



Department of Electronics and Communication Engineering

Report on the 5 Days Workshop on Fundamentals of PCB

Design and Fabrication

A 5 Days Workshop on “Fundamentals of PCB Design and Fabrication” was organized by Department of Electronics and Communication Engineering, S.E.A College of Engineering and Technology, Bangalore from 13th-17th December, 2022 in association with Indian Tech Keys. The timings for Morning Session was 09.00 am to 12.45 pm and afternoon Session was 1.30 to 4.00 pm. The workshop was arranged for pre final year and second year ECE students. Nearly 44 students participated in the workshop. Inauguration for the workshop was held on CSE seminar hall on 8th November, 2022 at 10:00am. The function was presided by Dr.B.Venkatanarayana, Principal, SEACET and introduction of resource persons were given by Dr. Pradeep Kumar N.S., HOD, ECE, SEACET. The resource persons from Indian Tech Keys are Mr. Kotresh M and Ms.Shrenika R M. MOU was signed between Indian Tech Keys and S.E.A College of Engineering and Technology for three years.

About Workshop:

S.E.A COLLEGE OF ENGINEERING & TECHNOLOGY
AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY & APPROVED BY ALL INDIA COUNCIL OF TECHNICAL EDUCATION (AICTE)
Ekta Nagar, A. Krishnappa Circle, Ayyappanagar
Devasandra Main Road, Virgo Nagar Post, K.R. Puram, Bangalore - 560 049.
Department Of Electronics and Communication Engineering
Orgnizes
Five Days Workshop on
“Fundamentals of PCB Design and Fabrication”
in association with
In Association wirth IIC, IQAC and Indian Tech Keys
On 13th - 17th December 2022
Venue : AC Seminar Hall

Sri A. Krishnappaji
Founder Chairman
S.E.A Group of Institutions

INSTITUTION'S INNOVATION COUNCIL
(Ministry of HRD Initiative)

Objective of the Workshop:

The broad objective of this Workshop is to introduce printed circuit board designing and fabrication where participants will get exposure to DesignSpark PCB designing industrial tool (Open Source) of printed circuit board designing.

Resource Person of the Workshop:

Resource Persons for the Workshop are Mr. Kotresh M and Ms.Shrenika R M from Indian Tech Keys. The details about the resource person Mr. Kotresh M is given below.

KOTRESH MUNDRUGI

Bengaluru, KA 560038 | 953 850 5796 | kotreshm@indiantechkeys.com

Professional Summary

Dedicated Entrepreneur accomplished in concept development, feasibility analysis and securing the funding necessary for successful business growth. Motivated business professional bringing a 5-year career in small business ownership. Business development and social media expert who quickly masters new concepts and technologies to drive successful businesses. Skilled Embedded System Designer with experience in the RS Components and Controls-India industry. Highly skilled software development professional bringing more than 5 years in software design, development and integration. Offering advanced knowledge of App development and [python](#) programming languages. Background writing code and developing systems for [IoT Industry](#) applications.

Skills

- Full product life cycle
- Project leadership.
- Full stack developer for WebApps and Mobile Apps.
- IoT Product design.
- PCB layout design.
- Embedded System.
- Strategic partnership building.
- Business recovery and sustainability.
- Hiring, training and supervision.
- Software Platforms.

