

JOB SPECIFICATON
AND
SKILL TEST

JOB TITLE : Repousse (Metal Sheet Embosser), L - 3
SECTOR : Art
SUB-SECTOR : Visual Art (Traditional Nepali Art)

COUNCIL FOR TECHNICAL EDUCATION AND VOCATIONAL TRAINING

NATIONAL SKILL TESTING BOARD

MADHYAPUR THIMI -17, SANOTHIMI, BHAKTAPUR, NEPAL

June 29, 2006 (2063 .03.15)

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Developed jointly by National Skill Testing Board/CTEVT

And

Handicraft Association of Nepal

Recommend by Handicraft Technical Sub Committee.

June 29, 2006 (2063.03.15)

JOB SPECIFICATION

1	<p>JOB TITLE : Repousse (Metal Sheet Embosser)</p> <p>LEVEL : Three (3)</p>	
2	<p>JOB DESCRIPTION</p> <p>Repousse (Metal Sheet Embosser) L – 3 performs sketch in paper and grinding/ heat treatment in tools, repousses 1st/2nd steps, praying wheel, mandala, figures of god, sets final shape, chisels in embossed objects, engraves from back, makes metal sheet for object in regular shape, shrinks metal sheet, balances the object, solders the joints, cleans the object by sulphuric acid and file/emery paper.</p>	
3	<p>LIST OF TASKS:</p> <ol style="list-style-type: none"> 1. Performing sketch in paper (Cho Jya). 2. Performing grinding / heat treatment in tools. 3. Repoussing (Embossing) 1st step in front side in metal sheet (Thwo Jya). 4. Repoussing (Embossing) 1st step in back side in metal sheet (Thwo Jya). 5. Setting final shape (Thwo Jya). 6. Repoussing (Embossing) praying wheel (Max 8 inches) (Thwo Jya). 7. Repoussing (Embossing) mandala (Max 2 fits diameter) (Thwo Jya). 8. Repoussing (Embossing) figures of god (max. 12 inches) (Thwo Jya). 9. Chiselling in embossed praying wheel/mandala/god (max. 12 inches) (Ki Jya). 10. Engraving from back, if necessary (Ki Jya). 	<ol style="list-style-type: none"> 11. Making metal sheet for object in regular shape (Mā Jya). 12. Performing hammering to deep for regular shape (Mā Jya). 13. Shrinking metal sheet for regular shape (Mā Jya). 14. Balancing the object for regular shape (Mā Jya). 15. Soldering the joints (Mā Jya). 16. Cleaning the object by sulphuric acid and file/emery paper. <p>Note:- Repousses (Embosses) figures of god at minimum 33 percent relief.</p>
4	<p>QUALIFYING NOTES (entry requirement etc.)</p> <p>Physical Requirement: Normal Health</p> <p>Educational Requirement: Able to read and interpret iconography and iconometry.</p>	

TASK SPECIFICATION	
5	<p>TASK NO: 1</p> <p>Performing sketch in paper.</p> <p style="text-align: right;">Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Prepares paper. 2. Selects pens (Pencil, Marker pen, pen). 3. Selects appropriate engineering drawing instruments. 4. Selects cutting tools. 5. Sketches by free hand. 6. Adjusts/Aligns sketches according to measurement. 7. Draws by Marker/ pen.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Card board paper/Plain paper/Tracing paper. • Pencil, Pen and Marker pen. • Scale, Measuring Tape, Divider, Set square, Protractor, Compass, Eraser. • Scissors/Cutter
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Paper prepared. • Pens selected. • Drawing instruments selected. • Cutting tools selected. • Freehand Sketched of the object within $\pm 3\text{mm}$. • Sketch adjusted/Aligned according to measurement. • Final drawn within ± 1 percent of the object by marker/pen.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
1	1 2 3 4	Knowledge of size and types of paper. Knowledge of using pen. Knowledge of using an engineering instruments. Knowledge of art.	Simple Calculations.	Read and interpret iconography and iconometry.	Safe handling of cutting tools.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Performing sketch in paper.		LOCATION OF TEST :
	TASK NO : 1		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? 1. Prepare paper. 2. Select pens. 3. Select drawing instruments as required. 4. Select cutting tools. 5. Sketch the object by free hand within ± 3 mm. 6. Adjust/ Align sketch according to measurement. 7. Draw the object within ± 1 percent.		

