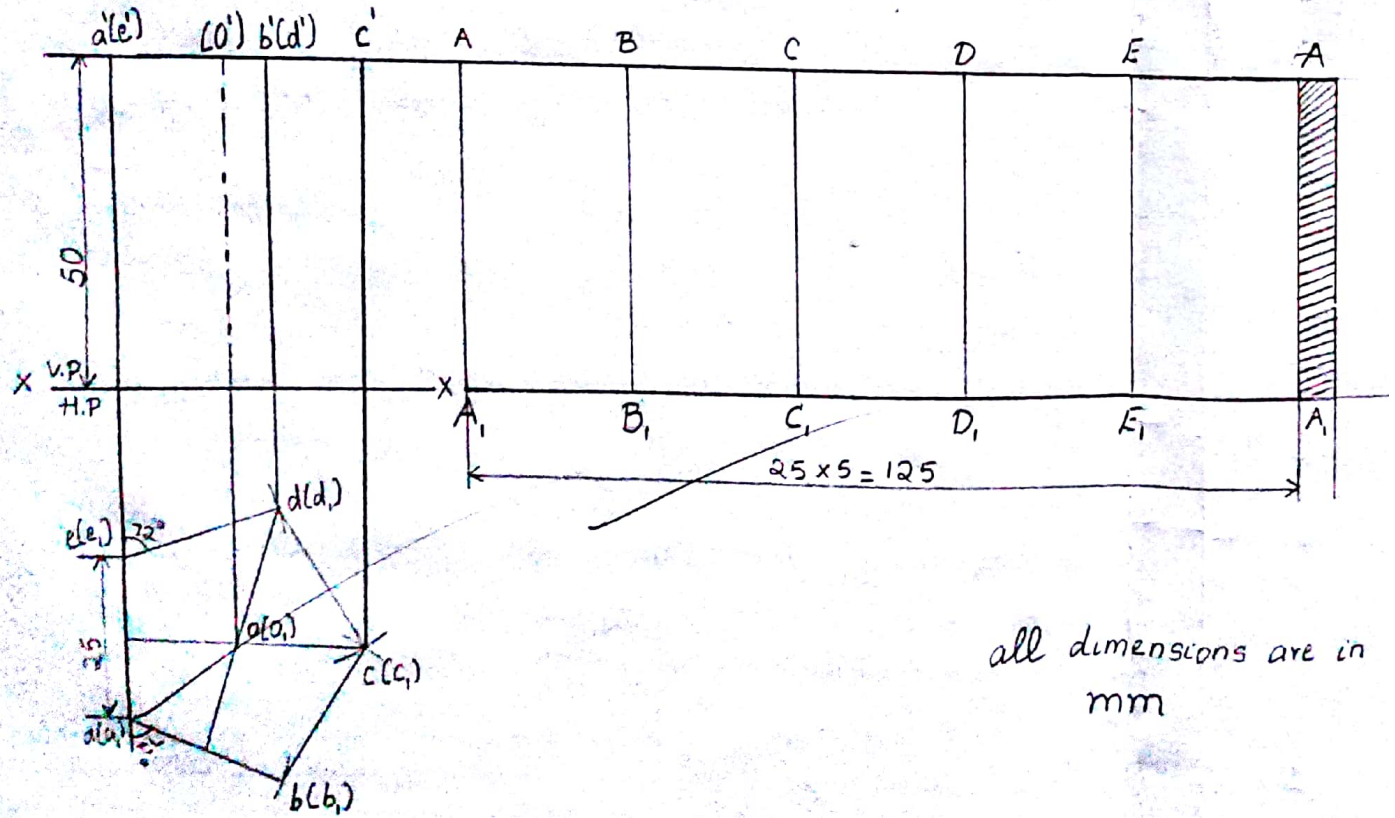
DETAILS OF MODEL

DATE : 11 Sep 2018

Model No. 1 | Model Name Pentagonal Prism | Material Used G.I Sheet

DRAWING



all dimensions are in mm

DETAILS OF MODEL **DATE : 11 Sep 2018**

Model No. : 1 **Model Name :** Pentagonal Prism

Aim : Development of Pentagonal Prism

Tools Used : Snip, Straight edge, Stake, Steel rule, Scriber, Mallet etc.,

Procedure

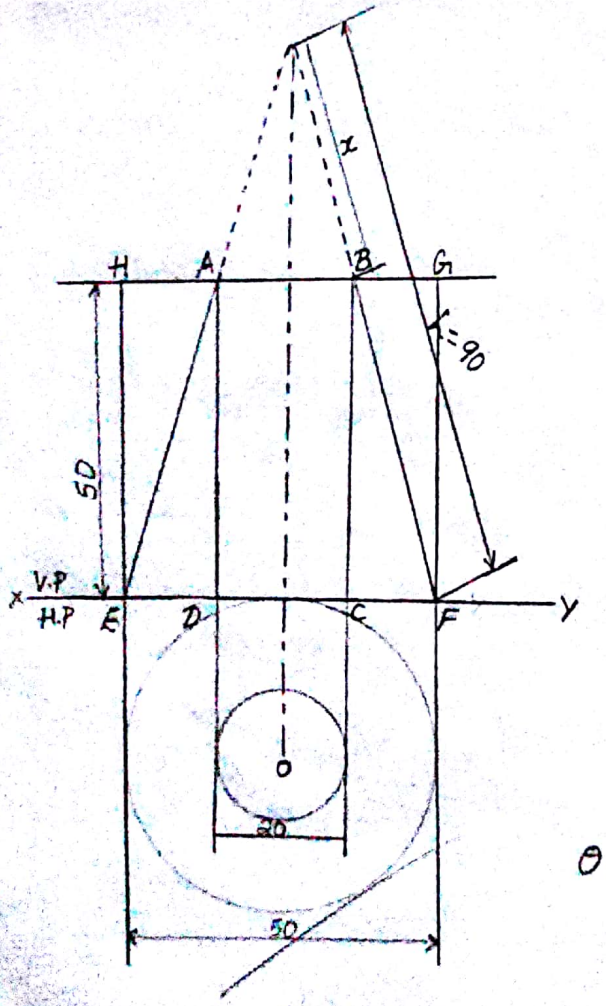
1. Draw the orthographic view as shown
2. Layout the five rectangular vertical faces of Pentagonal Prism
3. Set 5mm extra allowance for joining at the ends
4. Trace the development of given G.I sheet and mark all bending lines.
5. Cut the sheet along the line according to the development shape.
6. Bend the seam line using bending dies
7. Finish all rectangular faces and longer edges using rectangular faced stakes
8. Dress by mallet and join the ends.
9. Solder the end joint using Electric Soldering.