Work History

Owner/Director

05/2015 to Current

Indian Tech-Keys – Bengaluru, KA

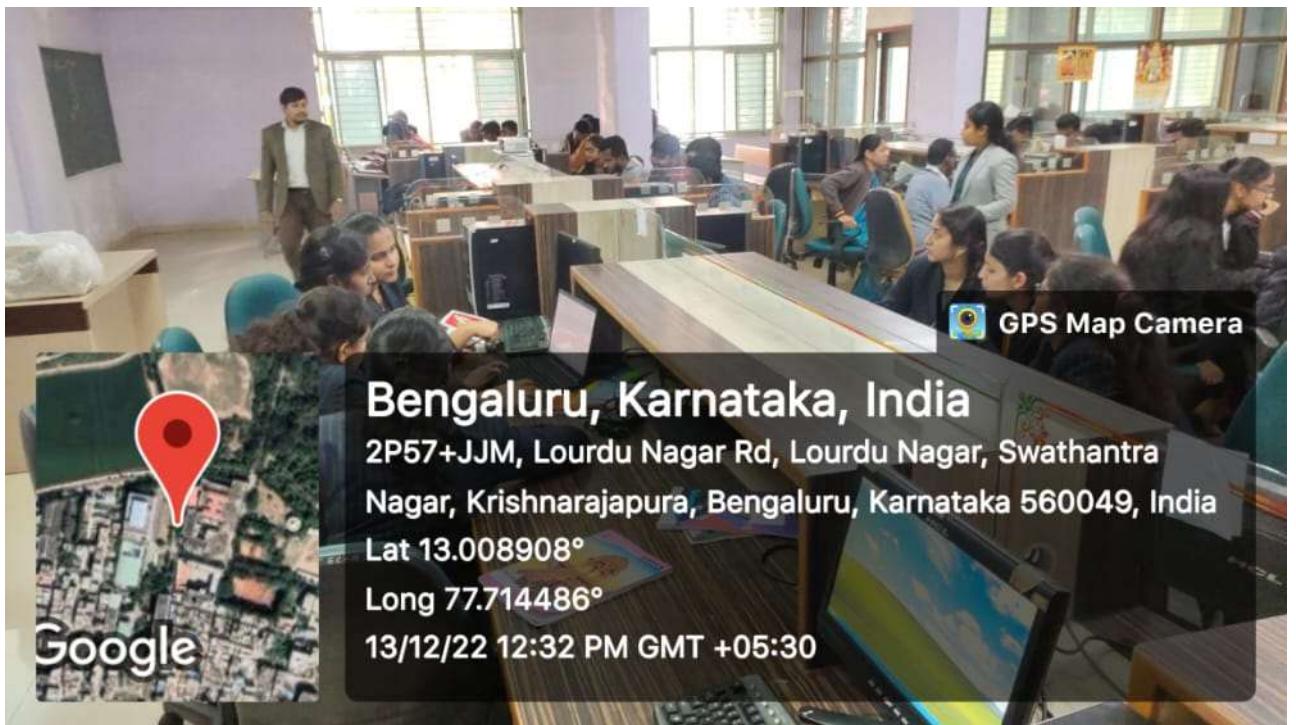
- Encouraged good behaviors using the positive reinforcement method.
- Organized and engaged in recreational activities such as games and puzzles.
- Managed installation, upgrade and deployment projects and provided on-site direction for network engineers.
- Designed and implemented system security and data assurance.
- Participated in all phases of system development life cycle, from requirements analysis through system implementation.

First day 13.12.22

The First day 13.12.22 workshop Inaugural function was held on AC seminar hall at 10:00am. MOU was signed with Indian Tech Keys during Inaugural. Later the workshop started by 11:00 am. In the first day the resource person gave introduction about the discrete components with working principal and its applications in circuits. Fundamentals of circuit rig up. Testing and troubleshooting the circuits. Introduction to DesignSpark PCB tool.

Screen Shots for First day 13.12.22







Second day 14.12.22

The Second day 14.12.22 Forenoon and Afternoon sessions resource person delivered lecture on how to do schematic design using DesignSpark PCB tool for different application circuit. Own library creation, components creation. PCB layout design for single sided PCB board fabrication. Gerber file generation from DesignSpark PCB tool fabrication.

Screen Shots for Second day 14.12.22





Third day 15.12.22

The Third day 15.12.22 Forenoon and Afternoon sessions resource person delivered lecture on fabrication of board using plane copper clad. Chemical etching to get etched board. Drilling components placement and soldering for board fabrication. Testing and troubleshooting methods.

Screen Shots for Third day 15.12.22





Fourth day 16.12.22

The Fourth day 16.12.22 Forenoon and Afternoon sessions resource person delivered lecture on Mini project implementation using fabrication boards. Two layer PCB designing. Gerber File viewer.

