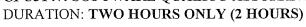
THE OPEN UNIVERSITY OF SRI LANKA DEPARTMENT OF COMPUTER SCIENCE

B.Sc. DEGREE PROGRAMME 2016/2017

FINAL EXAMINATION

CPU3147: SOFTWARE QUALITY ASSURANCE







30th July, 2017

Time: 9.30 a.m. to 11.30a.m.

Answer FOUR Questions ONLY.

Q1).

- I. Briefly explain the following attributes of a good test case:
 - a. Effectiveness
 - b. Exemplary
 - c. Evolvable
 - d. Economical
- II. Consider the following test case template prepared by a QA Engineer to maintain their test cases. Describe briefly the following elements of a test case.

	Pass Fall Elected In progress Not tested	8 3 0 0 3	5 723	hi Solid apopas katas	*		
Test Case ID	Category	Test Case Title	Pre-condition	Test Steps	Test Data	Expected Result Actu	ıal Result Test Result (Pass/Fail)
ersonal Infor	mation Mana	igement					perkutina non-bo-, bo-, demati \$74
TC_FIM_Conp_01	Positive TC	Create credentials for the user	Admin user should	User login to the system as an		System navigates to the	Not tested
		at the time of employee creation	available for initial	administrator.		'Dashboard' screen,	e gris ingenti
		with valid information.	login and employee	User cicks on the 'PIN' manu.		System navigates to the	
			creation.	1		Employee Information	
		1				screen.	
				User clicks on the 'Add' button.		System navigates to the	Land Control
						'Add Employee' screen.	
		1		User provide the valid information.	TC PHI Camp Of Dat	System accept the values.	
				OSE: PISTICE INC TONE SHOTHERION	Table # 01	System accept the value 21	
				User clicks on the 'Save' button.	THE TAXABLE	1, System creates the new	Fig. 18 1 18
						user and navigate to	
						'Personal Details' of the	
	i .						
]	Į.	newly created employee.	
						newly created employee. 2. Newly created employee	
						newly created employee. 2. Newly created employee list under the 'Employee	

- a. Test case ID
- b. Test case title
- c. Pre-condition
- d. Test steps
- e. Expected results
- f. Actual results
- III. Following are identified as the common problems in the software development process. Suggest in brief a solution for each to overcome the problem.
 - a. Poor requirements
 - b. Unrealistic schedule
 - c. Inadequate testing
 - d. Changes to the requirements
 - e. Miscommunication

I.

- a. State the factors that need to be considered when selecting a test case design technique.
- b. Describe the terms "entry criteria" and "exit criteria" in the test case design process.
- c. State the advantages of early test case design.
- d. Explain the importance of the Requirement Traceability Matrix in the software quality assurance process.
- II. Fill the test cases in the given template referring the below decision table written for transferring money online to an account which is already added and approved.

(T-True, F-False, X- Not Applicable)

	CONDITIONS/ACTIONS					
Condition 1	Account Already Approved	T	Т	Т	T	F
Condition 2	OTP (One Time Password) Matched	T	T	F	F	χ
Condition 3	Sufficient Money in the Account	T	F	T	F	χ
Action 1	Transfer Money	Execute				
Action 2	Show a Message as 'Insufficient Amount'		Execute			
Action 3	Block The Transaction Incase of Suspicious Transaction			Execute	Execute	χ

Test case template:

Pest(Case(D)	TertCase	Pre-condition		Explanation :
	Description			Results
East 1942 1977 the Philippiness of the Commission of the Commissio	**************************************	Section of the contract of the		minera american service e e e e e e e e e e e e e e e e e e
			a di di di anti di minimi minimi manana di manganga mga gapanganga gapanganganganganganganganganganganganganga	nement enterpretent frank enter i verder (verder verder) verder verder verder verder verder verder verder verd Verder

Q3).

I. Consider the defect report template given below which was used to communicate defect behaviours to the development team by an offshore QA team. Explain the importance of each element which is intentionally left as blank in the template when reporting a defect.

ID	ADOD 0001
ID	ABCD 0001
Project	ABC Project
Product	Login Screen
Release Version	ABC V 3.3.1
Module	Login
Detected Build Versi	ion 01. 02. 03. 05
Summary	
Steps to Replicate	
Actual Result	
Expected Results	
Attachments	
Remarks	
Defect Severity	
Defect Priority	
Reported By	ABC_Nimal
Assigned To	Developer
Status	New

- II.
- a. Explain the following three defect statuses which are used to decline a defect:
 - Duplicate, As designed, Not reproducible
- b. A test manager realized that the number of open defects of a Product A is consistent, after a three regression cycles completed with the defect fixes given by the development team. Explain the process that is needed to overcome this type of situations in the early stages of software development life cycle.

I.

a. Consider the following statement on software testing.

"Too little testing is a crime and too much testing is a sin"

Do you agree with the above statement? Give reasons.

ΙΙ.

- a. Why does software quality assurance necessary throughout the software development life cycle?
- b. Explain the difference between 'Software Quality Assurance' and 'Software Quality Control'.
- c. Describe the role of 'static testing' and 'dynamic testing' in the software development life cycle.
- d. Discuss the benefits of the reviews.

Q5).

- I. A producer views the quality of a product in a different angle from the customer who uses that product.
 - a. Define the *producer's* view of quality, and the *customer's* view of quality.
 - b. Briefly describe the following three categories of costs associated with producing a quality product.
 - Prevention cost
 - Appraisal cost
 - Failure cost

Π.

a. Consider the following statement on external failures.

'External failure costs can be more devastating...'

Do you agree with this statement? Justify your answer.

b. The effectiveness of finding defects by reviewing and testing can be improved by using independent testers. List down four (04) advantages of independent testing.

I.

A Quality Assurance Lead of a project has identified a list of risks in his project. The risks are generally classified into two types. Identify their categories and categorize the following risks.

- a. The system is to be integrated with a separate system which calculates tax and handles a payment gateway.
- b. An open source software which has not been used previously will be used after customizing according to the client's needs.
- c. Senior Test Engineer of the project will be on leave for 2 weeks during the test execution.
- d. Software will be built using new technologies.
- e. Customer deadline is fixed and development team is delaying the "build" for testing due to some delays in the development

II.

- a. What are the four (04) stages involved in risk management? Briefly explain them.
- b. List down four (04) risks associated with software testing.
- III. What are the key areas of Configuration Management procedure?

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