TASK SPECIFICATION

5	TASK NO: 2 Performing grinding / heat treatment in tools. <p style="text-align: right;">Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	Task Elements: <ol style="list-style-type: none">1. Selects rough tools.2. Prepares grinders (Oil stone, file, emery paper and grinding machine).3. Grinds tools.4. Heats tools.5. Tempers tools.

TASK SPECIFICATION

7	TASK PERFORMANCE REQUIREMENTS <ul style="list-style-type: none">• Rough tools.• Oil stone, Files, Emery paper, Grinding machine.• Black smith heater/Gun stove/Gas burner, Tongs.• Container with water/ oil.
8	TASK PERFORMANCE STANDARDS <ul style="list-style-type: none">• Grinding tools / equipments selected as required.• Grinders prepared as required.• Tools ground within ± 3 degree.• Tools heated until orange colour by black smith heater/gun stove/gas burner.• Tools tempered in water / oil.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
2	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 	Knowledge of use, care and types of tools. Knowledge of use and care of grinding tools. Knowledge of grinding procedure of tools. Knowledge of heating temperature and heating procedure of tools. Knowledge of tempering technique of tools.	Simple calculation.		Hazards involved in heating tools.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Performing grinding / heat treatment in tools. TASK NO : 2		LOCATION OF TEST : CANDIDATE'S NAME : EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select grinding tools / equipment. 2. Prepare grinder for grinding operation. 3. Grand tools within ± 3 degrees. 4. Heat tools until orange colour by black smith heater. 5. Temper tools on water / oil. 6. Clean used tools, equipment and working area. 7. Store the tools as specified place. 8. Complete the job within specified time. 		

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
3	1 2 3 4 5 6 7	Knowledge of use and care of tools and its selection. Knowledge of types of repousse. Knowledge of properties and thickness of metal. Knowledge of methods of balancing the objects. Knowledge of sketching, marking and chiselling procedure on metal sheet. Knowledge of hammering procedure of metal sheet. Knowledge of heating procedure of metal sheet.	Simple geometrics calculation.	Read and interpret iconography.	Handling of heated and repoussing metal sheet.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)		
11	TASK TITLE : Repoussing (Embossing) 1st step in front side in metal sheet. TASK NO : 3	LOCATION OF TEST : CANDIDATE'S NAME : EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET STANDARD NOT MET (Comments)
	DID THE CANDIDATE? 1. Identify the object according to demand. 2. Select tools as required. 3. Prepare metal sheet. 4. Sketch/ Mark/ Chisel in Metal sheet. 5. Repousse in metal sheet within ± 2 percent of the object. 6. Heat metal sheet until red color. 7. Clean used tools and working area. 8. Complete the job within specified time.	

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
4	1 2 3 4 5 6 7	Knowledge of use and care of tools and its selection. Knowledge of types of repousse. Knowledge of properties and thickness of metal. Knowledge of methods of balancing the objects. Knowledge of adjusting procedure of embossed sheet. Knowledge of hammering/chiselling procedure of metal sheet. Knowledge of heating procedure of metal sheet.	Simple geometric calculation.	Read and interpret iconography.	Handling of heated and repoussing metal sheet.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Repoussing (Embossing)1st step in back side in metal sheet.		LOCATION OF TEST :
	TASK NO : 4		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? 1. Select tools as required. 2. Balance metal sheet in plane surface. 3. Adjust embossed metal sheet, if necessary. 4. Perform hammering/chiselling to deep in metal sheet within $\pm 1.5\text{mm}$ 5. Heat metal sheet/ object until red colour. 6. Clean used tools and working area. 7. Complete the job within specified time.		

TASK SPECIFICATION	
5	<p>TASK NO: 5</p> <p>Setting final shape.</p> <p style="text-align: right;">Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Balances the metal sheet. 3. Balances regular shape. 4. Heats metal sheet / object. 5. Cleans sheet with sulphuric acid.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Kenlan sin (Challan sin) , iron rod (Khalu) , Twakhalu , Plain hammer (Lhayagu muga). • Surface plate, Ball pein hammer (Mhuigu muga), Cross pein Phyechyagu), Wooden hammer, Balancing Chisels. • Gun stove/gas burner, Tongs, Coal, Pincers (Chimta), Firing furnece (Afah).
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Repoussed/ Embossed sheet balanced on the surface plate. • Repoussed/ Embossed sheet balanced regular shape within ± 1mm. • Metal sheet heated until red colour. • Metal sheet cleaned with sulphuric acid safely.

