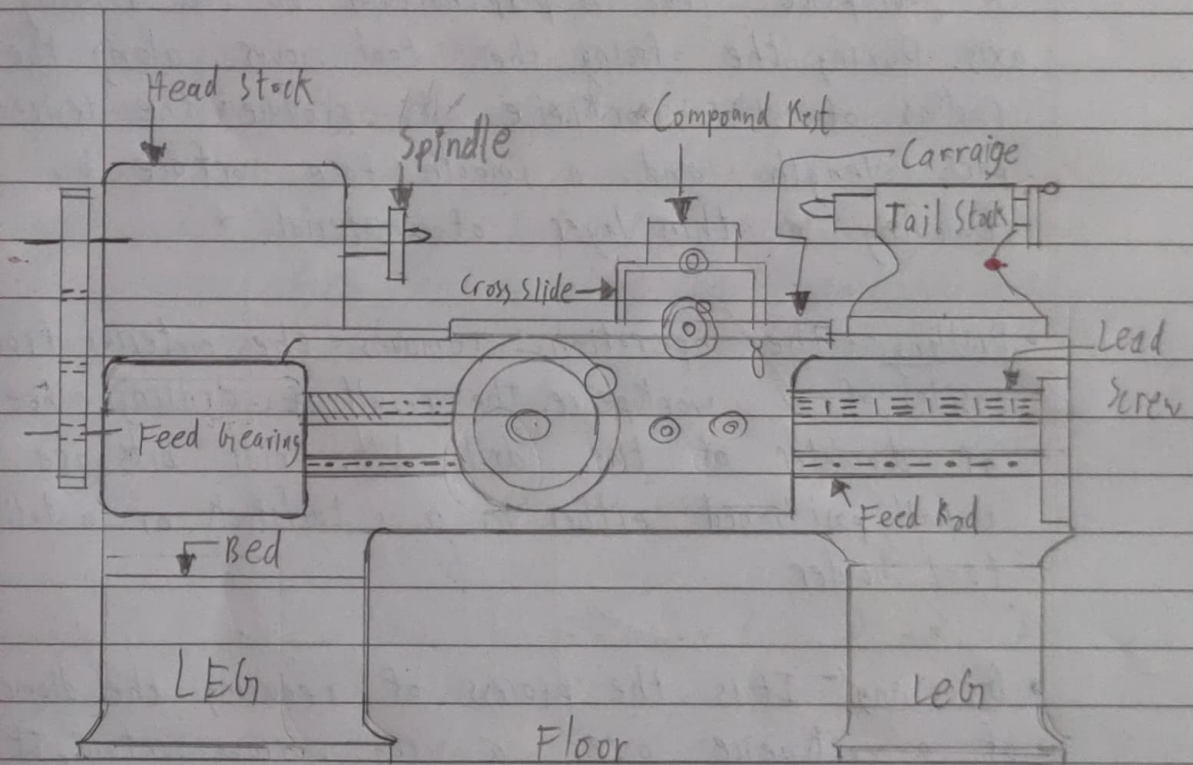


Machine shop

16010421063 - Arya Nair

- 1) Draw the neat sketch of lathe machine and name its parts.



