Sample Exam – Questions
Sample Exam set A
Version 1.0

ISTQB® Test Management Syllabus Advanced Level
Compatible with Syllabus version 3.0

International Software Testing Qualifications Board

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Acknowledgements

Revision History

Sample Exam – Questions Layout Template used:	Version 2.11 Date: October 16, 2023

Version	Date	Remarks
1.0	October 31, 2023	Approval for BETA REVIEW
1.0	December 14, 2023	Rework after BETA REVIEW
1.0	January 22, 2024	Rework after POST BETA
1.0	February 1, 2024	Rework after Native Speaker Review, Replace Q14, Q15, Q16
1.0	February 29, 2024	Rework after Proofreading and Feedback from trial exams

Table of Contents

Introduction

Purpose of this document

The example questions and answers and associated justifications in this sample exam have been created by a team of subject matter experts and experienced question writers with the aim of:

- Assisting ISTQB® Member Boards and Exam Boards in their question writing activities
- Providing training providers and exam candidates with examples of exam questions

These questions cannot be used as-is in any official examination.

Note that real exams may include a wide variety of questions, and this sample exam *is not* intended to include examples of all possible question types, styles or lengths. This sample exam may both be more difficult or less difficult than any official exam.

Instructions

In this document you may find:

- Questions[1], including for each question:
    - Any scenario needed by the question stem
    - Point value
    - Response (answer) option set
- Additional questions, including for each question [does not apply to all sample exams]:
    - Any scenario needed by the question stem
    - Point value
    - Response (answer) option set

- *Answers, including justification are contained in a separate document*

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[1] In this sample exam the questions are sorted by their targeted LO; this will not be the case in a live exam.

Questions

Section: Test Process

Question #1 (1 Point)
Which of the following activities is most essential in developing and establishing a test plan?

    a) Reaching consensus among all stakeholders
    b) Defining test objectives based on regulatory standards
    c) Identifying and estimating the test activities and resources
    d) Having all stakeholders identify their risk mitigation strategy

Select ONE option.

Question #2 (1 Point)
Which of the following defines the main goal of test monitoring?

    a) Test monitoring compares the actual test progress against the planned progress.
    b) Test monitoring compares the actual results against the expected results.
    c) Test monitoring compares changes against unknown risks.
    d) Test monitoring compares approval criteria against exit criteria.

Select ONE option.

Section: Context of Testing

Question #3 (1 Point)

When comparing stakeholders in a given project, the Project Manager wants to ensure that detailed discussions are held with high-level stakeholders while, at the same time, engaging low-level stakeholders in a planning workshop specifically for the project schedule. Which group of stakeholders is the BEST choice for the Project Manager to include in the detailed discussions?

    a) Development leads, automation testers, finance staff
    b) Security architects, operations team
    c) Test environment managers, application owners
    d) Project Managers for other projects, trainers, test management tool vendor

Select ONE option.

Question #4 (1 Point)

As a Test Manager that is responsible for conducting acceptance testing, you are to purchase a stand-alone Commercial Test Management tool that meets the requirements and standards of your organization. The tool should enable you to plan, execute, monitor, and report the acceptance testing activities and results. You have identified and analyzed the stakeholders who have a high interest and high influence on the acceptance testing project and the test management tool.

Which of the following would be your high interest, high influence stakeholders?

    a) Testers
    b) Product Developers
    c) Product Manager
    d) Project Manager

Select ONE option.

Question #5 (1 Point)

A project has just started to use Agile development practices. The test team is not trained to continuously test in shorter time frames using multiple test cycles.

In a test management role, which of the following test management activities would be the best to perform first?

    a) Coaching and mentoring the test team on automation, continuous integration, testing and delivery.
    b) Give the team time to learn by negotiating deadlines and recognize the team's small victories to keep their morale up.
    c) Convince leadership that introducing Agile practices will not work, because the team and resources are not ready for it.
    d) Hire some new team members who are familiar with continuous testing.

Select ONE option.

Question #6 (1 Point)

A new test manager joins an organization and is initially tasked with identifying which lifecycle models are currently being used. Four things that she observed were:

- Test iterations occurred every 3 weeks
- Automation was implemented to aid in meeting time frames
- Products and tasks were completed before moving to the next iteration
- Testing wasn't starting until the requirements had been completed

Which lifecycle model is described above?

a) Sequential
b) Iterative
c) Hybrid
d) DevOps

Select ONE option.

Question #7 (3 Points)

Assume that you are working for an ambitious start-up that is developing a system which provides customized loyalty and rewards programs for small and medium-sized companies selling to web-based customers.

The companies using the system are able to self-enroll on the system's web store and can then create customized buttons for their websites. These buttons can then be used to allow their customers to enroll in the companies' loyalty and rewards program.

Each subsequent purchase earns points, and both companies and their customers can manage the program; for example, to determine the number of points required to receive a free product or service.

Your employer intends to launch new features, enhancements, and bug fixes through multiple releases every month.

Which of the following test management activities apply?

a) Implement DevOps Development Tools
b) Send the test status reports manually
c) Manage the manual regression test execution
d) Enable the test team and facilitate communication

Select ONE option.

Question #8 (3 Points)

Assume you are in a project that develops a software for safety-critical software for a medical device. The software must comply with the ISO 13485 standard and FDA regulations. The project is following an agile methodology with two-week sprints. The test team consists of four onsite testers and six offsite testers. The organization uses a cloud-based DevOps toolchain as the main tool for CI/CD and test automation. The project is in the maintenance phase and requires frequent regression testing due to defect fixes and feature enhancements. The project has a continuous risk management process in place, which involves identifying, assessing, and mitigating any new or existing risks associated with the software changes.

