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| **FURTHER EDUCATION AND TRAINING CERTIFICATE: INFORMATION TECHNOLOGY: SYSTEMS DEVELOPMENT**  **ID 78965 LEVEL 4 – CREDITS 165** |
| **SUMMATIVE ASSESEMENT**  **SAQA: 14915**  **DESIGN A COMPUTER PROGRAM ACCORDING TO GIVEN SPECIFICATIONS** |

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| **FULL NAME & SURNAME** | Mila Mihlali Ngewu |
| **ID NUMBER:** | 9909106615084 |
| **NAME OF ASSESSOR** | Anneline Nombeko |
| **DATE OF ASSESSMENT** | 07 September 2023 |
| **VENUE** | Nalson Mandela Bay iHUB |

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|  | **ACHIEVED** | **NOT ACHIEVED** |
| **KNOWLEDGE** |  |  |
| **SKILLS** |  |  |

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| **Signature of learner** | **Signature of Assessor** |

**ASSESSMENT PACK**

**Please complete the following sections (A and B) before commencing with this assessment. The moderator of this assessment will complete section C.**

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| **Section A Learner Information** | | | | | | | | | | | | | | | | |
| **Name:** | | | | | | | Mila | | | | | | | | | |
| **Surname:** | | | | | | | Ngewu | | | | | | | | | |
| **Date:** | | | | | | | 07 September 2023 | | | | | | | | | |
| **Contact telephone no:** | | | | | | | 0823655804 | | | | | | | | | |
| **Learnership agreement no:** | | | | | | | **MICT/PVT/Lship/LoI/2023204/50358** | | | | | | | | | |
| **Company:** | | | | | | | **Site:** | | | | | | | | | |
| **ID** | 9 | 9 | 0 | 9 | 1 | 0 | |  | 6 | 6 | 1 | 5 |  | 0 | 8 | 4 |

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| **Section B Assessor Information** | | | | | | | | | | | | | | | | |
| **Name:** | | | | | | |  | | | | | | | | | |
| **Surname:** | | | | | | |  | | | | | | | | | |
| **Date:** | | | | | | |  | | | | | | | | | |
| **Contact telephone no:** | | | | | | |  | | | | | | | | | |
| **Assessor no:** | | | | | | |  | | | | | | | | | |
| **Provider no:** | | | | | | | **Site:** | | | | | | | | | |
| **ID** |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |

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| **Section C Moderator Information** | | | | | | | | | | | | | | | | |
| **Name:** | | | | | | |  | | | | | | | | | |
| **Surname:** | | | | | | |  | | | | | | | | | |
| **Date:** | | | | | | |  | | | | | | | | | |
| **Contact telephone no:** | | | | | | |  | | | | | | | | | |
| **Moderator no:** | | | | | | |  | | | | | | | | | |
| **Provider no:** | | | | | | | **Site:** | | | | | | | | | |
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| **Results:** |
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**1. INSTRUCTIONS TO ASSESSOR**

**Introduction:**

This assessment guide has been designed as a generic assessment guide and is intended for use by the accredited Training Providers.

**Purpose of the assessment**

The purpose of summative assessment against this unit standard is to:

♦ Award credits to the NQF to learners who are able to start and run their businesses.

**Learning assumptions**

The following knowledge, skills, attitude and/or equivalent:

♦ Demonstrate knowledge of communication and numeracy at Abet Level 3

**Assessment methods**

The following assessment methods will be used for the summative assessments:

♦ written and/or/verbal questioning

♦ Product sample and on site assessment

**2. Assessment Process**

**General**

* Use the assessment guide and your latest company policies and standard operating procedures to assess the evidence received from the learner.
* Use the section: Addition Comments/Questions to note down any further comments or questions on the evidence assessed.
* Use the model answers as a guideline to assess the learner’s answers to the assessment questionnaire.
* The learner can complete the assessment questionnaire orally. In this case, agree a date, time and venue.
* Provide the learner with a feedback within 10 working days of receiving the evidence.

