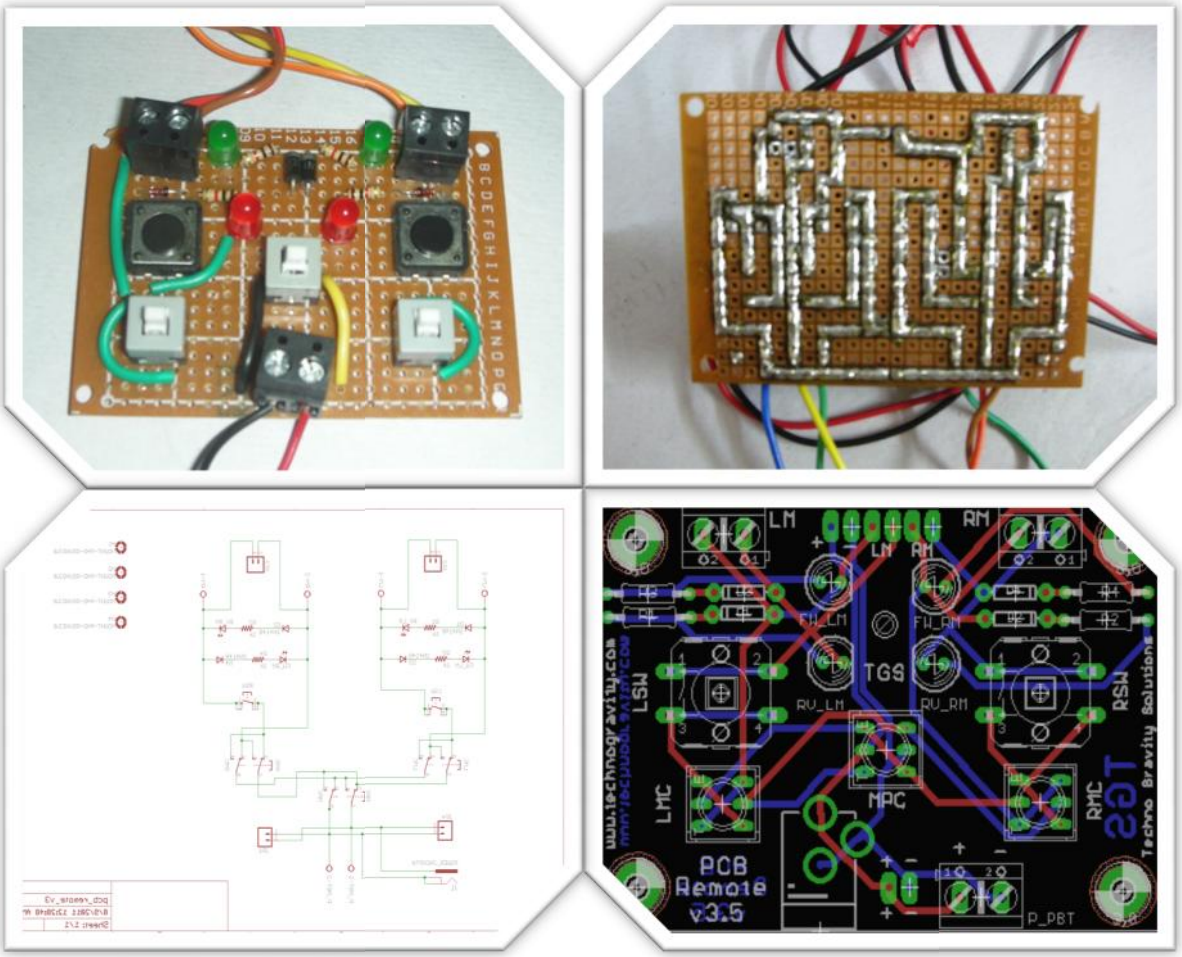
TECHNO
GRAVITY
SOLUTIONS

PDAP

PCB Designing and Prototyping



Embedded systems & Robotics | TGS

Part A - Prototyping

Description

In the first part of this course one learns to prototype different circuits. These circuits are developed on a General purpose PCB (general purpose PCB) using smart soldering practices.

Every circuit or product needs to be tested before being put to production and manufacturing. There are various ways of creating these test models. We at TGS also follow a certain process and with "PDAP" we would like to share this with you.

One learns how to design a circuit for a given application -> how to map the component holes on a general purpose PCB -> create blocks for minimum soldering -> optimize for minimum wire jumps and finally using track soldering to complete the circuit.

Prototyping is part of many industrial processes involving circuit making. Thereby, this becomes an essential Course!

Note: - Prototyping means making a sample / model / example of the actual circuit or design in consideration.

Course contents

1. Prototyping concept
2. Project application
3. Circuit design
4. Bread-boarding
5. PCBs introduction
6. Component Mapping
7. Solder optimization
8. Wire Jumps Optimization
9. Soldering practices
10. Track soldering

Duration

9 hrs. in total for part A.

Theory : Practical = 30 : 70

3 days X 3 hrs. per day i.e. 3 sessions in all.

Part B - PCB Designing

Description

This course introduces a student to the steps of circuit making. Circuit designing is a very important in the world of electronics; and needless to say about the future prospects.

We first understand various circuit types when we may pick a basic utility circuit to understand its design process. A paper design of circuit is just a theoretical representation which needs to be electrically represented.

PCB design is a process by which we realize a circuit into its electronic form. We learn the steps involved in designing a circuit board, through schematic and layout form. Then we understand how a PCB is manufactured.

It is said PCB designing is a very creative activity. And this course comes very handy for your career in the field of electronics.

PCB Designing is part of many industrial processes involving circuit making. Thereby, this becomes an essential Course!

Then what do you wait for?
Let your creative monster roar, and your career soar ☺

Course contents

1. PCB Design Orientation
2. Getting started with Tools
3. Placing, editing, and connecting parts
4. Adding and editing text
5. About libraries and part
6. Parts placement
7. Adding graphics
8. Routing guidelines and setting

Duration

15 hrs. in total for part B.

Theory : Practical = 20 : 80

5 days X 3 hrs. per day i.e. 5 sessions in all.

Common Kit

Kit contents

1.	General Purpose PCBS	2x
2.	LEDs	6x
3.	Slide Switch	1x
4.	Turbo Switches	3x
5.	2-pin PBT Connectors	3x
6.	Diodes	4x
7.	Resistors	4x
8.	3V Battery Holder	1x
9.	9V Battery Snap	1x
10.	3V Battery	1x
11.	9v Battery	1x
12.	LED Soldering Iron	1x
13.	Soldering wire rolls	2x
14.	Quick Flux	1x
15.	De-soldering pump	1x