

# MACHINE SHOP

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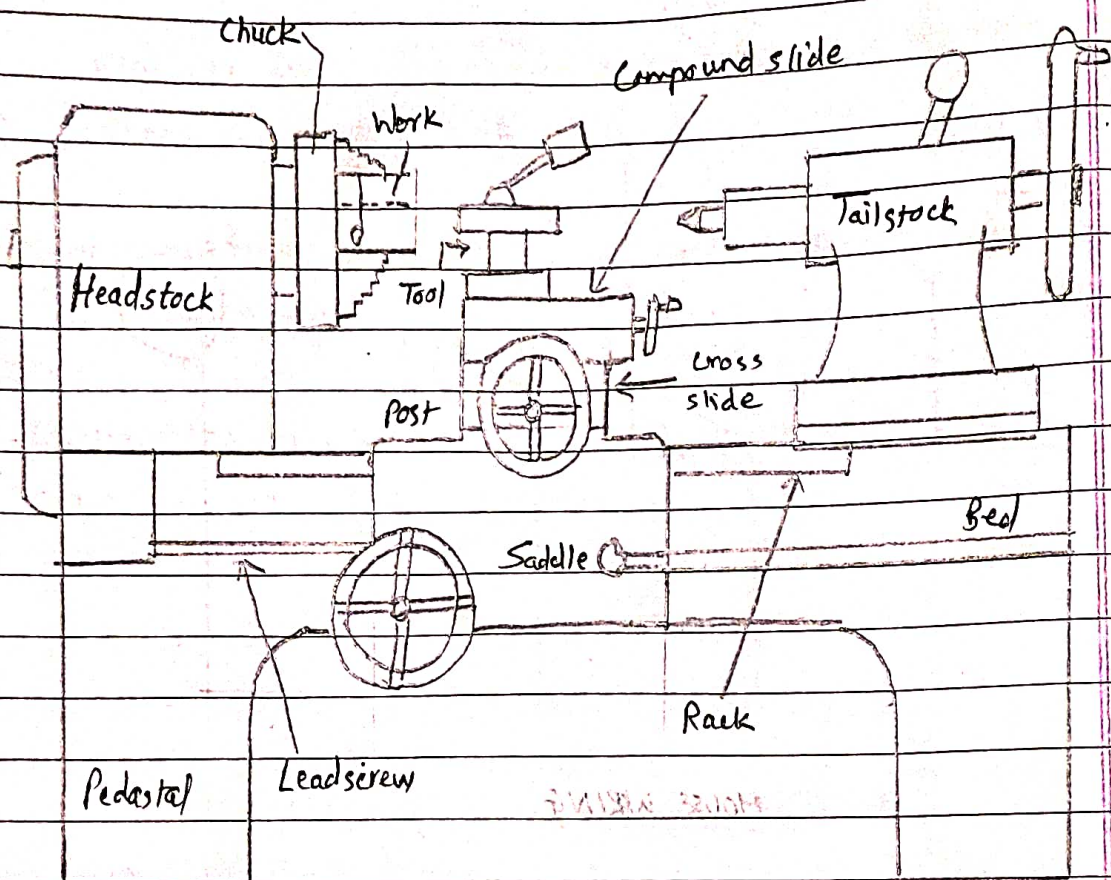
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NAME:- MEET GATA

ROLL NO:- 16010121051

PART:- A3

Q1) Draw the neat sketch of Lathe Machine and name its parts.



Lathe Machine.

Q2) Give the brief information of lathe operations.

→ With suitable attachments and modifications a lathe can be made to perform any machining operation done on a number of general purpose machines. Operations commonly performed on a lathe include turning, facing, form turning, grooving, drilling, boring, knurling, taper turning and thread cutting.

Turning:- Turning is the operation in which a cylindrical surface is produced. The work piece is supported between centres or in any other work holding device, and rotated at the desired speed. The tool is first given a depth of cut by using the cross slide motion of the carriage and then given an axial feed by hand or power.

Facing:- Facing is an operation used to produce a flat surface at right angles to the rotational axis of the job. In this case tool is fed at right angles to the job while the depth of cut is provided by the axial motion of the carriage. The job may be held in a chuck or between centres. In this centre about half of the front cone is removed to give access to the tool.

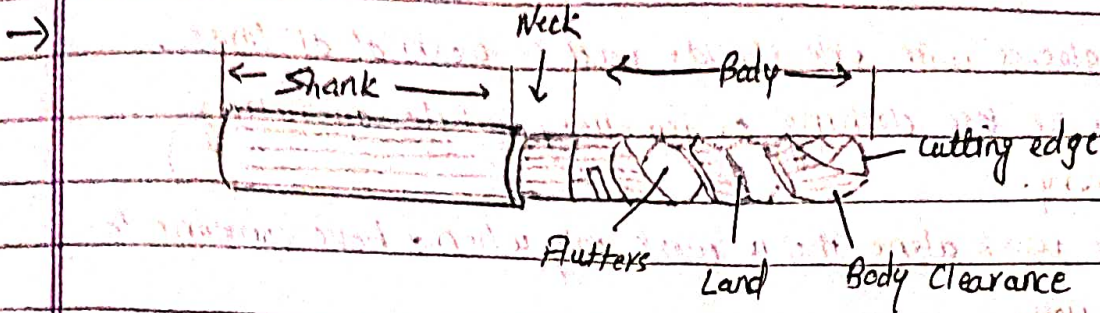
Drilling:- The work piece is held in a chuck or on a face plate and the drill is held in the tail stock quill or in a drill chuck held in the quill. The taper in the quill ensures that the axis of the drill is concentric with the rotational axis of the spindle. Feeding is done by movement of the tail stock quill.



Taper turning :- Taper turning is the process of producing external and internal conical surfaces by combining the rotation of the job and the relative angular feed of the tool. Tapers are used on many tools and machine components for alignment and for easy holding such as twist drills, end mills and reamers.

Boring :- Boring is the process of enlarging a hole produced by drilling, casting, punching or forging with the help of a single point tool. Boring cannot originate a hole. In boring the job is held in a chuck or face plate and a boring tool held on the tool post are fed into it.

Q3) Draw the neat sketch of twist drill and show its parts.



Twist Drill

Q4) List the Machines available in our college Workshop.

- Kirloskar Mark Lathe Machines
- Parmar Make Lathe Machines
- Pedestal Grinder (10" size)
- Bench Grinder (6" wheel size)
- Shapping m/c (18" stroke)
- Shapping m/c (24" stroke)
- Universal milling m/c
- Universal milling m/c with vertical attachment
- Pillar type Drilling m/c
- Sensitive Drilling m/c
- Tool and Cutter Grinder
- Power Saw (12" blade)
- Single spindle auto lathe
- Surface grinder
- Bench vice (6" size)



Q5) Write down the safety precautions while working in machine shop.

- 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 that is work only when have someone to guide you.
- Tie long hair tightly.
- Do not wear fashionable footwear.
- Apron should be tied in a quick release manner.
- Keep your limbs away from machine until sequised.
- Use hand tools for their designed purpose.
- Do not stop the machine with your body.
- Do check the tools before hand and then only use them.
- Never ever use broken tools or play with them.