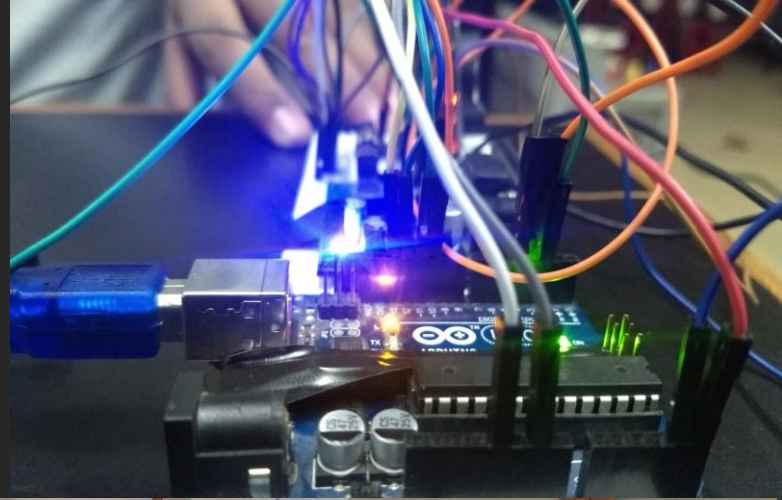


The Circuit





From the Director
School of Technology
Prof. T. P. Singh

Cheerful greetings to all our alumni and friends from the electrical engineering department at Pandit Deendayal Petroleum University (PDPU) Gandhinagar - our wonderland of technology development and engineering education. I am pleased to bring you the second edition of the Electrical departmental newsletter, **The Circuit**, describing many of the departmental activities and accomplishments since March 2019 till today.

It has been very interesting semester at PDPU, as we have been engaged in searches of new faculty members in line with the students achieving higher numbers in gaining industrial placements and opting for higher studies. Meanwhile, the Electrical department continues to do what we do best: carrying out exciting research and preparing the next generation of electrical engineers to enter the workforce. Since its inception, the department has strived hard to comply with the University's vision of imparting world-class education in the field of Energy Engineering and Management. I extend my warm wishes to the department and welcome you to **The Circuit**.



From the Head
Electrical Engineering
Dr. J. G. Jamnani

It gives me immense pleasure and joy to introduce you to our second edition: **The Circuit**, departmental newsletter. The contents of the letter have been bifurcated into two major sections: (1) *Faculty News*: faculty visits to other organizations, invited talks, lectures delivered, scientific breakthroughs in terms of publications have been highlighted; and (2) *Student Spotlight*: as the name suggests, brings forth all the achievements and accomplishments of the students, prizes won, participatory events, projects under execution, etc. The Department of Electrical Engineering (EED) was established in 2010 since the inception of School of Technology, PDPU. EED offers B. Tech., M. Tech. with specialization in power systems and Ph.D. programs. The department has state-of-art laboratories with modern equipment and software package so that the students have better opportunity to learn practical aspects of engineering problems.

If you see anything in **The Circuit** that strikes a chord, please feel free to call or drop me a line at <JG.Jamnani@sot.pdpu.ac.in>.

PDPU’s VISION:

To be an internationally renowned & respected institution imparting excellent education & training based upon the foundation of futuristic research & innovations.

PDPU’S MISSION:

1. Undertake unique obligation for education in energy engineering and management with special responsibilities in domain specific aspects of energy & infrastructure.
2. Seek to nurture students of extraordinary motivation and ability and prepare them for lifelong learning and leadership in an increasingly knowledge driven world.
3. Envisage to establish institutes of excellence in education, competitive edge in research and real time relevance with futuristic thrusts in offering of programmes and undertaking of activities and projects.

SoT’s VISION:

To be an internationally renowned and recognized institute imparting technical education, research & training for societal impact and sustainable development.

SoT’s MISSION:

1. Undertake unique obligation for education in energy and engineering with special responsibilities in domain specific aspects of energy & infrastructure.
2. Seek to nurture students of extraordinary motivation and ability and prepare them for lifelong learning and leadership in an increasingly knowledge driven world.
3. Envisage to establish departments for excellent education, cutting edge research and training by offering programmes, to address futuristic needs.

