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## 練習題

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**Exam :** CTAL-TM\_V3

**Title :** ISTQB Certified Tester  
Advanced Level - Test  
Management (Syllabus  
V3.0, worldwide)

**Version :** DEMO

1. You have assembled the following cost of quality numbers 200 defects were found prior to release and 100 were found after.

Given this information what is the total cost of quality for this project?

| Average Cost      | Amount   | # of Defects | Total Cost |
|-------------------|----------|--------------|------------|
| Defect prevention | \$10,000 | N/A          | \$10,000   |
| Appraisal         | \$250    | 200          | \$50,000   |
| Internal failure  | \$200    | 200          | \$40,000   |
| External failure  | \$2,000  | 100          | \$200,000  |

- A. \$300,000
- B. \$200,000
- C. \$100,000
- D. \$10 000

**Answer: A**

**Explanation:**

Step by Step Comprehensive Detailed

Definition of Cost of Quality (CoQ):

CoQ is composed of four components:

Prevention Costs: Costs related to activities to prevent defects (e.g., training, quality planning).

Appraisal Costs: Costs associated with evaluating products to ensure defect-free delivery (e.g., testing).

Internal Failure Costs: Costs due to defects found before delivery to the customer (e.g., rework).

External Failure Costs: Costs from defects discovered after delivery (e.g., warranty claims, reputation damage).

Calculation Process:

Defect Prevention Cost: Given as \$10,000 (fixed).

Appraisal Cost: \$250 per defect for 200 defects =  $250 \times 200 = 50,000$

Internal Failure Cost: \$200 per defect for 200 defects =  $200 \times 200 = 40,000$

External Failure Cost: \$2,000 per defect for 100 defects =  $2,000 \times 100 = 200,000$

Total CoQ:

Adding all costs together:

Total CoQ =  $10,000 + 50,000 + 40,000 + 200,000 = 300,000$

Correct Answer and Justification:

The total cost is \$300,000, making Option A the correct answer.

Reference and Documentation from Advanced Test Management:

ISTQB Advanced Test Management Syllabus v3.0, Section 2.2.2: This section emphasizes understanding and calculating the cost of quality by segregating it into the four components as seen above.

ATM Sample Exam Questions 2024 (Example Calculations): Highlights similar numerical examples to

calculate CoQ.

ISTQB Exam Structure Rules v1.9: Ensures alignment with K2-level understanding for cost analysis scenarios in test management.

2.You are working with a development team who have a CI/CD pipeline implemented. They want to integrate your team's existing test automation into the pipeline to augment their unit tests so they will have continuous testing. They have already determined that this is technically possible with the tool you are using but with require some changes to the test automation framework to integrate the results reporting

What will your team need to make this happen?

- A. Investigation that the tool will be fit for purpose
- B. Training regarding how to make the framework modifications so the integration is possible
- C. A review to determine if this is the best tool to use for the integration with the CI/CD pipeline
- D. investigation of the licensing models of the tool and an understanding of any potential costs

**Answer: A**

**Explanation:**

Context Analysis:

The question involves integrating an existing test automation framework into a CI/CD pipeline. The integration requires modifications to the framework and results reporting. This aligns with ISTQB Advanced Test Management concepts focusing on evaluating and adapting test tools for specific project needs (Syllabus reference: TM-1.6.1 and TM-1.6.4).

Evaluation of Options:

A. Investigation that the tool will be fit for purpose:

Correct. Before integrating the framework, a thorough investigation is necessary to confirm whether the tool can support the required modifications and functionality. This aligns with the emphasis on ensuring tools meet both current and future needs as per the ISTQB syllabus section TM-1.6.1.

B. Training regarding how to make the framework modifications so the integration is possible:

Incorrect. While training might be useful later, it is not the first step or the primary requirement to ensure the integration is feasible.

C. A review to determine if this is the best tool to use for the integration with the CI/CD pipeline:

Incorrect. This step might be relevant in an earlier phase of tool selection, but the question assumes the tool has already been chosen.

D. Investigation of the licensing models of the tool and an understanding of any potential costs:

Incorrect. Licensing investigation is part of tool selection and budgeting, not directly related to technical integration feasibility.

Syllabus Alignment:

The ISTQB Advanced Level Test Management syllabus emphasizes the importance of ensuring the selected tools and technologies align with organizational requirements and technical feasibility. This is outlined in the "Test Tools" section of the syllabus (TM-1.6.1, TM-1.6.4).

Conclusion:

The correct answer is A. Investigation that the tool will be fit for purpose, as this step ensures the technical requirements for integration are met before proceeding with modifications or training.

Reference: ISTQB Advanced Level Test Management Syllabus (TM-1.6.1 and TM-1.6.4)

ISTQB CTAL-TM Sample Exam Questions

## ISTQB CTAL-TM Sample Exam Answers

3. You have assembled the following cost of quality numbers 1 000 defects were found prior to release and 100 were found after.

| Average Cost      | Amount   | # of Defects | Total Cost |
|-------------------|----------|--------------|------------|
| Defect prevention | \$50,000 | N/A          | \$50,000   |
| Appraisal         | \$250    | 1,000        | \$250,000  |
| Internal failure  | \$200    | 1,000        | \$200,000  |
| External failure  | \$2,000  | 100          | \$200,000  |

Given this information what should you conclude?

