Question 1

During the follow-up phase the following conditions are checked:

X1. The code has been completely reviewed

X2. All the identified defects have been correctly fixed and the modified code has been compiled successfully and run through all the static analyzers used by the project without warnings and errors X3. The modified code is available under the configuration management system with a new version number for the specified CI

If these conditions are fulfilled then the review process terminates.

Which of the following characteristics of a formal review is missing in this description? K2 1 credit

Options:

A- Defined entry and exit criteria

B- Checklists to be used by the reviewers

C- Deliverables such as reports, evaluation sheets or other review summary sheets

D- Metrics for reporting on the review effectiveness, efficiency, and progress

Answer:

D

Question 2

Question Type: **MultipleChoice**

You can count on well-written requirements, but you can't count on an adequate contribution of the stakeholders to the quality risk analysis. You have to mitigate the insufficient contribution of the stakeholders because the risk-based testing approach shall minimize the product risks. Your test team has one expert tester in security testing. Which of the following test activities would you expect to be the less important in this context? K4 3 credits

Options:

A- Extract from the defect tracking system of the previous project all the security defects and failures, and classify them to support design and execution of specific tests

B- Automate all functional and non-functional system tests

C- Apply systematic and exploratory testing for integration and system test

D- Perform exploratory testing sessions with adequate charters covering security aspects

Question 3

Question Type: MultipleChoice

Assume that the following test cases have been executed at the end of the first week of test execution: TC-001, TC-002 and TC-007. All these tests are 'passes'.

		TEST CASES									
		TC-001	TC-002	TC-003	TC-004	TC-005	TC-006	TC-007	TC-008	TC-009	TC-010
REQUIREMENTS	REQ-001	X									
	REQ-002		X	X							
	REQ-003				X						
	REQ-004				X			X			
	REQ-005					X		X			
	REQ-006						X	X			
	REQ-007								X		
	REQ-008								X		
	REQ-009	X									
	REQ-010									X	
	REQ-011				X						
	REQ-012										X

What is the MINIMUM number of the remaining test cases that must be successfully executed to fulfill the EX1 exit criteria?

K3 2 credits

Question 4

Question Type: **MultipleChoice**

Assume you are working on a CAS (Conditional Access System) for Pay-TV that allows the access, selection and transfer of services and media to authorized users. Authorized users can choose their services through different channels: Web Customer Portal, IVR (Interactive Voice Response), Call Centre and SMS. The system uses a Smart Card to receive and decrypt the broadcasted encrypted control words which allow decrypting pay-per-view TV. Every authorized user must have a Smart Card and a Set-Top Box to view the

contents.

The following is an excerpt from the product risk analysis document:

Both likelihood and impact have been rated on the following scale: (1 -- Very low, 2 -- Low, 3 --Medium, 4 -- High, 5 -- Very High).

The required test environment and code have been delivered. All test cases for each identified product risk item have been written and are ready to be executed. The Database used to contain the Smart Cards is empty and so only new Smart Cards can be used during test execution.

A Smart Card can only be activated if it has been previously pre-activated. This means the postconditions for the execution of the test cases to test the pre-activation of the Smart Card are the pre-conditions for activation of the Smart Card.

Which of the following statements represents the most effective contribution of the stakeholders to the completion of the failure mode analysis table?

K4 3 credits

Potential Failure Mode(s) - Quality Risk(s)	Priority	Severity	Detection	Detection Method(s)
Fails to connect to the PCMCIA card		3		Test; Debug
Fails to transfer the maps from the PCMCIA card		3		Test; Debug
Fails to load the transferred map		3		Test; Debug
Fails to switch from one map to another		2		Test;

Options:

A- The aircraft pilot and the customer representative should contribute to assess the detection. The chief software engineer, the system architect and the expert tester should contribute to assess the priority.

B- The aircraft pilot and the customer representative should contribute to assess the priority. The chief software engineer, the system architect and the expert tester should contribute to assess the detection.

C- The system architect and the chief software engineer should contribute to assess the priority. The expert tester is the only one who should contribute to assess the detection.