DEPARTMENT’S VISION:

To be recognized globally for excellence in education, research and training in the field of Electrical Engineering by preparing graduates for tomorrow creating high societal impact.

DEPARTMENT’S MISSION:

1. To offer good quality under-graduate, post-graduate and doctoral programmes for preparing globally competitive graduates in electrical engineering.
2. To provide state-of-the-art resources that contribute to achieve excellence in teaching learning, research and skill development activities.
3. To impart knowledge driven, technologically delivered and research augmented excellent education.
4. To motivate the students for life-long learning and to inculcate leadership qualities in an increasingly knowledge driven world.

Mission Element	Mission Element
M1	Globally Competitive (Energy and Engineering)
M2	Skill Development
M3	Excellent Education
M4	Life-Long Learning

M5

Leadership

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

1. To prepare highly competent graduates with strong foundation in engineering and technology for successful career in industries, academics and research organizations.
2. To prepare the graduates with ability to identify, analyze, design and solve complex electrical engineering problems, based on application of basic sciences, mathematics and fundamentals of electrical engineering.
3. To prepare fundamentally strong graduates having broad knowledge in electrical engineering that can become innovators or entrepreneur to solve industrial and societal challenges.
4. To prepare graduates with holistic education approach that they should contribute ethically in multicultural and multidisciplinary groups to develop sustainable solutions for global, environmental and social issues.

PROGRAM OUTCOMES (PO):

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOS)

PSO1: To identify, formulate, design and investigate various problems related to electrical circuits, power electronics, electrical machines and power systems by applying fundamental knowledge of engineering and science

PSO2: To demonstrate proficiency in usage of modern hardware & software tools to model, design, simulate and analyze electrical systems for solving real world multi-disciplinary problems

PSO3: To contribute in development of smart systems, modern grid and clean energy system for societal and environmental benefits.

Faculty News

Workshops/Short term Courses Conducted

A one-day *Thesis-Writing Workshop* was conducted by **Asst. Prof. (Dr.) V S K V Harish** and **Dr Annie Rachel Royson**, SLS for the doctoral students of PDPU on 15th May 2019. **Dr. S. R. Joshi**, Former Head, DECU, ISRO was invited for an external session. **Lect. (Mrs.) Leena Santosh**, **Lect. (Ms.) Meera Karamta**, and **Lect. (Mr.) Nirav Karelia** attended the sessions.



Invited Talks / Guest Lectures from Industry Personnel

Ms. Meera Karamta and **Lect. (Mrs.) Vima Mali** organized an expert talk on “*Braking operation of three-phase induction motors and Space Vector Modulation for Induction Motor*” which was delivered by **Mr. Vatsal Shah**, Chief operating officer and R&D Lead Engineer - ARTEM Energy Future Pvt Ltd–Ahmedabad for B.Tech – VIII sem students at PDPU Campus on 10 Apr'2019.



On the Cover

PDPU Delegates with EED Head at STTP

Department of Electrical Engineering

School of Technology, PDPU Gandhinagar

Faculty News

Invited Talks / Guest Lectures from Industry Personnel

Dr. V.S.K.V Harish organized an expert talk on “*Grid Integration of Renewable Energy Systems in India*” which was delivered by **Mr Susanta Kumar Padhy**, Associate Vice President – Engineering, Head – Electrical, **Adani Infra (India) Ltd.** for B. Tech– VI sem and M.Tech – II sem students at PDPU Campus on 19th April 2019.



Assoc. Prof. (Dr.) J.G. Jamnani and **Mrs. Leena Santosh** organized an expert talk on “*AIS and GIS substations*” which was delivered by **Mr. Anurag Pandit**, Head Engineering – HV GIS & Hybrid Switchgear, **ABB India Ltd** for B.Tech – VI students at PDPU Campus on 05 Apr’2019.



Faculty News

Invited Talks / Guest Lectures from Industry Personnel

Lect. (Mr.) Vipin Shukla organized an expert talk on "*Spacecraft Plasma Interaction Facility for LEO & GEO environment*" which was delivered by **Dr.Ing Suryakant Gupta, Scientific Officer – G, Institute for Plasma Research** for B.Tech – VIII and M.Tech – II students at PDPU Campus on 18 Apr'2019.