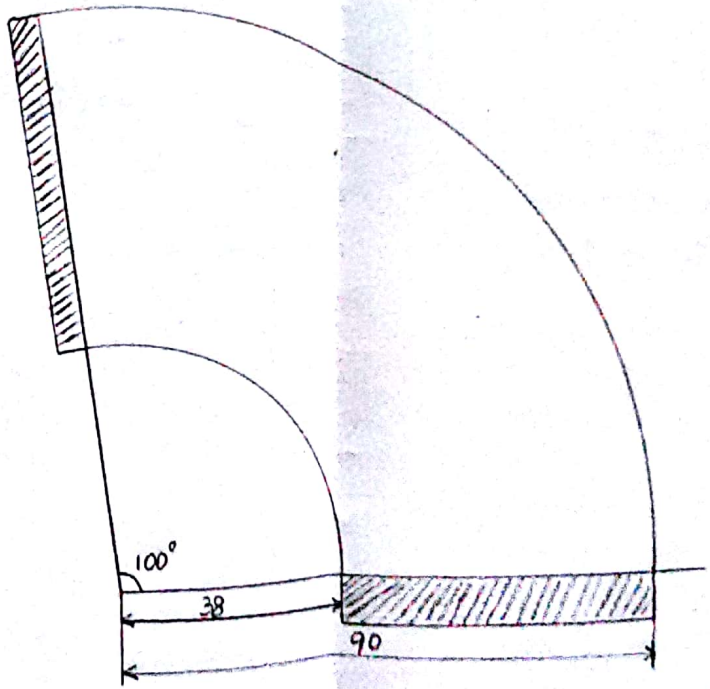
DETAILS OF MODEL

DATE : 18 Sep 2018

Model No. 2 Model Name Frustum of Cone Material Used G.I sheet

DRAWING





$\theta = 360 \times \frac{R}{L}$

$= 360 \times \frac{25}{90}$

$= 4 \times 25$

$\theta = 100°$

$R = 25$

$L = 90$

all dimensions are in mm

DETAILS OF MODEL

DATE : 18 Sep 2018

Model No. : 2 Model Name : Frustum of Cone

Aim : Development of Frustum of Cone

Tools Used : Snip, Mallet, Cone edge, Stake etc,

Procedure

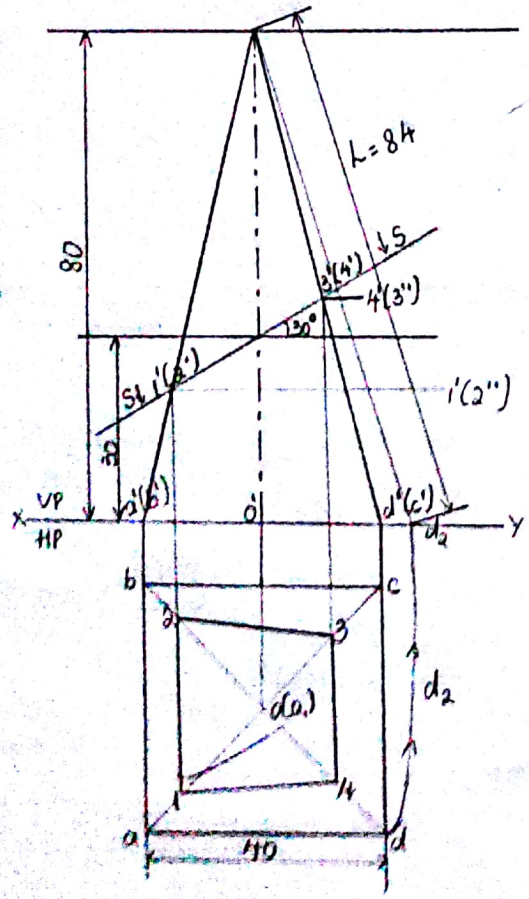
1. Draw the front view of right circular cone OAB of base dia. is 50mm. A section plane cuts perpendicular to the axis of cone at 50mm height.
2. With "O" as center equal to slant generator length (OA or OB) draw an arc. With same center "O" radius equal to (OC or OD) draw another arc.
3. Find $\theta = \frac{360 \times r}{R}$ where, r = radius of base circle of cone
   R = Length of slant generator of cone
   θ = Angle subtended to cut arc.
4. Set an angle at point of vertex it cut arc at the points EFGH, set of 5 and 5+5 mm extra for seam joint
5. Trace the development part on given G.I sheet. Mark all necessary lines
6. Cut the sheet along line according to shape of development
7. Fold extra allowances in clockwise and anticlockwise directions by keeping hackshaw blade thickness and pressed
8. Remove hackshaw blade, and bend main body using cone stake and lock end joint and lock.

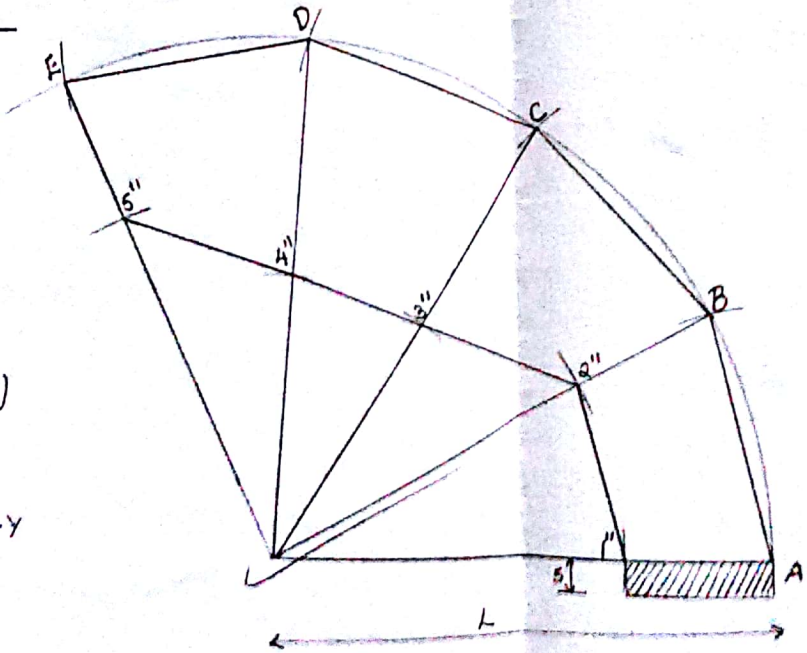
DETAILS OF MODEL

DATE : 25 Sep 2018

Model No. 3 Model Name Truncated Square Pyramid Material Used G.I Sheet

DRAWING





all dimensions are in mm

DETAILS OF

Model No. :

Aim :

DETAILS OF MODEL **DATE : 25 Sep 2018**

Model No. : 3 **Model Name :** Truncated Square Pyramid

Aim : Development of Truncated Square Pyramid

Tools Used : Sniph, Mallet, Straight edge, Stake

Procedure

1. Draw the orthographic view as shown
2. Layout the vertical faces of square pyramid
3. Set 5mm extra allowance for joining the ends
4. Trace the development on given G.I sheet
5. Cut the sheet along the line according to the development shape
6. Bend the seam line using bending lines
7. Fold extra allowances and pressed.

