

Assessment Evidence Guide

For

“Dies and Mould Technology”

Level-2

**Perform Shaper and Planar 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 Shaper and Planar Operations Maintain Personal Health, hygiene and safety Perform Basic Communication skills Perform Calculations and Estimation for Mechanical Work 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 Shaping operation on work piece according to the drawing assign by assessor, including following tasks:</p> <ul style="list-style-type: none"> ○ Simple Shaping Operation ○ Angular Shaping Operation <p>Assessment Task 2: Candidate is required to perform Planar 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: Switch on the machine</p> <p>Performance Criteria 2: Check oil levels</p> <p>Performance Criteria 3: Run machine warm-up cycle</p> <p>Performance Criteria 4: Select appropriate tool & clamping device according to the job requirement.</p> <p>Performance Criteria 5: Manage the measuring instruments as per job requirement.</p> <p>Performance Criteria 6: Mark work-piece according to the drawing</p> <p>Performance Criteria 7: Clamp the material of work-piece and tool into its holding devices as per standard practice.</p> <p>Performance Criteria 8: Maintain safe distance between surface of work-piece and tooltip as per prescribed method.</p> <p>Performance Criteria 9: Adjust the ram placement and stroke length according to the length of job.</p> <p>Performance Criteria 10: Adjust the parameters of shaping (speed and feed) from</p>

	<p>control unit as per prescribed method.</p> <p>Performance Criteria 11: Start shaping operation by locating the initial touching point and adjust the depth of cut as per SOPs.</p> <p>Performance Criteria 12: Perform the shaping operation at top surface of workpiece to get flatness as per initial requirements</p> <p>Performance Criteria 13: Re-clamp the work-piece by rotating to next surface as per prescribed method</p> <p>Performance Criteria 14: Shape entire work-piece by following the above stated method for next surfaces to get square shaped workpiece according to drawing</p> <p>Performance Criteria 15: Set and align the sliding degree of head according to required angle</p> <p>Performance Criteria 16: Start the angular shaping operation to get required angle as per marked lines of layout.</p> <p>Performance Criteria 17: Shape entire work-piece to get angle and sizes of work-piece according to the drawing</p> <p>Performance Criteria 18: Check quality of the component at suitable intervals.</p> <p>Performance Criteria 19: Shut down the machine at safe position after finishing the work</p> <p>Performance Criteria 20: Interpret work processes and procedures correctly to identify risk to Health, hygiene and safety at workplace</p> <p>Performance Criteria 21: Recognize processes, tools, equipment and consumable materials that have the potential to cause harm</p> <p>Performance Criteria 22: Select personal protective equipment in terms of type and quantity according to work orders.</p> <p>Performance Criteria 23: Wear, adjust, and maintain personal protective equipment to ensure correct fit and optimum protection in compliance with company procedures.</p> <p>Performance Criteria 24: Maintain cleanliness and hygiene as per organizational policy</p> <p>Performance Criteria 25: Comply with Health, hygiene and safety precautions before starting work</p> <p>Performance Criteria 26: Follow organizational Health, hygiene and safety guidelines during work</p> <p>Performance Criteria 27: Identify hazardous waste/ drug materials which needs to be disposed off</p> <p>Performance Criteria 28: Collect hazardous or non-hazardous waste carefully from the designated area as per approved procedure</p> <p>Performance Criteria 29: Treat team members with respect and maintain positive relationships to achieve common organizational goals</p> <p>Performance Criteria 30: Listen to instructions carefully & comply with those instructions</p> <p>Performance Criteria 31: Carefully listen and note down the instructions of Supervisor</p> <p>Performance Criteria 32: Carry out the instructions of the supervisor</p> <p>Performance Criteria 33: Develop Basic Mechanical Drawing</p> <p>Performance Criteria 34: Identify requirements of the material(s) for the work in accordance with the job specifications and drawing</p> <p>Performance Criteria 35: Confirm the requirement of the materials from the client or supervisor for accurate estimation</p> <p>Performance Criteria 36: Quantify the material as per drawing</p>
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	<p>Performance Criteria 37: Use appropriate methods for the calculation of cost of material and accessories keeping in view the current market prices</p> <p>Performance Criteria 38: Present the cost estimates to the client or supervisor for approval</p> <p>Performance Criteria 39: Make necessary adjustments in estimates, where required</p> <p>Performance Criteria 40: Calculate man-hours and machine-hours for work in accordance with the job requirements</p> <p>Performance Criteria 41: Prepare labor cost for the work using appropriate procedures</p> <p>Performance Criteria 42: Apply appropriate methods and techniques for cleanliness and maintenance of machines & tools</p> <p>Performance Criteria 42: Clean and maintain all workplace tools & machines as per housekeeping checklists or given instructions</p> <p>Performance Criteria 43: Prepare checklist for daily cleanliness of the workplace</p> <p>Performance Criteria 44: Place all the tools & material in proper place to ensure safe work</p> <p>Performance Criteria 45: Prepare specific guidelines and checklists to conduct maintenance and housekeeping of machines & tools</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: Switch on the machine</p> <p>Performance Criteria 2: Check oil levels</p> <p>Performance Criteria 3: Run machine warm-up cycle</p> <p>Performance Criteria 4: Select appropriate tool & clamping device according to the job requirement.</p> <p>Performance Criteria 5: Manage the measuring instruments as per job requirement.</p> <p>Performance Criteria 6: Clamp the material of work-piece and tool into its holding devices as per standard practice.</p> <p>Performance Criteria 7: Maintain safe distance between surface of work-piece and tooltip as per prescribed method.</p> <p>Performance Criteria 8: Adjust the platen stroke length according to the length of job.</p> <p>Performance Criteria 9: Adjust the parameters of planer (speed and feed) from control unit as per prescribed method.</p> <p>Performance Criteria 10: Start planer operation by locating the initial touching point and adjust the depth of cut as per SOPs.</p> <p>Performance Criteria 11: Perform the planer operation at top surface of workpiece to get flatness as per initial requirements.</p> <p>Performance Criteria 12: Re-clamp the work-piece by rotating to next surface as per prescribed method.</p> <p>Performance Criteria 13: Complete entire work-piece by following the above stated method for next surfaces to get required shape and size of workpiece according to drawing</p> <p>Performance Criteria 14: Check quality of the component at suitable intervals.</p> <p>Performance Criteria 15: Shut down the machine at safe position after finishing the work.</p>

