



ABOUT THE DEPARTMENT:

The Department of Electrical and Electronics Engineering offers an undergraduate program, post-graduate programmes (Power Systems & Power Electronics) and research degrees (M.S. & Ph.D.) in various fields of Electrical and Electronics Engineering. The Department is recognized for excellence in teaching, research and service to the profession.

CO-ORDINATORS

Dr. G. Saravana Ilango
Dr. S. Senthil Kumar
Dr. C. Nagamani

**Department of
Electrical and Electronics Engineering,
National Institute of Technology,
Tiruchirappalli,
Tamil Nadu - 620 015.**

E-mail : gsi.stcnitt@gmail.com
Phone No. : 0431-250 4945
Contact No. : Aranganathan N(0-8825771094)

A Five-day Training Programme

on

***Solar Photovoltaic System Design and
MPPT Implementation***

**25th - 27th Jan & 1st -2nd Feb
2020**



Organized by

**Department of
Electrical and Electronics Engineering
National Institute of Technology,
Tiruchirappalli, Tamil Nadu - 620 015.**

Interface card with microcontroller:



Scope of the Training:

With the growing importance for reducing the dependence on the non-renewable sources of energy, photovoltaic energy conversion has gained much popularity as a viable and green alternative. Although PV modules are getting cheaper, there is a desperate need to maximize the extracted energy to gain reasonable returns on the huge investment on setting up PV. One of the main factors detrimental to the PV energy yield is the partial shading. To minimize the mismatch losses among the modules, it is desired to reconnect the conventional series-parallel array so as to distribute the shading effect over the entire array without altering the electrical connections of the modules. Whatever be the physical configuration of the array, the output power-voltage characteristics are non-linear, with the PV power dependent on the voltage at which it is extracted. Thus there is a need for Maximum Power Point Tracking technique, which requires power electronic interfaces such as DC/DC or DC/AC converters.

This course is designed to introduce the basics of solar photovoltaics, effect of temperature, irradiation and the impact of partial shading conditions on the extracted power and methods of extracting maximum available power under any environmental conditions. The workshop methodology includes classroom lectures, case study simulations, practical demonstrations and hands-on laboratory experience on MPPT implementation and exposure to PCB design of power converters.

The five-day workshop shall have sessions on:

- Modelling of PV cells
- Simulation of electrical characteristics of PV array
- Control of grid connected PV inverters
- Impact of partial shading on PV systems
- Design and implementation of Power Converters
- Laboratory-based training module on “Design of Printed Circuit Boards for Power Converters”
- Laboratory-based training module on “MPPT Implementation using microcontroller”.

The five-day course will be spread over two weekends, viz., 25th to 27th January 2020 followed by 1st and 2nd February 2020. The course will enlighten the participants with new paradigms and findings, practical challenges encountered and the possible solutions for the challenges faced in solar photovoltaic systems. The workshop is anticipated to enhance the technical interaction between groups paving the way for an overall fortification of technical capabilities of the power electronics community.

Resource persons:

Faculty members from NIT Trichy with rich experience in teaching, research and laboratory development will be handling the sessions.

Registration:

Registration Fee:

Registration category	Individual
Group of 5	Rs. 22,000
Group of 3	Rs. 13,000
Individual	Rs. 5,000

Accommodation may be provided based on the availability.

Contact No. : Jude Prakash J (0-8778953426)

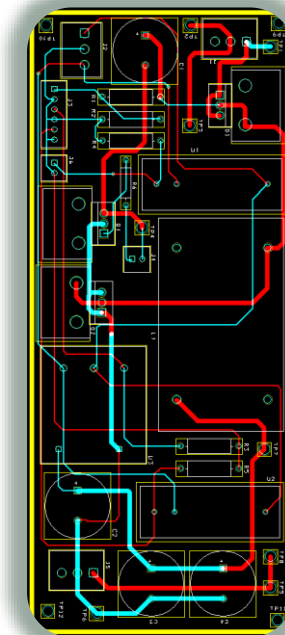
For Registration

Please visit: <http://spvsdt.nitt.edu/>

The selected candidates will be intimated by 20th Jan 2020 by e-mail.



DC/DC converter board:



PCB layout