15, Q22, Q33
1.2	20.11.2024	Correction of questions 1, distractor a.); question 22, distractor b.; question 14, distractor a.); question 29, addition in question pool; question 36; distractor a.)

Introduction

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- 4) Exactly one correct solution is expected for almost every question. The exceptions explicitly mention the possibility of multiple answers.

Exam notes

Number of questions: 40

Duration of the exam: 60 minutes

Total score: 40 (one point per question)

Score to pass the exam: 26 (or more)

Percentage of passing the exam: 65% (or more)

Feedback on this sample exam as a whole (40 questions) or on individual questions was provided in the German-language BETA versions of SET E in the period September – January 2024 by:

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Question 1	FL-1.1.1	K1	Score	1.0
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Which of the following statements describes a typical test objective?

Select ONE option! (1 out of 4)

a)	The test begins shortly before test object is released in order to find defects that would prevent acceptance.	<input type="checkbox"/>
b)	A validation, that the test object functions as expected by the various stakeholders.	<input checked="" type="checkbox"/>
c)	A demonstration, that all defects have been identified.	<input type="checkbox"/>
d)	A demonstration, that the remaining defects will not have negative impacts.	<input type="checkbox"/>

FL-1.1.1 (K1) Identify typical test objectives [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – This statement describes a test objective that focuses on identifying defects shortly before release. According to [CTFL 4.0], one goal of testing is to find and fix defects before the system goes into production. However, it is not typical to start testing just before release; testing should be done throughout the development process to find and fix defects early. (see [CTFL 4.0], Section 1.1.1, Section 1.3).
- b) CORRECT – This is one of the typical objectives of testing (see [CTFL 4.0], Section 1.1.1, 9th bullet point). This test objective aims to ensure that the test object meets the requirements and expectations of the various stakeholders. It involves checking the functionality, usability, and other aspects of the test object to ensure that it serves its intended purpose.
- c) FALSE – Contradicts Principle 2: "Complete testing is impossible." (see [CTFL 4.0], Section 1.3) and the consequent derivation that it is not possible to prove that all defects have been found. Thus, this is not a typical test objective (see [CTFL 4.0], Section 1.1.1).
- d) FALSE – To assess whether a defect causes a failure or not, the defect must be known. Demonstrating that the remaining defects do not cause failures implicitly means that all defects have been found. This contradicts (analogous to Option c)) Principle 2 (see [CTFL 4.0], Section 1.3). Thus, this is not a typical test objective (see [CTFL 4.0], Section 1.1.1).

Question 2	FL-1.1.2	K2	Score	1.0
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Which of the following statements best describes the difference between testing and debugging?

Select ONE option! (1 out of 4)

a)	Testing identifies the cause of defects. Debugging analyzes the defects and suggests preventive measures.	<input type="checkbox"/>
b)	Dynamic testing reveals the failures caused by defects. Debugging analyzes and resolves the associated defect.	<input checked="" type="checkbox"/>
c)	Testing eliminates failures; while debugging eliminates defects that cause failures.	<input type="checkbox"/>
d)	Dynamic testing prevents the cause of failures. Debugging eliminates the failures.	<input type="checkbox"/>

FL-1.1.2 (K2) Differentiate testing and debugging [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Testing does not identify the causes of defects, but rather failures (dynamic testing) or defects (static testing). Debugging identifies the causes of failures (defects) (see [CTFL 4.0], Section 1.1.2, 1st and 2nd paragraph). Preventive measures are neither part of testing nor debugging.
- b) CORRECT – Dynamic testing reveals failures caused by defects. Through debugging, the causes of failures can be analyzed and the defects eliminated (see [CTFL 4.0], Section 1.1.2).
- c) FALSE – The first part of the sentence is incorrect, as defects and resulting failures are not eliminated by testing, but only by debugging (see [CTFL 4.0], Section 1.1.2).
- d) FALSE – Through dynamic testing, the causes of failures (i.e., defects) cannot be prevented, but only the presence of defects that cause failures can be demonstrated. (see [CTFL 4.0], Section 1.1.2 as well as Section 1.3, Principle 1).

Question 3	FL-1.3.1	K2	Score 1.0
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A product owner says that your role as a tester on an Agile team is to catch all the bugs before the end of each iteration.

Which of the following is a testing principle that could be used to respond to this (false) statement?

Select ONE option! (1 out of 4)

a)	Defect clustering	<input type="checkbox"/>
b)	Testing shows the presence of defects	<input checked="" type="checkbox"/>
c)	Absence of error fallacy	<input type="checkbox"/>
d)	Root cause analysis	<input type="checkbox"/>

FL-1.3.1 (K2) Explain the seven principles of testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Defect clustering has to do with where defects are most likely to be found, not whether all of them can be found (see [CTFL 4.0], Section 1.3; 4th principle).
- b) CORRECT – Testing can show the presence of defects but cannot prove their absence, which makes it impossible to know if you have caught all the bugs. Further, the impossibility of exhaustive testing makes it impossible for you to catch all the bugs (see [CTFL 4.0], Section 1.3; 1st principle).
- c) FALSE – This principle says that you can find and remove many bugs but still release an unsuccessful software product, which is not what the product owner is asking you to ensure " (see [CTFL 4.0], Section 1.3, 7th principle)
- d) FALSE – Root cause analysis is not a testing principle (see [CTFL 4.0], Section 1.3)

Question 4	FL-1.4.1	K2	Score	1.0
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Which of the following is an example of a task that can be carried out as part of the test implementation of the test process?

Select ONE option! (1 out of 4)

a)	Analyzing a defect	<input type="checkbox"/>
b)	Designing test data	<input checked="" type="checkbox"/>
c)	Assigning a version to a test item	<input type="checkbox"/>
d)	Writing a user story	<input type="checkbox"/>

FL-1.4.1 (K2) Summarize the different test activities and tasks [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Analyzing a defect is part of debugging, not testing (see [CTFL 4.0], Section 1.1.2, 2nd Paragraph)
- b) CORRECT – Is correct. Creating test data is a test implementation task (see [CTFL 4.0], Section 1.4.1, 6th Paragraph)
- c) FALSE – While a tester may need to identify a test item's version for results assigning a test item's version is part of configuration management
- d) FALSE – Writing a user story is not a testing activity and should be done by the product owner (see [CTFL 4.0], Section 3.1, 2nd Paragraph)

Question 5	FL-1.4.2	K2	Score	1.0
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Which of the following statements is an example of a technical factor that influences the testing process?

Select ONE option! (1 out of 4)

a)	The software is a web application that must work on various browsers.	<input checked="" type="checkbox"/>
b)	The software is intended for a financial services provider with strict security requirements.	<input type="checkbox"/>
c)	The software is developed using an agile methodology that requires short iterations and frequent releases.	<input type="checkbox"/>
d)	The software is tested by a team with varying competencies and experiences.	<input type="checkbox"/>

FL-1.4.2 (K2) Explain the impact of context on the test process [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, Section 1.4.2)

- a) CORRECT – This is an example of a technical factor that influences the testing process. Technical factors influencing the testing process include the type of software, product architecture, and technology used (see [CTFL 4.0], Section 1.4.2, 4th bullet point).
- b) FALSE – This is not an example of a technical factor but rather an organizational aspect influencing the testing process, as the criticality of the test object, identified risks, market needs, and specific legal requirements can determine the test strategy, test procedures, test documentation, and reporting (see [CTFL 4.0], Section 1.4.2, 3rd bullet point).
- c) FALSE – This is not an example of a technical factor but rather the software development life cycle factor influencing the testing process, as technological practices and development methods can determine the test strategy, test procedures, test automation, and test documentation (see [CTFL 4.0], Section 1.4.2, 7th bullet point).
- d) FALSE – This is not an example of a technical factor but rather the team member factor influencing the testing process, as competency, knowledge, experience level, availability, and training needs can determine the test strategy, test procedures, test automation, and test documentation (see [CTFL 4.0], Section 1.4.2, 2nd bullet point).

Frage 6	FL-1.4.5	K2	Score 1.0
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Which of the following statements BEST describes the differences between the role of test management and the role of testing?

Select ONE option! (1 out of 4)

a)	The role of test management primarily focuses on the activities of test analysis, test design, test realization, and test execution, while the role of testing assumes overall responsibility for the test process, the test team, and the management of test activities.	<input type="checkbox"/>
b)	The role of test management and the role of testing are identical and can be assumed by the same person simultaneously.	<input type="checkbox"/>
c)	The role of test management assumes overall responsibility for the test process, the test team, and the management of test activities, while the role of testing primarily focuses on the activities of test analysis, test design, test realization, and test execution.	<input checked="" type="checkbox"/>
d)	The role of test management and the role of testing have no specific tasks and can vary depending on the context.	<input type="checkbox"/>

FL-1.4.5 (K2) Compare the different roles in testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, Section 1.4.5)

- a) FALSE – this statement is incorrect as it swaps the roles of test management and testing.
- b) FALSE – as the roles of test management and testing are not identical as they have different tasks and responsibilities; but this statement is partially correct as a person can indeed assume both roles simultaneously.
- c) CORRECT – this statement is correct. It accurately reflects the differences between the roles of test management and testing as described in similar manner in the syllabus text (see [CTFL 4.0, section 1.4.5, 3rd Paragraph])
- d) FALSE – although the way the roles are exercised can vary depending on the context, both test management and testing have specific tasks and responsibilities.

Question 7	FL-1.5.3	K2	Score	1.0
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During the discussion of a user story in an agile project, as a tester, you identify a contradiction in the interpretation of acceptance criteria of a user story between the Product Owner and the development team. You raise this contradiction.

Which of the following options describes an advantage of independent testing that becomes apparent in this situation?

Select ONE option! (1 out of 4)

a)	Testers can recognize different types of failures and conditions.	<input type="checkbox"/>
b)	Testers can take primary responsibility for quality.	<input type="checkbox"/>
c)	Developers can trust that testers will ensure the desired quality of work results.	<input type="checkbox"/>
d)	Testers can question assumptions made by stakeholders.	<input checked="" type="checkbox"/>

FL-1.5.3 (K2) Distinguish the benefits and drawbacks of independence of testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Recognizing different types of failures and conditions is an advantage of independent testing (see [CTFL 4.0], Section 1.5.3, 3rd paragraph), but it is not utilized in this scenario. Here, the advantage lies in questioning assumptions and statements, especially from the testing perspective.
- b) FALSE – Assuming primary responsibility for quality by independent testers is not an advantage but rather a disadvantage, as other stakeholders may lose their responsibility for quality (see [CTFL 4.0], Section 1.5.3, 4th paragraph).
- c) FALSE – This does not describe an advantage of independent testing but rather a disadvantage (see [CTFL 4.0], Section 1.5.3, 4th paragraph, penultimate sentence: "Developers may lose the sense of responsibility for quality").
- d) CORRECT – Questioning and challenging assumptions made by stakeholders is an advantage of independent testing (see [CTFL 4.0], Section 1.5.3, 3rd paragraph). This advantage becomes evident in this scenario as the tester can highlight contradictions in the assumptions and achieve early clarification, thus potentially avoiding future missteps in development.

Question 8	FL-1.5.2	K1	Score	1.0
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Which of the following options BEST describes the responsibilities arising from the agile Whole-Team approach?

Select ONE option! (1 out of 4)

a)	Testers are responsible for developing unit tests and pass them on to developers for execution.	<input type="checkbox"/>
b)	Business representatives are tasked with selecting the tools that the development team should use.	<input type="checkbox"/>
c)	Testers are expected to create test cases collaboratively with business representatives and the development team.	<input checked="" type="checkbox"/>
d)	Developers are expected to test non-functional requirements (performance, usability, security, etc.).	<input type="checkbox"/>

FL-1.5.2 (K1) Recall the benefits of the Whole-Team approach [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Depending on the skills of a team member, anyone can undertake this task. The task is not tied to a specific role (see [CTFL 4.0], Section 1.5.2, 2nd paragraph). Therefore, this statement is not applicable to the Whole-Team approach.
- b) FALSE – The Whole-Team approach does not have a hierarchical approach but resolves tasks based on competencies and abilities each individual brings (see [CTFL 4.0], Section 1.5.2, 2nd paragraph). Thus, the team can also decide on tools, not individual roles.
- c) CORRECT – Testers support business representatives in defining suitable acceptance test cases (see [CTFL 4.0], Section 1.5.2, 3rd paragraph). The agile Whole-Team approach emphasizes collaboration and accountability of the entire team, including developers, testers, and business representatives.
- d) FALSE – Depending on the skills of team members, these tasks can be undertaken by any team member. The tasks are not tied to specific roles (see [CTFL 4.0], Section 1.5.2, 2nd paragraph). Therefore, this statement is not applicable to the Whole-Team approach.

Question 9	FL-2.1.2	K1	Score	1.0
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Which of the following statements describes a good practice for testing in all Software lifecycle models (SDLC)?

Select ONE option! (1 out of 4)

a)	Test activities for a testing phase begin during the corresponding development phase.	<input checked="" type="checkbox"/>
b)	A testing phase in the software lifecycle model starts when the preceding testing phase is completed.	<input type="checkbox"/>
c)	Testing is considered as a separate phase. It begins when development is completed.	<input type="checkbox"/>
d)	Testing is added to development as an increment.	<input type="checkbox"/>

FL-2.1.2 (K1) Recall good practices for testing applicable to all software development life cycles [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – Testing should start during development, for example, test analysis and test design, to detect and fix defects early (see [CTFL 4.0], Section 2.1.2, 3rd bullet point).
- b) FALSE – This describes an approach that applies only to a sequential model and even there is not necessarily a good practice (see [CTFL 4.0], Section 2.1).
- c) FALSE – This describes the approach in the sequential waterfall model and is therefore not a good practice for all models (see [CTFL 4.0], Section 2.1).
- d) FALSE – Testing itself is not an increment/additional step in development, but during development, there are increments that need to be tested (see [CTFL 4.0], Section 2.1.1).

Question 10	FL-2.1.3	K1	Score	1.0
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Which of the following described development approaches does NOT define testing as a driver of software development?

Select ONE option! (1 out of 4)

a)	Tests are created first. Then the code is written	<input type="checkbox"/>
b)	Test cases drive the coding	<input type="checkbox"/>
c)	The desired behavior of an application is defined by test cases	<input type="checkbox"/>
d)	Tests are derived from acceptance criteria and partially automated	<input checked="" type="checkbox"/>

FL-2.1.3 (K1) Recall examples of test-first approaches in development [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – This is a correct approach for test-driven development (see [CTFL 4.0], Section 2.1.3, 1st paragraph).
- b) FALSE – This is a correct approach for test-driven development, specifically the TDD example (see [CTFL 4.0], Section 2.1.3, 2nd paragraph, 1st bullet point).
- c) FALSE – This is a correct approach for test-driven development, specifically the BDD example (see [CTFL 4.0], Section 2.1.3, 4th paragraph, 1st bullet point).
- d) CORRECT – This approach does not define test-driven development because in this statement, the test cases are designed and automated based on acceptance criteria, but not necessarily before development (see [CTFL 4.0], Section 2.1.3, 1st paragraph, 2nd sentence). The tests do not necessarily have an explicit influence on development, so it is not an effective approach.

Question 11	FL-2.1.5	K2	Score 1.0
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Which of the following statements BEST describes the Shift-Left approach in software development life cycle (SDLC) testing?

Select ONE option! (1 out of 4)

a)	Test activities start as early as possible in the SDLC and are conducted in parallel with development activities.	<input checked="" type="checkbox"/>
b)	Test activities start as late as possible in the SDLC and are conducted after the development activities.	<input type="checkbox"/>
c)	Test activities start in the middle of the SDLC and are conducted in parallel with development activities.	<input type="checkbox"/>
d)	Test activities are distributed across multiple phases of the SDLC and conducted in each phase according to the maturity level of the product.	<input type="checkbox"/>

FL-2.1.5 (K2) Explain the Shift-Left approach [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – The Shift-Left approach implements the principle of early testing, where test activities begin as early as possible in the software development life cycle and are conducted in parallel with development activities (see [CTFL 4.0], Section 2.1.5, 1st paragraph).
- b) FALSE – Since the Shift-Left approach implements the principle of early testing, this option describes the opposite of Shift-Left and is therefore not a correct statement (see [CTFL 4.0], Section 2.1.5).
- c) FALSE – The Shift-Left approach implements the principle of early testing, where test activities begin as early as possible in the software development life cycle. This does not specify a time frame, so the "middle of the software development life cycle" is not a correct statement for the Shift-Left approach (see [CTFL 4.0], Section 2.1.5).
- d) FALSE – Since the Shift-Left approach does not prescribe that test activities be divided into multiple phases of the software development life cycle and conducted in each phase according to the maturity level of the product, this statement is not correct in relation to the Shift-Left approach (see [CTFL 4.0], Section 2.1.5).