- A. More testing was needed before the production release because the defect detection percentage (DDP) was below 90%
- B. The cost of testing is high and could probably be lowered by spending more money on defect prevention
- C. The cost of testing is just right and is justified by the numbers
- D. More effort should be put on appraisal to help lower the cost of quality

**Answer: B**

**Explanation:**

Cost of Quality Analysis:

The given table lists costs for defect prevention, appraisal, internal failure, and external failure.

Defect prevention cost is \$50,000, while costs for appraisal, internal failures, and external failures are \$250,000, \$200,000, and \$200,000, respectively.

The combined cost of internal and external failures is significantly high compared to defect prevention costs.

Defect Detection and Prevention (DDP):

DDP measures the effectiveness of defect prevention activities and early detection mechanisms.

In this case, 1,000 defects were caught before release (appraisal) and 100 defects escaped to production.

$DDP = (\text{Defects found before release} / \text{Total defects}) = 1000 / (1000 + 100) = 90.91\%$ .

While this DDP is relatively high, the costs of appraisal and failures indicate that prevention strategies need more investment.

Key Cost Drivers:

High internal and external failure costs indicate inefficiencies in earlier stages of quality assurance.

Shifting investments from appraisal and failure costs towards defect prevention would reduce the overall cost of quality.

Evaluating Options:

Option A ("More testing needed because  $DDP < 90\%$ ") is invalid since DDP is above 90%.

Option C ("The cost of testing is justified") does not address the imbalance between high failure costs and low prevention spending.

Option D ("More effort on appraisal") contradicts the cost-benefit focus of investing in prevention.

Option B is correct because enhancing defect prevention strategies will reduce downstream costs.

**Reference and Syllabus Alignment:**

This conclusion aligns with the ISTQB Advanced Test Management syllabus section on "Cost of Quality" and strategies to optimize testing investments. Specifically, prevention is emphasized as more cost-effective than appraisal and failure management.

4. You tend to be conservative in your project estimations because you know how many things can go wrong and extend the schedule. Your manager is not happy with your estimates and thinks you are being too negative with your numbers and not trying hard enough.

Which estimation method should you use to provide your manager with a positive number while still also providing the number you think is more realistic?

- A. Wideband Delphi
- B. Planning poker
- C. Three-point estimation
- D. Extrapolation

**Answer: C**

**Explanation:**

Context Analysis:

The manager perceives conservative estimates as overly negative. The goal is to balance optimism with realism to satisfy both the team and the manager.

Three-point estimation provides a range of estimates: optimistic, pessimistic, and most likely, addressing the need for a positive yet realistic projection.

Evaluation of Options:

A. Wideband Delphi:

Involves group-based estimation using consensus techniques. While reliable, it does not explicitly offer optimistic vs. realistic estimates.

B. Planning Poker:

Often used in Agile projects, this technique involves relative estimation but does not inherently provide optimistic and pessimistic figures.

C. Three-point estimation:

Correct. Combines optimistic, pessimistic, and realistic estimates to calculate a weighted average. This allows presentation of both realistic and "positive" numbers to the manager.

D. Extrapolation:

Based on past data trends but does not offer a range of estimates or a way to address manager concerns directly.

Syllabus Alignment:

The ISTQB syllabus mentions estimation methods like three-point estimation as effective techniques for providing balanced and transparent project timelines (TM-2.2.1).

Reference: ISTQB Advanced Level Test Management Syllabus

5. Your team has decided that they will build their own test management tool. This will allow them to link the requirements and test cases together providing full traceability. It will also allow them to create fully customized reporting and color-coded dashboards. They have estimated the time required to create the new tool and the cost. These fit within the project schedule and budget. What other consideration should be taken before this decision is made?

- A. Relative benefits to your vendors
- B. Maintenance costs
- C. Licensing fees to other parts of the organization
- D. Reduction of manual repetitive testing

**Answer: B**

**Explanation:**

Context Analysis:

Building a custom tool may address traceability and customization needs, but ongoing costs such as maintenance are critical for sustainable implementation.

Evaluation of Options:

A. Relative benefits to your vendors:

Incorrect. Vendor benefits are not directly relevant if the decision is to build an internal tool.

B. Maintenance costs:

Correct. Maintenance includes long-term support, updates, and potential scalability, essential considerations for internally developed tools.

C. Licensing fees to other parts of the organization:

Incorrect. The question assumes the tool is internally built, so external licensing fees do not apply.

D. Reduction of manual repetitive testing:

Incorrect. While desirable, this is an indirect benefit and not the primary focus of decision-making in tool development.

Syllabus Alignment:

ISTQB syllabus emphasizes the need to evaluate long-term costs (e.g., maintenance) when adopting or developing tools (TM-1.6.2).

Reference: ISTQB Advanced Level Test Management Syllabus