DOVE TAIL HALVING JOINT

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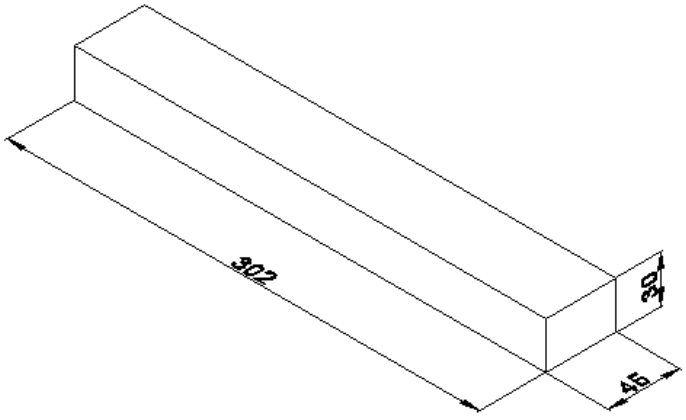
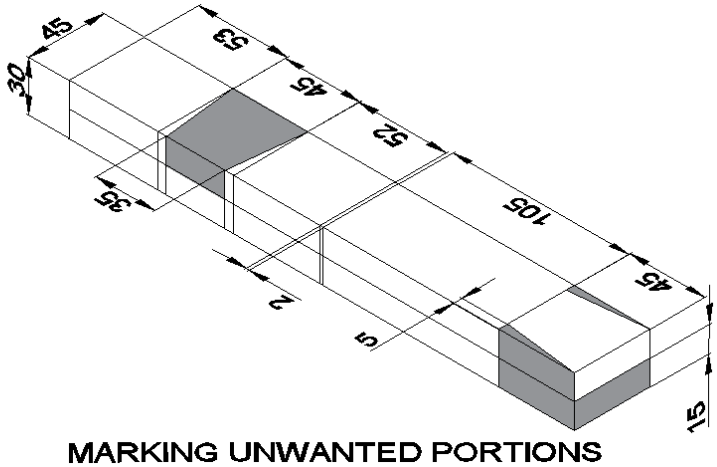
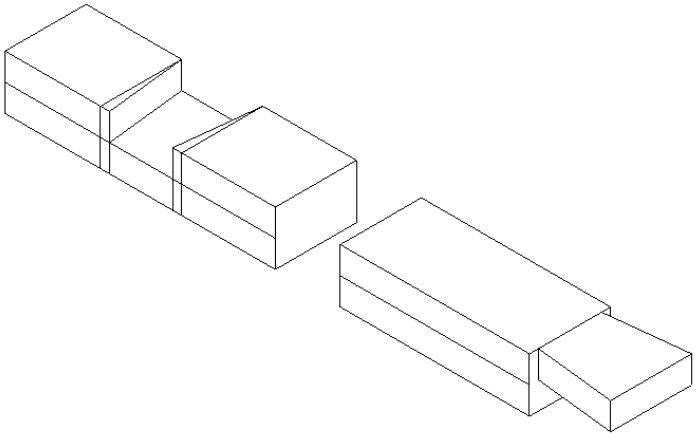