Question 12	FL-2.1.1	K2	Score 1.0
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As a tester in a project following the iterative-incremental development model, which of the following statements should you consider to optimally integrate the testing activities?

Select exactly ONE correct option! (1 out of 4)

a)	You plan testing as a one-time activity once all increments of the product have been implemented.	<input type="checkbox"/>
b)	Static tests should only take place at the component testing level to find as many code-related fault conditions early as possible.	<input type="checkbox"/>
c)	Since quick feedback on the quality of an increment is important, testers should ideally perform regression tests manually.	<input type="checkbox"/>
d)	Due to the delivery of new increments over various iterations, it is important to build comprehensive regression tests.	<input checked="" type="checkbox"/>

FL-2.1.1 (K2) Explain the effects of the chosen software development life cycle on testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, Section 2.1.1)

- a) FALSE – This approach describes an (also poor) interpretation of the waterfall model, not an iterative-incremental approach.
- b) FALSE – Static tests should generally be provided in every iteration at all testing levels, not just in component testing (see [CTFL 4.0], Section 2.1.1, 3rd paragraph: "*This implies that in each iteration, both static and dynamic tests can be performed at all test levels.*").
- c) FALSE – While it is correct that quick feedback is necessary for each increment, this suggests that regression tests should be automated rather than manually performed.
- d) CORRECT – In each iteration, a piece of new functionality is delivered, meaning that the amount of existing and already accepted functionality also grows from iteration to iteration. This necessitates comprehensive regression testing to mitigate regression risk (see [CTFL 4.0], Section 2.1.1, 3rd paragraph, last sentence: "*Frequent delivery of increments requires rapid feedback and extensive regression testing*").

Question 13	FL-2.2.1	K2	Score 1.0
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A test case has the following characteristics:

- **It is based on interface specifications.**
- **The focus is on finding failures in the interaction between components.**
- **Both functional and structure-based tests are applied.**

In which of the following test levels is this test case MOST LIKELY to be executed?

Select ONE option! (1 out of 4)

a)	Component Integration Test	<input checked="" type="checkbox"/>
b)	Acceptance Test	<input type="checkbox"/>
c)	System Test	<input type="checkbox"/>
d)	Component Test	<input type="checkbox"/>

FL-2.2.1 (K2) Distinguish between the various test levels [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – The Component Integration Test focuses on testing interfaces and interactions between components (see [CTFL 4.0], Section 2.2.1, 2nd bullet point). It is based on interface specifications, and both functional and structure-based tests (White-Box testing) are relevant.
- b) FALSE – The Acceptance Test focuses on validating the system and its suitability for use, thus emphasizing function and performance (see [CTFL 4.0], Section 2.2.1, 3rd bullet point). It is not based on interface specifications, and the test objectives are not aimed at internal communication.
- c) FALSE – The System Test focuses on overall behavior and performance through functional and non-functional tests (see [CTFL 4.0], Section 2.2.1, 5th bullet point). It is not based on interface specifications, and the test objectives are not aimed at internal communication.
- d) FALSE – The Component Test focuses on testing isolated components (see [CTFL 4.0], Section 2.2.1, 1st bullet point). While it may involve specification-oriented and structure-based testing, the test objectives are not specifically oriented towards communication via interfaces.

Question 14	FL-2.3.1	K2	Score 1.0
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Which of the following options is NOT a trigger for maintenance and maintenance testing?

Select ONE option! (1 out of 4)

a)	Decommissioning	<input type="checkbox"/>
b)	Corrective changes or hotfixes	<input type="checkbox"/>
c)	Upgrades or migrations of the operating environment	<input type="checkbox"/>
d)	Implementation of new features	<input checked="" type="checkbox"/>

FL-2.3.1 (K2) Summarize maintenance testing and its triggers [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE– Decommissioning is a trigger for maintenance and a maintenance test (see [CTFL 4.0], section 2.3.1, 3rd paragraph, 3rd bullet point).
- b) FALSE – Corrective changes or hotfixes are also triggers for maintenance and maintenance testing as they involve bug fixes or urgent changes to the system (see [CTFL 4.0], section 2.3.1, 3. Paragraph; 1st bullet point).
- c) FALSE – Upgrades or migrations of the operating environment can also trigger maintenance and maintenance testing as they may require testing of the new environment as well as the changed software (see [CTFL 4.0], section 2.3.1, 3. Paragraph; 2nd bullet point).
- d) CORRECT – The implementation of new features is not a trigger for maintenance and maintenance testing as it is typically carried out in development activities and not in maintenance activities (see [CTFL 4.0], Chap. 2.1).

Question 15	FL-3.1.2	K2	Score	1.0
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Which of the following statements is MOST true about static testing?

Select ONE option! (1 out of 4)

a)	Static testing is a cheap way to detect defects	<input checked="" type="checkbox"/>
b)	Static testing makes dynamic testing less challenging	<input type="checkbox"/>
c)	Static testing makes it possible to find run-time problems early in the lifecycle	<input type="checkbox"/>
d)	When testing safety-critical system, static testing has less value because dynamic testing finds the defects better	<input type="checkbox"/>

FL-3.1.2 (K2) Explain the value of static testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – Defects found early are often much cheaper to remove than defects detected later in the lifecycle (see [CTFL 4.0], Section 3.1.2).
- b) FALSE – Dynamic testing still has its challenging because they find other types of defects (see [CTFL 4.0], Section 3.1.2)
- c) FALSE – This is dynamic testing. (see Glossary)
- d) FALSE – Static testing is important for safety-critical computer systems. (see [CTFL 4.0], Section 3.1.2)

Question 16	FL-3.2.1	K1	Score 1.0
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Which of the following statements does NOT describe an advantage of early and frequent stakeholder feedback?

Select ONE option! (1 out of 4)

a)	Frequent stakeholder feedback helps to understand and implement changes to requirements earlier.	<input type="checkbox"/>
b)	Frequent stakeholder feedback helps the development team better understand what they are developing.	<input type="checkbox"/>
c)	Frequent stakeholder feedback helps the development team focus on the features that bring the most value.	<input type="checkbox"/>
d)	Frequent stakeholder feedback can lead to misunderstandings about requirements.	<input checked="" type="checkbox"/>

FL-3.2.1 (K1) Identify the benefits of early and frequent stakeholder feedback [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – This is an advantage of early and frequent stakeholder feedback (see [CTFL 4.0], Section 3.2.1, 2nd paragraph: "... changes to the requirements understood and implemented earlier.").
- b) FALSE – This is an advantage of early and frequent stakeholder feedback (see [CTFL 4.0], Section 3.2.1, 2nd paragraph: "This helps the development team better understand what it is developing.").
- c) FALSE – This is an advantage of early and frequent stakeholder feedback (see [CTFL 4.0], Section 3.2.1, 2nd paragraph: "It allows them to focus on the features that bring the most value to the stakeholders.").
- d) CORRECT – The statement is not an advantage according to the syllabus, as it negates the described benefit (see [CTFL 4.0], Section 3.2.1, 2nd paragraph: "Frequent stakeholder feedback during the SDLC can prevent misunderstandings about requirements and ensure that changes to the requirements are understood and implemented earlier.").

Question 17	FL-3.2.4	K2	Score 1.0
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Which of the review types listed below is BEST suited when the review is to be conducted in accordance with the full general review process and with the aim of finding as many anomalies as possible?

Select ONE option! (1 out of 4)

a)	Informal Review	<input type="checkbox"/>
b)	Technical Review	<input type="checkbox"/>
c)	Inspection	<input checked="" type="checkbox"/>
d)	Walkthrough	<input type="checkbox"/>

FL-3.2.4 (K2) Compare and contrast various types of reviews [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – An informal review does not use a defined process (see [CTFL 4.0], Section 3.2.4, 3rd paragraph, 1st bullet point).
- b) FALSE – The main goal of a technical review is consensus-building and decision-making regarding a technical issue. While a defined review process and anomaly detection are possible, they are not decisive factors for choosing this type of review (see [CTFL 4.0], Section 3.2.4, 3rd paragraph, 3rd bullet point).
- c) CORRECT – Inspection utilizes the full general review process with the aim of uncovering as many anomalies or deviations as possible, among other objectives (see [CTFL 4.0], Section 3.2.4, 3rd paragraph, 4th bullet point).
- d) FALSE – A walkthrough does not necessarily require a defined process, for example, individual review might be skipped. Additionally, a walkthrough pursues a variety of goals, including uncovering anomalies. However, maximizing the number of anomalies found is not its primary focus (see [CTFL 4.0], Section 3.2.4, 3rd paragraph, 2nd bullet point).

Question 18	FL-3.2.5	K1	Score 1.0
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During a phase of intense project overtime, an extensive system architecture specification is sent to various project participants, along with additional information and the announcement of a technical review in three days. The technical review was not originally scheduled. No further adjustments are made to the assigned tasks of the project participants who are to act as reviewers during the technical review.

Based on the information provided, which of the following success factors for reviews is missing, based solely on the information given?

Select ONE option! (1 out of 4)

a)	Appropriate type of review	<input type="checkbox"/>
b)	Sufficient time for preparation	<input checked="" type="checkbox"/>
c)	Setting clear goals and measurable end criteria	<input type="checkbox"/>
d)	Well-led review session	<input type="checkbox"/>

FL-3.2.5 (K1) Recall the factors contributing to a successful review [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Technical reviews are suitable for technical documents such as a system architecture, indicating an appropriate review type was chosen (see [CTFL 4.0], Section 3.2.5, 1st paragraph, 2nd bullet point).
- b) CORRECT – Sufficient preparation time is an important success factor for reviews, but the project participants are already working overtime and have no additional time for an "Individual Review" since their assigned tasks are not reduced. In short: Adequate preparation time is not scheduled (see [CTFL 4.0], Section 3.2.5, 1st paragraph, 5th bullet point). Sufficient preparation time is crucial to ensure that the reviewers can thoroughly examine the system architecture specification and provide high-quality feedback. Without sufficient preparation time, the effectiveness of the review may be compromised.
- c) FALSE – Setting clear goals and measurable end criteria is a valid success factor, but its absence cannot be inferred from the information provided in the stem. These could be provided in the "further information" (see [CTFL 4.0], Section 3.2.5, 1st paragraph, 1st bullet point).
- d) FALSE – A well-led review session can be a success factor, but there is no reason to assume that the review session will not be well-led based on the provided information (see [CTFL 4.0], Section 3.2.5, 1st paragraph, 9th bullet point).

Question 19	FL-4.1.1	K2	Score 1.0
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Before an iteration planning meeting, you analyze a User Story and its acceptance criteria. From this, you derive corresponding test cases to apply the principle of early testing.

Which test procedure or approach are you using?

Select ONE option! (1 out of 4)

a)	White-Box-Testing	<input type="checkbox"/>
b)	Black-Box-Testing	<input checked="" type="checkbox"/>
c)	Experience-Based Testing	<input type="checkbox"/>
d)	Error Guessing	<input type="checkbox"/>

FL-4.1.1 (K2) Distinguish between Black-Box Testing, White-Box Testing, and Experience-Based Testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – White-Box Testing (also known as structure-based testing) is based on an analysis of the internal structure and processing of the test object. Since the test cases depend on the design of the software, they can only be created after the design or implementation of the test object (see [CTFL 4.0], Section 4.1, 4th paragraph).
- b) CORRECT – Black-Box Testing (also known as specification-based testing) is based on an analysis of the specified behavior of the test object without knowledge of the internal structure. The specified behavior is defined in the User Story and acceptance criteria and can be analyzed accordingly (see [CTFL 4.0], Section 4.1, 3rd paragraph).
- c) FALSE – Experience-Based Testing uses the knowledge and experience of testers to design test cases (see [CTFL 4.0], Section 4.1, 5th paragraph). They use specifications only as a framework and not as a basis for test design (see [CTFL 4.0], Section 4.4).
- d) FALSE – Error Guessing (Intuitive Test Case Generation) is an experience-based testing method based on the knowledge of testers (see also explanation for Option c).

Question 20	FL-4.2.1	K3	Score	1.0
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A daily radiation recorder for plants produces a sunshine score based on a combination of the number of hours a plant is exposed to the sun (below 3 hours, 3 to 6 hours or above 6 hours) and the average intensity of the sunshine (very low, low, medium, high).

Given the following test cases:

	Hours	Intensity	Score
T1	1.5	very low	10
T2	7.0	medium	60
T3	0.5	very low	10

What is the minimum number of additional test cases that are needed to ensure full coverage of ALL VALID INPUT equivalence partitions?

Select ONE option! (1 out of 4)

a)	1	<input type="checkbox"/>
b)	2	<input checked="" type="checkbox"/>
c)	3	<input type="checkbox"/>
d)	4	<input type="checkbox"/>

FL-4.2.1 (K3) Apply equivalence partitioning to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

The following valid input equivalence partitions can be identified:

- Hours
 - 1. Below 3 hours
 - 2. 3 to 6 hours
 - 3. Above 6 hours
- Intensity
 - 4. Very low
 - 5. Low
 - 6. Medium
 - 7. High

The given test cases cover the following valid input equivalence partitions:

T1	1.5 (1)	Very low (4)
T2	7.0 (3)	Medium (6)
T3	0.5 (1)	Very low (4)

Thus, the missing valid input equivalence partitions are: (2), (5) and (7). These can be covered by two test cases, as (2) can be combined with either (5) or (7).

Thus:

- a) FALSE
- b) **CORRECT**
- c) FALSE
- d) FALSE

Question 21	FL-4.2.2	K3	Score	1.0
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A smart home app measures the average temperature in the house over the previous week and provides feedback to the occupants on their environmental friendliness based on this temperature.

The feedback for different average temperature ranges (to the nearest °C) should be:

- | | |
|--------------|-----------------|
| Up to 10°C | - Icy Cool! |
| 11°C to 15°C | - Chilled Out! |
| 16°C to 19°C | - Cool Man! |
| 20°C to 22°C | - Too Warm! |
| Above 22°C | - Hot & Sweaty! |

Using BVA (only Min- and Max values), which of the following sets of test inputs provides the highest level of boundary coverage?

Select exactly ONE correct option! (1 out of 4)

a)	0°C, 11°C, 20°C, 22°C, 23°C	<input type="checkbox"/>
b)	9°C, 15°C, 19°C, 23°C, 100°C	<input type="checkbox"/>
c)	10°C, 16°C, 19°C, 22°C, 23°C	<input checked="" type="checkbox"/>
d)	14°C, 15°C, 18°C, 19°C, 21°C, 22°C	<input type="checkbox"/>

FL-4.2.2 (K3) Apply boundary value analysis to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, Section 4.2.2)

For the input equivalence partitions given, the above used boundary value technique yields the following 8 coverage items:

10°C, 11°C, 15°C, 16°C, 19°C, 20°C, 22°C, 23°C.

Hence, the options have the following boundary value coverage:

- a) FALSE – 4 out of 8 (11, 20 ,22 and 23)
- b) FALSE – 3 out of 8 (15, 19 and 23)
- c) CORRECT – 5 out of 8 (10, 16, 19, 22 and 23)
- d) FALSE – 3 out of 8 (15, 19 and 22)

Question 22	FL-4.2.3	K3	Score 1.0
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A system for calculating penalties for speeding violations in traffic is specified with the following decision table:

Rules		R1	R2	R3	R4
Conditions	Speed > 50	Y	Y	N	N
	School Zone	Y	N	Y	N
Actions	250 € fine	-	X	-	-
	License suspension	X	-	-	-

Based on the provided decision table and existing test cases:

TC1: Speed = 65, School Zone = Yes

TC2: Speed = 45, School Zone = Yes

TC3: Speed = 50, School Zone = No

TC4: Speed = 49, School Zone = No

Which of the rules in the decision table is not yet covered by a test case?