Invited Talks / Guest Lectures Delivered

Dr V. S. K. V. Harish delivered full day lecture-session on *Smart and Micro grids and Phasor Measurement Units* at the **NPTI-HVPM Workshop** on "*Optimum Utilisation of Power System Assets: Grid Security, Reliability and Distributed Monitoring Management*", March 2019 at HPTI Complex, Panchkula.



Assoc. Prof. (Dr.) Praghresh Bhatt delivered an expert talk on *Distribution Network* at **the Short Term Training Programme** organized by Institution of Engineers, South Gujarat Section, Surat, May 2019.

Asst. Prof. (Dr.) Amit V. Sant delivered an expert talk on *Potential Need for Electric Vehicles, its Future Challenges and opportunity for the Indian Market* at **GPERI-National workshop** organized by Gujarat Power Engineering & Research Institute, Mehsana, March 2019.

Faculty News

Invited Talks / Guest Lectures Delivered

Dr. Praghnesh Bhatt delivered an expert talk on *System Wide Impacts of Renewable Energy Integration to Energy Network* at **international workshop** organized under Industry-Academia Partnership Program funded by Royal Academy of Engineering, United Kingdom. C S Patel School of Technology, CHARUSAT, Changa, March 2019.



Extension Activities

Delegates from School of Engineering, Cardiff University, United Kingdom visited the department on 29th March 2019 and interacted with **Dr J G Jamnani, Head**, faculty members and **Prof. T.P. Singh, Director**, SoT to explore the opportunity for collaborative research between PDPU and Cardiff University.



Dr Praghnesh Bhatt and **Asst. Prof. (Dr.) Bhinal Mehta** were Lead Applicant and Co-applicant, respectively, for the collaborative project with School of Engineering, Cardiff University, UK.

Faculty News

Extension Activities

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Ms Meera Karamta was invited as a **Member: Judging Panel** of Techno altar 3.0: *Researcher's Quest for Techfest/workshop* at FIPI, PDPU Student chapter on 31st March, 2019.



Dr. V.S.K.V. Harish was invited to the *Brain Storming Meeting on Power Economics and Regulatory Courses* for students and in-service professionals and Centre for Regulatory Affairs at **IIT Roorkee**, Greater Noida Extension Centre on 3rd May, 2019.

PDPU Admissions

Mr. Vipin Shukla visited Hotel Western Yuvraj, Surat, attended education fair at Hotel Royal Cliff, Kanpur, U.P. and Hotel Lords, Surat to conduct seminars on PDPU Under Graduate (UG) admissions, March & May, 2019.

Lect. (Mr.) Nirav Karelia visited Indore and participated in the road show at Rajkot for PDPU UG and PG admission duties, Mar – May, 2019.

Dr. J.G. Jamnani, Dr. Amit V. Sant and Dr. V.S.K.V. Harish participated in the Open Counselling Seminar for PDPU UG admissions at Hotel Starottel, Ashram road, Ahmedabad, May 2019.

Faculty News

Publications – Journals

- ❖ Ujjaival Patel, Nilesh Chothani and **Praghnesh Bhatt**, “*Emulation of Auto-Reclosing Scheme for Transmission Line with Adaptive Dead Time Control*”, accepted for publication in **Electric Power Components and Systems**.

- ❖ **Praghnesh Bhatt**, Mitesh Astik, and Bhavesh Bhalja, “*Bi-directional Position and Speed Estimation Algorithm for Sensorless Control of BLDC Motor*”, accepted for **Electrical, Control and Communication Engineering – Scientific Journal of Riga Technical University**.

- ❖ Nilay Patel, and **Praghnesh Bhatt**, Mitigation of Sub-synchronous Resonance with Static Var Compensator, accepted for **Journal of Engineering, Science and Technology**.

- ❖ Y Malhotra and **V S K V Harish**, “*Solar Based Integrated Energy Systems for Green Building Applications,*” **Journal of Energy Environment and Carbon Credits**, vol. 8, no. 3, pp. 22-26, 2019.

