CANTERBURY
TECHNICAL INSTITUTE

ASSESSMENT

ICA50715
Diploma of Software Development

Testing and Validation

Assessment Code:

DITS-PRG529

ICTPRG529 Apply testing techniques for software development

Candidate must fill this section:			
Candidate Name:			
Candidate ID:			
Privacy Release Clause:	"I give my permission for my assessment material to be used in the auditing, assessment validation & moderation Process"		
Candidate Signature:		**Date:**	

Assessment Completion Status: (Trainer Use Only)				
Attempt	**Satisfactory**	**Non-Satisfactory**	**Date**	**Assessor's Signature**
Initial attempt	☐	☐		
2nd attempt/*Re-assessment*	☐	☐		

Information for Candidate:

- All work is to be entirely of the candidate.

General Information for this assessment:

- Read the instructions for each question very carefully.
- Be sure to PRINT your FULL name & LAST name in every place that is provided.
- Short questions must be answered in the spaces provided.
- For those activities requesting extra evidence such as: research reports, ESSAY reports, etc. The student must attach its own work formatted in double space, Arial 12 pts.
- All activities must be addressed correctly in order to obtain a competence for the unit of competency.
- If the candidate doesn't understand the assessment, they can request help from the assessor to interpret the assessment.

Re-assessment of Result & Academic Appeal procedures:

If a student at CTI is not happy with his/ her results, that student may appeal against their grade via a written letter, clearly stating the grounds of appeal to the Deputy Principal. This should be submitted after completion of the subject and within fourteen days of commencement of the new term.

Re-assessment Process:

- An appeal in writing is made to the Deputy Principal providing reasons for re-assessment /appeal.
- Deputy Principal will delegate another faculty member of CTI to review the assessment.
- The student will be advised of the review result done by another assessor.
- If the student is still not satisfied and further challenges the decision, then a review panel is formed comprising the lecturer/trainer in charge, the Deputy Principal and the Director of Student Services OR if need be an external assessor.
- The Institute will advise the student within 14 days from the submission date of the appeal. The decision of the panel will be deemed to be final.
- If the student is still not satisfied with the result, the he / she has the right to seek independent advice or follow external mediation option with CTI's nominated mediation agency.
- Any student who fails a compulsory subject or appeals unsuccessfully will be required to re-enrol in that subject.

The cost of reassessment will be borne by the Institute. The external assessor will base his/her judgement based on principles of assessment. These principles require assessment to be reliable, fair, practical and valid.

Academic Appeals

- If you are dissatisfied with the outcome of the re-evaluation process, you have a right to appeal through CTI's complaint / grievance protocol.
- The notice of appeal should be in writing addressed to the Deputy Principal and submitted within seven days of notification of the outcome of the re-evaluation process.
- If the appeal is not lodged in the specified time, the result will stand and you must re-enrol in the unit.
- In emergency circumstances, such as in cases of serious illness or injury, you must forward a medical certificate in support of a deferred appeal. The notice of appeal must be made within three working days of the concluding date shown on the medical certificate.
- The decision of Deputy Principal will be discussed with the PEO and will be final.
- Student would then have the right to pursue the claim through an independent external body as detailed in the students' complaint / grievance policy.

Feedback/Comments:

Acknowledgement

I understand all the above rules, guidelines and feedback for this assessment.

Full Name:		**Signature:**		**Date:**	

Submission Details:

The assessment task is due on trainer provided date. Any variations to this arrangement must be approved in writing by your assessor. Submit this document with any required evidence attached. See specifications below for details

Performance objective

The candidate must demonstrate skills, knowledge and understanding and promote the use and implementation of innovative work practices to effect change, as states the unit of competency **ICAPRG529A**. Throughout this program you are to demonstrate knowledge in:

- Characteristics of programming language.
- Detailed knowledge of input and output requirements.
- Software development life cycle (SDLC) methodologies.
- System layers, such as data network, hardware, operating system, database management systems, web servers, application servers and client deployment.
- Processes and techniques related to small-size application development.