Select ONE option! (1 out of 4)

a)	Rule 4	<input type="checkbox"/>
b)	Rule 1	<input type="checkbox"/>
c)	Rule 2	<input checked="" type="checkbox"/>
d)	Rule 3	<input type="checkbox"/>

FL-4.2.3 (K3) Apply decision table testing to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

Rule 2 is not covered because there is no test case for the inputs Speed > 50 = Yes and School Zone = No. A possible test case would be:

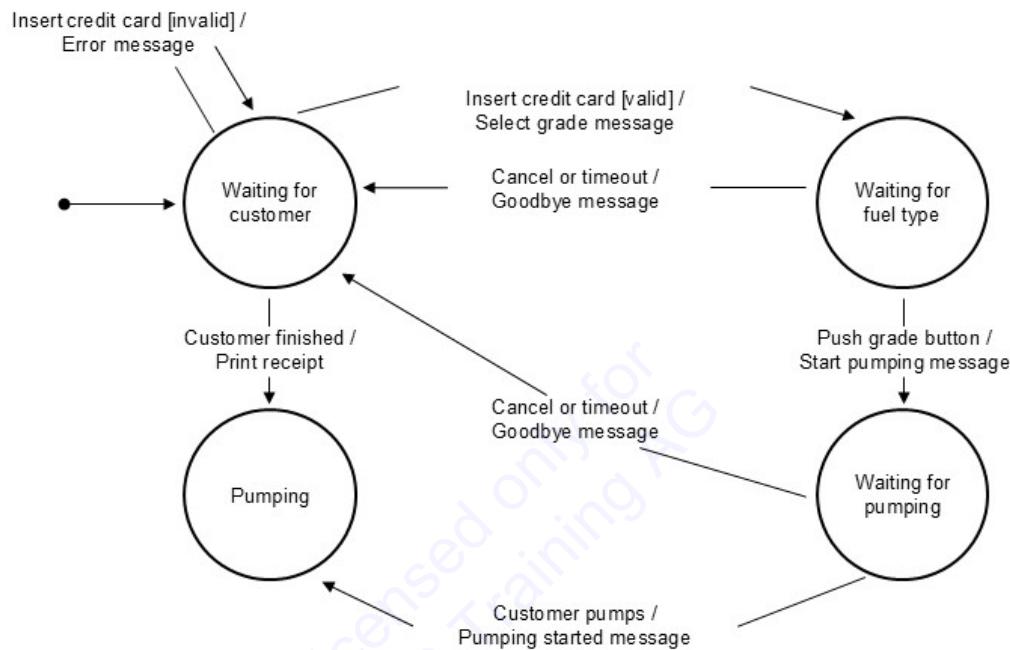
TF5: Speed = 51, School Zone = No

- a) FALSE – Rule 4 is covered by test cases 3 and 4.
- b) FALSE – Rule 1 is covered by test case 1.
- c) CORRECT – Rule 2 is not covered.
- d) FALSE – Rule 3 is covered by test case 2.

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Question 23	FL-4.2.4	K3	Score 1.0
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Consider the following state transition diagram for a credit-card only, unattended gasoline pump:



Assume that you want to develop the minimum number of tests to cover each transition in the state transition diagram. Assume further that each test must start at the beginning state, waiting for customer, and each test ends when a transition arrives at the beginning state.

How many tests do you need?

Select ONE option! (1 out of 4)

a)	4	<input checked="" type="checkbox"/>
b)	7	<input type="checkbox"/>
c)	1	<input type="checkbox"/>
d)	Infinite	<input type="checkbox"/>

FL-4.2.4 (K3) Apply state transition testing to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

Each transition must be traversed at least once. To do so, the first test can cover the happy path, a successful purchase, the next test cancels, or timeout from waiting for pumping, the next test cancels, or timeout from waiting for fuel type, and the last test the insertion of an invalid credit card. While the order is immaterial, fewer than four tests fail to cover one of the transitions inbound to waiting for customer or violates the rules about where a test starts or ends. More than four tests include tests that re-traverse already-covered transitions.

Thus:

- a) CORRECT
- b) FALSE
- c) FALSE
- d) FALSE

Question 24	FL-4.3.1	K2	Score	1.0
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Which of the following descriptions of statement coverage applies?

Select ONE option! (1 out of 4)

a)	Statement coverage is a measure of the number of source code lines (excluding comments) that were executed during the test.	<input type="checkbox"/>
b)	Statement coverage is a measure of the percentage of instructions in the source code that were executed during the test.	<input checked="" type="checkbox"/>
c)	Statement coverage is a measure of the percentage of source code lines (excluding comments) that were executed during the test.	<input type="checkbox"/>
d)	Statement coverage is a measure of the number of instructions in the source code that were executed during the test.	<input type="checkbox"/>

FL-4.3.1 (K2) Explain statement testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

Glossary "Statement Coverage": Coverage of executable statements. (As of September 2023)

See [CTFL 4.0], Section 4.3.1, paragraph 1: Coverage is measured as the number of statements executed by the test cases divided by the total number of statements in the code and expressed as a percentage.

- a) FALSE – Statement coverage refers to the statements covered by tests. Since multiple statements can be in a single line of source code or a statement can span multiple lines, the number of source code lines is not a measure of statement coverage (see above).
- b) CORRECT – The percentage of statements is the proportion of executed statements in the test to all statements, that is, the number of statements executed by the test divided by the total number of statements, expressed as a percentage (see above).
- c) FALSE – Statement coverage does not refer to source code lines but to statements executed by tests, see also justification for a).
- d) FALSE – Statement coverage does not refer to the absolute number of statements executed by the test suite, but to their proportion to all statements (see above).

Question 25	FL-4.3.3	K2	Score 1.0
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Which of the following statements represents an added value of white-box testing?

Select ONE option! (1 out of 4)

a)	White-box tests can provide metrics for coverage, such as statement coverage.	<input checked="" type="checkbox"/>
b)	White-box tests can verify if the code meets the acceptance criteria.	<input type="checkbox"/>
c)	White-box tests can test compatibility with other systems.	<input type="checkbox"/>
d)	White-box tests can uncover all defects in the code.	<input type="checkbox"/>

FL-4.3.3 (K2) Explain the value of white-box testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – White-box tests belong to the category of structure- and code-based testing methods and can therefore provide metrics for code-based metrics, such as statement coverage (see [CTFL 4.0], Section 4.3.3, 3rd paragraph and section 4.3.1).
- b) FALSE – White-box tests belong to the category of structure-based testing methods and have the weakness that they cannot recognize the fulfillment of requirements (see [CTFL 4.0], Section 4.3.3., 1st paragraph). Acceptance criteria are a type of requirement. This is the strength of black-box tests, which belong to the specification-based testing methods.
- c) FALSE – White-box tests belong to the category of structure-based testing methods and focus on the internal structure of the test object (see [CTFL 4.0], Section 4.1, 4th paragraph). Compatibility, especially interoperability with other components or systems, is usually tested as part of an integration test.
- d) FALSE – White-box tests cannot uncover all defects in the code. For example, data-dependent defects are sometimes not detected (see [CTFL 4.0], Section 4.3.1, last paragraph: "*For example, defects that are data-dependent are not detected (e.g., division by zero, which only fails when the denominator is set to zero.)*") as well as defects that lie on a specific, potentially unexecuted execution path (see [CTFL 4.0], Section 4.3.2, 3rd paragraph: "*However, executing a branch with a test case will not uncover defects in all cases. For example, defects that require the execution of a specific path in a code are not detected.*").

Question 26	FL-4.4.3	K2	Score 1.0
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You are testing a mobile app that allows customers to access and manage their bank accounts. You are running a test suite that includes evaluating each screen and each field on every screen based on a collection of user interface heuristics. It was derived from a popular book on this topic and is intended to maximize the attractiveness, usability, and accessibility of such apps.

Which of the following test techniques BEST categorizes the test techniques you are using?

Select ONE option! (1 out of 4)

a)	Decision Table Testing	<input type="checkbox"/>
b)	Exploratory Testing	<input type="checkbox"/>
c)	Checklist-based Testing	<input checked="" type="checkbox"/>
d)	Error Guessing	<input type="checkbox"/>

FL-4.4.3 (K2) Explain checklist-based testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – The book provides a general guide and is not a formal requirements document, specification, or a collection of use cases, user stories, or business processes.
- b) FALSE – While you could consider the collection as a series of test charters, it more closely resembles a series of test conditions.
- c) CORRECT – The collection of best practices for user interfaces is the list of test conditions. Checklist-based testing uses predefined lists and criteria to verify the quality and compliance of an application. In the above case, a collection of heuristics is used to evaluate the attractiveness, usability, and accessibility of the mobile app.
- d) FALSE – The tests do not focus on errors that could occur, but rather on understanding what is important to the user in terms of ease of use (usability).

Question 27	FL-4.4.2	K2	Score 1.0
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For which of the following situations is the use of exploratory testing BEST suited?

Select ONE option! (1 out of 4)

a)	When time pressure requires the acceleration of already specified tests.	<input type="checkbox"/>
b)	When the system is being developed incrementally and no test charter is available.	<input type="checkbox"/>
c)	When testers with sufficient knowledge of similar applications and technologies are available.	<input checked="" type="checkbox"/>
d)	When an extensive specification of the system is available for test analysis and design.	<input type="checkbox"/>

FL-4.4.2 (K2) Explain exploratory testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Exploratory testing can be useful when under time pressure, but it is not suitable for accelerating the execution of already specified tests. In exploratory testing, tests are designed, executed, and evaluated simultaneously, but no previously specified tests are conducted (see [CTFL 4.0], Section 4.4.2, paragraph 1).
- b) FALSE – Exploratory testing is independent of the SDLC, regardless of whether it is developed incrementally or sequentially. Exploratory testing should use a test charter (see [CTFL 4.0], Section 4.4.2).
- c) CORRECT – Exploratory testing is useful when time pressure exists and/or specifications are inadequate. It is particularly effective when testers are experienced and have domain knowledge, and it can complement other testing approaches (see [CTFL 4.0], Section 4.4.2, paragraph 3).
- d) FALSE – In this situation, specification-based testing methods would probably be more suitable for deriving test cases from the extensive specification. Exploratory testing is particularly suitable when there is no adequate specification available (see [CTFL 4.0], Section 4.4.2, paragraph 3, first sentence: *"Exploratory testing makes sense when there are few or inadequate specifications..."*).

Question 28	FL-4.5.2	K2	Score	1.0
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An agile development team has formulated the following user story: "As a user, I want the volume of the electronic egg timer's alarm to be adjustable so that I can always hear it."

Which of the following acceptance criteria is BEST suited from a testing perspective for designing clear acceptance tests?

Select ONE option! (1 out of 4)

- | | | |
|----|--|-------------------------------------|
| a) | The volume is easy to adjust for every person, i.e., the adjustment buttons must have a usable size. | <input type="checkbox"/> |
| b) | The tester can hear the alarm tone well even at the lowest level. | <input type="checkbox"/> |
| c) | The volume can be adjusted within a range of 40 to 80 decibels. | <input checked="" type="checkbox"/> |
| d) | The volume adjustment works correctly in the best-selling models of this egg timer. | <input type="checkbox"/> |

FL-4.5.2 (K2) Classify the different options of writing acceptance criteria [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Acceptance criteria are considered as test conditions and should therefore support a check for correctness or adequacy without making implementation specifications (see [CTFL 4.0], Sections 4.5.2 and 2.2.2). This is not the case here, as firstly it is not specified how the volume control is to be operated, e.g., as a rotary knob or via buttons, and secondly, a "usable size" does not provide measurable values, e.g., as a reference to a standard.
- b) FALSE – Acceptance criteria are considered as test conditions and should therefore support a check for correctness or adequacy (see [CTFL 4.0], Sections 4.5.2 and 2.2.2). This is not the case here, as firstly the tester's hearing is individual and thus not reliably applicable as a criterion of correctness, and secondly, a size of "well audible" does not provide a measurable value.
- c) CORRECT – Acceptance criteria are considered as test conditions and should therefore support a check for correctness or adequacy (see [CTFL 4.0], Sections 4.5.2 and 2.2.2). This is the case here, as the adjustment range is clearly defined, and the assigned volume is measurable (and corresponds to the general limits of "quiet" to "loud").
- d) FALSE – Acceptance criteria are considered as test conditions and should therefore support a check for correctness or adequacy (see [CTFL 4.0], Sections 4.5.2 and 2.2.2). This is not the case here, as firstly, in a new development, it is not clear which egg timers will be the best-selling ones, and secondly, the requirement "correctly" is not specified, what is meant by that (not testable, not measurable).

Question 29	FL-4.5.3	K3	Score 1.0
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Please consider the following user story:

"As a system administrator, I want to be able to monitor the server's performance to ensure that the system is running efficiently."

Which test case is BEST suited for an acceptance test-driven development of the user story?

Select ONE option! (1 out of 4)

a)	1. Login as system administrator; select the server; check the server performance. GIVEN: I am logged in as a system administrator AND GIVEN: I have selected the server, WHEN I select "Check server performance", THEN I am shown an overview of the server's performance.	<input type="checkbox"/>
b)	2. Login as user; perform a task; check the server performance. GIVEN: I am logged in as a user AND GIVEN: I have performed a task, WHEN I select "Check server performance", THEN I am shown an overview of the server's performance.	<input type="checkbox"/>
c)	3. Login as system administrator; select the server; perform a performance test. GIVEN: I am logged in as a system administrator AND GIVEN: I have selected the server, WHEN I select "Perform performance test", THEN a performance test is performed and I receive an overview of the results.	<input checked="" type="checkbox"/>
d)	4. Login as system administrator; perform a performance test; check the server performance. GIVEN: I am logged in as a system administrator AND GIVEN: I have performed a performance test, WHEN I select "Check server performance", THEN I am shown an overview of the server's performance.	<input type="checkbox"/>

FL-4.5.3 (K3) Apply acceptance test-driven development (ATDD) to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

Justification for the test cases

- a) FALSE – NOT SUITABLE - Although this option includes the role of the system administrator and the action of checking the server performance, it lacks the specific action of performing a performance test.
- b) FALSE – NOT SUITABLE - This option does not include the role of the system administrator, which is a key aspect of the user story.
- c) CORRECT – SUITABLE - This option includes both the role of the system administrator and the specific actions of selecting the server and performing a performance test, which corresponds to the user story.
- d) FALSE – NOT SUITABLE - Although this option includes the role of the system administrator and the action of checking the server performance, it lacks the specific action of selecting the server.

Question 30	FL-5.1.2	K1	Score	1.0
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Which of the following activities do testers perform during release planning in an agile project?

Select ONE option! (1 out of 4)

a)	Testers identify and refine functional and non-functional aspects of the test object.	<input type="checkbox"/>
b)	Testers support the derivation of tasks from user stories.	<input type="checkbox"/>
c)	Testers participate in the detailed risk analysis of the user stories.	<input type="checkbox"/>
d)	Testers assist in creating user stories, their testability, and acceptance criteria.	<input checked="" type="checkbox"/>

FL-5.1.2 (K1) Recognize the potential added value that a tester creates for iteration and release planning [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – This is a task in iteration planning: "... and identify and refine the functional and non-functional aspects of the test object." (see [CTFL 4.0], Section 5.1.2)
- b) FALSE – Release planning does not include task planning (yet), this is part of iteration planning: "... break down the user stories into tasks (especially testing tasks), estimate the testing effort for all testing tasks ..." (see [CTFL 4.0], Section 5.1.2).
- c) FALSE – Release planning does not involve participating in the detailed risk analysis of the user stories, this is part of iteration planning: "(see [CTFL 4.0], Section 5.1.2, last paragraph).
- d) CORRECT – This is a task of testers in release planning: "... participate in the creation of testable user stories and acceptance criteria, ..." (see [CTFL 4.0], Section 5.1.2, 2nd paragraph). Testers work closely with the product team to ensure that the user stories are clearly defined, have testable acceptance criteria, and meet customer requirements.

Question 31	FL-5.1.3	K2	Score 1.0
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Given are the following examples of entry and exit criteria for a system test:

1. The planned test budget of 400 effort hours for the system test is exhausted.
2. More than 95% of the planned test cases have been executed.
3. The test environment for the performance test is designed, set up, and verified.
4. There are no Priority 1 defects and a maximum of 4 Priority 2 defects open.
5. The design specification has been reviewed and approved through a technical review.
6. The unit test for the 'tax rate' and 'total price' components is completed and approved.

Which of the following combinations best categorizes the examples as entry and exit criteria?

