Sample Exam – Questions

Sample Exam set A
Version 1.4

ISTQB® Test Manager Syllabus Advanced Level

Compatible with Syllabus version 2021

International Software Testing Qualifications Board

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Document Responsibility

The ISTQB® Examination Working Group is responsible for this document.

Acknowledgements

This document was produced by a core team from ISTQB®: Exam Working Group

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Revision History

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Version	Date	Remarks
1.4	April 27, 2023	Minor correction of question: #10
1.3.1	June 3, 2021	Update of Copyright Notice
1.3	September 25, 2018	Split of document into Questions and Answers Randomize answer order Refactor layout on Sample Exam Template Correcting of Pick-N type questions
1.02	[Unknown]	[Unknown]
1.01	March 15, 2013	Version for release
1.00	October 19, 2012	Version for voting

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Introduction

Purpose of this document

The sample questions and answers and associated justifications in this sample exam set 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.

These questions cannot be used as-is in any official examination, but they should serve as guidance for question writers. Given the wide variety of formats and subjects, these sample questions should offer many ideas for the individual Member Boards on how to create good questions and appropriate answer sets for their examinations.

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*

[1] In this sample exam the questions are sorted by the LO they target; this cannot be expected of a live exam.

Questions

Question #1 (3 Points)

You are the Test Manager working on a project developing a tourist information mobile application. The project recently switched to an agile process and test-driven development. Each development cycle lasts 15 days, with daily builds beginning at day 7. After day 10, no new features are allowed to be added. The development team is composed of very experienced team members, who are proud of their work, but not tolerant of the testing team. The requirements are written down as coarse-grained user stories like the following one:

The software depends on existing web services, which are stubbed during development. Unit testing is done by developers, while system and user acceptance testing is the testing team's responsibility. System test in earlier development cycles was often blocked due to severe failures of newly developed features. Analysis shows that many of these failures could have been found during unit test. Analysis of issues found during production show that 30% of performance problems were due to unreliable web services delivered by 3rd party suppliers.

Primary test objectives are to mitigate the perceived performance risks and to increase the confidence that no failures with high severity will occur in user stories with priority >= High. Moreover, upper management demanded for closer cooperation of testers and developers.

Which of the following test activities and/or work products will achieve the test objectives best?

a) Approval of detailed design specifications by inspections done by the test team before day 7, when the daily builds begin
b) Identification of external web services and enforcement of service level agreements (SLAs) with service provider done by project management and test management
c) Integration test level plan defined by test manager before each development cycle and handed over to developers on day 10
d) Metrics suite for unit testing defined by and reported to test management at day 7
e) Automated performance testing of user stories with priority >= High done by testers during system test with test execution starting on day 10

Select TWO options.

Question #2 (2 Points)

You are the Test Manager working on a project developing a tourist information mobile application. The project recently switched to an agile process and test-driven development. Each development cycle lasts 15 days, with daily builds beginning at day 7. After day 10, no new features are allowed to be added. The development team is composed of very experienced team members, who are proud of their work, but not tolerant of the testing team. The requirements are written down as coarse-grained user stories like the following one:

> **US 03-30:** Search nearest matching hotel
> As a casual user at an unfamiliar location, I want to get information on the nearest hotel matching my financial and comfort profile best
> **Priority:** High
> **Estimate:** 7 (out of 10)

The software depends on existing web services, which are stubbed during development. Unit testing is done by developers, while system and user acceptance testing is the testing team's responsibility. System test in earlier development cycles was often blocked due to severe failures of newly developed features. Analysis shows that many of these failures could have been found during unit test. Analysis of issues found during production show that 30% of performance problems were due to unreliable web services delivered by 3rd party suppliers.

Primary test objectives are to mitigate the perceived performance risks and to increase the confidence that no failures with high severity will occur in user stories with priority >= High. Moreover, upper management demanded for closer cooperation of testers and developers.

The following exit criteria for acceptance testing have been specified:

> **AC 1:** Software response time <= 3 sec for up to 1,000 simultaneous requests of user stories with priority = Very High
> **AC 2:** Software response time <= 10 sec for up to 10,000 simultaneous requests of user stories with priority >= High
> **AC 3:** No severe failure in system and user acceptance test of user stories with priority >= High
> **AC 4:** All user stories covered by at least one user acceptance test case

In the test strategy, equivalence partitioning is required for the system and acceptance testing of user stories with priority >= High.