9		10				TASK TRAINING DATA					
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE			APPLIED CALCULATION		GRAPHIC INFORMATION		SAFETY & HYGENE		
5	1 2 3 4 5	Knowledge of use and care of tools Knowledge of balancing methods of the object Knowledge of balancing procedure of regular shape and its differences Knowledge of heating procedure of metal sheet. Knowledge of cleaning procedure of object using sulphuric acid.			Simple geometry calculation and measurement.		Read and interpret iconography.		Handling of heated and repoussed metal sheet. Hazards involved in handling sulphuric acid.		

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Setting final shape.		LOCATION OF TEST :
	TASK NO : 5		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS		STANDARD MET
	DID THE CANDIDATE?		STANDARD NOT MET (Comments)
	<ol style="list-style-type: none"> 1. Select tools as required. 2. Balance repoussed /Embossed sheet on the surface plate. 3. Balance repoussed /Embossed sheet in regular shape within $\pm 1\text{mm}$. 4. Heat metal sheet / Object until red colour. 5. Clean used tools, object and working area. 6. Store the objects as specified place. 7. Complete the job within specified time. 		

TASK SPECIFICATION

5	TASK NO: 6 Repoussing (Embossing) praying wheel (max 8 inches). Job Title: Repousse (Metal Sheet Embosser), L - 3
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| 6 | Task Elements: <ol style="list-style-type: none">1. Selects tools and materials.2. Measures metal sheet.3. Cuts metal sheet in size.4. Draws in sheet.5. Repousses metal sheet.6. Heats the metal sheet, if necessary.7. Balances repoussed metal sheet.8. Rolls the embossed metal sheet.9. Solders the rolled embossed metal sheet.10. Balances the rolled embossed metal sheet.11. Solders/seals the top and bottom parts.12. Fits parts.13. Cleans praying wheel. |
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TASK SPECIFICATION

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TASK PERFORMANCE REQUIREMENTS

- Iron rod (Khalu), Twakhalu, Kenlan sin, Hammer (Thoyagu muga).
- Scale, Scriber, Compass, Divider.
- Scissors.
- Pencil, Marker or pen.
- Surface plate, Wooden hammer, Balancing hammer Lhyayagu muga).
- Gun stove/gas burner, Flux, Quill, Flux stone, Solder, Small pincers (Guisalin), Pincers, Yellow clay, wire or clip(Kana).
- Sulphuric acid, wire brush, surf water (Hathan), cotton cloth.

8

TASK PERFORMANCE STANDARDS

- Tools and materials selected.
- Metal sheet measured and marked as specified.
- Metal sheet cut within ± 1 mm of the marked line.
- Metal sheet drawn within ± 1 mm.
- Metal sheet repoussed within ± 0.5 mm.
- Metal sheet heated until red colour, if necessary.
- Repoussed metal sheet balanced within ± 2 percent of length and diameter.
- Repoussed metal sheet rolled/soldered/balanced.
- Top and bottom parts soldered/sealed as required.
- Parts fitted as specified place.
- Praying wheel cleaned by sulphuric acid without black spots.
- Praying wheel polished by using wire brush and surf water.

9		10				TASK TRAINING DATA				
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE					
6	1 2 3 4 5 6 7 8 9 10 11	Knowledge of use and care of tools. Knowledge of measuring and marking procedure of metal sheet. Knowledge of properties and thickness of metal. Knowledge of cutting metal. Knowledge of repoussing in metal sheet. Knowledge of balancing methods of the object. Knowledge of making joints (Wabhu) and rolling procedure of embossed metal sheet. Knowledge of types of solder and its making procedure of soldering. Knowledge of assembling parts of the object. Knowledge of cleaning procedure of object by sulphuric acid. Knowledge of polishing praying wheel.	Simple calculation, measurement and geometry.	Read and interpret symbols.	Hazards involved in mishandling of cutting tools. Hazards involved in using sulphuric acid.					

