**USE A GRAPHICAL USER INTERFACE (GUI)-BASED SPREADSHEET APPLICATION TO SOLVE A GIVEN PROBLEM**

**UNIT STANDARD ID: 116940**

**NQF LEVEL:** 3

**CREDITS: 6**

**NOTIONAL HOURS: 60**



**ASSESSMENT INSTRUMENT**

|  |  |
| --- | --- |
| **Name** |  |
| **Contact Address** |  |
| **Telephone (H)** |  |
| **Telephone (W)** |  |
| **Facsimile** |  |
| **Cellular** |  |

##### Assessment Process Flow

Assessment Plan agreed by candidate & completed by the assessor before the actual assessment

Knowledge Questionnaire conducted as per the Assessment Plan

Observation conducted as per the Assessment Plan

Portfolio of Evidence compiled as per the Assessment Plan

A detailed Assessor Report compiled & forwarded for Moderation

Record of Learning Updated

Appeal form completed by the candidate in the event of dispute

Feedback Report Completed by Assessor & individual feedback given to the candidate

Assessment Results Moderated

Action Plan Completed by Assessor

All records & evidence filed

Completed Assessor Report / Moderator Report / Record of Learning

Approval & Certification obtained

Certificate of Competencies issued to successful candidates

Register candidates on the Learner Record Database

Portfolio of Evidence submitted as per the Assessment Plan

**SETA**

**ASSESSMENT**

**CAND**

**I**

**DATE**

##### INSTRUCTIONS TO THE LEARNER

* *You must complete the classroom activities whilst facilitation is taking place. The facilitator may stop at regular intervals to give you time to complete the activities.*
* *Please complete all work in blue or black pen. The assessor will not assess the evidence if completed in pencil.*
* *You are not allowed to copy from another learner. Any plagiarism committed will be viewed in a serious light and disciplinary action may be taken against you. Your work must be authentic i.e. your own work. Group work is allowed in certain activities but your answers must be your own original work after discussions in the group.*
* *You must sign the declaration contained in the assessment preparation and planning document declaring that all work is your own. If you so not sign this declaration, the assessor will not proceed with assessment and your results will be delayed.*
* *Please do not use any correction fluid i.e. tippex. Rather cross your work out and write next to your mistakes.*
* *The proficiency level required for each unit standard in the cluster is 50% per specific outcome per unit standard. If you are deemed Not Yet Competent in a unit standard, you will only be required to redo (remediate those sections in that unit standard.*
* *Any remediation must be submitted within 30 working days after you gave received feedback*
* *If you have achieved any unit standards in this skills programme via another provider, please neatly draw a line through the section and indicate that a certified certificate has been submitted and is included in your administration section.*
* *Please include dates on all extra evidence that you will submit in your portfolios*
* *Answer section A and Section B.*

##### Agreed Assessment Plan

|  |  |
| --- | --- |
| **Candidate's Name:**  |  |
| **Assessor's Name:** |  |
| **Standard title:** | **Use a graphical user interface (GUI)-based spreadsheet application to solve a given problem**  |
| **EVENT** | **DATE, TIME AND LOCATION** | **RESOURCES REQUIRED** | **EVIDENCE TO BE GENERATED** |
| Attend Training |  | Training material, equipment as specified  | Attendance Register |
| Complete formative assessment |  | Formative workbook, computer, Ms Excel 2010 | Completed formative workbook |
| Complete summative assessment |  | Summative workbook, computer, Ms Excel 2010 | Completed knowledge questionnaire |

Signature of Candidate: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature of Assessor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**UNIT STANDARD 116940**

**A: FORMATIVE QUESTIONS**

*Answer all questions in this section*

**Question 1 (SO 1, AC 2)**

Identify examples of situations in which a spreadsheet (Excel 2010) can be used to assist in addressing business problems. (3)

**Question 2 (SO 2, AC 2)**

Name the tool that a user of Ms Excel 2010 can use to enlarge and reduce the size of the spreadsheet view. (2)

**Question 3 (SO 2, AC 2)**

*Study the diagram below and answer the question that follows,*



The tools shown above are used for what purposes? (2)

**Question 4 (SO 2, AC 5)**

The default file location when saving a worksheet in Microsoft Excel 2010 is…………………… (1)

**Question 5 (SO 3, AC 1)**

Explain the purpose of using multiple worksheets within one spreadsheet file. Use an example to illustrate your answer. (4)

**Question 6 (SO 4, AC 3)**

Identify the meaning and causes of the following error formula messages.

|  |
| --- |
| * #DIV/0
 |
| * #N/A
 |
| * #NAME?
 |
| * #NULL!
 |
| * #NUM!
 |
| * #REF!
 |
| * #VALUE!
 |
|  |

 (14)

**Question 7 (SO 5, AC 1)**

Identify and explain the use and purpose of the following functions in Ms Excel spreadsheets.

