

# **Assessment Evidence Guide**

## **For**

### **“Dies and Moulds Technology”**

**Level-3**

**(Summative Assessment)**

*01-05 March 2021*



**National Vocational & Technical  
Training Commission**

<b>Title of Qualification:</b> National Vocational Certificate Level 3, in (Dies and Mould Technology) "CNC Machinist"	CS Code:	Level: 3	Version: 01
<b>Competency Standard Title:</b> A-Identify and implement Workplace Policies and Procedures B-Apply work health and safety practices (WHS) C-Communicate at workplace D-Perform CNC Lathe operations E-Perform Advance Milling Operations F- Perform Heat Treatment G-Perform 2D & 3D Engineering Drawings using CAD H-Perform Welding Operations	<b>Assessment Date (DD/MM/YY):</b>  <b>Assessment Time: 5 Hrs.</b>		

Candidate Details	Name: .....  Registration/Roll Number: .....
Guidance for Candidate	<p><b>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration &amp; assessment):</b></p> <p><b>Assessment Task 1:</b> Candidate is required to make a product according to any drawing assign by assessor (see ANNEX-1, ANNEX-2 and ANNEX-3), including following operations:</p> <ul style="list-style-type: none"> <li>○ CNC Lathe Operations</li> <li>○ Advance Milling Operations</li> </ul> <p><b>Note:</b> Candidate must Display/Present Final Project</p> <p><b>And complete:</b></p> <ol style="list-style-type: none"> <li>1. Knowledge assessment test (Written or Oral)</li> <li>2. Portfolios at the time of assessment (if any)</li> </ol>

Minimum Evidence Required	<p><b>During a practical assessment, under observation by an assessor, you will complete:</b></p> <p><b>Assessment Task 1</b></p> <p>Performance Criteria 1: Implement relevant rules and procedures of WHS at work place.</p> <p>Performance Criteria 2: Use personal protective equipment according to safe work practices</p> <p>Performance Criteria 3: Generate appropriate part programming credentials (Sequence, G-codes, M-codes, coordinates, feed, speed, tooling information etc.) according to the CNC machine control unit for machining a job on CNC lathe as per drawing</p> <p>Performance Criteria 4: Feed the generated part program into appropriate simulation platform</p> <p>Performance Criteria 5: Run simulation and verify movements of tool/cutter to get same results as per defined sequence</p> <p>Performance Criteria 6: Correct the errors (if any) and modify the program as per defined procedure</p> <p>Performance Criteria 7: Clamp the job and required tools firmly as per standards using appropriate work holding device(s) in order to achieve dimensional accuracy</p> <p>Performance Criteria 8: Perform off-set setting (tool compensation) of the tools as per reference point of work piece</p> <p>Performance Criteria 9: Switch machine to execution mode (single block or auto) and press cycle start to run the program</p> <p>Performance Criteria 10: Inspect the work piece accuracy and precision according to the drawing/design and take appropriate action in case of any error.</p> <p>Performance Criteria 11: Mount the job and required cutters as per standard procedure for machining the job on milling machine</p> <p>Performance Criteria 12: Perform pocketing as per given instructions (where required)</p> <p>Performance Criteria 13: Perform contouring as per given instructions (where required)</p> <p>Performance Criteria 14: Perform Drilling and Boring (where required)</p> <p>Performance Criteria 15: Inspect the job using appropriate measuring tool</p> <p>Performance Criteria 16: Perform cleaning/deburring of the job using appropriate tool</p>
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	<p><b>Portfolios required at the time of assessment (if any) for</b></p> <p>Performance Criteria 1: Develop 2D Drawing with given project specification and measurements.</p> <p>Performance Criteria 2: Save the file in different drawing formats</p> <p>Performance Criteria 3: Plot drawing on scale according to required size &amp; orientation</p> <p>Performance Criteria 4: Make 3D models according to the requirement of given job</p> <p>Performance Criteria 5: Generate orthographic views from 3D model</p> <p>Performance Criteria 6: Generate sectional/auxiliary views from 3D model as per requirement</p> <p>Performance Criteria 7: Render and print the 3D model according to required size &amp; orientation.</p> <p>Performance Criteria 8: Carry out oxyacetylene gas welding on assigned jobs</p> <p>Performance Criteria 9: Carry out welding in Vertical (3F) and Vertical (3G) positions following standard procedures</p> <p>Performance Criteria 10: Perform soldering operation as per standard on assigned jobs</p> <p>Performance Criteria 11: Perform brazing as per standard on assigned jobs</p>
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**Assessors Judgment Guide** (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: ..... Registration/Roll Number: ..... Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: ..... Assessor's code: ..... Signature of the Assessor:.....

