



## Curriculum Of PCB Design

### **INTRODUCTION TO CIRCUIT DESIGNING**

- Need of Circuit Designing
- Introduction to Electronic Components
- How to Select Components
- Basic Circuit Designing Process
- Types of PCB's used
- The Designing Process

### **INTRODUCTION TO CIRCUIT SIMULATION TOOL**

- Exploring the Simulation Tool
- Adding and Exploring Component Libraries
- Creating 5VDC Multivibrator Circuits
- Adjusting Voltage, Current and Values of Components
- Creating 220VAC Power Circuits
- Connection Troubleshooting

### **INTRODUCTION TO PCB DESIGNING TOOL**

- Exploring the Designing Tool
- Loading components in Library
- Working on component schematic
- Working on component footprint
- Working on component 3D model
- Working on Annotations Marking

### **DEVELOPING A SCHEMATIC**

- Schematic sheet Setup
- Placing components in schematic
- Annotation of the components
- Routing the schematic
- Working on net class
- Adjusting Net Parameters
- Working on port connections
- Multiple sheet schematic
- Design rule check
- Adding text
- Shape and image
- Troubleshooting Warnings and Errors
- Generating Netlist
- Printing Schematics



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### DEVELOPING A LAYOUT

- Configuring the Circuit Board
- Understanding the Board Layers
- Placing components in layout
- Routing the components
- Working on Copper Pouring
- IPC Standard Rules and Conventions
- Multiple Layer Routing
- Placing Ground and Power Planes
- Design rule check
- Adding text, shape and image
- Troubleshooting Warnings and Errors
- Generating Gerber Files
- Generating N/C Drill Files
- Working on 3D View
- Generating 3D View Files

### PCB PRINTING AND ETCHING PROCESS

- Printing the Layout
- Developing copper clad layout
- Etching the clad
- Drilling for holes
- Mounting components and soldering
- Troubleshooting