



Oxford Cambridge and RSA

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

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		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							
<p>Basic application of understanding and skills to partly achieve the intended result, but it would not be useable without further input/work.</p> <p>Dependent upon assistance or help from other sources to measure, mark out and cut out templates for the parts accurately.</p> <p style="text-align: right;">[1 2]</p>		<p>Adequate application of understanding and skills to produce the intended result in a way that would be useable for its purpose.</p> <p>Accurate templates are measured, marked out and cut out with some assistance or help from other sources.</p> <p style="text-align: right;">[3 4]</p>		<p>Effectively applies understanding and skills to successfully produce the intended result in a way that would be fit-for-purpose.</p> <p>Able to accurately measure, mark out and cut out templates for the parts independently.</p> <p style="text-align: right;">[5 6]</p>							
								/6			

Marking Criteria			Teacher Comments	Mark	Page No.
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			
<p>The SOP includes basic information, however additional content would be required.</p> <p>Few of the operations required are identified but additions may be needed and the sequence may need adjustment to be workable.</p> <p>Few of the operating parameters for the CNC equipment are identified, however would not provide a satisfactory outcome without further input/work.</p> <p style="text-align: right;">[1 2 3 4 5]</p>	<p>The SOP includes adequate information to make the product.</p> <p>Some of the operations required are identified. The sequence of operations may need minor adjustment to be a workable sequence.</p> <p>Some of the operating parameters for the CNC equipment are identified and should provide a satisfactory outcome with minimal adjustment.</p> <p style="text-align: right;">[6 7 8 9 10]</p>	<p>The SOP produced includes all the information required to manufacture the product.</p> <p>All of the operations required are identified in a logical and workable sequence.</p> <p>All of the operating parameters for the CNC equipment are identified and appropriate and should provide a satisfactory outcome without adjustment.</p> <p style="text-align: right;">[11 12 13 14]</p>			
			/14		

Marking Criteria			Teacher Comments	Mark	Page No.
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			
<p>Produces basic CAD drawings that include some relevant information however some additional features would be required to create instructions for the CNC operation.</p> <p>Carries out on-screen simulation of few aspects of the CNC operation.</p> <p>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.</p> <p style="text-align: right;">[1 2 3 4 5]</p>	<p>Produces adequate CAD drawings that include most of the information required to create instructions for the CNC operation.</p> <p>Carries out on-screen simulation of most aspects of the CNC operation.</p> <p>Understanding and skills are used to partially export the information from CAD software to CNC equipment that does not fully meet the requirements.</p> <p style="text-align: right;">[6 7 8 9 10]</p>	<p>Produces comprehensive CAD drawings that are accurate and include all of the information required to create instructions for the CNC operation.</p> <p>Carries out an effective on-screen simulation of the CNC operation, making adjustments if required.</p> <p>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.</p> <p style="text-align: right;">[11 12 13 14]</p>			
			/14		

Marking Criteria			Teacher Comments	Mark	Page No.
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			
<p>Dependent upon reminders of safety requirements in order to work safely.</p> <p>Basic application of understanding and skills to partly achieve the intended result, but it would not be useable without further input/work.</p> <p>Dependent upon assistance or help from other sources to set up and operate CNC equipment to successfully manufacture the part(s).</p> <p style="text-align: right;">[1 2 3 4 5]</p>	<p>Worked safely with some reminders of safety requirements.</p> <p>Adequate application of understanding and skills to produce the intended result in a way that would be useable.</p> <p>Some assistance or help from other sources is required to set up and operate CNC equipment to successfully manufacture the part(s).</p> <p style="text-align: right;">[6 7 8 9 10]</p>	<p>Worked safely at all times without additional instruction.</p> <p>Effectively applies understanding and skills to successfully produce the intended result in a way that would be fully fit-for-purpose.</p> <p>Able to set up and operate CNC equipment independently to successfully manufacture the part(s).</p> <p style="text-align: right;">[11 12 13 14]</p>			
			/14		

Marking Criteria			Teacher Comments	Mark	Page No.
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]			
Total			/12	/60	

Please tick to confirm this work has been standardised internally	<input type="checkbox"/>
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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).

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.