

Electronics Design

 ✓ Electronics Design lab enables the students to understand and have hands-on exposure to complete life cycle of Electronics Product Designing



- ✓ Different short term and long term courses enabling the Electronics Design paradigm undertaken in the lab are as under:
 - Six months Industrial training Programme in Electronics Product Design
 - \circ Six weeks training programmes in
 - PCB Designing/Prototyping using OrCAD
 - Electronic Circuits and Devices
 - CAD/CAM solutions
 - Product Prototyping / 3D printing
- ✓ IoT and 3D printing are the disruptive technologies used by students to leverage the Smart industry / Industry 4.0 use-cases





Product Design and Development

- \checkmark The Product development life cycle has critical steps involved from concept to production and then marketing. Some of the basic steps involve Circuit designing, PCB designing, Selecting and programming the microcontroller chosen leading to final production.
- Before this through market survey needs to be done to check whether market exists for the said product. The market,





competition, costing, feasibility are some of the critical aspects before the Product Development Life Cycle initiates. Public choice, advantages, costing helps in deciding the necessary timelines.

✓ The Electronic Product Design Lab has requisite infrastructure to undertake the activities covered in the complete product life cycle.

Image courtesy : huckster.io



Certifications

Labcenter Electronics Ltd – United Kingdom

has awarded

First Centre of Excellence in India

for training and conducting courses on

Embedded Design and Simulation using Industry Relevant

Proteus VSM Embedded Design and Simulation Software



Products Developed

Touch free Hand sanitizer

(for Protection against COVID-19)

✓ Specifications:

- AC Mains operated (220 Volts AC, 50Hz)
- o Liquid based sanitizer/Soap up to 1 liter
- o Ultrasonic / Infrared controlled
- ✓ Features:
 - Low cost, Easy deployment
 - ABS Body (unbreakable Poly carbonate tank)
 - Safety, Convenience, Cleanness



Timer based AC mains Switcher

✓ Specifications:

- AC Mains operated (220 Volts AC, 50Hz)
- Output load up to 40 Amps
- ✓ Features:
 - \circ $\,$ Can control two devices upto 40 Amps $\,$
 - Currently (in picture) two 1.5 ton split
 ACs are run at 2hrs interval 24x7









LED Bulb / Lamp

- ✓ Specifications:
 - Mains operated 90 -300 Volts AC± 10 %, 50Hz
 - Power Output 3W, 5W
 - \circ Retrofitting
 - o Current regulated
- ✓ Features:
 - o Low cost
 - o Input Inrush Current Protection
 - o Surge Protection
 - Efficiency > 85 %
 - Pf > 0.95
 - Highly reliable



LED Tube Light

✓ Specifications:

- Mains operated 220V AC ± 10 %, 50Hz
- \circ Retrofitting
- o Output 15W
- $\circ \quad \text{Current regulated} \quad$

✓ Features:

- o Low cost
- No EMI Linear Topology
- Efficiency > 90 %
- \circ Pf > 0.87
- o Lumens output better than fluorescent
- o Highly reliable

