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A Report on Industrial Visit to "Viswakarma Industries, Kolar" Organized by Department of Mechanical Engineering on 05.05.2026

Report Submitted by: Dr. Muthu Lakshmanan, Assistant Professor, Department of Mechanical Engineering
Participants: 27 Students
Report Received on 14.05.2026.
Mode of Conduct: Offline

1. Introduction

An industrial visit was organized to **Viswakarma Industries, Kolar**, a well-established mechanical company specializing in casting and metal processing. The visit was conducted under the guidance of **Dr. Muthu Lakshmanan**, with the participation of 27 engineering students (ME+ECE+Civil).
The primary aim of the visit was to bridge the gap between theoretical knowledge and practical exposure in the field of manufacturing, especially in casting processes. Industrial visits play a crucial role in enhancing students' understanding of real-time operations, machinery, and workflow in industries.

2. Objectives of the Visit

- To understand the **casting process** in a real industrial environment
- To observe different types of **furnaces used in metal casting**
- To gain knowledge about **material handling and safety practices**
- To learn about **quality control techniques** in casting industries
- To interact with industry professionals and understand real-world challenges

3. Overview of the Industry

Viswakarma Industries is engaged in the production of cast metal components used in various mechanical applications. The company utilizes modern machinery and follows standard industrial practices to ensure high-quality output.
During the visit, students were welcomed and guided by **Mr. Banerjee, Deputy General Manager (DGM)**, who provided detailed explanations about the operations and processes in the industry.

Furnaces Observed

Students were introduced to various types of furnaces used in casting processes, such as:

- **Induction Furnace** – Used for melting metals efficiently using electromagnetic induction
- **Cupola Furnace** – Commonly used for melting cast iron
- **Electric Arc Furnace** (if applicable) – Used for high-temperature melting

Each furnace type was explained in terms of working principle, advantages, and industrial applications.

Casting Process Learned

The students gained practical knowledge about the step-by-step casting process:

1. **Pattern Making** – Creating a replica of the desired product
2. **Mould Preparation** – Preparing sand moulds to shape molten metal
3. **Melting of Metal** – Heating metal in furnaces until molten
4. **Pouring** – Pouring molten metal into mould cavities
5. **Cooling and Solidification** – Allowing metal to harden
6. **Shakeout and Finishing** – Removing casting from mould and finishing

Students also observed how defects are minimized and how quality is maintained during production.

4. Interaction with Industry Expert

A key highlight of the visit was the interaction with **Mr. Banerjee (DGM)**, who played a vital role in explaining the industrial processes. He clarified students' doubts and provided valuable insights into:

- Industrial challenges in casting
- Importance of precision and quality control
- Career opportunities in mechanical industries

His guidance helped students gain a deeper understanding of the subject.

Knowledge Gained

- Practical exposure to **casting and foundry operations**
- Understanding of **industrial furnaces and their applications**
- Awareness of **safety measures in manufacturing units**
- Insights into **real-time production and workflow**

5. Conclusion

The industrial visit to Viswakarma Industries, Kolar was highly informative and beneficial for all participants. It provided a valuable opportunity to connect theoretical concepts with practical applications. The guidance of **Dr. Muthu Lakshmanan** and the support of **Mr. Banerjee** made the visit successful and enriching. Miss Sasikala has helped in students coordination.

We sincerely thank the management of Viswakarma Industries for their cooperation and hospitality in facilitating this educational visit.