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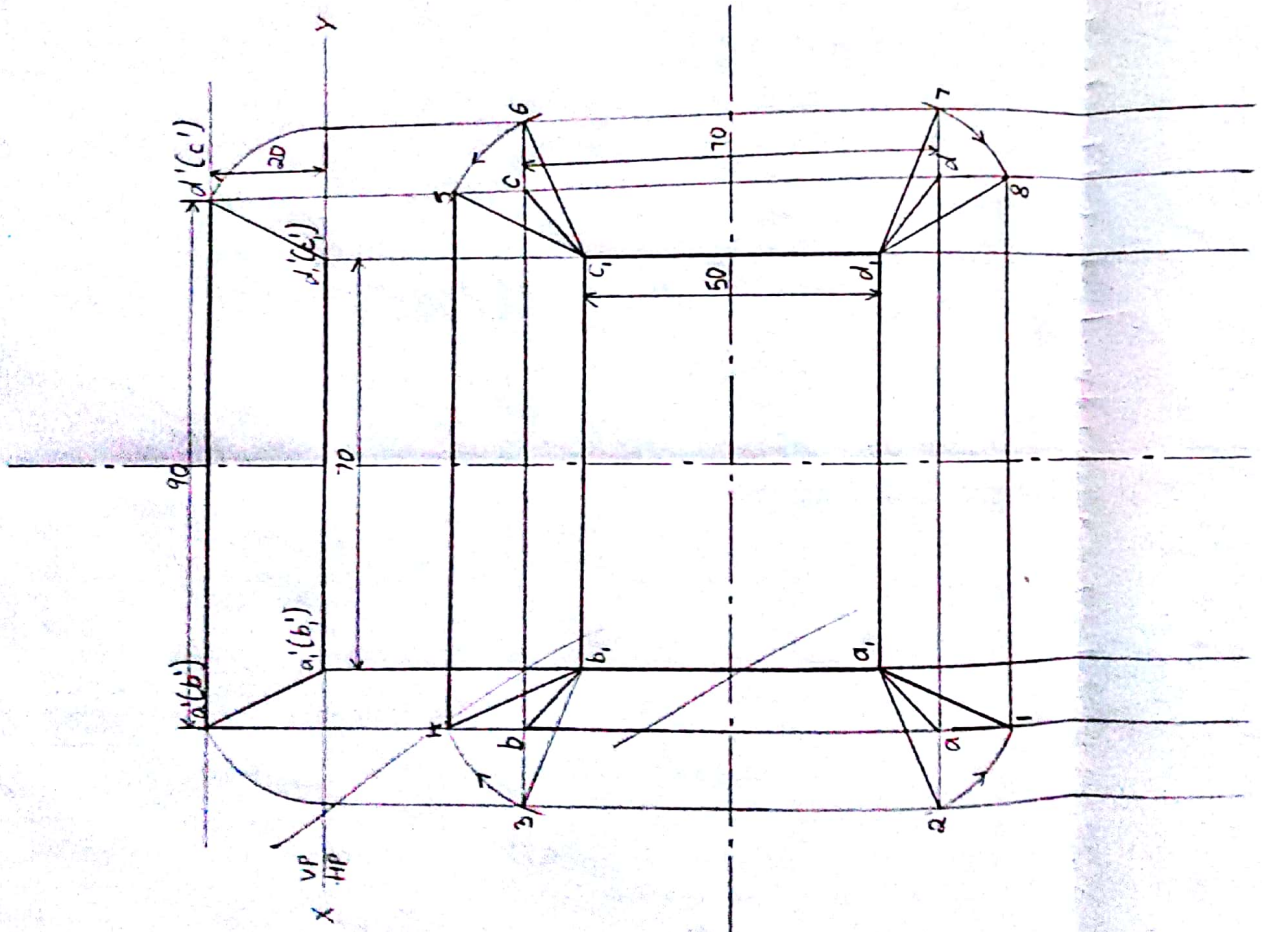
DATE : 09 Oct 2018

DETAILS OF MODEL

Model No. 4 Model Name Tray Material Used G.I Sheet

DRAWING



DETAILS OF MODEL **DATE :** 09 Oct 2018

Model No. : 4 **Model Name :** Tray

Aim : Development of Tray

Tools Used : Snip, Mallet, Stake (Rectangular)

Rectangular edge

Procedure

1. Draw the orthographic view as shown
2. Trace the development on given G.I sheet
3. Cut the sheet along the line according to the development shape
4. Bend the seam line using bending dies
5. Finish all rectangular faces and longer edges using rectangular faced stakes
6. Dress by Mallets and join the ends

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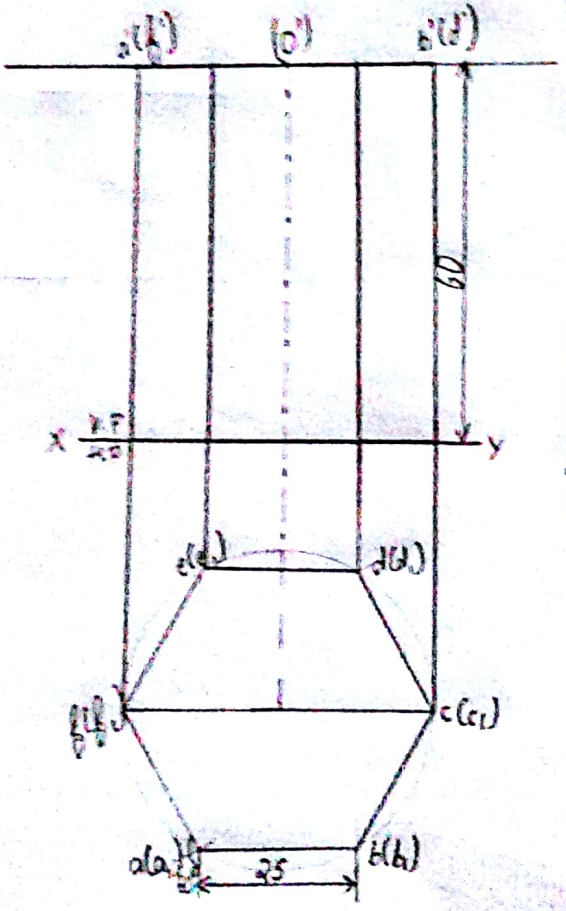
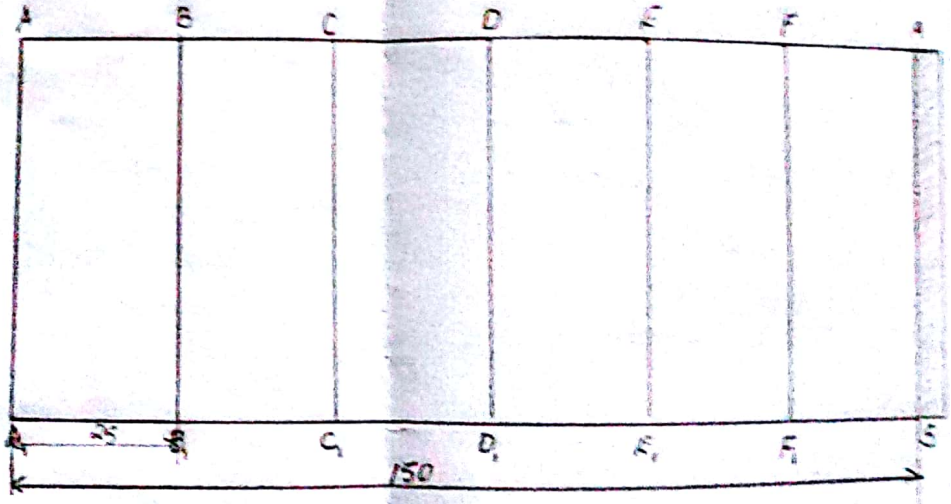
DETAILS OF MODEL

