



K S RANGASAMY COLLEGE OF TECHNOLOGY
Tiruchengode – 637215
(An Autonomous Institution, Affiliated to Anna University, Chennai)
DEPARTMENT OF MECHANICAL ENGINEERING



Flipped Class			
Programme & Branch	B.E. & Mechanical Engineering	Year/Sec/Sem	II / A / IV
Course Code & Name	50 ME 402 / Machining Processes	Date	29.03.2023

The video link for the topic of Center Less grinding <https://www.youtube.com/watch?v=4PQhaoORPLA> . All the Students are Informed to View the Video and get ready for the activity to be held on 31.02.2023 (1st and 2nd hour) in our classroom.

Course Instructor



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Answer the Questions:

1. What is centerless grinding?
2. List out the types of workpieces are suitable for centerless grinding.
3. List out the main components of a centerless grinding machine.
4. What is the role of the regulating wheel in centerless grinding?
5. What are the challenges in centerless grinding?

The above questions have been asked to the students and they shared their answers. All the students answered questions no. 1, no.2 and no.5 correctly. But few students answered questions No. 3 and 4 correctly. So, I discussed the non-answered topic in the classroom.

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Flipped Class – Questions and Answers

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Course Code & Name	50 ME 402 / Machining Processes	Date	31.02.2023

Answer the Questions:

1. What is centerless grinding?

Centerless grinding is a machining process used for removing material from cylindrical workpieces. It does not require a centering device to hold the workpiece in place, hence the name "centerless."

2. List out the types of workpieces are suitable for centerless grinding.

Centerless grinding is commonly used for cylindrical parts with a consistent diameter, such as shafts, pins, rods, and tubes. It is also suitable for grinding parts with complex shapes or profiles, such as camshafts and gear shafts.

3. List out the main components of a centerless grinding machine.

- Grinding wheel: This is the abrasive wheel that removes material from the workpiece.
- Regulating wheel: Positioned opposite the grinding wheel, it controls the workpiece's rotational speed.
- Work rest blade: It supports and positions the workpiece during grinding, ensuring stability and accuracy.

4. What is the role of the regulating wheel in centerless grinding?

It controls the rotational speed and feed rate of the workpiece, determining the grinding action. It applies pressure to the workpiece against the grinding wheel, ensuring proper engagement and consistent results. It acts as a backup for the workpiece, preventing excessive deflection during grinding.

5. What are the challenges in centerless grinding?

- Workpiece vibration: Poor workpiece support or imbalanced grinding wheels can lead to vibrations, affecting the surface finish and dimensional accuracy.
- Wheel dressing: Maintaining the correct shape and sharpness of the grinding wheel is crucial for achieving desired results.
- Centerless grinding requires skill and experience to set up and operate properly, ensuring the correct alignment and adjustments for optimal performance.

Course Instructor