



Report on a Virtual Workshop on Design and Fabrication of Printed Circuit Boards (PCBs) by Students for their Projects at Home



Organized jointly by: The Dept. of Electronics and Communication Engineering and Its IETE Students Forum

Date & Time: 10/09/2021 at 10:00 AM – 2:00 PM

Mode of Delivery: Online (Zoom)

Meeting Link:

<https://zoom.us/j/94554228015?pwd=d09BVDZhV1V0ZVM2TjZGdVZPV2paUT09>

Registration link: <https://forms.gle/a8ngsMw3yxYNDauV9>

No. of Participants: 51, Nationality –Indian

Objectives: To demonstrate the design and realization of PCB's using commercially available software as well as their realization employing chemical etching.

Summary of Sessions

Sl. No	Resource Person with profile details	Topic	Major Insights
1	1. Jeet Banerjee (Assistant prof., ECE, SOET) 2. Mr. Uttam Basak (Technical Assistant, ECE, SOET) 3. Mr. Pradip Kumar Roygupta (Technical Assistant, ECE, SOET)	1. Introduction to the Workshop and Significance of PCB overview. 2. Practical Significance of PCB in day-to-day life. 3. A session on Design of a power supply using Multisim Commercial Circuit design software (Live demonstration). 4. A live session on fabrication of designed PCB in-house and soldering of components on it.	Some Points Discussed are as Follows: - 1. Significance of PCBs 2. Breadboard, Vero Board, mobile chargers circuit, mobile phone PCB, and circuits. 3. Design of PCB using Multisim commercially available software. 4. Fabrication of PCB and chemical etching 5. Soldering of components on the designed PCB.

Abstract of proceedings: (in about 500 words)

Department of Electronics and Communication Engineering and its IETE Students' forum, SOET, Adamas University jointly organized a 1-Day Free Workshop on a virtual workshop on design and fabrication of printed circuit boards (PCBs) by students for their projects at home. The workshop was scheduled on **10/09/2021 at 10:00 AM – 2:00 PM**.

The workshop started with an introduction and departmental recorded video and Introduction to PCB's by Jeet Banerjee (Assistant prof., ECE, SOET). Mr. Banerjee explained about the need of PCB in Electronic circuits.

Next, Mr Uttam Basak (Technical Assistant, ECE, SOET) demonstrate the presence of single layer, and Multilayer PCBs in small portable devices and their layouts.

Mr. Pradip Kumar Roygupta (Technical Assistant, ECE, SOET) demonstrate about Various Boards (Breadboard, Vero Board, and PCB). Next, Mr. RoyGupta demonstrated (live) the design of a sample circuit using Multisim Software tool. Finally, Mr. RoyGupta demonstrated (live) the realization of the PCB from the designed PCB (using software tool). The soldering of components on the fabricated PCB was also demonstrated live to the participants. The event feedback reflects high degree of satisfaction between the learners and a keen interest in such initiatives in the days to come.

Poster of the event:

A VIRTUAL WORKSHOP ON

DESIGN AND FABRICATION OF PRINTED CIRCUIT BOARDS (PCBs) BY STUDENTS FOR THEIR PROJECTS AT HOME

Class 12 (2021 Pass-outs)/ Diploma (in Electronics and Communication Engineering/ Electronics and Tele-communication Engineering), School Teachers (+2 Science), and B.Tech students from all over India are invited to be a part of this 1-day workshop on design and realization of PCBs. In-house as well as their advanced applications in day-to-day life.

Topics of the Workshop:

1. Significance (Technical) of PCBs in our day-to-day life.
2. Design your Electronic circuit using commercial software and realize your PCB in-house.

