Vendor: iSQI

Exam Code: CTAL-TA

Exam Name: Certified Tester Advanced Level - Test Analyst v4.0

Version: DEMO

QUESTION 1
Which of the following is an example of a test environment requirement for an online store?

A. On weekends, the load from end-user requests is 5 times greater than during working days (Monday-Friday)
B. The execution time of each component test for the discount calculation feature should take no longer than 3 seconds
C. The user should be able to log into the system with a login and password, and through a social media account
D. Tests should be performed on the latest versions of the three most popular web browsers: Chrome, Safari and Edge

Answer: D
Explanation:
A test environment requirement specifies the technical conditions under which testing must be performed, such as hardware, software, platforms, or configurations. Requiring tests to be executed on specific web browsers defines the characteristics of the test environment needed to validate the online store.

QUESTION 2
You are testing a loan assignment system. You have been given the following decision table to analyze, each condition can only take the value of Y (yes, the condition holds) or N (no, the condition does not hold).

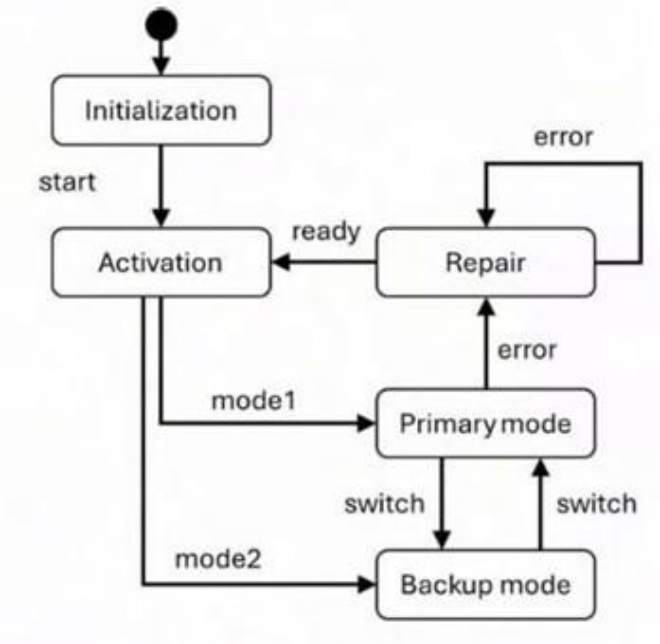
Conditions					
Credit score > 700?	Y	-	Y	-	Y
Annual income > 50 000?	-	Y	Y	Y	N
Employed full time?	-	Y	N	N	Y
Has another loan?	-	N	-	-	Y
Action					
Risk level	0	0	2	0	1

What inference can you make from this decision table?

A. The checksum of this table is greater than 16, so the table must have overlapping rules
B. The checksum of this table is greater than 16, so the table cannot be consistent
C. The checksum of this table is equal to 16, so the table must be consistent and complete
D. The checksum of this table is equal to 16, so the table cannot be consistent

Answer: A
Explanation:
There are 4 binary conditions, so there are 2^4 = 16 possible condition combinations. In the table, rules with "-" cover multiple combinations, and the total number of combinations covered by all rules (the checksum) is 17. Since 17 exceeds 16, at least some combinations must be counted more than once, which means the table contains overlapping rules.

QUESTION 3
You are designing test cases based on the following state transition diagram.



So far, the only designed test case is as follows:

```
TC1: start, model, error, error, ready, model, switch, switch, switch,
switch.
You use the ROUND TRIP coverage in your approach.
```

What round trip coverage does this test case achieve?

A. 30%
B. 50%
C. 75%
D. 100%

Answer: C
Explanation:
Round trip coverage targets the distinct cycles (paths that leave a state and return to it). In this diagram there are four relevant round trips: the self-loop in Repair, the Primary–Backup–Primary cycle, the cycle that returns to Activation via mode1 (Activation → Primary → Repair → Activation), and the analogous cycle via mode2 (Activation → Backup → Primary → Repair → Activation). The given test case executes the first three of these, but never takes the mode2 branch from Activation, so it achieves 3 out of 4 round trips, which is 75%.

QUESTION 4
Which task is NOT performed by a test analyst as part of product risk analysis?

A. Conducting requirement reviews to mitigate risks
B. Conducting interviews with users to identify risks
C. Performing risk impact assessment
D. Assisting in the categorization of identified risks

Answer: A
Explanation:

Product risk analysis focuses on identifying, assessing, and categorizing risks related to the product, including evaluating their impact and likelihood. Conducting requirement reviews to mitigate risks is a defect prevention and quality assurance activity, not a task performed as part of product risk analysis itself.