DATE : 2018

Model No. 5 Model Name Hexagonal Prism Material Used GI Sheet

DRAWING





all dimensions are in mm

DETAILS OF MODEL

Model No. : 5

Aim : Development

DETAILS OF MODEL **DATE :**

Model No. : 5 Model Name : Hexagonal Prism

Aim : Development of Hexagonal Prism

Tools Used : Snips, Mallet, Straight edge, Stake

Procedure

Draw the orthographic view

Layout the five rectangular vertical faces of pentagonal prism

Set 5mm extra allowance for joining at the ends

Trace the development on given G.I Sheet

Cut the sheet along the line according to the development shape

Bend the seam line using bending lines

Finish all rectangular faces and longer edges using rectangular faced stakes

Dress by mallet and join the ends

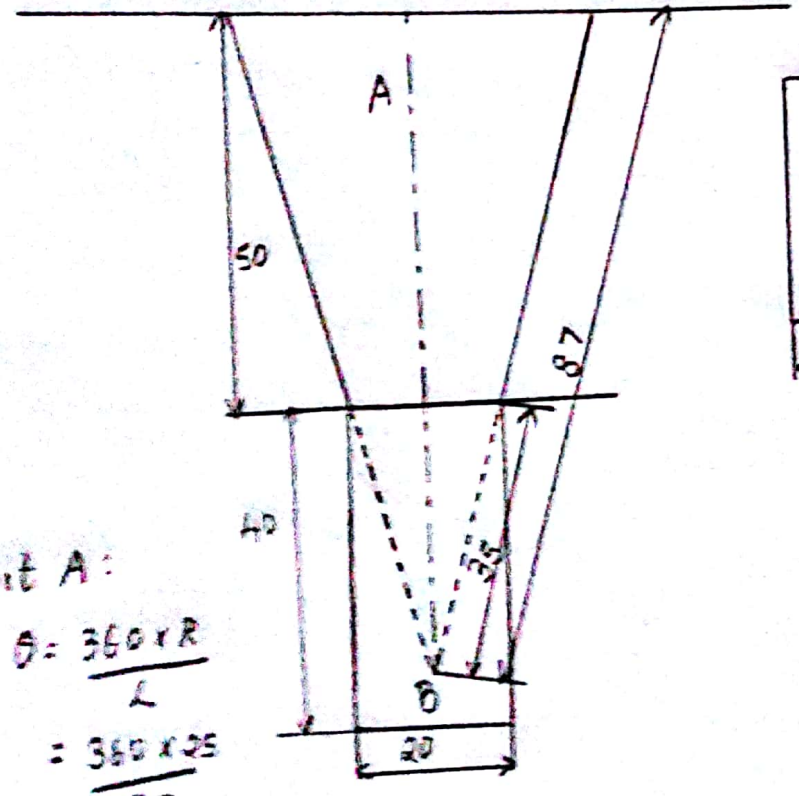
Solder the end joint using electric soldering.

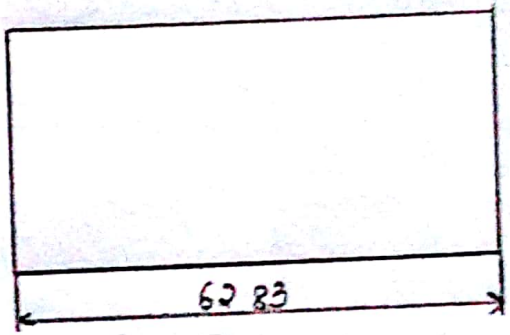
DETAILS OF MODEL

DATE :

Model No. 6 Model Name Funnel Material Used G.I Sheet

DRAWING





Part B

Calculations

$\pi \times d$

$= 3.14 \times 20$

$= 62.83\text{mm}$

Part A :

$\theta = \frac{360 \times R}{L}$

$= \frac{360 \times 25}{87}$

$= 104^\circ$

all dimensions are in mm

DETAILS OF MODEL **DATE :**

Model No. : 6 **Model Name :** Funnel

Aim : Development of Funnel

Tools Used : Snip, Mallet, Cone Edge, Cylindrical Edge, Stake

Procedure

Part-A

Draw the front view of right circular cone OAB of base dia. is 50mm. A section plane cuts perpendicular to the axis of cone at 50mm height

With "O" as center radius equal to slant generator length (OA or OB) draw an arc. With same center "O" radius equal to (OC or OD) draw another arc

Find $\theta = \frac{360 \times r}{R}$ where r = radius of base circle of cone
R = Length of slant generator of cone
θ = angle subtended to cut arc

Set an angle at point of vertex it cut arc at the points E-F-G-H set off 5 and 5+5 extra for seam joint

Part B

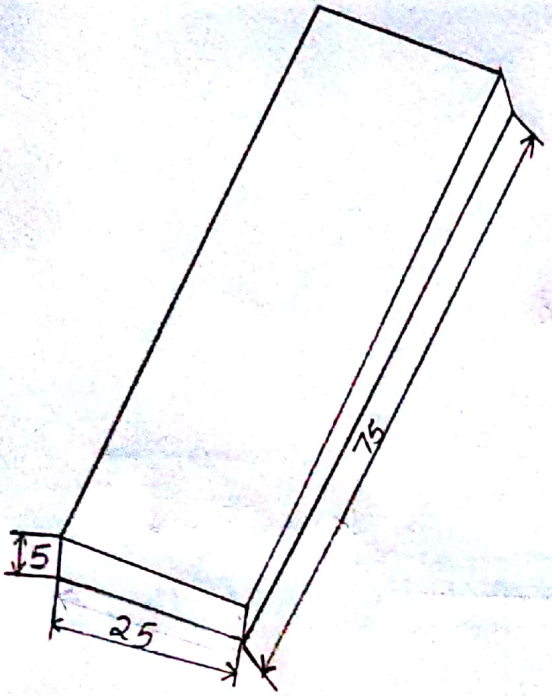
Draw the full scale cylinder as its stand perticular
The length of cylinder development equal to circumference of cylinder i.e., πD in mm + allowance is equal to 5mm
Trace the development on given GI sheet. Mark all necessary lines
Cut the sheet along line according to shape of development
Fold extra allowances
Then solder two parts using electric solder.

