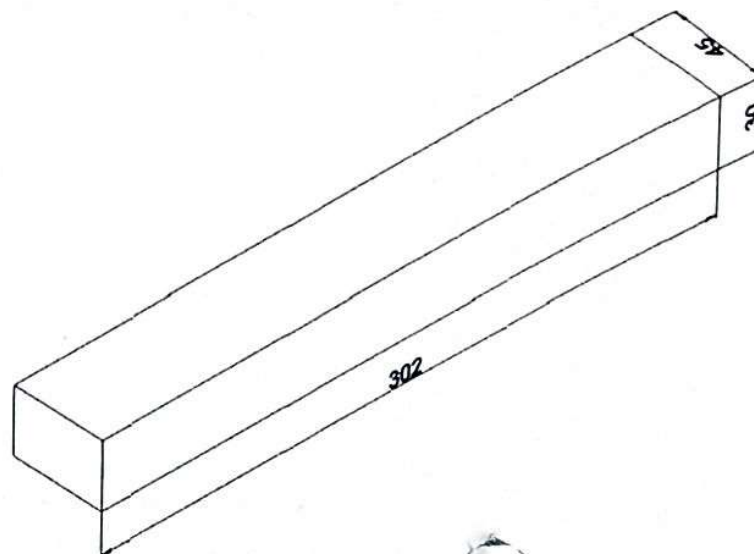
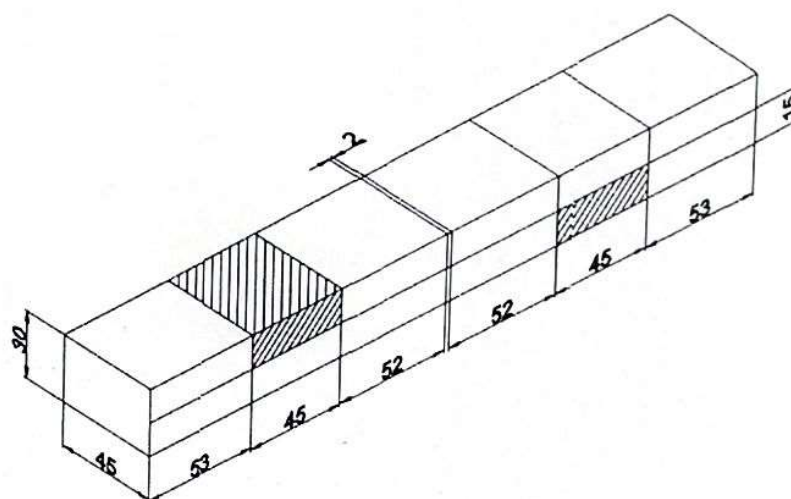


## CROSS HALVING JOINT



WORKPIECE





Ex. No. : 2

Date : 04.09.2024

## CROSS HALVING JOINT

### Aim

To make cross halving joint on the given country wood.

### Material Specifications

Country 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. Wooden Mallet
8. Rasp file

### Sequence of operation

- 1) Dimension checking
- 2) Marking
- 3) Cutting (Sawing, Chiseling)
- 4) Finishing

