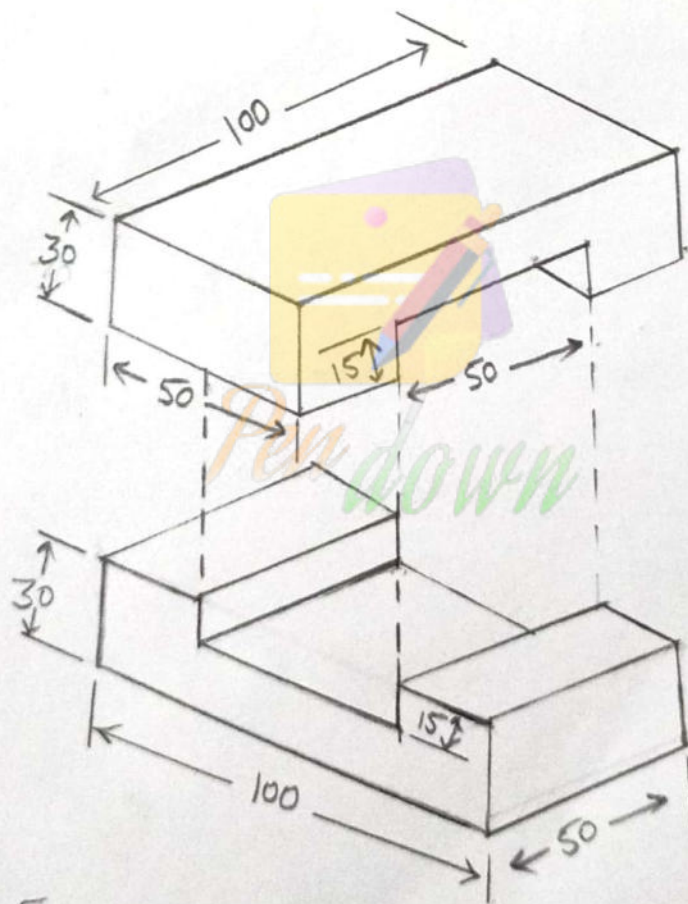


MECHANICAL WORKSHOP

ASSIGNMENT-1

Objective :- To make cross-lap joint as shown in figure.



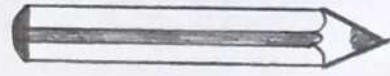
[All dimensions in 'mm']

Initial Material is soft wood of $300 \times 50 \times 50$ mm.