DETAILS OF MODEL

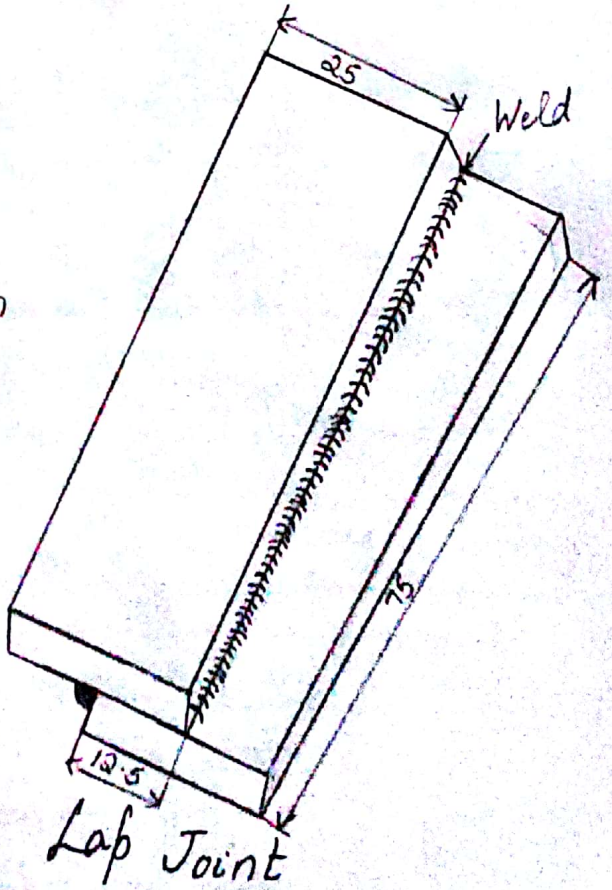
DATE : 23 Oct 2018

Model No. 1 Model Name Lap Joint Material Used Metal Pieces

DRAWING



Raw Material Sketch



Lap Joint

all dimensions are in mm

emarks

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DETAILS OF MODEL

DATE : 23 Oct 2018

Model No. : 1 Model Name : Lap Joint

Aim : To join two given metal plates to obtain a Lap Joint by arc welding process

Tools Used : Electrode Holder, Two metal surface plates (workpiece), Electric arc, Chipping Hammer, wire brus hand shield.

Procedure

1. The surface to be welded is cleaned and the edges of the plates may be filed for perfect joint and for more strength
2. The welding electrode is held in an electrode holder and the ground clamp is clamped to the surface plate and the work piece is placed on it for welding
3. The plates to be welded are positioned overlapping and tag weld is done on the ends to avoid the movement from one end of the plates
4. Now start welding from one end of the plates. The electric arc is produced melts the electrode and joins the two metal plates.
5. Maintaining a gap of 3mm between the plates and the electrode for proper arc length. Complete the welding process by removing slag using wire brush and chipping hammer

