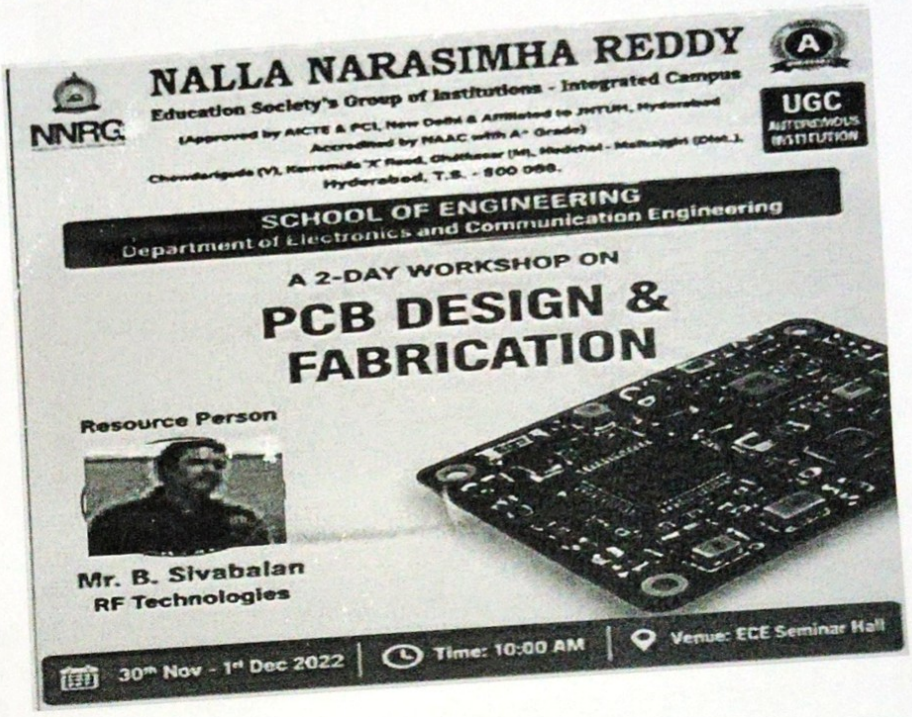
Date: 02-12-2022

Report

on

Two -Day Workshop:PCB Design & Fabrication

Date Organized	Title of Program	Name of Resource Person	Participants
30/11/2022 to 01/12/2022	"PCB Design & Fabrication"	Mr. B. Sivabalan, RF Technologies	B. Tech. ECE IV (42 Students) and ECE faculty members



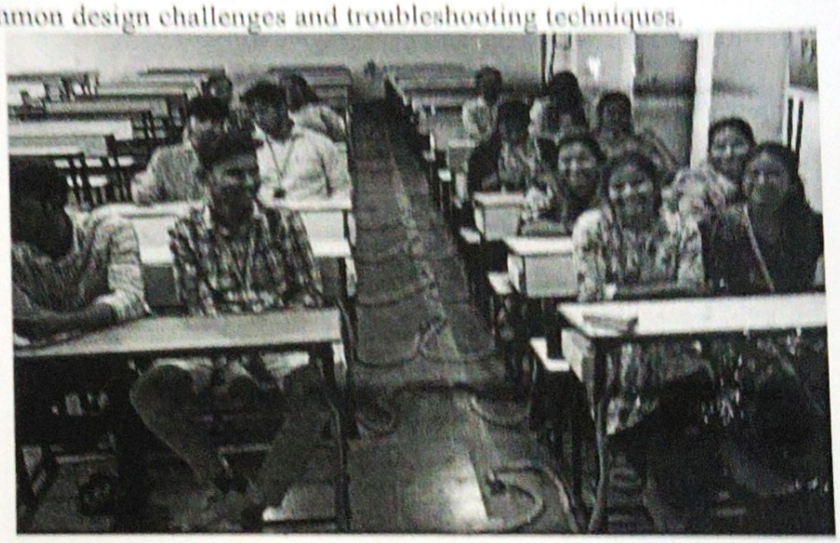
Purpose of the Program

This workshop aimed to provide students with practical knowledge of Printed Circuit Board (PCB) design, fabrication, assembly, and testing processes. It was designed to bridge the gap between theoretical electronics and industrial hardware development by introducing modern PCB design methodologies and manufacturing standards used in electronic product development.

Day-wise Report

Day 1: Students were introduced to PCB technology, schematic capture, component selection, PCB layout design, and design rule checking using professional PCB design software. Practical demonstrations enabled participants to understand the complete PCB design process from circuit schematic to board layout.

Day 2: The second day focused on PCB fabrication techniques, Gerber file generation, soldering methods, surface mount technology (SMT), PCB assembly, testing procedures, and quality assurance. The resource person demonstrated industrial manufacturing workflows and explained common design challenges and troubleshooting techniques.



Program Highlights

The workshop featured live demonstrations of PCB design software, industrial fabrication methods, Gerber file generation, PCB assembly, and testing techniques. Students benefited from real-world examples, interactive discussions, and exposure to industry standards followed in electronic manufacturing companies.

Outcome of the Program

Students developed a strong understanding of PCB design and fabrication processes, learned to prepare PCB layouts using professional tools, and gained knowledge of manufacturing and testing techniques. The workshop enhanced their practical skills in hardware design and increased their confidence in developing electronic products for industrial applications

PO–PSO–SDG Mapping

Program Outcomes (POs)	Program Specific Outcomes (PSOs)	Sustainable Development Goals (SDGs)
PO1 – Engineering Knowledge	PSO1 – Apply Electronic Circuit Design Concepts	SDG 4 – Quality Education
PO2 – Problem Analysis	PSO2 – Develop Embedded Hardware Solutions	SDG 8 – Decent Work & Economic Growth
PO3 – Design & Development of Solutions		SDG 9 – Industry, Innovation & Infrastructure
PO5 – Modern Tool Usage		
PO9 – Individual & Team Work		
PO12 – Life-long Learning		

Outcome Analysis

Assessment Parameter	Analysis
Student Participation	Excellent participation during both days
Practical Knowledge	Considerable improvement in PCB design and fabrication concepts
Tool Usage	Students gained experience with PCB design software
Student Feedback	Highly positive
Overall Success	Workshop objectives were successfully achieved

Overall Impact

The workshop effectively bridged the gap between theoretical electronics and practical hardware development by providing comprehensive exposure to PCB design and fabrication. Students gained valuable hands-on experience in PCB layout, manufacturing workflows, and quality assurance practices, thereby enhancing their technical competence and employability in the electronics industry.

HoD

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