MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(UGC-AUTONOMOUS INSTITUTION)

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NAAC Accredited with A+ Grade, NIRF India Rankings 2024 - Band: 201 - 300 (Engg.)

NBA Accredited - B.Tech. (CIVIL, CSE, CST, ECE, EEE, MECH), MBA & MCA

A Report on

Three Days Hands-on Workshop on PCB Design using KiCad

Organized by

Department of Electrical & Electronics Engineering (EEE) in association with MITS IEEE PES Student Branch Chapter (SBC64791N), Training & Placements

01.09.2025 to 03.09.2025

Convener: Dr. A V Pavan Kumar, Professor and Head, Department of EEE, MITS.

Coordinator (s): 1. Dr. K. Lakshmi Khandan, Associate Professor, EEE Department

2. Dr. Vineet Kumar, Assistant Professor, EEE Department.

Attendees: 64 students

Venue: Simulation Lab, ECE   **Time: 9.30 AM – 4.30PM**

1. Objective of the Workshop

The primary goal of this workshop was to enhance the practical knowledge of students in **Printed Circuit Board (PCB)** design using **KiCad.** The workshop was tailored to bridge the gap between theoretical circuit design and real-time implementation skills by focusing on:

- Understanding the fundamentals of PCB design using KiCad Software.
- Hands-on schematic design and board layout techniques.
- Preparing students for real-world industry-oriented electronic design.

Angallu, Andhra Pradesh, India
1-78, Angallu, Andhra Pradesh 517326, India
Lat 13.630372° Long 78.479271°
01/09/2025 02:18 PM GMT +05:30

2. Resource Person

Mr. Mahesh M

Senior CAD Trainer – Electrical Engineering Design

Experience: 20+ Years in CAD, CAE & Electrical Design Automation

Mr. Mahesh is a seasoned CAD trainer specializing in Electrical Design and PCB prototyping. He has mentored over 5000 students and professionals and has deep expertise in:

- Autodesk Eagle PCB Design
- AutoCAD Electrical
- Cadence OrCAD
- Electrical system design and documentation

His training approach emphasized real-time projects, simulation-driven learning, and best practices in industrial documentation.

3. Workshop Structure

The workshop was spread across two full days with theoretical sessions and practical demonstrations, aligned with industry practices.

Day 1: Schematic Design

- Overview of Kicad: UI, workspace, and components
- Creating a new project and schematic design
- Managing libraries and wiring components
- Working with nets, buses, and power symbols
- Group activity: Mini project schematic design

Day 2: PCB Layout

- Board layout editor and creating PCB from schematic

Day 3: PCB Layout and Output Files

- Routing techniques – manual and auto-routing
- Final hands-on project integrating schematic to layout
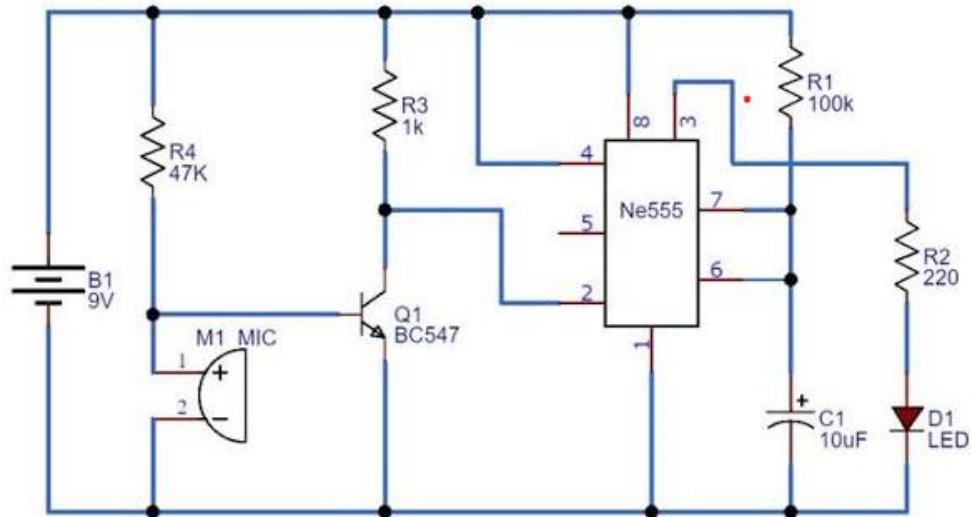- Q&A, feedback session, and certificate distribution

Timings: 9.30 AM to 4:30 PM on all days

4. Participants

The workshop witnessed active participation from **3rd year B. Tech EEE students**. Students worked on systems with KiCad installed and showed great enthusiasm in engaging with the hands-on design sessions.
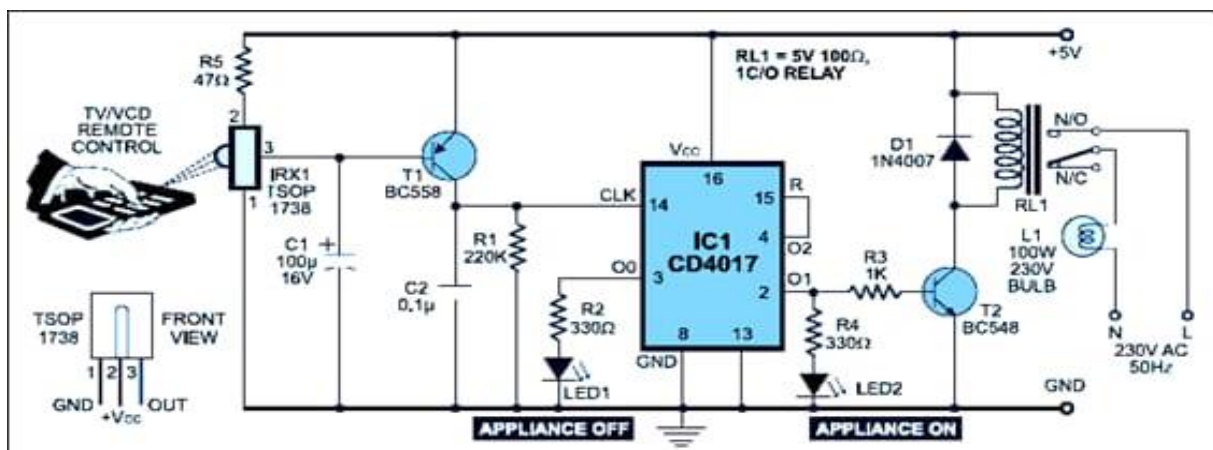
Clap Switch