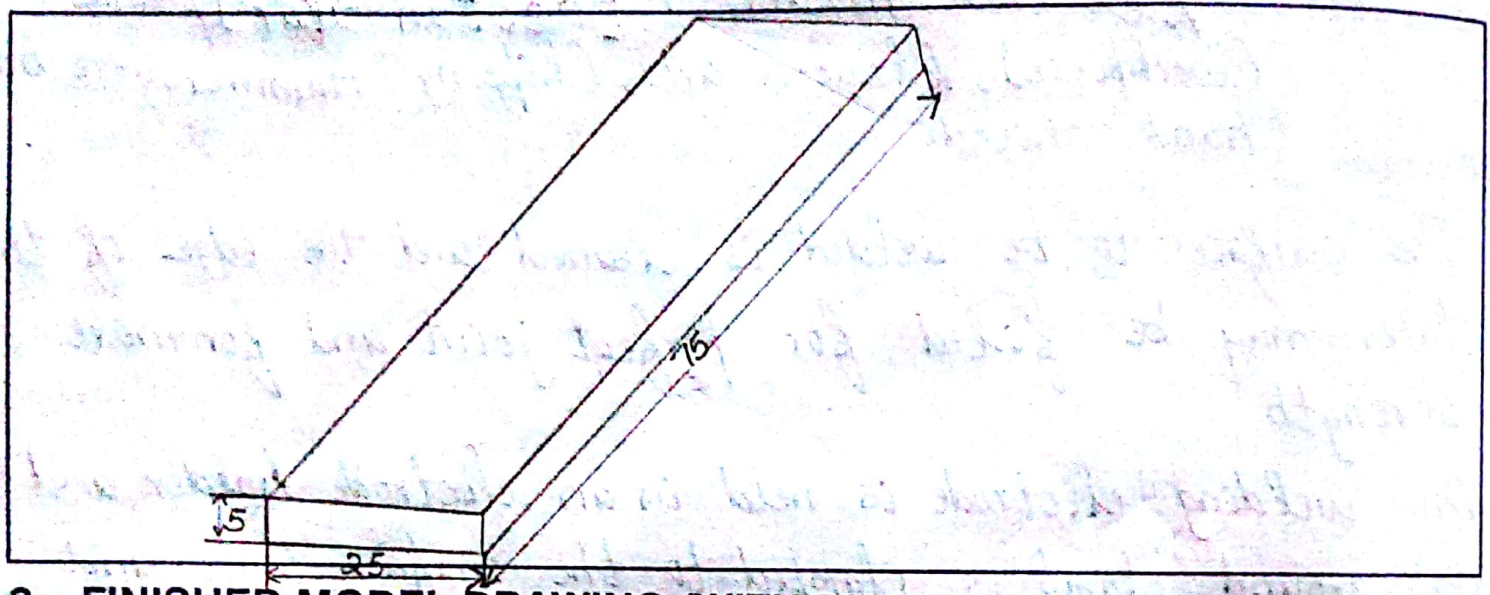
DETAILS OF MODEL

DATE : 30 Oct 2018

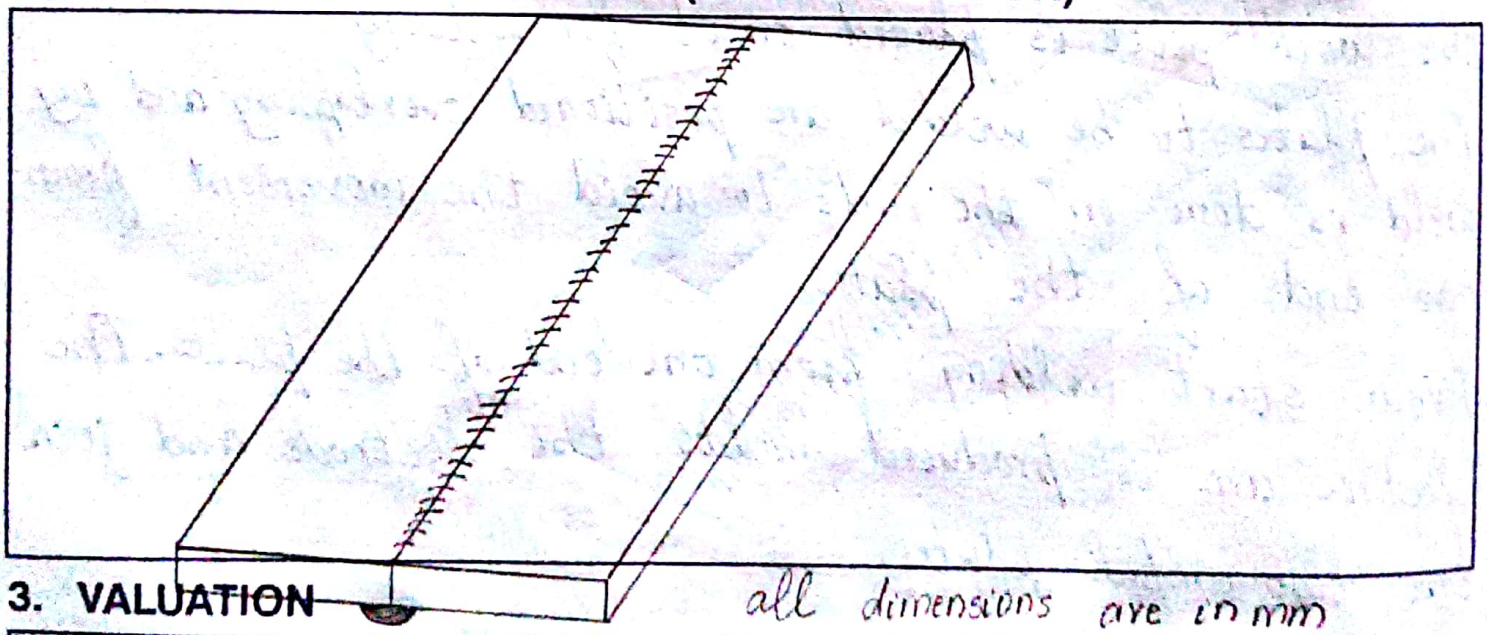
Model No. 2 Model Name Butt Joint Material Used Metal Pieces

DRAWING

1. RAW MATERIAL DRAWING (WITH DIMENSION)



2. FINISHED MODEL DRAWING (WITH DIMENSION)



3. VALUATION

all dimensions are in mm

Sl. No.	Specified Dimesion	Actual Dim'n on the model Measured	Deviation + or -	Remarks

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DETAILS OF MODEL

DATE : 30 Oct 2018

Model No. : 2 Model Name : Butt Joint

Aim : To join two metal plates to obtain a Butt joint by arc welding process

Tools Used : Welding transformer, welding electrodes, safety gloves, hand shield, chipping hammer, wire brush etc.

Procedure

The surface to be welded is cleaned and the edges of the plates are grinded in such a way that it forms a V and an inverted V shape when the plates but each other.

The welding electrode is held in an electrode holder and the ground clamp is clamped to the surface plate and the work piece is placed on it for welding

The plates to be welded are positioned overlapping and tag weld is done on the ends to avoid the movement from one end of the plates

Now start welding from one end of the plates

The electric arc is produced melts the electrode and joins the two metal plates

Maintaining a gap of 3mm between the plates and the electrode for proper arc length

Complete the welding process by removing slag using wire brush and chipping hammer.

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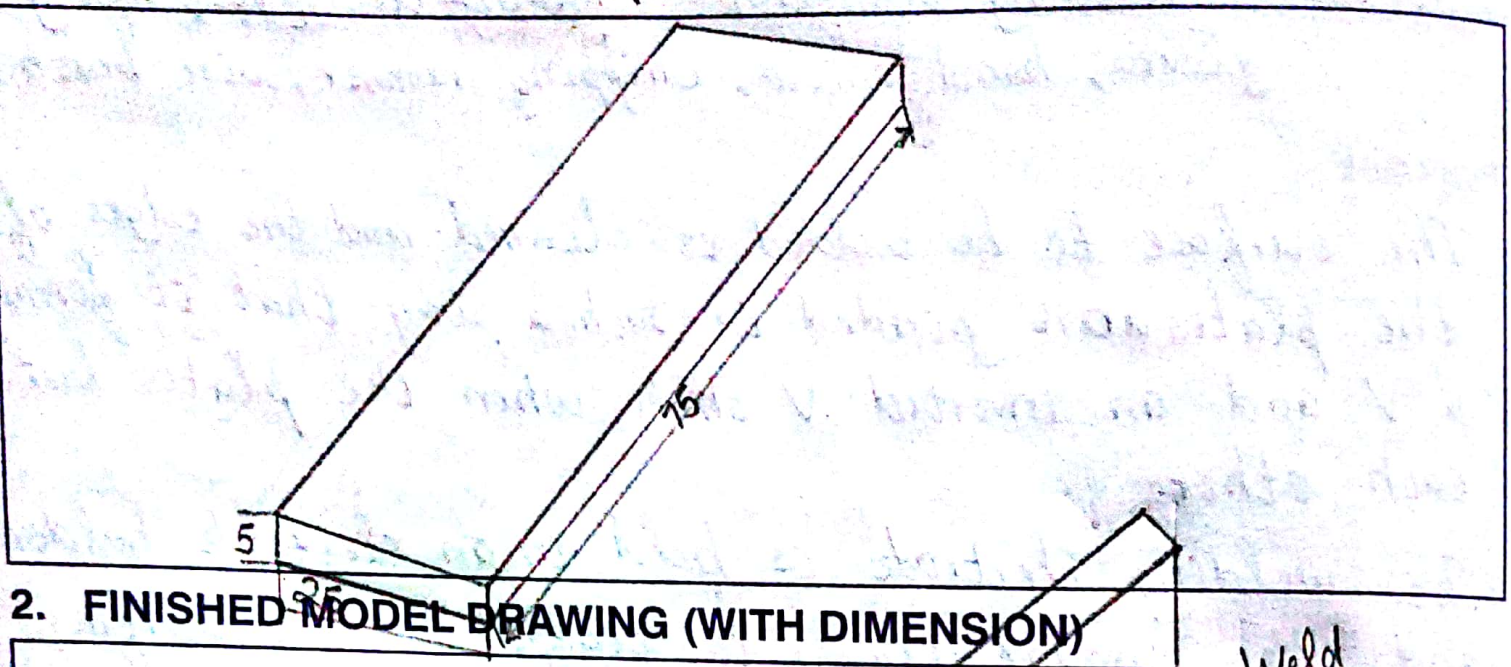
DETAILS OF MODEL

