

# CHHOTUBHAI GOPALBHAI PATEL INSTITUTE OF TECHNOLOGY

## Department of Electrical Engineering

### A REPORT

### ON

### Workshop based on “Power System Stability Analysis”

<b>Title of the Workshop</b>	Power System Stability Analysis
<b>Organizing Department</b>	<b>Department of Electrical Engineering</b>
<b>Chief Patron</b>	Dr. D. R. Shah, Provost, UTU.
<b>Patron</b>	Dr. N. C. Shah, Director, CGPIT.
<b>Convener</b>	Prof. Rakesh S. Gajre (Head of EC/Electrical Dept.)
<b>Organizing Secretary</b>	Prof. Jay Patel Prof. Umang Wani
<b>Organising Committee</b>	Prof. Chinmay Naik Prof. Ankur Rana Prof. Ashish Chaudhari Prof. Pranav Contractor Prof. Nidhi Shah Prof. Priyanka Patel
<b>Target Audience</b>	Faculty members and industrial person, Research scholars and Engineering students.
<b>Total Number of Participants</b>	133
<b>Date of Programme</b>	11 <sup>th</sup> –12 <sup>th</sup> March, 2016
<b>Invited Speakers</b>	Dr. B. R. Parekh, Head of Electrical Engineering Department, BVM Dr. Ritesh Patel, Head of Electrical Engineering Department, GCET Dr. Sanjay R. Joshi, Principal, GEC Valsad Dr. Pranav Darji, Associate Professor, SVNIT Surat

## Schedule of Workshop

<b>Friday (11/03/2016)</b>	<b>Saturday (12/03/2016)</b>
<b>Registration &amp; High Tea</b> (9.15 AM – 10.00 AM)	<b>High Tea</b> (9.30 AM – 10.00 AM)
<b>Inauguration</b> (10.00 AM – 10.45 AM)	<b>Expert Lecture</b> (Dr. S. R. Joshi) (10.00 AM – 12.00 P.M.)
<b>Expert Lecture</b> (Dr. B. R. Parekh) (10:45 AM – 12:30 PM)	<b>Lunch Break</b> (12.00 P.M.-1.00 P.M.)
<b>Lunch Break</b> (12.30 P.M.-1.15 PM)	<b>Expert Lecture</b> (Dr. Pranav Darji) (1.00 P.M. - 3.00 P.M.)
<b>Expert Lecture</b> (Dr. Ritesh Patel) (1.15 P.M. - 3.15 PM)	<b>Valedictory and Certificates</b> Distribution (3.00 PM – 4.00 PM)
<b>Tea break</b> (3.15PM – 3.30PM)	
<b>Practical Session</b> (3.30 PM – 4:30 PM)	

## Details of the Workshop:

### Preamble:

Department of Electrical Engineering, CGPIT has organized two day workshop on “Power System Stability Analysis” sponsored by Uka Tarsadia University. Total 133 participants participated in this Workshop which includes faculties, research scholars and M.Tech students from different colleges of Gujarat. Out of which 22 faculties from our college, one faculty from GIDC Degree engineering college (Navsari), Five faculties from FETR college Tajpore, one faculty from SCET college Surat and 102 students.

The inauguration ceremony of Workshop was started by UTU song followed by lamp lighting and prayer to seek the blessings of almighty. As per tradition of CGPIT, all the dignitaries were given a warm welcome and were felicitated to express respect and gratitude towards them for devoting their valuable time and gracing the workshop. The dignitaries that graced the inauguration ceremony of workshop were Dr. N. C. Shah (Director, CGPIT), Dr. Chinmay Desai (Head of Mech/Auto Department, CGPIT), Dr. J.C.Vyas (Former Principal of SVNIT, Surat), Dr. B. R. Parekh (H.O.D. of Electrical Department, BVM College), Dr. Ritesh Patel (H.O.D of Electrical Department, GCET), Dr. R. A. Christain (Associate

Professor, Civil Engineering Department, SVNIT, Surat), Mr. Nihar Doctor (Director, Envision group of company, Surat) and head of all the departments of CGPIT. Along with the dignitaries and experts were felicitated by the coordinators of the workshop.