- ❖ **V S K V Harish**, N Anwer and A. Kumar, “*Optimal Energy Sharing Within a Solar-Based DC Microgrid,*” **Advances in Intelligent Systems and Computing**, vol. 817, pp. 635-644, Springer, Singapore, 2019.

Faculty News

Publications – Conferences

- ❖ **Praghesh Bhatt, V. Shukla** and D. Vyas, “*Coordination of Directional Overcurrent Relays for Distribution System using Particle Swarm Optimization*”, **International Conference on Smart Power & Internet Energy Systems**, Deakin University, Melbourne, Australia, 25-27 April 2019.

- ❖ Gargi Trivedi, **Markana A., Praghesh Bhatt** and Vivek Patel “*Optimal Sizing and Placement of Multiple Distributed Generators Using Teaching Learning Based Optimization Algorithm in Radial Distributed Network*”, **6th International Conference on Control, Decision and Information Technologies**, CoDIT 2019, Paris, France, April 23-26, 2019.

- ❖ **Anilkumar Markana**, Nitin Padhiyar and Kannan Moudgalya, “*Prioritized control of multivariate process using lexicographic ordering approach: A simulation study*”, **6th international conference on Control, Decision and Information Technologies** (CoDIT 2019) held in Paris, France from 23-26 April 2019.

- ❖ Sweta Malik; **V S K V Harish**, “*Integrating demand response and energy efficiency*”, World Sustainable Energy Days 2019: **Young Energy Researchers Conference**, Wels/Austria, Feb 27 - Mar 1, 2019.

Departmental Events

Short Term Training Programme on “Advances in Emerging Power System operation, control and Protection”

The department of Electrical Engineering conducted a **Short Term Training Programme** on “*Advances in Emerging Power Systems Operations, Control and Protection*” during **5th – 9th March 2019**. Eminent professors, researchers and engineers from industry contributing in these areas delivered lectures and shared their experience and expertise with the participants. **Dr. J.G. Jamnani** and **Dr. Vivek Pandya** coordinated the programme with **Dr. Bhinal Mehta** and **Dr. Siddharth Joshi** acted as Co-Coordinators. **Dr. Praghness Bhatt** handled the proceedings and correspondence.



Departmental Events

Short Term Training Programme on “Advances in Emerging Power System operation, control and Protection”



Departmental Events

Short Term Training Programme on “Advances in Emerging Power System operation, control and Protection”.



Student Spotlight

Clash of the Titans – Group Discussion Competition

School of Technology, PDU organized a month-long Group discussion competition: **Clash of the Titans** for UG/PG students of SOT, PDU. The event was conducted in three phases with first two phases being intra departmental and an interdepartmental last phase. **Ms. Aayushi Goel**, B. Tech – VI and **Ms. Anushree Singh**, B.Tech – IV qualified to the grand finale.



List of students who qualified to phase – II (Name - Year)

Anupam Pandey – I	Shambhavi Chakrabarti – I	Dave Rutvikkumar – III	Singh Pratik – III
Chitresh Saxena – I	Niyati Trivedi – M.Tech I	Ishita – III	Mishra Apoorva – III
Hrishil Vats – I	Gupta Suneha - II	Khushboo Lakhwani – III	Meenakshi B. – IV
Monal Mehta – I	Piyush Bansal – II	Kanbi Jignasa – III	Aditi Jivani – IV
Nidhi Padalia – I	Rishabh Thacker – II	Praful Singh – III	Riddhi Ladani – IV
Rohan Pradhan – I	Singh Anushree - II	Aayushi Goel – III	Pandya Hemang - IV
Yash Pradhan - I	Yajnik Paritosh - II	Rajvir Priyank - IV	Harsh Thakur - IV

Student Spotlight

Research Conclave 2019 – IIT Guwahati

Mr. Shivank Vyas, B. Tech – VI Sem was one of the finalists at the *Research Conclave – An amalgamation of academia, industry and start-ups*. Mr. Vyas stood 10th position in Redstart - The startup challenge.



More than 250 abstracts were submitted to conclave for round one and out of them 20 abstracts were selected for round 2. Twenty (20) presented their abstracts in front of jury for round 2. The event was organized by Students' Academic Board, Indian Institute of Technology Guwahati, 14 – 17th March 2019.

