Sarvajanik University
Sarvajanik College of Engineering & Technology, Surat

INDUSTRIAL VISIT REPORT

ON

JAY METAL TECH (JMT)

ORGANIZED BY

MECHANICAL ENGINEERING DEPARTMENT

Place of Visit: Jay Metal Tech, Road No. 8, Udhyognagar, Udhna, Surat, Gujarat.

Date of Visit: 4th OCTOBER, 2025

Target Students: B.Tech. 2nd Year Students

Faculties attended: Prof. (Dr.) Satish Dokiparti, Prof. (Dr.) Piyush T. Patel

About Jay Metal Tech:

Jay Metal Tech, established in 2001, is an ISO 9001 certified organization engaged in manufacturing and suppling Industrial Valves and Castings. The company's product range includes products like Propeller Shaft Casting, Pump Casting, Railway Pin Insulator and Sluice Valve, Butterfly Valve, Check Valve, Clutch Pressure Plate and Propeller Shaft Casting crafted from high grade material like stainless steel, carbon & alloy steel, cast iron, ductile (S.G.) iron, non ferrous metal and others.

Their advanced manufacturing unit enables the production of ductile and gray iron castings ranging from 300 grams to 5000 kilograms, utilizing heat treatment, surface treatment, and machining processes. Approved by the Power Grid Corporation of India (PGCIL) as a supplier of SG Iron castings, Jay Metal Tech is known for its high-quality, durable products and customer-focused approach.

PURPOSE OF THE VISIT:

The visit to Jay Metal Tech offered students valuable firsthand exposure to key foundry operations, including pattern making, mould preparation, melting, pouring techniques, and quality control practices.

OUTLINES OF THE VISIT:

The visit was conducted in a systematic and structured manner to help students clearly understand the complete casting process and its industrial applications. The sequence of activities experienced during the visit is as follows:

- Raw Material Handling
- Pattern Making and Inspection
- Moulding and Core Making
- Melting and Pouring
- Cooling, Fettling, and Finishing.

The final stage of the visit included a tour of the quality control department, where students learned about the different testing methods used to ensure the integrity and quality of cast products. Techniques like Metallographic analysis and dimensional analysis were demonstrated to emphasize the importance of maintaining high-quality standards in casting.

Raw material

Electric furnace

Molten Metal getting poured into a ladle

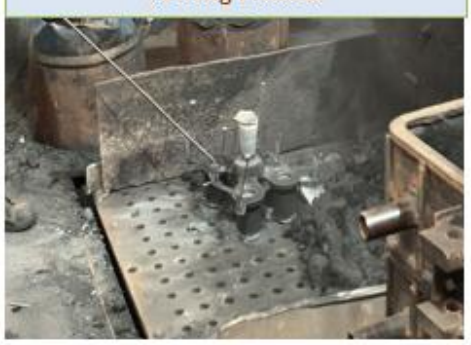
Sand Mould Making Machine

Automatic Core Shooter machine

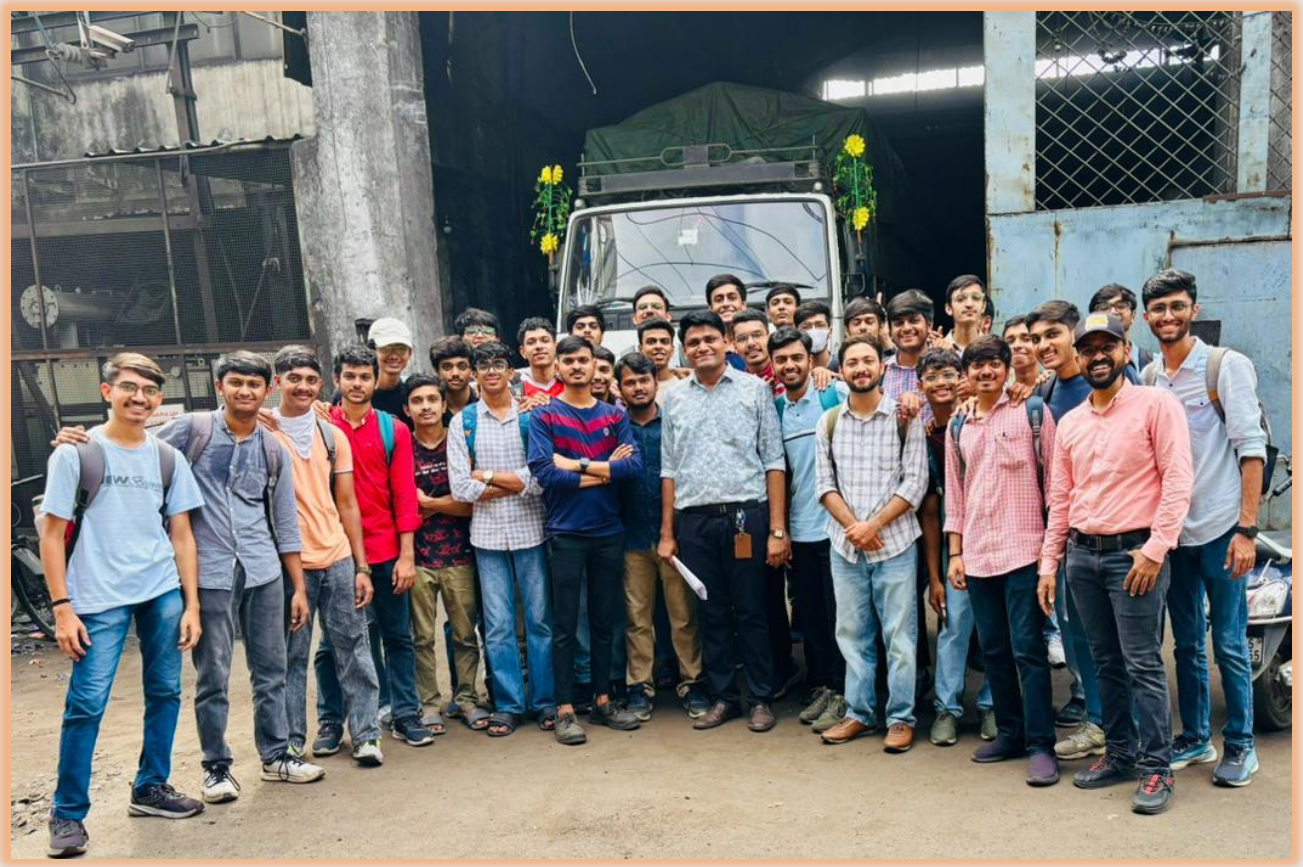
Mould making machines

Pouring of Molten Metal into the sand Mould

Fettling Process



Finishing Process



All the students expressed their thanks for organizing such an industrial visit for the enrichment of their knowledge.

OUTCOMES OF THE VISIT:

Students gained a practical understanding of the complete casting process, ranging from raw material handling to final finishing. They also enhanced their knowledge of industrial practices related to pattern design, mould preparation, and core-making techniques.

We are sincerely thankful to the management and staff members for their generous cooperation, and willingness to share their knowledge and experience with us throughout the visit. We express our sincere thanks to Hon. Director of industry and Hon. Principal **Dr. Hiren Patel (SCET)** for permitting the visit. We also thank to **Dr. Pankaj Gohil** (Head of the Mechanical Department,SCET) for all kinds of support extended and for encouraging us.

Report Prepared and Compiled by:
Prof. (Dr.) Piyush T. Patel,
Prof. (Dr.) Satish Dokiparti.