Prof. Karmani Rajput gave a brief introduction about the workshop. She introduced the experts and expressed her views about the importance of workshop. The H.O.D of electrical department, Prof. Rakesh Gajre gave the welcome speech and gave an overview of the power system generation, transmission and need of power system stability. Then H.O.D of Civil department, Prof. Kamlesh Gandhi gave speech on issues of environmental problems. Chief Guest of the workshop, Dr. J. C. Vyas took a special note for the discipline, uniform, prayer and peaceful environment of the campus. Dr. R. A. Christain shares his views on environmental problem, global challenges of environment, Issues of pollution and also he talks about discipline and culture of youth. Dr. B. R. Parekh gave overview of power system stability. He also talked about blackouts and challenges against stability of power system. Mr. Nihar Doctor praised the students and faculties of college and also took a special mention of excellent facilities made available in the campus. Dr. Ritesh Patel has discussed on real responsibility of an engineer. He has also imparted information on social responsibility of an engineer towards society and human community by concentrating on major problem face by people in day to day life which can make them self centric.

The Honourable Director of CGPIT, Dr. N.C. Shah gave the welcome speech. He motivated the students and faculties for participating in technical events like short term training program, workshop, expert talk, etc. He also congratulated and appreciated the efforts made by the Electrical department for organizing such workshop. He shared his knowledge about power system stability, quality of power and also discussed about blackouts. Prof. Umang Wani gave the vote of thanks.

### **Session Detail:**

All the sessions were very interactive and laid a very good impact on the audience.

**Session-1:** Steady State and Transient Stability of Power System

**Session-2:** Role of security in stable operation of power system

**Session-3:** Power System Operation

**Session-4:** Dynamical Studies: The use of Eigen Value and Eigen Vector and Simulation of Linear Circuits

**Session-5:** Lab Session

- **Steady State and Transient Stability of Power System**

In this session, Dr. B. R. Parekh discussed about the stability studies. He discussed steady state stability, Transient stability and Dynamic stability. He gave brief idea about dynamics of a synchronous machine, Swing Equation, Power angle curve and Equal area criteria. He discussed in detail methods of improving transient stability and also steady state stability.

- **Role of security in stable operation of power system**

Dr. Ritesh Patel explained about basics of power system security and its effect on Power System Stability. He elaborated the causes and consequences of cascade tripping and blackouts. He explained in detail about the reasons for blackout 2012. Thus the role of security in stable operation of power system was properly justified.

- **Power System Operation**

In this session Dr. S. R. Joshi discussed about Power system Operation. He discussed drawbacks of DC transmission over AC transmission. He also discussed about various features of Power System and mesmerized students by explaining the very fundamental concepts of Electrical Engineering.

- **Dynamical Studies: The use of Eigen Value and Eigen Vector and Simulation of Linear Circuits**

The Eigen value analysis is very important aspect for determining the stability of system. Dr. Pranav Darji discussed about the methods for calculating Eigen value and Eigen vector from system configuration. He also explained the methods of numerical integration. He also explained about linearization of any non linear system. He also explained about the use of Latex to prepare presentations.

- **Lab Session**

In lab session, simulations of stability analysis after fault occurs in the system have been performed in software Matlab-2009. Three cases were taken and simulation for all were done and comparative analysis for stability and critical clearing time was simulated.