Select ONE option! (1 out of 4)

a)	Entry criteria: 5, 6; Exit criteria: 1, 2, 3, 4	<input type="checkbox"/>
b)	Entry criteria: 2, 3, 4; Exit criteria: 1, 5, 6	<input type="checkbox"/>
c)	Entry criteria: 1, 3; Exit criteria: 2, 4, 5, 6	<input type="checkbox"/>
d)	Entry criteria: 3, 5, 6; Exit criteria: 1, 2, 4	<input checked="" type="checkbox"/>

FL-5.1.3 (K2) Compare and contrast entry and exit criteria [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

The correct assignment of the examples to entry and exit criteria is as follows:

- Entry criteria:
 - (3) The test environment for the performance test is designed, set up, and verified - an example indicating that a test environment must be ready before testing can commence (availability of resources, see [CTFL 4.0], Section 5.1.3, 2nd paragraph).
 - (5) The design specifications for the system have undergone a review, possibly been revised, and approved - an example showing that test assets must be available before testing can begin (availability of test basis/testable requirements, see [CTFL 4.0], Section 5.1.3, 2nd paragraph).
 - (6) The components for calculating the tax rate and total price have passed unit tests and are approved, an example demonstrating the necessity for a test object to meet an initial quality before testing can commence (quality of the test object, e.g., release from a previous test level, see [CTFL 4.0], Section 5.1.3, 2nd paragraph).
- Exit criteria:
 - (1) Exhaustion of a planned test budget can be an example of an exit criterion if stakeholders desire this and accept the risk (see [CTFL 4.0], Section 5.1.3, 4th paragraph).
 - (2) Reaching a limit on executed test cases within the planned tests can be a test completion criterion and thus an exit criterion for a test level (see [CTFL 4.0], Section 5.1.3, 3rd paragraph).
 - (4) Compliance with a certain number of known, prioritized, and unresolved defects (open defects) can serve as a measure of completeness and thus an exit criterion (see [CTFL 4.0], Section 5.1.3, 3rd paragraph). However, this should never be the sole exit criterion but should be related to test case coverage (see example of executed test cases).

Thus, option d) is CORRECT.

Question 32	FL-5.1.4	K3	Score 1.0
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You want to estimate the test effort for a new project using a three-point estimate. You have received the following estimates from the experts: the most optimistic estimate (a) is 300 person-days, the most likely estimate (m) is 400 person-days, and the most pessimistic estimate (b) is 500 person-days.

How do you estimate the test effort based on the three-point estimate for this project?

Select ONE option! (1 out of 4)

a)	350 person-days	<input type="checkbox"/>
b)	420 person-days	<input type="checkbox"/>
c)	400±33 person-days	<input checked="" type="checkbox"/>
d)	450 person-days	<input type="checkbox"/>

FL-5.1.4 (K3) Apply estimation techniques to calculate the required test effort [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – This would be the simple average estimate, but the three-point estimate uses a weighted arithmetic mean, not the simple average.
- b) FALSE – This estimate does not take into account the most optimistic and most pessimistic estimates correctly.
- c) CORRECT – The three-point estimate calculates the weighted arithmetic mean and the estimation error (standard deviation). The final estimate (E) is calculated as $E = (a + 4*m + b) / 6 = (300 + 4*400 + 500) / 6 = 400$ and $SD = (b - a) / 6 = (500 - 300) / 6 = 33$.
- d) FALSE – This would be the average estimate if the most optimistic and pessimistic estimate were weighted equally, but the three-point estimate uses a weighted arithmetic mean that weights the most likely estimate more heavily.

Question 33	FL-5.1.5	K3	Score 1.0
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You have been asked to establish an optimal, risk-based execution sequence for the following test cases, which have already been prioritized and examined for any dependencies:

Test case-ID	Priority	Depending on
T7	2	-
T8	1	T7
T9	3	T8
T10	3	T8
T11	1	T9
T12	2	T10

Priority 1 is more urgent than Priority 2, and so forth.

Which of the following test sequences takes into account the dependencies and priorities mentioned above?

Select ONE option! (1 out of 4)

a)	T7 -> T8 -> T10 -> T11 -> T9 -> T12	<input type="checkbox"/>
b)	T7 -> T8 -> T9 -> T10 -> T11 -> T12	<input type="checkbox"/>
c)	T7 -> T8 -> T10 -> T9 -> T11 -> T12	<input type="checkbox"/>
d)	T7 -> T8 -> T9 -> T11 -> T10 -> T12	<input checked="" type="checkbox"/>

FL-5.1.5 (K3) Apply prioritization of test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – This sequence does not take into account the dependence of T11, which depends on T9, and should therefore be executed after T9.
- b) FALSE – This sequence correctly takes into account the priority of T11, which should be executed before T10 (see also the justification for option d.).
- c) FALSE – This sequence does not take into account the dependency and priority of T9 and T10, which depends on T8. T8 activates T9 and T10. Here, prioritization is required for the first time: T9 and T10 both have priority 3, but T9 activates a priority 1 TF with T11, while T10 only releases a priority 2 TF with T12. Thus, T9 would clearly be better for the optimal sequence, but here T10 is listed before T9, which is not the optimal sequence. (see also the justification for option d.).
- d) CORRECT – This sequence takes into account both the priorities and the dependencies.

In detail:

- At the beginning of the test execution, T7 has no alternative, since all the other TFs initially have unfulfilled dependencies.
- T7 only activates T8, which therefore has to follow as the second.
- T8 activates T9 and T10. This is the first instance where prioritization is required: T9 and T10 both have priority 3, but T9 enables a priority 1 TF with T11, while T10 only enables a priority 2 TF with T12. This makes T9 clearly better.
- T10 and T11 are now free. T11 is clearly the better choice based on priority.
- After that, T10 is the only option.
- T12 is the laggard.

Question 34	FL-5.1.7	K2	Score 1.0
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Which of the following statements illustrates the benefit of the testing quadrants?

Select ONE option! (1 out of 4)

- | | | |
|----|---|-------------------------------------|
| a) | The tester can refer to the respective quadrants when selecting test types, so that all involved stakeholders better understand the purpose of the tests. | <input checked="" type="checkbox"/> |
| b) | The tester can use the test types described by test quadrants as a coverage metric; the more tests are performed from each quadrant, the higher the coverage. | <input type="checkbox"/> |
| c) | The team should plan approximately the same number of test cases for each quadrant to ensure that all test levels and types are equally considered. | <input type="checkbox"/> |
| d) | The tester can use the test quadrants for risk analysis; with lower levels of the quadrants representing lower risk for the customer. | <input type="checkbox"/> |

FL-5.1.7 (K2) Summarize the test quadrants and their relationships to test levels and test types [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – The test quadrants provide a way to differentiate test types and describe them to all stakeholders, including developers, testers, and business representatives, increasing understanding (see [CTFL 4.0], Section 5.1.7, 1st paragraph).
- b) FALSE – The test quadrants model supports test management in visualizing test levels and test types to ensure that all appropriate test types and test levels are included in the SDLC, and to understand that some test types are more relevant for certain test levels than others (see [CTFL 4.0], Section 5.1.7, 1st paragraph). The model does not provide any kind of metric.
- c) FALSE – The test quadrants model supports test management in visualizing test levels and test types to ensure that all appropriate test types and test levels are included in the SDLC, and to understand that some test types are more relevant for certain test levels than others (see [CTFL 4.0], Section 5.1.7, 1st paragraph). What test levels are relevant for the test object and what test types, and thus what number of test cases derive from it, is not determined by the model. Especially, the number of test cases for each quadrant will vary depending on the system; for example, quadrant Q1 with component and component integration tests will typically include significantly more test cases than quadrant Q3 with acceptance tests and usability tests.
- d) FALSE – Test quadrants are not related to risk levels because the test quadrants model only supports test management in visualizing test levels and test types to ensure that all appropriate test types and test levels are included in the SDLC, and to understand that some test types are more relevant for certain test levels than others (see [CTFL 4.0], Section 5.1.7).

Question 35	FL-5.2.4	K2	Score 1.0
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Which of the following statements about product risk control in the context of risk mitigation does NOT apply?

Select ONE option! (1 out of 4)

a)	The complexity of the database module was rated high, therefore additional test cases were created for the module.	<input type="checkbox"/>
b)	The requirements for the user interface are unclear, therefore a user experience expert is included in the project.	<input type="checkbox"/>
c)	The performance of the system is critical to the success of the project, therefore code reviews are skipped to save time.	<input checked="" type="checkbox"/>
d)	The system must have high availability, therefore additional load tests are performed.	<input type="checkbox"/>

FL-5.2.4 (K2) Explain possible measures that can be taken in response to analyzed product risks [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – This is an appropriate risk mitigation measure as additional test cases can help ensure the quality of the module and detect potential errors early.
- b) FALSE – This is an appropriate risk mitigation measure as a user experience expert can help clarify the requirements and ensure a user-friendly design of the interface.
- c) CORRECT – This does not apply as code reviews are an important risk mitigation measure. They help detect potential errors and problems in the code base early and fix them, which can ultimately contribute to improving system performance.
- d) FALSE – This is an appropriate risk mitigation measure as load tests can help check and ensure the performance and availability of the system under high load.

The correct answer is option c), as code reviews are an important risk mitigation measure and should not be skipped to save time. They contribute to improving code quality and ultimately system performance.

Question 36	FL-5.3.3	K2	Score 1.0
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In a regulatory project that is already behind schedule, the relevant stakeholders have requested to be informed daily about the test status.

What is the MOST EFFECTIVE way to communicate the test status when stakeholders cannot coordinate directly due to spatial and temporal constraints?

Select ONE option! (1 out of 4)

a)	Formal means of communication (e.g. formal reports, emails) should be used to ensure that important information reaches the recipients.	<input checked="" type="checkbox"/>
b)	Communication should take place via a chat group to ensure that all team members are informed about the test status as promptly as possible.	<input type="checkbox"/>
c)	The relevant stakeholders should be verbally informed about the test status to convey the most important information directly.	<input type="checkbox"/>
d)	The test status should be communicated in daily coordination meetings via video conference, with stakeholders from all involved time zones participating.	<input type="checkbox"/>

FL-5.3.3 (K2) Exemplify how to communicate the status of testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) **CORRECT** – For temporally and spatially distributed teams, a more **formal** type of **communication** is preferable (see [CTFL 4.0], Section 5.3.3, 2nd paragraph, 2nd sentence: "A more formal communication may be suitable for distributed teams where direct face-to-face communication is not always possible due to geographical distances or time differences"). In summary, more formal communication in this context means that information is structured, documented and communicated in a comprehensible way, which is particularly important in distributed teams.
- b) **FALSE** – **Chat groups** are a very good way for quick exchanges, but not necessarily for temporally distributed groups, as it can be difficult to find relevant information in the chat history. Additionally, the argument is incorrect. In temporally distributed teams, it is not relevant that information be transmitted promptly to the recipient group.
- c) **FALSE** – This is not always possible for temporally distributed teams and therefore not the most efficient form of communication. The question clearly states that team members cannot coordinate directly due to temporal distribution. ("**Verbal communication**")
- d) **FALSE** – Since stakeholders already want to be informed daily about the test status, it is not an option to support them through an unsuitable tool such as a video conference. ("**Daily coordination meetings**")

Question 37	FL-5.4.1	K2	Score 1.0
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Which of the following statements describes how configuration management can support testing activities?

Select ONE option! (1 out of 4)

a)	A tester records the progress made during testing on the current day in a test management tool.	<input type="checkbox"/>
b)	A tester stores test data for data-driven test execution in a database and ensures that the data can be read from the database at the time of test execution.	<input type="checkbox"/>
c)	A tester uses a spreadsheet program to formalize the business rules of a system to be tested in the form of decision tables.	<input type="checkbox"/>
d)	A tester automatically restores the relevant test assets for an older version of a product in order to perform maintenance testing for that older version.	<input checked="" type="checkbox"/>

FL-5.4.1 (K2) Summarize possible support for testing through configuration management [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – The use of test management tools as repositories for information and progress tracking is part of the test monitoring and control activity and not part of configuration management. ("Test progress in the test management tool")
- b) FALSE – These activities are primarily unrelated to configuration management but are part of test implementation.
- c) FALSE – The formalization of logical business rules in the form of decision tables is part of test analysis, where test conditions are formally documented, and primarily not related to configuration management of test assets.
- d) CORRECT – A significant part of configuration management involves reverting to an earlier baseline of a configuration item when needed (see [CTFL 4.0], Section 5.4, 3rd paragraph). This exactly corresponds to the situation described in option d).

Question 38	FL-5.5.1	K3	Score 1.0
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You are testing a new version of the software for a coffee machine. With this software, the machine can prepare various types of coffee, which are categorized into four categories: coffee quantity, sugar, milk, and syrup.

The categories are as follows:

- Coffee quantity (small, medium, large),
- Sugar (none, 1 unit, 2 units, 3 units, 4 units),
- Milk (yes or no),
- Coffee flavor (no syrup, caramel, hazelnut, vanilla).

You are writing a defect report with the following information:

Title: Low coffee temperature.

Brief summary: When selecting coffee with milk, the temperature of the drink is too low (below 40 °C).

Expected result: The temperature of the coffee should meet the standard (approximately 75 °C).

Impact severity: Moderate

Priority: Normal

What relevant information have you forgotten in the defect report above?

Select ONE option! (1 out of 4)

a)	Actual test result	<input type="checkbox"/>
b)	Identification of the tested software version	<input checked="" type="checkbox"/>
c)	Ideas for improving the test case	<input type="checkbox"/>
d)	Quality of the work result that was tested	<input type="checkbox"/>

FL-5.5.1 (K3) Prepare a defect report [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – The expected result and the actual result are usually valuable information in a defect report (see [CTFL 4.0], Section 5.5, 3rd paragraph and 7th bullet point). The expected test result is specified (approximately 75 °C), and the actual result is also provided ("temperature of the drink too low (less than 40 °C)").
- b) CORRECT – The identification of the test object and the test environment are typically valuable information in a defect report (see [CTFL 4.0], Section 5.5, 3rd paragraph and 4th bullet point); therefore, specifying the deployed software version is an important and valuable part of the defect report.
- c) FALSE – This information may be useful for the tester but is typically not part of a defect report (see [CTFL 4.0], Section 5.5, 3rd paragraph).
- d) FALSE – The quality of the tested work result is important information for the project but not for a defect report. Rather, the estimated quality of the work result is derived, among other things, from the number of defect reports created for the work result.

Question 39	FL-6.1.1	K2	Score	1.0
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Given the following test activities

- 1. Performance measurement and IT security checks**
- 2. Test automation**
- 3. Test activity management**
- 4. Test design and test implementation**

and test tools:

- A. Tools for test execution.**
- B. Test tools for non-functional tests.**
- C. Tools for preparing test cases and test data.**
- D. Defect management tools.**

Which assignment of tools to activities is the BEST?

Select ONE option! (1 out of 4)

a)	1 – D, 2 – C, 3 – B, 4 – A	<input type="checkbox"/>
b)	1 – B, 2 – A, 3 – C, 4 – D	<input type="checkbox"/>
c)	1 – B, 2 – A, 3 – D, 4 – C	<input checked="" type="checkbox"/>
d)	1 – A, 2 – B, 3 – D, 4 – C	<input type="checkbox"/>

FL-6.1.1 (K2) Explain possible support for testing by different types of test tools [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

The correct assignment of test activities to types of test tools is as follows (see [CTFL 4.0], Section 6.1):

- 1. Performance measurement and IT security checks are non-functional tests, therefore (B) non-functional test tools support them (see [CTFL 4.0], Section 6.1, 5th bullet point).
- 2. Test automation belongs to automated test execution, therefore (A) tools for test execution support it (see [CTFL 4.0], Section 6.1, 4th bullet point).
- 3. Test management involves managing defect states, therefore (D) a defect management tool supports it (see [CTFL 4.0], Section 6.1, 1st bullet point).
- 4. Test design and implementation involve preparing test data, therefore (C) tools for preparing test data support them (see [CTFL 4.0], Section 6.1, 3rd bullet point).

Thus, option c) [1 - B, 2 - A, 3 - D, 4 - C] is CORRECT.

Question 40	FL-6.2.1	K1	Score	1.0
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Which of the following statements best describes the potential benefit of using tools for automated test execution?