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Repoussing (Embossing) praying wheel (max 8 inches). TASK NO : 6	LOCATION OF TEST : CANDIDATE'S NAME : EVALUATORS NAMES:	
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	<p>DID THE CANDIDATE?</p> <ol style="list-style-type: none"> 1. Select required tools and materials. 2. Measure and mark metal sheet as specified. 3. Cut metal sheet within ± 1mm of the marked line. 4. Draw in metal sheet within ± 1mm. 5. Repousse in metal sheet within ± 0.5mm. 6. Balance repoussed metal sheet within ± 2 percent. 7. Roll/solder/balance repoussed metal sheet. 8. Solder/seal the top and bottom parts as required. 9. Assemble the parts as specified place. 10. Clean dirt/ spots of praying wheel by using sulphuric acid. 11. Polish the praying wheel using wire brush and surf water. 12. Clean used tools and working area 13. Store the object as specified place 14. Complete the job within specified time 		

TASK SPECIFICATION	
5	<p>TASK NO: 7</p> <p>Repoussing (Embossing) mandala (max. 2 fits diameter). Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Selects metal sheet. 3. Marks, cuts, draws in metal sheet. 4. Repousses metal sheet. 5. Heats the metal sheet. 6. Balances metal sheet. 7. Cleans mandala.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Iron rod (Khalu), Twakhalu, Kenlan sin (Challan sin), Hammer. • Scissors. • Scriber, Pencil, Pen, Divider. • Surface plate, Wooden hammer, Hammer, Flat chisel. • Gun stove/gas burner, Sulphuric acid, wire brush.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Metal sheet selected as specified. • Metal sheet marked. • Metal sheet cut within ± 1mm of marked line. • Metal sheet drawn as specified mandala. • Metal sheet repoussed within ± 1mm. • Metal sheet heated until red colour. • Metal sheet balanced on surface level. • Dirt/ spots cleaned by using sulphuric acid.

TASK TRAINING DATA					
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
7	1 2 3 4 5 6 7 8 9	Knowledge of use and care of tools. Knowledge of measuring and marking procedure of metal sheet. Knowledge of properties and thickness of metal. Knowledge of cutting metal. Knowledge of repoussing in metal sheet. Knowledge of balancing methods of the object. Knowledge of heating technique of mandala Knowledge of cleaning procedure of object by sulphuric acid. Knowledge of polishing.	Simple Calculation, measurement and Geometry.	Read and interpret symbols.	Hazards involved in mishandling of cutting tools. Hazards involved in using sulphuric acid.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Repoussing (Embossing) mandala (Max 2 fits diameter).		LOCATION OF TEST :
	TASK NO : 7		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select tools as required. 2. Select metal sheet as specified. 3. Mark metal sheet. 4. Cut metal sheet within ± 1mm of marked line. 5. Draw in metal sheet as specified mandala. 6. Repousse in metal sheet as specified. 7. Balance metal sheet on surface level. 8. Clean dirt/spots of mandala by using sulphuric acid. 9. Polish the mandala. 10. Clean used tools and work area. 11. Store the object as specified place. 12. Complete the job within specified time. 		

TASK SPECIFICATION	
5	<p>TASK NO: 8</p> <p>Repoussing (Embossing) figures of god (Max. 12 inches) Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Selects metal sheet. 3. Marks or draws on metal sheet by free hand (Pastes art drawing paper, and chisels). 4. Repousses in metal sheet. 5. Heats the metal sheet as required. 6. Deeps in metal sheet. 7. Balances metal sheet. 8. Cleans metal sheet.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Iron rod (Khalu), Twakhalu, Kenlan sin, Hammer (Thwayagu muga), Ball pein hammer (Mhuigu muga), Balancing hammer(Lhayagu muga). • Scissors, Scale, Marker pen. • Scriber, Pen, Art drawing paper, Chisels, Divider. • Surface plate, Wooden hammer, Hammer, Flat chisel. • Gun stove/gas burner, Sulphuric acid, Brush, Plastic pot, Cotton cloth.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected. • Metal sheet selected as required gauge. • Metal sheet drawn within $\pm 3\text{mm}$. • Repoussed and deeped within $\pm 3\text{mm}$. • Repoussed metal sheet balanced and shaped within $\pm 1\text{mm}$. • Heated as required. • Dirt/ spots cleaned by using sulphuric acid.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
8	1	Knowledge of use and care of tools.	Simple Calculation, measurement and Geometry.	Read and interpret symbols and iconography.	Hazards involved in mishandling of cutting tools.
	2	Knowledge of measuring and marking procedure of metal sheet.			
	3	Knowledge of properties and thickness of metal.			
	4	Knowledge of cutting metal.			
	5	Knowledge of repousse in metal sheet.			
	6	Knowledge of balancing methods of the object.			
	7	Knowledge of heating technique of metal sheet.			
	8	Knowledge of cleaning procedure of object by sulphuric acid.			

