

## Instruction Sheet for the Candidate

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 5</b>
<b>Competency Standard</b>	Perform CNC EDM Wire-Cut Operations
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name_____ Registration/Roll Number_____
<b>Guidance for Candidate</b>	<p><b>To meet this standard, you are required to complete the following within 04 Hrs. time frame (for practical demonstration &amp; assessment):</b></p> <ul style="list-style-type: none"> <li>• CU1. Mount the Job on EDM Wire Cut Machine</li> <li>• CU2. Generate the Program</li> <li>• CU3. Run Simulation</li> <li>• CU4. Feed the Program</li> <li>• CU5. Perform CNC EDM Wire-cut Operations</li> </ul>
<b>Time: 04 Hrs.</b>	During a practical assessment, under observation by an assessor, you are required to
<b>Minimum Evidence Required</b>	<p><b>CU1. Mount the Job on EDM Wire Cut Machine</b></p> <p>P1. Mount the work-piece by considering the working capacity of machine as well as job requirement according to the drawing/design</p> <p>P2. Select appropriate work holding device(s) in order to achieve dimensional accuracy and clamp the job firmly as per standard practice</p> <p>P3. Install and adjust proper alignment of installed wire to the vertical direction as per standard practice</p> <p>P4. Keep safe measures while mounting the work-piece and installing the wire so that unwanted operation by machine may not be initiated as per safety precautions</p> <p><b>CU2. Generate the Program</b></p> <p>P1. Select appropriate CAM software according to the machine control unit and import drawing/sketch into it as per standard procedure</p> <p>P2. Select reference point/start point and apply toolpath by considering the wire compensation according to the prescribed procedure</p>

	<p>P3. Execute the generated part program file in order to perform wire cutting operation as per prescribed method</p> <p><b>CU3. Run Simulation</b></p> <p>P1. Refer to the simulation platform and run simulation of wire cutting sequence as per prescribed method</p> <p>P2. Run simulation and verify movements of wire cutting to get same results as per defined sequence</p> <p>P3. Identify occurrence of errors and modify the applied toolpath as per prescribed procedure</p> <p><b>CU4. Feed the Program</b></p> <p>P1. Ensure proper synchronization between machine control unit and part program file as per standard operating procedure</p> <p>P2. Select and execute the desired part program file as per job requirement</p> <p><b>CU5. Perform CNC EDM Wire-cut Operations</b></p> <p>P1. Ensure to control the safe operation of working on EDM wire-cut machine before execution of part program according to the safety measures</p> <p>P2. Adjust the feeds, speeds by adjusting amperes and current setting before operating according to the prescribed procedure</p> <p>P3. Switch machine to execution mode and start to work on defined toolpath as per prescribed method</p> <p>P4. Compare the movements of machining sequence thoroughly during operating of machine according to the part program file</p> <p>P5. Complete the job and inspect its accuracy and precision according to the drawing/design</p>
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## Self-Assessment Checklist

<b>Candidate Name</b>	
<b>Registration No.</b>	
<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 5</b>
<b>Competency Standard</b>	Perform CNC EDM Wire-Cut Operations
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>• CU1. Mount the Job on EDM Wire Cut Machine</li> <li>• CU2. Generate the Program</li> <li>• CU3. Run Simulation</li> <li>• CU4. Feed the Program</li> <li>• CU5. Perform CNC EDM Wire-cut Operations</li> </ul>

I can.....

<b>Performance Criteria</b>	<b>Yes</b>	<b>No</b>
<b>P1.</b> Mount the work-piece by considering the working capacity of machine as well as job requirement according to the drawing/design	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2.</b> Select appropriate work holding device(s) in order to achieve dimensional accuracy and clamp the job firmly as per standard practice	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3.</b> Install and adjust proper alignment of installed wire to the vertical direction as per standard practice	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4.</b> Keep safe measures while mounting the work-piece and installing the wire so that unwanted operation by machine may not be initiated as per safety precautions	<input type="checkbox"/>	<input type="checkbox"/>
<b>P5.</b> Select appropriate CAM software according to the machine control unit and import drawing/sketch into it as per standard procedure	<input type="checkbox"/>	<input type="checkbox"/>
<b>P6.</b> Select reference point/start point and apply toolpath by considering the wire compensation according to the prescribed procedure	<input type="checkbox"/>	<input type="checkbox"/>
<b>P7.</b> Execute the generated part program file in order to perform wire cutting operation as per prescribed method	<input type="checkbox"/>	<input type="checkbox"/>
<b>P8.</b> Refer to the simulation platform and run simulation of wire cutting sequence as per prescribed method	<input type="checkbox"/>	<input type="checkbox"/>
<b>P9.</b> Run simulation and verify movements of wire cutting to get same results as per defined sequence	<input type="checkbox"/>	<input type="checkbox"/>
<b>P10.</b> Identify occurrence of errors and modify the applied toolpath as per prescribed procedure	<input type="checkbox"/>	<input type="checkbox"/>

