

A Report on
One Week STTP on

**“Power Electronics System Implementation using ARM Cortex-M4
Microcontroller” (Fully hands on based approach)**

15 – 19 AUGUST, 2018

SUTEX ELECTRICAL ENGINEERING DEPARTMENT

SARVAJANIK COLLEGE OF ENGINEERING AND TECHNOLOGY, SURAT

Electrical Engineering Department had organized one week STTP on “Power Electronics System Implementation using ARM Cortex-M4 Microcontroller” (Fully hands on based approach), 15 – 19 AUGUST, 2018. Total 33 Participants comprising of 25 students (UG/PG) and 8 Faculty members from different colleges have participated.

Course Objective

Increased concern of energy efficient power conversion has lead tremendous growth of power electronics based energy conversion in last two decades. Digital controllers are the main backbone of power electronics system control. In recent time system-on-chip solutions based on ARM processors become more popular in power electronics system implementation. The proposed course is organized with an aim to discuss implementation aspects of power electronics systems to the teachers of engineering colleges and young researchers, who wish to build their career in this field. The course will cover hands-on exercises of power electronics systems. The course should greatly beneficial to the faculty members in conducting courses, guiding projects and can be extended for research work.

This course aims to provide more exposure on Power Electronics System development using ARM Cortex-M4 Microcontroller.

MAJOR HIGHLIGHT OF THE COURSE:

- Overview of embedded systems
- Overview of STM32F407 ARM Cortex M4 microcontroller
- MATLAB/SIMULINK Waijung Blockset for STM32F4
- Control Circuit Implementation using Digital Controllers
- Driver Circuit and Power Circuit Implementation
- Hands on exercises of basic Power Electronics Converters
- Hardware implementation of Drives

Resource Persons:

- Dr. M. A. Mulla (Associate Professor, SVNIT, Surat)
- Prof. Rajesh Prasad (Assistant Professor, SCET, Surat)
- Mr. Sayyed Yaseenuddin Z. (Engineer, NI-TECH Surat)
- Mr. Biraj Raval (Engineer, NI-TECH Surat)

Coordinator:

Prof. Rajesh Prasad
Prof. P.D.Munshi

Patron:

Dr. Vaishali Mungurwadi, Principal, SCET