TASK PERFORMANCE TEST (SKILL ASSESSMENT)

	TASK PERFORMANCE TEST (SKILL ASSESSMENT)		
11	TASK TITLE : Repoussing (Embossing) figures of god (max. 12 inches). TASK NO : 8	LOCATION OF TEST : CANDIDATE'S NAME : EVALUATORS NAMES:	
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select tools as required. 2. Select metal sheet as specified. 3. Mark metal sheet. 4. Cut metal sheet with margin. 5. Draw in metal sheet as specified. 6. Repousse in metal sheet as specified. 7. Heat the metal sheet as required. 8. Balance metal sheet on surface level. 9. Clean dirt/ spots of god by using sulphuric acid. 10. Clean used tools and work area. 11. Store the object as specified place. 12. Complete the job within specified time. 		

TASK SPECIFICATION	
5	<p>TASK NO: 9</p> <p>Chiselling in embossed praying wheel/mandala/god. Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Pastes embossed sheet in wooden plate with shellac resin (Jhau / byo). 3. Chisels first shape line (Walegu / chhadha kigu). 4. Chisels ground level up and down (Thapi –kophi). 5. Chisels smoothly and balance (Peegu). 6. Chisels fine line as necessary part (Tun phayagu). 7. Cuts embossed sheet. 8. Heats embossed sheet. 9. Balances embossed sheet. 10. Cleans/polishes embossed sheet.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Small hammer, Metal cutting scissors. • Wooden plate, shellac resin, metal pot (Karahi), wooden stick, Kerosene/gas stove, cloth, hammer, gun stove, tongs. • Chisels (Joki and Tuki – Chhadha kigu, Mothi and Phyechya, Dhaki and Bodha, Joki and Tuki – Tun phayagu, Guli, Kutimusa, Mainu, Chwamu, Chhapa, Para, Chhalancha.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Shellac resin melted as required thin/thick. • Embossed object pasted in wooden plate by melted shellac resin without bubbles. • First shape line cleared and cleaned (Walegu/Chhadhakigu). • Ground level up and down chiselled in all parts clearly (Thapi/Kophi). • Shape and proportion maintained as specified (Peegu). • Finishing line chiselled with equally or parallelly (Tun phayagu). • Embossed sheet cut as required shape.

9		10				TASK TRAINING DATA				
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE			APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE			
9	1	Knowledge of use and types of tools.			Simple calculations, measurements, graph and geometrics.	Read and interpret iconography.	Hazards involved in handling shellac resin.			
	2	Knowledge of melting technique and putting shellac resin in embossed metal.								
	3	Knowledge of chiselling technique of up and down.								
	4	Knowledge of balancing procedure of object.								
	5	Knowledge of chiselling equally.								
	6	Knowledge of taking out of embossed metal from shellac.								
	7	Knowledge of heating temperature and its bake or not.								
	8	Knowledge of balancing technique of metal sheet.								

TASK PERFORMANCE TEST (SKILL ASSESSMENT)

	TASK PERFORMANCE TEST (SKILL ASSESSMENT)		
11	TASK TITLE : Chiselling in embossed praying wheel/mandala/god. TASK NO : 9	LOCATION OF TEST : CANDIDATE'S NAME : EVALUATORS NAMES:	
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select appropriate tools. 2. Melt shellac resin as required thin/ thick. 3. Paste embossed object in wooden plate. 4. Chisel first shape line cleanly and clearly. 5. Chisel up and down ground level clearly. 6. Clean and balance all parts of the object. 7. Maintain shape and proportion. 8. Chisel final line as required parts. 9. Cut embossed sheet as required shape. 10. Clean the object and working area. 11. Store the object as specified place. 12. Complete the job within specified time. 		