DATE :

Model No. 3 Model Name 'T' Joint Material Used Metal Pieces

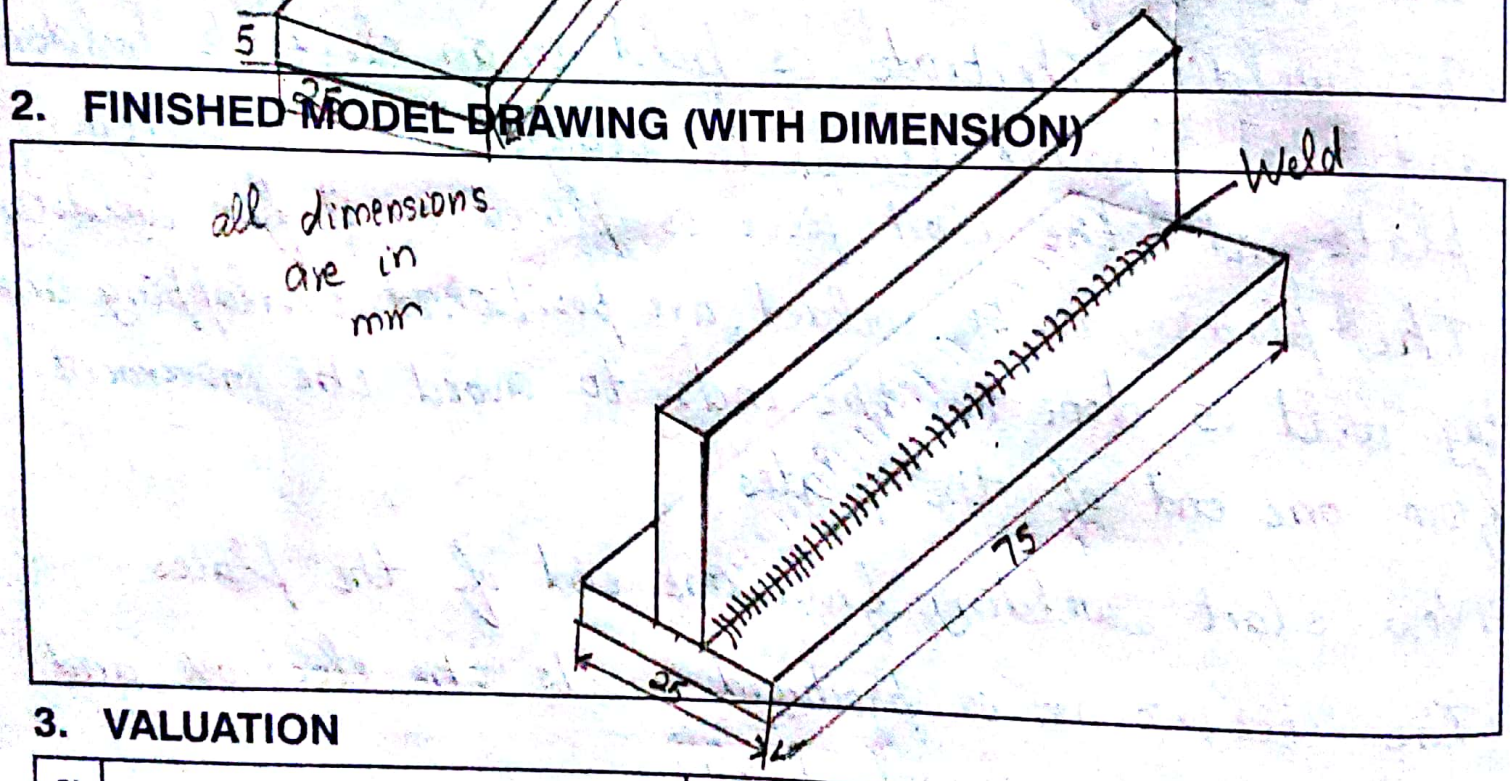
DRAWING

1. RAW MATERIAL DRAWING (WITH DIMENSION)



2. FINISHED MODEL DRAWING (WITH DIMENSION)

all dimensions are in mm



3. VALUATION

Sl. No.	Specified Dimesion	Actual Dim'n on the model Measured	Deviation + or -	Remarks

DETAILS OF MODEL **DATE :**

Model No. : 3 **Model Name :** 'T' Joint

Aim : To join two given metal plates to obtain a 'T' joint by arc welding process

Tools Used : Welding transformer, welding electrodes, safety gloves, hand shield, chipping hammer, wire brush etc.,

Procedure

1. The surface to be welded is cleaned and the edges of the plates may be field for perfect joint and more strength.
2. The welding electrode is held in an electrode holder and the ground clamp is clamped to the surface plate and the work piece is placed on it for welding
3. The plates to be welded are positioned overlapping and tag weld is done on the ends to avoid the movement from one end of the plates.
4. Now start welding from one end of the plates
5. The electric arc is produced melts the electrode and joins the two metal plates
6. Maintaining a gap of 3mm between the plates and the electrode for proper arc length.
7. Complete the welding process by removing slag using wire brush and chipping hammer

