Short Term Course

On

Real-Time Simulation of FACTS and HVDC through ICT

Jan 28 – Feb 1, 2019

Registration Form

Please complete the details below

Name(Mr./Ms.) _____

1. Category: Academic

3. Organization: _____

4. Address:

_____

_____

_____

5. Tel. No. (Mob): _____

6. E-mail ID: _____

7. Highest Acad.Qualification: _____

Signature of the Candidate

Signature of the Head of the Department/Institution
(If required)

For any information and query please contact
Ms. Shashi Pandey, EED, +91- 7232967228
Ms. ShikhaChoudhary, EED, +91-9415008381

Objectives.

This training program is specially designed for engineering graduates and teachers. It mainly deals with various aspects of FACTS technology and HVDC. The course aims to achieve the following objective:

- To update the knowledge in the emerging and upcoming topics in the subject area
- To make the participants acquainted with MATLAB/SIMULINK for simulating power system.
- To make the participants conversant with relevant practices in FACTS technology and concepts of HVDC.

Patron

Dr. Akhilesh Kumar Mishra,
Director, REC Ambedkar Nagar

Convener

Dr. S. P. Singh
Associate Prof.& Head EED

Co-ordinators

Shikha Choudhary, EED
Shashi Pandey, EED

Organizing Secretary

Mr. Ravindra Kumar, EED

Organizing Committee:

Dr. M. Aslam Husain, Assistant Professor, EED
Mr. Vikas Patel, Assistant Professor, EED
Dr. Puneet Joshi, Assistant Professor, EED
Dr. Sanjay Agrawal, Assistant Professor, EED
Mr. Yudhishthir Pandey, Assistant Professor, EED
Dr. Arif Iqbal, Assistant Professor, EED
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Mr. Jaswant Singh, EED
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Mr. Vipin Patel, EED
Mr. Nitish Kumar Singh, EED
Mr. Kundan Kumar, EED

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On

Real-Time Simulation of FACTS and HVDC through ICT

Jan 28 – Feb 1, 2019

Organized by

Department of Electrical Engineering
Rajkiya Engineering College Ambedkar Nagar

In
Collaboration With

Department of Electrical Engineering
National Institute of Technical Teachers Training & Research, Chandigarh

PreambleIt mainly deals with various aspects of FACTS technology and HVDC. The course aims to achieve the knowledge in the emerging and upcoming topics in the areas of power systems deregulation. It will help to explore the knowledge of real time simulation techniques of STATCOM and real time simulation of UPFC (Unified power flow controller) devices.

HVDC and FACTS Devices:

Deregulation in power industry is a restructuring of the rules and economic incentives that government setup to control and drive the electric power industry. FACTS is a system composed of static equipment used for the AC transmission of electrical energy.

What does MATLAB do ?

MATLAB includes hundreds of mathematical functions. It has a high-level programming language allowing access to advanced data structures, 2-D and 3-D graphical functions.

A large number of functionalities is included in MATLAB:

- **Maths & Simulation**For usual engineering and science applications including mathematical operations and data analysis.
- **2-D & 3-D Visualization**Graphics functions to visualize, annotate and export data and many ways to create and customize various types of plots and charts.
- **Optimization**Algorithms to solve constrained and unconstrained continuous and discrete optimization problems.
- **Statistics**Tools to perform data analysis and modeling
- **Control System Design & Analysis**Standard algorithms and tools for control system study
- **Signal Processing**Visualize, analyze and filter signals in time and frequency domains.
- **Application Development**Increase MATLAB native functionalities and manage data exchanges with external tools.

The Simscape Power Systems Simscape Components library contains Simscape blocks specifically developed for working with multiphase electrical domains. In addition to the Simscape Foundation domains, the product contains a three-phase electrical domain, and you can use this domain to develop your own custom three-phase blocks with Simscape language. You can also view and customize source for several machine and transformer example blocks provided with the product

About National Institute of Technical Teachers Training & Research (NITTR): In realization of the need for training better quality technicians to meet the large-scale industrialization of the country, the ministry of Human Resource Development (the then Ministry of Education), Government of India established four Regional Technical Teachers' Training Institutes (now National Institute of Technical Teachers Training & Research, NITTTR at Bhopal, Chandigarh, Chennai and Kolkata in 1967. The Institute at Chandigarh is one of these four NITTTRs, started in collaboration with Royal Netherlands Government (upto 1974). It was designed to meet the requirements of developing polytechnic education in the northern region covering the states of Jammu and Kashmir, Himachal Pradesh, Punjab, Haryana, Rajasthan, Uttar Pradesh, Uttrakhand, Delhi and Union Territory of Chandigarh. The Institute is registered under the Societies Registration Act, 1860 and is managed by a Board of Governors.