Workshop Registration Link: <https://forms.gle/a8ngsMw3yxYNDauV9>
 Date of the Workshop: 10th September 2021 (Friday)
 Time: 10:00 AM-2:00 PM





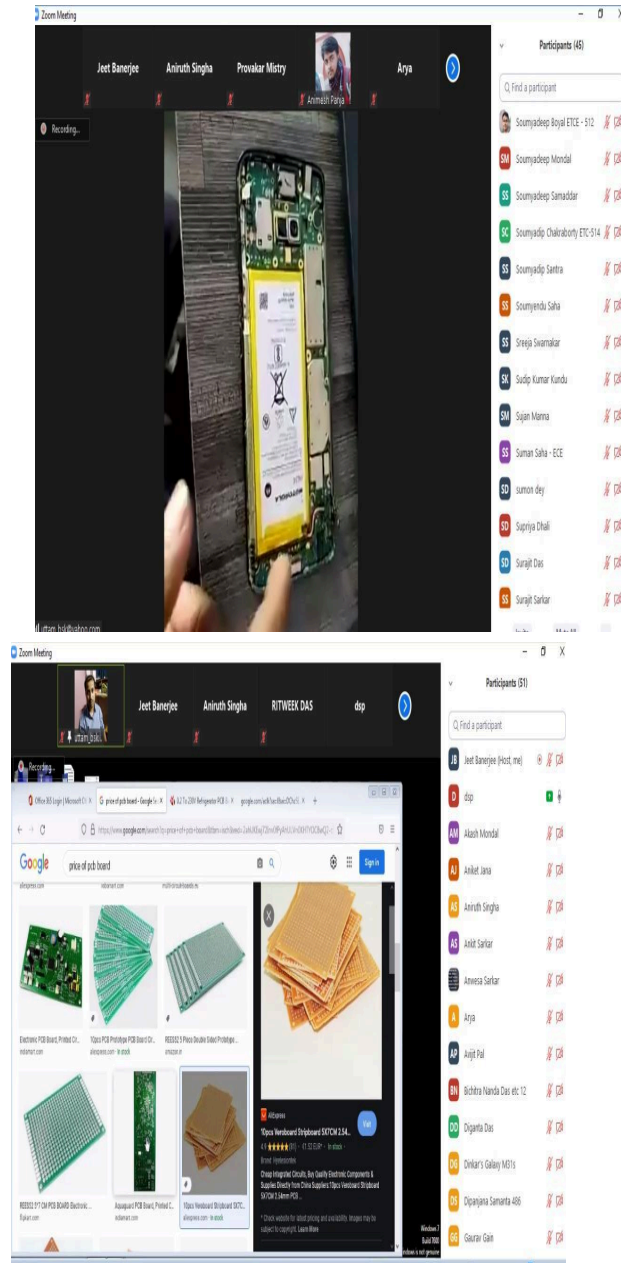
Some Glimpse of Fabricated PCBs:

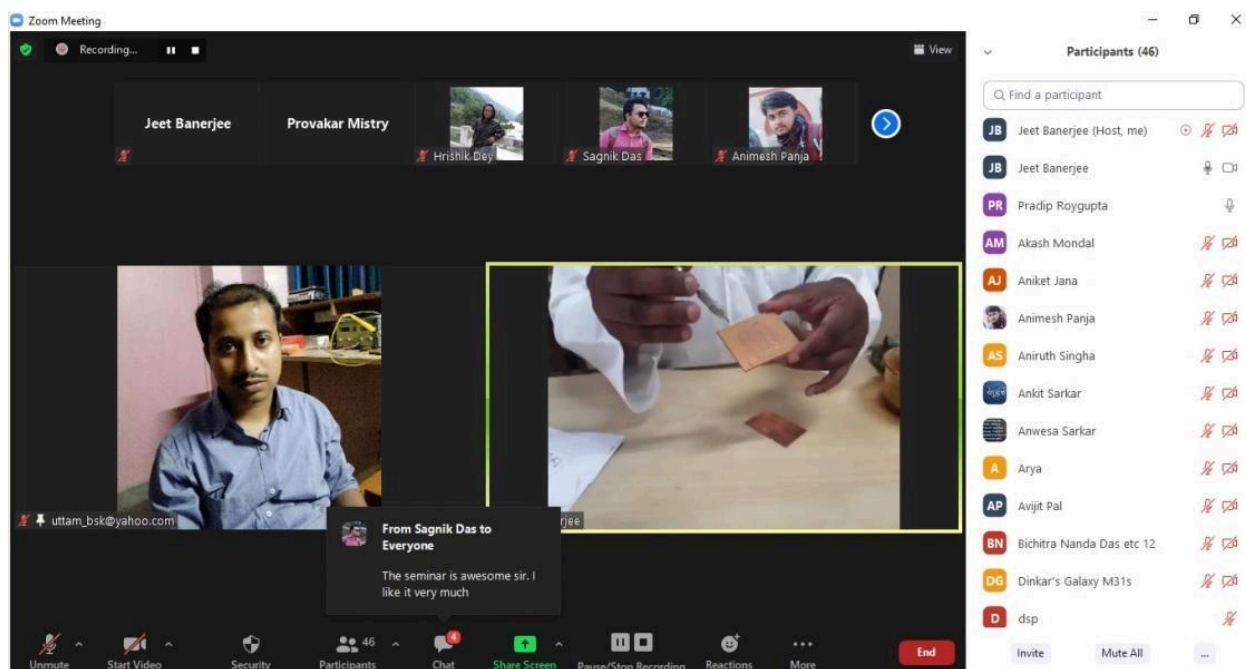


PATRON	CO-PATRON	CONVENOR	CO-CONVENOR	COORDINATORS
				
Dr. Deependra K Jha Vice-Chancellor, Adamas University	Prof. (Dr.) Ashwini Kumar Sharma Dean, SOET, Adamas University	Mr. Jeet Banerjee Assistant Prof., Electronics and Communication Engineering (ECE), SOET, Adamas University	Mr. Pradip Kr. Roygupta Technical Assistant, ECE, SOET, Adamas University	Aniket Jana (Student Member IETE, and Student, Dept. of ECE, SOET, AU)
				
				
				Sagnik Chakrabarti Diganta Das

E-Certificate (from IETE Kolkata Chapter and Adamas University, SOET, ECE) will be provided to all the participants attending the workshop.

Glimpse of the event:





General Participant Feedback:

1. How was the session?

Full name	Kindly Enter Your Institution/Affiliation.	entity / Qualificatio	workshop interestas	the virtual work	What did you learn from this virtual workshop?
Arkya Santra	Adamas University	Student	Strongly Agree	Excelent	Design And Fabrication of Printed Circuit Board (PCB's) By Student For Their Projects At Home
Moupreya Das	Adamas University	Student	Strongly Agree	Excelent	Design And Fabrication of Printed Circuit Board (PCB's) By Student For Their Projects At Home
Rupayan Dutta	Birla Institute Of Technology	Student (Diploma	Strongly Agree	Good	Great opportunity for us. We learnt many things from this virtual workshop.
ANIKIT SARKAR	ADAMAS UNIVERSITY	STUDENT	Agree	Good	ALL THINGS
BICHITRA NANDA DAS	ELUE, HOVRAH	Student	Strongly Agree	Excelent	Design and fabrication of PCB
Riya Paul	Adamas University	Student	Agree	Good	Many information about PCB board and how to design it.
DINKAR PRABHAT	Central Calcutta polytechnic	Student	Strongly Agree	Excelent	Making of PCB
Madhusmita Taradar	ELUE, Howrah	Student	Neutral	Excelent	Design and fabrication of printed circuits board(PCBs)
SUMAN SAHA	JANGIPUR GOVERNMENT POLYTECHNIC	Student, Diploma	Agree	Excelent	About uses and making procedure of PCB
Tanmoy Saha	Engineering Institute for Junior Executives	Student	Strongly Agree	Excelent	Design of Printed Circuit Board (PCB)
Surajit Das	Technique Polytechnic Institute	Diploma in ECE	Strongly Agree	Good	It very helpful for pcb design and to upgrade my knowledge.
Soumyadeep Mondal	Engineering Institute For Junior Executives	Student	Strongly Agree	Excelent	We learn "How to make a PCB at home".
Soumyadip Chakraborty	Engineering Institute for Junior Executives	Student	Strongly Agree	Excelent	I have learnt many different things about printed circuit boards and the process of made it by my own at home. And also about the designing pcb
Sumon Dey	Engineering Institute for Junior Executives	ITI	Strongly Agree	Excelent	How to design and fabrication PCB
Mojur Sen	ADAMAS UNIVERSITY	STUDENT	Strongly Agree	Excelent	I have gained many new knowledges
Sagnik Das	Dumdum Kishore Bharati High School	Student	Strongly Agree	Excelent	All the details of PCB and also making the PCB in home
ANWESA SARKAR	ADAMAS UNIVERSITY	STUDENT	Strongly Agree	Excelent	Many things about PCB
Soumyadeep samaddar	Adamas University	Student	Strongly Agree	Excelent	Design a customised own PCB in the home
Soumyadeep Boral	Engineering Institute for Junior Executives	Student	Agree	Good	I learned a lot about pcb relationships
Surajit Sarkar	Jangipur government polytechnic	Student	Agree	Excelent	Very helpful sir this organization for PCB
Rahul Roy	Adamas University	Student	Strongly Agree	Excelent	I learned about PCB and how to make a PCB from this virtual workshop.
Avijit Pal	Engineering Institute For Junior Executives	Student	Strongly Agree	Excelent	How to design and build up PCB at home
Provakar Mistry	Engineering Institute for Junior Executives	Student	Strongly Agree	Excelent	Pcb designing that is very interesting
Akash Mondal	Engineering Institute for Junior Executive	Student	Strongly Agree	Excelent	Design and fabrication of a Pcb
Animesh Panja	ELUE HOVRAH, AICTE, VBSTCE	Student	Agree	Excelent	Different types of pcb board and how the use of it and it was interesting for me. HOW TO USE THE PCB AND HOW CAN BE USED. Use of s
gaurav gain	adamas university	student	Strongly Agree	Excelent	different things related to PCBs
Soumodeep Das	Engineering Institute For Junior Executives	Student	Strongly Agree	Excelent	PCB
Hrishik Dey	Adamas University	Student	Strongly Agree	Excelent	PCB printing
SANATAN MONDAL	Engineering institute for junior executives	Student	Agree	Good	How to design a PCB
Swarup Mondal	ELUE	HS	Neutral	Good	Good
Deeba Areen	Techno International Newtown	Student	Agree	Good	I learnt alot about pcb which will give me confidence in this subject.
Pritam Das	ENGINEERING INSTITUTE FOR JUNIOR E	Student	Agree	Excelent	What is PCB and how to design PCB easily
Sreeti Swarnakar	Adamas University	Student	Strongly Agree	Excelent	about PCB and its design
soumyadip santra	Adamas University	student	Strongly Agree	Excelent	some knowledge are gathering about PCB
Aniruth Singha	Engineering and Technology	Student	Strongly Agree	Excelent	how to make PCB(Printed Circuit Board) easily at home and also the function of it.
Soumendu Saha	Techno International New Town	Student	Agree	Excelent	As teacher, I must prioritize the well-being of the children and communities we serve
Sandip Sanui	ENGINEERING INSTITUTE FOR JUNIOR E	Student	Strongly Agree	Excelent	Many things
Sagnik Chakrabarti	Adamas University	Student	Strongly Agree	Good	PCB designing
Aniket Jana	Adamas University	Student	Strongly Agree	Excelent	Fabrication of PCB

E-certificates provided to participants:



2. Any problem that you have faced during the Session.

- i. Maximum students mentioned there was **no problem**.
- ii. Few students faced some **Network issues**.

3. Do you have any suggestions for future events like this?

Comments of few students are mentioned below:

- i. Nothing I have to suggest as enjoyed the learning a lot. It was too good to me. Please arrange such an Workshop. This is very helpful.
- ii. If it's offline it will be better.

Appreciations:

- 1. 10/10 very helpful sir
- 2. It was an excellent workshop, we would like to get involved workshop like this. Please make one on Arduino.
- 3. It was an interesting workshop.

