

**IPE-432**  
**MACHINE TOOLS SESSIONAL**

Md. Hasibul Islam

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## 1 Experiment 04: Study of Turret Lathe (New Sir)

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### points

- Collate (Jaw) : Holds the job. Single job can hold single diameter job.
- Hexagonal turret: 6 angles, holds 6 tools.
- Square turret: 4 angles.
- Advantage of collate: centering easier, no thread.
- Lock → handle/lever
- Pushout → outside lock

### Advantages of Turret Lathe

- Mass production / batch production
- Can set at together multiple ( $6 + 4 = 10$ ) tools
- Reduce the non-production time

### Steps

- Facing
- centering
- Drilling
- Internal chamfering
- Internal threading
- Outside turning
- Parting

### Permanent Setup (5 steps)

1. Fix the collate chuck according to job diameter.
2. Set/Fix the tool on square turret according to machining sequences.
3. Set/Fix the tool on hexagonal turret according to machining sequences.
4. With the help of adjustable screw, fix the tools longitudinal feed.
5. Set the motor RPM.

**Follow Lab sheet also.**

### Collate Chuck

- High gripping force
- self centered
- Only specific diameter job can be hold. (by a single collate)

### Square Turret

1. Facing
2. Parting
3. Knurling
4. Chamfering

### Hexagonal Turret

1. Centering
2. Drilling
3. Boring
4. Reaming
5. Taping/Threading
6. Turning

### Important Points

- Ram is situated above the saddle.
- Capstone wheel : Convert Rotary motion into linear motion, by rack and pinion.
- Stopper can control long feed.
- Adjustable Screw : Under the tool, Adjustable screw is meshed with bevel gear.
- Offsetting cast & moveable cam : at saddle