STUDY of CARPENTRY SHOP

Safety Precautions

Hammer Safety

- Use correct size Hammer
- Never use a Hammer with a loose head
- Never use two Hammers together
- Never use the side of the hammer
- Never strike cold chisels or hard objects with a nail

Screwdriver Safety

- Use correct size Screwdriver
- Never use a screw driver with rounded edges or tips
- Worn tip damages screw and finger
- Never hold the work in one hand
- Never use a screw driver for prying, punching, chiselling or scraping
- Always drill a pilot hole while driving screws
- Use an insulated screwdriver for electric work
- Never use screw driver for stirring paints

Chisel Safety

- Keep sharp at all times, Blunt tools cause damage
- Keep all parts of body behind cutting edges
- Never try and cut too much material

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CARPENTRY SHOP
CROSS HALVING JOINT

EXP No.: 3
DATE: 6/10/2021

AIM:
To produce a Cross halving joint from the given work piece.

Application:
Cross bars in a cot, shelves, frames for cheap flush panel doors

Material Specifications:
Ventek wood of size 302×45×30mm

Tools Required
1) Pencil 2) steel rule 3) Try square 4) Marking gauge
5) Hand saw 6) Firmer chisel 7) Mortise 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 described in a length 302mm, width 45mm, Thickness 30mm

2) Marking
1) Using a try square and pencil, first mark from right side of the work piece with distance of 52mm, 45mm and 52mm
2) Again draw 8mm line given for cutting clearence
3) Mark again from left side of the work piece same distance for right side
4) Using a try square and pencil, draw perpendicular line all four side of the given work piece
5) using marking gauge draw the center line 15mm face edge for both side
6) 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) carpentry bench vice hold the piece horizontally and tightly in a vice such that the portion to be cut is just above the jaw. Use firmer chisel to make a groove on first and second marking right side 52mm 45mm, 52mm
2) The take the work piece and place them on the right side of bench vice the use the Hand saw up to 15mm depth on both lines
3) As per same procedure for another side do it
4) Before chiselling hold the piece horizontally and tightly in a vice such that the portion to be is just above the jaw
5) Now using a firmer chisel take series of cuts to remove the wood up to the bottom line 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 top and bottom side
4) Then to be cut wooden piece middle of 2mm
5) Assemble joint and clean off waste

PRE LAB QUESTIONS

1) Define Carpentry?
It is the trade or work of a person of woodwork basically to construct buildings, ships etc.
2) what are the types of wood used in carpentary?
1) soft wood
2) hard wood
3) How do you classify hand tools?
1) Marking and measuring tools
2) holding tools
3) cutting and shaping tools
4) Smoothing and finishing tools
5) fastening and removing tools.

4) What is holding tools in carpentry?
Bench vice, clamps

5) Why are hacksaw blade made with different size teeth?
Different-sized teeth provide varying levels of cutting power

Post LAB Questions

1) How can flatness be tested?
A flatness gauge

2) What tools are needed for framing?
1) Mallet 2) chisel 3) Pencil 4) Screw driver 5) Pliers
4) Sand paper 5) Rasp 6) Saw

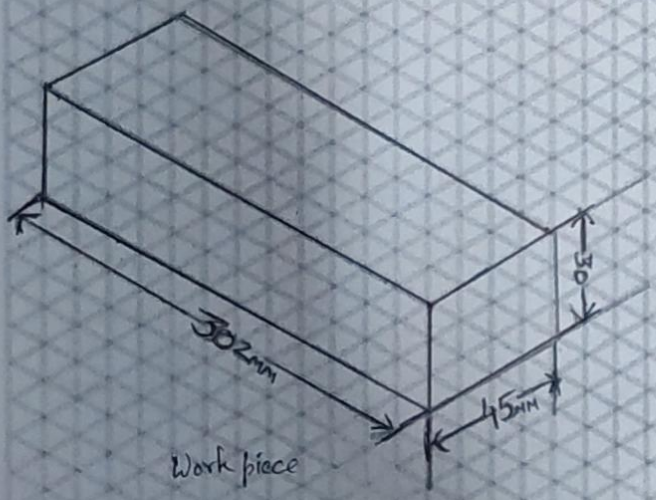
3) Why used mallet?
Mallet is used so as not to damage wood while striking

4) How do you cut a cross halving joint
We can cut a cross halving joint by following steps
1) Preparing 2) marking 3) cutting/sawing/chiseling
4) finishing