TASK SPECIFICATION	
5	<p>TASK NO: 10</p> <p>Engraving from back, if necessary.</p> <p style="text-align: right;">Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Pastes shellac resin in repoussed metal sheet. 3. Embosses by half round chisel. 4. Heats metal sheet to take out from shellac resin. 5. Heats repoussed metal sheet. 6. Cleans repoussed metal sheet.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Half round chisel, small hammer. • Wooden surface plate, shellac resin, hammer, tongs, stove, metal pot, stick and cloth. • Gun stove, and cutting chisel. • Sulphuric acid with pot, water and brush.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Shellac resin melted as required quantity. • Melted shellac resin filled in repoussed metal without bubbles from opposite side. • Repoussed metal embossed as specified parts. • Metal heated as required temperature to take out from shellac resin. • Repoussed metal sheet heated until red colour. • Repoussed metal cleaned by using sulphuric acid.

TASK TRAINING DATA					
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
9	10				
10	1 2 3 4 5 6 7	Knowledge of use and types of tools. Knowledge of melting technique and putting shellac resin in embossed metal. Knowledge of embossing technique of opposite side. Knowledge of balancing procedure of object. Knowledge of taking out of embossed metal from shellac. Knowledge of heating temperature and its bake or not. Knowledge of balancing technique of metal sheet.	Simple calculation.	Read and interpret of iconography.	Hazards involved in handling of melting shellac and take out sheet from shellac.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Engraving from back, if necessary.		LOCATION OF TEST :
	TASK NO : 10		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select tools as required. 2. Melt shellac resin as required quantity. 3. Fill melting shellac resin in repoussed metal sheet without bubbles. 4. Embosse repoussed metal sheet as specified parts. 5. Heat metal sheet as require temperature to take out shellac. 6. Heat repoussed metal sheet until red colour. 7. Clean repoussed metal sheet by sulphuric acid. 8. Clean working area. 9. Store the object as specified place. 10. Complete the job within specified time. 		

TASK SPECIFICATION	
5	<p>TASK NO: 11</p> <p>Making metal sheet for regular shape (Mā Jya). Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Prepares metal. 3. Melts metal. 4. Pours metal on ingot (lupa/palin). 5. Put poured metal in sulphuric acid. 6. Makes metal sheet. 7. Balances object. 8. Measures the object. 9. Cuts the objects, if necessary. 10. Heats object.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Hammer, surface plate, anvil, big hammer, metal cutting scissors, divider, pencil, and scriber. • Scale, weight, crucible, flux, tongs , pincers, oil or wax, ingot (lupa). • Iron rod, gun stove, black smith furnace, rolling machine.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Metal prepared as specified object. • Metal melted fully without crystals. • Metal poured on balanced ingot (lupa/palin). • Poured metal put in sulphuric acid. • Object balanced by hammering /rolling. • Object measured, marked and cut as specified object, if necessary. • Object heated until red colour.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
11	1 2 3 4 5 6	Knowledge of use and types of tools. Knowledge of melting technique of metal. Knowledge of pouring melted metal into ingot (lupa). Knowledge of balancing technique of object by hammering/rolling. Knowledge of cutting method of object. Knowledge of heating temperature.	Simple measurement and geometry.	Interpret common arts.	Hazards involved in handling melting metal with crucible and sulphuric acid.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Making metal sheet for regular shape (Mā Jya).		LOCATION OF TEST :
	TASK NO : 11		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select appropriate tools and materials. 2. Prepare metal as specified object. 3. Melt metal without crystals/bubbles. 4. Pour metal on ingot (lupa) in balance. 5. Put poured metal in sulphuric acid safely. 6. Balance object by hammering. 7. Heat object until red colour. 8. Measure and marks the objects as specified. 9. Cut the object, if necessary. 10. Clean the object, used tools and work area. 11. Store the tools and object as specified place. 12. Complete the job within specified time 		

TASK SPECIFICATION	
5	<p>TASK NO: 12</p> <p>Performing hammering metal to deep for regular shape (Mā Jya). Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools 2. Heats metal. 3. Deeps metal by hammer. 4. Measures sizes. 5. Adjusts deeper object by hammer. 6. Heats object. 7. Puts object in sulphuric acid.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Wooden anvil, ball pain hammer, anvil, surface plate. • Scale, divider, scribe, kharkash (sumcha), pencil, scissors. • Iron rod (khalu), twakhalu, challa sin (kenlan sin). • Black smith furnace, gun stove, tongs, pot with water, pincers.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Deepen out by hammering as required times. • Size measured as specified. • Deepen object adjusted by hammering within ± 2 percent. • Object heated until red colour. • Object put in sulphuric acid.