D- The aircraft pilot is the only one qualified to contribute to assess the priority and thus should be assigned this task. The customer representative should contribute to assess the detection.

Answer:

B

Question 5

Question Type: MultipleChoice

Assume that you are the Test Manager for a small insurance application development project. You have decided to adopt a risk-based testing strategy: 5 product risks (R1, R2, R3, R4, R5)

have been identified and their levels of risk have been assessed. 10 test cases (T1, ..., T10) have been designed to cover all the product risks.

The following table shows the risk level and the test cases associated to the identified product risks (higher risk level means higher risk):

You are not confident with the assessment of the risk level and you suspect that it will be possible to find high-priority bugs in low-risk areas.

Product risk	Risk level	Test Cases
R1	25	T1, T2
R2	12	T3, T4
R3	10	T5, T6
R4	8	T7, T8
R5	2	T9, T10

Furthermore the period for test execution is very short. Your goal is to test all the product risks in a risk-based way, while assuring that each product risk gets at least some amount of testing. Which of the following answers describes the best test execution schedule in this scenario? K3 2 credits

Options:

A- T1, T2, T3, T4, T5, T6, T7, T8, T9, T10

B- T1, T3, T5, T7, T9, T2, T4, T6, T8, T10

C- T10, T9, T8, T7, T6, T5, T4, T3, T2, T1

D- T10, T8, T6, T4, T2, T9, T7, T5, T3, T1

Question 6

Question Type: MultipleChoice

You are the Test Manager for a project to develop a client-server application that allows wine vendors to order custom-assorted packages of wines of several winemakers to sell special packages in their wine shops.

You decide to apply a blended risk-based and reactive testing strategy. Below the exit criteria for the system testing.

EXCR1- Each "critical" quality risk item must be covered by at least one test condition EXCR2- Each "critical" requirement must be covered by at least one test condition

The following are the "critical" requirements of the application:

REQ-SEL-1. The application shall allow the user to order only one package at a time

REQ-SEL-2. The application shall allow the user to select between four different packages (2-bottles, 6-bottles, 12-bottles, 15-bottles)

REQ-SEL-3. The application shall allow the user to order a package containing at least 1 bottle and no more bottles than the package size. No error messages shall be displayed if the user selects a valid number of bottles (at least 1 bottle and no more than the package size)

REQ-SEL-4. The application shall display an error message "Invalid number of bottles" if an invalid number of bottles is selected by the user (zero bottles or a number higher than the package size)

REQ-PAY-1. The application shall allow the user to pay with the three accepted credit cards (Visa,

MasterCard, American Express)

REQ-PAY-2. The application shall display an error message "Invalid credit card" if invalid credit card data are given by the user

The following is the unique "critical" quality risk item that has been identified:

CR-RSK-1. The GUI of the application might accept non-integer values for the input field designed to get the number of bottles from the user

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

TC-SEL-2. Test the selection of the package sizes

TC-SEL-4. Test wrong numbers of bottles for an order

TC-CR-RSK-1. Test the accepted values from the input field designed to get the number of bottles from the user

What is the MINIMUM number of test conditions that must be added to fulfill both the EXCR1 and EXCR2 exit criteria?

K3 2 credits

Options:

A- 4

B- 3

C- 2

D- 1

Answer:

A

Question 7

You are the Test Manager for a project to develop a web customer portal of a Pay-TV company that allows customers (with a smartcard and a set-top box) to purchase digital contents.

In the "select" page the system displays a dialogue where the customer can select the items (digital contents) he/she is interested in. In this page he/she can add one or more items to a shopping cart. An item consists of a product and a duration.

There are three types of products: Movie, sport and premium (movie and sport).

There are four possible durations: 1 months, 2 months, winter (from the beginning of January to end of March) and summer (from the beginning of July to end of September).

All the combinations of products and durations are allowed to define an item. Thus there are twelve possible items. A maximum of six different items can be added to the shopping cart at a time.