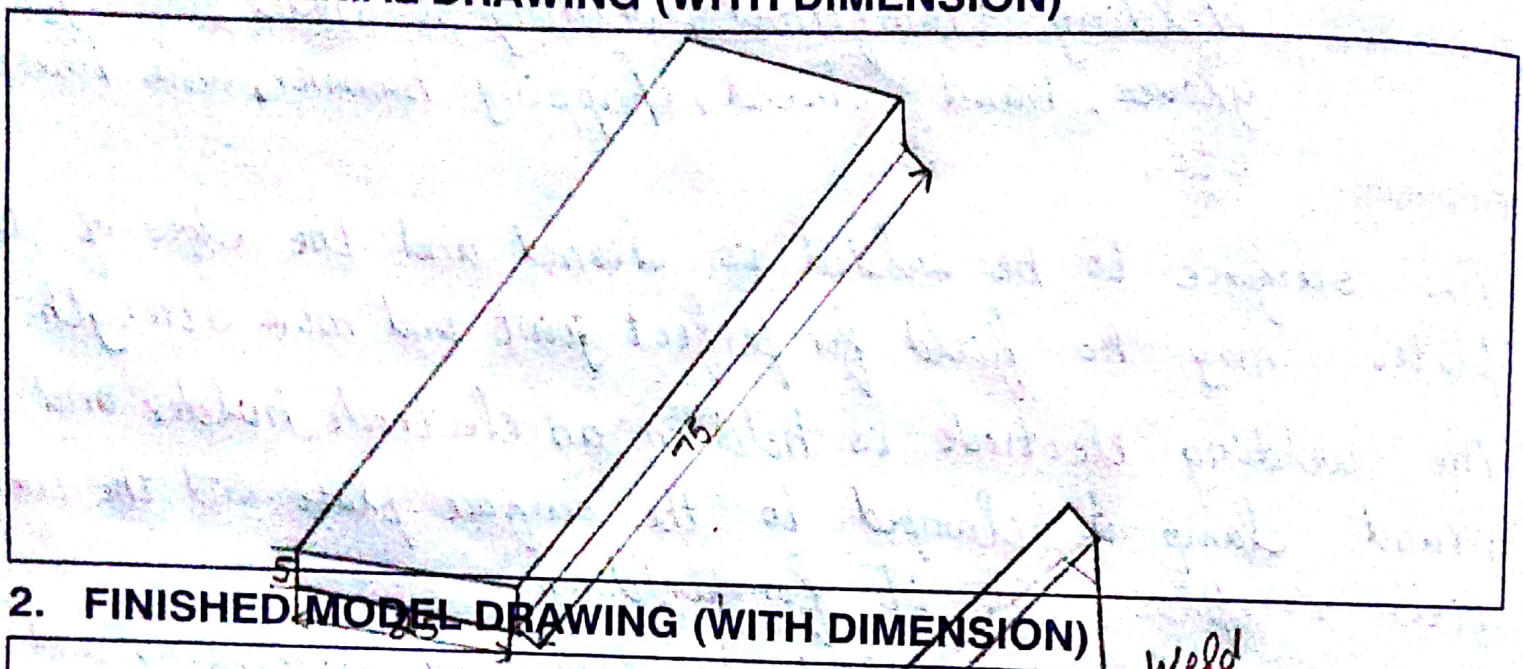
DETAILS OF MODEL

DATE :

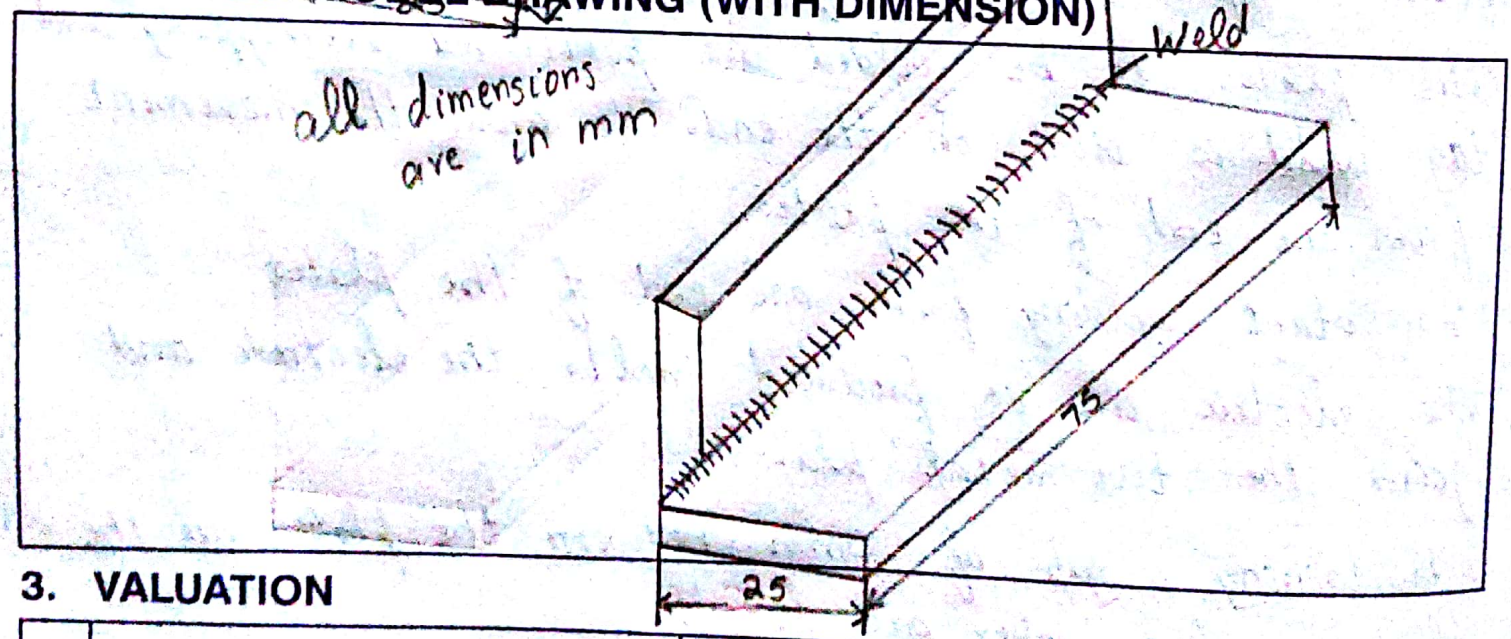
Model No. 4 **Model Name** 'L' Joint **Material Used** Metal Pieces

DRAWING

1. RAW MATERIAL DRAWING (WITH DIMENSION)



2. FINISHED MODEL DRAWING (WITH DIMENSION)



3. VALUATION

Sl. No.	Specified Dimesion	Actual Dim'n on the model Measured	Deviation + or -	Remarks

DETAILS OF MODEL **DATE :**

Model No. : 4 **Model Name :** 'L' Joint

Aim : To join two given metal plates to obtain a 'L' joint by arc welding process

Tools Used : Welding transformer, welding electrodes, safety gloves, hand shield, chipping hammer, wire brush etc..

Procedure

The surface to be welded is cleaned and the edges of the plates may be field for perfect joint and for more strength

The welding electrode is held in an electrode holder and the ground clamp is clamped to the surface plate and the work piece is placed on it for welding

The plates to be welded are positioned overlapping and tag weld is done on the ends to avoid the movement from one end of the plates

Now start welding from one end of the plates

The electric arc is produced melts the electrode and joins the two metal plates

Maintaining a gap of 3mm between the plates and the electrode for proper arc length

Complete the welding process by removing slag using the wire brush and chipping hammer.