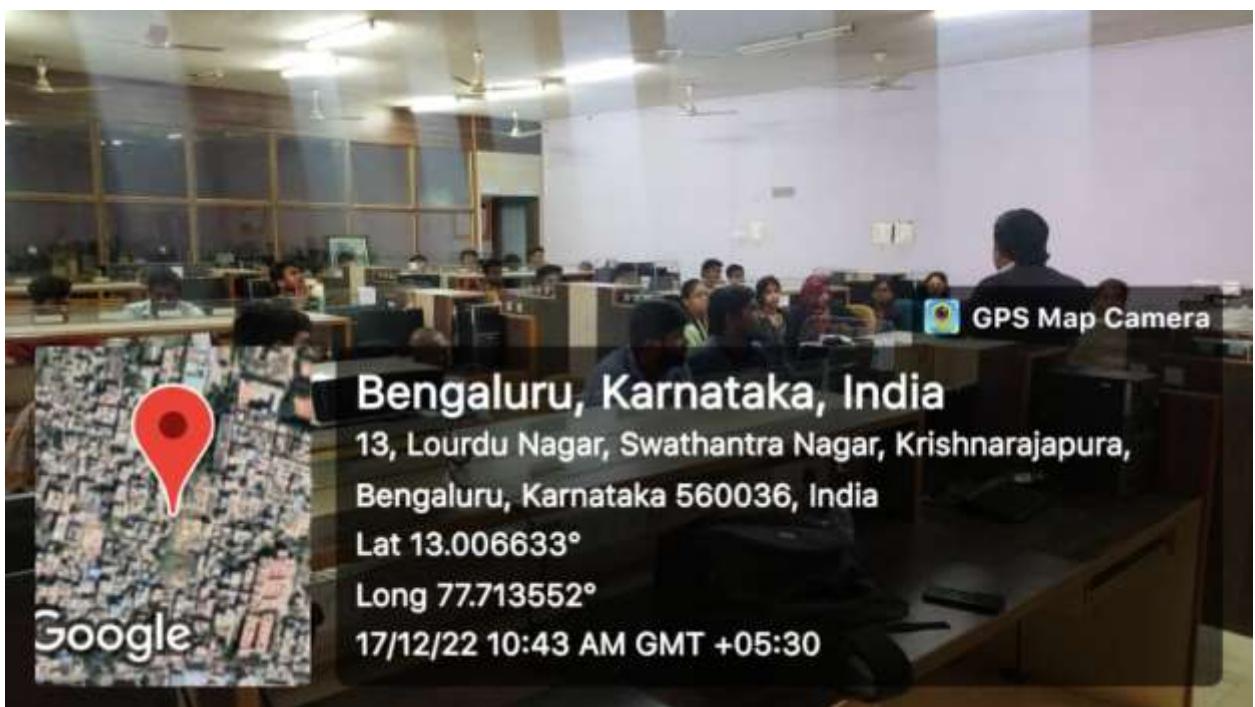
Screen Shots for Fourth day 16.12.22



Fifth day 17.12.22

The Fifth day 17.12.22 Forenoon and Afternoon sessions resource person conducted the assessment about the PCB. Assessment for Grade rating. Clarification of doubts.

Screen Shots for Fifth day 17.12.22





The Workshop was concluded at 03.00pm. The workshop ended with the vote of thanks by Dr. Pradeep Kumar N.S., HOD, ECE, SEACET. Management sponsored for Lunch to resource persons for all five days and Hi-tea to faculties and students of ECE department for all the 5 days. Feedback forms were collected from students at the last day. The workshop was highly informative to students. Thus workshop provided valuable awareness and insights on the various aspects of fabrication of PCB.

Outcome from the Workshop:

- Concept to product development skill.
- Exposure to Analog and Digital ICs.
- Schematics capture, PCB foot print design skill using DesignSpark
- Unit testing and Circuit debugging
- Understanding of PCB fabrication process

Students Name list – Workshop:

Sl. No	USN	NAME OF THE STUDENT
1	1SP21EC001	AISHWARYA D
2	1SP21EC002	AISHWARYA H R
3	1SP21EC004	BHARADWAZ R
4	1SP21EC006	GODLAVEETI GURUMAHESH
5	1SP21EC008	JAGATI SAI TEJA
6	1SP21EC010	KANNIKA P N
7	1SP21EC011	KARTHIK V H
8	1SP21EC12	KEVIN GEORGE D
9	1SP21EC13	L PAWAN KUMAR
10	1SP21EC14	MOHAMMED NAWAZ ULLAH
11	1SP21EC15	NIKHIL K
12	1SP21EC17	RANJITHA M
13	1SP21EC18	S YUVARAJ
14	1SP21EC020	SAHANA H
15	1SP21EC21	SHAMME ZEHRA
16	1SP21EC22	SINDHU K J
17	1SP21EC23	SINDHU V
18	1SP21EC24	SKANDA P
19	1SP21EC25	SONIKA N
20	1SP21EC027	SPOORTHI J
21	1SP21EC28	SRIDHAR S MELI
22	1SP21EC30	SUZAIN KHANUM
23	1SP21EC031	THIRTHAKUMAR H B
24	1SP21EC32	VAISHNAVI PATIL
25	1SP21EC33	VARAPRASAD K
26	1SP21EC34	VENUGOPAL H R
27	1SP21EC35	VYSHNAVI A R
28	LATERAL ENTRY	ASWINI T
29	LATERAL ENTRY	CHARITHRA RANI
30	LATERAL ENTRY	KARTHIKEYA K
31	LATERAL ENTRY	SAI NIKHIL
32	LATERAL ENTRY	SUDEEP B S
33	1SP19EC001	ABHILASH C
34	1SP19EC002	ANIRBAN SANKI
35	1SP19EC003	ANIYA KAUSAR
36	1SP19EC004	ARBEEN TAJ
37	1SP19EC006	BINU B
38	1SP19EC007	BYREGOWDA N
39	1SP19EC015	MANJUNATH B
40	1SP19EC017	NAVEEN.Y
41	1SP19EC022	RAJESH P
42	1SP19EC026	V.Y SANTHOSH
43	1SP19EC027	YESHWANTH GOWDA
44	1SP19EC028	YOGESH V

