Sarvajanik Education Society
Sarvajanik College of Engineering & Technology, Surat

A Report of an expert talk
On
"Recent Trends in Electrical Drives- Hardware Implementation of PMSM BLDC Drive"

By

Prof. Janak J. Patel
SVNIT, Surat

Held on 10-09-2015 at EC AV Room, SCET

1.30 pm to 3.30 pm

-:Organised by:-
Prof. Nilesh Shah & Prof. Dr. Hiren H. Patel
Electrical Engineering Department, SCET

◊ **Welcome by Prof. Nilesh Shah**

- Guest of the function, students and staff were welcomed orally by Prof. Nilesh Shah.
- Most of the staff and students of ME and final year as well as Third Year of BE from Electrical, EC and IC department were present.
- Prof. Urvi Jariwala, Faculty of Electrical Engineering Department, formally welcomed Prof. Janak J. Patel with a bouquet of flowers.

◊ **Introduction of resource person**

- Prof. Janak Patel from department of electrical Engg., SVNIT was elaborately introduced to the gathering by Prof. Nilesh Shah.
- The inspiring achievements and dynamic carrier in research and development over a period of 22 years have inspired and motivated the audience in general and students in particular.

◊ **An expert talk on "Recent Trends in Electrical Drives- Hardware Implementation of PMSM/BLDC Drive" by Prof. Janak J. Patel**

- Prof. Janak started with introduction and significance of drive, basics of drive.
- Sir discussed about recent trends in Electrical Drives, in terms of selection of Machine for different applications, rating of drive, control scheme implementation etc.
- Different efficiency classes of the machines were presented.
- Concentration is than shifted towards PMSM/BLDC drive highlighting the reasons for moving towards PMSM/BLDC machines by Industry.
- Elaborated about Implementation features of drive which consists of detailed discussion about sensing various signals, control algorithm based on DTC/FOC Implementation of algorithm using 32-bit CORTEX M3 ARM controller.
- Students and faculty members have very much interacted during discussion of Implementation of drive algorithm using ARM controller.
- Finally Practical working of PMSM/BLDC drive by means of two control strategy has been demonstrated.
- With the interest of students and Faculties the lecture was prolonged to nearly 3 hrs in place of scheduled 2 hrs duration.

◊ **Interaction via open defence:**

- Even after discussion during lecture, some of the students and faculties have clarified their doubts about control strategy, practical implementation of BLDC/PMSM drive on 32 bit ARM controller.
- Prof. Janak clarified the queries related to work carried out by students at SCET.

◊ **Vote thanks and Memento presentation:**

- Prof. Nilesh Shah thanked the distinguished guest speaker and audience for passionately listening and interactive participation in the brain-storming.
- Prof. Urvi Jariwala of Electrical Engineering Department, presented a memento to Prof. Janak J. Patel.
- Healthy interaction was made during high tea amongst few faculties and guests at the end.

◊ **More Glimpses of the Event**