Which of the following test management activities best emphasizes the specific focus of this project?

    a) Developing a risk management plan to identify, assess, prioritize, and mitigate risks
    b) Developing a test team configuration plan to define the roles and responsibilities of the onsite and offsite teams
    c) Developing a test automation plan to define the scope of automation and select the automation tools and frameworks
    d) Developing a regression testing plan to identify the scope of regression testing and select the regression testing tools

Select ONE option.

Section: Risk-based testing

Question 9 (1 Point)

A project involved the migration of a web application to the cloud. The cloud system provider estimated that a system outage was very unlikely. Based on this statement, the testers decided not to conduct reliability testing for this item because even though the risk impact would be high, the moderate overall risk level did not justify the additional effort and time needed for this test type. Soon after going live, the website became unavailable for two days causing a substantial loss of revenue and reputation to the company.

How could the test team improve its use of risk-based testing to avoid such problems in the future?

    a) Involve additional stakeholders in risk analysis to improve the assessment of risk likelihood
    b) Conduct intensive reliability tests even if the risk level is moderate
    c) Involve experienced testers in risk assessment to evaluate the risk level correctly
    d) Use a risk-based testing strategy to avoid such major failures

Select ONE option.

Question 10 (1 Point)

As a test manager, you create a spreadsheet with rows for the system components and columns for their failure modes, their risk likelihood and risk impact. You invite the system architects and operations representatives to jointly fill in the system components and failure modes based on their expertise.

Which risk identification technique are you applying with this procedure?

    a) Expert interviews
    b) Checklists
    c) Risk workshop
    d) Brainstorming

Select ONE option.

Question 11 (3 Points)

Risks have been identified for a project and analyzed using a quantitative method, with the following results for risk likelihood and risk impact.

Risk ID	Description	Risk Likelihood	Risk Impact
A	The application may not suit the functionality expected by the business	40%	1,500,000 €
B	The test environment may not be available in time for testing	20%	500,000 €
C	Users may not understand system documentation	90%	100,000 €
D	The test manager may not have enough time for this project	10%	6,000,000 €

Which set of testing activities would be the best to mitigate these risks?

a) Address risk A as a high priority by testing an early prototype with business stakeholders, then address risk C by introducing reviews. No testing is planned to mitigate risks B and D.

b) Execute tests addressing risk A by documentation review, and risk C with black-box testing. Then, address risks B and D with white-box testing.

c) Mitigate risks by testing risk B and C first with exploratory testing, then test risk A with confirmation testing. Test Risk D as time allows.

d) Mitigate risks by testing risk A and risk B by testing with business stakeholders using an early prototype and risk D with non-functional testing. Accept risk C without explicit testing.

Select ONE option.

Question 12 (3 Points)

Assume you are in a project that develops a web application for online banking. The project is following an agile SDLC and has four sprints of two weeks each. The application has several features, such as account management, fund transfer, bill payment, and loan application. Each feature has different levels of security, usability, and performance risks.

You have a test team of six members with different skills and experience.

Based on this situation, how would you select appropriate test activities to mitigate risks according to their risk level?

    a) Use static testing and dynamic testing for all features, but allocate more test effort and use more thorough test techniques for the features with higher risk levels. Assign the most qualified testers to the features with the highest risk levels. Use reviews and regression testing to ensure quality assurance.

    b) Use static testing for the features with lower risk levels and dynamic testing for the features with higher risk levels. Assign the testers randomly to the features regardless of their skills and experience. Use reviews and regression testing to ensure quality assurance.

    c) Use dynamic testing only for the features with higher risk levels and skip testing for the features with lower risk levels. Assign the testers based on their availability and preference. Use reviews and regression testing to ensure quality assurance.

    d) Use static testing only for the features with higher risk levels and skip testing for the features with lower risk levels. Assign the testers based on their seniority and rank. Use reviews and regression testing to ensure quality assurance.

Select ONE option.

Question 13 (1 Point)

Your team is developing a new major version of a mobile application which graphically displays the timetable of various public transport organizations on a common user interface. Your team is following an agile lifecycle model with fast iterations and releases. Requirements are rather informal, often collected from user feedback and development. The organizational test strategy requires risk-based testing. To make the risk analysis proceed quickly, you want to involve the members of the agile team who are familiar with the main risk areas of usability, compatibility, portability, and performance.

Which technique would you recommend using in this situation?

    a) Hazard analysis
    b) Pragmatic Risk Analysis and Management
    c) Systematic Software Testing
    d) Fault tree analysis

Select ONE option.

Section: Project Test Strategy

Question 14 (1 Point)

Which of the following key decisions need to be made when choosing a test approach?

   a) Test types, test techniques and test metrics
   b) Test levels, entry/exit criteria and test techniques
   c) Test levels, test types and test techniques.
   d) Test levels, test techniques, and test deliverables.

Select the BEST option.

