

Instruction Sheet for the Candidate

Qualification	National Vocational Certificate in Metal Forming & Processing Level 2
Competency Standard	Construct different Engineering Curves
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"> • CU1 Construct inscribe and circumscribe figures. • CU2 Construct Tangents of circles (Inside & Outside) • CU3 Construct Ellipse • CU4 Construct a parabola curve • CU5 Construct a hyperbola curve • CU6 Construct a Archimedean Spiral curve
Time: 04 Hrs.	During a practical assessment, under observation by an assessor, you are required to
Minimum Evidence Required	<p>CU1 Construct inscribe and circumscribe figures.</p> <p>P1. Prepare drawing sheet.</p> <p>P2. Select the tools.</p> <p>P3. Make title block</p> <p>P4. Divide the sheets in different equal parts.</p> <p>P5. Draw triangle, square, pentagon, hexagon and octagon according to dimension.</p> <p>CU2 Construct Tangents of circles (Inside & Outside)</p> <p>P1. Prepare Drawing sheet.</p> <p>P2. Select the tools.</p> <p>P3. Make title bar</p> <p>P4. Divide the sheets in different equal parts.</p> <p>P5. Draw Tangents Inside of a circle When the centre of the circle is known.</p> <p>P6. Draw Tangents Inside of a circle When the centre of the circle is unknown</p>

	<p>P7. Draw Tangents outside of a circle When the centre of the circle is known</p> <p>P8. Draw Tangents outside of a circle When the centre of the circle is unknown</p> <p>CU3 Construct Ellipse</p> <p>P1. Prepare Drawing sheet.</p> <p>P2. Select the tools.</p> <p>P3. Make title bar</p> <p>P4. Divide the sheets in different equal parts.</p> <p>P5. Draw an Ellipse by Concentric Circle.</p> <p>P6. Draw an Ellipse by Rectangle Method</p> <p>P7. Draw an Ellipse by Oblong Method</p> <p>P8. Draw an Ellipse by Arcs of Circle Method</p> <p>P9. Draw an Ellipse by Rhombus Method.</p> <p>P10. Draw an Ellipse by Basic Locus Method</p> <p>CU4 Construct a parabola curve</p> <p>P1. Prepare Drawing sheet.</p> <p>P2. Select the tools.</p> <p>P3. Draw Boundaries lines as per standards.</p> <p>P4. Make title bar</p> <p>P5. Divide the sheets in different equal parts.</p> <p>P6. Draw a parabola curve by Rectangle</p> <p>P7. Draw a parabola curve by Method of Tangents(Triangle Method)</p> <p>P8. Draw a parabola curve by Basic Locus Method</p> <p>CU5 Construct a hyperbola curve</p> <p>P1. Prepare Drawing sheet.</p> <p>P2. Select the tools.</p> <p>P3. Draw Boundaries lines as per standards.</p> <p>P4. Make title bar</p> <p>P5. Divide the sheets in different equal parts.</p> <p>P6. Draw a hyperbola curve.</p> <p>CU6 Construct a Archimedean Spiral curve</p> <p>P1. Prepare Drawing sheet.</p> <p>P2. Select the tools.</p> <p>P3. Draw Boundaries lines as per standards.</p>
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	<p>P4. Make title bar</p> <p>P5. Divide the sheets in different equal parts.</p> <p>P6. Draw spiral curve.</p>
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Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	National Vocational Certificate in Metal Forming & Processing Level 2
Competency Standard	Construct different Engineering Curves
Purpose of Assessment	Formative Assessment
Assessment Task	<ul style="list-style-type: none"> • CU1 Construct inscribe and circumscribe figures. • CU2 Construct Tangents of circles (Inside & Outside) • CU3 Construct Ellipse • CU4 Construct a parabola curve • CU5 Construct a hyperbola curve • CU6 Construct a Archimedean Spiral curve

I can.....

Performance Criteria	Yes	No
P1. Prepare drawing sheet.	<input type="checkbox"/>	<input type="checkbox"/>
P2. Select the tools.	<input type="checkbox"/>	<input type="checkbox"/>
P3. Make title block	<input type="checkbox"/>	<input type="checkbox"/>
P4. Divide the sheets in different equal parts.	<input type="checkbox"/>	<input type="checkbox"/>
P5. Draw triangle, square, pentagon, hexagon and octagon according to dimension.	<input type="checkbox"/>	<input type="checkbox"/>
P6. Prepare Drawing sheet.	<input type="checkbox"/>	<input type="checkbox"/>
P7. Select the tools.	<input type="checkbox"/>	<input type="checkbox"/>
P8. Make title bar	<input type="checkbox"/>	<input type="checkbox"/>
P9. Divide the sheets in different equal parts.	<input type="checkbox"/>	<input type="checkbox"/>
P10. Draw Tangents Inside of a circle When the centre of the circle is known.	<input type="checkbox"/>	<input type="checkbox"/>
P11. Draw Tangents Inside of a circle When the centre of the circle is unknown	<input type="checkbox"/>	<input type="checkbox"/>
P12. Draw Tangents outside of a circle When the centre of the circle is known	<input type="checkbox"/>	<input type="checkbox"/>
P13. Draw Tangents outside of a circle When the centre of the circle is unknown	<input type="checkbox"/>	<input type="checkbox"/>
P14. Prepare Drawing sheet.	<input type="checkbox"/>	<input type="checkbox"/>
P15. Select the tools.	<input type="checkbox"/>	<input type="checkbox"/>