* Average
* Sum (4)

**Question 8 (SO 7, AC 3)**

Explain the reason behind adding borders to cells in a spreadsheet. (1)

**SUMMATIVE PROJECTS**

*Complete the following projects in the presents of your assessor or facilitator.*

**PROJECT 1 (SO 1, AC 1, AC 2; SO 2, AC 1, AC 2, AC 3, AC 4, AC 5, AC 6)**

Your brother, an IT lecturer at CC Colleges has given you the following marks of 5 students who set for 4 different computer tests last week. He wants you to properly capture, organise and analyse the marks on a spreadsheet.

* Vusi got 75% (Module A), 70 % (Module B), 50 % (Module D) and 60% (Module C)
* Pieter got 80%, 60% (Module A), (Module C) 90% (Module D) and 76% (Module B),
* Amukhelani got 50% (Module B), 55% (Module A), 90% (Module D) and 50% (Module C)
* Martin got 60% (Module A), 67% (Module B),, 70% (Module D) and 90% (Module C),
* Beatrice got 68% (Module A),72% (Module C),, 78% (Module D), and 100% (Module B),

The following are your guidelines;

|  |  |  |  |
| --- | --- | --- | --- |
| **NO.** | **ITEMS**  | **TICK WHEN COMPLETED** | **COMMENTS** |
| 1 | Develop a brief outline solution to meet the requirements of your brother |  |  |
| 2 | Enter the above student marks in a spreadsheet. * *Y- axis must contain the student marks and X axis the name of students*
* *Headings X-axis: student names & Y axis: student marks*
 |  |  |
| 3 | Switch off the ribbon menu |  |  |
| 5 | Switch on the ribbon menu  |  |  |
| 6 | Enlarge the view of the spreadsheet to 150% |  |  |
| 7 | Freeze rows - Vusi, Pieter and Amukhelani |  |  |
| 8 | Freeze columns – Module C and Module D |  |  |
| 9 | Rename the worksheet as *Computer Exam* |  |  |
| 10 | Save the spreadsheet in the default file location as *Student Exam Marks* |  |  |
| 11 | Change the default file location to Desktop and resave the spreadsheet |  |  |
| 12 | Add a user name to the file i.e. *your name* |  |  |
| 13 | View the spreadsheet in a page layout |  |  |
| 14 | Use the Excel double data entry method to determine the accuracy of the data entered in the spreadsheet |  |  |

**PROJECT 2 (SO 3, AC 1, AC 2, AC 3, AC 4, AC 5)**

You are required to demonstrate how to work with multiple worksheets in a spreadsheet. The following are marks for 5 students for two courses project management and accounting.

**Project management**

* Vusi got 50% (Module A), 20 % (Module B), 50 % (Module D) and 40% (Module C)
* Pieter got 100%, 50% (Module A), (Module C) 80% (Module D) and 56% (Module B),
* Amukhelani got 59% (Module B), 58% (Module A), 98% (Module D) and 90% (Module C)
* Martin got 90% (Module A), 87% (Module B),, 80% (Module D) and 40% (Module C),
* Beatrice got 68% (Module A),52% (Module C),, 88% (Module D), and 90% (Module B),

**Accounting**

* Vusi got 60% (Module A), 20 % (Module B), 50 % (Module D) and 80% (Module C)
* Pieter got 60%, 70% (Module A), (Module C) 90% (Module D) and 66% (Module B),
* Amukhelani got 59% (Module B), 88% (Module A), 98% (Module D) and 100% (Module C)
* Martin got 80% (Module A), 77% (Module B),, 50% (Module D) and 40% (Module C),
* Beatrice got 69% (Module A),52% (Module C),, 68% (Module D), and 90% (Module B),

The following are guidelines

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Items**  | **Tick when completed** | **Comments** |
| 1 | Open the file *Student Exam Marks* |  |  |
| 2 | Insert worksheet 2 (rename it as project management Exam); Worksheet 3 (Rename it as accounting Exam) |  |  |
| 3 | Capture the student marks for project management and accounting in their respective worksheets.* *Y- axis must contain the student marks and X axis the name of students*
* *Headings X-axis: student names & Y axis: student marks*
 |  |  |
| 4 | Copy the entire accounting exam worksheet and past it below the computer exam worksheet |  |  |
| 4 | Delete worksheet (project 2) |  |  |
| 5 | Delete the project management worksheet |  |  |
| 6 | Undo the deleted project management worksheet |  |  |

**PROJECT 3 (SO 4, AC 1, AC 2, AC 3, AC 4, AC 5, AC 6)**

Use the saved *Student Exam Marks* to demonstrate how to apply formulae to worksheets. The following are guidelines.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Items**  | **Tick when completed** | **Comments** |
|  | Open the Computer Exam worksheet |  |  |
| 1 | Create a column after Module D for totals. Insert a formula to add Vusi marks for the 4 modules. Ensure that the total mark for Vusi is in the appropriate row and column.  |  |  |
| 2 | Automatically enter the total marks for the other 4 students without entering a formula. |  |  |
| 3 | Change Vusi’s mark for Module C to 50% |  |  |
| 3 | Click an empty cell in the worksheet and add the following formula =500+60+20/0  |  |  |
|  | Correct the formula so that the result of the calculation is 580 |  |  |
| 4 | Demonstrate the difference between relative and absolute cell using a formula |  |  |