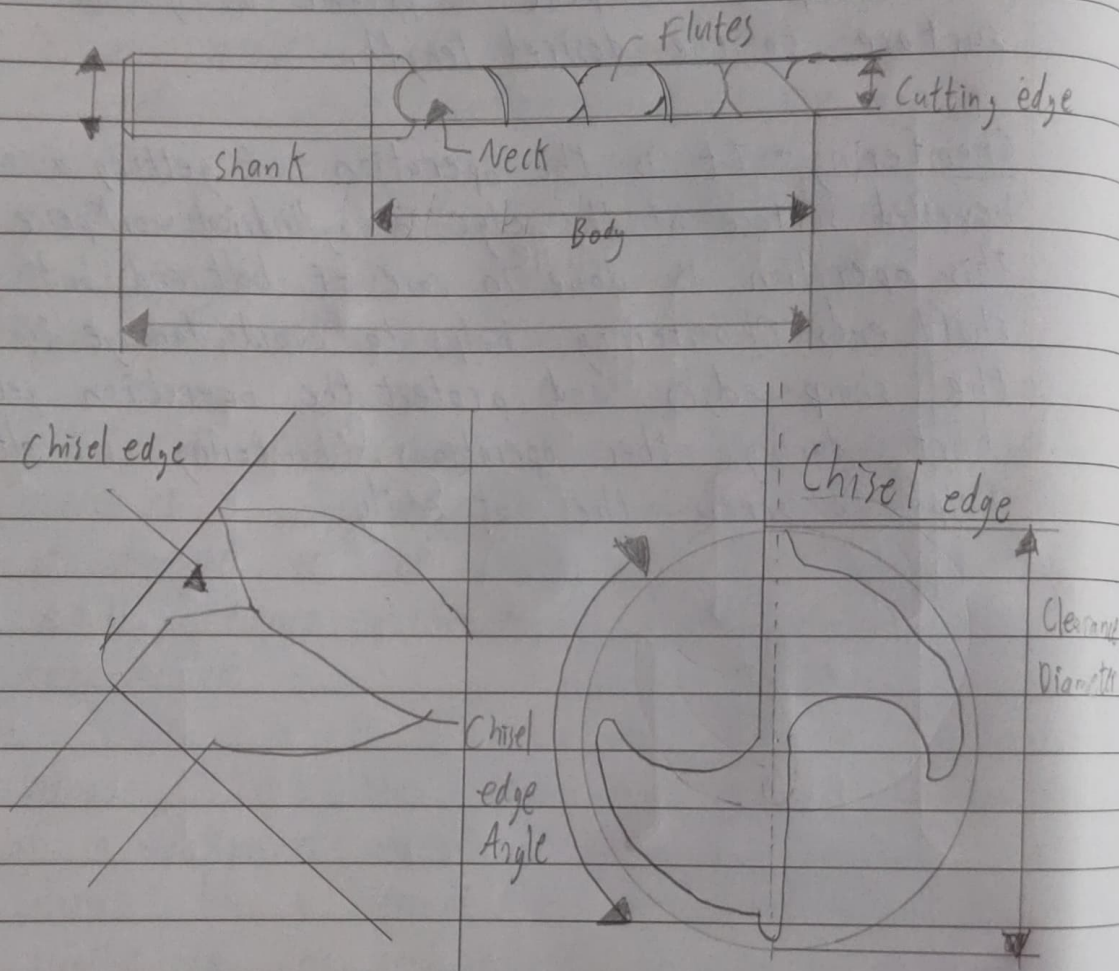
2) Give the brief information of lathe operation.

- Ans.
- Facing - During the machining, the length of workpieces is slightly longer than the final part should be. Facing is an operation of machining ~~at~~ the end of a workpiece that is perpendicular to the rotating axis. During the facing, the tool moves along the radius of the workpiece to produce the desired part length and a smooth face surface by removing a thin layer of material.
 - Drilling - The operation removes the material from inside of a workpiece. The result of drilling a hole of diameter of the drill bit. Drill bits are usually positioned either on a tailstock or a lathe tool holder.
 - Grooving - It is the process of reducing the diameter of a workpiece over a very narrow surface. It is done by a groove tool. A grooving tool is similar to the parting-off tool. It is often done at the end of a thread or adjacent to a shoulder to leave a small margin.

Turning - It is the most common type of operation in all lathe machine operations. Turning is the operation of removing the excess material from the ~~workplace~~ workpiece to produce a cylindrical surface to the desired length.

Chamfering - It is the operation of getting a bevelled surface at the edge of cylindrical workpiece. This operation is done in case of bolt end and shaft ends. Chamfering helps to avoid damage to the sharp edges and protect the operation getting hurt during other operations. Chamfering on bolt helps to screw the nut easily.

3) Draw a neat sketch of twist drill and show its parts.



4) List machines available in your college workshop

- Ans.
- lathe machine
 - drill machine
 - shaping machine
 - milling machine
 - twisting machine.

5) Write down safety precautions while working in machine shop.

- Ans -
- Safety glasses with side shields must be worn at all times.
 - Do not wear loose clothing or jewellery while operating machinery.
 - Do not work alone.
 - Tie long hair tightly.
 - Do not wear fashion shoes, sandals or open-toed footwear.
 - Apron should be tied in a quick release manner should be worn.
 - Keep hands and limbs away from any machine until required.
 - Use hand tools for their designed purpose.
 - Do not stop the machine with your body.
 - Check tools and machines before use to assess whether they are safe.
 - Always the clamps are tightened properly before starting up the work.
 - Never use broken tools.
 - Always use correct speeds.