Question 15 (3 Points)

Assume you are a member of a project that develops a software product for the banking sector. You are responsible for analyzing the organizational test strategy and the project context to choose the appropriate test approach. You consider the following factors:

   •   The project has a tight budget and a fixed deadline, which means that you must optimize the test effort and avoid unnecessary costs and delays.
   •   The customer has provided detailed requirements and expects high quality and reliability from the product, which means that you must ensure that the product meets the customer´s expectations and conforms to the specifications.
   •   The project uses an agile SDLC model with frequent releases and feedback cycles, which means that you must adapt to changing requirements and deliver test results in short iterations.
   •   The test team consists of four testers with different levels of experience and skills, which means that you must assign the test tasks according to the testers' capabilities and provide guidance and support when needed.
   •   The test infrastructure is limited and requires manual configuration and maintenance, which means that you must plan and manage the test environment and resources carefully and efficiently.
   •   The product has several interfaces with other systems that need to be tested, which means that you must coordinate and integrate the test activities with the other stakeholders and ensure the compatibility and interoperability of the products.

Which of the following test approaches would be most appropriate for this project?

   a) Risk-based testing to prioritize the most critical and complex features and scenarios, and to allocate the test resources accordingly.
   b) Model-based testing to generate test cases and test data automatically from the requirements, and to measure the test coverage and quality.
   c) Experience-based testing to leverage the testers' expertise and intuition, and to perform exploratory testing in an agile context.
   d) Testing based on the acceptance criteria to verify the compliance of the product with the customer's specifications, and to enable acceptance testing.

Select the BEST option.

Question 16 (3 Points)

Assume you are in a project that develops a web application for online banking. The project is customer specific and has strict requirements on security, performance, and reliability. The project uses an agile SDLC model with two-week sprints and frequent releases.

The test team consists of four testers with different levels of experience and skills. The test infrastructure is cloud-based and supports various browsers and devices. The test data is provided by the customer and needs to be anonymized before use.

Based on the scenario, which of the following test approaches would be most appropriate for your project?

a) Testing will be done by the whole team using three test levels: unit testing and integration testing, where test cases are jointly created and performed by the developers and the testers grouped in pairs, and system testing where the test cases will be created and performed by the four testers. In unit and integration testing level, white-box testing is used aiming at 100% automation. In all test levels risk-based testing will be used to create and prioritize test cases. For system testing the testers will use all appropriate test techniques to cover acceptance criteria.

b) Testing will be done by the whole team using four test levels: unit testing, integration testing, system testing and acceptance testing. In unit and integration testing as well as in system testing level, model-based testing will be used thoroughly with a focus on state-based testing. Code coverage is measured while executing the tests and aimed at 90% branch coverage. For acceptance testing the sprint demo is therefore sufficient.

c) As the project uses an agile SDLC model, no explicit test levels are defined, and testing will be performed by the developers automating their unit tests and by the four testers using exploratory testing. For this, several test charters will be created that give guidance on using the test infrastructure so that all available browsers and devices are covered. Additionally, usability testing will be performed using checklist-based testing.

d) Two test levels will be defined. The first test level is a combined unit/integration test level where the four testers will create test cases based on the functional requirements using equivalence partitioning, boundary value analysis, decision tables and state transition testing. These test cases will then be automated by the developers and used in unit/integration testing. In system testing the testers will use exploratory testing for every item which is set to "done" by the developers.

Select ONE option.

Question 17 (2 Points)

You are part of a team responsible for testing a complex e-commerce website. The team has been given the following objective from Management: "The system should be defect-free". According to the S.M.A.R.T criteria, and taking into account the complexity and limited resources of your project, which of the following revisions to this test objective would be most appropriate?

    a) Our website should be able to perform all planned functions without serious defects that affect the user experience.
    b) By the end of the current development phase, less than 1% of the site's functions should have defects, as measured by the total number of functional test cases included in the test suite.
    c) We aim to ensure that our e-commerce system does not experience any critical outages that could lead to business interruptions within the next year.
    d) Our goal is to reduce the number of defects found in the beta testing by 50% compared to the last development phase.

Select ONE option.

Question 18 (2 Points)

You are the test manager of a project that develops a mobile app for online shopping.

The project is under development and there are high expectations on usability, functionality, and compatibility. The project uses a hybrid SDLC model with four-month releases and monthly iterations. The test team consists of six testers with various skills and experience.

The test infrastructure is cloud-based and supports various devices and operating systems.

The test data is generated by a test data management tool and needs to be validated before use.

Which of the following project test objectives is SMART according to the syllabus text?

    a) Checking the usability of the app by measuring the time it takes to complete a purchase
    b) Enhancing the level of automated tests by 50%
    c) Complying with the rules and regulations of the e-commerce industry
    d) Proving the functionality and compatibility of the app by testing all features on all devices

Select ONE option.

Section: Improving the Testing Process

Question 19 (1 Point)

Assume that you are a test manager and are working to make your test processes more effective and efficient. You already have a management-approved initial budget in place for these process improvements. Last week, an external consultant completed her assessment on the test process and delivered her findings.

Which of the following is the next step for this process improvement effort, assuming you are following the IDEAL model for process improvement?

a) Create a plan for selecting and implementing the assessment recommendations.
b) Implement the assessment recommendations, including any necessary training and piloting.
c) Initiate the improvement process across the test organization.
d) Diagnose the current situation by evaluating the sources of inefficiency.

Select ONE option.

Question 20 (1 Point)

You, as a test consultant, are now responsible for test improvements in a critical project at a small regional bank. The project deals with digital transformation and will continue for two more years using an agile approach. Since the Test Maturity Model integration (TMMi) is popular in the finance domain, the bank has asked you to use TMMi as a reference framework during your project test improvement activities.