Select ONE option! (1 out of 4)

a)	Implementing regression tests is easier since they can be implemented directly with a test script.	<input type="checkbox"/>
b)	There is a more efficient assessment of the test object by the automation tool.	<input type="checkbox"/>
c)	Using a test tool when manual testing is more appropriate.	<input type="checkbox"/>
d)	Regression tests can be conducted more quickly, thus providing faster feedback to the team.	<input checked="" type="checkbox"/>

FL-6.2.1 (K1) Describe the benefits and risks of test automation [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Test execution tools that support test automation do not facilitate the creation and implementation of regression tests, but rather their execution (see [CTFL 4.0], Section 6.2, 1st bullet point).
- b) FALSE – Automated test execution enables an objective assessment of the test object. However, objectivity is not the same as a more efficient assessment (see [CTFL 4.0], Section 6.2, 2nd paragraph, 3rd bullet point).
- c) FALSE – This does not describe a benefit of test automation but rather a risk (see [CTFL 4.0], Section 6.2, 3rd paragraph, 3rd bullet point).
- d) CORRECT – Potential benefits of test automation and the use of test execution tools include time savings through the reduction of repetitive manual tasks (e.g., execution of regression tests, ...) (see [CTFL 4.0], Section 6.2, 2nd paragraph, 1st and 5th bullet points).

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Foundation Level Sample Exam

SET F (v1.1) – GTB edition –

CTFL Syllabus Version v4.0

ISTQB® Certified Tester Foundation Level

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Revision History

Version	Date	Remarks
		Note: The present sample exam was mainly derived from sample exam questions on the ISTQB® CTFL syllabus 2018 (v3.1), from questions on the appendix of the CTFL v4.0, SET A sample exam and other newly developed questions and further developed to close the gaps to a complete sample exam paper.
0.1	24.11.2023	Internal BETA 01 DRAFT version (for work review)
0.2	28.12.2023	Internal BETA 02 DRAFT version
0.3	27.03.2024	Internal BETA 03 DRAFT version for trial use
0.4	27.06.2024	Internal BETA 03 DRAFT version for trial use
1.0	29.06.2024	Final GTB edition
1.1	20.11.2024	Q6 corrected, Q26 (Justification reworked), Q28 (corrected question and justification reworked), Q29 (substituted), Q30 (Question improved),

Introduction

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- 4) Exactly one correct solution is expected for almost every question. The exceptions explicitly mention the possibility of multiple answers.

Exam notes

Number of questions: 40

Duration of the exam: 60 minutes

Total score: 40 (one point per question)

Score to pass the exam: 26 (or more)

Percentage of passing the exam: 65% (or more)

Feedback on this sample exam as a whole (40 questions) or on individual questions was provided in the German-language BETA versions of SET F in the period November - January 2024 by:

Thorsten Geiselhart (GTB), Stephan Weißleider (GTB) und Joern Münzel (former GTB), Horst Pohlmann (GTB), Marc-Florian Wendland (GTB), Christian Odenthal (GTB WP EXAM), Joachim Schulz (sepp.med), Stephanie Ulrich (GTB), Paul Müller (Software Quality Lab), Christian Modjesch (CGI), Andre Baumann (imbus AG), Henry Belter (CGI), Klaus Erlenbach (imbus AG), Sabine Gschwandtner (imbus AG), Arnd Prehl (imbus AG) and Andre Baumann (imbus AG).

Question 1	FL-1.1.1	K1	Score	1.0
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Which of the following statements does NOT describe a typical test objective?

Select ONE option! (1 out of 4)

a)	Detect defects and triggering failures	<input type="checkbox"/>
b)	Create confidence in the quality level of the test object	<input type="checkbox"/>
c)	Reduce the risk of an inadequate testing environment	<input checked="" type="checkbox"/>
d)	Meet contractual, legal or regulatory requirements	<input type="checkbox"/>

FL-1.1.1 (K1) Identify typical test objectives [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – a typical test objective (see [CTFL 4.0], section 1.1.1, bullet point 2).
- b) FALSE – a typical test objective (see [CTFL 4.0], section 1.1.1, bullet point 8).
- c) CORRECT – not a typical test objective (see [CTFL 4.0], section 1.1.1). No test objective listed in the syllabus. Instead, bullet point describes the reduction of the risk of inadequate software quality.
- d) FALSE – a typical test objective (see [CTFL 4.0], section 1.1.1, bullet point 6).

Question 2	FL-1.2.3	K2	Score 1.0
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A phone ringing in a neighboring cubicle distracts a software developer causing him to improperly code the logic that checks the upper boundary of an input variable. Later, during system testing, a tester notices that this input field accepts invalid input values.

Which of the following terms accurately describes the incorrectly coded check of the upper boundary in this scenario?

Select ONE option! (1 out of 4)

a)	root cause	<input type="checkbox"/>
b)	failure	<input type="checkbox"/>
c)	error	<input type="checkbox"/>
d)	defect	<input checked="" type="checkbox"/>

FL-1.2.3 (K2) Distinguish between root cause, error, defect, and failure [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 1.2.3)

- a) FALSE – The root cause is the distraction that the Software developer experienced while programming (see [CTFL 4.0], section 1.2.3, 4th paragraph).
- b) FALSE – Accepting invalid inputs is a failure (see [CTFL 4.0], section 1.2.3, 2nd + 3rd paragraph).
- c) FALSE – The error is the mistaken thinking that resulted in putting the defect in the code (see [CTFL 4.0], section 1.2.3, 1st paragraph).
- d) CORRECT – The problem in the code is a defect (see [CTFL 4.0], section 1.2.3, 2nd paragraph).

Question 3	FL-1.4.1	K2	Score 1.0
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Which of the following takes place during the “Test analysis” activity of the test process?

Select ONE option! (1 out of 4)

a)	Identify the required infrastructure and tools	<input type="checkbox"/>
b)	Creating test suites based on the test script	<input type="checkbox"/>
c)	Analyze the "lessons learned" for process improvement	<input type="checkbox"/>
d)	Evaluate the test basis in terms of testability	<input checked="" type="checkbox"/>

FL-1.4.1 (K2) Summarize the different test activities and tasks [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – this activity is performed in "Test design" (see [CTFL 4.0], section 1.4.1, Test design)..
- b) FALSE – this activity is performed in "Test realization" (see [CTFL 4.0], section 1.4.1, Test realization) .
- c) FALSE – this activity is performed in "Test completion" (see [CTFL 4.0], section 1.4.1, Test completion).
- d) CORRECT – this activity is performed in "Test Analysis" (see [CTFL 4.0], section 1.4.1: "Test analysis involves analyzing the test base to identify testable characteristics ...").

Question 4	FL-1.3.1	K2	Score 1.0
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In general according to the Pareto principle, an above-average number of defects are often found in a few areas of a system. The corresponding failures often result in the system being unusable.

Which of the following principles of testing does this describe?

Select ONE option! (1 out of 4)

a)	Testing is context dependent.	<input type="checkbox"/>
b)	Defects cluster together.	<input checked="" type="checkbox"/>
c)	Tests wear out.	<input type="checkbox"/>
d)	Absence of defects fallacy.	<input type="checkbox"/>

FL-1.3.1 (K2) Explain the seven testing principles [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – this principle simply states that testing is practiced differently in different contexts (see [CTFL4.0], section 1.3). Here, however, differences are not discussed at all, only the common aspects.
- b) CORRECT – because this principle states that a small number of components of a system typically contain most of the defects (see [CTFL4.0], section 1.3. 4th bullet point). Thats how it is described in the question.
- c) FALSE – this principle states that after repeated tests, tests become increasingly ineffective at detecting new defects (see [CTFL4.0], section 1.3). However, this case is not described here at all. Instead, it is just a matter of ensuring that the principle that defects occur frequently also applies if they are repeated often. One principle of testing does not cancel out another.
- d) FALSE – because this principle focuses on the fact that even a thoroughly verified system with all defects corrected may still not meet user expectations (see [CTFL4.0], section 1.3). However, the question is about the scenario that there are still numerous errors. This means that the basis for the fallacy does not exist at all.

Question 5	FL-1.5.1	K2	Score	1.0
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Which of the following general competencies is particularly important for passing on discovered failures to the affected developers?

Select ONE option! (1 out of 4)

a)	Test knowledge	<input type="checkbox"/>
b)	Critical thinking	<input type="checkbox"/>
c)	Care	<input type="checkbox"/>
d)	Communication skills	<input checked="" type="checkbox"/>

FL-1.5.1 (K2) Give examples of the generic skills required for testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 1.5.1)

- a) FALSE – Testing knowledge is necessary to increase the effectiveness of testing, e.g. through the use of test procedures – see bullet point 1.
- b) FALSE – Critical thinking, analytical thinking is important to increase the effectiveness of testing, e.g. to question assumptions – see bullet point 4.
- c) FALSE – Care, thoroughness or attention to detail are important in order to detect defects, especially if they are difficult to detect – see bullet point 2.
- d) CORRECT – Communication skills are important for the effective dissemination of information to stakeholders (see [CTFL 4.0], section 1.5.1, bullet point 3) The importance of communication skills is emphasized in the paragraph following the bullets.

Question 6	FL-1.4.3	K2	Score	1.0
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Match the correct description from A to D:

- A. A set of test cases or test scripts to be executed in a particular test cycle.
- B. A sequence of instructions for the execution of a test.
- C. Contains the expected results.
- D. The documentation of a goal and the agenda of a test session.

to its corresponding test resource (test work results) 1 to 4:

- 1. test suite.
- 2. test case.
- 3. test script.
- 4. test charter.

Select ONE option! (1 out of 4)

a)	1A, 2C, 3B, 4D	<input checked="" type="checkbox"/>
b)	1D, 2B, 3A, 4C	<input type="checkbox"/>
c)	1A, 2C, 3D, 4B	<input type="checkbox"/>
d)	1D, 2C, 3B, 4A	<input type="checkbox"/>

FL-1.4.3 (K2) Differentiate the testware that supports the test activities [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

Test suite: A set of test scripts or test procedures to be executed in a particular test run. according to the glossary, where "test procedures" can be replaced by "test scripts" according to the glossary ("See Also" for test procedure or synonyms) (1A).

Test case: according to the glossary: a set of preconditions, inputs, actions (if applicable), expected results and postconditions developed on the basis of test conditions. (2C).

Test script: according to the glossary: a sequence of instructions for performing a test. (3B).

Test charter: "The documentation of an objective and agenda for a test session." According to the glossary and syllabus: The documentation of test activities in the context of session-based exploratory testing. (4D).

- a) CORRECT – see above.
- b) FALSE – see above.
- c) FALSE – see above.
- d) FALSE – see above.

Question 7	FL-1.4.4	K2	Score	1.0
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Which of the following is the BEST example of how traceability between test basis, test assets, test results and defects supports testing?

Select ONE option! (1 out of 4)

a)	Conducting an impact analysis provides information about the quality of the system under test.	<input type="checkbox"/>
b)	The analysis of traceability between test cases and test results provides information about the completeness of test cases.	<input type="checkbox"/>
c)	The analysis of traceability by conducting an impact analysis helps in selecting appropriate test cases for regression testing.	<input checked="" type="checkbox"/>
d)	Analyzing the traceability between the requirements and the test cases helps in analyzing the residual risks.	<input type="checkbox"/>

FL-1.4.4 (K2) Explain the value of maintaining traceability [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 1.4.4)

- a) FALSE – Performing the impact analysis does NOT provide information about the quality of the system under testing, only (as the name suggests) the impact of changes. Change impact analysis helps in selecting appropriate test cases for execution after changes. Only then can the actual quality of the system be assessed (see [CTFL 4.0], section 2.2.3, under “Regression Test”).
- b) FALSE – Contrary to the content of this answer option, traceability between requirements and test cases provides information about the completeness of test cases, in this case in relation to the coverage of requirements (see [CTFL 4.0], section 1.4.4, indent 1).
- c) CORRECT – Performing a change impact analysis BEST helps in selecting appropriate test cases for regression testing by showing which parts of the test object are affected by the change and which test cases need to be re-run (see [CTFL 4.0], section 1.4.4 – and section 2.2.3, “Regression Test” section).
- d) FALSE – Analyzing traceability between requirements and test cases helps evaluate whether requirements are covered by test cases. The assessment of residual risks is independent of this and can be done through the traceability of test results on risks (see [CTFL 4.0], section 1.4.4, bullet points 1 and 2).

Question 8	FL-1.5.2	K1	Score	1.0
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Which of the following statements is an advantage of the whole-team approach?

Select ONE option! (1 out of 4)

a)	Each team member can take on any task they wish.	<input type="checkbox"/>
b)	Every team member is responsible for quality.	<input checked="" type="checkbox"/>
c)	Each team member works separately on their own task.	<input type="checkbox"/>
d)	Each team member has a fixed role and a defined responsibility.	<input type="checkbox"/>

FL-1.5.2 (K1) Recall the advantages of the whole team approach [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Each team member can perform any task **that they can**, not that they want to. The Whole Team approach requires that team members have the necessary skills to complete the tasks that serve the project goal (see [CTFL 4.0], section 1.5.2, paragraph 2: “...each team member who has the required competencies...”).
- b) CORRECT – The whole-team approach promotes shared responsibility for quality by ensuring that everyone in the team sees quality assurance as part of their role and participates in testing activities (see [CTFL 4.0], section 1.5.2, 2nd paragraph, end of sentence 1).
- c) FALSE – Each team member works **closely with other team members**, not separately. The Whole Team approach improves communication and interaction within the team by having team members share a common workspace (physical or virtual, see [CTFL 4.0], section 1.5.2, paragraph 3).
- d) FALSE – Each team member has no **fixed role and responsibility**, but can flexibly take on different tasks. The whole-team approach makes it possible to use and expand the various competencies within the team by allowing team members to learn from and support each other (see [CTFL 4.0], section 1.5.2, paragraph 3)

Question 9	FL-2.1.1	K2	Score 1.0
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You are working as a tester on a team that follows a sequential software development lifecycle (SDLC = Software Development Lifecycle).

How does the choice of this SDLC model impact the timing of testing?

Select ONE option! (1 out of 4)

a)	Dynamic tests (unit tests) cannot be carried out in the early phases of the SDLC	<input checked="" type="checkbox"/>
b)	Static testing cannot be performed early phases in this SDLC	<input type="checkbox"/>
c)	Test planning cannot be performed early phases in this SDLC	<input type="checkbox"/>
d)	Acceptance testing can be performed early phases in this SDLC	<input type="checkbox"/>

FL-2.1.1 (K2) Explain the impact of the chosen software development lifecycle on testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 2.1.1)

- a) CORRECT – In sequential development models, testers are involved in requirements review, test analysis, and test design in the early stages. The executable code is usually created in the later phases, so dynamic testing cannot be performed in the early phases of the SDLC (see [CTFL 4.0], section 2.1.1, 2nd paragraph, 2nd sentence).
- b) FALSE – Static testing, esp. reviews, can always be performed early in the SDLC (see [CTFL 4.0], section 2.1.1, 2nd paragraph, 1st sentence).
- c) FALSE – Test planning should be done at an early stage of the SDLC, before the test project begins (see [CTFL 4.0], section 5.1.1 2nd paragraph, 1st sentence (Test planning gives...future challenges...)).
- d) FALSE – Acceptance testing cannot be performed when there is no working product. In sequential SDLC models the working product is usually delivered late in the SDLC (see [CTFL 4.0], section 2.1.1, 2nd paragraph, 2nd sentence).

Question 10	FL-2.1.2	K1	Score	1.0
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Which of the following is a good testing practice that applies to all software development life cycles (SDLC)?

Select ONE option! (1 out of 4)

a)	Testers must accompany developers, especially in software development activities for which there are no associated testing activities.	<input type="checkbox"/>
b)	Testers should define different test objectives for each test level to customize the scope and depth of testing.	<input checked="" type="checkbox"/>
c)	Testers should only start the test analysis and test design once the requirements and specifications are completely implemented.	<input type="checkbox"/>
d)	Testers should not perform reviews of work results in order to focus on test execution.	<input type="checkbox"/>

FL-2.1.2 (K1) Recall good testing practices that apply to all software development lifecycles [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – for every software development activity there is a corresponding testing activity (see [CTFL 4.0], section 2.1.2, 1st bullet point).
- b) CORRECT – This is one of the good textual practices described in the syllabus text (see [CTFL 4.0], section 2.1.2, 2nd bullet point). This is a good testing practice that applies to all software development lifecycles, as it allows testers or the test team to tailor testing activities to the specific needs and risks of each testing stage.
- c) FALSE – “Testers will be involved in the review of work products as soon as drafts of this documentation are available...” to follow the principle of early testing (see [CTFL 4.0], section 2.1.2, 4th bullet point).
- d) FALSE – Testers should perform reviews of work results to support the shift-left approach and avoid errors (see [CTFL 4.0], section 2.1.2, 4th bullet point).

Question 11	FL-2.1.3	K1	Score	1.0
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Which of the following test-first approaches uses the given/if/then format to express the desired response of an application?

Select ONE option! (1 out of 4)

a)	Test-driven application (TDD)	<input type="checkbox"/>
b)	Acceptance test-driven development (ATDD)	<input type="checkbox"/>
c)	Behavior-driven development (BDD)	<input checked="" type="checkbox"/>
d)	Continuous Integration / Continuous Delivery (CI/CD)	<input type="checkbox"/>

FL-2.1.3 (K1) Recall the examples of test-first approaches to development [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – TDD guides coding through test cases that are necessarily written in a natural language form (see [CTFL 4.0], section 2.1.3, paragraph on TDD).
- b) FALSE – ATDD derives tests from acceptance criteria that do not necessarily use the given/if/then format (see [CTFL 4.0], section 2.1.3, ATDD paragraph).
- c) CORRECT – as this is one of the characteristics of BDD as described in the syllabus text (see [CTFL 4.0], section 2.1.3, paragraph about the BDD). This is a test-first approach that uses the given/if/then format to express the desired response of an application. BDD is a method that describes and verifies the behavior of the software from the stakeholder's perspective using natural language scenarios.
- d) FALSE – CI/CD are technical practices (see [CTFL 4.0], section 2.1.4, 1st paragraph, 2nd sentence).

Question 12	FL-2.1.4	K2	Score	1.0
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Which of the following are benefits of DevOps?

Select ONE option! (1 out of 4)

a)	Faster product release and faster time to market	<input checked="" type="checkbox"/>
b)	Fast feedback by focusing exclusively on functional testing	<input type="checkbox"/>
c)	Shift-Left can minimize the number of regression tests	<input type="checkbox"/>
d)	Cost-effective implementation of the test automation framework.	<input type="checkbox"/>

FL-2.1.4 (K2) Summarize how DevOps might have an impact on testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 2.1.4)

- a) CORRECT – Faster product release and faster time to market is an advantage of DevOps because it enables the entire team to collaborate and deliver new features and stable software quickly (see [CTFL 4.0], section 2.1.4 2nd paragraph, 1st bullet point and 1st Paragraph, last sentence).
- b) FALSE – This is not a benefit of DevOps, the opposite is true. DevOps increases the focus on non-functional quality characteristics (see [CTFL 4.0], section 2.1.4, 2nd paragraph, 4th bullet point).
- c) FALSE – It is not the number of regression tests that is minimized but rather the risk that is minimized through the automated regression (see [CTFL 4.0], section 2.1.4, 2nd paragraph, 6th bullet point).
- d) FALSE – This is not a benefit of DevOps. Setting up a test automation framework always requires investment in tools, infrastructure, skills and maintenance (see [CTFL 4.0], section 2.1.4, 3rd paragraph, 3rd bullet point).

Question 13	FL-2.2.2	K2	Score 1.0
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You work as a tester on a project on a mobile application for ordering food. A high priority client requirement states:

“The order must be processed in less than 10 seconds 95% of the time.”

You created a set of test cases in which a number of random orders were made, the processing time measured, and the test results were checked against the requirements.

What test type did you perform?

Select ONE option! (1 out of 4)

a)	Functional, because the test cases cover the user's business requirements for the system.	<input type="checkbox"/>
b)	Non-functional, because the test cases measure the system's performance.	<input checked="" type="checkbox"/>
c)	Exploratory because the exact processing time has not been defined	<input type="checkbox"/>
d)	Structural, because we need to know the internal structure of the program to measure the order processing time.	<input type="checkbox"/>

FL-2.2.2 (K2) Distinguish the different test types [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 2.2.2)

- a) FALSE – The fact that the requirement for the performance of the system comes directly from the customer and that performance is important from a business perspective (i.e. is a high priority, as they do not test the "what", but the "how" of the system (i.e. how quickly the orders are processed) (see [CTFL 4.0], section 2.2.2, paragraph "Functional Testing").
- b) CORRECT – This is an example of a performance test, a type of non-functional testing. Non-functional tests evaluate how well a system works under certain conditions or constraints (see [CTFL 4.0], section 2.2.2, paragraph "Non-Functional Test").
- c) FALSE – Exploratory testing only makes sense when there is no sufficient specification. However, this is the case here and therefore this option is NOT the best option here (see [CTFL 4.0], section 4.4.2, paragraph 3).
- d) FALSE – We do not need to know the internal structure of the code to perform the performance testing. Performance tests can also be carried out without knowledge of the structure (see [CTFL 4.0], section 2.2.2, paragraph "White Box Test").

Question 14	FL-2.2.3	K2	Score 1.0
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Which of the following statements related to confirmation and regression test is CORRECT?

Select one Option! (1 out of 4)

a)	Regression tests increase in number as the project progresses, whereas the number of confirmation tests decreases as the project progresses.	<input type="checkbox"/>
b)	Regression tests are created and run when the test object is fixed, whereas confirmation tests are run whenever the test object is enhanced.	<input type="checkbox"/>
c)	Regression testing is concerned with checking that the operational environment remains unchanged, whereas confirmation testing is concerned with testing changes to the test object.	<input type="checkbox"/>
d)	Regression testing is concerned with possible adverse effects in unchanged code, whereas confirmation testing is concerned with the positive effects of corrective changes.	<input checked="" type="checkbox"/>

FL-2.2.3 (K2) Distinguish confirmation testing from regression testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0; Section 2.2.3)

- a) FALSE – The number of regression tests usually increases as the project progresses (at least in an iterative-incremental software development lifecycle model), since the scope of the test object to be tested increases and thus the scope of the regression tests required to prove stability. (no adverse consequences due to change or extension) (see [CTFL 4.0], Section 2.2.3, 3rd and 4th paragraphs). However, it is not possible to make a statement on the development of the conformation tests during the course of the project. The number of confirmations tests is related to the defects rectified in the course of the project and is therefore completely independent of the progress of the project.
- b) FALSE – This statement reverses the assignment of the terms. Confirmation Tests are created and executed when defects have been rectified for the test object (see [CTFL 4.0], Section 2.2.3, 2nd to 3rd paragraph). Regression tests confirm that a change, including a bug fix that has already been tested, has no adverse consequences. Regression tests are (ideally) always performed when the test object has been extended or changed (see [CTFL 4.0], section 2.2.3, 4th paragraph).
- c) FALSE – A regression test confirms that a change, including a previously tested bug fix, has no adverse consequences. This may include the operating environment, but always includes the test object itself (see [CTFL 4.0], section 2.2.3, 4th paragraph). Confirmation tests are created and executed when defects have been corrected for the test object. However, not every change to the test object is based on a defect, but often on the implementation of new requirements (see [CTFL 4.0], Section 2.2.3, 2nd to 3rd paragraph).
- d) CORRECT – A regression test confirms that changes, including defect corrections that have already been tested, have no adverse consequences (see [CTFL 4.0], section 2.2.3, 4th paragraph). The Confirmations test confirms that an original defect has been successfully corrected and the failure no longer occurs (see [CTFL 4.0], section 2.2.3, 2nd paragraph).

Question 15	FL-3.1.1	K1	Score	1.0
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Which of the following list of work products can NOT be checked with a static testing technique?

Select ONE option! (1 out of 4)

a)	Test cases and executable test scripts	<input type="checkbox"/>
b)	Requirements specification and acceptance criteria	<input type="checkbox"/>
c)	Proprietary third-party executable code	<input checked="" type="checkbox"/>
d)	Project documentation and models	<input type="checkbox"/>

FL-3.1.1 (K2) Recognize types of products that can be examined by the different static test techniques [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 3.1.1)

- a) FALSE – Test cases and test scripts are work results that can be checked by a static test (review or static analysis) (see [CTFL 4.0], section 3.1.1, 1st paragraph).
- b) FALSE – Requirements specifications and acceptance criteria are work products that can be checked by a static test (review or static analysis) (see [CTFL 4.0], Section 3.1.1, 1st paragraph).
- c) CORRECT – Third-party executable code, e.g. operating system software, database software, frameworks that are legally protected, may not be tested with a static test (see [CTFL 4.0], section 3.1.1, 3rd paragraph). Therefore, the correct answer is: Third-party executable code.
- d) FALSE – Project documentation and models are work results that can be checked through a static test (review or static analysis) (see [CTFL 4.0], section 3.1.1, 1st paragraph).

Question 16	FL-3.1.3	K2	Score	1.0
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Which of the following statements applies to the differences between static and dynamic testing?

Select ONE option! (1 out of 4)

a)	During static testing, failures are found	<input type="checkbox"/>
b)	Static testing measures inadequate software performance	<input type="checkbox"/>
c)	The exclusive goal of static testing is to detect defects as early as possible	<input type="checkbox"/>
d)	A lack of coverage of critical safety requirements can be revealed during static testing	<input checked="" type="checkbox"/>

FL-3.1.3 (K2) Compare and contrast static and dynamic testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 3.1.3.)

- a) FALSE – Defects are found through dynamic tests (see [CTFL 4.0], section 3.1.3.; 1st paragraph; 2nd bullet point)
- b) FALSE – The software must be running to measure performance (see [CTFL 4.0], section 2.2.2, last paragraph, 2nd sentence (“...check whether a non-functional condition is fulfilled when executing the function...”), if the software is executed during the test, acts it is dynamic testing (see [CTFL 4.0], section 3.1.3.; 1st paragraph; 4th bullet point).
- c) FALSE – The goal of both static and dynamic testing is to detect defects as early as possible (see [CTFL 4.0], section 1.3., paragraph 3 “Early testing saves...”).
- d) CORRECT – This is an example of a gap in traceability or test base coverage that is more easily found in static testing (see [CTFL 4.0], section 3.1.3., Typical defects; 7th bullet point).

Question 17	FL-3.2.2	K2	Score 1.0
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Which of the following statements about formal reviews (e.g. inspections) is TRUE?

Select ONE option! (1 out of 4)

a)	The technical review is led by the author	<input type="checkbox"/>
b)	The review process consists of several activities, such as planning, communication and analysis, troubleshooting and reporting.	<input checked="" type="checkbox"/>
c)	Work products to be reviewed are distributed during the review meeting	<input type="checkbox"/>
d)	Defects found during the review are not reported since they are found during dynamic testing anyway	<input type="checkbox"/>

FL-3.2.2 (K2) Summarize the activities of the review process [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 3.2.2)

- a) FALSE – A technical review is led by a moderator (see [CTFL 4.0], section 3.2.4, section 3, bullet point 3 “Technical Review”).
- b) CORRECT – There are several activities during a formal review. Formal reviews follow a structured and systematic process consisting of several activities such as: Planning, review start (“kick-off”), individual review, review session, communication and analysis, remediation and reporting. These activities are intended to ensure that the review is effective and efficient (see [CTFL 4.0], section 3.2.2, paragraph “Activities of the review process”).
- c) FALSE – The work results to be reviewed should be distributed as early as possible (see [CTFL 4.0], section 3.2.2, 2nd bullet point).
- d) FALSE – Defects found during a review should be reported. The defects found during a review are often those that cannot be found or are difficult to find in dynamic tests, such as logical, conceptual or design defects (see [CTFL 4.0], section 3.2.2, 5th bullet point).

Question 18	FL-3.2.3	K1	Score 1.0
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What task may management take on during a formal review (e.g. inspection)?

Select ONE option! (1 out of 4)

a)	Doing the post-review rework for a review object, if necessary	<input type="checkbox"/>
b)	Deciding what is to be reviewed	<input checked="" type="checkbox"/>
c)	Ensuring the effective running of review meetings, and mediating, if necessary	<input type="checkbox"/>
d)	Recording review information such as review decisions	<input type="checkbox"/>

FL-3.2.3 (K1) Recall which responsibilities are assigned to the principal roles when performing reviews [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 3.2.3)

- a) FALSE – This is not a task for management during a formal review as the author is typically responsible for fixing the defects in the work product after the review meeting (see [CTFL 4.0], section 3.2.3, 2nd bullet point).
- b) CORRECT – In the ISTQB® Glossary formal review is explained as: “A type of review that follows a defined process with a formally documented output. This is the task of the management in a formal review. Management can decide what to review by selecting and prioritizing work products to review based on requirements, risks, and business objectives (see [CTFL 4.0], section 3.2.3, 1st bullet point).
- c) FALSE – This is typically the role of the facilitator, who plans, leads, and moderates the review sessions, as well as resolves conflicts and promotes consensus (see [CTFL 4.0], section 3.2.3, 3rd bullet point).
- d) FALSE – This is typically the role of the note taker, who manages the review documents, records and tracks comments and discrepancies, and prepares a review report (see [CTFL 4.0], section 3.2.3, 4th bullet point).

Question 19	FL-4.1.1	K1	Score	1.0
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Which of the following statements describes an advantage of black box testing over white box testing?

Select ONE option! (1 out of 4)

a)	Black box test techniques can check the internal structure and processing of the test object.	<input type="checkbox"/>
b)	Black box test techniques can be created regardless of the implementation of the software.	<input checked="" type="checkbox"/>
c)	Black box test techniques better utilize the knowledge and experience of the testers.	<input type="checkbox"/>
d)	Black box testing techniques can be performed without adjustment even though the required behavior of the test object has changed.	<input type="checkbox"/>

FL-4.1.1 (K1) Distinguish black-box, white-box and experience-based test techniques [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Black box test techniques are based on an analysis of the specified behavior of the test object without knowledge of the internal structure - the answer describes white box testing procedures (see [CTFL 4.0], section 4.1, paragraph White Box Testing Procedures).
- b) CORRECT – This is an advantage of black box test techniques that is described in the syllabus text (see [CTFL 4.0], section 4.1.1). Black box test techniques can be carried out regardless of the implementation of the software. This means that the tester does not need any knowledge of the source code or the internal structure of the software. Black box test techniques are therefore suitable for checking e.g. the functionality, usability and performance of the software from the end user's perspective.
- c) FALSE – Experience-based testing approach effectively utilize the knowledge and experience of testers to design and implement test cases (see [CTFL 4.0], section 4.1, Experience-based Testing paragraph).
- d) FALSE – the opposite is true: since black box testing procedures are based on an analysis of the specified behavior, the test cases must be adjusted as soon as the specified behavior changes (see [CTFL 4.0], section 4.1, section Black Box Testing).

Question 20	FL-4.2.1	K3	Score 1.0
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A fitness app measures the number of steps taken daily and provides feedback to motivate the user to stay fit.

The feedback for different step counts should be as follows:

- Up to and including 1000: Couch Potato!
- Over 1000, up to and including 2000: Get moving!
- Over 2000, up to and including 4000: On the right track!
- Over 4000, up to and including 6000: Well done!
- Over 6000: Super!

Which of the following groups of test input values would provide the HIGHEST coverage of equivalence classes?

Select ONE option! (1 out of 4)

a)	0,	1000,	2000,	3000,	4000	<input type="checkbox"/>
b)	1000,	2001,	4000,	4001,	6000	<input type="checkbox"/>
c)	123,	2345,	3456,	4567,	5678	<input type="checkbox"/>
d)	666,	999,	2222,	5555,	6666	<input checked="" type="checkbox"/>

FL-4.2.1 (K3) Use equivalence partitioning to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

The following five valid equivalence partitions can be formed (see [CTFL 4.0], Section 4.2.1):

- | | |
|------------------|-----------------------|
| 1) 0 - 1000 | - Couch Potato! |
| 2) 1001 - 2000 | - Get moving! |
| 3) 2001 - 4000 | - On the right track! |
| 4) 4001 - 6000 | - Well done! |
| 5) 6000 - MaxInt | - Super! |

Therefore, the groups of test input values cover the following classes:

- a) 0 (1), 1000 (1), 2000 (2), 3000 (3), 4000 (3) – 3 classes (out of 5) = 60% coverage.
- b) 1000 (1), 2001 (3), 4000 (3), 4001 (4), 6000 (4) – 3 classes (out of 5) = 60% coverage.
- c) 123 (1), 2345 (3), 3456 (3), 4567 (4), 5678 (4) – 3 classes (out of 5) = 60% coverage.
- d) 666 (1), 999 (1), 2222 (3), 5555 (4), 6666 (5) – 4 classes (out of 5) = 80% coverage

Therefore, Option d) is CORRECT.