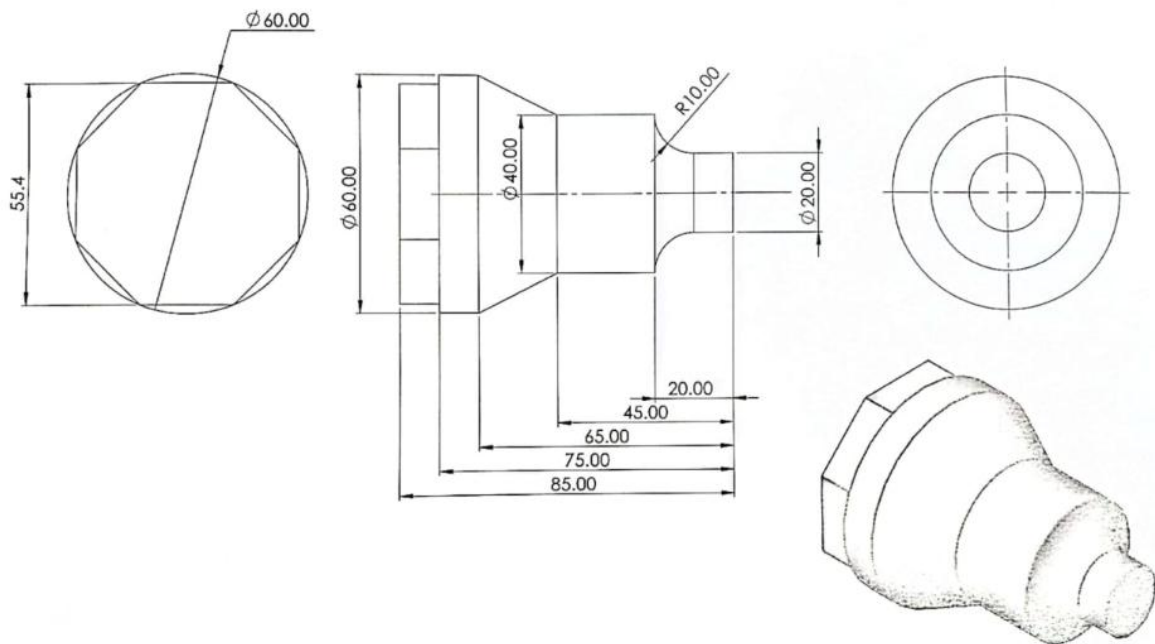
Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Each Assessment Task (with performance criteria)				
<b>Assessment Task 1</b>		<b>Description of assessment task 1</b> Candidate is required to make a product according to any drawing assign by assessor (see ANNEX-1, ANNEX-2 and ANNEX-3), including following operations: <ul style="list-style-type: none"> <li>○ CNC Lathe Operations</li> <li>○ Advance Milling Operations</li> </ul>		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Implement relevant rules and procedures of WHS at work place.			
2.	Use personal protective equipment according to safe work practices			
3.	Generate appropriate part programming credentials (Sequence, G-codes, M-codes, coordinates, feed, speed, tooling information etc.) according to the CNC machine control unit for machining a job on CNC lathe as per drawing			
4.	Feed the generated part program into appropriate simulation platform			
5.	Run simulation and verify movements of tool/cutter to get same results as per defined sequence			
6.	Correct the errors (if any) and modify the program as per defined procedure			
7.	Clamp the job and required tools firmly as per standards using appropriate work holding device(s) in order to achieve dimensional accuracy			
8.	Perform off-set setting (tool compensation) of the tools as per reference point of work piece			
9.	Switch machine to execution mode (single block or auto) and press cycle start to run the program			
10.	Inspect the work piece accuracy and precision according to the drawing/design and take appropriate action in case of any error.			
11.	Mount the job and required cutters as per standard procedure for machining the job on milling machine			
12.	Perform pocketing as per given instructions (where required)			

