



# LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

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## Report on Three-Day work shop on PCB Design

Event Type	:	Workshop
Date / Duration	:	04.07.2022 to 06.07.2022 /Three days
Resource Person	:	1.Mr.C.Sudhakar Reddy – SRC e Solutions 2.Mr.P.S.Satya Kumar – SRC e solutions
Name of Coordinator(s)	:	Dr.G.L.N.Murthy & Mr.P.James Vijay
Target Audience	:	II Semester B.Tech Students
Total no of Participants:	:	II semester Students-182 Nos.
Objective of the event:	:	To expose the students to usage of modern tools in the design & development of Electronic systems.
Outcome of event	:	By attending the workshop, the students can be able to perform Mini as well as Major projects, as part of the curriculum. Further, the students will gain knowledge on hardware design related issues that enables them to face interviews confidently.

### **Description / Report on Event:**

The three day workshop began with inaugural address by Dr.Y.Amar babu, Head , Department of ECE ,who highlighted the significance of the training. It was mentioned that the students should always learn the basics needed for doing mini or main projects. Printed circuit board design will definitely enable the students to get acquainted both software and hardware requirement needed for circuit design. As the technology is continuously evolving, students should also enhance their skills in the emerging areas, instead of always restricted to curricular knowledge, as told by the head of the department. Dr.G.L.N.Murthy, Coordinator , RC club, have informed the students about initiatives taken by the department to enhance the learning and presentation skills of the students. It was told that department is having technical magazine and RC club to promote the inherent skills of the students as well as exposing them to current trends. activities that are being conducted by Reconfigurable computing

club. All the students are advised to actively participate in such events and enhance their skills. In the first session, resource person Mr.C. Sudhakar Reddy explained the basic concepts of circuit design. It was told that in regular laboratories, bread board is used to perform the experiments which is always not reliable. If any wire is missed, the outcome of the experiment will be affected. Unlike this scenario, if Printed circuits are available, batch production can be used to generate multiple boards. All the students were explained about the significance of PCB design and the steps in the design process. The layout and the interconnects should be optimally planned that results in such a board where there exist no problems in near future.

A printed circuit board (PCB) mechanically supports and electrically connects electronic components or electrical components using conductive tracks, pads and other features etched from one or more sheet layers of copper laminated onto and/or between sheet layers of a nonconductive substrate. Components are generally soldered onto the PCB to both electrically connect and mechanically fasten them to it. Printed circuit boards are used in all but the simplest electronic products. They are also used in some electrical products, such as passive switch boxes.

In session two, all the students were taken to Systems and Signal processing laboratory for simulating the PCB design process. All the students have practiced proteus software that is used for electronic circuit simulation. The Proteus Design Suite is a proprietary software tool suite used primarily for electronic design automation. The software is used mainly by electronic design engineers and technicians to create schematics and electronic prints for manufacturing printed circuit boards

In the last session students have been taken to ECE seminar hall for prototyping of circuits they have simulated. The students have done etching followed by printing the circuits designed using software on the board. Later, one sample circuit using IC 555 was developed. All the students grouped in batches, have exposed to hands on practice on various steps in the circuit preparation. On each day same schedule is followed.

#### **Feedback / Suggestions :**

1. More time for practice session
2. Practicing of schematic and layout need to be done twice or thrice
3. Conduct programs every three months
4. More hardware components are to be given as each can practice effectively.
5. Demonstration should be done in the laboratory than in the class room.
6. During practice sessions each individual student is to be taken care.

## Comments on feedback:

1. As the work shop needs both theory and practice sessions balanced, one day is not sufficient. However, conducting the workshop for more than one day as well as more frequently will affect the syllabus coverage and financial burden on the students.
2. Batch size will be reduced from next time onwards so that individual effort can be increased.
3. Demonstration completely in the laboratory is not possible as some theoretical concepts are to delivered to complete section. However, the duration of the classroom session will be reduced from next time onwards.

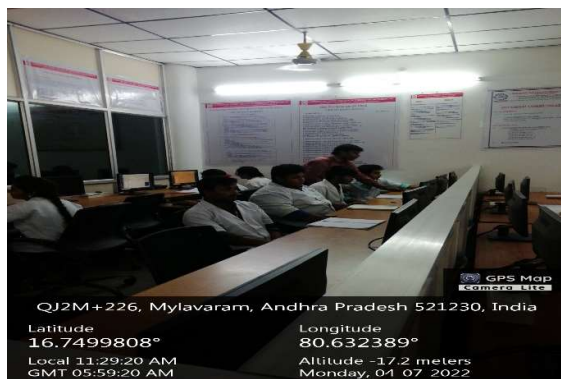
## Photos:



Addressing by Dr.Y.Amar Babu,  
Head of the Department



Introductory session by Sri.C.Sudhakar Reddy, SRC e  
solutions, Vijayawada



Practice session using Proteas software



Students implementing the circuit designed in software using  
hardware