Student Spotlight

Energy and Safety audit of PDPU Campus

Energy and Safety Audit of PDPU campus was carried out by the final year and pre-final year students of the department since January 2019 with coordination from Gujarat Energy Research and Management Institute (GERMI) and is being exercised by JP Technosoft Pvt. Ltd.



Mr. Gaurav Agarwal, Ms. Aditi Jivani, Ms. Riddhi Ladani, Mr. Swapnil Khandekar, Mr. Abhinav Kumar and Mr. Shivam Pandey worked towards their final year major project under the mentorship of **Dr. Amit V. Sant and Dr. V.S.K.V. Harish.**

Student Spotlight

Team Kaizen-PDPU/SHELL ECO MARATHON ASIA 2019

Shell Eco-marathon Asia is an annual competition held for teams in the Asia Pacific and Middle East regions. In 2019, it was held at **Sepang International Circuit – Malaysia** during 28th April to 2nd May, 2019.

A total of 300 Teams from all over Asian nations participated in the event. 53 teams of urban concept and 55 teams of prototype were selected on the basis of continuous pre-evaluation by experts. **Team Kaizen-PDPU** stood at **12th position** in *Electric Vehicle Prototype* Category.



Mr. Apurv Patel, Mr. Rutvik Dave, Mr. Priyank Kela and Mr. Akshit Patel of B.Tech – VI sem with **Mr. Vipin Shukla** were the participants of Team Kaizen – PDPU. Team Kaizen, with the Motto of continuous improvement is aiming towards developing *Ultra Efficient*

Electric vehicle to meet with the Government of India's plan of complete electrification of all Road vehicles.

Student Spotlight

PLACEMENTS

Interactive Session to sensitize B.Tech – III year students for preparation for Placements and Higher Studies Abroad

An interactive session was organized with a view to sensitize the aspiring students of B. Tech – VI sem for future career and higher studies prospects. The sessions were carried out by B. Tech – VIII students who have successfully acquired placements in several industries and those who are pursuing further studies abroad of B. Tech – VIII sem on 8th May, 2019. **Mr. Swapnil Khandekar**, B.Tech – VIII sem and **Mr. Kedar Majethiya**, B. tech – VI sem (Student Coordinator - T & P) hosted the event.



PLACEMENTS - Statistics

A total of 113 no. of students registered themselves for placements of 2019, Electrical engineering with 33 students opting out (20 opted for higher studies). 104 students opted for comprehensive project. A total of 23 industries visited the campus to offer placements to the B.

Tech – VIII sem students of the department. Average package offered to the students for the year 2018- 19 stood at 3.18 lpa, approximately.

PDPU Admissions 2019

M. Tech

Key dates (Schedule)

Last Date for Online application	16 th June 2019
Phase I Admission Process (Only for candidates having Qualified and valid GATE score)	
Announcement of Merit list	19 th June 2019
Start of the Admission offering	19 th June 2019
Phase II Admission Process (for GATE/Non GATE candidates)	
List of candidates for Personal Interview on website	4 th July 2019
Personal Interview	9 th July 2019
Start of Admission offering	12 th July 2019

Ph.D.

Revised Key Dates for Ph. D. Admission 2019

Last date for online application	15 th June 2019
List of candidates for selection procedure on the website	21 st June 2019
<u>Selection Procedure</u>	
<ul style="list-style-type: none"> • Reporting time 9.00 am. • Written Aptitude Test in, Block-C (SPT-1 building) from 10.00 a.m. to 12.00 p.m. • Discipline wise proficiency-evaluation at 1.30 p.m. onward. 	11 th July 2019
Announcement of the list of candidates offered the admission	19 th July 2019
Last Date for paying fees	23 rd July 2019
Induction program for admitted candidates	29 th July 2019

***The Circuit* – Editorial Team**

Head of Department	Dr. J.G. Jamnani
Coordinator	Dr. V.S.K.V. Harish
Departmental Data Management	Ms. Meera Karamta Mrs. Leena Santosh Mrs. Vima Mali
Admin Staff	Sh. Jayesh Patel

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