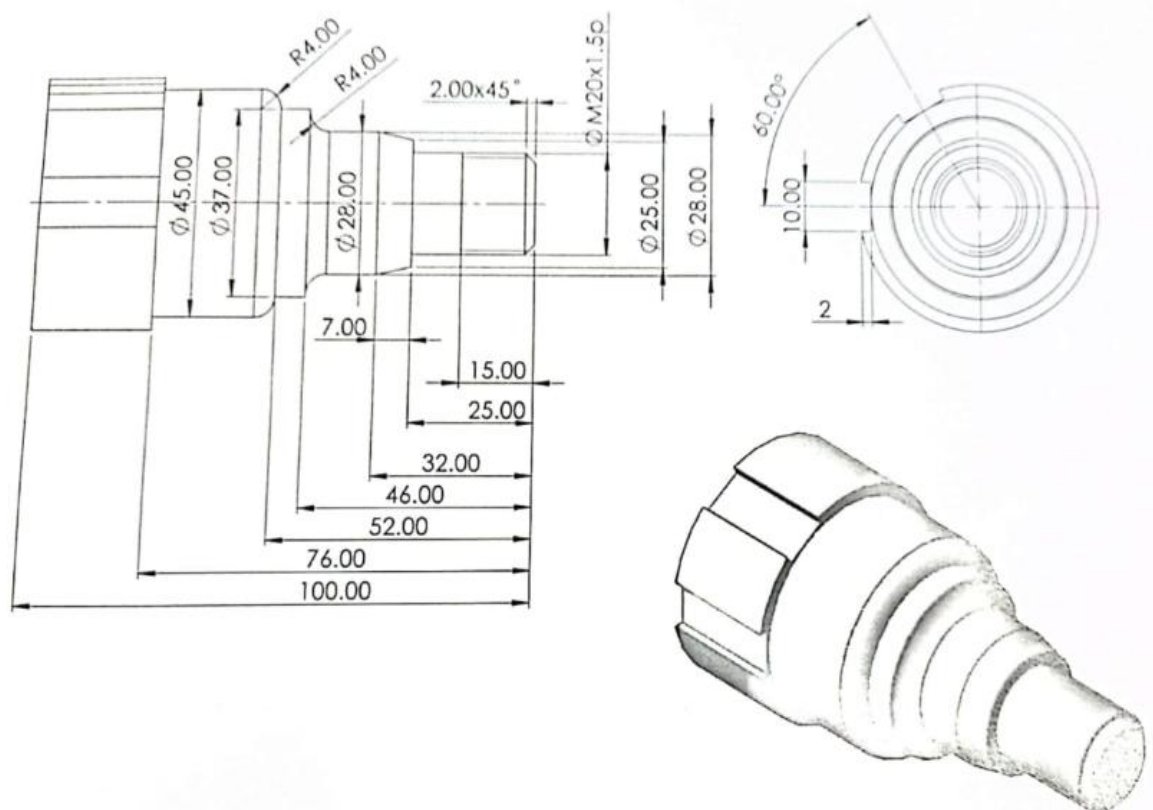
13.	Perform contouring as per given instructions (where required)			
14.	Perform Drilling and Boring (where required)			
15.	Inspect the job using appropriate measuring tool			
16.	Perform cleaning/deburring of the job using appropriate tool			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio		Description of Portfolio		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Develop 2D Drawing with given project specification and measurements.			
2.	Save the file in different drawing formats			
3.	Plot drawing on scale according to required size & orientation			
4.	Make 3D models according to the requirement of given job			
5.	Generate orthographic views from 3D model			
6.	Generate sectional/auxiliary views from 3D model as per requirement			
7.	Render and print the 3D model according to required size & orientation.			
8.	Carry out oxyacetylene gas welding on assigned jobs			
9.	Carry out welding in Vertical (3F) and Vertical (3G) positions following standard procedures			
10.	Perform soldering operation as per standard on assigned jobs			
11.	Perform brazing as per standard on assigned jobs			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