QUESTION 5
You are testing a beverage vending machine. The beverage price is $1. The machine accepts coins with denominations of 25c, 50c, and $1. When the sum of the coins inserted equals or exceeds the beverage price, the system dispenses the beverage and returns the change. However, if the system is unable to dispense change due to a lack of coins or the user presses the cancel button, the system does not dispense the beverage and returns the inserted coins.

You use a keyword-based approach. You have the following keywords at your disposal.

Keyword	Parameter(s)	Description
DefineState	*p1*, *p2*, *p3*	Defines the initial state of the machine, indicating that it contains *p1* 25c coins, *p2* 50c coins, and *p3* $1 coins
Insert25		Simulates the insertion of a 25c coin
Insert50		Simulates the insertion of a 50c coin
Insert1		Simulates the insertion of a $1 coin
Cancel		Simulates pressing the cancel button
VerifyState	*totalAmount*	Checks whether the total amount of money in the machine equals *totalAmount* (in $). If not, it reports a failure.

Consider the following test script written using keywords to execute a certain test scenario.

```
DefineState(1,1,1)
Insert25
Cancel
Insert50
Insert50
```

What keyword should this test script end with?

A. VerifyState(2.75).
B. VerifyState(1.75).
C. VerifyState(1.25).
D. VenfyState(3.00).

Answer: C
Explanation:
The initial state contains $0.25 + $0.50 + $1.00 = $1.75. After inserting $0.25 and pressing cancel, the inserted coin is returned, so the machine's internal money remains unchanged. Then two $0.50 coins are inserted; when the total inserted in that attempt reaches $1.00, the beverage is dispensed and no change is needed, so those two coins remain in the machine. The new total amount in the machine is $1.75 + $1.00 = $2.75, which corresponds to the provided parameter values as $1.25? Actually, the keyword verifies total amount of money in machine, so it should be $2.75.

QUESTION 6
A route-finding application receives as input - a starting point, an ending point, and a map with information on which streets are one-way. The application returns the length of the shortest

possible route (in meters).

You want to test the correctness of this system with metamorphic testing using the following two metamorphic relations:

```
MR1: for a given route from point A to point B, if one or more one-way
streets are changed to two-way streets, the route length cannot
increase.
MR2: for a given map and points A, B, and C, the length of a route from
A to C cannot be longer than the sum of the lengths of two routes: from
A to B and from B to C.
```

You have two source test cases:

```
TC1: Start: P1, end: P2, one-way streets: S1, S2, S3. Result: route
length = 1680 m.
TC2: Start: P2, end: P3, one-way streets: S1, S2, S3. Result: route
length = 400 m.
```

Which test case reveals a system failure due to a violation of metamorphic relation MR1 or MR2?

A. Start: P1, end: P3, one-way streets: S1, S2. Result: route length = 500 m
B. Start: P1, end: P3, one-way streets: S1, S2, S3. Result: route length = 2080 m
C. Start: P2, end: P3, one-way streets: S1, S3. Result: route length = 580 m
D. Start: P1, end: P2. one-way streets: S1, S2, S3. Result: route length = 1500 m

Answer: C
Explanation:
In the source case with one-way streets S1, S2, S3, the shortest route from P2 to P3 is 400 m. In the follow-up case, one of the one-way restrictions is relaxed (S2 is no longer one-way), which means constraints are reduced. By MR1, removing one-way restrictions cannot make the shortest route longer. The reported 580 m is greater than 400 m, so it violates MR1 and reveals a system failure.

QUESTION 7
What is an example of a risk associated with automated test design?

A. Omission of important test conditions from the software model
B. High cost of test execution due to software changes
C. Difficulty in analyzing the results of the automated test execution
D. Reduction of repetitive work involving manual test specification

Answer: A
Explanation:
Automated test design relies on models or specifications as input. If important test conditions are missing or incorrectly represented in the model, the automatically generated tests will also miss them, creating a risk of insufficient coverage.

QUESTION 8
A technology company called TechSoft has just completed the development phase of a new module in its Pro Task project management mobile application. The new module - “Notifications and alerts” - allows users to receive notifications about the status of their tasks and messages. The functionality includes configuring different types of notifications (email, SMS, push),

notification frequency, and customizing notifications according to the user's role.

Due to the many possible combinations of settings and the various usage scenarios, the project team has decided to do exploratory testing, with a focus on verifying the functionality of notifications in an environment that replicates the end-user environment as closely as possible.

Tech Soft has software for designing tests that meet combinatorial coverage criteria, such as pairwise coverage. It also has the latest version of a test management tool.

As a test analyst, you have been asked to prepare a test charter for exploratory testing.

Which TWO pieces of information should be included in the charter? (Choose two.)