Convenor(s):

Patron:

Dr. Deependra K Jha, Vice Chancellor, Adamas University

Co Patron:

Dr. Ashwini K Sharma, DEAN- School of Engineering & Technology, Adamas University

Convener:

Mr. Jeet Banerjee, Asst. Prof., ECE Department

Co- Convener:

Mr. Pradip Kumar Roygupta (Technical Assistant, ECE, SOET)

Mr. Uttam Basak (Technical Assistant, ECE, SOET)

Outcome of the event:


- 1) Skill development (of school students, diploma students and in-house students) in terms of PCB design and handling modern simulation tools.
- 2) Enable students to develop their own PCB at home for their school/university projects.
- 3) Enhance admissions to dept. of ECE, SOET, Adamas University by providing skill development and hands-on experience.
- 4) Demonstration of labs via online meeting to highlight lab infrastructure of SOET AU to school student.
- 5) Enhancing branding of the university amongst nearby schools and engineering institutes.
- 6) Involvement of student members (of IETE) to allow publication of event in the IETE national and regional newsletter to have mass brand building.

Invitation Mail sent to registered School Students:

Invitation to 1-Day workshop on DESIGN AND FABRICATION OF PRINTED CIRCUIT BOARDS (PCBs) BY STUDENTS FOR THEIR PROJECTS AT HOME

Jeet Banerjee
Wed 08-09-2021 11:00

To: mahuyamajumder9@gmail.com; madhuribiswas1974@gmail.com; mitravailbhav2@gmail.com; mom28011973@gmail.com; suvtronilghosal@gmail.com; debarjanachakraborty105@gmail.com; saswati1974asn@gmail.com; sankhyapatra0808@gmail.com; kathokatasiliguri@gmail.com
Cc: AUECE; Dipanjana Rakshit Das; Avik Dey



Dear Class 12 Pass out Students,

The IETE ISF and Dept. of ECE at Adamas University, Kolkata are going to organize a **one Day workshop** on: **"A VIRTUAL WORKSHOP ON DESIGN AND FABRICATION OF PRINTED CIRCUIT BOARDS (PCBs) BY STUDENTS FOR THEIR PROJECTS AT HOME"** for Class 12 (2021 Pass-outs)/ Diploma (in Electronics and Communication Engineering/Electronics and Tele-communication Engineering), School Teachers (+2 Science), and B.Tech students from all over India. The **workshop** will cover cost effective ways to realize PCB's in-house as well as their advanced applications in **day-to-day** life.

The **workshop** is intended for Diploma/Class 12/ B.Tech students from all over India including IETE Members/ Student members/IETE ISF's.

School Students who participated in the 1-Day Workshop:

Name of Student	E-mail ID of Student	Phone Number of Student	Class 12 School of Student
Sourya Bhattacharyya	isouryadas@gmail.com	8100374165	Ramakrishna Vivekananda Mission, Barrackpore
Tanushree Saha	sahatanushree982@gmail.com	8334024622	Auxilium Convent School, Kolkata
Soumodip Bhattacharjee	bhattacharjeesoumodip7@gmail.com	8228081351	DAV public school koyla nagar Dhanbad GGCET St.Xaviers International School
Anurag Sarkar	sarkaranurag007@gmail.com	6203860603	Gitanjali Road, Bhuli Hirak Rd, Near Airport, Nawadih, Dhanbad, Jharkhand 828130
Swarnava Roy	royswarnava5@gmail.com	9330529775	St Stephen's school, Dum Dum
Devraj Singh	yrureadingthis19@gmail.com	9748799748	St.Stephen' School, Kolkata
Rohan Saha	rohanmallika2003@gmail.com	7044714243	Hooghly Jyotish Chandra Vidyapith Chinsurah, Hooghly
Arnab Bhowmick	arnabbhowmick457@gmail.com	8584875565	Hindu school
Rahul Roy	9091royrahul@gmail.com	9002254054	Tokipur Rajlaxmi High School,Tokipur,West Bengal
Rupsa Das	rupsadas240@gmail.com	8777753037	Taki house govt spon. Girls' high school , sealdah
Swarnabh ghosh	swarnabhghosh.2002@gmail.com	9007738626	Kanailal vidyamandir and chandannagar
Arun Mondal	arunmondal.new@gmail.com	6295986853	Joteghanashyam Nilmoni High school
Rakesh Roy	rakeshroy6295@gmail.com	6296518979	Taki Bhabanath High School
Tohid Gazi	gazit6557@gmail.com	8927368116	Taki Bhabanath High School