## ANNEX-1

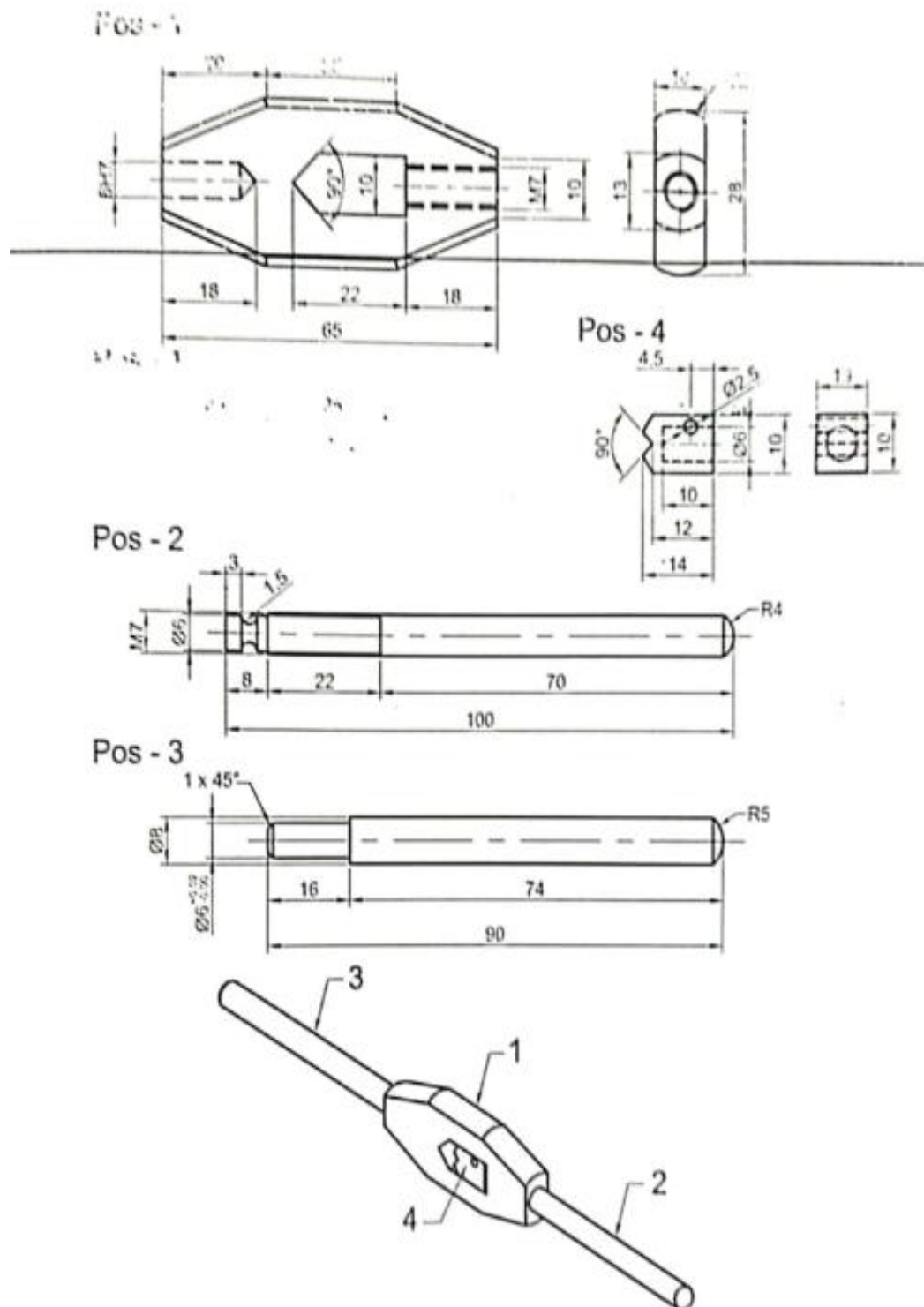


## ANNEX-2





# ANNEX-3



Mat: Mild Steel (M.S)

Gen. Tol.  $\pm 0.05$