

Assessment Evidence Guide

For

“Dies and Mould Technology”

Level-2

**Perform Lathe Operations
(Formative Assessment)**

1st -5th March 2021



**National Vocational & Technical
Training Commission**

Title of Qualification: National Vocational Certificate Level 2, in (Dies and Mould Technology) "Machinist"	CS Code:	Level: 2	Version: 01
Competency Standard Title: Perform Lathe Operations Personal Health, hygiene and safety Perform Basic Communication skills Carryout General Maintenance	Assessment Date (DD/MM/YY): Assessment Time: 3 Hours		

Candidate Details	Name: Registration/Roll Number:.....
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>Assessment Task 1: Candidate is required to perform following Lathe Operations on work piece according to the drawing assign by assessor.</p> <ul style="list-style-type: none"> ○ Facing ○ Turning (Straight and Taper) <p>Assessment Task 2: Candidate is required to perform following Lathe Operations on work piece according to the drawing assign by assessor.</p> <ul style="list-style-type: none"> ○ Drilling/Boring ○ Knurling ○ Parting <p>Assessment Task 3: Candidate is required to perform Thread Cutting Operation on work piece according to the drawing assign by assessor.</p> <p>And complete:</p> <ol style="list-style-type: none"> 1. Knowledge assessment test (Written or Oral) 2. Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Clamping and centering the work piece as per SOPs</p> <p>Performance Criteria 2: Ensure final clamping as per requirement.</p> <p>Performance Criteria 3: Clamp the tool in tool post & set in required angle</p> <p>Performance Criteria 4: Set machine parameter as per job specifications</p> <p>Performance Criteria 5: Centering the work piece as per SOPs.</p> <p>Performance Criteria 6: Ensure final clamping as per requirement.</p> <p>Performance Criteria 7: Start facing operation by initial touching and adjust the depth</p>

	<p>of cut as per SOPs.</p> <p>Performance Criteria 8: Carry out facing operation as per standard procedure</p> <p>Performance Criteria 9: Start turning operation by initial touching and adjust the depth of cut as per SOPs.</p> <p>Performance Criteria 10: Carry out turning operation as per drawing.</p> <p>Performance Criteria 11: Check quality of the component at suitable intervals.</p> <p>Performance Criteria 12: Shut down the machine at safe position after finishing the work.</p> <p>Performance Criteria 13: Interpret work processes and procedures correctly to identify risk to Health, hygiene and safety at workplace</p> <p>Performance Criteria 14: Recognize processes, tools, equipment and consumable materials that have the potential to cause harm</p> <p>Performance Criteria 15: Select personal protective equipment in terms of type and quantity according to work orders.</p> <p>Performance Criteria 16: Wear, adjust, and maintain personal protective equipment to ensure correct fit and optimum protection in compliance with company procedures.</p> <p>Performance Criteria 17: Treat team members with respect and maintain positive relationships to achieve common organizational goals</p> <p>Performance Criteria 18: Listen to instructions carefully & comply with those instructions</p> <p>Performance Criteria 19: Apply appropriate methods and techniques for cleanliness and maintenance of machines & tools</p> <p>Performance Criteria 20: Clean and maintain all workplace tools & machines as per housekeeping checklists or given instructions</p> <p>Performance Criteria 21: Prepare checklist for daily cleanliness of the workplace</p> <p>Performance Criteria 22: Place all the tools & material in proper place to ensure safe work</p> <p>Performance Criteria 23: Prepare specific guidelines and checklists to conduct maintenance and housekeeping of machines & tools</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: Clamping and centring the work piece as per SOPs</p> <p>Performance Criteria 2: Ensure final clamping as per requirement</p> <p>Performance Criteria 3: Clamp & set the tool in tool post</p> <p>Performance Criteria 4: Set machine parameter as per job specifications</p> <p>Performance Criteria 5: Centering the work piece as per SOPs</p> <p>Performance Criteria 6: Ensure final clamping as per requirement</p> <p>Performance Criteria 7: Carry out parting operation as per standard procedure</p> <p>Performance Criteria 8: Perform drilling to produce appropriate hole size for boring as per SOPs</p> <p>Performance Criteria 9: Clamp the boring tool in the tool post</p>