**Glimpse of the Workshop:**



**The Venue**



**High Tea**



**Dignitaries on the dais**



**Inauguration Ceremony**



**Welcoming Dignitaries**



**Speech by Dignitaries**



**Vote of thanks**



**Technical Sessions**





**Workshop Coordinators with Dignitaries**



**Lab Session**

## Press note of the Workshop:



## Committee members of the Workshop:

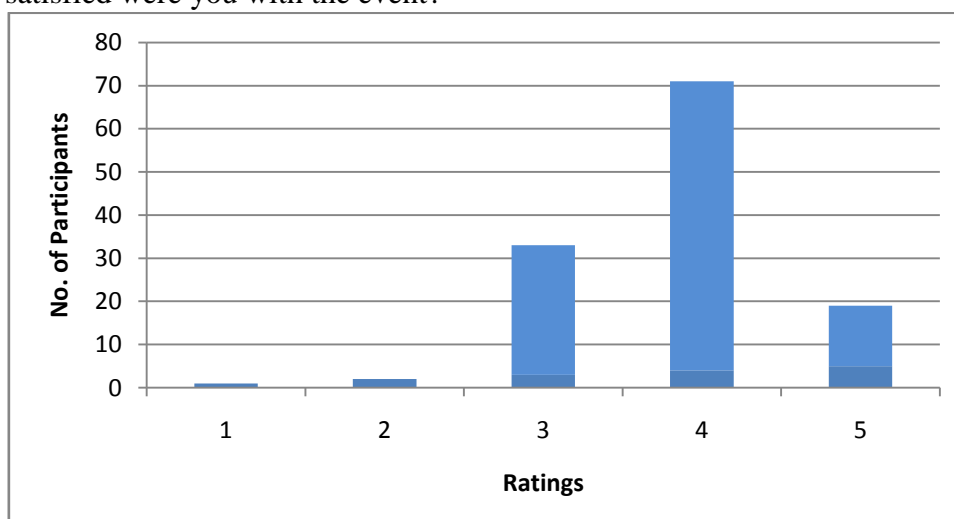
Sr. no	Committee	Members	Tasks to be performed
1	Publicity and Campaigning	Prof. Chinmay Naik Prof. Jay Patel Prof. Umang Wani Prof. Pranav Contractor	Campaigining (indoor and outdoor), Posting the brochure, Mailing the brochure.
2	Certificate	Prof. Arjun Jariwala Prof. Ekta Desai Prof. Yashvi Parmar prof. Hinal surati	Printing Certificate & Certificate Writing
3	Registration, Kit	Prof. Priyanka Patel Prof. Hiren Sidhapuria Prof. Jignesha Ahir Prof. Arjun Jariwala Prof. Ekta Desai	Handling participation entries, Collection of registration fees, Handling cancellation of any participation, Preparation of registration kit
4	Report Writing and Press Note	Prof. Unnati Mali Prof. Nitiksha Pancholi Prof. Nidhi Shah	Summarizing each session, Complete report writing with photos and feedback, Press note making (Pre and Post event)

5	Lab Session	Prof. Jay Patel Prof. Chinmay Naik Prof. Umang Wani Prof. Unnati Mali Prof. Pranav Contractor Prof. Pallavi Gamit	Conduction of Lab Session
6	Class and Lab Arrangement, Food	Prof. Ashish Chaudhary Prof. Darshan Vora Prof. Chand Thakor Prof. Ranjit Rajak Prof. Yashvi Parmar Prof. Komal Gamit	Arranging the venue as per schedule, Software installation, Infrastructure arrangement (mike, speaker, white board, marker, water, chair, etc.), Arrangement for food including breakfast, lunch and high-tea.
7	Photography	Prof. Hiren Sidhpuria Prof. Arjun Jariwala	Clicking photographs, Sorting the good photographs for report making.
8	Feedback & Distribute the final material	Prof. Karmani Rajput Prof. Pallavi Gamit	Take feedback, Analyse the feedback, Generate graph. Send the final ppt or any material
9	Hosting	Prof. Pranav Contractor Prof. Kramani Raput Prof. Hinal Surati	Innauguration, Falicitation and Validictory Speech
10	Stage Decoration	Prof. Hinal Surti Prof. Komal Gamit	Rangoli Making, Stage Decoration, UTU song, Deep Pragatiya Managing chairs and water bottles.