**Step 1 - Planning for the Assessment**

Review this assessment guide to:

* Ensure that you understand all the requirements of the assessment in terms of evidence required to prove competence.
* Identify and prepare the learner for the assessment by:
* Completing the Assessment Plan with the learner to discuss and agree the details regarding the assessment.
* Completing the Assessment Preparation Checklist and getting the learner to sign.
* Ensure that you have familiarized yourself with the following:
* The various patrolling functions and standard operating procedures within the company.

**Step 2: Complete the Assessment**

* Collect the evidence in accordance with the methods and evidence requirements specified.
* Mark each question as correct or incorrect in the “Office Use” column.
* Record the evidence on the assessment guide and indicate “Competent”, “Not Yet Competent” or “Not Assessed” for each assessment criterion. Note down any comments at the back of the assessment guide.
* Ask the learner additional questions, if necessary, to clarify points. Record these on the guide.
* All questions must be complete as per the criteria specified.
* Answers provided must be similar to the model answers.

**Step 3 - After the Assessment**

* Prepare the feedback by writing comprehensive, developmental feedback after each section on the Assignment Sheets. In addition to this, you are required to write a summary overall feedback on the Assessment Guide.
* Provide the feedback to the learner in a safe, undisturbed in nature.
* Ensure that your feedback is developmental and supportive in nature.
* Advise the learner on what action to follow in the event of a “Not Yet Competent” rating.
* Advise the learner on what action to take where he/she feels the need to appeal against your decision.
* Allow the learner time to provide you with feedback relevant to the process.
* Record the learner’s feedback in the guide and ensure that it is given to the person responsible for the quality assurance of assessment tools.
* Ensure that the learner co-signs the assessment guide to indicate agreement with the feedback.

**3. Assessment documentation required:**

**Step 1: Planning for the Assessment**

♦ Assessment Plan

♦ Assessment Preparation Checklist

♦ Assessment Policy (including Appeals)

♦ Evidence Matrix

♦ Assessment Instruments

**Step 2: Conducting the Assessment**

♦ Assessor Guide

♦ Learner’s workbook

♦ Summative assessment pack

**Step 3: After the Assessment**

♦ Assessment Comments

♦ Feedback Report

**4. Specific Instructions**

Please note that Part 3 Assessment Instruments are not included in this guide and are to be included by the assessor on an individual basis.

The actual summative assessments need to be completed and signed off by both learner and assessor. The assessor will take control of the completed assessment instruments and will file them under the tab for Assessment Evidence.

The completed assessment pack will be kept in safekeeping at the training provider for three months after endorsement by SETA and will then be returned to the learner.

**Guidelines where** a**n appeal is lodged**

* The normal appeal procedure prescribed by SETA and described by the provider’s Quality Management System will be followed.

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**ASSESSMENT PLAN**

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| **ASSESSMENT DETAILS** | | | | | | | | | | | |
| **Date of Assessment** | | | | **Option 1** | **Option 2** | | | | **Option 3** | **Option 4** | |
| 05/08/2023 |  | | | |  |  | |
| **TIME OF ASSESSMENT** | | | | | | | | | | | |
| **Start:** | 12:30 | | | | | **End:** | | 16:30 | | | |
| **VENUE** | NMB iHUB | | | | | **Contact**  **person** | |  | | | |
| **LANGUAGE MEDIUM**  **METHOD OF** | | | | | |  | | | | | |
| **METHOD OF ASSESSMENT (please tick off the one to be used)** | | | | | | | | | | | |
| **OBSERVATION** | | | **ORAL** | | | | | **WRITTEN** | | | |
| **Simulation** | |  | **Knowledge test** | | | |  | **Knowledge test** | | |  |
| **Product** | |  | **Interview** | | | |  |  | | |  |

