

# CARPENTRY SHOP

## DOVETAIL HALVING JOINT

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Ex No. 7

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Aim

To produce a dovetail halving joint from the given work piece

Application

Cross boxes in a cot, shelves, table drawer.

Material specifications

Ven katk wood of size  $302 \times 45 \times 30$  mm

Tool Required

- |             |                  |                   |                  |
|-------------|------------------|-------------------|------------------|
| 1) Pencil   | 2) Steel rule    | 3) Try Square     | 4) Marking gauge |
| 5) Hand saw | 6) Firmer chisel | 7) Mortise chisel | 8) Wooden mallet |
| 9) Rasp     |                  |                   |                  |

Sequence of operation

- 1) Preparing    2) Marking    3) Cutting/Sawing/Chiselling    4) Finishing

Working steps

1) Preparing

Prepare the work piece as per specification in length of 302mm, width 45mm, and thickness 30mm.

2) Marking

- 1) Using a try square and pencil, first mark face side from left side of the work piece with distance of 53mm then 45mm and 53mm.
- 2) Next draw 8mm line, it's given for cutting clearance
- 3) Then from right side 45mm and 105mm to be marked.
- 4) Using a try square and pencil, draw perpendicular line for all four sides of the given work piece
- 5) Using marking gauge draw the center line 15mm face edge for both side
- 6) Next step to mark 45mm down side for draw the diagonal line of width 5mm
- 7) Do the same procedure for another side (left side)
- 8) The intersecting portion to be marked on the 45mm face side and 15mm face edge, one side top another side bottom



### 3) Cutting/Sawing/Chiseling

- 1) Using carpentry bench vice to hold the piece horizontally and tightly in a such that the portion to be cut is just above the jaw and then to make groove cut.
- 2) Use firmer chisel left side above the diagonal lines
- 3) Then take the work piece and place them on the left side of bench vice then use the hand saw to 15mm depth on both diagonal lines
- 4) Now using a firmer chisel take series of cuts to remove the wood up to the bottom line, as shown in figure
- 5) Next to hold the piece vertically and tightly in the vice such that the portion to be cut just above the jaw and use a hand saw to cut the line markings. Removing the required depth slightly on the line as shown in figure
- 6) Use the firmer chisel cut on the diagonal lines as shown in figure

### 4) Finishing

- 1) Take a series of small cut delicately on both the pieces to remove the excess wood
- 2) Make it smooth with rasp
- 3) Obtain a fine finish of the top and bottom side
- 4) Then to cut wooden piece middle of 2mm
- 5) Assemble joint and then clean the waste particles

### PRE-LAB Questions

Q1. What is meant by timber?

It is a type of wood prepared for carpentry.

Q2. What are the various types of chisels used in carpentry shop?

- 1) Firmer chisel
- 2) Beveled edge chisel
- 3) Bull chisel
- 4) Mortise chisel
- 5) Paring chisel
- 6) Skew chisel

Q3. What is the use of try square?

It is used to mark perpendicular lines.

Q4. Differentiate between soft and hard wood.

Hardwood	Softwood
• It originates from deciduous trees	• It originates from Evergreen trees
• It is generally dark coloured	• It is generally light coloured.
• It usually heavy	• It usually light.

Q5. Classify Planing tools

- 1) Trying Plane
- 2) Smoothing or Block Plane



## Post LAB QUESTION

Q1) How many teeth does a tenon saw have?  
13 teeth per inch

Q2) What is the difference between hacksaw and tenon saw?

Tenon saw have a rigid blade to eliminate blade distortion on precision timber.

Hacksaw has disposable metal cutting blade held in tension within a bow frame

Q3) List out the hammer used in carpentry?

1) Claw hammer 2) Warrington hammer 3) mallet

Q4) mention the application of dovetail joint?

Cross boxes in a cabinet, shelves, table drawer

Q5) What is seasoning of timber?