Question 21	FL-4.2.2	K3	Score 1.0
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You are testing a system that calculates the final grade for course participants.

The final grade is determined based on the total number of points between 0 and 100, according to the following rules:

- 0 - 50 points: failed
- 51 - 70 points: sufficient
- 71 - 90 points: good
- 91 - 100 points: very good

You have prepared the following set of test cases:

	Total points	Final grade
TF1	91	very good
TF2	50	failed
TF3	70	sufficient
TF4	100	very good
TF5	90	good
TF6	0	failed

Given these test cases, what percentage coverage is achieved when using 2-value boundary analysis?

Select ONE option! (1 out of 4)

a)	60%	<input checked="" type="checkbox"/>
b)	75%	<input type="checkbox"/>
c)	33,3%	<input type="checkbox"/>
d)	100%	<input type="checkbox"/>

FL-4.2.2 (K3) Use boundary value analysis to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 4.2.2, 4th paragraph: 2-value boundary analysis)

- a) CORRECT – (60%) according to the syllabus, there are two covering elements for each limit: the boundary and its closest neighbor, which belongs to the adjacent class. The limit values are 0, 50, 51, 70, 71, 90, 91 and 100 points, the closest neighbors (-1, 51, 71, 91, 101) are already included, except for -1 and 101. The 6 test cases each cover one of these limit values. This means that 60% of the possible valid coverage elements are covered by the test cases.
- b) FALSE – (70%) because it divides the number of executed limit values (6) by the number of possible coverage elements (8) without the boundary values -1 and 101.
- c) FALSE – (33,3%) because it divides the number of executed limits (6) by the number of possible coverage elements according to 3-value limit analysis (218) (additional values for 3-value vs. 2-value GA: 1, 49, 52, 69, 72, 89, 92, 99).
- d) FALSE – (100%) because it divides the number of executed boundary values (6) by half of the possible coverage elements (5) or the equivalence classes (5).

Question 22	FL-4.2.3	K3	Score 1.0
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You are testing a new customer relationship management system for a daily bike rental company. The system requirements are as follows:

- Anyone can rent a bike, but only members receive a 20% discount.
- However, if the return deadline is missed, the discount can no longer be claimed.
- After 15 rentals, members receive a T-shirt as a gift.

A tester designs the following decision table to test the requirements:
(T=true, F=false, X=execute action):

Conditions	R1	R2	R3	R4	R5	R6	R7	R8
is a member	T	T	T	T	F	F	F	F
Missed deadline	T	F	T	F	T	F	F	T
15. rental	F	F	T	T	F	F	T	T
Actions								
20% discount		X		X				
Gift T-shirt			X	X				X

Which rule (combination of conditions and actions) does not meet the above requirements?

Select ONE option! (1 out of 4)

a)	R4	<input type="checkbox"/>
b)	R2	<input type="checkbox"/>
c)	R6	<input type="checkbox"/>
d)	R8	<input checked="" type="checkbox"/>

FL-4.2.3 (K3) Use decision table testing to derive test cases [CTFL 4.0]

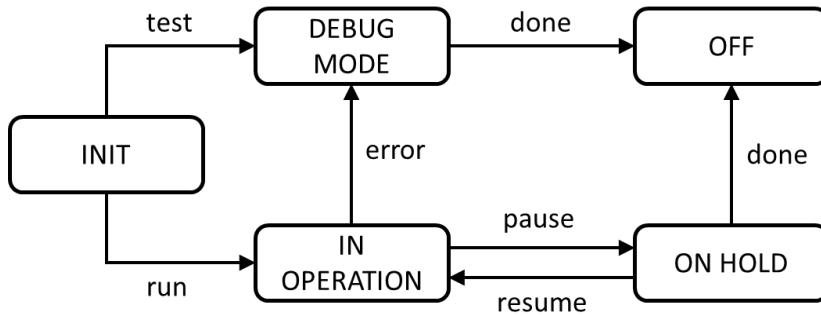
Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 4.2.3)

- a) FALSE – A member who has not missed a deadline can receive a discount and a gift t-shirt after 15 bike rentals
- b) FALSE – A member who has not missed a deadline may receive a discount, but not a gift t-shirt, until they have rented a bike 15 times.
- c) FALSE – non-members cannot receive a discount, even if they have not yet missed a deadline
- d) CORRECT – Only members can receive a t-shirt as a gift. Hence the action is not correct and this combination should not be in the decision table.

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Question 23	FL-4.2.4	K3	Score 1.0
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You are testing a system whose life cycle is modeled by the state transition diagram shown below. The system starts in the INIT state and ends its operation in the OFF state.



What is the MINIMUM number of test cases to achieve 100% coverage of valid transitions (0-switch coverage)?

Select ONE option! (1 out of 4)

a)	2	<input type="checkbox"/>
b)	3	<input checked="" type="checkbox"/>
c)	4	<input type="checkbox"/>
d)	7	<input type="checkbox"/>

FL-4.2.4 (K3) Use state transition testing to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 4.2.4)

The "test" and "error" transitions cannot occur in the same test case. After 'run' there are two exits towards the 'OFF' state, once via 'error' and once via 'done'. Therefore, at least three test cases are required to achieve a valid state transition coverage of 100%.

Therefore, at least three test cases are required to achieve a valid state transition coverage of 100%.

For example:

- TF1: test, done (1)
- TF2: run, error, done (1)
- TF3: run, pause, resume, pause, done (2)

Therefore

- a) FALSE
- b) CORRECT
- c) FALSE
- d) FALSE

Question 24	FL-4.3.1	K2	Score 1.0
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Your test suite achieves 100% statement coverage. What does it mean?

Select ONE option! (1 out of 4)

a)	Any selected instruction in the code has been executed at least once.	<input checked="" type="checkbox"/>
b)	Any test suite that contains more test cases than your test suite also achieves 100% statement coverage.	<input type="checkbox"/>
c)	Each branch in the code has been executed at least once.	<input type="checkbox"/>
d)	Every combination of input values in the code was tested.	<input type="checkbox"/>

FL-4.3.1 (K2) Explain statement testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 4.3.1)

- a) CORRECT – Since 100% statement coverage is achieved, every of the statements must have been executed and evaluated at least once (see [CTFL 4.0], section 4.3.1, 2nd paragraph).
- b) FALSE – The level of coverage depends on what is being tested, not on the number of test cases. For example, for the C code "if (x==0) y=1", one test case (x=0) achieves 100% statement coverage, but two test cases (x=1) and (x=2) together only achieve 50% statement coverage.
- c) FALSE – This is not necessarily true, because a statement coverage of 100% does not guarantee that all possible paths have been tested through the code. It is possible that some branches were not tested if the conditions for them were not met. Therefore, 100% statement coverage generally cannot guarantee 100% branch coverage (see section 4.3.1, last sentence).
- d) FALSE – Exhaustive testing is not possible (see the section on the Seven Principles of Testing section in the syllabus). For example, for the code "input x; input y; print x+y", every single test with any x and y achieves 100% statement coverage, but the tests only cover one input value.

Question 25	FL-4.3.2	K2	Score	1.0
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Which of the following statements about branch testing is CORRECT?

Select ONE option! (1 out of 4)

a)	If a program contains only unconditional control transitions, 100% branch coverage can be achieved without having to execute a single test case.	<input type="checkbox"/>
b)	When a branch with a test case is executed, all defects in it are revealed.	<input type="checkbox"/>
c)	If 100% statement coverage is achieved, then 100% branch coverage is also achieved.	<input type="checkbox"/>
d)	If 100% branch coverage is achieved, then all decision results of each conditional control transition of the code are executed.	<input checked="" type="checkbox"/>

FL-4.3.2 (K2) Explain branch testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 4.3.2)

- a) FALSE – In this case one test case is still needed since there is at least one (unconditional) branch that needs to be covered (see [CTFL 4.0], section 4.3.2, Last sentence of the 1st paragraph and 1st sentence of the 2nd paragraph).
- b) FALSE – For example, defects s that require the execution of a specific path in code are not detected (see [CTFL 4.0], section 4.3.2, 3rd paragraph, last and penultimate sentence).
- c) FALSE – 100% branch coverage implies 100% statement coverage, not otherwise. For example, for an IF decision without the ELSE, one test is enough to achieve 100% statement coverage, but it only achieves 50% branch coverage (see [CTFL 4.0], section 4.3.2, last paragraph).
- d) CORRECT – Each decision result of a conditional control transition corresponds to the coverage of a branch, so that 100% branch coverage means that every branch in the code has been executed. This in turn means that every possible decision result of a conditional transition of control in the code has been executed by the test cases (see [CTFL 4.0], section 4.3.2, 1st and 3rd paragraph).

Question 26	FL-4.4.2	K2	Score 1.0
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What is the purpose of a test charter in session-based exploratory testing?

Select ONE option! (1 out of 4)

a)	The test charter specifies the test objectives for the test session.	<input checked="" type="checkbox"/>
b)	The test charter documents the steps taken and the findings made.	<input type="checkbox"/>
c)	The test charter is often formulated in the form of questions.	<input type="checkbox"/>
d)	The test charter evaluates the test results after the test session.	<input type="checkbox"/>

FL-4.4.2 (K2) Explain exploratory testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – as this is the purpose of a test charter described in the syllabus text (see [CTFL 4.0], section 4.4.2, 2nd paragraph, 3rd sentence). The test charter defines the test objectives for the test session. A test charter is a statement of test objectives and possible test ideas on how to test.
- b) FALSE – The test session sheets document the steps taken and the findings made (see [CTFL 4.0], section 4.4.2, 2nd paragraph, last sentence).
- c) FALSE – While questions can be part of a test charter (e.g. to clarify certain aspects), this is not absolutely necessary. The main function of the test charter is to define the objectives and scope of the test session, whether this is done in the form of questions or not. (see [CTFL 4.0], Section 4.4.3
- d) FALSE – The test results are discussed in the debriefing, but not evaluated by the test charter (see [CTFL 4.0], section 4.4.2, 2nd paragraph, 4th sentence).

Question 27	FL-4.4.3	K2	Score	1.0
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Which of the following statements is MOST LIKELY an advantage of checklist-based testing?

Select ONE option! (1 out of 4)

a)	It enables high repeatability of the tests.	<input type="checkbox"/>
b)	It provides a structured approach to testing without requiring detailed test cases.	<input type="checkbox"/>
c)	It covers all requirements for the test object.	<input type="checkbox"/>
d)	It supports functional and non-functional testing.	<input checked="" type="checkbox"/>

FL-4.4.3 (K2) Explain checklist-based testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – since the testers can choose different ways to work through the test conditions of the checklists, an identical repetition is unlikely and therefore this is not an advantage of checklist-based testing (see [CTFL 4.0], section 4.4.3, 4th paragraph, last sentence).
- b) FALSE – checklist-based testing does not require detailed test cases but is often formulated in the form of questions based on experience and knowledge etc. (see [CTFL 4.0], section 4.4.3, 1st paragraph, 2nd sentence & 2nd paragraph, 1st sentence).
- c) FALSE – because checklist-based testing does not cover all requirements, but only those contained in the checklist. The checklist may be incomplete or outdated (see [CTFL 4.0], section 4.4.3, 2nd paragraph, 1st & 2nd sentence).
- d) CORRECT – Checklists can support different types of tests including non-functional tests (see [CTFL 4.0], section 4.4.3, 2nd paragraph, 3rd sentence).

Question 28	FL-4.5.1	K2	Score 1.0
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Which of the following statements does NOT describe the collaborative approach to writing user stories?

Select ONE option! (1 out of 4)

a)	User stories include technicality, development and testing aspects.	<input type="checkbox"/>
b)	User stories are created by business representatives, developers, and testers together.	<input type="checkbox"/>
c)	Acceptance criteria for user stories must be created specifically by testers to ensure independence of testing.	<input checked="" type="checkbox"/>
d)	User stories are created in a sprint or iteration in such a way that they are independent, negotiable, valuable, estimable, small, and testable.	<input type="checkbox"/>

FL-4.5.1 (K2) Explain how to write user stories in collaboration with developers and business representatives [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 4.5.1)

- a) FALSE – This statement is true: Collaborative writing of user stories means that everyone involved creates the user stories together to achieve a common vision. By working together, they can create clear, realistic, and testable user stories (see [CTFL 4.0], section 4.5.1, 3rd paragraph, last sentence).
- b) FALSE – This statement is true: Collaborative writing of user stories means that everyone involved creates the user stories together to achieve a common vision. By working together, they can create clear, realistic, and testable user stories (see [CTFL 4.0], section 4.5.1, 3rd paragraph, last sentence).
- c) CORRECT – This statement is false: The acceptance criteria specify the user stories so that they are accepted by all stakeholders. They are a result of discussions (see [CTFL 4.0], section 4.5.2, 1st paragraph, 3rd sentence).
- d) FALSE – This statement is true: This is a list of characteristics (according to the INVEST principle) that every user story in a sprint or iteration should have in order to achieve noticeable added value through co-writing or in a collaborative writing (see [CTFL 4.0], section 4.5.1, 4th paragraph, both sentences).

Question 29	FL-4.5.3	K3	Score 1.0
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You are using acceptance test-driven development and designing test cases based on the following user story:

As a Regular or Special user, I want to be able to use my electronic floor card, to access specific floors.

Acceptance Criteria:

AC1: Regular users have access to floors 1 to 3

AC2: Floor 4 is only accessible to Special users

AC3: Special users have all the access rights of Regular users

Which test case is the MOST reasonable one to test AC3?

Select ONE option! (1 out of 4)

a)	Check that a Regular user can access floors 1 and 3	<input type="checkbox"/>
b)	Check that a Regular user cannot access floor 4	<input type="checkbox"/>
c)	Check that a Special user can access floor 5	<input type="checkbox"/>
d)	Check that a Special user can access floors 1, 2 and 3	<input checked="" type="checkbox"/>

FL-4.5.3 (K3) Use acceptance test-driven development (ATDD) to derive test cases [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus V.4.0; Section 4.5.3)

- a) FALSE – We want to check that Special users have the rights of Regular users, so we need to test access rights for a Special user, not for a Regular user.
- b) FALSE – We want to check that Special users have the rights of Regular users, so we need to test access rights for a Special user, not for a Regular user.
- c) FALSE – There is no floor 5 described in the acceptance criteria. The test cases should not extend the scope of the user story. But even if we would like to perform negative testing, this test is not directly related to AC3.
- d) CORRECT – This way we can check if a Special user can access floors which are accessible to a Regular user.

Question 30	FL-5.1.1	K2	Score	1.0
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Consider the following statement from a test plan.

The correct functioning of components is verified using component tests and component integration tests. Evidence must be provided that 100% branch coverage is achieved for each component classified as critical.

Which part of the test plan does this definition belongs to?

Select ONE option! (1 out of 4)

a)	Test environment	<input type="checkbox"/>
b)	Risk register	<input type="checkbox"/>
c)	Context of testing	<input type="checkbox"/>
d)	Test approach	<input checked="" type="checkbox"/>

FL-5.1.1 (K2) Exemplify the purpose and content of a test plan [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 5.1.1)

- a) FALSE – The test environment describes the hardware, software, networks and other elements needed to carry out the tests. It is not related to the test approach described here (see [CTFL 4.0], Section 5.1.1).
- b) FALSE – The risk register (risk list) is the part of the test plan that lists and evaluates information about the identified risks to the product or test process (see [CTFL 4.0], section 5.1.1, Content Test Plan, 5th bullet point).
- c) FALSE – Context of testing is the part of the test plan that describes the background and purpose of the test. It includes information about the product, its requirements and objectives, and the stakeholders and their expectations (see [CTFL 4.0], section 5.1.1, Content Test Plan, 1st bullet point).
- d) CORRECT – The test approach as part of test plan contains information about test levels, metrics to be collected and end criteria (see [CTFL 4.0], section 5.1.1, Content Test Plan, 6th bullet point).

Question 31	FL-5.1.4	K3	Score	1.0
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Given the following user story:

“As the chairman, none of the data that I upload should be viewable by any other user of the system, so that no confidential information can be viewed.”

During the first poker planning session, the following effort estimations were given based on risk, effort and proper extent of testing:

Customers: 5

Developers: 5

Testers: 20

What is the BEST outcome following this planning session?