For this development cycle, the following user stories were selected and implemented:
(P = Priority; E = Estimated Effort)

> **US 02-10:** Play video for selected hotel (P: Medium; E: 4)
> **US 02-20:** Play background music (P: Low; E: 2)
> **US 03-20:** Search for five nearest hotels (P: Very High; E: 4)
> **US 03-30:** Search for nearest matching hotel (P: High; E: 7)

Test analysis for system testing has just begun and the following test conditions have been identified:

> **TC 02-10-1:** Play video, use all supported formats
> **TC 03-20-1:** List 5 nearest hotels, use equivalence partitioning for location

TC 03-30-1: List nearest matching hotel, use equivalence partitioning for user profile and location
TC PE-xx-1: Performance tests for up to 10,000 simultaneous requests of user story US 03-30
TC PE-xx-2: Performance tests for up to 1,000 simultaneous requests of user story US 03-20

What is the MINIMUM number of test conditions that must be added to fulfill all exit criteria in this cycle?

a) 2
b) 1
c) 3
d) 4

Select ONE option.

Question #3 (1 Point)

Which of the following factors indicate most that detailed test conditions should be specified for system testing?

a) Test design and test execution is outsourced
b) Test basis is changing frequently
c) Domain experts are available for consultation during test design
d) Test basis is of low quality
e) Test conditions are used for management milestone presentations

Select TWO options.

Question #4 (2 Points)

Scenario 1:
Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized companies selling to customers on the Web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let customers 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 are heavily promoting the system, 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 start enrolling 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.

Consider the following risk item that was identified during the quality risk analysis process:

Customized enrollment buttons for a company's website are not assigned the correct URL for that company's loyalty program.

Assume that you have used traceability to determine the logical test cases that cover this risk item.

Which of the following is a positive logical test that is complete, is correct, and covers this risk item?

a) Click rapidly on company enrollment button to see what happens
b) Click on URL for our home page, check that home page displays
c) Click on company enrollment button; verify that you go to that company's enrollment page
d) Click on company enrollment button; verify that you go to our home page

Select ONE option.

Question #5 (2 Points)

Scenario 1:

Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized companies selling to customers on the Web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let customers 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.

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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 start enrolling 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.

You are following a risk-based testing strategy, where likelihood and impact are both assessed on a five-point scale ranging from very low to very high. Consider the following risk item that was identified during the quality risk analysis process:

Customized enrollment buttons for a company's website are not assigned the correct URL for that company's loyalty program.

Assume that technical project stakeholders have assessed the likelihood of this risk at a medium level.

Given only the information above, which of the following statements is certainly true?

a) This risk item should be assessed as a very high impact level risk
b) The test cases associated with this risk item must be run first in the test execution period
c) The test cases associated with this risk item must be run toward the middle of the test execution period
d) A large number of test cases should be associated with this risk item, based on impact

Select ONE option.

Question #6 (2 Points)

In a given company, testing is expected to follow a risk-based testing strategy. Assume the project is currently in test execution. For the following tests, the values given represent the test identifier, the risk level, the identifier for the requirement covered by the test, and the current test status, respectively.

Test ID	Risk Level	Requirement ID	Status
02.007	Very high	09.003	Fail
02.010	High	09.003	Ready to run
02.019	Very low	09.020	Pass

Which of the following statements are true?

a) The test sequencing is certainly incorrect since test 02.010 is higher risk than 02.019
b) If the test plan calls for running at least one test for each requirement as early as possible, the test sequencing might be correct
c) The test manager should stop test execution while evaluating all problems that exist with test sequencing
d) Running test 02.019 was a waste of time, because it did not find any defects
e) The test team might not be following the test strategy since test 02.010 is higher risk than 02.019

Select TWO options.

Question #7 (1 Point)

Which of the following metrics are best suited to be included in a test progress report for unit test execution?

a) Defect detection percentage (DDP) of unit test
b) Planned versus actual defects reported
c) Unit test time vs. integration test time
d) Number of test conditions identified
e) Planned versus actual coverage achieved

Select TWO options.

Question #8 (1 Point)

Which of the following is an accurate summary of the test closure activity “test completion check”?

a) Test completion check ensures that all test work is concluded as planned
b) Test completion check ensures that all important lessons learned are documented
c) Test completion check ensures that all test work products are stored in the configuration management system
d) Test completion check ensures that plans are established to ensure that good practices can be repeated

Select ONE option.

Question #9 (2 Points)

Scenario 1:

Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized businesses selling to customers on the web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let 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, 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.