**PRE-ASSESSMENT MEETING CHECKLIST**

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| **ACTION** | **YES/NO** | **COMMENTS** |
| Set learner at ease; be friendly, polite and professional. | Yes |  |
| Explain to the learner and agree on the following issues.   * The unit standard that will be assessed * Date, time, venue and process to be followed during the assessment. * Summative assessment tools to be used for the assessment. * The assessment plan * Purpose of assessment | Yes |  |
| Explain to the learner and agree on the role of all involved during the assessment process. | Yes |  |
| Identify possible barriers and or disabilities of the learner. | Yes |  |
| Explain the meaning and application of RPL. | Yes |  |
| Explain, discuss and provide one complete set of the Appeals process documentation. | Yes |  |
| Explain to the learner when final results will be available and how feedback will be provided. | Yes |  |
| Discuss previous assessment results if applicable. | Yes |  |

I, MM Ngewu (initials and surname of learner), DECLARE THE FOLLOWING:

A copy of the unit standard(s) involved has been given to me prior to this meeting. I know I will be assessed against the criteria, which have been set to the applicable unit standards. The criteria have been discussed with me, and the procedures and purpose of the assessment has been clearly explained to me.

I am well aware of the venue, date and time that I will be assessed. I consider the period of time given to me to prepare myself for the assessment to be fair.

I understand clearly that I have the right to appeal against any decision made by the assessor during the assessment of the evidence provided by me, and that I have free access to the appeals procedures attached to this assessment pack. I understand that I have the right to be accompanied by another person during all procedures, and that I have free access to the Training Division of SBV’S Health and Safety Procedures- filed at the offices.

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|  | 05 September 2023 |
| **Signature of learner** | **Date** |

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**Assessment Instruments**

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| **TAKE NOTE** |
| **The assessment instruments included in this assessment pack are all summative assessment instruments and are to be read in conjunction with the formative assessment instruments contained in the learner workbook. Both formative (workbook) and summative assessments are to be retained as part of the learner’s portfolio of evidence.** |

**A number of the assessment instruments contained in this assessment are workplace knowledge based questions. This means that you will arrange with the learner, a time that is suitable, during which the learner will complete each questions.**

**Complete the following activities according to the instructions provided**

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| **Activity** |  | **Mark** |
| **1** | **Briefly outline the drawing of a decision tree for a given simple problem** | **5** |

When youre working on a decision node you create nodes for making decisions based on certain criteria, for example if you want to decide whether to go to the mall and you need to decide on a mode of transport:

In this case you would probably want to decide on the price first and that would be your first decision node, after you have determined which one would be cheaper you would want to decide on the quickest route. The have a final decision on the most convenient.

Application:

You draw a line from the start to your first decision node which in this case will be "price", and then draw two lines from "Price" to "cheaper" and "expensive", from each of those options you mode to your second decision mode which is the "quickest route", here you would draw two lines from both the children of the first decision node which are "cheaper", and "expensive" independently. these two lines will point to "quickest" and "slower".

This decision tree helps you visualize the decision-making process for whether to use an Uber or a taxi based on price and the time it takes to get there.

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| **Activity** |  | **Mark** |
| **2** | **Describe and explain the guidelines for constructing a decision table** | **5** |

1. Identify the decision: Determine the specific decision or problem you want to address and then create a table where each row represents a unique combination of variable states, and each column represents a variable or the outcome.
2. Draw boxes for the top and bottom left quadrants: List the conditions in the top left quadrant. If need be phrase the conditions as yes or no questions, or boolian expressions. Depending on the scenario, there may be a need for more than two values.
3. Lay out your possible actions in the bottom left quadrant.
4. Multiply all possible values with their total number to determine the number of possible conditions are present.
5. After you have entered all the possible combinations in the top right quadrant of the table, mark an X in the bottom right quadrant in the appropriate action row. This "X" will mark an intersection between the required action and each unique combination of condition values.

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| **Activity** |  | **Mark** |
| **3** | **Describe Top-down and bottom-up procedural computer program as a way to solve a given problem.** | **5** |

**Top-down**

Specifies but does not describe anyfirst-level subsystems. Then, until the entire specification is reduced to base elements, each subsystem is improved in even more detail, perhaps at numerous additional subsystem levels.

