

## Instruction Sheet for the Candidate

<b>Qualification</b>	Agricultural Machinery Operator (Level – 3)
<b>Competency Standard</b>	Perform Basic Lathe Machine Operations
<b>Purpose of Assessment</b>	Formative Assessment
<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 03 Hrs. time frame (for practical demonstration &amp; assessment):</b></p> <ul style="list-style-type: none"> <li>• Perform centering operations</li> <li>• Perform facing Operations</li> <li>• Perform turning Operations</li> <li>• Perform drilling and boring operation</li> <li>• Perform step turning operations</li> <li>• Perform knurling Operations</li> <li>• Taper turning by tail stock off-set method</li> <li>• Taper turning by plain taper turning attachment</li> <li>• Taper turning by telescopic taper turning attachment</li> <li>• Perform Internal and External threading Operations</li> </ul>
<b>Time: 03 Hrs.</b>	During a practical assessment, under observation by an assessor, you are required to
<b>Minimum Evidence Required</b>	<p><b>Perform centering operations</b></p> <ol style="list-style-type: none"> <li>1. Select the facing tools according to the job requirement.</li> <li>2. Mount and set the required work-holding devices, work piece and cutting tools.</li> <li>3. Follow the correct specifications for the part or component to be produced.</li> <li>4. .Select the safe procedures and tools to accomplish the work.</li> <li>5. Adjust the operating parameters (e.g. speed and feed) of machine tool for centering the job.</li> <li>6. Ensure all safety mechanisms are in followed</li> </ol> <p><b>Perform facing Operations</b></p> <ol style="list-style-type: none"> <li>1. Select the facing tools according to job requirement.</li> <li>2. Mount and set the required work-holding devices, work piece and cutting tools.</li> <li>3. Follow the correct specifications for the job / part or component to be produced.</li> <li>4. Select safe procedures and tools to accomplish the work.</li> </ol>

	<ol style="list-style-type: none"> <li>5. Adjust the operating parameters (e.g. speed and feed) of machine tool to achieve the work specification.</li> <li>6. Ensure all safety mechanisms are followed.</li> </ol> <p><b>Perform turning Operations</b></p> <ol style="list-style-type: none"> <li>1. Obtain and follow the work specifications, drawings or sketches to accomplish the work.</li> <li>2. Set up and adjust the machine as per work specifications and procedures.</li> <li>3. Ensure the components produced have the required quality and specified dimensional accuracy.</li> <li>4. Shut down the machine and equipment</li> </ol> <p><b>Perform drilling and boring operation</b></p> <ol style="list-style-type: none"> <li>1. Select the drilling or boring tools according to the drawings.</li> <li>2. Mount and set the required work (holding devices, work piece and cutting tools)</li> <li>3. Adjust the RPM of machine according to the cutting speed.</li> <li>4. Perform the boring operation according to the drawing.</li> <li>5. Check quality of the component produced at different intervals.</li> <li>6. Observe the personal and workplace safety.</li> </ol> <p><b>Perform step turning operations</b></p> <ol style="list-style-type: none"> <li>1. Mount and set the required work-holding devices, work piece and cutting tools.</li> <li>2. Select and adjust the appropriate speeds and feeds of turning machine.</li> <li>3. Produce a component which matches the work specifications using appropriate methods and techniques.</li> <li>4. Check the quality of the component produced at various intervals.</li> <li>5. Follow the safety precautions to ensure safe work and to avoid any injury.</li> </ol> <p><b>Perform knurling Operations</b></p> <ol style="list-style-type: none"> <li>1. Select the knurling tool according to drawing.</li> <li>2. Set the tool and work piece in the machine according to the procedure.</li> <li>3. Adopt the methods and techniques in order to produce proper knurling on the work piece.</li> </ol>
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	<ol style="list-style-type: none"> <li>4. Select and adjust an appropriate speeds and feeds of the lathe machine.</li> <li>5. Use the coolants during knurling to achieve a smooth impression on the work piece.</li> <li>6. Observe the personal and workplace safety.</li> </ol> <p><b>Taper turning by tail stock off-set method</b></p> <ol style="list-style-type: none"> <li>1. Loosen the tailstock clamp out.</li> <li>2. Offset tailstock required amount.</li> <li>3. Centre the cutting tool.</li> <li>4. Setup the cutting tool for a parallel turning.</li> <li>5. Check the taper for an accuracy using the taper ring gauge.</li> <li>6. Finish and turn the taper according to the required size in order to fit</li> </ol> <p><b>Taper turning by plain taper turning attachment</b></p> <ol style="list-style-type: none"> <li>1. Remove the binding screw that cross the slide to cross the feed screw and nut.</li> <li>2. Tighten the lock screw and set the cutting tool in the center.</li> <li>3. Set the work piece in the lathe machine and mark the length of taper.</li> <li>4. Use the binding screw in order to connect the sliding block and side of taper's attachment.</li> <li>5. Select the depth of a feed cut by the compound rest and feed handle.</li> <li>6. Take a light cut and recheck the taper fit.</li> <li>7. Finish the turn and fit the taper to a gauge</li> </ol> <p><b>Taper turning by telescopic taper turning attachment</b></p> <ol style="list-style-type: none"> <li>1. Clean and oil the guide bar.</li> <li>2. Loose lock screws and offset end of guide bar,</li> <li>3. Set the bar to required taper in degrees.</li> <li>4. Tighten the lock screw and set cutting tool on center.</li> <li>5. Set the work piece in lathe and mark the length of a taper and tighten the connecting screw on a sliding block.</li> <li>6. Move the carriage until the center of attachment is opposite to the length of taper.</li> <li>7. Lock the anchor and bracket to the lathe bed.</li> <li>8. Take a cut and select the depth of a cut.</li> </ol>
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	<p>9. Readjust the taper attachment, Take a light cut and recheck the taper fit.</p> <p><b>10. Finish the turn and fit the taper to a gauge</b></p> <p><b>Perform Internal and External threading Operations</b></p> <ol style="list-style-type: none"> <li>1. Mount and set the required work-holding devices, work piece and cutting tools.</li> <li>2. Select and adjust the appropriate speeds and feeds of the turning machine.</li> <li>3. Produce a component which matches the work specifications using an appropriate methods and techniques.</li> <li>4. Check the quality of a component produced at the various t intervals.</li> <li>5. Use the Proper cutting tool with a required dimensions.</li> <li>6. Follow the safety precautions in order to ensure safe working environment to avoid accidents and injuries</li> </ol>
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## Self-Assessment Checklist

