

Instruction Sheet for the Candidate

Qualification	National Vocational Certificate in Metal Forming & Processing Level 4
Competency Standard	Perform die forging Process
Purpose of Assessment	Formative Assessment
Candidate Details	Name _____ Registration/Roll Number _____
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within 04 Hrs. time frame (for practical demonstration & assessment):</p> <ul style="list-style-type: none"> • Perform Open Die Forging (Cold/Hot) • Perform Impression Die Forging (Cold/Hot) • Perform precision / flash less forging operation • Perform forging machine maintenance
Time: 04 Hrs.	During a practical assessment, under observation by an assessor, you are required to
Minimum Evidence Required	<p>Perform Open Die Forging (Cold/Hot)</p> <ul style="list-style-type: none"> • Identify the tools and equipment required for the task. • Calculate the material volume based on task requirements. • Select open die as per requirement of forging • Setup the Forging machine in accordance with the Standard Operating Procedure and specifications. • Heat up the charge / billet to the specified temperature in case of hot die forging • Carryout pre-forming / Edging operation • Carryout forging operation as per requirement • Perform trimming operation as per requirement • Carryout inspection of the finish product. <p>Perform Impression Die Forging (Cold/Hot)</p> <ul style="list-style-type: none"> • Identify the tools and equipment required for the task. • Calculate the material volume based on task requirements. • Select close/impression die as per the requirement of forging • Setup the Forging machine in accordance with the Standard Operating Procedure and specifications. • Heat up the charge / billet to the specified temperature in case of hot die forging • Carryout pre-forming / Edging operation • Carryout forging operation as per requirement • Perform trimming operation as per requirement

	<ul style="list-style-type: none"> • Carryout inspection of the finish product. <p>Perform precision / flash less forging operation</p> <ul style="list-style-type: none"> • Select the tools and Equipment required for the given task. • Calculate the material volume based on task requirements. • Use tools and formers according to the standard operating procedure. • Setup the forging machine in accordance with the Standard Operating Procedure and specifications. • Operate the forging machine in accordance with the Standard Operating Procedure • Carryout inspection of the finish product. <p>Perform forging machine maintenance</p> <ul style="list-style-type: none"> • Carryout Preventive maintenance of the machine. • Check the moving parts of the machine for excessive play. • Calibrate forging load of the machine as per SOPs • Clean, align and lubricate die load of the machine • Use required PPEs during maintenance of machine
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Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	National Vocational Certificate in Metal Forming & Processing Level 4
Competency Standard	Perform die forging Process
Purpose of Assessment	Formative Assessment
Assessment Task	<ul style="list-style-type: none"> • Perform Open Die Forging (Cold/Hot) • Perform Impression Die Forging (Cold/Hot) • Perform precision / flash less forging operation • Perform forging machine maintenance

I can.....

Performance Criteria	Yes	No
1. Identify the tools and equipment required for the task.	<input type="checkbox"/>	<input type="checkbox"/>
2. Calculate the material volume based on task requirements.	<input type="checkbox"/>	<input type="checkbox"/>
3. Select open die as per requirement of forging	<input type="checkbox"/>	<input type="checkbox"/>
4. Setup the Forging machine in accordance with the Standard Operating Procedure and specifications.	<input type="checkbox"/>	<input type="checkbox"/>
5. Heat up the charge / billet to the specified temperature in case of hot die forging	<input type="checkbox"/>	<input type="checkbox"/>
6. Carryout pre-forming / Edging operation	<input type="checkbox"/>	<input type="checkbox"/>
7. Carryout forging operation as per requirement	<input type="checkbox"/>	<input type="checkbox"/>
8. Perform trimming operation as per requirement	<input type="checkbox"/>	<input type="checkbox"/>
9. Carryout inspection of the finish product.	<input type="checkbox"/>	<input type="checkbox"/>
10. Identify the tools and equipment required for the task.	<input type="checkbox"/>	<input type="checkbox"/>
11. Calculate the material volume based on task requirements.	<input type="checkbox"/>	<input type="checkbox"/>
12. Select close/impression die as per the requirement of forging	<input type="checkbox"/>	<input type="checkbox"/>
13. Setup the Forging machine in accordance with the Standard Operating Procedure and specifications.	<input type="checkbox"/>	<input type="checkbox"/>
14. Heat up the charge / billet to the specified temperature in case of hot die forging	<input type="checkbox"/>	<input type="checkbox"/>
15. Carryout pre-forming / Edging operation	<input type="checkbox"/>	<input type="checkbox"/>
16. Carryout forging operation as per requirement	<input type="checkbox"/>	<input type="checkbox"/>
17. Perform trimming operation as per requirement	<input type="checkbox"/>	<input type="checkbox"/>

