Product Design Laboratory (PD Lab)

The Product Design (PD) Lab. complements a number of theoretical courses, ranging Functional and Conceptual design to Detailed design. The purpose of the lab is to expose the students to the practical aspects of development of a product as an embodiment of a set of coherent components satisfying a set of identified functions needed in the product. Learning product design through reverse engineering is the basic purpose of the lab.

Students undergo a series of experiments using multiple products. Product dissection and understanding of the function and form of the components and subassemblies is the primary objective. A number of common consumer products such as the sewing machine, drilling machine, washing machine, water dispenser etc. are analysed by the students. Importance of team work in product design, mapping of component to function, concept generation for new and existing functions etc. and customer requirement satisfaction through product function are given emphasis.

The PD lab helps the students to become competent in facing the real-life challenges in product development. It inspires creativity, promotes team-work and professional discipline. The training in this lab, as well as the facilities available have helped the students participate with confidence in various design-related competitions, such as the Robocon, and the Brunel Design Show.

Laboratory venue details.

- Product Design Laboratory, **ED304**

Following are the resources available in the lab.

1. Power Drill
2. Blender and Breath Analyzer
3. CD Driver and Walkman
4. Rice Cooker
5. Water Dispenser
6. Coffee Maker
7. Mono Block Pump
8. Table Fan

9. Sewing Machine
10. Printer
11. Vacuum Cleaner

Following are the details of the lab experiments performed by the students.

Product Dissection experiments:

- Working principle and application – Brief note
- Disassembly plan
- Parts and function
- Design concept
- Product modules/assembly/sub assemblies
- Functional decomposition
- Geometrical layout
- Product architecture
- Design synthesis
- Design embodiment
- Include details of sub assemblies
- Comment on various improvements
- Suggest an alternative design of the product for the same function