How would you go about using TMMi in the described context?

a) Make clear that model-based improvement using TMMi is not possible on a project level.
b) Recommend that all TMMi level 2 and level 3 process areas be used for these improvement activities.
c) Focus on the TMMi process areas that especially relate to the activities at the project level, and in addition use the specific "TMMi and Agile" guideline.
d) Since the project is using an Agile approach, propose using the scrum guide for test improvement activities.

Select ONE option.

Question 21 (2 Points)

Assume that you are working for an ambitious start-up that is developing a system which provides customized loyalty and rewards programs for small and medium-sized companies selling to web-based customers. The companies using the system are able to self-enroll on the system's web store and can then create customized buttons for their websites. These buttons can then be used to allow their customers to enroll in the companies' loyalty and rewards program. Each subsequent purchase earns points, and both companies and their customers can manage the program; for example, to determine the number of points required to receive a free product or service.

Your employer's marketing staff is heavily promoting the system by offering aggressive discounts on the first year's fees to sign up inaugural companies. The marketing materials state that the service will be highly reliable and extremely fast for companies and their customers.

At this time, the requirements are complete and development of the software has just begun. The current schedule will allow companies and their customers to enroll starting in three months.

Your employer intends to use cloud computing resources to host this service, and to have no hardware resources other than ordinary office computers for its developers, testers, and other engineers and managers. Industry-standard web-based application software components will be used to build the system.

The project has completed the initial release, and the system has now been in use by companies and their customers for a month. Your team used a blended risk-based testing, requirements-based testing, and reactive testing strategy. In the quality risk analysis, button customization was assessed as the lowest risk area, while enrollment was assessed as the highest risk area. You are now running a retrospective for the testing work.

Which TWO of the following areas should most likely be considered in this retrospective?

a) Evaluating whether significant problems have been reported by users in button customization.
b) Deciding if the project plan included all relevant project risks that affected delivery to early-adopter companies.
c) Determining the level of detail required for enrollment, customization and point management test cases.
d) Measuring the coverage of the enrollment requirements and reporting the results to project and business stakeholders.
e) Investigating which tests at which test level could have covered issues reported by customers.

Select TWO options.

Question 22 (2 Points)

You are a tester in an Agile software development team that has just completed an iteration. You are preparing for the retrospective meeting with the rest of the team.

Which of the following activities is **NOT** part of a typical retrospective?

    a) Reviewing the test progress, defect detection, and test effectiveness metrics
    b) Identifying the root causes of the testing problems and generating improvement ideas
    c) Assigning responsibilities and defining goals and metrics for the improvement actions
    d) Evaluating the test processes and tools against the industry best practices

Select ONE option.

Section: Test Tools

Question 23 (1 Point)

You are a test manager and the head of the testing team for a new product line with multiple variants for several customers. One of the first tasks you are assigned is to select and introduce a proper tool for test management, as the current tool by your company does not fit the need of the upcoming product line.

Which is **NOT** a best practice for the selection of the new test management tool?

   a) Choose the successor of the currently used test management tool
   b) List the criteria needed for the product line that are not met by the test management tool
   c) Evaluate which licensing model will best fit the test management of a product line with multiple variants
   d) Evaluate the tool against clear requirements and objective criteria

Select ONE option.

Question 24 (3 Points)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are carried out in separate business units. You are the test manager of one product line of network router software.

In your product line, there is a long tradition of creating tightly integrated products using an incremental product lifecycle. The hardware business unit produces a new version every six months. Your software product line aims to have a new version of the software ready for each new hardware version. The software is developed in two-month increments.

The business unit schedules are synchronized during design.

Your team consists of 15 testers, who have been in the company for at least two years, but mostly a lot longer. New tests are developed by the most experienced test analysts as in-house custom test scripts. Variations of tests and the regression test sets are run by the rest of the team.

The company's management requires monthly progress reports listing the number of severe defects found, as well as the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units.

There have been problems keeping up with the hardware development schedule.

You have heard that another similar software product line within your company is using an open-source tool for their test automation. They use it to automate roughly 50% of the tests and execute the remaining tests manually through the user interface of the software.

You are requested to investigate if it would be possible to use this tool for your product line as well.

What should be your key concern?

   a) How good is the support for the open-source tool?
   b) Is the new tool user-friendly?
   c) Is my business unit mature enough for test automation using this tool?
   d) Can all artifacts created by the tool be easily maintained?

Select the BEST option.

Question 25 (3 Points)

You are working on a software development project that is using an Agile development methodology.

You are considering introducing a test automation tool to improve the quality and efficiency of testing. You have identified three potential tools: Tool A, Tool B, and Tool C. Each tool has different features, costs, and benefits. You have performed a cost-benefit analysis and calculated the ROI for each tool based on the following information:

- Tool A costs $10,000 to purchase and $2,000 per year to maintain. It has a high level of usability and maintainability, but it only supports functional testing. It can reduce the manual testing effort by 20% and the test cycle time by 10%. It can also increase the test coverage by 15%.
- Tool B costs $15,000 to purchase and $3,000 per year to maintain. It has a moderate level of usability and maintainability, but it supports both functional and performance testing. It can reduce the manual testing effort by 30% and the test cycle time by 20%. It can also increase the test coverage by 25%.
- Tool C costs $20,000 to purchase and $4,000 per year to maintain. It has a low level of usability and maintainability, but it supports functional, performance, and security testing. It can reduce the manual testing effort by 40% and the test cycle time by 30%. It can also increase the test coverage by 35%.

Assuming that the ROI can be calculated for the given situation, which tool would you choose and why?

a) Tool A, because it has the lowest initial and recurring costs
b) Tool B, because it has the best balance between costs and benefits
c) Tool C, because it has the highest reduction in effort and time and the highest increase in coverage
d) None of the tools, because they do not provide a positive ROI

Select ONE option.

Question 26 (1 Point)

For your current project, the available custom-built tool does not meet the requirements of your test automation effort. Within your company, there is an open-source test automation tool successfully being used for identical requirements.

If you choose the same open-source tool, which of the following activities should happen as a first step when retiring the current custom-built tool in order to show the value of the new tool as quickly as possible?

a) The custom-built tool must be maintained and converted to the new environment.
b) The regression test scripts of the custom-built tool must be converted to the new tool.
c) The backup and restore functionalities of the custom-built tool must be maintained.
d) All test scripts of the custom-built tool must be converted to the new tool.

Select ONE option.

Section: Test Metrics

Question 27 (1 Point)
Which of the following metrics is applicable?

1. Percentage of product risk coverage
2. Number of assigned critical defects and non-critical defects
3. Percentage of planned vs. automated test cases
4. The Ratio of estimated number of hours required to test activities vs. the project total number of hours required
5. Number of archived testware artifacts

to which test management activity?

A.) Test planning
B.) Test monitoring & test control
C.) Test completion
D.) None of the above

a) 3B, 4B, 1C, 2C, 5C.
b) 2B, 3B, 5B, 1C, 4C.
c) 1B, 2B, 4C, 3C, 5C.
d) 1B, 5B, 2C, 3C, 4C.

Select ONE option.

Question 28 (1 Point)
What is the primary goal of using test metrics?

a) Test metrics are used to measure test progress and to assess whether the test exit criteria or test objectives have been met.
b) Test metrics are used to provide guidance and corrective actions to achieve effective and efficient testing.
c) Test metrics are used to collect data from completed test activities to consolidate lessons learned, testware, and other relevant information.
d) Test metrics are used to reprioritize tests when an identified risk becomes an issue.

Select ONE option.

Question 29 (3 Points)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are carried out in separate business units. You are the test manager of one product line of network router software.

In your product line, there is a long tradition of creating tightly integrated products using an incremental product lifecycle. The hardware business unit produces a new version every six months. Your software product line aims to have a new version of the software ready for each new hardware version. The software is developed in two-month increments.

The business unit schedules are synchronized during design.

Your team consists of 15 testers, who have been in the company for at least two years, but mostly a lot longer. New tests are developed by the most experienced test analysts as in-house custom test scripts. Variations of tests and the regression test sets are run by the rest of the team.

The company's management requires monthly progress reports listing the number of severe defects found, as well as the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units.

There have been problems keeping up with the hardware development schedule.

The business unit manager has asked you to propose how to improve the testing of the project by introducing better tools or measurable metrics (e.g. at least 100 percentage statement coverage). The manager has quickly collected a product risk list from user representatives and thinks the tests do not cover all the risks.

Which of the following options would you recommend?

a) Add more tests to better cover the functionality
b) Derive risk and confidence status from the testers' opinions about developer capabilities
c) Analyze residual risks based on tester confidence to see if enough statement coverage is reached
d) Include a confidence evaluation as part of the project measurements

Select ONE option.

Question 30 (3 Points)

You are the test manager of a software project that uses a document-centric sequential development model and involves developing a desktop application for a banking system.

The project has a large and hierarchical team that works with multiple stakeholders.

The project has a low level of uncertainty and complexity due to the stable and well-defined requirements and technology. The project also has strict quality and security standards to comply with the legal regulations of the banking industry.

What are the most suitable metrics that you would use to analyze the test results and create test reports that empower stakeholders to make decisions? Choose the best answer.

a) Metrics related to product risks, defects, test progress, coverage, and costs and test effort
b) Metrics related to defects, test progress, coverage, and code coverage
c) Metrics related to product risks, defects, test progress, coverage, and environment/configuration coverage
d) Metrics related to defects, test progress, coverage, and residual costs for untested components

Select ONE option.

Section: Test Estimation

Question 31 (1 Point)

Which of the following factors is **NOT** relevant for test estimation?

   a) The complexity and size of the software under test
   b) The availability and skills of the test team members
   c) The quality and reliability of the test tools and environment
   d) The number and severity of the defects found during testing

Select ONE option.

Question 32 (3 Points)

You are working on an Agile project which takes place in multiple locations and you are responsible for the test effort at your location. The testing strategy is a blend of risk-based testing, process-compliant testing, and reactive testing. Developers are following known Agile best practices, including automated component testing and continuous integration.

Your task is estimating the system test effort required for a particular iteration by your test team.

Which TWO of the following statements best describe which test techniques you should use and how you should carry out the estimation in this situation?

   a) Consider the average effort required per identified risk in past iterations
   b) Allocate time-boxed test sessions for each identified test charter
   c) Estimate that most defects will be found during system test execution
   d) Include effort to create detailed test work product documentation
   e) Assume that system tests can reuse unit test data and environments

Select TWO options.

Question 33 (3 Points)

You are the test manager of a software project that follows the sequential model. Historical data from similar projects are available. The project requirements and the scope are fixed and well-defined.

You need to estimate the test effort for the entire project based on the requirements specification document.

