

Industrial Visit to Industrial Engineering Instruments

Date: 29th July 2022

Venue: Peenya Industrial Area, Bangalore



Abstract: On 29 July 2022, the final year BSc students of the Department of Science, went for an industrial visit to Industrial Engineering Instruments located at 203, 12th Main Road, 3rd Phase, Peenya Industrial Area, Bangalore - 560058. This event met its objectives i.e. to provide the students insight regarding the function of Instrumentation companies. We departed from the college campus at 8:45 am and arrived at the industrial campus at 10:10 am.

The industry has strain gauge based sensors for load, pressure and torque measurement, LVDT sensors for displacement measurement, temperature sensors, flow sensors, proximity sensors etc. They also are a part of the logistic chain that supply testing instruments to the Indian armed forces for testing the functioning of the Nuclear Chemical and Biological (NCB) masks. They have also created various sensors and measurement devices for organizations both within and outside India. They have exported the test equipment to various countries including France and Vietnam among many other countries.

The Industrial visit was an eye opening experience for the students as they learnt about how various instruments were manufactured, developed and tested. Most of the instruments displayed were part of the testing equipment for the Indian defense. The instruments that were shown were mainly

1. Air force crew helmets
2. Air Force respirator masks
3. Nuclear Chemical and Biological (NCB) masks
4. Test rigs for complete testing of components as per customer requirements.
5. Onsite Pilot Oxygen Mask Test Rig for testing of pilot oxygen masks.

These equipment cost anywhere from ₹80,000 to ₹ 1,10,000 in the global market. Through the Made in India scheme, these products are manufactured in India at about 1/10th the manufacturing cost. The testing equipment in this industry is also globally certified. Students even saw how oxygen masks which filter toxic gasses are manufactured (the process and working). Another key point that was stressed during the industrial visit was that India was offering low cost testing of the equipment to friendly foreign countries and encouraging coordination and friendship between other countries and India.

The primary goal of such an indigenous industry is

1. To create and develop Indian-made equipment to help the economy.
2. To lower the amount of money spent on product testing in France and other nations by conducting this testing in India and
3. To provide tools to engineering colleges in order to promote comprehension and aid in the advancement of research.

Learnings captured

The students were divided into 2 groups. This facilitated the smooth conduct of the viewing of the instruments and the explanation for each of the instruments that were shown. The industrial visit was an eye opening experience for the students as they learnt about how various instruments were manufactured, developed and tested. Most of the instruments displayed were part of the testing equipment for the Indian defense.

The learning that were seen in the industry are as follows:

1. Industrial Engineering Instruments is a small industry that set out with a goal to manufacture and mass produce testing and sensor equipment for the accessories used by the Indian armed forces.
2. Instruments were manufactured using simple principles of stress, strain, load, pressure and torque.
3. A basic level of logic and programming knowledge is required for a career in this type of industry.
4. Creation of low cost, quality testing equipment within the country is now a reality.
5. To aid the economy, design and develop Indian-made equipment.