	<p>Performance Criteria 10: Carry out Boring operation as per standard procedure</p> <p>Performance Criteria 11: Clamp the knurling tool in tool post</p> <p>Performance Criteria 12: Carry out machining operation for Knurling as per standard procedure</p> <p>Performance Criteria 13: Check quality of the component at suitable intervals</p> <p>Performance Criteria 14: Shut down the machine at safe position after finishing the work</p> <p>Performance Criteria 15: Maintain cleanliness and hygiene as per organizational policy</p> <p>Performance Criteria 16: Comply with Health, hygiene and safety precautions before starting work</p> <p>Performance Criteria 17: Follow organizational Health, hygiene and safety guidelines during work</p> <p>Performance Criteria 18: Provide work related information to team members and identify interrelated work activities to avoid confusion</p> <p>Performance Criteria 19: Adopt communication skills, appropriate to work activities and organizational/medical procedures</p> <p>Performance Criteria 20: Carefully listen and note down the instructions of Supervisor</p> <p>Performance Criteria 21: Read and interpret maintenance schedule carefully</p> <p>Performance Criteria 22: Prepare oiling and greasing chart (daily, weekly as per machine requirement)</p> <p>Performance Criteria 23: Prepare machine history record - date of installation, condition, oiling and maintenance</p> <p>Performance Criteria 24: Inspect and assess the general condition of an assigned machine on regular basis</p> <p>Performance Criteria 25: Observe problems and carry out routine maintenance as per given instructions and schedules</p> <p>Performance Criteria 26: Identify faulty/damaged/ worn out parts and take appropriate steps to replace them</p> <p>Performance Criteria 27: Report faults and problems of the machines, if not controllable, to the person concerned</p>
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	<p>Assessment Task 3</p> <p>Performance Criteria 1: Clamping and centring the work piece as per SOPs</p> <p>Performance Criteria 2: Ensure final clamping as per requirement</p> <p>Performance Criteria 3: Clamp and set the tool in tool post</p> <p>Performance Criteria 4: Set machine gear drive mechanism and other parameters as per job specifications</p> <p>Performance Criteria 5: Centering the work piece as per SOPs</p> <p>Performance Criteria 6: Ensure final clamping as per requirement</p> <p>Performance Criteria 7: Engage half nut lever at specific point on thread dial</p> <p>Performance Criteria 8: Start threads cutting operation by initial touching and adjust the depth of cut micrometer at zero point</p> <p>Performance Criteria 9: Disengage half nut lever at the end of threading length</p> <p>Performance Criteria 10: Move back the cross slides to maintain appropriate clearance distance between tool and job</p> <p>Performance Criteria 11: Move back the carriage before starting point of thread</p> <p>Performance Criteria 12: Set the next depth of cut and repeat threading cycle up to the completion of thread according to required depth</p> <p>Performance Criteria 13: Check quality of the component at suitable intervals</p> <p>Performance Criteria 14: Shut down the machine at safe position after finishing the work</p> <p>Performance Criteria 15: Ensure personal protective equipment is cleaned and stored in proper place</p> <p>Performance Criteria 16: Deal with resolvable problems according to prescribed procedures</p> <p>Performance Criteria 17: Place the tools equipment etc at their prescribed place after completion of work</p> <p>Performance Criteria 18: Identify problems and resolve them through discussion and mutual agreement</p> <p>Performance Criteria 19: Carry out the instructions of the supervisor</p> <p>Performance Criteria 20: Clean and maintain all bench-work tools and machines as per housekeeping checklists or instructions provided</p> <p>Performance Criteria 21: Prepare checklist for daily cleanliness of the workplace</p> <p>Performance Criteria 22: Respond appropriately to safety hazards on all bench-work tools & machines</p> <p>Performance Criteria 23: Identify all the tools and material in proper place to ensure safe work</p> <p>Performance Criteria 24: Adopt methods and techniques for cleanliness and maintenance of tools</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)				
Assessment Task 1		Description of assessment task 1 Candidate is required to perform following Lathe Operations on work piece according to the drawing assign by assessor. <ul style="list-style-type: none"> ○ Facing ○ Turning (Straight and Taper) 		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Clamping and centering the work piece as per SOPs			
2.	Ensure final clamping as per requirement			
3.	Clamp the tool in tool post & set in required angle			
4.	Set machine parameter as per job specifications			
5.	Centering the work piece as per SOPs			
6.	Ensure final clamping as per requirement			
7.	Start facing operation by initial touching and adjust the depth of cut as per SOPs			
8.	Carry out facing operation as per standard procedure			
9.	Start turning operation by initial touching and adjust the depth of cut as per SOPs			
10.	Carry out turning operation as per drawing			
11.	Check quality of the component at suitable intervals			
12.	Shut down the machine at safe position after finishing the work			
13.	Interpret work processes and procedures correctly to identify risk to Health, hygiene and safety at workplace			
14.	Recognize processes, tools, equipment and consumable materials that have the potential to cause harm			
15.	Select personal protective equipment in terms of type and quantity according to work orders			
16.	Wear, adjust, and maintain personal protective equipment to ensure correct fit and optimum protection in compliance with company procedures			
17.	Treat team members with respect and maintain positive relationships to achieve common organizational goals			
18.	Listen to instructions carefully & comply with those instructions			
19.	Apply appropriate methods and techniques for cleanliness and maintenance of machines & tools			
20.	Clean and maintain all workplace tools & machines as per housekeeping checklists or given instructions			

