

DEPARTMENT OF ECE

INDUSTRIAL VISIT TO SEMICONDUCTOR LABORATORY, CHANDIGARH

On 4th and 5th January, 2023, Department of ECE, MAIT organized an industrial visit to Semiconductor Laboratory (SCL), Chandigarh.

OUTCOME OF THE VISIT:

- The technology and the equipment engaged in the Semiconductor Laboratory (SCL) Chandigarh is in providing end-to-end solutions for development of Application Specific Integrated Circuits (ASICs), Opto-electronics Devices and Micro Electro Mechanical System (MEMS) Devices and many more.
- The various processes involved encompassing the Design, Fabrication, Assembly, Packaging, Testing and Reliability Assurance.
- SCL has 180 nm CMOS Technology on 8" Wafer Fabrication Line as per international standards and has a 6" Fabrication Line with CMOS/MEMS process capability.
- By technique of interactions with the scientist of the industry, students achieved more exposure towards the current work conditions of semiconductor industry.
- Industrial visit motivates the students to unite their theoretical knowledge of operations with the realistic knowledge of its authentic implementation.

We, a group of 34 Students of B.Tech. (3rd and 5th Semester, ECE) under the guidance and mentorship of Dr Sunil Mathur, Dr. Sumanta Kumar Kundu, Dr. Nitin Sharma, & Ms. Abhilasha Gokhale, got an opportunity to visit Semi-Conductor Laboratory (SCL) Chandigarh; an autonomous body under Ministry of Electronics & Information Technology (MeitY), Government of India; engaged in Research & Development in the area of Microelectronics to meet the strategic needs of the country, on 4th January, 2023.



The tour started from MAIT at 6:30am on 4th Jan morning and reached SCL Chandigarh in the afternoon around 2:00 pm .The staff of SCL welcomed all of us and briefed the introduction about their organization.

SCL is the only laboratory providing End-to-End services in the Semiconductor Industry. It is currently expanding to incorporate newer technologies and thus hopes to become the Semiconductor Hub of India.

The Scientists of SCL conducted various sessions to explain the intricate activities undertaken by SCL in the field of semiconductors technology. The scientists of SCL guided the students patiently resolving their queries and detailed the process of semiconductor chips Manufacturing. Starting from processing of Wafers to EDS and Packaging of ICs, CMOS MEMS & MOEMS, everything was explained in detail.

Curious questions from students, such as (a) conditions required during each process (b) what are the precautions to be taken care of (c) which machines are playing an important role in each process and (d) how are they being updated to the latest technologies etc and many more. All the Concerned Scientists explained above doubts with their great ideas.

Complications involved in the process were guided at each point so that new ideas can come up to tackle them. Students curated a chart of ideas to think beyond a certain limit and pen down their thoughts. Scientists showed the physical prototypes of various semiconductors device and circuits which were used in various space missions and defence sector and are in development to be used in different areas. .

Importance of Semiconductors in today's world was emphasized in each discussion session.

India is becoming the hub of this technological development for the world with a futuristic approach of present learning's.

The students enjoyed the hospitality in Chandigarh on night of 4th January and visited two mathematically curated public places (Rock Garden and Pinjore Garden), on 5th morning, that have beautiful structures made out of rocks and plants representing the hard work and love towards innovation of the curator. The placements of stones and the carvings made on them exhibited their creativity. The Students understood the practical importance of mathematics and science through fun discussion around these structures. They understood that creativity should be taken ahead and not left in lost scriptures.

We returned back to the college after their successful visit on 5th January at 10 pm.

We still remember some lines of that lyrics

We shall Overcome, we shall overcome

We shall overcome someday.

Oh, deep in my heart, I do believe,

We shall overcome someday.

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