And skills in:

- Analytical skills to review and evaluate technical and business requirements.
- Communication skills to: liaise with programmers on fault debugging matters, liaise with project managers or
- leaders on report and result matters, seek requirements and information from business and technical experts.
- Literacy skills to: develop reports and documentation related to test result report, read and interpret software specifications developed by business and technical experts, problem-solving skills to apply basic debugging techniques in the context of software or application development.
- Research skills to: locate and interrogate complex and varied sources of information, source information from available sources.
- Technical skills to: operate software applications and navigate the internet, develop a small scale application ,
- execute an application.

Assessment description:

You will undertake **computer based test** based on class lectures and activities in this Practical Activity.

Procedure:

1 You will need to follow instructions below and address all activities required.
2 This is an individual activity where each candidate will be assessed individually;
3 Complete all activities and submit assessment evidence (including these papers) to your assessor the date specified above (see submission details).

Specifications/Conditions:

Your assessor will be looking for evidence of:

- Plan and design test
- Prepare test environment
- Implement and execute test
- Manage defect and testing process

Assessment Details

The assessment Task 1 – Problem Scenario and Practical Activity
Covering Elements (1-4)

Step 1. Analyse and Review Software

Analyse and review the "Driving Knowledge Test" software to find out the following information

- Software functional and design specifications
- Test context, scope and methodology
- Requirements of test input data
- Test environment requirements

You can download the application from course resources centre.

Driving Knowledge Test Program contain 3 part-

1) Login

Sample user information (Testing)

User Name	Password	Status
John	John123	user
Kumary	Krishnan	Admin
Sunate	Sunate001	user
Cathy	CathyRubby	user
Margarate	Margarita	Admin
David	DavidHaug	user
Sunil	Sunil120	Administrator

2) Question (Quitting the question, move next back and submission of question)
3) Test Knowledge and Result

User will login to the system to access the "Driving Knowledge Test" program. According to level, user will get access for 2nd and 3rd part of that. Admin user can Add/Update/Delete question and test their knowledge. Ordinary user only can test their knowledge and check the result.

Step 2. Prepare Test Plan, Conduct Test and Document

Design test plan using using black box testing technique. Conduct simple test to confirm code meets the design specification. Write the test performed and achieved result.

To complete Step 2, you need to complete the following tasks:

i) Document the following point for the given software

- Background
- Introduction
- Assumption
- Test Items (function of the software)

- ❖ Feature which will be tested or not tested
- ❖ Input data for testing
- ❖ Test Environment

ii) Analyse and identify test data to design test case

iii) You need design test cases for the following Test levels:

- Unit/component testing (to test the individual method of the program)
- GUI testing (to test the design interface for the program)
- Functionality testing (to test all functions of the program)

Your designed test cases should reflect the design specification and also MUST include the followings:

- Test ID
- Test description with required steps
- Expected outcomes
- Actual outcomes
- Pass/Fail results

Example of test case:

Test ID : FT_1 *(Note: FT = functionality testing, 1 = test case number)				
Test Description: Verify the 2 Dimensional shape				
Steps	**Actions**	**Expected Result**	**Actual Result**	**Pass/Fail**
1	Click the button “Login”	“Main” window displayed.		
2	Click on button “Question”	“Question” window displayed.		

iv) You need to conduct the testing based on your described test cases and write the test results in Actual outcomes and Pass/Fail results in the particular test case.

v) Track defect and verify

vi) Write your assumptions/findings for the causes of failed results, **ONLY IF** you have failed results in test cases.

vii) Responsibilities (Staffing and training)

viii) Staffing and training

ix) Schedule

x) Resources

xi) Approval

xii) References

Assessment Submission Details

This assessment requires the following evidence:

- The assessment cover sheet (first two pages of the document) filled in with:
  - Your Name
  - Student Number
  - Date
- All created documents/source code/reports for this assessment.
- A **zip** or **7z** compressed archive containing the completed cover sheet and all relevant assessment documentation for this assessment.
- Submitted electronically via instructions from you assessor/instructor.