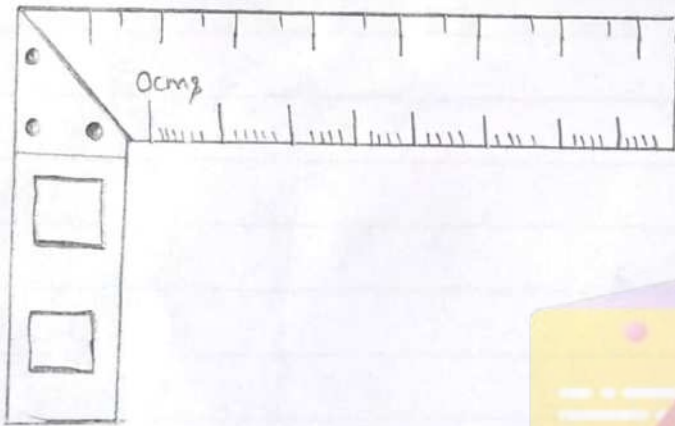
Tools Used



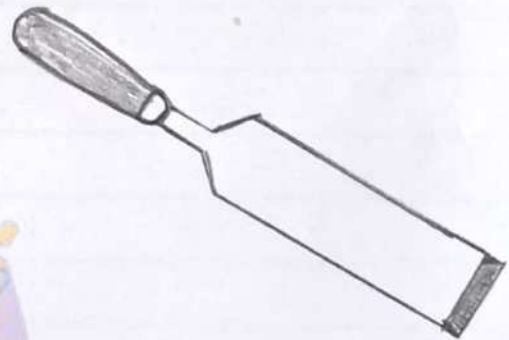
① Ruler



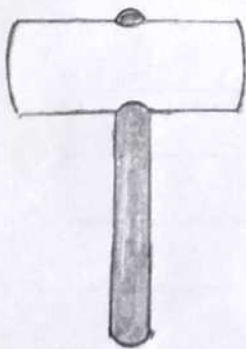
② Pencil



③ Try Square



④ Firmer chisel

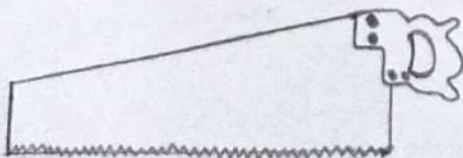


⑤ Mallet



⑥ wood Rasp file

⑦



⑦ Saw

Apparatus Required :-

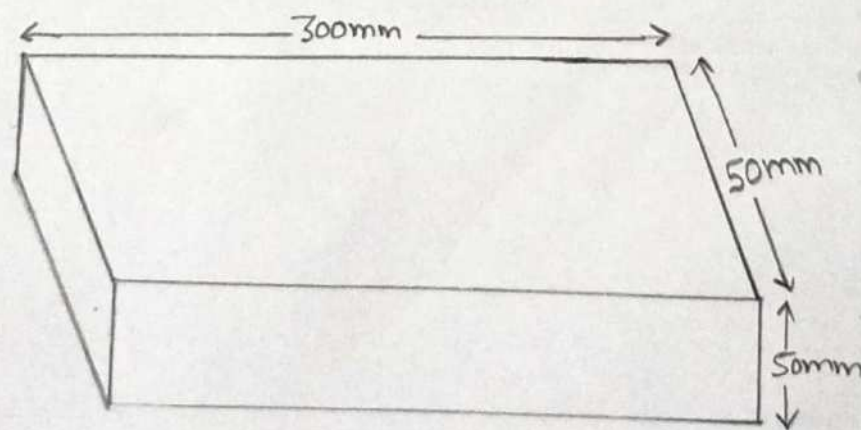
Saw, ruler, pencil, try square,
Carpenter's Bench Vice, Firmer chisel, mallet,
wood Rasp file.

Steps used :-

- ① Marking
- ② Planing
- ③ Sawing
- ④ Chiseling
- ⑤ Planing / Finishing

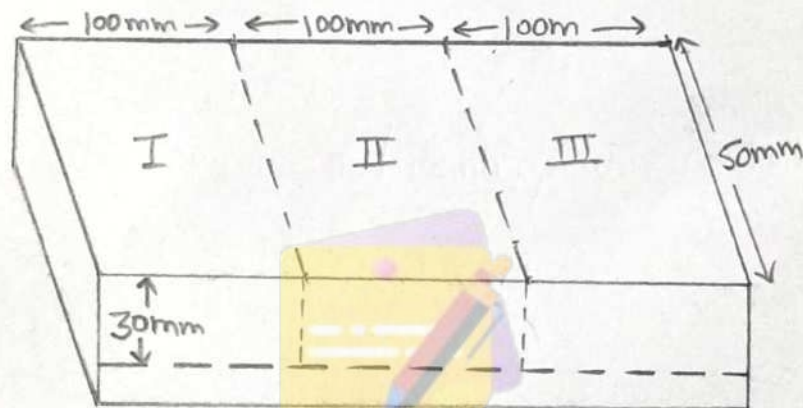
Procedure :-

- ① Take a piece of wood of 300 X 50 X 50 mm and plane one side using Jack plane and check straightness using try square.



Straight and plane piece of wood

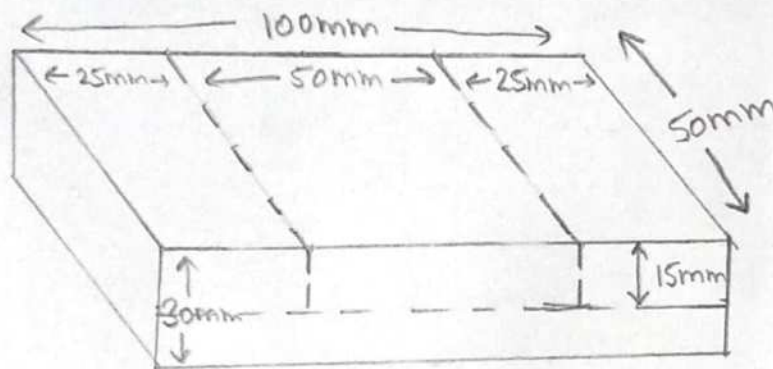
- ② Using Ruler and pencil (or by marking Gauge) mark lines parallel to edge of wooden piece. Two lines along length first at distance 100mm and other at 200mm from an edge, and along thickness, mark 30mm.



marked piece of wood.

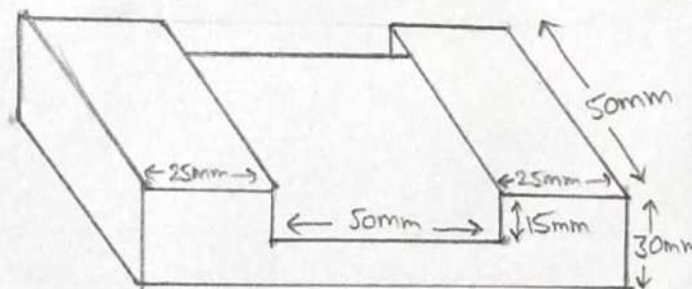
- ③ Now fix the marked piece of wood on bench vice and cut it using a saw along the markings

- ④ Now, we will take piece ① and mark at length 25mm from both ends along the length, 15mm along the width from top face ~~up~~ on both the opposite sides using pencil and a ruler.



marked piece ①

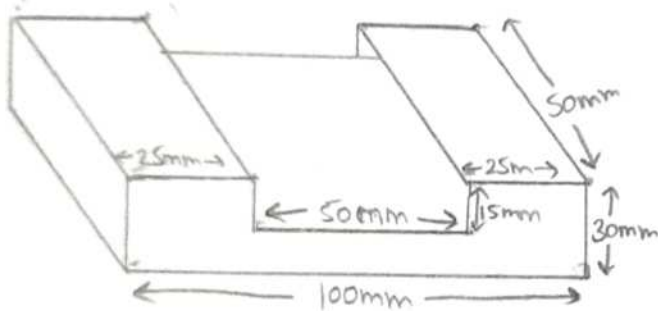
- ⑤ Now using saw, we will cut along marked line from the top and using a former chisel and a mallet we will start chipping and will get shape as shown in figure.



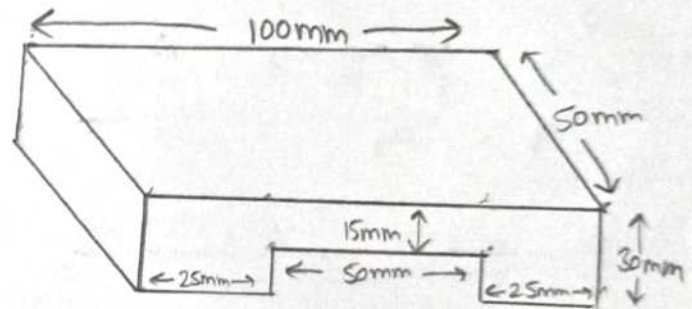
Shaped Piece ①

- ⑥ Now, the surfaces of wood will be rough. by using wood rasp file, we will smoothen the surfaces. as well as will check level and finishing using try square. for smoothen surface use Jack plane.

- ⑦ Repeat the steps ④, ⑤ and ⑥ on the wooden piece ② to get the second required piece. so the final product is shown in figure.



Finished Piece I



Finished Piece II

Precautions :-

- ① wear appropriate clothing
- ② Be careful while using Tools.
- ③ keep all equipments in good repair.
- ④ Always wear safety glasses