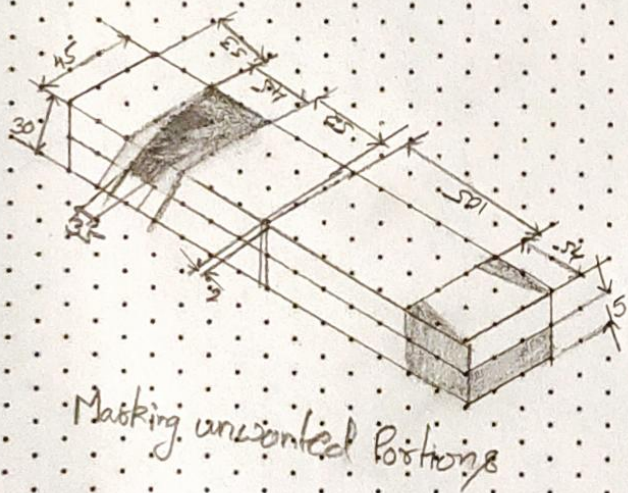
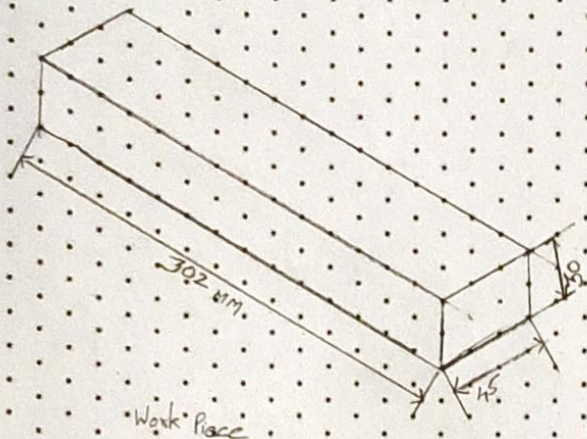
It is the process by which moisture content in the timber is reduced to required level.

## RESULT

The Dovetail halving joint was produced from the given work piece and assembled joint was submitted for evaluation.

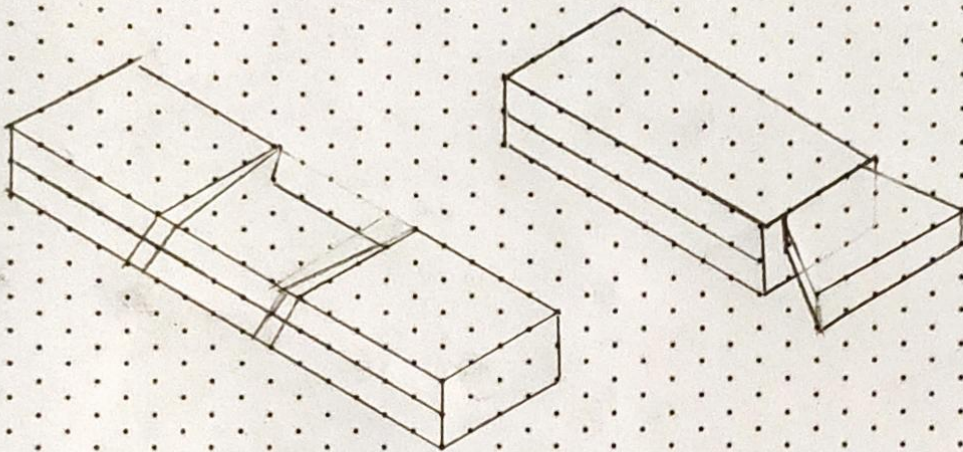


## 0.5 cm Isometric Dot Paper

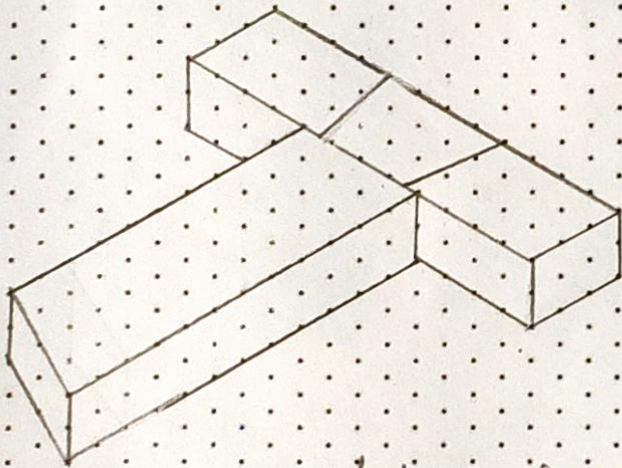




## 0.5 cm Isometric Dot Paper



*finishing The Workpiece*



*Assembled workpiece*