### Working Steps

#### 1) Dimension Checking

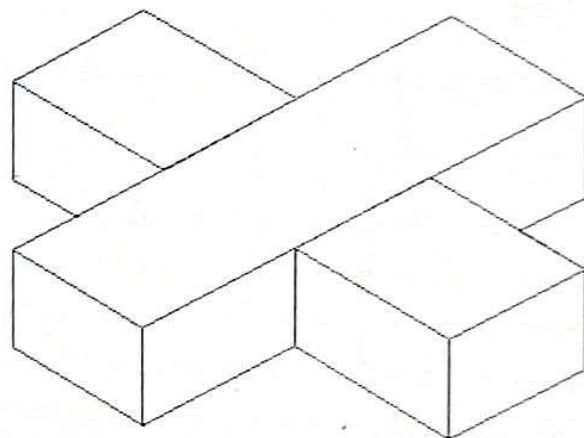
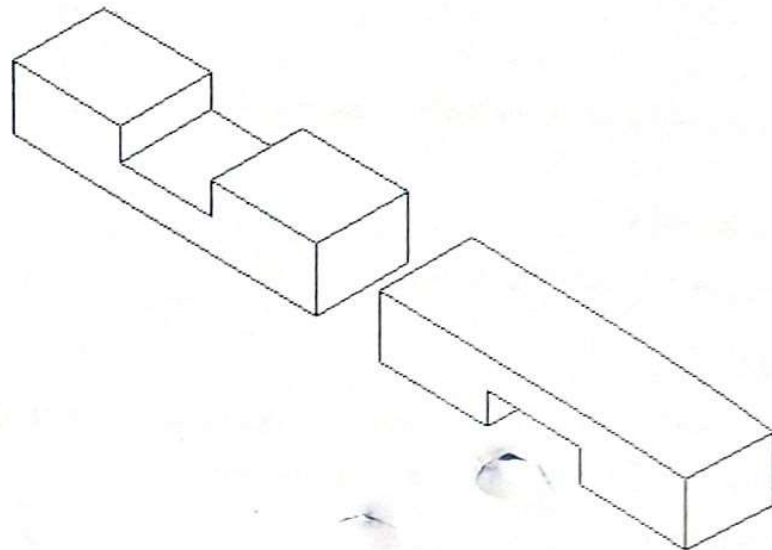
Check the dimension of the given country wood using steel rule.

#### 2) Marking

- a) Mark points using pencil at a distance of 53 mm, 45 mm, 52 mm on the top face of the country wood from right edge. Using try square, draw lines along the marked points on all four faces of the country wood.
- b) Repeat the same step on the top, from left edge of the country wood.
- c) Using marking gauge draw the center line 15 mm on the side face on both sides.
- d) Mark the unwanted portion using pencil.

#### 3) Cutting -Sawing / Chiseling

- a) Fix the country wood in the carpentry bench wise such that the unwanted portion is present outside the jaw.
- b) Use handsaw to cut up to a depth of 15 mm in the unwanted portion face.



**ASSEMBLED WORKPIECE**



- c) Repeat the same step in the other side of the country wood.
- d) Fix the country wood in the bench wise such that the unwanted portion is in the center
- e) Chip layer by layer in the unwanted portion using firmer chisel.
- f) Repeat the same step in the other side.
- g) Now cut the country wood in to two pieces at the center using handsaw.

#### 4) Finishing

- a) Use rasp tool to make the surface smooth

#### Pre Lab-Questions

1. Define carpentry?

Ans - It is a skilled trade and craft that involves you to work with wood by cutting, trimming and sealing wood to create structures and monuments. It is also the art of making daily life usable home equipment like tables and other furnitures. It is also the activity which helps in making the frames of building and other home decor.