Assume that the project has completed the initial release, and the system has been in use by companies and their customers for a month now. Your team used a blended risk-based, requirements-based, 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 implementing a retrospective for the testing work.

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

a) Evaluating whether significant problems have been reported by users in button customization
b) Determining the level of detail required for enrollment, customization, and point management test cases
c) Identifying enrollment problems that are affecting companies or their customers
d) Delivering the known defects and failed tests to the system support team
e) Measuring the coverage of the enrollment requirements and reporting that to project and business stakeholders

Select TWO options.

Question #10 (3 Points)

Scenario 2:
Assume that you are managing the testing of a mature application. This application is an online dating service that allows users: to enter a profile of themselves; to meet people who would be a good match for them; to arrange social events with those people; and, to block people they do not want to contact them. Consider the following groups of individuals:

1. Users of the application who are searching for dates
2. Managers and shareholders of the company
3. Married couples who used the application to find their mate
4. Employees of government agencies

Consider the following list of test activities.

A. Testing the affinity of matches proposed by the application
B. Testing the ability of the application to charge users correctly
C. Testing the ability of the application to comply with local tax regulations

Based only on the information given here, which of the following statements correctly matches current stakeholders with one or more their testing interest?

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

Select ONE option.

Question #11 (1 Point)

Which of the following statements correctly reflects the way project management work products affect testing?

a) The test manager should work with the technical support manager during test closure
b) The test manager should work with the project manager to develop the project schedule
c) Constraints in the project plan may constrain testing
d) The tests should completely cover the requirements specification

Select ONE option.

Question #12 (1 Point)

Which of the following statements describes an appropriate approach to managing non-functional testing?

a) Non-functional risks should be mitigated during early levels of testing or even during development
b) Non-functional test implementation activities that take longer than a single iteration should be handled outside of the iterations
c) The test manager shall delegate the non-functional test planning to the technical test analysts working on the project
d) Non-functional testing should be prioritized to follow functional testing and based on perceived risks

Select ONE option.

Question #13 (1 Point)

Which of the following statements BEST describes how risk-based testing responds to risks?

a) When tests find defects, they increase the quality of the system under test
b) Functional testing addresses product risks, while non-functional testing addresses quality risks
c) The test manager determines which test levels to apply based on project risks
d) The test team designs, implements, and executes tests to mitigate quality risks

Select ONE option.

Question #14 (1 Point)

Which of the following statements are examples of different techniques for analyzing the risks to product quality?

a) Risk identification, risk assessment, risk mitigation, and risk management
b) Expert interviews, independent assessments, use of risk templates, and project retrospectives
c) PRAM, PRiSMa, FMEA, and FTA
d) Personnel and training issues among the business analysts, designers, and programmers

Select ONE option.

Question #15 (3 Points)

Scenario 1:
Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized companies selling to customers on the Web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let customers 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 are heavily promoting the system, 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 start enrolling 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.

Which of the following are product quality risks for this system?

a) The start-up runs out of money before testing starts
b) Cloud computing resources are not available quickly enough to support project schedules
c) The loyalty points calculated are incorrect
d) Overly aggressive discounts result in a liquidity crisis for the company during the first year
e) The system has excessive downtime due to memory leaks

Select TWO options.

Question #16 (1 Point)

Which of the following statements is the LEAST appropriate description of how identified product quality risks should be mitigated and managed?

a) The choice of regulatory standard to be followed should be influenced by the perceived level of risk
b) Tests should be designed, implemented, and executed in order to address perceived risks
c) The effort associated with developing and executing tests should be proportional to the level of perceived risk
d) The priority of the development and execution of tests should be based on the perceived level of risk

Select ONE option.

Question #17 (1 Point)

Which of the following is NOT a practical technique for test prioritization and effort allocation?

a) Ambiguity reviews identify and eliminate ambiguities in the requirements
b) Individual testers decide what to test based on their discovery of defects within the test basis
c) Test condition analysis involves a close reading of prioritized requirements to identify the test conditions to cover
d) Cause-effect graphing identifies a test set that achieves 100% functional coverage of the test basis

Select ONE option.

Question #18 (2 Points)

Scenario 2:

Assume that you are managing the testing of a mature application. This application is an online dating service that allows users: to enter a profile of themselves; to meet people who would be a good match for them; to arrange social events with those people; and, to block people they don't want to contact them.

Assume that the test policy defines the following mission for the test organization, in priority order:

1. Find defects
2. Reduce risk
3. Build confidence

Assume further that your manager has defined the highest priority test process improvement for the test organization in the coming year to be achieving maximum possible automation of the regression tests for the application.