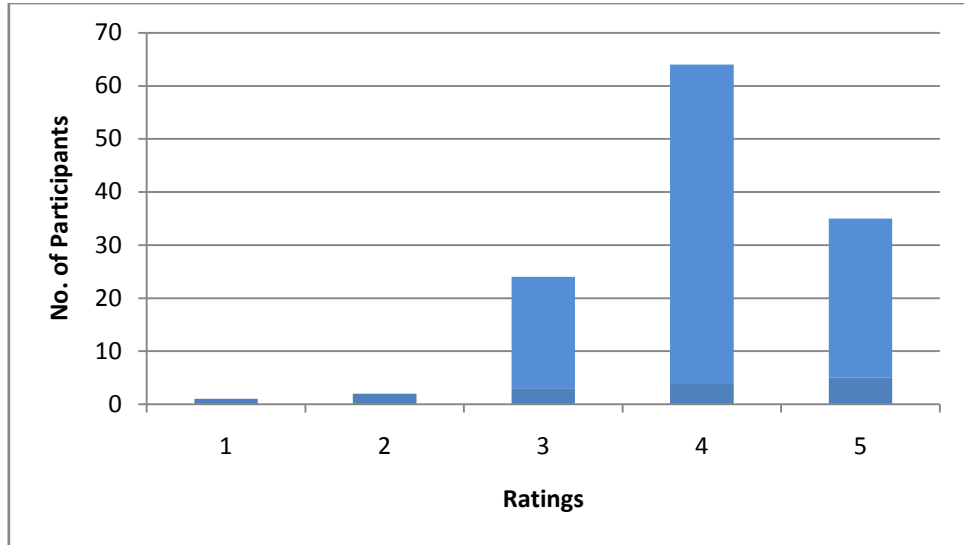
### **Feedback Analysis:**

Online feedback was collected from the participants in last session of the Workshop. The overall feedback of the Workshop was very positive. Here are some of the feedbacks, which were given by participants.

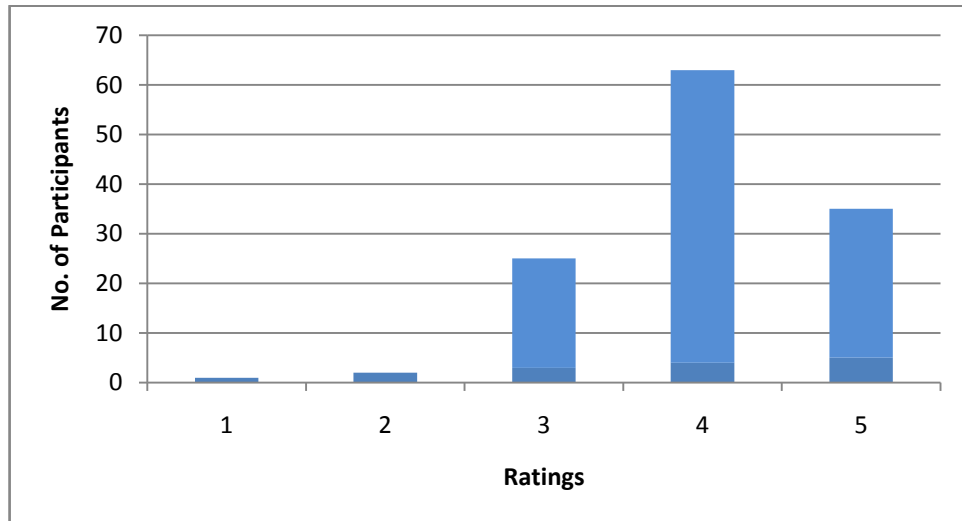
1) How satisfied were you with the event?