Each subsystem is then further honed, often in many more levels of subsystem, until the entire specification is reduced to the fundamental pieces. "Black boxes" help specify a top-down model and make manipulation easier.

Top-down approach starts with the big picture. It breaks down from there into smaller segments.

**Bottom-up:**

The individual base pieces of the system are first described in great detail using a bottom-up methodology. These components are then connected to one another to create larger subsystems, which are subsequently connected to one another—sometimes at many levels—until a full top-level system is created. This approach frequently reflects the "seed" paradigm, in which the beginnings are modest but later expand in complexity and completeness.

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| **Activity** |  | **Mark** |
| **4** | **Describe and explain the operation use of the syntax checker of the tools to check for syntax errors.** | **5** |

1. Scanning Source Code: A syntax checker's initial step is to thoroughly examine all of the programmer's submitted source code. Depending on the programming language, it reads the code token by token, line by line, or character by character.
2. Parsing: The parser used by the syntax checker then examines the syntactic structure of the code. It determines if the placement and use of tokens comply with the grammar and syntax of the language. To reflect the structure of the code, the parser creates an abstract syntax tree (AST) or parse tree.
3. Error Detection: As the syntax checker parses the code, it actively looks for violations of the language's syntax rules. When it encounters an error, such as a missing semicolon, a mismatched parenthesis, or a keyword used incorrectly, it raises an error or warning message.
4. Lexical Analysis: The syntax checker conducts lexical analysis, sometimes referred to as tokenization, during this stage. While ignoring whitespace and comments, it disassembles the code into individual tokens such keywords, identifiers, operators, and symbols.
5. Error reporting: The syntax checker generates an error report when a mistake is found. Line and column numbers, an explanation of the issue, and occasionally recommendations for how to fix it are all often included in this report.

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| **Activity** |  | **Mark** |
| **5** | **Briefly outline the reasons for choosing a Modular Design** | **10** |

1. **Simplified modules**. High internal cohesiveness and loose connectivity between modules are characteristics of properly described modules. Well-defined interfaces should be used for the coupling between the modules.
2. **Developing and/or deploying modules independently:**

When modules are designed in a loosely linked manner, they can be developed, tested, and/or deployed on separate timetables. You can accomplish the following by doing this:

* o Modules can be individually versioned.
* o Modules can be developed and tested separately.
* o You can use modules created by several teams.

3. **Loading modules from different locations**:

Modules may be retrieved by a Windows Presentation Foundation (WPF) application from a database, the file system, or the Web. Different XAP files may be loaded by a Silverlight application as modules. The modules typically come from a single source, though; for instance, they may all be found in the same XAP file or in a certain folder.

4.**Minimizing download time**:

You want to cut down on the

amount of time it takes to download the modules while the program isn't on the user's local computer. Only download the components needed to launch the application in order to reduce download time. The remaining ones are initialized and loaded when needed or in the background.Only load and initialize the module(s) necessary to start the program in order to get a portion of it working as quickly as possible.

5.**Minimizing application start-up time**: Only load and initialize the module(s) necessary to start the program in order to get a portion of it working as quickly as possible.

Only load and initialize the module(s) necessary to start program in order to get a portion of it working as quickly as possible.

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| **ASSESSOR REPORT** |
| **ASSIGNMENT**  CANDIDATE NAME:  DATE OF FEEDBACK: |
| OVERALL ASSESSMENT DECISION:  I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the assessor, declare the candidate **Competent / Not Yet Competent** (circle relevant) on all the criteria within the assignment. |
| STRENGTHS: |
| WEAKNESSES: |
| LEARNER COMMENTS: |
| DEVELOPMENT PLAN: |
| CANDIDATE DECLARATION:  I Mila Ngewu, the candidate, declare that I have received feedback and been informed of my overall competence for the criteria within the assignment. |
| ASSESSOR SIGNATURE LEARNER SIGNATURE  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |