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Carpentry Workshop - Develop an object using
carpentry trade one
per given specifications. (CO2)

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FY ITG3

1) Write carpentry safety precautions.

Answer: I] Always wear safety equipments.

- a) wear safety glasses to protect your eyes.
- b) wear hearing protection while using
really noisy tools.

- c) wear latex gloves as they may be needed
to check finishing of the product.

II] Always wear appropriate clothing.

- a) Avoid wearing loose-fitting clothes as
they may get entangled in a machine.
- b) wear clothes that are comfortable for
the environment in which you are working,
but also should protect you from any
wayward wooden chip that may cause a
cut.

- c) Remove any dangling jewellery such as
chain etc.

III] Use sharp blades and bits.

- a) A dull cutting tool is dangerous.

- b) If the blade is not sharp the worker
will have to put in more time and effort
and in such cases the tool is more likely
to kick back and bind.

IV] Disconnect power before blade changes.

- a) Always disconnect electricity to the
power tool before changing its blade.

V] Always check for nails, screws and other material.

a) Always check the stock you are preparing to cut for any metals before beginning to cut.

VI] Always work against the cutter.

a) A router bit or a saw blade should cut against the motion and not along it.

VII] Never reach over a blade to remove cut offs.

a) While working with a table saw etc, never put your hand anywhere near the moving blade while removing cut offs.

b) Better yet, use a piece of scrap or a push stick to remove the waste away.

VIII] Avoid distractions.

a) Remember to always finish the task at hand with power tools, as if distracted it can cause injuries.

IX] Use your tools.

a) Keep your tools in good working condition and use them properly.

X] Ask for help.

a) If you don't know how to use a tool or are confused, ask the lab teacher for help.

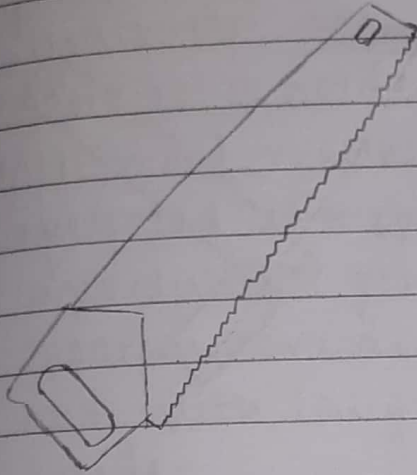
xi] Try using single extension chord - in this way you need to plug/unplug anytime you do any changes.

2) Explain with neat sketch following carpent-

any work.

- 1) Hand saw.
- 2) firmer chisel.
- 3) Iron jack plane.
- 4) Try square.

Answer: 1) Hand saw.

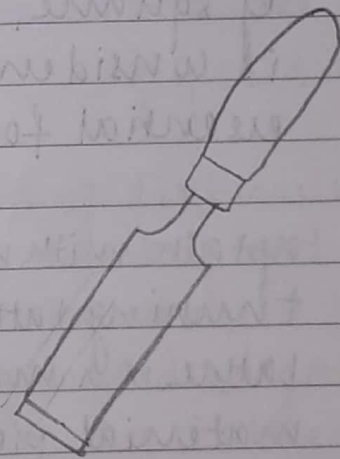


- In wood work and carpentry hand saws or panel saws are used to cut pieces of wood into different shapes.

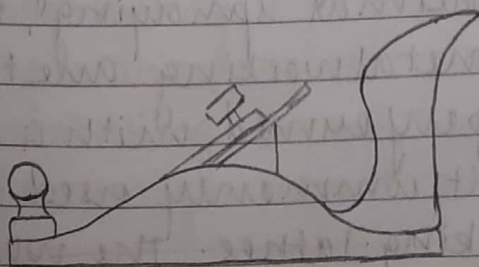
- They are generally used during joinery process in creating a wooden object.

2) firmer chisel.

- A firmer chisel is one of four main chisels used in woodwork projects.
- It has thick strong blade that allows removal of large pieces of wood in a single strike.



3) Iron-Jack plane.



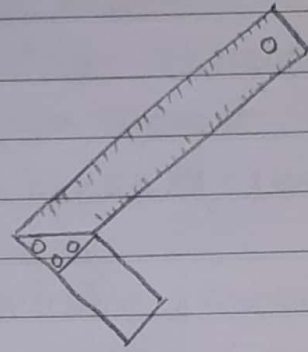
- A jack plane is a general purpose wood working bench plane, used for dressing timber down to size in preparation for joining.

and/or edging, jointing.

- It is usually the first plane used on rough stock, but for rougher work it can be preceded by the scrub plane.

4) Try Square.

- A try square with a steel blade rivetted into a wooden stock faced with brass.
- It is a wood working tool used for making and checking 90° angles on pieces of wood.
- Though wood workers use many different types of square, the try square is considered one of the essential for wood working.



3) Explain with neat labeled diagram the use of wood turning lathe machine.

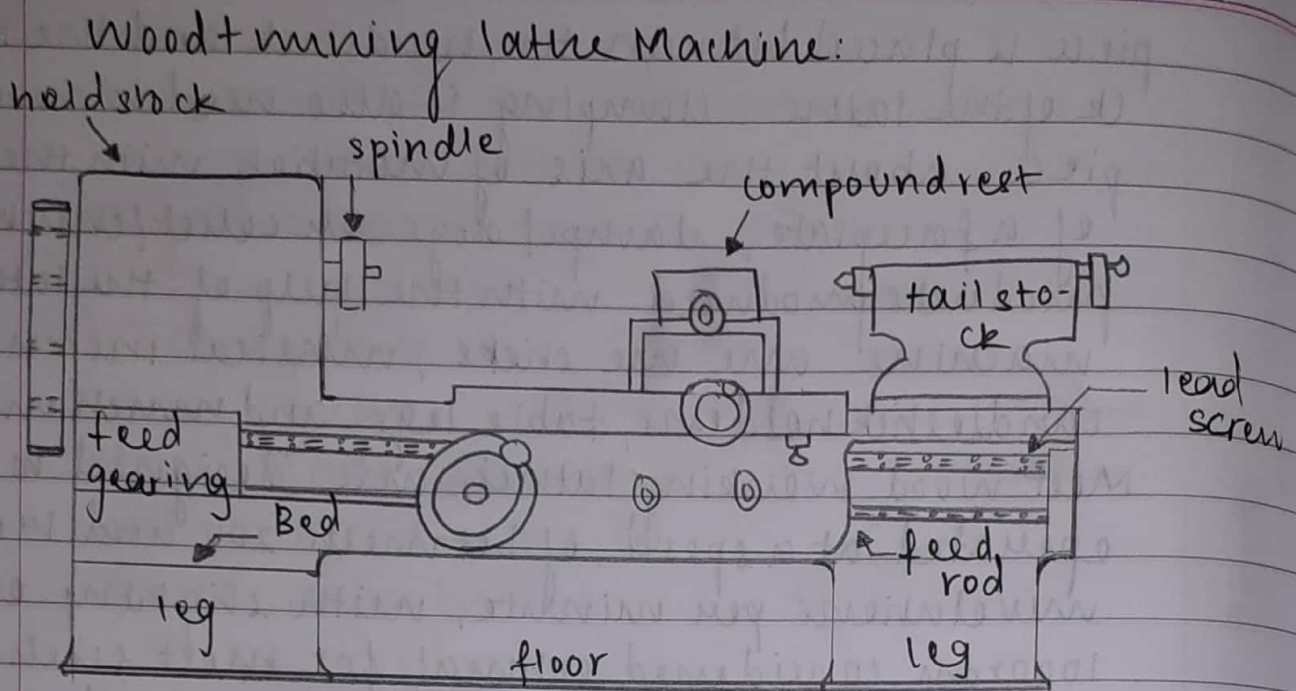
Answer:

Lathe is a machine that helps in shaping several material pieces in the desired shapes. A lathe is a machine that rotates the piece on the axis in order to perform various operations like cutting, facing, knurling, deforming and more. Metal spinning, thermal spraying, wood turning and metal working are the common operations performed with a lathe machine. The most commonly used lathes are the woodworking lathes. The wooden

piece is placed between the headstock and the tailstock of the lathe. clamping is also used to work the piece about the axis of rotation with the help of a faceplate, clamp/dogs on collet/chuck. The products produced with the help of the lathe machine are the sticks, musical instruments, candlestick holders, table legs and much more. Most wood working lathes are designed to be operated at a speed of between 200 and 1400 revolutions per minute, with slightly over 1000rpm considered optimal for most such work and with larger workpieces requiring lower speeds.

Specific use of the machine:

- wood turning lathe is typically used to shape wood into cylindrical profiles.
- Object made on a wood lathe includes such items like furniture legs, lamp posts and other ornamental forms.
- Wood lathe tooling consists of fixturing and securing devices for the work piece, a moveable tool rest and hand held cutting tools in the form of long handled gouge, skewers, and parting tool. Specialty tooling is also available for internal shaping and surface development.
- Although wood lathe can take many forms depending upon the primary turning operation, these components include the rotating wood headstock, lathe bed, tailstock for longer object and an adjustable tool rest.



4) write process of making T-lap joint.

Answer: for making a T-lap joint, we need:
measuring and marking tools →

- steel rule
- try square
- marking gauge
- straight edge

cutting tools →

- Tennon saw
- metal jack plane
- firmer chisel

striking tools →

- mallet

work holding devices →

- compentens vice.
- C clamp.

The procedure to making T-lap joint :

- copy down the figure of the model in the rough record and collect the workpiece.
 - check the suitability of making the model using steel rule.
 - Hold the work piece in compentens vice in such a way that one of the best wider sides can be planed.
 - using the jack plane, plain the surface till the band saw mark here gone and check for straightness.
 - plane one of the adjacent side and check for the right angle using my square.
 - mark dimensions on the wider sides with marking gauge and plain to remove excess material.
 - mark dimensions on the thickness sides with marking gauge and plain to remove thickness of that dimension.
 - mark the material to be removed on both the pieces to make the joint using steel rule, marking gauge and my square.
 - using Tenon saw, cut the material in the unwanted region leaving about 1 to 2mm from the marked line to the required depth.
 - using firmer chisel, remove the unwanted portion of material and assemble the joint.
- Hence, the T-lap joint of required is obtained.

5) Explain with neat sketch carpentry making an

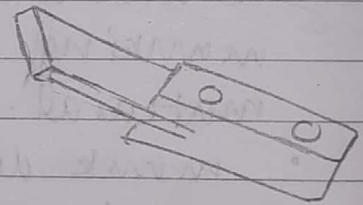
measuring tools.

Answer: Knowing tools and where it is ideally used, reading dimensions from drawings or sketches correctly, use the right tools for the right job, don't compromise. Know how to use tools correctly and accurately, make a review of any measuring and marking out to ensure its accuracy!

Measuring and marking-out instruments used in the workshop for various operations, it includes;

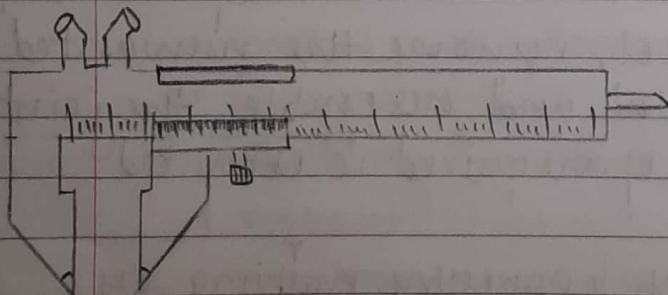
• ~~penit~~, • marking knife.

A marking knife or striking knife is a wood working layout tool used for accurately marking work pieces. It is used to cut a visible line which can be used to guide a hand saw, chisel or plane when marking across



the grain of the wood. The blades on the marking knives are either a skinned end or a speared point, and the knife edge is bevelled on either one side of the blade, or both.

• Vernier Calipers.



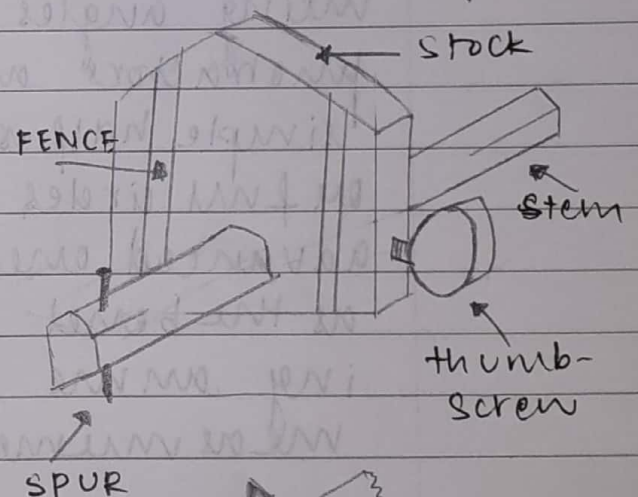
A caliper is a device used to measure the dimensions of an object. The vernier, dial and digital calipers directly

read the distance measured with high accuracy and precision. These callipers comprise a calibrated scale with a fixed jaw, and another jaw with a pointer, that slides along the scale. The distance between the jaws is then read differently for the three types.

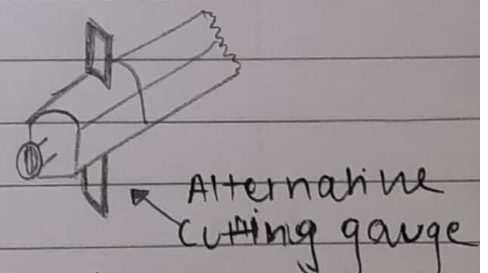
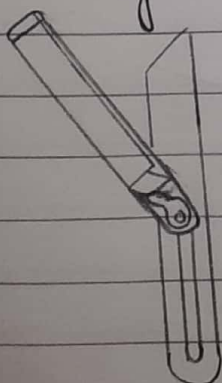
Simplest method is to read the position of the pointer directly on the scale. When the pointer is between two markings, the user can mentally interpolate to improve the precision of the reading. This would be a simply calibrated calliper, but the addition of a vernier scale allows more accurate interpolation and is the universal practice, this is the vernier calliper.

• marking gauge.

A marking gauge is used in wood working to mark out lines for fitting or other operations. The purpose of the gauge is to scribe a line parallel to a reference edge/surface. It is used in joinery and sheet metal operations.



• Sliding T Bevel.



A Bevel gauge or false square is an adjustable gauge for setting and transferring angles. Different from

the square, which is fixed and can only set a 90° angle, the sliding T bevel can set any angle and transfer it on another piece.

The bevel gauge of two elements connected with a thumbscrew or a wing nut, which allows the blade to pivot and be locked at any angle.

- Protractor.

It is a measurement instrument typically made out of transparent plastic or glass, for measuring angles. Some protractors are simple half disks or full circles more advanced ones, such as the bevel protractor, have 1 or 2 sliding arms which can aid angle measurement.