**PROJECT 4 (SO 5, AC 1, AC 2, AC 3; SO 6, AC 3, AC 4, SO 7, AC 1, AC 2, AC 3, AC 4, SO 8, AC 1, AC 2)**

The following is the expense side of a monthly personal budget for Snowy.

|  |  |
| --- | --- |
| Expenditure items | Amount |
| Rent | 3 000,67 |
| Clothes | 2 999.99 |
| Electricity |  856.67 |
| Food  | 1 234.12 |
| Entertainment |  500.67 |

Follow the guidelines below;

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Items**  | **Tick when completed** | **Comments** |
| 1.  | Enter the above information in a spreadsheet. |  |  |
| 2 | Save the spreadsheet as *Snowy personal budget* |  |  |
| 3 | Use the summation mathematical function to find the total expenditures for Snowy. |  |  |
| 4 | Use statistical functions to1. Count the number of cells containing numbers
2. Determine the highest expenditure for Snowy
 |  |  |
| 5 | Save the spreadsheet with the changes |  |  |
| 6 | Centre align the expenditure items |  |  |
| 7 | Format the rent *amount* to currency;  |  |  |
| 8 | Copy the format for cell: *rent amount* to the other cells showing amounts  |  |  |
| 9 | Apply a bold border around the personal budget |  |  |
| 10 | Shade the expenditure items column using a blue colour.  |  |  |
| 11 | Use the Excel double data entry method to determine the accuracy of the data entered in the spreadsheet |  |  |
| 12 | Correct any errors identified by Excel double data entry method |  |  |

**PROJECT 5 (SO 6, AC 1, AC 2)**

Enter the following information into a service invoice. The information relates to the purchase of learning material packages for end user computing programme. Use the appropriate template;

|  |  |  |
| --- | --- | --- |
| **Quantity** | **Description** | **Amount** |
| 500 | Assessor guides | 10 000 |
| 200 | Learner manuals |  5000 |
| 500 | POE guides | 4000 |
| 1 | Facilitator guide | 1000 |

Notes: VAT must be charged at 14%

Determine the total cost of the learning material package.

|  |  |
| --- | --- |
| **NAME 1:** ……………………………………….**COMPANY**…………………………………..**ID**…………………………………………….. | **EVALUATION CHECKLIST**DATE:TIME: PROJECT NO: 1-5 |

|  |  |  |  |
| --- | --- | --- | --- |
| **EVALUATION CRITERIONS** | **MET REQUIREMENTS** | **DID NOT MEET REQUIREMENTS** | **COMMENTS OR ACTION REQUIRED** |
| **PROJECT 1** |  |  |  |
| **PRODUCING AND CUSTOMISING A SPREADSHEET** |  |  |  |
| Ability to develop a brief outline of a problem |  |  |  |
| Ability to produce a spreadsheet given a problem |  |  |  |
| Ability to switch on and off toolbar menus |  |  |  |
| Ability to zoom the spreadsheet |  |  |  |
| Ability to change the view of the spreadsheet |  |  |  |
| Ability to freeze rows and columns  |  |  |  |
| Ability to change the default file location |  |  |  |
| Ability to add a user name |  |  |  |
| **PROJECT 2** |  |  |  |
| **WORK WITH MULTIPLE WORKSHEETS** |  |  |  |
| Ability to open saved worksheets |  |  |  |
| Ability to open new worksheets  |  |  |  |
| Ability to rename worksheets  |  |  |  |
| Ability to manipulate between worksheets |  |  |  |
| Ability to delete a worksheet |  |  |  |
|  |  |  |  |
| **PROJECT 3** |  |  |  |
| **APPLY FORMULAE** |  |  |  |
| Ability to enter formulae |  |  |  |
| Ability to correct and interpret formula error messages |  |  |  |
| Ability to show the difference between relative and absolute cell addressing |  |  |  |
| Ability to test possible solutions to a problem without changing the formulae |  |  |  |
| **PROJECT 4** |  |  |  |
| **USING FUNCTIONS** |  |  |  |
| Ability to use simple mathematical functions |  |  |  |
| Ability to use statistical functions |  |  |  |
| Ability to format cells  |  |  |  |
| Ability to copy cell formats |  |  |  |
| Ability to centre align text |  |  |  |
| Ability to orient text |  |  |  |
| Ability to insert borders |  |  |  |
| Ability to shade cells |  |  |  |
| Ability to use the Excel double data entry method |  |  |  |
| **PROJECT 5** |  |  |  |
| USING TEMPLATES |  |  |  |
| Ability to automatically format a spreadsheet |  |  |  |
| Ability to create a spreadsheet using a template |  |  |  |

|  |
| --- |
| **GENERAL COMMENTS:** |
|  |
| Date…………………….. | Time started……………….. | Time completed………………. |
| **FACILITATOR NAME****………………………………** | **FACILITATOR SIGNATURE****…………………………………….** | **ASSESSOR ENDORSEMENT****(SIGNATURE)****………………………………….** |