Which of the following techniques or approaches would be most suitable for your context?

   a) Estimation based on ratios
   b) Planning Poker
   c) Three-point estimation
   d) Delphi method

Select ONE option.

Section: Defect Management

Question 34 (2 Points)

Which of the following is a reason why a defect report may NOT be created after a failure is detected by a test?

- a) The failure is caused by a defect that was introduced in the same phase as the test
- b) The failure is caused by a defect that is not to be tracked within the defect workflow
- c) The failure is caused by an invalid test that does not match the requirements specification
- d) The failure is caused by an anomaly that is not observed by the tester

Select ONE option.

Question 35 (2 Points)

The diagram shows an incomplete defect workflow, where two states (states X and Y) have yet to be named appropriately.
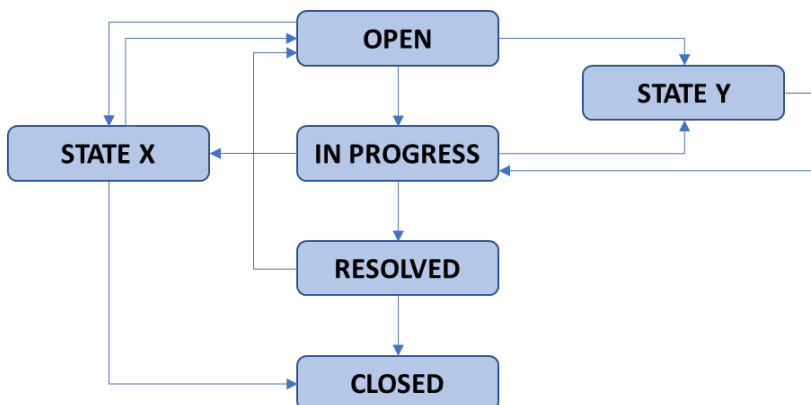
Which of the following would correctly complete the workflow?

- a) STATE X – RETESTED   STATE Y – RE-OPENED
- b) STATE X – REJECTED   STATE Y – CLARIFICATION
- c) STATE X – DUPLICATE   STATE Y – TERMINATED
- d) STATE X – FIXED   STATE Y – REJECTED

Select ONE option.

Question 36 (1 Point)

Which of the following represents a complete sequence of states for a defect report that leads to a terminal state? Assume that IN PROGRESS means one or more states where developers or other project stakeholders are addressing the defect.

- a) OPEN, IN PROGRESS, RESOLVED, CLOSED, DEFERRED.
- b) OPEN, IN PROGRESS, RETURNED, IN PROGRESS, RESOLVED.
- c) OPEN, IN PROGRESS, RESOLVED, CLOSED.
- d) IN PROGRESS, OPEN, RESOLVED, CLOSED.

Select ONE option.

Question 37 (1 Point)

You are a tester in an agile team working on a new product. During the third sprint, while performing exploratory tests, you experienced a failure in the login feature which was developed during the first sprint in cooperation with the team responsible for the Identity Provider (IDP).

What is one reason why you would choose **NOT** to create a defect report in this case?

    a) The developer will not have time to work on the fix until the following week.
    b) You need to clarify the failure with a developer of your team.
    c) This defect will require cooperation with the IDP team.
    d) According to the Product Owner, this defect has low severity and should be fixed in the next iteration.

Select ONE option.

Question 38 (1 Point)

Which of the following is MOST relevant regarding defect management in hybrid environments?

    a) All teams must use the same defect management tool, whatever their methodology is.
    b) Frequency of the defect management committee meetings must be determined by the largest team.
    c) Agile teams should schedule their defect fix priorities to align with the overall project plan.
    d) All team members must agree on the prioritization of the defects.

Select ONE option.

Question 39 (2 Points)

Which of the following data items is NOT mandatory for managing defect reports in most environments?

    a) A defect title with a short summary of the anomaly
    b) The subsystem or component in which the defect lies
    c) Severity of the impact on the system under test and/or the product stakeholders
    d) Priority to fix the anomaly

Select ONE option.

Question 40 (2 Points)

You are the test manager on a project where system testing is being performed on software provided by a third party. You have received a complaint from the third party that the completeness of the defect data from your system testing is unacceptable.

Which of following options could have been identified as missing from the defect reports sent to the third party?

    a) The project activity occurring when the problem was detected.
    b) Steps to reproduce the failure, along with the actual and expected results.
    c) The priority to fix the problem.
    d) The technical type of the defect.
    e) The software lifecycle phase in which the defect was detected.

Select TWO options.

Question 41 (1 Point)

Your organization has decided that it aims to improve its test and development process by reducing the number of defects introduced during development, based on already existing defect reports.

Which of the following defect report information will be MOST useful in fulfilling this objective?

    a) The software lifecycle phases of detection, and removal of the defect.
    b) The defect root cause information.
    c) The defect location information.
    d) The defect removal efficiency information.

Select ONE option.

Section: Test Team

Question 42 (1 Point)

Which of the following skills is an example of methodical competence for a test team member?

    a) Ability to apply test techniques to design test cases
    b) Ability to communicate test results to stakeholders
    c) Ability to manage test tasks and resources
    d) Ability to learn new technologies and tools

Select ONE option.

Question 43 (3 Points)

You are responsible for staffing a test team in a company that specializes in the development of brake systems for domestic motor vehicle manufacturers. While the development of the individual software components is carried out by several SCRUM teams, the system development (consisting of software and hardware) is carried out according to the V-model in close cooperation with the SCRUM teams.

The brake system is classified as safety-critical. The tests must be state of the art in design and documentation.

The test analyst for the system tests leaves your company while the project is in a critical phase, and the position must be filled quickly. The main task of the test analyst was the test design of the integration test in cooperation with the SCRUM teams and the requirement-based test design for the system tests.

Based on the information above, what is the minimum combination of skills and qualifications required for this position?

    a) Black-box test techniques; communication skills; resilience; test documentation according to ISO 29119
    b) Black-box test techniques; programming skills; resilience; SCRUM certification
    c) Communication skills; ability to delegate work; intercultural competence; test documentation according to ISO 29119
    d) Intercultural competence; communication skills; black-box test techniques; ability to delegate

Select ONE option.

Question 44 (3 Points)

You are in a test management role of a software project that uses an Agile software development lifecycle (SDLC) and involves developing a web application for an online gambling platform. The project has a small cross-functional team that works closely with the customer. The project has a high level of uncertainty and complexity due to the frequent changes in requirements and technology. The project also has strict quality and security standards to comply with the legal regulations of the gambling industry.

What are the most important skills that you would look for when selecting test team members for this project?

a) Business expertise in the gambling industry, technical expertise in web technologies and security vulnerabilities, communication and cooperation skills, self-management and discipline skills
b) Conceptual knowledge for developing a test strategy, project management skills for managing all test tasks, analytical skills in analyzing the test basis and the product risks, judgment skills for the selection of tests
c) Skills in test techniques and conceptual knowledge for designing the test environments, technical expertise for test script programming and setting up test environments, technical expertise for automating test execution, ability to communicate project outcomes
d) Business expertise in information technology, technical expertise in programming languages and interface technology, knowledge about test levels, testing roles, and specific test techniques, conflict resolution skills

Select the BEST option.

Question 45 (1 Point)

To determine the competence of a new colleague, you have given him the task of analyzing a set of requirements and designing test cases for the system test.

Which skill areas can be evaluated based on the colleague's performance?

a) Evaluation of professional competence. No other competencies can be evaluated.
b) Evaluation of methodical competence. No other competencies can be evaluated.
c) Evaluation of professional and methodical competencies. No other competencies can be evaluated.
d) Evaluation of professional and social competencies. No other competencies can be evaluated.

Select ONE option.

Question 46 (1 Point)

Which of the following statements about approaches for development of test team member skills is correct?

a) Training and coaching are the same.
b) Self-study is a recommended approach to develop social skills.
c) In peer learning, an expert supports an inexperienced person.
d) Coaching assists in finding individual solutions to improve one's own competencies.

Select ONE option.

Question 47 (1 Point)

Leading a team requires specific skills. Which of the following statements about leading a test team is correct?

a) In a test team, willingness to help is more important than the ability to delegate.
b) When a new test team forms, the most important competence is the ability to act with appreciation.
c) Throughout the test team's lifecycle, all skills are equally important.
d) The ability to resolve conflicts helps to gain consensus around rules and roles in the early stages of group development.

Select ONE option.

Section: Stakeholder Relationships

Question 48 (1 Point)

Consider the following categories of quality costs in case of faults and failures:

1. Prevention costs
2. Appraisal costs
3. Internal failure costs
4. External failure costs

Consider the following examples of quality costs:

A. Performing a product risk analysis
B. Training business analysts in requirements engineering
C. Customer complaints about poor performance
D. Long lag time from defect reporting to resolution during testing causing increased defect management inefficiency

Match the category to the appropriate example.

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

Select ONE option.

Question 49 (2 Points)

Assume you are managing the testing of a mature application. This application is an online dating service that allows users to: create a profile of themselves; meet people who would be a good match for them; arrange social events with those people; block people they do not want to contact them. Assume that you have calculated the following costs of quality per defect:
- Appraisal costs: $150
- Internal failure costs: $250
- External failure costs: $5,000

The average cost of detection and internal failure are calculated using the number of defects found prior to release, while the average costs of external is calculated using the number of defects found after release.

Which of the following statements is correct?

a) The total cost of quality, including cost of prevention, for this dating application is $55,000
b) Each defect found by testing offers the organization an average $4,600 savings in cost of quality
c) Cost of quality cannot be used to calculate the value of testing for this or any other organization
d) Each defect found by testing offers the organization a potential $5.400 savings in cost of quality

Select ONE option.

Question 50 (2 Points)

You are the test manager of a software project that has a budget of €100,000 and a deadline of six months. You have estimated that the average prevention costs per defect are €150, the average appraisal costs per defect are €400, the average internal failure costs per defect are €250, and the average external failure costs per defect are €3,000.

You have also identified the following risks for your project:

- R1: The requirements are unclear and may change frequently
- R2: The technology used is new and unfamiliar to the development team
- R3: The customer has high expectations for quality and reliability
- R4: The project has a tight schedule and scope

How would you apply a cost-benefit calculation to estimate the added value of testing for stakeholders?

a) Cost-benefit calculation = Average of external failure costs - (average of prevention costs + average appraisal costs + average of internal failure costs)
b) Cost-benefit calculation = Average of external failure costs / (average of prevention costs + average appraisal costs + average of internal failure costs)
c) Cost-benefit calculation = (Average of external failure costs - average of internal failure costs) / (average of prevention costs + average appraisal costs)
d) Cost-benefit calculation = (Average of prevention costs + average appraisal costs + (average of internal failure costs / Average of external failure costs)

Select ONE option.

Appendix: Additional Questions

Section: Test Process

Question #A1 (1 Point)

Which of the following is the most accurate description of a "test completion check"?

a) A test completion check ensures that all testware is completed as planned
b) A test completion check ensures that all important lessons learned are documented
c) A test completion check ensures that all testware are stored in the configuration management system
d) A test completion check ensures that test plans are developed to ensure that good practices are repeatable

Select ONE option.

Section: Context of Testing

Question #A2 (1 Point)

Which of the following is NOT a test management activity at the system testing level?

a) Defining the test scope
b) Selecting the tools and test techniques
c) Deciding which parts need to be integrated and tested
d) Managing defects throughout the test process

Select ONE option.

Question #A3 (1 Point)

Which of the following is a test management activity for white-box testing, but not for functional or non-functional testing?

a) Define the scope
b) Determine the test tools and test environments
c) Measure the coverage of statements
d) Monitor test execution based on prioritization of test cases

Select ONE option.

Section: Risk-based testing

Question #A4 (1 Point)

An Agile team is developing a new web-based application. Which of the factors below will MOST likely NOT influence the level of quality risks?

a) The user acceptance testing (UAT) team is assigned to other several high-priority projects.
b) A new business analyst joined the Agile team with strong domain knowledge, but little test automation experience.
c) Most of the development team is in India, but the product owner is located in the USA.
d) A new defect management process has been introduced within the company which is unfamiliar to the developers.

Select ONE option.

Question #A5 (1 Point)

Which of the following is the MOST problematic when using risk-based testing?

a) The project has ten different stakeholders who all want to contribute to risk analysis
b) The test team starts out with risk-based test planning but neglects risk control due to project pressure
c) The risk items and risk levels of a project are not reused in other projects
d) The stakeholders understand the level of the residual risk and may decide to go live before all tests are executed

Select ONE option.

Section: Improving the Testing Process

Question #A6 (1 Point)

You join an existing project as a test manager. The development team is responsible for the enhancement and maintenance of an important product of the company's flagship product. New versions are released on a regular basis. However, the product has a reputation for poor quality and customers frequently complain about the number of defects. You are now asked to look for improvements to the testing of the project.

Which TWO of the following actions follow an analytical-based test improvement strategy that addresses the problem discussed in the scenario?

a) Implement a defect classification scheme for the origin and type of defects and classify the customer-reported defects according to this scheme.
b) Compare the practices that your test team apply for test design and test implementation with the practices defined by the TMMi Model.
c) Determine the number of defects reported by your test team during the system test of the last release, as well as the number of defects reported by your customers for that release, and compute the defect detection percentage.
d) Initiate a company-wide Goal Question Metric (GQM)-based measurement program that evaluates the accuracy of the test estimates across all projects.
e) Introduce a new test automation tool to reduce the test execution effort.

Select TWO options.

Section: Test Tools

Question #A7 (1 Point)

Your company currently uses a 15-year-old test management tool. The switch from a waterfall development approach to an agile development approach demands features which are not provided by your current test management tool. To successfully switch the development approach, your company decides to introduce a new test management tool.

Which of the given examples is a valid consideration for the selection of a test tool?

    a) Vendor preferences of the development department head.
    b) The requirements from all stakeholders to evaluate and identify the most appropriate tool.
    c) The test tool needs to match the corporate design standards of your company.
    d) The tool must be less expensive than the current tool in order to be efficient.

Select ONE option.

Question #A8 (1 Point)

You are responsible for test management of a reporting engine for a banking system. The project started one month ago. Project management asks you to provide an overview of the progress that has been made on at least a weekly basis.

As you currently have not yet set up metrics, what needs to be done to satisfy the needs of project management?

    a) Make sure traceability is included in your metrics.
    b) Gather the information needs of the test team and project management.
    c) Activate all possible metrics to give the project management free choice of information.
    d) Start with defect management, as there are acceptance criteria for defects with 'high' priority and severity.

Select ONE option.

Section: Test Estimation

Question #A9 (1 Point)

Which of the following statements is TURE about test estimation in Agile project?

a) Test estimation is done separately from development estimation and is based on the test levels and activities.
b) Test estimation is done as part of development estimation and is based on the user stories and acceptance criteria.
c) Test estimation is not done at all in Agile projects and testing is performed on an ad-hoc basis.
d) Test estimation is done by the customer or the product owner and is based on the business value and risk of the features.

Select ONE option.

Question #A10a[2] (1 Point)

Which of the following will most likely influence the duration, but **NOT** the effort of the testing activities?

    a) Time to repair defects found during testing
    b) Maturity of the test process
    c) Required level of detail of test conditions
    d) Required quality of the system

Select ONE option.

Question #A10b (1 Point)

Which of the following should **NOT** be taken into consideration for test estimation in a test project?

    a) The qualification of the development team members
    b) Human skills and experiences of the developers
    c) Estimated effort in other future projects
    d) The determined hours from the test effort estimation

Select ONE option.

Section: Test Team

Question #A11 (1 Point)

Which of the following is the best example of a motivating factor for a test team?

    a) Introduction of a labor wage agreement for all employees.
    b) Test activities and work products planned down to the last detail.
    c) A well running test environment.
    d) Free tickets for a team to visit to a test conference.

Select ONE option.

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[2] #A10a and #A10b refers to the same LO.