Which of the following statements is correct?

a) The application and the mission statement are aligned, but the test process improvement is misaligned with the application and the mission statement
b) The application and the test process improvement are aligned, but the mission statement is misaligned with the application and test process improvement
c) The application, the mission statement, and the test process improvement are all aligned
d) The application, the mission statement, and the test process improvement are all misaligned with each other

Select ONE option.

Question #19 (2 Points)

Scenario 1:
Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized businesses selling to customers on the web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let 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, 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.

Assume that you are writing a master test plan for this project and are currently working on the project risks section of the plan.

Which of the following topics should NOT be addressed in this section of the test plan?

a) Inability to provision a test environment by the planned test execution start date
b) Inability to locate sufficient skilled and certified testers, especially senior testers
c) Resignation of senior marketing staff prior to introduction of the service
d) Insufficient resources to acquire suitable number of virtual users for load testing

Select ONE option.

Question #20 (1 Point)

Consider the following test strategies:

1. Analytical test strategy
2. Methodical test strategy
3. Process-compliant test strategy
4. Consultative test strategy

Consider the following examples of test activities:

A. Testing a user-provided list of Internet browsers
B. Defining acceptance criteria for a user story
C. Executing the highest-risk tests as early as possible
D. Clicking through all the navigational links on a web page

Which of the following correctly matches test strategies with an example of a test activity appropriate for that strategy?

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

Select ONE option.

Question #21 (2 Points)

Scenario 3

Assume you are a test manager on a project which is following an Agile lifecycle. 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 unit testing and continuous integration.

You are defining guidelines for documenting various test work products. Which of the following statements is true?

a) You should follow the IEEE 829 standard, since you are following a process-compliant test strategy
b) You may tailor a set of templates from various sources, including the IEEE 829 standard
c) You should follow the IEEE 829 standard, because it was designed for use in any industry
d) You may omit documentation of test work altogether, except for defect reports

Select ONE option.

Question #22 (3 Points)

Scenario 3

Assume you are a test manager on a project which is following an Agile lifecycle. 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 unit testing and continuous integration.

You are estimating the system test effort required for a particular iteration by your test team. Which of the following statements correctly describe how you should carry out estimation in this scenario?

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 #23 (1 Point)

Which of the following will most probably 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 #24 (1 Point)

Which of the following statements about testing metrics usage is TRUE?

a) Confirmation and regression test status is used to monitor the progress of testing
b) Trends in the lag time from defect reporting to resolution is used to reward the developers
c) Number of test conditions identified is used to monitor the quality of testing
d) Planned versus actual hours to develop testware is used to minimize regression testing

Select ONE option.

Question #25 (1 Point)

Which of the following alternatives is best to monitor test progress?

a) Estimation of code coverage by measuring the number of executed tests
b) Combined usage of coverage, confidence, risk, test, and defect metrics
c) Combined usage of coverage, product, people, test, and defect metrics
d) Combined usage of product, people, and project metrics

Select ONE option.

Question #26 (1 Point)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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 a minimum of two years, but mostly a lot longer. New tests are developed by the most experienced testers using in-house custom test scripts. Variations of tests and the regression test sets are run by the rest of the team.

The company management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep up with the hardware development schedule.

The business unit manager of your software business unit has asked you to propose how to improve the testing of the project, e.g., by introducing better metrics or tools. The manager has quickly collected product risk list from user representatives and thinks the tests do not cover all the risks.

Which of the following alternatives would you recommend being done?

a) Add more tests to better cover the functionalities
b) Derive risk and confidence status from tester opinions about developer capabilities
c) Analyze residual risks based on tester confidence to see if enough test coverage is reached
d) Include confidence rating into measures

Select ONE option.

Question #27 (1 Point)

Consider the following categories of quality costs:

1. Costs of prevention
2. Costs of detection
3. Costs of internal failure
4. Costs of external failure

Consider the following examples of quality costs:

A. Performing a quality risk analysis
B. Training business analysts in requirements engineering
C. Customers complain about poor performance
D. Long lag time from defect reporting to resolution during testing increase defect management inefficiency

Which of the following correctly matches each category with an 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 #28 (2 Points)

Scenario 2:
Assume that you are managing the testing of a mature application. This application is an online dating service that allows users: to enter a profile of themselves; to meet people who would be a good match for them; to arrange social events with those people; and, to block people they do not want to contact them.

Assume that you have calculated the following costs of quality:

- Average cost of detection: $150
- Average cost of internal failure: $250
- Average cost of external failure: $5,000

The average costs of detection and internal failure are calculated using the number of bugs found prior to release, while the average costs of external failure are calculated using the number of bugs 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 $5,400
b) Each bug 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 bug found by testing offers the organization a potential $5,400 savings in cost of quality

Select ONE option.

Question #29 (1 Point)

Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized companies selling to customers on the Web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let customers 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, 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 start enrolling 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.

In order to reduce testing cost by limiting the number of employees in the test team, senior management has decided to engage an outsource testing services firm to handle some of the testing. While the actual testing work will be done in Malaysia, this firm will put a person on-site to directly coordinate the work, communicate test results, and be in twice-daily contact with the offshore test team.

Which of the following factors of success for distributed and outsourced testing is addressed in this plan?

a) Division of the testing work based on qualifications
b) Well-defined mission and tasks for on-site and offshore test teams
c) Establishment of trust across the project team members
d) Defined ways in which communication should occur

Select ONE option.

Question #30 (1 Point)

Which of the following BEST describes a software standard that provides guidance on test coverage criteria to be achieved?

a) US Federal Aviation Administration's DO-178B
b) ISTQB syllabi and glossary
c) CMMI software process improvement framework
d) Prince 2 project management framework

Select ONE option.

Question #31 (1 Point)

As a test manager, you are participating in a meeting with other members of the project management team. The agenda of the meeting is to discuss whether the project can begin acceptance testing based on the system test exit criteria, the acceptance test entry criteria, and other business considerations.

Which of the following statements is true?

a) The meeting is a management review, because the project management team is evaluating the situation and determining the next steps
b) The meeting is an audit, because the project management team is checking compliance against defined criteria by checking evidence
c) The meeting is a management review, because the project management team is checking to ensure that progress is being made on the project
d) The meeting is an audit, because the project management team is going to issue a pass/fail assessment against the criteria

Select ONE option.

Question #32 (3 Points)

Scenario 1:
Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized companies selling to customers on the Web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let customers 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, 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 start enrolling 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.

Assume that you have been asked by the senior management team to plan for reviews as part of this project. They want a very lightweight process that nonetheless provides for some early defect detection as well as building consensus and understanding across the team.

Which of the following answers describes the BEST option in this situation?

a) You should plan for inspections of requirements, design, and code reviews
b) You should plan for informal reviews of the quality risk analysis, tests, and test plan
c) You should plan for informal reviews, with appropriate participants, for all appropriate work products
d) You should convince management that someone other than the test manager should plan the reviews

Select ONE option.

Question #33 (1 Point)

Scenario 1:
Assume that you are working for an ambitious start-up. They are creating a system that will provide customized loyalty and rewards programs for small- and medium-sized companies selling to customers on the Web. These companies enroll themselves on the system's web store. This allows the companies to create customized buttons, to be placed on their websites, that let customers 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, 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 start enrolling 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.

Assume that you have been asked by the senior management team to manage reviews as part of this project. You are selecting participants for a review of the identified quality risk items.

Consider the following attributes needed to participate effectively in a review:

1. Technical skills
2. Suitable personality traits
3. Procedural knowledge
4. Business knowledge

Consider the following summary description of an individual who might participate in a review:

A. Past testing of financial applications
B. Development of simple web applications
C. Experienced participant in reviews
D. Detail-oriented
E. Understanding of cloud computing

Which of the following correctly matches the attributes with this individual's details?

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

Select ONE option.

Question #34 (2 Points)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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 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 management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep up with the hardware development schedule.

Your manager thinks that the project might find some defects more efficiently by having testers review the business requirements.

Which of the following metrics would be used best to prove this point during review trial?

a) Number of defects found in dynamic testing
b) Dynamic test coverage
c) Review and dynamic testing hours
d) Number of severe defects in dynamic testing
e) Test execution status

Select TWO options.

Question #35 (1 Point)

You are the test manager working on an agile project developing information apps. Due to missing and incorrect functionality reported by users, formal reviews of all user stories are planned. The reviews are led by you, the test manager. The main objective of the reviews is the agreement of all stakeholders on the user story format, granularity, completeness, and preciseness. The following persons play the role of reviewers: chief developer (CD), test analyst (TA), product manager (PM), and domain expert (DE). During the kickoff-meeting, the CD complains about being pulled off his real duty. After the individual reviews, the following table depicts the number of defects found by each of the three reviewers:

	CD	**TA**	**PM**	**DE**
Major	2	8	6	5
Minor	2	11	5	7
Typo	8	14	9	11

You must decide how to proceed with the review.