The institute also set up the department of Rural Development and the department of Entrepreneurship Development to assist polytechnics in directing their efforts towards training manpower and disseminating information in these areas. The Educational Television and Computer Science departments were established in the year 1981and 1982 respectively. Since 1983, the institute has been guiding and assisting the states in the areas of Educational Planning and Management. Since 1992, the institute started offering Regular Master of Engineering Programmes in (i) Engineering Education and (ii) Manufacturing Technology. In the year 1994, two more courses namely Master of Engineering in Construction Technology and Management and Computer Science and Engineering were added. In the year 1998, two more Master of Engineering Programmes in Instrumentation and Control and Electronics and Communication Engineering were added, and, since 2005, the institute started offering Modular Master of Engineering Programmes in all the above disciplines. All these programmes, being offered for teachers of technical institutions and their administrators, professionals from industry and general candidates, are duly approved by AICTE and affiliated to Panjab University, Chandigarh.

About the Institute: Rajkiya Engineering College (R.E.C.) Ambedkar Nagar was established by Government of Uttar Pradesh. Thecollege has started offering B.TechProgramme in three disciplines – Information Technology (IT), Electrical Engineering (EE) and Civil Engineering (CE) with intake of 60 seats in each branches from the session 2010-11.

The students are extensively exposed to cross-cultural environment as candidates from various other State such as Jammu & Kashmir, Madhya Pradesh, Rajsthan etc. join REC for various undergraduate programs. REC Ambedkar Nagar is fully residential institution with three hostels for boys and one for girls.

About the Departments: The Department of Electrical Engineering at Rajkiya Engineering College Ambedkar Nagar offers a vibrant environment for undergraduate education in Electrical Engineering Established in 2010. the Department of Electrical Engineering is actively engaged in teaching and research. With modern laboratories and excellent members of faculty.

The under graduate programme provides the students with a strong background in the broad areas of Electrical Engineering, namely, communication technology, control technology, electronics, and power & energy. A strong exposure to state-of-the-art technologies is further provided through elective courses that are carefully designed for the interested students.

The Department of Information Technology was established in 2010 with an intake of 60 student. The department has highly qualified, committed and well experienced faculty members with varied specializations. The faculties are involved in organizing and participating in several seminars, conferences and workshops. They have also published research papers in various national and international journals, presented papers in conferences in India. Over the years, the department has become a center of excellence, providing in-depth technical knowledge and opportunities for innovation and research, with well-equipped computer facilities.

Information Technology Department is the first point of contact for the campus community by supporting telephone, computing, networking, andapplications.

DEPARTMENT OF ELECTRICAL ENGINEERING

TENTATIVE TIME TABLE for the **STC** on

Real Time Simulation of HVDC and FACTS Devices (Through ICT)

w.e.f**28 January-1 February, 2019**

Day & Date	10-11.30 am	11.30am – 1pm	1-2 pm	2.30 pm – 4 pm
Monday **28.01.2019**	Registration & Inauguration	Introduction to FACTS Devices (LM)	L	Power System Restructuring and Deregulation (AS)
Tuesday **29.01.2019**	FACTS Devices (LM)	Real World Simulation using Opal-RT (RT)	U	Real Time Simulation of TCSC (RT)
Wednesday **30.01.2019**	Real Time Simulation of STATCOM and SVC (RT)		N	Real Time Applications of Smart Grid (Expert from Opal-RT)
Thursday **31.01.2019**	Real Time Simulation of UPFC (RT)	Power Electronic Converters in Smart Grid (SSL)	C	Real Time Applications of HVDC (Expert from Opal-RT)
Friday **01.02.2019**	Latest Research Areas in Power Systems (Expert)		H	Valediction

LM- Dr. Lini Mathew, Professor, NITTTR, Chandigarh
RT- Dr. Ritula Thakur, Assistant Professor, NITTTR, Chandigarh
SSL- Dr. Shimi S.L., Assistant Professor, NITTTR, Chandigarh
AS- Dr. Ashwani Sharma, Professor, NIT, Kurukshetra