National Institute of Electronics & Information Technology
Gorakhpur – Extension Centre Lucknow
(Under Ministry of Electronics and Information Technology, Govt. of India)
MMMUT Campus, Deoria Road, Gorakhpur-273010
http://www.nielit.gov.in/gorakhpur/

PCB Design using OrCAD

Course in PCB design using OrCAD

2 Weeks Online Course

Duration: - 2 Weeks. (2 Hrs. per day)

Objective

To train the participants and provide them the knowledge of complete PCB design flow using proprietary tool OrCAD. Candidates will get hands on training on OrCAD tool through Virtual Lab.

Eligibility

Diploma / B. Sc. / B. Tech. in Electronics / Electrical / Instrumentation (Completed or Pursuing)

Prerequisite

- ✓ Candidate must have latest computer/laptop with preferably 4 GB RAM or higher and Graphics Card (1 GB)
- ✓ Internet connection with good speed *(preferably 2Mbps or higher)*

Course Fees

Rs. 1500/- incl. GST & all other charges.

Certificate

Certificate will be provided to the participants, based on minimum 75% attendance and on performance (minimum 50% marks) in the online test, conducted at the end of the course.

Methodology

- ✓ Instructor-led live classes.
- ✓ Instructor-led hands-on lab sessions.
- ✓ Content Access through e-Learning portal.
- ✓ Assessment and Certification

How to Apply?

- ✓ **Step-1:** Read the course structure & course requirements carefully.
- ✓ **Step-2:** Visit the Registration portal and click on apply button.
- ✓ **Step-3:** Create your login credentials and fill up all the details, see the preview and submit the form.
- ✓ **Step-4:** Login with your credentials to verify the mobile number, email ID and then upload the documents, Lock the profile and Pay the Fees online, using ATM-Debit Card / Credit Card / Internet Banking / UPI etc.

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Course Content

Day	Topic	Day	Topic
Day #01	• Introduction to Printed Circuit Board (PCB) • PCB Fabrication Process • Design flow with OrCAD • Creation of a project • Accessing the components • Implementation of Schematic • Simulation of Circuit using Pspice Simulation • Run time settings	Day #02	• Study of datasheet for packaging information • Adding footprints to the components • Creating the netlist • Importing the components on ORCAD PCB Editor • Placing and moving the components as per design sequence • Routing the components
Day #03	• Generating the Gerber files /manufacturing files and documentation for PCB fabrication • Generation of Bill of Material (BOM)	Day #04	• Creation of your own THT symbol • Creation of footprint using pad stack editor for THT
Day #05	• Creation of your own SMD symbol • Creation of footprint using pad stack editor for SMD	Day #06	• Assignment 1: Complete Design flow of two stage RC circuit on OrCAD Tool • Assignment 2: Complete Design flow of Diode Clipper circuit on OrCAD Tool
Day #07	• Assignment 3: Complete Design flow of BJT Q2N2222 as switch on OrCAD Tool • Assignment 4: Complete Design flow of Wein bridge oscillator circuit using IC 741 OPAMP on OrCAD Tool		
Day #08	• Assignment 5: Complete Design flow of Adjustable Voltage Regulator using IC LM317 on OrCAD Tool		
Day #09	• Assignment 6: Complete Design flow of Low cost power supply (DC-DC) using 1N4734A on OrCAD Tool		
Day #10	• Assignment 7: Complete Design flow of low cost programmable power supply(AC-DC) using IC LM317 and IC 7805C on OrCAD Tool		

Course Coordinator

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