TASK TRAINING DATA					
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
12	1 2 3 4	Knowledge of use and types of tools. Knowledge of deepings procedure of object by hammer. Knowledge of measuring procedures of deeps objects. Knowledge of heating temperature of objects.	Simple mathematics and geometry.	Interpret arts.	Safe use of hammer and scissors.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Performing hammering to deep for regular shape (Mā Jya). TASK NO : 12		LOCATION OF TEST : CANDIDATE'S NAME : EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS		STANDARD MET
	DID THE CANDIDATE? 1. Select appropriate tools and materials. 2. Deep out metal sheet as required times by hammering. 3. Measure size of the object. 4. Adjust deepen object within ± 2 percent. 5. Heat object until red colour. 6. Clean the object by sulphuric acid. 7. Clean used tools, object and work area. 8. Store tools and object as specified place. 9. Complete the job within specified time.		

TASK SPECIFICATION	
5	<p>TASK NO: 13</p> <p>Shrinking metal sheet for regular shape (Mā Jya). Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Shrinks objects by hammer. 3. Measures the objects. 4. Adjusts objects. 5. Heats objects. 6. Puts object in sulphuric acid.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Kenlan sin, cross pein hammer, hammer (chothi muga), iron rod (khalu). • Surface plate, gun stove, black smith furnace, pincers, tongs, cloth, pot with water.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Object shirnked as required times. • Objects measured. • Object adjusted by hammering within ± 2 percent. • Objects heated until red colour. • Object put in sulphuric acid.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
13	1 2 3 4 5 6	Knowledge of use and types of tools. Knowledge of shrinking by hammers. Knowledge of measuring objects. Knowledge of adjusting techniques. Knowledge of heating temperature. Knowledge of cleaning object by sulphuric acid.	Simple mathematics and geometry.	Interpret common arts.	Hazards involved in handling sulphuric acid.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Shrinking metal sheet for regular shape (Mā Jya).		LOCATION OF TEST :
	TASK NO : 13		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select appropriate tools and materials. 2. Shrink object as required times. 3. Measure and adjust object within ± 2 percent. 4. Heat object until red colour. 5. Clean the object by sulphuric acid safely. 6. Clean used tools, object, and work area. 7. Store tools and object as specified place. 8. Complete the job within specified time. 		

TASK SPECIFICATION	
5	<p>TASK NO: 14</p> <p>Balancing the objects for regular shape (Mā Jya). Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Measures objects. 3. Balances objects. 4. Adjusts objects. 5. Cuts/files object. 6. Heats objects, if necessary. 7. Puts object in sulphuric acid.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Hammers (chothi, lhayagu, phechyagu muga), kenlan sin, iron rod (khalu), scissors, chhalan, surface plate, anvil. • Divider, scale, sample piece – dasu (paper/metal sheet). • T-shape angle (konya), 7 - shape angle (konya). • Horn hammer, wooden hammer, wooden anvil. • Gun stove, black smith furnace, pincers, tongs, cloth, pot with water, sulphuric acid.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Objects measured. • Objects cut/filed within ± 1 percent. • Objects balanced by hammering within ± 1 percent. • Objects heated until red colour. • Object put in sulphuric acid.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
14	1 2 3 4 5 6	Knowledge of use and types of tools. Knowledge of measuring procedures of objects. Knowledge balancing techniques of objects. Knowledge of adjusting technique of objects. Knowledge of cutting and filing technique of objects. Knowledge of cleaning object by sulphuric acid.	Simple mathematics and geometry.	Interpret common arts.	Hazards involved in handling sulphuric acid.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Balancing the objects for regular shape (Mā Jya).		LOCATION OF TEST :
	TASK NO : 14		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select tools and materials. 2. Measure and marks the object. 3. Balances the object as required times within ± 1 percent. 4. Cut/file object within ± 1 percent. 5. Heat the object until red colour. 6. Clean the object by sulphuric acid safely. 7. Clean used tools, objects and work area. 8. Store tools and objects as specified place. 9. Complete the job within specified time. 		

