

## Instruction Sheet for the Candidate

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 3</b>
<b>Competency Standard</b>	<b>Perform Assembly Operations</b>
<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>• Use assembly aids</li> <li>• Perform riveting operation</li> <li>• Clamp work pieces using bolt and nuts</li> <li>• Perform assembly operation through welding</li> <li>• Perform assembly operation through seaming</li> <li>• Perform assembly operations through adhesion</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>Use assembly aids</b></p> <ol style="list-style-type: none"> <li>1. Identify the assembly aids according to the job requirements.</li> <li>2. Follow required procedure for lifting.</li> <li>3. Use required lifting equipment.</li> <li>4. Position the job accurately using positioning aids.</li> <li>5. Apply the assembly aids</li> </ol> <p><b>Perform riveting operation</b></p> <ol style="list-style-type: none"> <li>1. Select required tools for riveting</li> <li>2. Select the type and size of rivet</li> <li>3. Aligned the work pieces</li> <li>4. Clamp the work pieces firmly</li> <li>5. Insert/ set the rivet in to the bore hole</li> <li>6. Clean the work piece / component from dirt and other contamination</li> </ol> <p><b>Clamp work pieces using bolt and nuts</b></p> <ol style="list-style-type: none"> <li>1. Select required tools for fastening the nut bolt.</li> <li>2. Align the work pieces</li> </ol>

	<ol style="list-style-type: none"> <li>3. Align the holes in the work pieces</li> <li>4. Insert the bolt in the holes</li> <li>5. Screw the nut on the bolts using required tools</li> </ol> <p><b>Perform assembly operation through welding</b></p> <ol style="list-style-type: none"> <li>1. Comply with health and safety rules regulations</li> <li>2. Clean the tools / equipments and work pieces</li> <li>3. Select welding type according to the job requirements.</li> <li>4. Use tools and equipments as per requirement</li> <li>5. Set the welding equipments according to given job.</li> <li>6. Place the work pieces in required position.</li> <li>7. Perform welding operation as per standards</li> </ol> <p><b>Perform assembly operation through seaming</b></p> <ol style="list-style-type: none"> <li>1. Select required method of seaming.</li> <li>2. Identify the required tools and equipments</li> <li>3. Set the machine according to the job requirements</li> <li>4. Carryout pre-cleaning of tools / equipments and work pieces from dirt, foreign object and contaminations.</li> <li>5. Make the groves at the joining edges as required.</li> <li>6. Interlock the two sheets as per standards.</li> <li>7. Apply pressure to make the Seam</li> </ol> <p><b>Perform assembly operations through adhesion</b></p> <ol style="list-style-type: none"> <li>1. Select the adhesive according to the work piece requirements.</li> <li>2. Use required PPEs with respect to adhesives.</li> <li>3. Clean and dry the surfaces with proper detergents (Degreasing).</li> <li>4. Abrade the surfaces with wire brush and emery cloth etc.</li> <li>5. Degrease the surfaces again.</li> <li>6. Apply the adhesive to both surfaces according to the company procedure for particular adhesive.</li> <li>7. Compress the surfaces firmly.</li> <li>8. Check the joint for proper adhesiveness.</li> <li>9. Remove the excess adhesive</li> </ol>
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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 3</b>
<b>Competency Standard</b>	<b>Perform Assembly Operations</b>
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>• Use assembly aids</li> <li>• Perform riveting operation</li> <li>• Clamp work pieces using bolt and nuts</li> <li>• Perform assembly operation through welding</li> <li>• Perform assembly operation through seaming</li> <li>• Perform assembly operations through adhesion</li> </ul>

I can.....

<b>Performance Criteria</b>	<b>Yes</b>	<b>No</b>
1. Identify the assembly aids according to the job requirements.	<input type="checkbox"/>	<input type="checkbox"/>
2. Follow required procedure for lifting.	<input type="checkbox"/>	<input type="checkbox"/>
3. Use required lifting equipment.	<input type="checkbox"/>	<input type="checkbox"/>
4. Position the job accurately using positioning aids.	<input type="checkbox"/>	<input type="checkbox"/>
5. Apply the assembly aids	<input type="checkbox"/>	<input type="checkbox"/>
6. Select required tools for riveting.	<input type="checkbox"/>	<input type="checkbox"/>
7. Select the type and size of rivet.	<input type="checkbox"/>	<input type="checkbox"/>
8. Aligned the work pieces.	<input type="checkbox"/>	<input type="checkbox"/>
9. Clamp the work pieces firmly.	<input type="checkbox"/>	<input type="checkbox"/>
10. Insert/ set the rivet in to the bore hole	<input type="checkbox"/>	<input type="checkbox"/>
11. Clean the work piece / component from dirt and other contamination.	<input type="checkbox"/>	<input type="checkbox"/>
12. Select required tools for fastening the nut bolt.	<input type="checkbox"/>	<input type="checkbox"/>
13. Align the work pieces.	<input type="checkbox"/>	<input type="checkbox"/>
14. Align the holes in the work pieces.	<input type="checkbox"/>	<input type="checkbox"/>
15. Insert the bolt in the holes.	<input type="checkbox"/>	<input type="checkbox"/>
16. Screw the nut on the bolts using required tools.	<input type="checkbox"/>	<input type="checkbox"/>
17. Comply with health and safety rules regulations	<input type="checkbox"/>	<input type="checkbox"/>
18. Clean the tools / equipments and work pieces	<input type="checkbox"/>	<input type="checkbox"/>

