

# Lathe Machine

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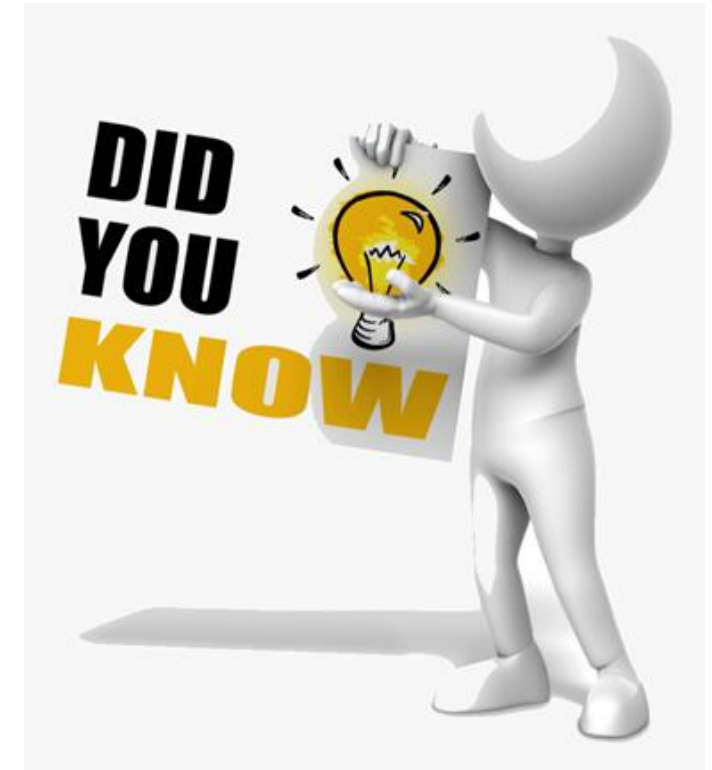
## Definition and Applications of Lathe

Upon completion of the course the student shall be able to:

- Know the use of Lathe Machine .
- Understand the applications of Lathe machine.

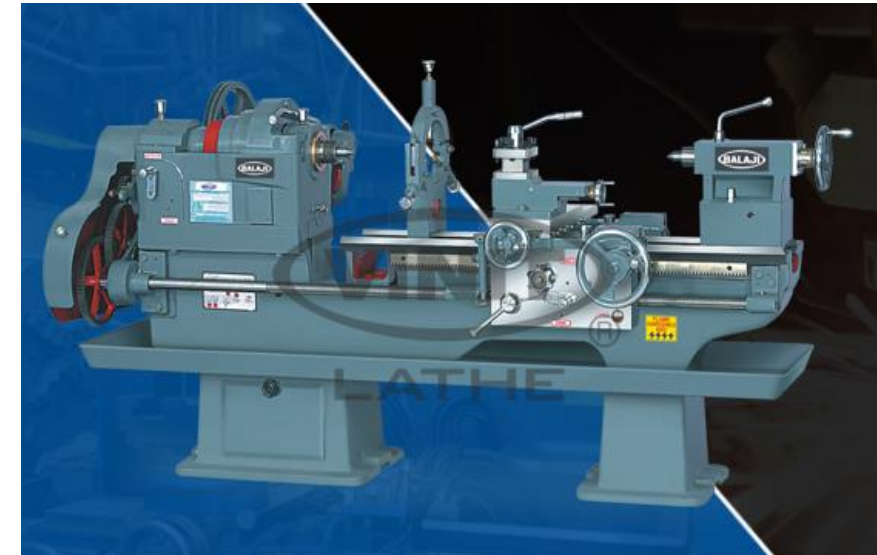
# Did you Know?

- A lathe is a machining tool that is used primarily for shaping metal or wood. It works by rotating the workpiece around a stationary cutting tool.
- The main use is to remove unwanted parts of the material, leaving behind a nicely shaped workpiece.



# Introduction to Lathe Machine

- A lathe machine is a machine tool that removes the undesired material from a rotating workpiece in the form of chips with the help of a tool that is traversed across the work and can be feed deep into the work.
- It one of the most versatile and widely used machine tools all over the world.
- This is also known as the ‘Mother of all Machines’.



# Introduction to Lathe Machine

## Definition :

- Lathe machine is one of the most important machine tools which is used in the metalworking industry. It operates on the principle of a rotating work piece and a fixed cutting tool.
- The cutting tool is feed into the work piece which rotates about its own axis causing the workpiece to form the desired shape.
- A lathe may be small and sit on a workbench or table, not requiring a stand.



# Specifications of Lathe Machine

**A Lathe machine can be specified as per:**

- Distance between centers
- Swing over the bed
- Swing over the cross slide
- Horsepower of the motor
- Number of speeds
- Feed Given



# Applications of Lathe machine

- **Woodturning:** Used to make wooden objects such as ornate table legs, baseball bats, wooden bowl, and platters; operators use a variety of tools to form
- **Metalworking:** Used to create precision parts; most often associated with a multistep process requiring different tools for each step
- **Metal Spinning:** A process where metal spins on a spindle, while the operator works it with tools; an automated process

# Applications of Lathe machine

- **Acrylic Spinning:** Involves spinning acrylic on a spindle to form items from acrylic; most often used in the making of the top pieces for trophies
- **Thermal Spraying:** Combines the rotating spindle with the painting process; the paint sticks to the stock via processes involving heating the paint materials
- **Pottery:** By using a potter's wheel, artisans can make a variety of pottery pieces; though formed mainly by hand, crafts persons also use tools



From the above Topic we learnt about :

- The uses of Lathe machine
- Applications of Lathe machine
- The specification of Lathe machine

# Check Your Understanding

1. The horizontal feed in a lathe is controlled by?
  - A. Apron
  - B. Head stock
  - C. Cross-slide
  - D. Tailstock
2. The included angle of lathe centre is ?
  - A.  $30^{\circ}$
  - B.  $60^{\circ}$
  - C.  $90^{\circ}$
  - D.  $45^{\circ}$

# Check Your Understanding

3. Lathe is also known as the 'Mother of all Machines.

A. True

B. False

4. In lathe machine the workpiece is always stationary.

A. True

B. False

# Check Your Understanding

5. Three jaw chuck is also known as..... ?

- A. Magnetic Chuck
- B. Face Plate
- C. Universal chuck
- D. None of these

6. .... is preferred for holding an odd-shaped workpiece ?

- A. Live and dead centers
- B. Three jaw chuck
- C. Lathe dog
- D. Four jaw chuck

7. Which of the following operations can be done on Lathe?

- A. Dilling
- B. Turning
- C. Both A and B
- D. None of them

8. Which is correct about Lathe Machine ?

- A. Tool is stationary
- B. Workpiece is rotating
- C. Workpiece clamped on headstock
- D. All of These

# Answer Key

1. A. Apron
2. B. 60°
3. A. True
4. B. False
5. C. Universal chuck
6. D. Four jaw chuck
7. C. Both A and B
8. D. All of These