	<p>Performance Criteria 16: Ensure personal protective equipment is cleaned and stored in proper place</p> <p>Performance Criteria 17: Deal with resolvable problems according to prescribed procedures</p> <p>Performance Criteria 18: Report unresolved problems to immediate supervisor</p> <p>Performance Criteria 19: Place the tools equipment etc. at their prescribed place after completion of work</p> <p>Performance Criteria 20: Use proper disposal hazardous containers for dispose-off hazardous waste as per procedure</p> <p>Performance Criteria 21: Take necessary precautions like putting masks and gloves while disposing hazardous waste/ materials as per standard operating procedure</p> <p>Performance Criteria 22: Provide work related information to team members and identify interrelated work activities to avoid confusion</p> <p>Performance Criteria 23: Adopt communication skills, appropriate to work activities and organizational/medical procedures</p> <p>Performance Criteria 24: Identify problems and resolve them through discussion and mutual agreement</p> <p>Performance Criteria 25: Read and interpret maintenance schedule carefully</p> <p>Performance Criteria 26: Prepare oiling and greasing chart (daily, weekly as per machine requirement)</p> <p>Performance Criteria 27: Prepare machine history record - date of installation, condition, oiling and maintenance</p> <p>Performance Criteria 28: Inspect and assess the general condition of an assigned machine on regular basis</p> <p>Performance Criteria 29: Observe problems and carry out routine maintenance as per given instructions and schedules</p> <p>Performance Criteria 30: Identify faulty/damaged/ worn out parts and take appropriate steps to replace them</p> <p>Performance Criteria 31: Report faults and problems of the machines, if not controllable, to the person concerned</p> <p>Performance Criteria 32: Clean and maintain all bench-work tools and machines as per housekeeping checklists or instructions provided</p> <p>Performance Criteria 33: Prepare checklist for daily cleanliness of the workplace</p> <p>Performance Criteria 34: Respond appropriately to safety hazards on all bench-work tools & machines</p> <p>Performance Criteria 35: Identify all the tools and material in proper place to ensure safe work</p> <p>Performance Criteria 36: Adopt methods and techniques for cleanliness and maintenance of tools</p>
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	Portfolios required at the time of assessment (if any) for
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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 Shaping operation on work piece according to the drawing assign by assessor, including following tasks: <ul style="list-style-type: none"> ○ Simple Shaping Operation ○ Angular Shaping Operation 		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Switch on the machine			
2.	Check oil levels			
3.	Run machine warm-up cycle			
4.	Select appropriate tool & clamping device according to the job requirement.			
5.	Manage the measuring instruments as per job requirement.			
6.	Mark work-piece according to the drawing			
7.	Clamp the material of work-piece and tool into its holding devices as per standard practice.			
8.	Maintain safe distance between surface of work-piece and tooltip as per prescribed method.			
9.	Adjust the ram placement and stroke length according to the length of job.			
10.	Adjust the parameters of shaping (speed and feed) from control unit as per prescribed method.			
11.	Start shaping operation by locating the initial touching point and adjust the depth of cut as per SOPs.			
12.	Perform the shaping operation at top surface of work piece to get flatness as per initial requirements			
13.	Re-clamp the work-piece by rotating to next surface as per prescribed method			
14.	Shape entire work-piece by following the above stated method for next surfaces to get square shaped work piece according to drawing			
15.	Set and align the sliding degree of head according to required angle			
16.	Start the angular shaping operation to get required angle as per marked lines of layout.			
17.	Shape entire work-piece to get angle and sizes of work-piece according to the drawing			
18.	Check quality of the component at suitable intervals.			
19.	Shut down the machine at safe position after finishing the work			