Students Attendance sheet (scanned):



S.E.A College of Engineering and Technology
Department of Electronics and Communication Engineering (ODD 2022-23)

5 days Workshop on "PCB DESIGN & FABRICATION"- Attendance sheet

Sample Feedback forms from students (scanned):

 **S.E.A COLLEGE OF ENGINEERING & TECHNOLOGY**
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
Basavanapura, Ekta Nagar, K.R.Puram, Bangalore-560049

Students Feedback Form

5 Days Workshop on 'PCB Design and Fabrication' from 13-12-22 to 17-12-22

Workshop Name: PCB Design And It's Fabrication Date: 20/12/22
Name of the Institution: S.E.A College of Engineering and Technology
Program Date: 13/12/22 to 17/12/22 Program Mode (Online/Offline): OFFLINE
Name of the Participant: SPOORTHI-J
Department: ECE
USN NO: 1SP21ECD27
Year and Semester: 2nd Year III SEM
Address: # 28 2nd Cross near mosamma temple Chinnapanahalli, Bangalore - 37.
Phone No: 8088199828 Mobile No: _____ e-mail ID: spoorthi03@gmail.com

➤ Write down the benefits got by attending this program
I learnt how to design single layer PCB and fabrication.

➤ Any Notes or Content Material provided (Y/N): YES

➤ Does this program have brought any change in your understanding of the subject, skills and your attitude towards the learning ?
YES

➤ Have you found any innovative idea of making learning process from this program? Explain.
YES

➤ Whether initiatives like this should be organized in the coming future or not? Give reason.

Yes, Planning workshop in future will help to improve our skills.

➤ How do you plan to share the gained knowledge/skill with your friends who did not attend the program?

Sharing the software application and notes provided during the workshop.

✓ Kindly give rating to the different aspects of Workshop (Out of 10 marks)

Particular	Marks Given	Any Remarks
(a). Course Content	10	
(b). Resource Persons	10	
(c). Presentations	10	
(d). Interactive Sessions	10	
(e). Reading Material	10	
(f). Basic Facilities	10	
(g). Overall	10	


Signature of the Participant



S.E.A COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Basavangudi, Ekta Nagar, K.R.Puram, Bangalore-560049

Students Feedback Form

5 Days Workshop on 'PCB Design and Fabrication' from 13-12-22 to 17-12-22

Workshop Name: PCB design and Fabrication Date: 20/12/22

Name of the Institution: S.E.A college of engineering & Technology

Program Date: 13-12-22 to 17-12-22 Program Mode (Online/Offline): offline

Name of the Participant: Anirban Sanki

Department: Electronics & Communication

USN NO: 1SP19EC002

Year and Semester: 4th Year 7th Sem

Address: S.E.A international Boys Hostel, Bangalore, 560049

Phone No: _____ Mobile No: 7063228092 e-mail ID: anirbansanki537@gmail.com

➤ Write down the benefits got by attending this program?

The overall experience is very good. I have learnt
so much about PCB design and fabrication.
It was very informative program.

➤ Any Notes or Content Material provided (Y/N): Yes

➤ Does this program have brought any change in your understanding of the subject, skills and your attitude towards the learning?

Yes

➤ Have you found any innovative idea of making learning process from this program? Explain.

Yes, After learning this program now I can
able to make PCB by myself and apply it
to my project.

> Whether initiatives like this should be organized in the coming future or not? Give reason.

Yes ~~no~~ if they want they can organize in the coming future because this will be helpful for the students.

> How do you plan to share the gained knowledge/skill with your friends who did not attend the program?

They should attend the program and I am highly recommend them to join.

✓ Kindly give rating to the different aspects of Workshop (Out of 10 marks)

Particular	Marks Given	Any Remarks
(a). Course Content	9	
(b). Resource Persons	9	
(c). Presentations	9	
(d). Interactive Sessions	10	
(e). Reading Material	8	
(f). Basic Facilities	10	
(g). Overall	9	

Anishan Sanki
Signature of the Participant