When the customer decides to check out he/she goes to the "purchase" page where he/she can pay the total amount of the shopping cart in three different ways:

- using a credit voucher

- using a credit already charged on the smartcard

- using a credit card (accepted credit cards are. Visa, MasterCard and Great Wall Card)

The customer can logout from both the "select" and "purchase" pages. In this case no purchase is made.

You decide to apply a blended risk-based and reactive testing strategy and the following is a subset of the exit criteria for system testing:

EXCR1- Each "critical" quality risk item must be covered by at least one test condition EXCR2- Each "critical" requirement must be covered by at least one test condition You are following a risk-based testing strategy. The test execution time is very limited. Assume that all the product risk items require more or less the same level of test effort.

Product Risk Item	Likelihood	Impact
The system does not accept transactions coming from the IVR channel	1	5
The system does not correctlv charge a Smart Card with the required contents	2	5
The system does not activate a pre-activated Smart Card	3	5
The system does not pre-activate a Smart Card	5	3

Which of the following answers describes the best execution schedule in this scenario? K3 3 credits

Options:

A- 1- Test the acceptance of transactions coming from the IVR channel

2- Test the correct charge of the Smart Card with the required contents

3- Test the correct pre-activation of the Smart Card

4- Test the correct activation of the Smart Card

B- 1- Test the correct pre-activation of the Smart Card

2- Test the correct charge of the Smart Card with the required contents

3- Test the correct activation of the Smart Card

4- Test the acceptance of transactions coming from the IVR channel

C- 1- Test the correct activation of the Smart Card

2- Test the correct pre-activation of the Smart Card

3- Test the correct charge of the Smart Card with the required contents

4- Test the acceptance of transactions coming from the IVR channel

D- 1- Test the correct pre-activation of the Smart Card

2- Test the correct activation of the Smart Card

3- Test the correct charge of the Smart Card with the required contents

4- Test the acceptance of transactions coming from the IVR channel

Answer:

D

Question 8

The following are the requirements identified as "critical":

REQ-SEL-001. The user shall be able to combine all the three products with all the four durations to define an item to purchase

REQ-SEL-002. The user shall be able to add a maximum of six different items to the shopping cart REQ-PUR-001. The user shall be able to purchase all the items in the shopping cart using a credit voucher

REQ-PUR-002. The user shall be able to purchase all the items in the shopping cart using the available credit already charged on the smartcard

REQ-PUR-003. The user shall be able to purchase all the items in the shopping cart using all the accepted credit cards (Visa, MasterCard and Great Wall Card)

REG-LOGO-001. The user shall be able to logout (by clicking the logout button) from both the "select" and "purchase" pages going back to the "browse" page (anonymous navigation)

Moreover the following quality risk item has been identified as "critical":

QR-P1. The web customer portal might not be able to provide the expected response time (less than 10 sec) for the purchase transactions under a load of up-to 1000 concurrent users Test analysis for system testing has just begun and the following test conditions have been identified.

TC-SEL-01. Test the combinations of products and durations to define an item to purchase TC-SEL-02. Test the maximum number of items, which can be added to the shopping cart

TC-PUR-01. Test the purchase of an item

TC-PUR-02. Test the purchase of an item with the credit charged on the smartcard

What is the MINIMUM number of test conditions that must be added to fulfill both the EXCR1 and EXCR2 exit criteria?

K3 2 credits

Options:

A- 1

B- 2

C- 3

D- 4

Answer:

C

Question 9

You are the Test Manager for a project to develop a client-server application that allows wine vendors to order custom-assorted packages of wines of several winemakers to sell special packages in their wine shops.

You decide to apply a blended risk-based and reactive testing strategy. Below the exit criteria for the system testing.