<b>Candidate Name</b>	
<b>Registration No.</b>	
<b>Qualification</b>	Agriculture Machinery Operator (Level -3)
<b>Competency Standard</b>	Perform Basic Lathe Machine Operations
<b>Purpose of Assessment</b>	Formative Assessment
<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>Perform centering operations</li> <li>Perform facing Operations</li> <li>Perform turning Operations</li> <li>Perform drilling and boring operation</li> <li>Perform step turning operations</li> <li>Perform knurling Operations</li> <li>Taper turning by tail stock off-set method</li> <li>Taper turning by plain taper turning attachment</li> <li>Taper turning by telescopic taper turning attachment</li> <li>Perform Internal and External threading Operations</li> </ul>

I can.....

<b>Performance Criteria</b>	<b>Yes</b>	<b>No</b>
1. Select the facing tools according to the job requirement.	<input type="checkbox"/>	<input type="checkbox"/>
2. Mount and set the required work-holding devices, work piece and cutting tools.	<input type="checkbox"/>	<input type="checkbox"/>
3. Follow the correct specifications for the part or component to be produced.	<input type="checkbox"/>	<input type="checkbox"/>
4. .Select the safe procedures and tools to accomplish the work.	<input type="checkbox"/>	<input type="checkbox"/>
5. Adjust the operating parameters (e.g. speed and feed) of machine tool for centering the job.	<input type="checkbox"/>	<input type="checkbox"/>
6. Ensure all safety mechanisms are in followed	<input type="checkbox"/>	<input type="checkbox"/>
7. Select the facing tools according to job requirement.	<input type="checkbox"/>	<input type="checkbox"/>

8. Mount and set the required work-holding devices, work piece and cutting tools.	<input type="text"/>	<input type="text"/>
9. Follow the correct specifications for the job / part or component to be produced	<input type="text"/>	<input type="text"/>
10. Select safe procedures and tools to accomplish the work.	<input type="text"/>	<input type="text"/>
11. Adjust the operating parameters (e.g. speed and feed) of machine tool to achieve the work specification.	<input type="text"/>	<input type="text"/>
12. Ensure all safety mechanisms are followed.	<input type="text"/>	<input type="text"/>
13. Obtain and follow the work specifications, drawings or sketches to accomplish the work.	<input type="text"/>	<input type="text"/>
14. Set up and adjust the machine as per work specifications and procedures.	<input type="text"/>	<input type="text"/>
15. Ensure the components produced have the required quality and specified dimensional accuracy.	<input type="text"/>	<input type="text"/>
16. Shut down the machine and equipment	<input type="text"/>	<input type="text"/>

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

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

## Assessors Judgment Guide

<b>Qualification</b>	Agriculture Machinery Operator (Level -3)
<b>Competency Standard</b>	Perform Basic Lathe Machine Operations
<b>Purpose of Assessment</b>	Formative Assessment
<b>Candidate Details</b>	Name: _____ Registration/Roll Number: _____ Signature: _____
<b>Assessment Outcome</b>	<div style="display: flex; justify-content: space-between; 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: _____

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>• Perform centering operations</li><li>• Perform facing Operations</li><li>• Perform turning Operations</li><li>• Perform drilling and boring operation</li><li>• Perform step turning operations</li><li>• Perform knurling Operations</li><li>• Taper turning by tail stock off-set method</li><li>• Taper turning by plain taper turning attachment</li><li>• Taper turning by telescopic taper turning attachment</li><li>• Perform Internal and External threading Operations</li></ul>		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Select the facing tools according to the job requirement.			
2.	Mount and set the required work-holding devices, work piece and cutting tools.			
3.	Follow the correct specifications for the part or component to be produced.			
4.	.Select the safe procedures and tools to accomplish the work.			
5.	Adjust the operating parameters (e.g. speed and feed) of machine tool for centering the job.			
6.	Ensure all safety mechanisms are in followed			
7.	Select the facing tools according to job requirement.			
8.	Mount and set the required work-holding devices, work piece and cutting tools.			
9.	Follow the correct specifications for the job / part or component to be produced			
10.	Select safe procedures and tools to accomplish the work.			
11.	Adjust the operating parameters (e.g. speed and feed) of machine tool to achieve the work specification.			
12.	Ensure all safety mechanisms are followed.			
13.	Obtain and follow the work specifications, drawings or sketches to accomplish the work.			



14.	Set up and adjust the machine as per work specifications and procedures.			
15.	Ensure the components produced have the required quality and specified dimensional accuracy.			
16.	Shut down the machine and equipment			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

## Knowledge Assessment

<b>Qualification</b>	Agriculture Machinery operator (Level -3)
<b>Competency Standard</b>	Perform Basic Lathe Machine Operations
<b>Purpose of Assessment</b>	Formative Assessment
<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 are three kinds of Tapers?		
2.	Enlist Major types of Knurling?		

3.	What is the use of dial indicator?		

Feedback to the Candidate	
Candidate's Signature _____ Assessor's Signature _____	