A Brief report on One week Short term course on
Emerging Trends in Electrical and Electronics Systems

(February 11-16, 2019)

A short term training program was organised during 11-16, February 2019 in the Department of Electrical Engineering, Visvesvaraya National Institute of Technology (VNIT) Nagpur, Maharashtra (India) under the aegis of TEQIP III and IEEE Bombay Section. The program was coordinated by Prof. S. V. Kulkarni from IEEE Bombay Section and by Dr. M.R. Ramteke and Dr. M.S. Ballal from VNIT Nagpur. The program was inaugurated by the Chief Guest Dr. Pramod M. Padole, Director, VNIT, Nagpur, Maharashtra (India). About 15 researchers, faculty members and students from various states of India from reputed organizations attended this Short Term Training Program (STTP). It gave exposure to emerging trends in Electrical and Electronics Systems. The program included lectures on the following topics: Artificial Inteligence, Machine Learning and Deep Learning including hands on sessions and tutorials on a python simulator, transformer diagnostics, Finite Element Method (FEM), energy and environmental issues and sustainable solutions, electric vehicles, renewable energy integration,and pulse width modulation techniques.

Day 1: 11th Feb. 2019

In the inaugural function, Dr. M. R. Ramteke welcomed the guests and registered participants. Dr. P. M. Padole, Director, VNIT, Nagpur, appealed participants to explore new dimensions in emerging trends and make the most of them. Dr. M. S. Ballal gave opening remarks, briefed about the course contents and objectives of the training program. Prof. Sanjay Shitole, UMIT, Mumbai delivered the key note address and conducted a special session on importance of Machine Learning.

Day 2: 12th Feb. 2019

Day 2 began with a presentation on "Deep learning for computer vision" by Prof. Santhosh Chapaneri, SFIT, Mumbai. He explained the importance of deep learning in various field applications. The day closed with a lab session on Python Software at Computer Laboratory. There the participants learned the Python tool and understood/ executed different programs related to deep learning.

Day 3: 13th Feb. 2019

In the morning session Prof. S. V. Kulkarni, IIT Bombay, explained about electromagnetics and FEM basics. Applications of FEM in research were also elaborated through a few case studies. In the afternoon session, he explained transformer diagnostics and discussed with participants different aspects of monitoring, modelling for diagnostics, and related research areas.
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Day 4: 14th Feb. 2019

Day 4 began with a presentation on "Electric Vehicles" by Dr. R. K. Keshri, VNIT, followed by a session on "Energy and Environmental problems facing the 3rd world and solutions for sustainable development" by Dr .D. P. Kothari. In the afternoon, Dr. M. R. Ramteke, VNIT, talked about "DC/DC convertor designing and its applications". The day closed with a session on "Conditioning and monitoring of transformers by Dr. M. S. Ballal, VNIT, and Er. G. C Jaiswal, MSEDCL. It covered demonstration of different condition monitoring kits developed in Electrical Machine lab,

Electrical Engineering Dept, VNIT.

Day 5: 15th Feb. 2019

Prof. Zakir Rather, IIT Bombay talked about Grid integration of Renewable Energy (Wind and Solar PV) and grid operation under high penetration of Renewable Energy. He enlightened the audience by discussing current grid operational issues in various parts of the world and reasons behind them. The talk provided pointers toward new research areas for students and faculty.

Day 6 : 16th Feb. 2019

In the morning session on last day, Dr.Pavan Kumar Hari, IIT Bombay talked about "Pulse Width Modulation techniques and Space Vector Modulation". The session consisted of modelling of induction motors and control issues. In the 2nd session, he talked about different control schemes for controlling induction motors. Finally, he discussed with participants about different problems and faults that can appear in induction motors and the corresponding diagnostic techniques.

Valedictory function:16th Feb. 2019

In the afternoon session, Valedictory Function was organized. Dr. M. R. Ramteke welcomed the Chief Guest of the function Dr. Madhuri A. Chaudhari, Head of Electrical Engineering Department, VNIT. Dr. Chaudhari appreciated the efforts for organizing the STTP. The participants gave oral feedback regarding the STTP. Training Completion Certificates were presented to the participants. Dr. M. S. Ballal presented vote of thanks. The coordinators appreciated the support given by IEEE Bombay Section and TEQIP III for the success of this STTP.

List of Participants

Sr. No.	Name	Affiliation
Emerging Trends in Electrical and Electronics Systems (February 11-16, 2019)	
1	Tushar Vilhekar	Lecturer, Elect. Engg. Dept Government Polytechnic, Jalgaon
2	Dr. Sarla P.Adhau	Associate Prof. ,YCCE, Nagpur
3	Mr Sandeep R Gaigoval	Assistant Prof. ,YCCE, Nagpur
4	Ms. Deepa P. Yavalkar	Lecturer, Elect. Engg. Dept G.C.O.E, Jalgaon
5	Ms. Rajani M. Sahare	Government College of Engineering, Amaravti.
6	Mr.Chandrakant Sharma	KDKCE, Nagpur
7	Sharana T.M. Zaheer	Assistant Professor in Electrical Engineering Department. Government College of Engineering, Chandrapur.
8	Mrs. Sarika D. Patil	Rajiv Gandhi College of Engineering and Research,Wanadongri, Nagpur
9	Suryakumar Sahoo	Dee Vee Projects Ltd.,New Raipur
10	Mahesh D. Sawarbandhe	VNIT, Nagpur
11	Santhosh kumar peketi	VNIT, Nagpur
12	Nayan s. Sarode	Rajiv Gandhi College of engg. Nagpur
13	Kamble Ashwin Puna	VNIT Nagpur
14	G. Hari Babu	VNIT, Nagpur
15	M. Surayakanth	Visaka Industries Limited , Nagpur