2. What are the different joints used in wood working?

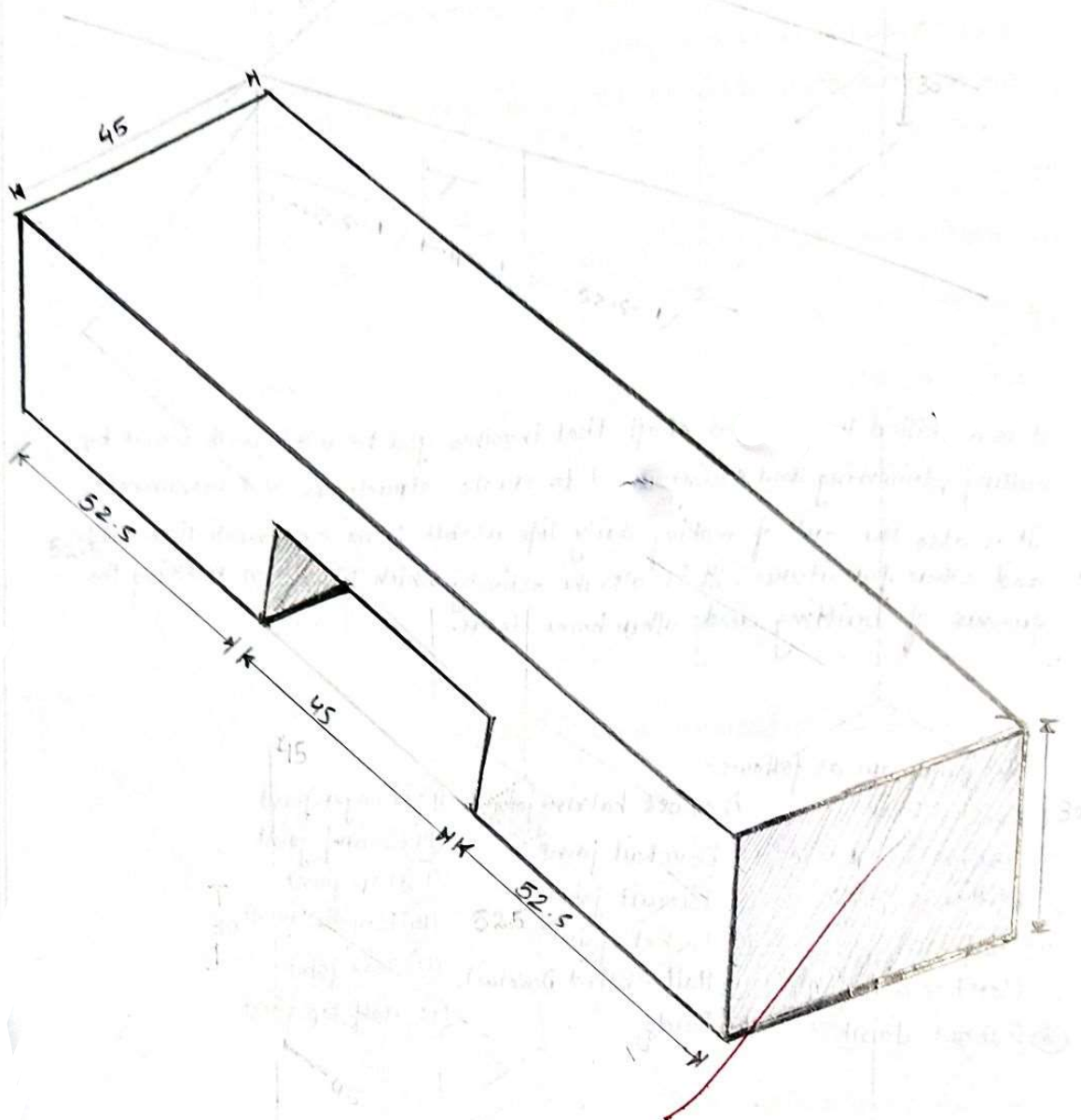
Ans - The joints are as follows -

- |                   |                         |                  |
|-------------------|-------------------------|------------------|
| ① Basic Butt      | ⑦ cross halving joint   | ⑬ Finger joint   |
| ② Tongue & Groove | ⑧ Dovetail joint        | ⑭ Scarf joint    |
| ③ Mitered Butt    | ⑨ Biscuit joint         | ⑮ Lap joint      |
| ④ Half lap        | ⑩ Pocket joint          | ⑯ Bridle joint   |
| ⑤ Mortise & Tenon | ⑪ Half - Blind Dovetail | ⑰ Box joint      |
| ⑥ Rabbet Joint    | ⑫ Dado                  | ⑱ Half lap joint |

3. List few examples of hard wood?

Ans - few examples of hard wood are as follows -

- |            |         |
|------------|---------|
| ① Oak      | ⑦ Elm   |
| ② Maple    | ⑧ Beech |
| ③ Walnut   |         |
| ④ Birch    |         |
| ⑤ Mahogany |         |
| ⑥ Teak     |         |







4. List few examples of soft wood?

Ans - Examples of soft wood are as follows -

- |               |                     |               |
|---------------|---------------------|---------------|
| ① Pine        | ⑦ Western red cedar | ⑬ Juniper     |
| ② Cedar       | ⑧ Larch             | ⑭ Panama pine |
| ③ Douglas fir | ⑨ Western hemlock   |               |
| ④ Fir         | ⑩ Hemlock           |               |
| ⑤ Spruce      | ⑪ English Yew       |               |
| ⑥ Balsa       | ⑫ Sitka spruce      |               |

5. Write the applications of carpentry?

Ans - Applications of carpentry are as follows -

- ① building work
- ② furniture
- ③ interior decoration
- ④ toy manufacturing.