20.	Interpret work processes and procedures correctly to identify risk to Health, hygiene and safety at workplace			
21.	Recognize processes, tools, equipment and consumable materials that have the potential to cause harm			
22.	Select personal protective equipment in terms of type and quantity according to work orders.			
23.	Wear, adjust, and maintain personal protective equipment to ensure correct fit and optimum protection in compliance with company procedures.			
24.	Maintain cleanliness and hygiene as per organizational policy			
25.	Comply with Health, hygiene and safety precautions before starting work			
26.	Follow organizational Health, hygiene and safety guidelines during work			
27.	Identify hazardous waste/ drug materials which needs to be disposed off			
28.	Collect hazardous or non-hazardous waste carefully from the designated area as per approved procedure			
29.	Treat team members with respect and maintain positive relationships to achieve common organizational goals			
30.	Listen to instructions carefully & comply with those instructions			
31.	Carefully listen and note down the instructions of Supervisor			
32.	Carry out the instructions of the supervisor			
33.	Develop Basic Mechanical Drawing			
34.	Identify requirements of the material(s) for the work in accordance with the job specifications and drawing			
35.	Confirm the requirement of the materials from the client or supervisor for accurate estimation			
36.	Quantify the material as per drawing			
37.	Use appropriate methods for the calculation of cost of material and accessories keeping in view the current market prices			
38.	Present the cost estimates to the client or supervisor for approval			
39.	Make necessary adjustments in estimates, where required			
40.	Prepare labor cost for the work using appropriate procedures			
41.	Apply appropriate methods and techniques for			

	cleanliness and maintenance of machines & tools			
42.	Clean and maintain all workplace tools & machines as per housekeeping checklists or given instructions			
43.	Prepare checklist for daily cleanliness of the workplace			
44.	Place all the tools & material in proper place to ensure safe work			
45.	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 Planar operation on work piece according to the drawing assign by assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Switch on the machine			
2.	Check oil levels			
3.	Run machine warm-up cycle			
4.	Select appropriate tool & clamping device according to the job requirement.			
5.	Manage the measuring instruments as per job requirement.			
6.	Clamp the material of work-piece and tool into its holding devices as per standard practice.			
7.	Maintain safe distance between surface of work-piece and tooltip as per prescribed method.			
8.	Adjust the platen stroke length according to the length of job.			
9.	Adjust the parameters of planer (speed and feed) from control unit as per prescribed method.			
10.	Start planer operation by locating the initial touching point and adjust the depth of cut as per SOPs.			
11.	Perform the planer operation at top surface of work piece to get flatness as per initial requirements.			
12.	Re-clamp the work-piece by rotating to next surface as per prescribed method.			
13.	Complete entire work-piece by following the above stated method for next surfaces to get required shape and size of work piece according to drawing			
14.	Check quality of the component at suitable intervals.			
15.	Shut down the machine at safe position after finishing the work.			
16.	Ensure personal protective equipment is cleaned and stored in proper place			
17.	Deal with resolvable problems according to prescribed procedures			
18.	Report unresolved problems to immediate supervisor			
19.	Place the tools equipment etc. at their prescribed place after completion of work			
20.	Use proper disposal hazardous containers for dispose-off hazardous waste as per procedure			
21.	Take necessary precautions like putting masks and gloves while disposing hazardous waste/ materials			

	as per standard operating procedure			
22.	Provide work related information to team members and identify interrelated work activities to avoid confusion			
23.	Adopt communication skills, appropriate to work activities and organizational/medical procedures			
24.	Identify problems and resolve them through discussion and mutual agreement			
25.	Identify problems and resolve them through discussion and mutual agreement			
26.	Read and interpret maintenance schedule carefully			
27.	Prepare oiling and greasing chart (daily, weekly as per machine requirement)			
28.	Prepare machine history record - date of installation, condition, oiling and maintenance			
29.	Inspect and assess the general condition of an assigned machine on regular basis			
30.	Observe problems and carry out routine maintenance as per given instructions and schedules			
31.	Identify faulty/damaged/ worn out parts and take appropriate steps to replace them			
32.	Report faults and problems of the machines, if not controllable, to the person concerned			
33.	Clean and maintain all bench-work tools and machines as per housekeeping checklists or instructions provided			
34.	Prepare checklist for daily cleanliness of the workplace			
35.	Respond appropriately to safety hazards on all bench-work tools & machines			
36.	Identify all the tools and material in proper place to ensure safe work			
37.	Adopt methods and techniques for cleanliness and maintenance of tools			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		