TASK SPECIFICATION	
5	<p>TASK NO: 15</p> <p>Soldering the joints.</p> <p style="text-align: right;">Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Selects tools. 2. Collects parts to fitting. 3. Files parts to fitting. 4. Clamps the object for fitting/joining. 5. Prepares solders and flux. 6. Puts solders and flux in joints. 7. Solders the joints. 8. Checks joints 9. Cleans object.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Wire, clay, clip, flux, solder, gun stove, flux stone, water, quill, thin iron rod. • T- shape angle (konya), hammer, khalu and tyakhalu. • Black smith furnace, coal • Sulphuric acid, pot, tongs, pincers, brass pincers
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools selected as required. • Parts collected for joining. • Joints of parts filed to fits. • Parts fitted by wire/ clay/ clip securely. • Solders and flux prepared as required. • Solders and flux kept in joints. • Joints soldered fully penetrate. • Jointed parts checked without leakage/hole. • Object cleaned with sulphuric acid.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
15	1 2 3 4 5 6 7 8	Knowledge of use and types of tools. Knowledge of fitting and balancing the objects. Knowledge of banding procedure of objects. Knowledge of soldering procedures of parts. Knowledge of putting solders in joints. Knowledge of melting solders in joints. Knowledge of checking procedure of joints. Knowledge of cleaning objects by sulphuric acid.	Simple mathematics and geometry.		Hazards involved in soldering period.

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Soldering the joints.		LOCATION OF TEST :
	TASK NO : 15		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select tools as required. 2. Collect parts to solder. 3. File parts to fits as required. 4. Fit parts by wire/ clay/ clip safely. 5. Prepare solder and flux as required. 6. Put solder and flux in joints as required. 7. Solder the parts as fully penetrate. 8. Check joints without leakage or hole. 9. Clean object with sulphuric acid. 10. Clean used tools and work area. 11. Store tools and objects as specified place. 12. Complete the job within specified time. 		

TASK SPECIFICATION	
5	<p>TASK NO: 16</p> <p>Cleaning object by sulphuric acid and file/emery paper.</p> <p style="text-align: right;">Job Title: Repousse (Metal Sheet Embosser), L - 3</p>
6	<p>Task Elements:</p> <ol style="list-style-type: none"> 1. Select tools and materials. 2. Cuts objects. 3. Files objects. 4. Rubes objects by emery paper or oil stone. 5. Heats objects. 6. Puts objects in acid. 7. Takes out objects from acid. 8. Brushes objects. 9. Cleans objects.

TASK SPECIFICATION	
7	<p>TASK PERFORMANCE REQUIREMENTS</p> <ul style="list-style-type: none"> • Files, emery paper, oil stone, sulphuric acid, plastics pot, wire brush, water, scriber, dental brush, cotton cloth. • Small pincers, brass pincers or rubber globe, scissors, small wire saw, cutting chisel, hammer, pliers, table. • Gun stove/burner, black smith furnace, tongs.
8	<p>TASK PERFORMANCE STANDARDS</p> <ul style="list-style-type: none"> • Tools and materials selected as required. • Edge cut, filed and rubbed by emery paper/oil stone smoothly. • Object heated until red colour, if necessary. • Object put in acid as required time and taken out from acid. • Object brushed until bright without spot. • Object cleaned by water and cotton cloth. • Object kept into the sun light.

9	10	TASK TRAINING DATA			
TASK NO:	T. E. No.	TECHNICAL KNOWLEDGE	APPLIED CALCULATION	GRAPHIC INFORMATION	SAFETY & HYGENE
16	1 2 3 4 5 6 7 8	Knowledge of use and types of tools. Knowledge of cutting and filing process of dirty parts. Knowledge of rubbing by emery paper or oil stone Knowledge of heating temperature. Knowledge of putting objects in acid. Knowledge of taking out objects from acid. Knowledge of brushing objects. Knowledge of cleaning objects and drying the sun light.			Hazards involved in handling sulphuric acid

TASK PERFORMANCE TEST (SKILL ASSESSMENT)			
11	TASK TITLE : Cleaning objects by sulphuric acid and file/emery paper.		LOCATION OF TEST :
	TASK NO : 16		CANDIDATE'S NAME :
			EVALUATORS NAMES:
12	TEST FACTORS AND ITEMS	STANDARD MET	STANDARD NOT MET (Comments)
	DID THE CANDIDATE? <ol style="list-style-type: none"> 1. Select tools, materials and object as required. 2. Cut edge of the object. 3. File the object smoothly. 4. Sand the object by emery paper/oil stone. 5. Heat object until red colour. 6. Put the object in sulphuric acid as required time and take out from sulphuric acid. 7. Brush object until bright without spots. 8. Cleans objects by using water and cotton cloth. 9. Clean used tools a work area. 10. Store tools and object as specified place. 11. Complete the job within specified time. 		