

A Report

On

“Industrial Visit”

For the Students of Mechanical Engineering Department. (Semester –
IV)

7th December 2020 to 9th December 2020

Objective: Training and Exposure on the various aspects of manufacturing machines and its technology related to various subject in Sem-IV.

Venue: “INDO GERMAN TOOL ROOM, Vatva, Ahmedabad.

Number of Students: 169 (IV semester, Mechanical Engineering)

• **Faculty Coordinators:**

1. Mr. Krushnakant Jani (Asst. Prof. Mechanical Engg. Dept.)
2. Mr. Shailesh Patel (Asst. Prof. Mechanical Engg. Dept.)
3. Mr. Bhagyadeep Kalal (Asst. Prof. Mechanical Engg. Dept.)

OVERVIEW

1.1 INDO GERMAN TOOL ROOM

Indo German Tool Room, Ahmedabad is an institute for Tool & Die Making and training. It is equipped with the latest European machines and a motivated and trained professional team. It is a nationally known source for designing and manufacturing of international quality of plastic moulds, press Tools, Die Casting Dies and Jigs & Fixtures. It undertakes precision machining job work using states of art machines and software. IGTR Ahmedabad offers quality control services including reverse engineering third party inspection using latest equipments. IGTR Ahmedabad offers plasma Nitriding and metallurgy lab services.

On 7th December 2020 to 9th December 2020. the Mechanical Engineering Department (Sem-IV), L.J.I.E.T arranged an **Industrial Visit for the students.**

The main focus of this program was to enable the students to know about the various aspects of the latest production techniques and machineries.

ORGANIZATIONAL STRUCTURE OF THE VISIT

The number of students who attended the visit was 169 accompanied by 3 faculty members. On first day of visit, 65 students and 3 faculties, then on second day of visit, 35 students and 2 faculties, then on third day of visit 69 students and 3 faculties have gone for the visit. Faculties left the college campus at around 10:00 am and reached the venue at 10:45 am. The students as well as faculty travelled by their own vehicle and reach the place accordingly on time. On first day a brief overview was given by Mr. Krushnakant Jani to the students and their attendance was taken. Same procedure was followed on remaining days and students were informed about it.

VISIT OUTLINE

After reaching the venue, Admin person gave a brief overview and arranged three instructors and made team of 20 to 25 students each for visit. Instructors emphasized on the importance of Practical Knowledge in the field of Production of various products.

They Shows activities performed and services offered by company which are:

Injection moulding machine:

This machine is used to produce various products of plastic material such as bucket, plastic cane as per the requirement of the different companies such as Amul. In this process, Mould is first prepared by metal and then moulten platic or resins are poured in to hopper. Then after, hydraulic pressure is actuated, which produces components as per the mould design.



Fig: Injection Moulding machine



Fig :- Side view of Injection moulding machine with hopper

Wire cut EDM machine and Electric Discharge EDM :

EDM are used to produce complex shapes of the products such as curved hollow section or small size cut using wire cut machines.

In Wire cut, copper or tungstone wire of 25 micron size wire is used to cut the material by spark erosion technic.

In electric spark, object is submerged in the electrolyte solution and then after electrode of copper material is place with 2 mm gape, which produces electric spark between work piece & electrode. The solution is continuously filtered and eroded material is removed from the electrolyte.

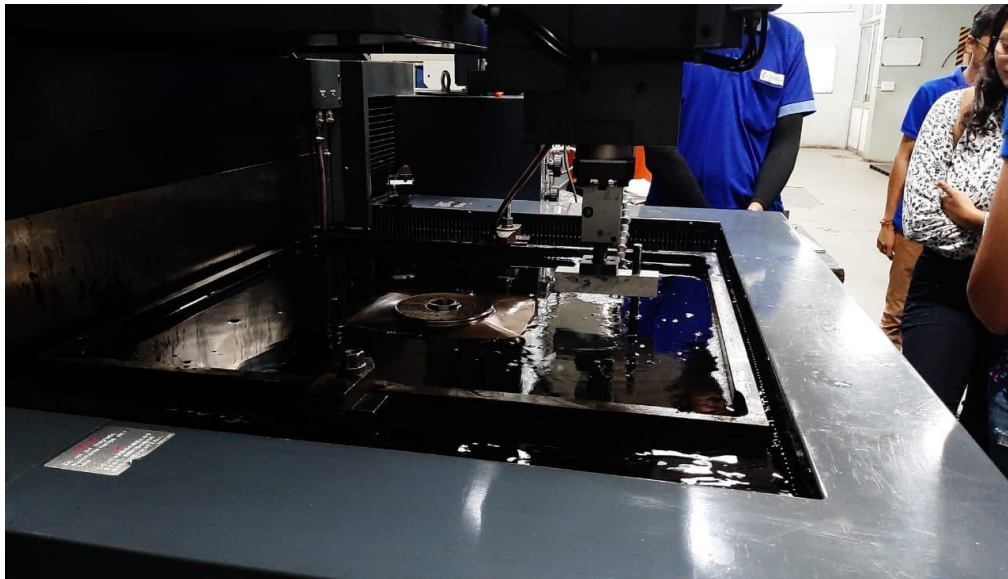




Fig : EDM & its working

CNC, VMC & UMC machines :

This technology is used to reduce human efforts and improve efficiency of the machining processes. IGTR is using this technology to produce various parts for ISRO and many other organisations. Computerized numerically controlled systems are using various tool axis such as vertical, Universal 3-Axis (X, Y, Z), 5 axis (X, Y, Z, U, V) and 7- axis machines.



Fig : working of VMC machine

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MECHANICAL ENGINEERING DEPARTMENT



Fig : Working of CNC & UMC machines



Fig : Various Products of IGTR

Some glimpses of visit are as under –





CONCLUSION

The visit ended around 2:00 pm. The overall response of the students was positive – below are listed feedbacks of few of the students

1. Interesting Experience seeing live production
2. Kindly arrange a visit in more Industries.

ACKNOWLEDGEMENT

The coordinators are grateful to the College authorities, Management and the Vice President – Dr. Manish Shah (LJK Trust) for supporting them to carry out such a program and for providing the support. Secondly, the coordinators would like to thank Dr. A.C. Suthar – Director (L.J.I.E.T.), who encouraged the coordinators for this program. Also, the coordinators extend their gratitude to the Head of the Department – Ms. Ami A Patel, who has played a major role by being there at the time of need. The Gwnwral Manager of the company **Mr. Indrakumar Hiraramani** without whom the visit was not possible and also the training manager **Mr. Lokeshkumar Oza**. Last but not the least; the students did a wonderful job and the coordinators are proud of each of their students.