Sarvajanik Education Society

Sarvajanik College of Engineering and Technology

SUTEX Faculty of Electrical Engineering

organized

One week Short Term Training Program

on

"Application of Power Electronics to Power System"

Dates: 13-17th June, 2016

Time: 09:00 AM to 4.30 PM

Venue: Seminar Hall, 1st Floor, Department of Electronics and Communication, SCET

Coordinator: Dr. Shabbir S. Bohra, Dr. Hardik P. Desai

Participants: 16 participants (faculty members and students) from various engineering colleges across Gujarat participated in the STTP

Summary:
SUTEX Faculty of Electrical Engineering of Sarvajanik College of Engineering & Technology organized One week Short Term Training Program (STTP) on "Application of Power Electronics to Power System" from 13th to 17th June, 2016.

The workshop was aimed to guide the PhD scholars, ME students as well as faculty members to excel in research and professional activities in the field of application of power electronics to power system and thereby, to improve on technology transfer. The lecture and lab sessions of the STTP were conducted by eminent speakers from various institutes. The following table summarizes the various sessions of the STTP.

Sr. No.	Expert name and Session Title	Session details
1.	**Dr. Hardik P. Desai** Introduction to FACTS and Power Electronics devices	Dr. Hardik gave a good insight on introduction of power electronics and its applications. He also discussed solid state power electronics devices. Later he discussed about SVC.
2.	**Dr. Shabbir S. Bohra** Interesting facts of FACTS	Dr. Bohra explained interesting facts, benefits and limitations and case studies about FACTs.
3.	**Dr. Shabbir S. Bohra, Dr. Hardik P. Desai** Practice session	In this lab session, participants carried out simulation to understand behaviour of transmission line at no load and with different

		load conditions. Also participants were given hands on practice on power flows.
4.	**Dr. Pranav Darji** Modeling and control of STATCOM	Dr. Pranav Darji made us aware about reactive and power flow control in transmission line. He discussed about STATCOM and its modelling. Later on he discussed control scheme for STATCOM to control power flow.
5.	**Dr. Pranav Darji** Practice session	Participants learned to model and design control scheme for STATCOM.
6.	**Dr. Hardik P. Desai, Dr. Shabbir S. Bohra** Practice session	By using FC-TCR (SVC), voltage regulation is carried out by participants in this lab session.
7.	**Dr. S Arya** Power Quality and custom Power Device	Dr. Arya explained different power quality issues. He discussed implementation of custom power devices like DSTATCOM and DVR for power quality enhancement.
8.	**Dr. Chirag A. Naik** Effect of PE devices on power quality and its assessment	Adverse effects of recently developed power electronics based equipment on power quality were discussed. The analysis of PQ disturbances using time frequency distribution technique was also explained.
9.	**Dr. Ritesh Patel** Role of HVDC systems in long distance transmission	Dr. Patel explained necessity of HVDC in transmission system in India. Challenges with renewable integration in power system were also discussed.
10.	**Dr. B R Parekh** Control of HVDC system	Operation of HVDC system in abnormal operating condition was discussed with some real illustrations by Dr. B R Parekh.
11.	**Dr. Sanjay R. Joshi** TCSC dynamic modeling	Dr. Joshi explained TCSC dynamic modelling and discusses about enhancement in power transfer capability and SSR mitigation with TCSC.
12.	**Dr. Hardik P. Desai, Dr. Shabbir S. Bohra** Practice session	A setup was demonstrated in which voltage regulation was shown by employing FC-TCR (SVC) for short transmission line using **dSPACE**.
13.	**Dr. Hiren H. Patel** Power Electronic Interface for grid connected PV system	Dr. Hiren explained different sides of PV inverter which is key element of grid-connected PV power systems.
14.	**Dr. Hiren H. Patel** Issues and standards for grid connected power electronics system	Issues and Standards of Grid Connected Power Electronics (DG) Systems were discussed by Dr. Patel.

I am sincerely thankful to respected principal madam, Dr. Vaishali Mungurwadi for permitting us to organize STTP. I also thank Prof. Nilesh V. Shah, HOD, Department of Electrical Engineering for providing support during the organization of the STTP. Last but not the least, I thank all my staff members, lab assistants and attendants for their support and help during the STTP.

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