EXCR1- Each "critical" quality risk item must be covered by at least one test condition EXCR2- Each "critical" requirement must be covered by at least one test condition The following are the "critical" requirements of the application:

REQ-SEL-1. The application shall allow the user to order only one package at a time

REQ-SEL-2. The application shall allow the user to select between four different packages (2-bottles, 6-bottles, 12-bottles, 15-bottles)

REQ-SEL-3. The application shall allow the user to order a package containing at least 1 bottle and no more bottles than the package size. No error messages shall be displayed if the user selects a valid number of bottles (at least 1 bottle and no more than the package size) REQ-SEL-4. The application shall display an error message "Invalid number of bottles" if an invalid number of bottles is selected by the user (zero bottles or a number higher than the package size)

REQ-PAY-1. The application shall allow the user to pay with the three accepted credit cards (Visa, MasterCard, American Express)

REQ-PAY-2. The application shall display an error message "Invalid credit card" if invalid credit card data are given by the user

The following is the unique "critical" quality risk item that has been identified:

CR-RSK-1. The GUI of the application might accept non-integer values for the input field designed

to get the number of bottles from the user

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

TC-SEL-2. Test the selection of the package sizes

TC-SEL-4. Test wrong numbers of bottles for an order

TC-CR-RSK-1. Test the accepted values from the input field designed to get the number of bottles from the user Assume that you have used traceability to determine the logical test cases that cover all the requirements and the single risk item identified in that scenario.

Which of the following is a positive logical test that is complete and correct, and covers the REQSEL-4 requirement?

K3 2 credits

Options:

A- Select a 6-bottles package, then try to insert 5 bottles; verify that no error messages are displayed

B- Select a 6-bottles package, then try to insert 7 bottles; verify that no error messages are displayed

C- Select a 6-bottles package, then try to insert 7 bottles; verify that the 'Invalid number of bottles' message is displayed

D- Select a 6-bottles package, then try to insert 7 bottles

Answer:

C

Question 10

Assume that you are the Test Manager for a small banking application development project. You have decided to adopt a risk-based testing strategy and 5 product risks (R1, R2, R3, R4, and R5) have been identified during the quality risk analysis. The following table shows the risk level associated to these product risks (higher numbers mean higher risk):

Product risk	Risk level
R1	12
R2	25
R3	4
R4	20
R5	25

55 test cases have been designed and implemented to cover all these 5 product risks. The coverage is described in a traceability matrix.

This is the test execution status table, after the after the first week of test execution:

About 56% of the planned test cases have been successfully executed.

Assume that no additional product risks have been identified during the first week of test execution.

Product risk	Test cases				Defects	
	Planned	Run	Passed	Failed	Found	Fixed
R1	25	13	12	1	1	0
R2	12	7	6	1	1	0
R3	8	8	8	0	0	0
R4	5	2	2	0	0	0
R5	5	4	3	1	1	0

Which of the following answers would you expect to best describe the residual risks associated with the identified product risks, at the end of the first week of test execution? K3 2 credits

Options:

A- Since R3 is the only risk for which all test cases have passed, the risk has been reduced by 20%

B- The test execution status table indicates that the risk has been reduced by 56%

C- The residual risk level can't be determined, because it requires that all the test cases have been executed

D- The test execution table doesn't give an indication of the risk level of the open defects and the test cases that failed or are not run yet

Answer:

D

Question 11

Which of the following is an example of the test closure activity indicated as "lessons learned"? K2 1 credit

Options:

A- Archive all the test results of the acceptance testing phase

B- Deliver a list of the open defects of a software product released into production to the service desk team

C- Participate in a meeting at the end of a project aimed at better managing the events and problems of future projects

D- Deliver an automated regression test suite, used during the system test phase of a software product released into production, to the team responsible for maintenance testing

Answer:

C

Question 12

The following are the exit criteria described in the test plan of a software product:

EX1. The test suite for the product must ensure that at least each quality risk item is covered by at least one test case (a quality risk item can be covered by more test cases).

EX2. All test cases in the test suite must be run during the execution phase.

EX3. Defects are classified into two categories: "C" (critical defect) and "NC" (non-critical defect).

No known C defects shall exist in the product at the end of the test execution phase.

Which of the following information is useless when the specified exit criteria is evaluated? K2 1 credit

Options:

A- A traceability matrix showing the relationships between the product risk items and the test cases

B- A list of all the open defects with the associated classification information extracted from the defect tracking system

C- A chart, showing the trend in the lag time from defect reporting to resolution, extracted from the defect tracking system

D- The execution status of all the test cases extracted from the test management tool

Answer:
C