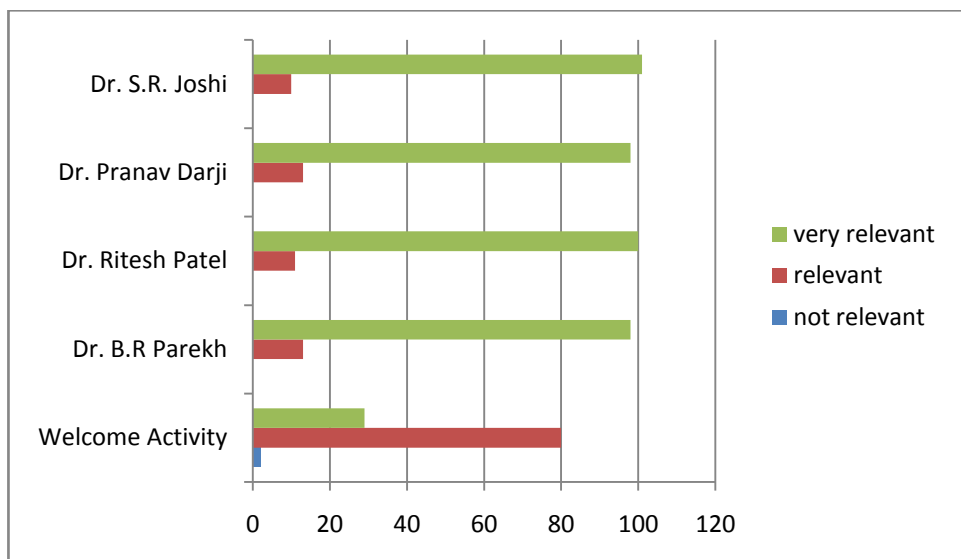
2) How relevant and helpful do you think it was for your career?



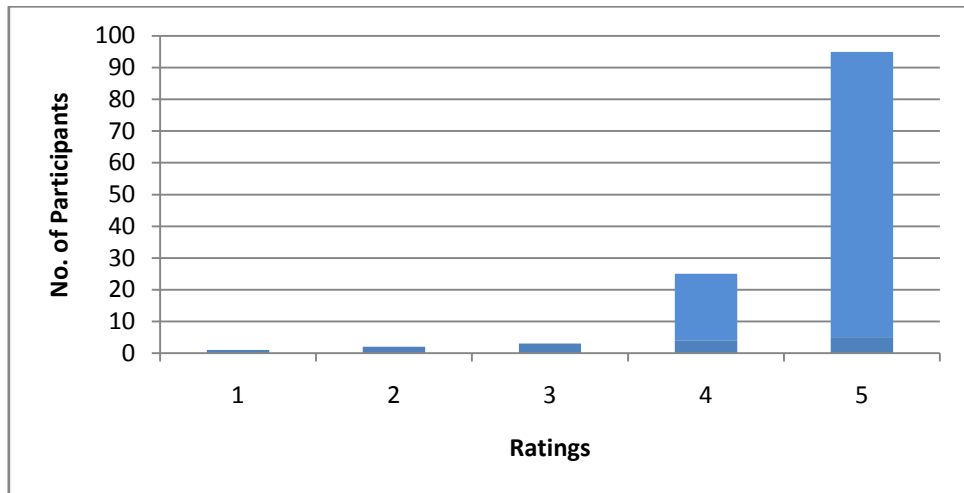
3) How was the venue arrangement and amenities?



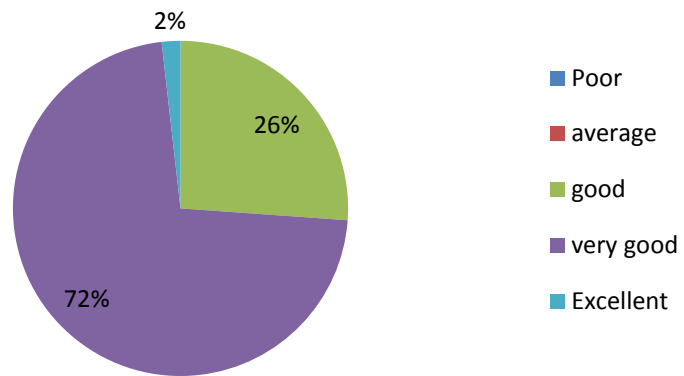
4) Which session did you find most relevant?



5)How was practical session?



6)How satisfied were you with the session content?



7)How was the quality of food?