18. Carryout inspection of the finish product.	<input type="checkbox"/>	<input type="checkbox"/>
19. Select the tools and Equipment required for the given task.	<input type="checkbox"/>	<input type="checkbox"/>
20. Calculate the material volume based on task requirements.	<input type="checkbox"/>	<input type="checkbox"/>
21. Use tools and formers according to the standard operating procedure.	<input type="checkbox"/>	<input type="checkbox"/>
22. Setup the forging machine in accordance with the Standard Operating Procedure and specifications.	<input type="checkbox"/>	<input type="checkbox"/>
23. Operate the forging machine in accordance with the Standard Operating Procedure	<input type="checkbox"/>	<input type="checkbox"/>
24. Carryout inspection of the finish product.	<input type="checkbox"/>	<input type="checkbox"/>
25. Carryout Preventive maintenance of the machine.	<input type="checkbox"/>	<input type="checkbox"/>
26. Check the moving parts of the machine for excessive play.	<input type="checkbox"/>	<input type="checkbox"/>
27. Calibrate forging load of the machine as per SOPs	<input type="checkbox"/>	<input type="checkbox"/>
28. Clean, align and lubricate die load of the machine	<input type="checkbox"/>	<input type="checkbox"/>
29. Use required PPEs during maintenance of machine	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature_____ Assessor's Signature_____

Date: _____

Assessors Judgment Guide

Qualification	National Vocational Certificate in Metal Forming & Processing Level 4
Competency Standard	Perform die forging Process
Purpose of Assessment	Formative Assessment
Candidate Details	Name: _____ Registration/Roll Number: _____ Signature: _____
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <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

Assessment Task		<ul style="list-style-type: none"> • Perform Open Die Forging (Cold/Hot) • Perform Impression Die Forging (Cold/Hot) • Perform precision / flash less forging operation • Perform forging machine maintenance 		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Identify the tools and equipment required for the task.			
2.	Calculate the material volume based on task requirements.			
3.	Select open die as per requirement of forging			
4.	Setup the Forging machine in accordance with the Standard Operating Procedure and specifications.			
5.	Heat up the charge / billet to the specified temperature in case of hot die forging			
6.	Carryout pre-forming / Edging operation			
7.	Carryout forging operation as per requirement			
8.	Perform trimming operation as per requirement			
9.	Carryout inspection of the finish product.			
10.	Identify the tools and equipment required for the task.			
11.	Calculate the material volume based on task requirements.			
12.	Select close/impression die as per the requirement of forging			
13.	Setup the Forging machine in accordance with the Standard Operating Procedure and specifications.			
14.	Heat up the charge / billet to the specified temperature in case of hot die forging			
15.	Carryout pre-forming / Edging operation			
16.	Carryout forging operation as per requirement			
17.	Perform trimming operation as per requirement			
18.	Carryout inspection of the finish product.			

19.	Select the tools and Equipment required for the given task.			
20.	Calculate the material volume based on task requirements.			
21.	Use tools and formers according to the standard operating procedure.			
22.	Setup the forging machine in accordance with the Standard Operating Procedure and specifications.			
23.	Operate the forging machine in accordance with the Standard Operating Procedure			
24.	Carryout inspection of the finish product.			
25.	Carryout Preventive maintenance of the machine.			
26.	Check the moving parts of the machine for excessive play.			
27.	Calibrate forging load of the machine as per SOPs			
28.	Clean, align and lubricate die load of the machine			
29.	Use required PPEs during maintenance of machine			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	National Vocational Certificate in Metal Forming & Processing Level 4
Competency Standard	Perform die forging Process
Purpose of Assessment	Formative Assessment
Candidate Details	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
Assessment Outcome	<div style="display: flex; justify-content: space-around; align-items: center;"> COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> </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.	State different types of forging dies and their uses.		
2.	Enlist different types of Forging machines.		
3.	Differentiate between open die and close die forging.		

4.	Explain safety Practices and PPE used in Forging.		
5.	Explain the effects of material shrinkage and oxidization on the dimensions of the forged article.		

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