## Post lab Questions

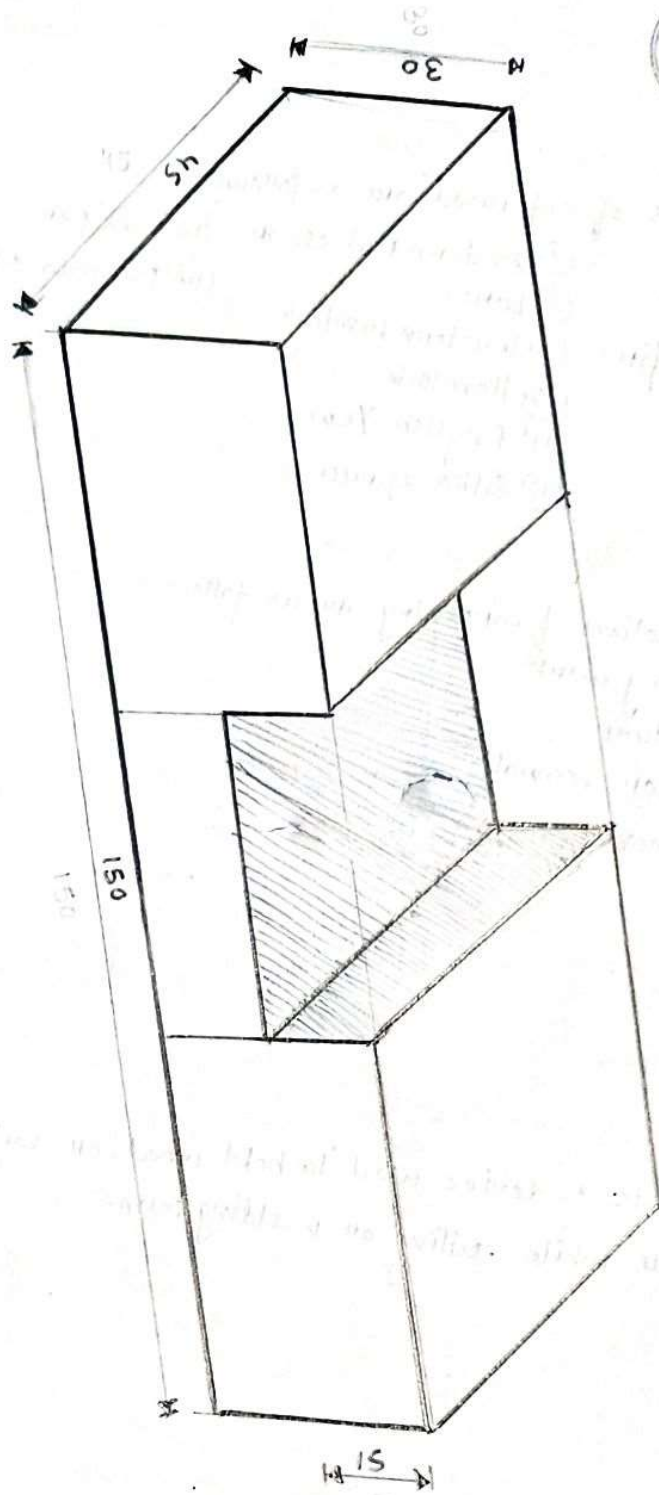
1. What is the use of C-Clamp?

Ans - It is a device used to hold wood or metal workpiece on the table while cutting or welding them.

2. Write the different types of chisels used in Carpentry.

Ans - Types of chisels used in carpentry are as follows -

- ① Mortise chisel
- ② Bench chisel
- ③ Flat chisel
- ④ Firmer chisel
- ⑤ Bevel-edge chisel





3. When dovetail joint is preferred over cross halving joint?

Ans - In instances when there is a need of great strength dovetail joints are preferred as due to their dovetail shape it is difficult to pull apart.

4. Differentiate try square and mitre square?

Ans - The try square has its stock and blade set at a right angle to each other whereas mitre square has its blade set on the stock at 45° angle.

5. What is the use of claw hammer?

Ans - It is used for driving nails into or pulling them out from the wood. It is a hammer with partial head split into flat and hooked surface.

## Result

The Cross-halving joint is made on the given country wood.