19. Select welding type according to the job requirements.	<input type="checkbox"/>	<input type="checkbox"/>
20. Use tools and equipments as per requirement	<input type="checkbox"/>	<input type="checkbox"/>
21. Set the welding equipments according to given job.	<input type="checkbox"/>	<input type="checkbox"/>
22. Place the work pieces in required position.	<input type="checkbox"/>	<input type="checkbox"/>
23. Perform welding operation as per standards	<input type="checkbox"/>	<input type="checkbox"/>
24. Select required method of seaming.	<input type="checkbox"/>	<input type="checkbox"/>
25. Identify the required tools and equipments	<input type="checkbox"/>	<input type="checkbox"/>
26. Set the machine according to the job requirements	<input type="checkbox"/>	<input type="checkbox"/>
27. Carryout pre-cleaning of tools / equipments and work pieces from dirt, foreign object and contaminations.	<input type="checkbox"/>	<input type="checkbox"/>
28. Make the grooves at the joining edges as required.	<input type="checkbox"/>	<input type="checkbox"/>
29. Interlock the two sheets as per standards.	<input type="checkbox"/>	<input type="checkbox"/>
30. Apply pressure to make the Seam	<input type="checkbox"/>	<input type="checkbox"/>
31. Select the adhesive according to the work piece requirements.	<input type="checkbox"/>	<input type="checkbox"/>
32. Use required PPEs with respect to adhesives.	<input type="checkbox"/>	<input type="checkbox"/>
33. Clean and dry the surfaces with proper detergents (Degreasing).	<input type="checkbox"/>	<input type="checkbox"/>
34. Abrade the surfaces with wire brush and emery cloth etc.	<input type="checkbox"/>	<input type="checkbox"/>
35. Degrease the surfaces again.	<input type="checkbox"/>	<input type="checkbox"/>
36. Apply the adhesive to both surfaces according to the company procedure for particular adhesive.	<input type="checkbox"/>	<input type="checkbox"/>
37. Compress the surfaces firmly.	<input type="checkbox"/>	<input type="checkbox"/>
38. Check the joint for proper adhesiveness.	<input type="checkbox"/>	<input type="checkbox"/>
39. Remove the excess adhesive	<input type="checkbox"/>	<input type="checkbox"/>

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

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

## Assessors Judgment Guide

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 3</b>
<b>Competency Standard</b>	<b>Perform Assembly Operations</b>
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<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>• Use assembly aids</li> <li>• Perform riveting operation</li> <li>• Clamp work pieces using bolt and nuts</li> <li>• Perform assembly operation through welding</li> <li>• Perform assembly operation through seaming</li> <li>• Perform assembly operations through adhesion</li> </ul>		
<b>During the practical assessment, candidate demonstrated the following:</b>		<b>Yes</b>	<b>No</b>	<b>Remarks</b>
1.	Identify the assembly aids according to the job requirements.			
2.	Follow required procedure for lifting.			
3.	Use required lifting equipment.			
4.	Position the job accurately using positioning aids.			
5.	Apply the assembly aids			
6.	Select required tools for riveting.			
7.	Select the type and size of rivet.			
8.	Aligned the work pieces.			
9.	Clamp the work pieces firmly.			
10.	Insert/ set the rivet in to the bore hole			
11.	Clean the work piece / component from dirt and other contamination.			
12.	Select required tools for fastening the nut bolt.			
13.	Align the work pieces.			
14.	Align the holes in the work pieces.			
15.	Insert the bolt in the holes.			
16.	Screw the nut on the bolts using required tools.			
17.	Comply with health and safety rules regulations			
18.	Clean the tools / equipments and work pieces			

19.	Select welding type according to the job requirements.			
20.	Use tools and equipments as per requirement			
21.	Set the welding equipments according to given job.			
22.	Place the work pieces in required position.			
23.	Perform welding operation as per standards			
24.	Select required method of seaming.			
25.	Identify the required tools and equipments			
26.	Set the machine according to the job requirements			
27.	Carryout pre-cleaning of tools / equipments and work pieces from dirt, foreign object and contaminations.			
28.	Make the grooves at the joining edges as required.			
29.	Interlock the two sheets as per standards.			
30.	Apply pressure to make the Seam			
31.	Select the adhesive according to the work piece requirements.			
32.	Use required PPEs with respect to adhesives.			
33.	Clean and dry the surfaces with proper detergents (Degreasing).			
34.	Abrade the surfaces with wire brush and emery cloth etc.			
35.	Degrease the surfaces again.			
36.	Apply the adhesive to both surfaces according to the company procedure for particular adhesive.			
37.	Compress the surfaces firmly.			
38.	Check the joint for proper adhesiveness.			
39.	Remove the excess adhesive			

**Competent**

☐

**Not Yet Competent**

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## Knowledge Assessment

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 3</b>
<b>Competency Standard</b>	<b>Perform Assembly Operations</b>
<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.	Enlist types of rivets.		
2.	Differentiate between permanent and temporary fasteners.		
3.	Enlist the types of nuts & bolts.		

4.	Enlist riveting tools.		
5.	Define jigs and fixture.		
6.	Enlist the types of welding used for sheet metal.		

Feedback to the Candidate