Select ONE option! (1 out of 4)

- | | | |
|----|--|-------------------------------------|
| a) | Since the customers' and developers' estimates agree, the team can assume that they are good. The planning poker for this user story ends. | <input type="checkbox"/> |
| b) | The team discusses together why consensus on the estimates has not been reached. Another round of planning poker follows. | <input checked="" type="checkbox"/> |
| c) | Since the customer ultimately receives the system, his estimate is crucial in such conflicts. The planning poker ends. | <input type="checkbox"/> |
| d) | The planning poker continues until all estimates from the stakeholders involved have exactly the same value. | <input type="checkbox"/> |

FL-5.1.4 (K3) Use estimation techniques to calculate the required test effort [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 5.1.4)

- a) FALSE – Both the customer and the developers may have missed something or paid too little attention to it. The reasons for the deviation must be discussed and the entire team must agree on the estimate (see [CTFL 4.0], section 5.1.4, paragraph: Broadband Delphi, 3rd sentence: "if there are deviations... the experts discuss their current estimates").
- b) CORRECT – Planning poker sessions should continue for the user story, until the entire team is satisfied with the estimated effort (see [CTFL 4.0], section 5.1.4, paragraph: Broadband Delphi, 4th sentence "This process will be repeated until consensus is reached").
- c) FALSE – The entire team must agree on the estimate for the user story. The customer alone cannot estimate the implementation of a user story (see [CTFL 4.0], section 5.1.4, paragraph: Broadband Delphi, 4th sentence "This process is repeated until a consensus is reached").
- d) FALSE – It is not necessary that they match. A rule can be defined for how such situations are handled. For example, the highest estimate or the average of all estimates is then used or limit values for the deviations from one another (see [CTFL 4.0], section 5.1.4, paragraph: Broadband Delphi, 3rd sentence "if there are deviations that lie outside the agreed limits, the experts discuss their current estimates")

Question 32	FL-5.1.6	K1	Score	1.0
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Which of the following is true regarding the test pyramid?

Select ONE option! (1 out of 4)

a)	The testing pyramid focuses on a small number of tests at the lower test levels.	<input type="checkbox"/>
b)	The closer you get to the top of the pyramid, the less granular the testing should be.	<input checked="" type="checkbox"/>
c)	The test pyramid has exactly 3 test layers and always includes unit tests, integration tests and end-to-end tests.	<input type="checkbox"/>
d)	High-level end-to-end tests are user-friendly and therefore usually faster than tests at the lower levels.	<input type="checkbox"/>

FL-5.1.6 (K1) Recall the concepts of the test pyramid [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 5.1.6)

- a) FALSE – because the test pyramid emphasizes having a larger number of tests at the lower test levels. "Tests in the lowest layer are small, isolated, fast, and test a small portion of functionality, so many of them are usually needed to achieve adequate coverage." (see [CTFL 4.0], section 5.1.6)
- b) CORRECT – The syllabus states: "The higher the level, the lower the test granularity" (see [CTFL 4.0], section 5.1.6, 4th sentence).
- c) FALSE – "The number and names of the layers can vary." (see [CTFL 4.0], section 5.1.6, 8th sentence)
- d) FALSE – "These high-level tests are typically slower than lower-level tests and typically test a large portion of functionality, so only a few of them are typically required to achieve adequate coverage." (see [CTFL 4.0], section 5.1.6, 7th sentence).

Question 33	FL-5.1.5	K3	Score 1.0
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The following priorities and dependencies of test cases are given:

Test case-ID	Priority	Technical dependency on:	Logical dependency on:
TC1	High	TC4	
TC2	Low		
TC3	High		TC4
TC4	Medium		
TC5	Low		TC2
TC6	Medium	TC5	

Which of the following test execution plans **BEST** addresses the priorities, technical and logical dependencies?

Select ONE option! (1 out of 4)

- | | | |
|----|-----------------------------------|-------------------------------------|
| a) | TC1 – TC3 – TC4 – TC6 – TC2 – TC5 | <input type="checkbox"/> |
| b) | TC4 – TC3 – TC1 – TC2 – TC5 – TC6 | <input checked="" type="checkbox"/> |
| c) | TC4 – TC1 – TC3 – TC5 – TC6 – TC2 | <input type="checkbox"/> |
| d) | TC4 – TC2 – TC5 – TC1 – TC3 – TC6 | <input type="checkbox"/> |

FL-5.1.5 (K3) Apply test case prioritization [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 5.1.5)

The test cases should be executed in order of priority, but the execution plan must also take dependencies into account.

The two highest priority test cases (TC1 and TC3) are both dependent on TC4, so the first three test cases should be executed either in the order TC4 - TC1 - TC3 or in the order TC4 - TC3 - TC1 (we have no way of distinguishing between TC1 and TC3).

Next, we need to look at the remaining medium priority test case TC6. TC6 is dependent on TC5, but TC5 is dependent on TC2, so the next three test cases must be executed in the following order: TC2 - TC5 - TC6.

This means that there are two optimal execution plans:

- TC4 - TC1 - TC3 - TC2 - TC5 - TC6 or
- TC4 - TC3 - TC1 - TC2 - TC5 - TC6

Option b) is therefore CORRECT.

Question 34	FL-5.1.7	K2	Score	1.0
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Which of the following test types belongs to quadrant Q2 – “Business-oriented, support for the team” in the test quadrant model?

Select ONE option! (1 out of 4)

a)	Component integration tests	<input type="checkbox"/>
b)	User story-based tests	<input checked="" type="checkbox"/>
c)	Nonfunctional tests	<input type="checkbox"/>
d)	Exploratory tests	<input type="checkbox"/>

FL-5.1.7 (K2) Summarize the testing quadrants and their relationships with test levels and test types [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – Component integration tests belong to quadrant Q1, which contains technology-oriented tests that support the team (see [CTFL 4.0], section 5.1.7, 1st bullet point).
- b) CORRECT – as user story-based testing is one of the business-oriented tests that support the team, as described in the syllabus text (see [CTFL 4.0], section 5.1.7). The test type that belongs to quadrant Q2 in the test quadrant model is option b): User story-based tests.
- c) FALSE – Nonfunctional tests belong to quadrant Q4, which contains technology-oriented tests that support critical thinking about the product (see [CTFL 4.0], section 5.1.7, 4th bullet point).
- d) FALSE – Exploratory tests belong to quadrant Q3, which contains business-oriented tests that uses the critical thinking about the product (see [CTFL 4.0], section 5.1.7, 3rd bullet point).

Question 35	FL-5.2.2	K2	Score	1.0
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Which of the following statements represents a project risk?

Select ONE option! (1 out of 4)

a)	Management transfers two experienced testers to another project	<input checked="" type="checkbox"/>
b)	The system does not comply with functional safety standards	<input type="checkbox"/>
c)	System response time exceeds user requirements	<input type="checkbox"/>
d)	Disabled persons have difficulties using the system	<input type="checkbox"/>

FL-5.2.2 (K2) Distinguish between project risks and product risks [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 5.2.2)

According to the ISTQB® Foundation Level Syllabus v4.0 and ISTQB® Glossary, project risks are uncertain events or conditions that can have an impact on the outcome of a project.

- a) **CORRECT** – because project risks can influence the project outcome by qualitatively and quantitatively reducing the testing resources available to the project (see [CTFL 4.0], section 5.2.2, paragraph Project Risks, 2nd bullet point).
- b) FALSE – because of product risk (see [CTFL 4.0], section 5.2.2, paragraph Product Risks, 3rd bullet point).
- c) FALSE – because of product risk (see [CTFL 4.0], section 5.2.2, paragraph Product Risks, 1st bullet point).
- d) FALSE – because of product risk (see [CTFL 4.0], section 5.2.2, paragraph Product Risks, 1st and 2nd bullet point).

The other options (b, c, d) are not considered as project risks because they do not directly impact the outcome of the project. They are more related to product risks, which are risks associated with the software product being developed (see [CTFL 4.0], section 5.2.2.).

Question 36	FL-5.4.1	K2	Punkte 1.0
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You are working as a project manager on an internal bank software project. To avoid rework and excessive "find/fix/retest" cycles, the following process has been introduced to fix a bug as soon as it is found in the test lab:

- a. The assigned developer finds and fixes the bug and then creates an experimental build
- b. A peer developer reviews, tests and confirms the bug fix
- c. A tester - usually the one who found the bug - confirms the fix by testing it in the development environment
- d. Once a day, a new release with all confirmed bug fixes is installed in the test environment
- e. The same tester from step c tests the bug fix in the test environment

Nevertheless, a large number of defects that the testers have confirmed as fixed in the development environment (in step c) somehow fail the post-deployment tests in the test environment, causing additional rework and impact on cycle times. You have the utmost confidence in your testers and have eliminated errors or omissions in step c.

Which of the following is the most likely the part of the process that should be checked next?

Select ONE option! (1 out of 4)

a)	The activity of developers that who may not have sufficiently tested the fix in step b.	<input type="checkbox"/>
b)	The activity of testers who may be unclear about what to test in step e.	<input type="checkbox"/>
c)	Configuration management, which may not maintain the integrity of the product in step d.	<input checked="" type="checkbox"/>
d)	The activity of developers who may not correctly fix the errors in step a.	<input type="checkbox"/>

FL-5.4.1 (K2) Summarize how configuration management supports testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – If inadequate developer testing was the problem, the bug fix test in step 3 would not pass
- b) FALSE – The same tester who successfully performed the error post-test in step 3 repeats it in step 5
- c) CORRECT – Configuration management preserves the integrity of the software. If a test that passes in step 3 fails in step 5, then something is different between the two steps. One possible difference is the test object, the option listed here. Another possible difference is between the development environment and the test environment, but this is not an option listed here
- d) FALSE – If the developers did not fix the defect, the confirmation test in step 3 would not be successful

Question 37	FL-5.3.2	K2	Score 1.0
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Which of the following statements from a weekly test progress report is NOT relevant for the stakeholders in regards to test monitoring and test control?

Select ONE option! (1 out of 4)

a)	The downtime of the test environment during the reporting period has increased by 20% to 25 hours.	<input type="checkbox"/>
b)	The time for providing statistics on the coverage metrics was reduced by 35% to 72 minutes during the reporting period.	<input checked="" type="checkbox"/>
c)	The execution of the test cases is currently 6 days behind schedule, as many failures are being found and there are problems with the test environment.	<input type="checkbox"/>
d)	New product risks were derived from the results of the test execution, which still need to be assessed.	<input type="checkbox"/>

FL-5.3.2 (K2) Summarize the purposes, content, and audiences for test reports [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0, section 5.3.2)

- a) FALSE – Failure of the test environment is a critical impediment to testing and therefore should be reported to enable stakeholders to assess and control testing (see [CTFL 4.0], section 5.3.2, 2nd paragraph, 3rd bullet point).
- b) CORRECT – Metrics are important information for the control of testing, but not the way or the effort to determine them. Therefore, improvements may be useful, but are not relevant for a test progress report (see [CTFL 4.0], section 5.3.2, 1st paragraph, 2nd sentence).
- c) FALSE – The status of current vs. planned test execution is project-related and can therefore be used by stakeholders to manage the test team on an ongoing basis (see [CTFL 4.0], section 5.3.2, 2nd paragraph, 1st sentence and 2nd paragraph, 2nd bullet point).
- d) FALSE – New risks have an impact on product quality, therefore they have a direct impact on the ongoing management of the test team (see [CTFL 4.0], section 5.3.2, 2nd paragraph, 5th bullet point).

Question 38	FL-5.5.1	K3	Punkte 1.0
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After running a set of test cases, a colleague has created the following bug report and asked you for a review.

Defect report:

- **ID:** br00_23_12
- **Title:** Error message on login with empty name not correct
- **Author:** Lisa van der Vaart (Test Engineer)
- **Test object:** build v00812
- **Test environment:** cfg_full_02
- **Revealing test case:** sys_128
- **Description:** After a login attempt with an empty name, the system returns the error message "wrong password". Instead, "Name must not be empty" should have appeared.
- **Severity of the error effect:** low
- **Priority for correction:** medium
- **Defect status:** new

Which of the following suggestions for improvement would you MOST like to give to your colleague?

Select ONE option! (1 out of 4)

a)	The title does not describe the content correctly.	<input type="checkbox"/>
b)	Severity and priority should be the same, as the first determines the second.	<input type="checkbox"/>
c)	You have not yet observed this defect. Therefore, the status is not "new".	<input type="checkbox"/>
d)	The following entry is missing: Date of the defect report: 19.12.2023	<input checked="" type="checkbox"/>

FL-5.5.1 (K3) Prepare a defect report [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) FALSE – the title correctly describes the observations.
- b) FALSE – the severity of the failure and the priority of rectification can be different, e.g. for a cosmetic defect with no influence on the system behavior but which offends the customer's sense of aesthetics. Both points are also dealt with separately in the syllabus (see [CTFL 4.0], section 5.5, second bullet point 8 and 9).
- c) FALSE – this is about the status of this defect message in the system. After this error message has been created, it always has the status "new". This status can be changed later on, but not when it is created. Whether the failure has already been observed is irrelevant here. It is more important that there is already a defect report for this observation.
- d) CORRECT – the date indicates (in addition to the tested software version) how current the observation is and should be included in the defect report (see [CTFL 4.0], section 5.5, 2nd bullet point, item 3).

Question 39	FL-6.1.1	K2	Score 1.0
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Which of the following testing tools is most useful for reporting the number of defects in the test object?

Select ONE option! (1 out of 4)

a)	Management tool	<input checked="" type="checkbox"/>
b)	Static test tool	<input type="checkbox"/>
c)	Test coverage tool	<input type="checkbox"/>
d)	Tool to support scalability	<input type="checkbox"/>

FL-6.1.1 (K2) Explain how different types of test tools support testing [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – Management tools support the activities that have to do with the efficiency of the testing process, including overviews of error states (see [CTFL 4.0], section 6.1, 1st bullet point).
- b) FALSE – Static testing tools support the tester in carrying out reviews and static analyses, not in dynamically changing evaluations of defects (see [CTFL 4.0], section 6.1, 2nd bullet point).
- c) FALSE – Test coverage tools facilitate the automated measurement of coverage, e.g. of code in the test object, but do not support defect management (see [CTFL 4.0], section 6.1, 4th bullet point).
- d) FALSE – Tools to support deployment scalability (e.g. virtual machines, container tools) support operational testing but not defect management (see [CTFL 4.0], section 6.1, 8th bullet point).

Question 40	FL-6.2.1	K1	Score 1.0
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Which of the following statements is a potential benefit of test automation?

Select ONE option! (1 out of 4)

a)	Test automation enables more objective evaluation and delivery of measurements that are too complicated for humans to derive.	<input checked="" type="checkbox"/>
b)	For test automation, you can estimate very precisely the effort required for introduction, maintenance and training.	<input type="checkbox"/>
c)	Test automation increases confidence in test results because it eliminates human critical thinking.	<input type="checkbox"/>
d)	Test automation always complies with regulatory requirements and security standards.	<input type="checkbox"/>

FL-6.2.1 (K1) Recall the benefits and risks of test automation [CTFL 4.0]

Justification: (see ISTQB® Foundation Level Syllabus v4.0)

- a) CORRECT – This is a **potential benefit** of test automation mentioned in the syllabus text: "More objective assessment (e.g., coverage) and provision of measurements that are too complicated for humans to derive" (see [CTFL 4.0], section 6.2, 3. bullet point Test automation).
- b) FALSE – This is not achieved by test automation, on the contrary, it is a potential **risk** of test automation mentioned in the syllabus text "Inaccurate estimates of the time, cost and effort required to implement a test tool, maintain test scripts and change the existing manual test process" (see [CTFL 4.0], section 6.2, 2nd bullet point risks test automation).
- c) FALSE – This is not achieved by test automation, on the contrary, it is a potential **risk** of test automation mentioned in the syllabus text. "Over-reliance on a tool, e.g. neglecting the need for human critical thinking" (see [CTFL 4.0], section 6.2, 4th bullet point Risks Test Automation).
- d) FALSE – This is not achieved by test automation, on the contrary, it is a potential **risk** of test automation mentioned in the syllabus text: "Choosing an inappropriate tool that does not meet regulatory requirements and/or security standards." (see [CTFL 4.0], section 6.2, 8th bullet point Test Automation Risks).

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