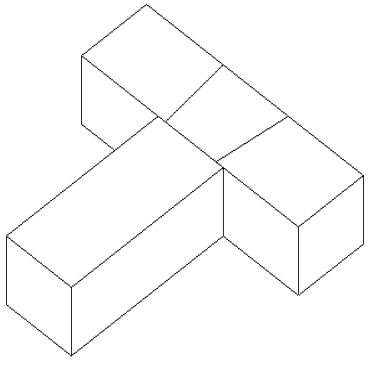
WORK PIECE



MARKING UNWANTED PORTIONS



FINISHING THE WORKPIECES



ASSEMBLED WORK PIECE

ALL DIMENTIONS ARE IN mm

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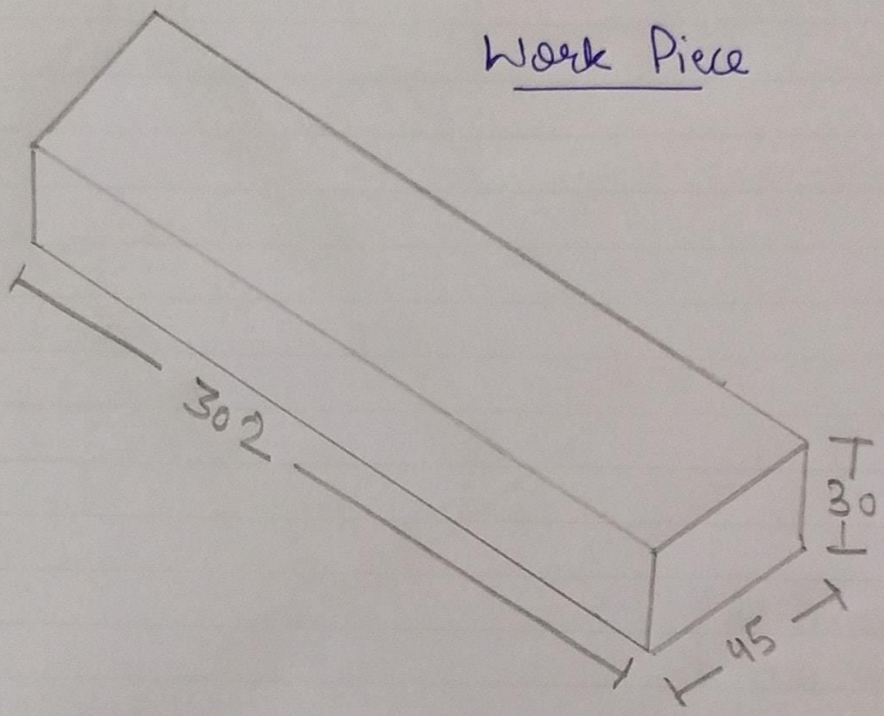
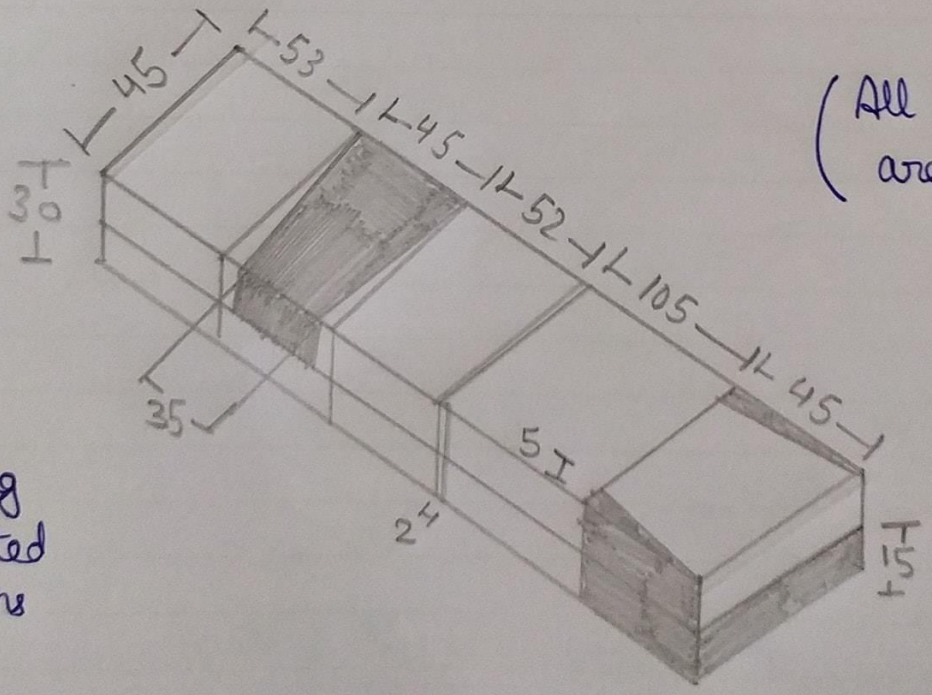
Dove Tail Halving Joint

Work Piece





(All Dimensions are in mm)

Marking Unwanted Portions

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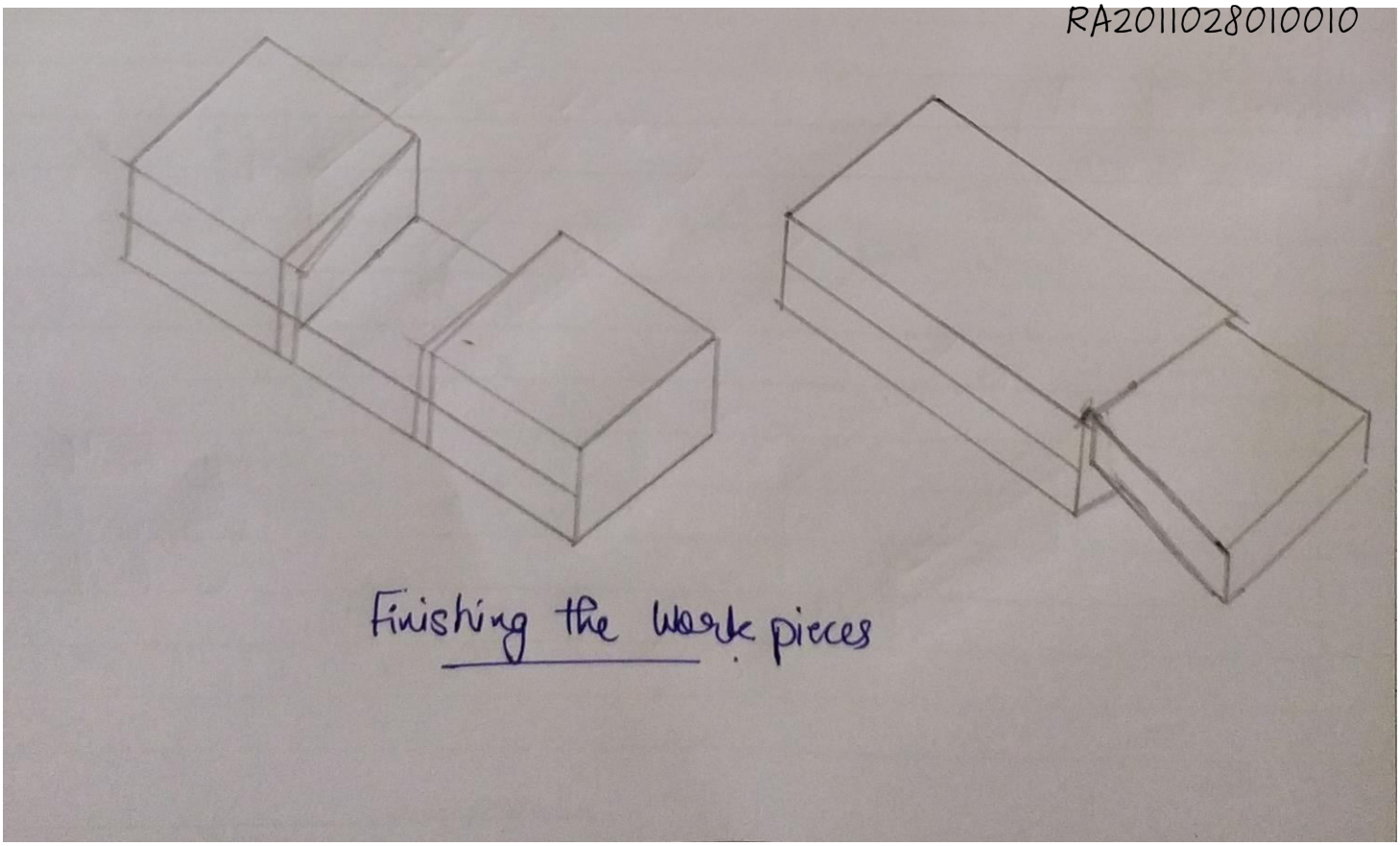
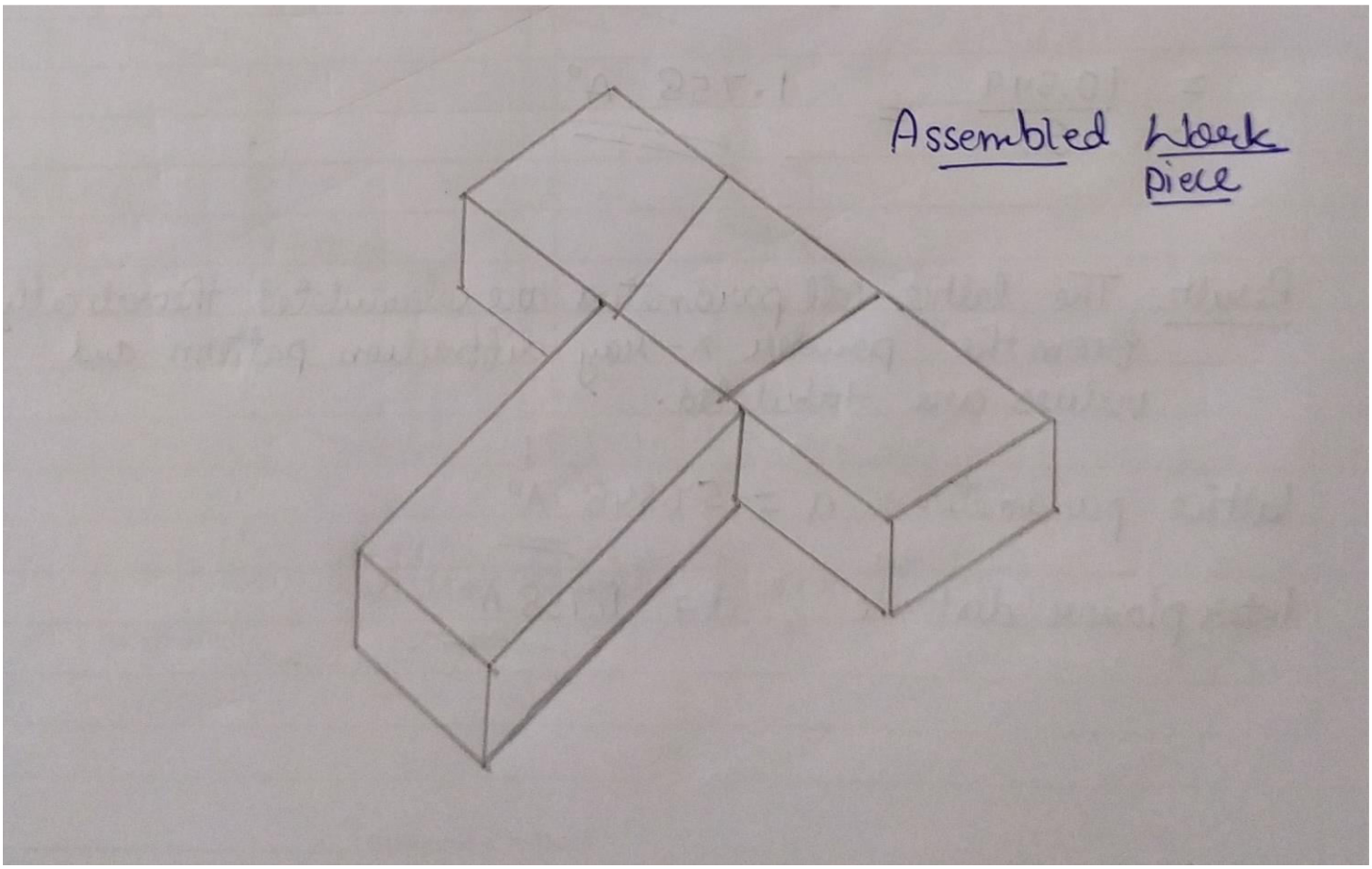


Finishing the work pieces



Assembled work piece

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DOVETAIL HALVING JOINT

Ex no : 7
Date : 4 JUNE 2021

Aim:

To produce a Dovetail Halving joint from the given work piece.

Application:

Cross bars in a cot, shelves, table drawer.

Material Specifications:

Ven teak wood of size 302 X 45 X 30 mm

Tools 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 / Chiseling 4) Finishing

Working Steps:

1) Preparing:

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

2) Marking:

a) Using a try square and pencil, first mark face side from left side of the work piece with distance of 53mm then 45mm and 52mm.
b) Next draw 2mm line, it's given for cutting clearance.
c) Then from right side 45mm and 105mm to be marked.
d) Using a try square and pencil, draw perpendicular line for all four sides of the given work piece.
e) Using marking gauge draw the center line 15 mm face edge for both side.
f) Next step to mark 45mm down side for draw the diagonal line of width 5mm.
g) Do the same procedure for another side (left side).
h) 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:

a) Using Carpentry bench vice to hold the piece horizontally and tightly in a vice such that the portion to be cut is just above the jaw and then to make groove cut
b) Use firmer chisel left side above the diagonal lines.
c) Then take the work piece and place them on the left side of bench vice then use the hand saw up to 15 mm depth on both diagonal lines.
d) Now using a firmer chisel take series of cuts to remove the wood up to the bottom line, as shown in figure.
e) 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. Remove the required depth slightly on the line as shown in figure.
f) Use the firmer chisel cut on the Diagonal lines as shown in figure.

4) Finishing:

a) Take a series of small cut delicately on both the pieces to remove the excess wood.
b) Make it smooth with rasp.
c) Obtain a fine finish of the top and bottom side.
d) Then to cut wooden piece middle of 2mm.
e) Assemble joint and clean the waste particles

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Pre Lab Question:

1. What is mean by Timber ?

Ans: Timber is a type of wood which can be processed into beams and planks. Any wood capable of yielding a minimum dimensional size can be termed as a timber or lumber. It is a stage in the process of wood production. Timbers are used for the structural purpose. Those woods which are adapted for building purposes are timbers. Finished timber is supplied in standard sizes for the industry. Timber is used for building houses and making furniture.

2. How do you use Steel rule ?

Ans: Steel rules come in rigid and flexible versions. While their primary purpose is accurate measurement, they can also be used as guides for laying out lines, and if rigid enough, for cutting. The thinner, more flexible rules can also be used to measure rounded or cambered work.

3. Why are Try Square used ?

Ans: A try square or try-square is a woodworking tool used for marking and checking 90° angles on pieces of wood. The square in the name refers to the 90° angle. To try a piece of wood is to check if the edges and faces are straight, flat, and square to one another. A try square is so called because it is used to try how square the workpiece is.

4. What is the use of Marking gauge ?

Ans: A marking gauge is used in woodworking to mark out lines for cutting or other purposes. The main purpose is to scribe a line parallel to a reference edge.

5. Classify the Planning tools ?

Ans:

- Bench Plan : Jack Plane , Smoothing Plane, Block plane, Jointing Plane
- Curve Circular Plane : Spoke shape, Scraper, Compass, Draw knife
- Special Purpose plane : Rebate Plane , Bullnose plane , Molding plane, Bead Plane, Universal plane

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Post Lab Question:

1. How many teeth does a Tenon saw have ?

Ans: They usually have somewhere between 10-14 teeth per inch.

2. What is the difference between Hacksaw and Tenon Saw ?

Ans: Hacksaw has disposable metal cutting blade held in tension within a bow frame. Tenon saws have a rigid blade to eliminate blade distortion on precision timber joinery. The tenon saw or 'back saw' has a blade which is stiffened with a solid brass or steel casing around the top edge. The blade is thinner than the saws discussed so far and needs this additional support to prevent it from buckling. They usually have somewhere between 10-14 teeth per inch.

3. List out the Hammer used in Carpentry ?

Ans:

- Claw hammer
- Ball pein hammer
- Wooden mallet
- Wall Hammer
- Raising hammer

4. Mention the dovetail joint applications ?

Ans: Cross bars in a cot, shelves, table drawer, and other wooden furniture.

5. Why is it called a dovetail joint?

Ans: Dovetail joints are made up of two parts called pins and tails. When a master craftsman wants to marry two boards together, they cut a series of pins on one board and matching tails on the other. They are trapezoidal in shape, resembling the tail feathers of a dove. Hence they are called Dovetail Joint.

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