5. Overview of Workshop

The Three Days Hands-on Workshop on PCB Design using KiCad was formally inaugurated on the morning of 1st September 2025 at the Simulation Lab, Department of Electronics and Communication Engineering, Madanapalle Institute of Technology & Science (MITS).

The session began with a welcome note delivered by Dr. K. Lakshmi Khandan, Associate Professor, EEE Department, and the Workshop Coordinator. He warmly welcomed the dignitaries, Dr. Praveen Kumar, Senior Training & Placement Officer, Dr. A V Pavan Kumar, Professor & HOD-EEE and the invited trainer, faculty members, and the participating students.

Then Dr. K. Lakshmi Khandan emphasized the importance of PCB design skills for aspiring electrical engineers and highlighted how this workshop bridges the gap between academic knowledge and practical industrial applications. Following that, the welcome address was given by Dr. A. V. Pavan Kumar, Professor & Head of the Department of EEE and Workshop Convenor, who addressed the gathering. He also expressed appreciation for the initiative under the banner of the MITS IEEE PES Student Branch Chapter (SBC64791N) and encouraged students to make the best use of the hands-on opportunity to work with KiCad.

The workshop concluded with a formal vote of thanks delivered by Dr. K. Lakshmikhandan, Associate Professor, Department of EEE. He expressed heartfelt gratitude to the Management,

Principal, Vice-Principals (Academic & Administration) and HOD, Department of EEE for their unwavering support in organizing the event. He extended special thanks to the Convenor, Dr. A. V. Pavan Kumar, Professor & Head of the Department of EEE, for his leadership and initiative in conceptualizing and guiding the workshop. Dr. K. Lakshmikhandan also thanked the resource person, Mr. Mahesh M, for delivering a highly practical and insightful training session. He acknowledged the efforts of the coordinator, faculty members, and student volunteers for ensuring the smooth conduct of the event. He appreciated the active participation of students and encouraged them to apply the knowledge and skills gained to real-world circuit design and PCB development tasks.

6. Outcomes

- Participants gained hands-on experience in KiCad for PCB design, covering schematic creation, component placement, layout routing.
- Students were exposed to industry-standard practices such as design rule checks (DRC), net management, and export procedures, aligning their skills with real-world engineering workflows.
- The practical sessions and mini-projects enhanced students' design thinking, debugging capabilities, and their ability to convert theoretical circuits into manufacturable PCB layouts.
- Each participant received a certificate of course completion, adding tangible value to their academic and professional profile in the domain of electronics design.

7. Feedback

Did you feel adequately prepared for the **technical and HR interviews**?

25 responses
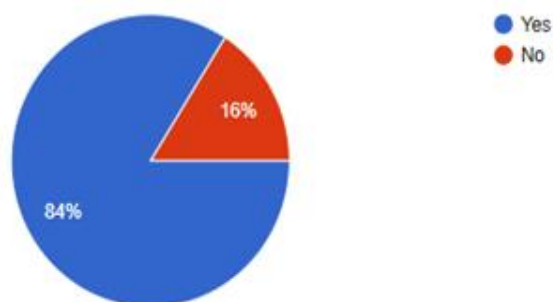
- Yes
- No

16%

84%

Were the PCB practical training concepts relevant to your branch/area of interest?
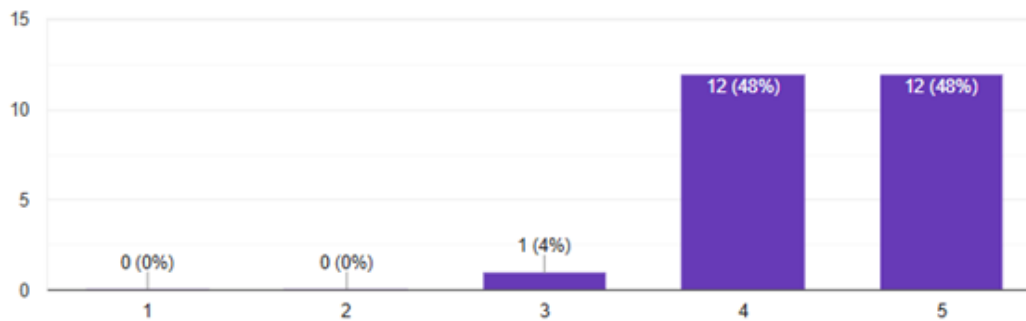
25 responses

- Yes
- No

100%

Were the PCB practical training concepts relevant to your branch/area of interest?

25 responses

How would you rate the overall placement drive experience?

25 responses

Signature of Faculty Coordinator

Signature of HoD

Thanks and with Best Regards,

Dr. K. Lakshmi Khandan
Associate Professor, Department of EEE & Department Placement Coordinator,
MITS, Madanapalle.