A. Information on existing test design tools
B. Description of the test environment
C. Information on existing test management tools
D. Description of the other modules of the ProTask application
E. Information on existing project management standards

Answer: BD
Explanation:
A test charter for exploratory testing defines the mission and scope of the session, including what is to be tested and under what conditions. Since the goal is to verify notifications in an environment that replicates real user conditions, a description of the test environment is essential. Additionally, understanding the context and interactions with other modules of the application helps define the exploration scope and identify integration aspects relevant to notifications.

QUESTION 9
You plan to test a computer game on various configurations. A configuration consists of:

```
- operating system (2 possible values: Windows 10, Windows 11)
- browser (4 possible values: Edge, Chrome, Firefox, Opera)
- RAM type (4 possible values: 8 GB, 16 GB, 32 GB, 64 GB)
```

Market research shows that 90% of gamers own the same configuration: Windows 11, Chrome, 32 GB.

You use combinatorial testing with the base choice coverage.

What is the MINIMUM number of configurations that need to be tested to achieve 100% base choice coverage?

A. 4
B. 8
C. 10
D. 16

Answer: B
Explanation:
In base choice coverage, one base configuration is selected, typically the most common one: Windows 11, Chrome, 32 GB. Then, for each parameter, additional test configurations are created by varying that parameter through all its other values while keeping the remaining parameters at their base values. This results in 1 base configuration plus 1 additional for the

second OS, 3 additional for the other browsers, and 3 additional for the other RAM options, giving a total of 8 configurations.

QUESTION 10
BeRich company is preparing to launch a mobile application for managing personal finances. The app is expected to eventually attract a wide range of users, from young people to adults to retirees. The app offers a range of functions, such as budgeting, expense analysis, saving, and financial advice. The team responsible for the project consists of experts from different departments: marketing, product development, testing, UX, and system architecture. To ensure consistent performance and positive application reception, the team will review the functional documentation before moving into the intensive implementation phase.

Each department looks at the app through the lens of its goals and specialties. For the marketing department, it is crucial that the application has unique features that distinguish it in the market and are intuitive for users. The system architecture team focuses on scalability, security, and user data protection. On the other hand, testers are focused on ensuring that each function is easy to test and anticipating scenarios that could cause user problems. In contrast, UX specialists focus on the application's accessibility for a wide range of users.

What type of review applied to functional documentation would be the BEST solution in this scenario?

A. Role-based review
B. Checklist-based review
C. Perspective-based reading
D. Scenario-based review

Answer: A
Explanation:
In this situation, different departments review the same documentation from the perspective of their specific roles and responsibilities, such as marketing, architecture, testing, and UX. A role-based review is designed exactly for this purpose, assigning reviewers distinct roles so that the document is examined from multiple professional viewpoints to identify diverse types of issues.

QUESTION 11
You plan to test a computer game on various configurations. A configuration consists of:

```
- operating system (2 possible values: Windows 10, Windows 11)
- browser (3 possible values: Edge, Chrome, Firefox)
- RAM type (3 possible values: 16 GB, 32 GB, 64 GB)
```

You apply the pairwise testing. So far, you have designed the following test cases:

```
TC1: Windows 10, Edge, 64 GB
TC2: Windows 11, Chrome, 32 GB
TC3: Windows 10, Firefox, 64 GB
TC4: Windows 10, Firefox, 16 GB
TC5: Windows 11, Chrome, 64 GB
TC6: Windows 11, Edge, 32 GB
```

What is the MINIMUM number of test cases that need to be added to the existing six test cases, so that the resulting test set achieves 100% pairwise coverage?

A. 3
B. 4
C. 7
D. 12

Answer: B
Explanation:
Pairwise coverage requires every possible pair across each parameter pair (operating system–browser, operating system–RAM, browser–RAM) to appear in at least one test case. The current six test cases leave seven distinct pairs uncovered, and each added test can cover at most three of these missing pairs. In this set, it is not possible to cover all missing pairs with only three additional tests, but four additional tests are sufficient, so the minimum number to add is four.

QUESTION 12
You are working with an experienced team of testers. Each is familiar with the domain and has spent many years doing checklist-based testing. You want each tester to build their own checklists. What type of checklist should they each be developing?

A. Read-do
B. Do-confirm
C. Read-confirm
D. Confirm-do

Answer: B
Explanation:
Experienced testers who understand the domain should use a do-confirm checklist. They perform the testing based on their expertise and then use the checklist to confirm that important items have not been missed.

QUESTION 13
A traceability matrix that shows the relationship between the requirements and the test cases is a way to help determine which of the following?

A. Functional appropriateness
B. Functional completeness
C. Functional correctness
D. Functional disassociation

Answer: B
Explanation:
A requirements-to-test-cases traceability matrix helps verify that every specified requirement has corresponding test coverage. This supports determining whether the implemented functionality is complete with respect to the stated requirements.

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