<b>P11.</b> Ensure proper synchronization between machine control unit and part program file as per standard operating procedure	<input type="text"/>	<input type="text"/>
<b>P12.</b> Select and execute the desired part program file as per job requirement	<input type="text"/>	<input type="text"/>
<b>P13.</b> Ensure to control the safe operation of working on EDM wire-cut machine before execution of part program according to the safety measures	<input type="text"/>	<input type="text"/>
<b>P14.</b> Adjust the feeds, speeds by adjusting amperes and current setting before operating according to the prescribed procedure	<input type="text"/>	<input type="text"/>
<b>P15.</b> Switch machine to execution mode and start to work on defined toolpath as per prescribed method	<input type="text"/>	<input type="text"/>
<b>P16.</b> Compare the movements of machining sequence thoroughly during operating of machine according to the part program file	<input type="text"/>	<input type="text"/>
<b>P17.</b> Complete the job and inspect its accuracy and precision according to the drawing/design	<input type="text"/>	<input type="text"/>

Candidate's Signature \_\_\_\_\_ Assessor's Signature \_\_\_\_\_

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

## Assessors Judgment Guide

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 5</b>
<b>Competency Standard</b>	Perform CNC EDM Wire-Cut Operations

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

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							

## Observation Checklist

<b>Assessment Task</b>		<ul style="list-style-type: none"> <li>• CU1. Mount the Job on EDM Wire Cut Machine</li> <li>• CU2. Generate the Program</li> <li>• CU3. Run Simulation</li> <li>• CU4. Feed the Program</li> <li>• CU5. Perform CNC EDM Wire-cut Operations</li> </ul>		
<b>During the practical assessment, candidate demonstrated the following:</b>		<b>Yes</b>	<b>No</b>	<b>Remarks</b>
1.	Mount the work-piece by considering the working capacity of machine as well as job requirement according to the drawing/design			
2.	Select appropriate work holding device(s) in order to achieve dimensional accuracy and clamp the job firmly as per standard practice			
3.	Install and adjust proper alignment of installed wire to the vertical direction as per standard practice			
4.	Keep safe measures while mounting the work-piece and installing the wire so that unwanted operation by machine may not be initiated as per safety precautions			
5.	Select appropriate CAM software according to the machine control unit and import drawing/sketch into it as per standard procedure			
6.	Select reference point/start point and apply toolpath by considering the wire compensation according to the prescribed procedure			
7.	Execute the generated part program file in order to perform wire cutting operation as per prescribed method			
8.	Refer to the simulation platform and run simulation of wire cutting sequence as per prescribed method			
9.	Run simulation and verify movements of wire cutting to get same results as per defined sequence			
10.	Identify occurrence of errors and modify the applied toolpath as per prescribed procedure			
11.	Ensure proper synchronization between machine control unit and part program file as per standard operating procedure			

12.	Select and execute the desired part program file as per job requirement			
13.	Ensure to control the safe operation of working on EDM wire-cut machine before execution of part program according to the safety measures			
14.	Adjust the feeds, speeds by adjusting amperes and current setting before operating according to the prescribed procedure			
15.	Switch machine to execution mode and start to work on defined toolpath as per prescribed method			
16.	Compare the movements of machining sequence thoroughly during operating of machine according to the part program file			
17.	Complete the job and inspect its accuracy and precision according to the drawing/design			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

## Knowledge Assessment

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 5</b>
<b>Competency Standard</b>	Perform CNC EDM Wire-Cut Operations
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
<b>Assessment Outcome</b>	<div style="display: flex; justify-content: space-around; align-items: center;"> <span><b>COMPETENT</b> <input type="checkbox"/></span> <span><b>NOT YET COMPETENT</b> <input type="checkbox"/></span> </div> Name of the Assessor: _____ Assessor's code: _____ Signature of the Assessor: _____

Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)		Satisfactory	Not Satisfactory
1.	What is EDM metal cutting?		
2.	What is wire EDM wire made of?		



3.	Why kerosene is used in EDM?		

<b>Feedback to the Candidate</b>	
<b>Candidate's Signature</b> _____	<b>Assessor's Signature</b> _____