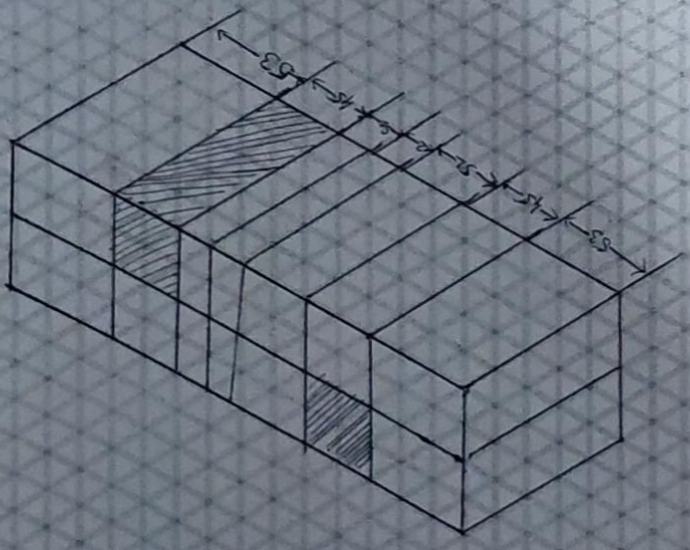
5) What is the cutting angle of chisel?
The cutting angle of chisel is between 25° to 30°

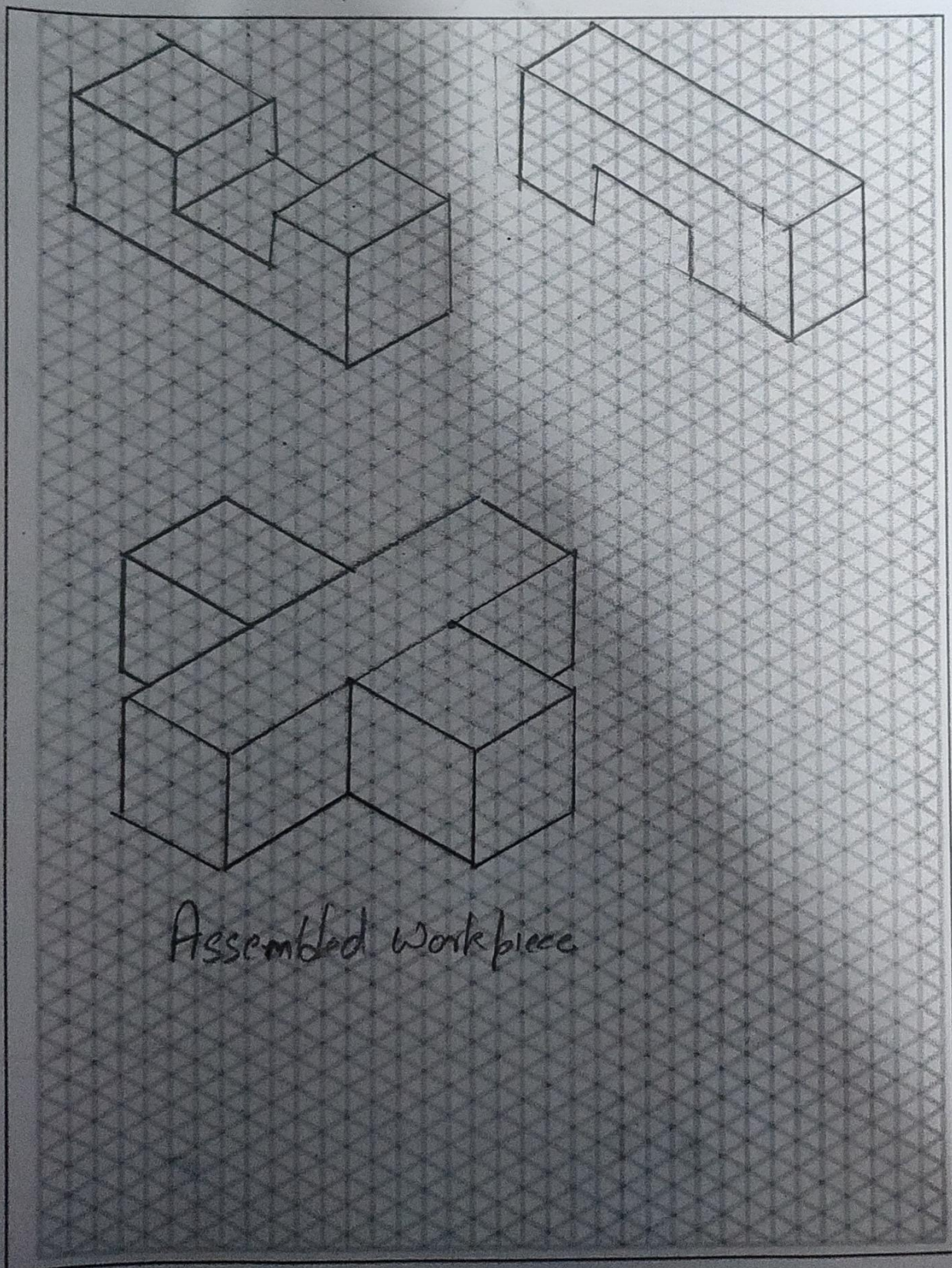
Result

The cross halving joint produced from the given work piece, is and assembled joint was submitted for evaluation



Work piece




Assembled Workpiece