P16. Make title bar	<input type="checkbox"/>	<input type="checkbox"/>
P17. Divide the sheets in different equal parts.	<input type="checkbox"/>	<input type="checkbox"/>
P18. Draw an Ellipse by Concentric Circle.	<input type="checkbox"/>	<input type="checkbox"/>
P19. Draw an Ellipse by Rectangle Method	<input type="checkbox"/>	<input type="checkbox"/>
P20. Draw an Ellipse by Oblong Method	<input type="checkbox"/>	<input type="checkbox"/>
P21. Draw an Ellipse by Arcs of Circle Method	<input type="checkbox"/>	<input type="checkbox"/>
P22. Draw an Ellipse by Rhombus Method.	<input type="checkbox"/>	<input type="checkbox"/>
P23. Draw an Ellipse by Basic Locus Method	<input type="checkbox"/>	<input type="checkbox"/>
P24. Prepare Drawing sheet.	<input type="checkbox"/>	<input type="checkbox"/>
P25. Select the tools.	<input type="checkbox"/>	<input type="checkbox"/>
P26. Draw Boundaries lines as per standards.	<input type="checkbox"/>	<input type="checkbox"/>
P27. Make title bar	<input type="checkbox"/>	<input type="checkbox"/>
P28. Divide the sheets in different equal parts.	<input type="checkbox"/>	<input type="checkbox"/>
P29. Draw a parabola curve by Rectangle	<input type="checkbox"/>	<input type="checkbox"/>
P30. Draw a parabola curve by Method of Tangents(Triangle Method)	<input type="checkbox"/>	<input type="checkbox"/>
P31. Draw a parabola curve by Basic Locus Method	<input type="checkbox"/>	<input type="checkbox"/>
P32. Prepare Drawing sheet.	<input type="checkbox"/>	<input type="checkbox"/>
P33. Select the tools.	<input type="checkbox"/>	<input type="checkbox"/>
P34. Draw Boundaries lines as per standards.	<input type="checkbox"/>	<input type="checkbox"/>
P35. Make title bar	<input type="checkbox"/>	<input type="checkbox"/>
P36. Divide the sheets in different equal parts.	<input type="checkbox"/>	<input type="checkbox"/>
P37. Draw a hyperbola curve.	<input type="checkbox"/>	<input type="checkbox"/>
P38. Prepare Drawing sheet.	<input type="checkbox"/>	<input type="checkbox"/>
P39. Select the tools.	<input type="checkbox"/>	<input type="checkbox"/>
P40. Draw Boundaries lines as per standards.	<input type="checkbox"/>	<input type="checkbox"/>
P41. Make title bar	<input type="checkbox"/>	<input type="checkbox"/>
P42. Divide the sheets in different equal parts.	<input type="checkbox"/>	<input type="checkbox"/>
P43. Draw spiral curve.	<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 2
Competency Standard	Construct different Engineering Curves
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"> • CU1 Construct inscribe and circumscribe figures. • CU2 Construct Tangents of circles (Inside & Outside) • CU3 Construct Ellipse • CU4 Construct a parabola curve • CU5 Construct a hyperbola curve • CU6 Construct a Archimedean Spiral curve 		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Prepare drawing sheet.			
2.	Select the tools.			
3.	Make title block			
4.	Divide the sheets in different equal parts.			
5.	Draw triangle, square, pentagon, hexagon and octagon according to dimension.			
6.	Prepare Drawing sheet.			
7.	Select the tools.			
8.	Make title bar			
9.	Divide the sheets in different equal parts.			
10.	Draw Tangents Inside of a circle When the centre of the circle is known.			
11.	Draw Tangents Inside of a circle When the centre of the circle is unknown			
12.	Draw Tangents outside of a circle When the centre of the circle is known			
13.	Draw Tangents outside of a circle When the centre of the circle is unknown			
14.	Prepare Drawing sheet.			
15.	Select the tools.			
16.	Make title bar			
17.	Divide the sheets in different equal parts.			

18.	Draw an Ellipse by Concentric Circle.			
19.	Draw an Ellipse by Rectangle Method			
20.	Draw an Ellipse by Oblong Method			
21.	Draw an Ellipse by Arcs of Circle Method			
22.	Draw an Ellipse by Rhombus Method.			
23.	Draw an Ellipse by Basic Locus Method			
24.	Prepare Drawing sheet.			
25.	Select the tools.			
26.	Draw Boundaries lines as per standards.			
27.	Make title bar			
28.	Divide the sheets in different equal parts.			
29.	Draw a parabola curve by Rectangle			
30.	Draw a parabola curve by Method of Tangents(Triangle Method)			
31.	Draw a parabola curve by Basic Locus Method			
32.	Prepare Drawing sheet.			
33.	Select the tools.			
34.	Draw Boundaries lines as per standards.			
35.	Make title bar			
36.	Divide the sheets in different equal parts.			
37.	Draw a hyperbola curve.			
38.	Prepare Drawing sheet.			
39.	Select the tools.			

40.	Draw Boundaries lines as per standards.			
41.	Make title bar			
42.	Divide the sheets in different equal parts.			
43.	Draw spiral curve.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	National Vocational Certificate in Metal Forming & Processing Level 2
Competency Standard	Construct different Engineering Curves
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.	What are the types of engineering curves?		
2.	What is the difference between Epicycloid and Hypocycloid?		
3.	What are the three different classification of curves?		

4.	Which is the most common tool used for drawing circles?		

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