21.	Prepare checklist for daily cleanliness of the workplace			
22.	Place all the tools & material in proper place to ensure safe work			
23.	Prepare specific guidelines and checklists to conduct maintenance and housekeeping of machines & tools			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2 Candidate is required to perform following Lathe Operations on work piece according to the drawing assign by assessor. <ul style="list-style-type: none"> ○ Drilling/Boring ○ Knurling ○ Parting 		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Clamping and centring the work piece as per SOPs			
2.	Ensure final clamping as per requirement			
3.	Clamp & set the tool in tool post			
4.	Set machine parameter as per job specifications			
5.	Centering the work piece as per SOPs			
6.	Ensure final clamping as per requirement			
7.	Carry out parting operation as per standard procedure			
8.	Perform drilling to produce appropriate hole size for boring as per SOPs			
9.	Clamp the boring tool in the tool post			
10.	Carry out Boring operation as per standard procedure			
11.	Clamp the knurling tool in tool post			
12.	Carry out machining operation for Knurling as per standard procedure			
13.	Check quality of the component at suitable intervals			
14.	Shut down the machine at safe position after finishing the work			
15.	Maintain cleanliness and hygiene as per organizational policy			
16.	Comply with Health, hygiene and safety precautions before starting work			
17.	Follow organizational Health, hygiene and safety guidelines during work			
18.	Provide work related information to team members and identify interrelated work activities to avoid confusion			
19.	Adopt communication skills, appropriate to work activities and organizational/medical procedures			
20.	Carefully listen and note down the instructions of Supervisor			
21.	Read and interpret maintenance schedule carefully			

22.	Prepare oiling and greasing chart (daily, weekly as per machine requirement)			
23.	Prepare machine history record - date of installation, condition, oiling and maintenance			
24.	Inspect and assess the general condition of an assigned machine on regular basis			
25.	Observe problems and carry out routine maintenance as per given instructions and schedules			
26.	Identify faulty/damaged/ worn out parts and take appropriate steps to replace them			
27.	Report faults and problems of the machines, if not controllable, to the person concerned			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3		
		Candidate is required to perform Thread Cutting Operation on work piece according to the drawing assign by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Clamping and centring the work piece as per SOPs			
2.	Ensure final clamping as per requirement			
3.	Clamp and set the tool in tool post			
4.	Set machine gear drive mechanism and other parameters as per job specifications			
5.	Centering the work piece as per SOPs			
6.	Ensure final clamping as per requirement			
7.	Engage half nut lever at specific point on thread dial			
8.	Start threads cutting operation by initial touching and adjust the depth of cut micrometer at zero point			
9.	Disengage half nut lever at the end of threading length			
10.	Move back the cross slides to maintain appropriate clearance distance between tool and job			
11.	Move back the carriage before starting point of thread			
12.	Set the next depth of cut and repeat threading cycle up to the completion of thread according to required depth			
13.	Check quality of the component at suitable intervals			
14.	Shut down the machine at safe position after finishing the work			
15.	Ensure personal protective equipment is cleaned and stored in proper place			
16.	Deal with resolvable problems according to prescribed procedures			
17.	Place the tools equipment etc at their prescribed place after completion of work			
18.	Identify problems and resolve them through discussion and mutual agreement			
19.	Carry out the instructions of the supervisor			
20.	Clean and maintain all bench-work tools and machines as per housekeeping checklists or instructions provided			
21.	Prepare checklist for daily cleanliness of the workplace			
22.	Respond appropriately to safety hazards on all bench-work tools & machines			
23.	Identify all the tools and material in proper place to ensure safe work			

24.	Adopt methods and techniques for cleanliness and maintenance of tools			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		