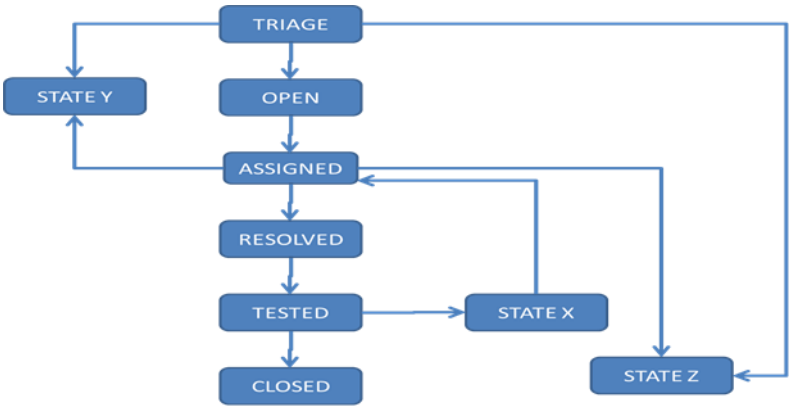
Which of the following options should be chosen by the test manager?

a) Ask for a discussion between the TM and the CD moderated by a third person to get the CD involved
b) Postpone the review session and redefine the review with the objectives of the CD
c) Proceed timely with the review session, with the role “scribe” assigned to the CD
d) Cancel the review, write a report to upper management emphasizing the missing involvement of the CD

Select ONE option.

Question #36 (2 Points)

The diagram shows an incomplete defect management process, where three states (states X, Y and Z) have yet to be named appropriately.



Which of the following would correctly complete the process?

a)	STATE X – RETESTED	STATE Y – NEW	STATE Z – BLOCKED
b)	STATE X – REOPENED	STATE Y – REJECTED	STATE Z – DEFERRED
c)	STATE X – DUPLICATE	STATE Y – UNCONFIRMED	STATE Z – TERMINATED
d)	STATE X – VERIFIED	STATE Y – REVIEW	STATE Z – FIXED

Select ONE option.

Question #37 (1 Point)

Which of the following represents a legal 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) Initial, in progress, confirmation test, closed, deferred
b) Initial, in progress, returned, in progress, confirmation test
c) Initial, in progress, returned, cancelled
d) In progress, initial, confirmation test, closed

Select ONE option.

Question #38 (2 Points)

You are the test manager on a project where system testing is being performed on software being 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.

The following list of information items has been identified as potentially missing from the defect reports being sent to the third party.

Which items do you think are MOST important to add to the defect reports?

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 lifecycle phases of introduction, detection, and removal for the defect

Select TWO options.

Question #39 (1 Point)

It has been decided that the first step to test and development process improvement within your organization will be to reduce the number of defects introduced during development.

Which of the following defect report statistics will be MOST useful in fulfilling this aim?

a) The lifecycle phases of introduction, detection, and removal for the defect
b) The defect root cause information
c) The defect component information
d) The defect removal efficiency information

Select ONE option.

Question #40 (1 Point)

Which of the following statements are the best examples of the importance of improving the test process?

a) Since testing often accounts for a major part of the total project costs, more effective testing will lead to more effective projects
b) Since Testing often accounts for a major part of the total project costs, much attention is given to the test process in software process improvement models, such as CMMI
c) When using test process improvement models, the Deming improvement cycle: Plan, Do, Check, Act, is of no relevance when testers need to improve the testing process
d) Test process improvement models help to reach a higher level of maturity and professionalism
e) Test process improvement is important because there exist well known and industry-accepted test process improvement models, such that TMMi, TPI Next, or CTP

Select TWO options.

Question #41 (3 Points)

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

Which of the following are the remaining steps for this process improvement effort, assuming you are following the IDEAL model for process improvement?

a) Evaluate the benefits, including the return on investment, from the improvements
b) Initiate the improvement process across the entire testing organization
c) Create a plan for selecting and implementing the assessment recommendations
d) Diagnose the current situation by evaluating the sources of inefficiency
e) Take steps to move your organization to test process maturity level 5

Select TWO options.

Question #42 (1 Point)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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 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 management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep up with the hardware development schedule.

