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| **OCR Level 1/Level 2 Cambridge National in Engineering Manufacture** |
| Qualification J823  Unit R016 |
| Unit Recording Sheet |



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| Please read the instructions printed at the end of this form. A Unit Recording Sheet must be completed for each candidate and unit. | | | | | | | | | | |
| Unit Title | | Manufacturing in quantity | | | | Unit Code | R016 | Session | | Choose an item. | Year | 2 | | 0 |  | |  |
| Scenario Title | | |  | | | | | | | | | | | | | | |
| Centre Name | | |  | | | | | | | Centre Number | |  | | | | | |
| Candidate Name | | |  | | | | | | | Candidate Number | |  | | | | | |
| Marking Criteria | | | | | | | | Teacher Comments | | | | Mark | | | Page No. | | |
| **Task 1 – Topic Area 1.1: Manufacture and use templates** | | | | | | | |  | | | |  | | |  | | |
| **MB1: 1 - 2 marks** | | | **MB2: 3 - 4 marks** | **MB3: 5- 6 marks** | | | |
| **Basic** application of understanding and skills to partly achieve the intended result, but it would not be useable without further input/work.  **Dependent** upon assistance or help from other sources to measure, mark out and cut out templates for the parts accurately.  **[1 2]** | | | **Adequate** application of understanding and skills to produce the intended result in a way that would be useable for its purpose.  Accurate templates are measured, marked out and cut out with **some** assistance or help from other sources.  **[3 4]** | **Effectively** applies understanding and skills to successfully produce the intended result in a way that would be fit-for-purpose.  Able to accurately measure, mark out and cut out templates for the parts **independently**.  **[5 6]** | | | |
| **/6** | | |

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| **Task 2 – Topic Areas 1.2, 1.3 and 1.4: Determine the sequence of operations, appropriate operating parameters for CNC equipment and produce standard operating procedures** | | |  |  |  |
| **MB1: 1 - 5 marks** | **MB2: 6 - 10 marks** | **MB3: 11 - 14 marks** |
| The SOP includes **basic** information, however additional content would be required.  **Few** of the operations required are identified but additions may be needed and the sequence may need adjustment to be workable.  **Few** of the operating parameters for the CNC equipment are identified, however would not provide a satisfactory outcome without further input/work.  **[1 2 3 4 5]** | The SOP includes **adequate** information to make the product.  **Some** of the operations required are identified. The sequence of operations may need minor adjustment to be a workable sequence.  **Some** of the operating parameters for the CNC equipment are identified and should provide a satisfactory outcome with minimal adjustment.  **[6 7 8 9 10]** | The SOP produced includes **all** the information required to manufacture the product.  **All** of the operations required are identified in a logical and workable sequence.  **All** of the operating parameters for the CNC equipment are identified and appropriate and should provide a satisfactory outcome without adjustment.  **[11 12 13 14]** |
| **/14** |

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| **Task 3 – Topic Areas 2.1 and 2.2: Use CAD software and program CNC machine operations** | | |  |  |  |
| **MB1: 1 - 5 marks** | **MB2: 6 - 10 marks** | **MB3: 11 - 14 marks** |
| Produces **basic** CAD drawings that include some relevant information however some additional features would be required to create instructions for the CNC operation.  Carries out on-screen simulation of **few** aspects of the CNC operation.  **Limited** application of understanding and skills to partly achieve the intended result, but information is not exported from the CAD software to the CNC equipment.  **[1 2 3 4 5]** | Produces **adequate** CAD drawings that include most of the information required to create instructions for the CNC operation.  Carries out on-screen simulation of **most** aspects of the CNC operation.  Understanding and skills are used to **partially** export the information from CAD software to CNC equipment that does not fully meet the requirements.  **[6 7 8 9 10]** | Produces **comprehensive** CAD drawings that are accurate and include all of the information required to create instructions for the CNC operation.  Carries out an **effective** on-screen simulation of the CNC operation, making adjustments if required.  Understanding and skills are used to **fully** export the information from CAD software to CNC equipment in a way that would be fit-for-purpose.  **[11 12 13 14]** |
| **/14** |

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| **Task 4 – Topic Areas 3.1 and 3.2: Setting up and operating CNC equipment** | | |  |  |  |
| **MB1: 1 - 5 marks** | **MB2: 6 - 10 marks** | **MB3: 11 - 14 marks** |
| **Dependent** upon reminders of safety requirements in order to work safely.  **Basic** application of understanding and skills to partly achieve the intended result, but it would not be useable without further input/work.  **Dependent** upon assistance or help from other sources to set up and operate CNC equipment to successfully manufacture the part(s).  **[1 2 3 4 5]** | Worked safely with **some** reminders of safety requirements.  **Adequate** application of understanding and skills to produce the intended result in a way that would be useable.  **Some** assistance or help from other sources is required to set up and operate CNC equipment to successfully manufacture the part(s).  **[6 7 8 9 10]** | Worked safely at **all** times without additional instruction.  **Effectively** applies understanding and skills to successfully produce the intended result in a way that would be fully fit-for-purpose.  Able to set up and operate CNC equipment **independently** to successfully manufacture the part(s).  **[11 12 13 14]** |
| **/14** |

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| **Task 5 – Topic Area 3.3: Apply quality control methods** | | |  |  |  |
| **MB1: 1 - 4 marks** | **MB2: 5 - 8 marks** | **MB3: 9 - 12 marks** |
| Measured **few** of the features on the drawing although some methods may have not been the most appropriate.  **Basic** application of understanding and skills to partly achieve the intended result, but it would not be useable without further input/work.  **[1 2 3 4]** | Measured **some** of the features on the drawing using appropriate methods.  **Adequate** application of understanding and skills to produce the intended result in a way that would be useable.  **[5 6 7 8]** | Provided accurate and repeatable measurements of **all** of the features on the drawing using appropriate methods.  **Effectively** applies understanding and skills to successfully produce the intended result in a way that would be fully fit-for-purpose.  **[9 10 11 12]** |
| **/12** |
| **Total** | | | | /**60** |  |

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| Please tick to confirm this work has been standardised internally |  |

Please note: This form may be updated on an annual basis. The current version of this form will be available on the OCR website ([www.ocr.org.uk](http://www.ocr.org.uk)).   
A Centre Authentication form (CCS160) **must** be completed for each submission to the moderator. This **must** be held in your centre to be available on request at centre inspection.

Guidance on Completion of this Form

1 One form should be used for every candidate.

2 Please make sure that all parts of the form are completed.

3 Please enter specific page numbers where evidence can be found in the portfolio, and where possible, indicate to which part of the text in the mark band the evidence relates.

4 Circle/highlight the mark awarded for each strand of the marking criteria in the appropriate box.

5 Enter the circled/highlighted mark in the 'Mark' column.

6 Add the marks for the strands together to give a total out of 60. Enter this total in the relevant box.

7 For Paper-based submissions, one of these sheets, suitably completed, should be attached to the assessed work of each candidate.

8 For Electronic Internal submissions, prior to submitting ‘candidate evidence’ to OCR (via the Repository/SfA or via a USB), the Centre should add a separate folder containing the Unit Recording Sheets.