You consider TMMi to help you improve your project. Which of the following TMMi aspects will suit best for this purpose?

a) Reach Optimized level to help prevent defects
b) Move from Initial level to Managed level
c) Align testing improvements with those of the company
d) Reach 85 percent of specific and generic goals

Select ONE option.

Question #43 (1 Point)

Which of the following statements about the test maturity matrix of TPI Next® is true?

a) For key area/improvement objective combinations, the related checkpoints are shown in the test maturity matrix
b) For key area/maturity level combinations, the related checkpoints are shown in the test maturity matrix
c) For improvement objective/maturity level combinations, the related checkpoints are shown in the test maturity matrix
d) For key area/maturity level combinations, the related improvement objectives are shown in the test maturity matrix

Select ONE option.

Question #44 (1 Point)

Which of the following is an example of achieving an objective for the CTP test process improvement model?

a) The test team's test process maturity level goes from 2 to 3
b) The test team's defect detection effectiveness improves above industry averages
c) The test team's test process maturity level goes from controlled too efficient
d) The test team undergoes a critical testing process assessment

Select ONE option.

Question #45 (1 Point)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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.

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The company management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep up with the hardware development schedule.

You consider that the STEP-model might suit you well to solve above problems in the longer term. Which of the following STEP basic premises fits your need best?

a) A requirements-based testing strategy
b) Testware design leads software design
c) Testers and developers work together
d) Defects are systematically analyzed

Select ONE option.

Question #46 (1 Point)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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.

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The company management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep up with the hardware development schedule

Your company originally has built an in-house test automation tool as they anyway needed to build interfaces to drive test scripts against their system to fulfill all the telecom standard requirements. Maintaining the in-house tool has gradually become very costly.

An open-source tool might free time from you test automation experts. You need to consider several factors before making this decision.

Which of the following statements does NOT apply?

a) The licensing terms need to be understood
b) The telecom-standard compliance needs to be considered
c) Open-source tools have been created for a particular purpose
d) Open-source tools are hard to be adapted

Select ONE option.

Question #47 (2 Points)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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.

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The company management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep up with the hardware development schedule.

When your company originally decided to build a custom in-house test tool, one reason for this decision was company's unique hardware architecture. Maintenance of the test tool has proven to be time-consuming.

You consider whether your business unit's current custom-built tool is still valid, and you think about other options such as open-source software.

Which of the following arguments BEST supports the validity of the custom-built tool choice?

a) The company must follow telecom-standards
b) There are regularly substantial modifications to the hardware components, so also test tool needs to be adapted often
c) The company has many developers capable of developing custom-built tool, so these skills should be utilized
d) The tool is easy to learn and use

Select ONE option.

Question #48 (2 Points)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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.

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The company management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep 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 report if it is possible to select this tool for your product line as well. What are your key concerns?

a) How good is the support for the open-source tool?
b) Is the new tool user-friendly?
c) Is it possible to execute some part of your tests manually?
d) How much time do you have to use for rewriting your existing tests?
e) What about the security issues of the tool?

Select TWO options.

Question #49 (1 Point)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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.

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The company management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep 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.

If you choose the same open-source tool, which of the following activities shall happen first before retiring the current custom-built tool in order to have value 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.

Question #50 (1 Point)

You work for an international company producing hardware and software for telecom networks. Hardware and software development are done 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 month. 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.

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The company management requires monthly progress reports listing the number of severe defects found and the status of test execution. There have also been efforts to measure the efficiency of personnel in all business units. Your company has also implemented CMMI on company level.

There have been problems to keep up with the hardware development schedule.

The problems to keep up with the release schedule have been analyzed further. Preliminarily it seems that there is no time to cover enough of new requirements of a new release.

You consider how to measure the coverage of your functional test scripts to help you achieve the release deadlines. Which of the following options is the BEST choice?

a) Collect the number of test script executions per increment in a test management tool
b) Capture traceability from test scripts to test requirements in a test management tool
c) Monitor the performance of the system, so you can tune its scalability
d) Measure the number of hours spent on test script development as an attribute of the test script

Select ONE option.

Question #51 (2 Points)

The following table shows the skills matrix for a user acceptance test (UAT) team in the areas of software development and domain knowledge (publishing). Each team member was assessed based on their capability in the different areas of publishing domain knowledge, use cases, software design and coding. For each of the software development areas they were rated at one of four levels (no knowledge, awareness, able to understand, and able to create), while their knowledge of the betting domain was rated as high, medium, or low.

	Team Member				
	V	**W**	**X**	**Y**	**Z**
Publishing	high	low	medium	high	low
Use Cases	none	aware	aware	understand	understand
Software Design	none	aware	create	aware	understand
Coding	none	create	understand	understand	aware

It has been decided that the UAT team shall start employing an open-source test tool that uses a Java-like test scripting language and keyword-driven testing.

Based on the skills matrix, which two testers would you advise are employed to work on the development of the test framework for this tool?

a) V, Y
b) W, X
c) X, Z
d) Y, Z

Select ONE option.

Question #52 (3 Points)

Assume that you are managing a test team of six people, that you have identified critical skills in three categories for a team: testing, technology, and business knowledge. You have performed a skills assessment for each test team member against each critical skill, using a 1 to 5 scale, with 1 representing the lowest level of skill and 5 representing the highest level of skill. Assume that you have the following average scores for your team in each category:

Testing 3.25
Technology 1.17
Business knowledge 3.75

You are now planning actions to take in order to develop your team. Which of the following actions should be in your plan?

a) If a hiring opportunity presents itself, favor candidates with relevant technological skills
b) Retain a company to deliver ISTQB Foundation training to all testers
c) Make an employee skill ranking and plan to lay off those employees at the bottom
d) Identify the most critical specific skills weaknesses and ways to address those weaknesses
e) Try to rotate people with business knowledge out of your team, in favor of people with stronger technology skills

Select TWO options.

Question #53 (1 Point)

You are leading a four-person testing team on a project with a delivery date that is only four weeks away, and your original test plan showed that the remaining testing would take 200 days of effort. Two new team members are due to start next week.

Which of the following statements BEST describe skills you will be required to demonstrate for the next few weeks?

a) Assimilating new members into the team quickly, while still providing adequate supervision and support
b) Persuading team members that they are valued and that their input is a vital contribution to the team effort
c) Ensuring no favoritism by treating all team members the same and sharing all tasks across the team
d) Showing your commitment by working in the testing team, delegating the handling of external issues to a team member
e) Closely managing the test team, only assigning individuals new tasks when they finish their last one

Select TWO options.

Question #54 (1 Point)

An organization develops home-banking software for the local market, using an agile software development process. The software depends on external software components from the open source domain. It also uses existing web services, which are replaced by test stubs during development and integration. There are plans to internationalize the home-banking software for a globally operating bank.

Which of the following is the BEST proposal to fit testing into the project?

a) Unit testing done by developers; component integration testing done by the independent internal test organization; system and user acceptance testing done by banking experts; internationalization testing outsourced to external test specialists
b) Unit and component integration testing done by developers; system testing done by the independent internal test organization supported by developers; user acceptance testing done by banking experts supported by the independent internal test organization; internationalization testing outsourced to external test specialists
c) Unit testing done by developers; system testing done by the independent internal test organization; user acceptance and internationalization testing done by banking experts supported by the independent internal test organization
d) Unit and component integration testing done by developers; system and user acceptance testing, and internationalization testing done by banking experts supported by the independent internal test organization

Select ONE option.

Question #55 (1 Point)

You have been recently appointed as the Test Manager working on a large web-based project that currently is not meeting customer expectations. You have become aware that the testers are unhappy, and that the retention rate is low, with testers leaving for other jobs on a regular basis.

Which of the following situations is MOST likely to be demotivating the testers?

a) There appears to be mutual respect between the testing team members and the web developers
b) The testers' bonus payments are aligned with the perceived quality of delivered web services
c) The testers have been given increased responsibility and are expected to manage their own time
d) Management is providing visible recognition for the work being done by the testers

Select ONE option.

Question #56 (1 Point)

You are the test manager of an organization developing software for an automatic teller machine (ATM). Usability testing is done on-site by the internal test team. At the beginning of the project, upper management decided to outsource functional system testing from the internal test team to an off-shore site. During usability testing, several defects in functionality were found by the internal test team, some of which blocked the continuation of the usability tests. Analysis of the test reports shows that functional tests of the relevant functions were designed and executed by the off-shore team without finding any of the blocking defects.

Which of the following is the BEST communication proposal for discussing the steps/activities needed to mitigate the situation?

a) Send detailed defect reports and defect rates to upper management to get more time for the internal test team to perform usability testing
b) Schedule a review of the test work products for functional system testing, with reviewers from the internal test team and the off-shore team
c) Schedule a video conference with the off-shore test team and upper management to find the root causes for not finding the defects
d) Send detailed defect reports and defect rates to the off-shore team and ask for the root causes for not finding the defects

Select ONE option.