



**MAIT**

उद्यमेन हि सिध्यन्ति

कार्याणि न मनोरथैः

The official newsletter of  
Department of Electrical and  
Electronics Engineering  
Maharaja Agrasen Institute of  
Technology

# The Times of EEE

## VISION

To produce technically competent human resource for electrical and electronics industry with high moral and ethical values.

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## MESSAGE FROM CHAIR

Dr. Rajveer Mittal  
HOD EEE



The core of Engineering since centuries have been Electrical, Mechanical, Civil and in present era too, they command a distinctive importance. In the evolutionary development in technical field, Electrical Engineering has commanded a special status. Electrical and Electronics Engineering (EEE) is the front runner because of its recent recognition and adoption by all industries and academia, thereby gaining self-confidence of our students to compete successfully with all competitive disciplines.

It gives me immense pleasure to find alumni of this department getting placed in government jobs and almost all private and multinational companies. The follow-up of the university curriculum, blending core electrical subjects like machines, control and power systems with those of electronics based communication, VLSI design and microcontrollers have helped in enriching the broad knowledge based with cutting edge technology to foster self development and confidence to do good & prove one's own worth. The inherent skills of our students are being well nurtured by highly qualified faculty and hard working staff in achieving goals & objectives of the Department. I support the endeavour and wish them success to rise to the pinnacle of glory.

## History of the Department

The college MAIT was established in the year 1999 by MATES (Regd.). Initially there were three branches ECE, CSE & MAE, each with an intake of 60 students. As time progressed, the college shifted from Sultanpuri to its own building at Sector-22, Rohini, Delhi.

In the year 2004, the department of EEE came into existence to cater to the requirement of Industries, both in the core sector and diverse fields where IT is used as tool. Initially the intake was 60 which got ameliorated to 120 students when GGSIPU sanctioned seats for running evening courses as well in the year 2010.

Two years later, in the year 2012, an additional 60 seats for morning shift were subsequently appended on the basis of performance and infrastructure of the department by GGSIPU.

This program aims at producing engineers with sound knowledge in electronics and a strong background in electrical by imparting quality teaching, carrying out research & technology development in frontier areas of electrical & electronics engineering.

The major areas of faculty expertise of the department include power systems, power electronics, advanced control systems, power quality management, soft computing, electromagnetic field theory etc.

## Mission of the Department

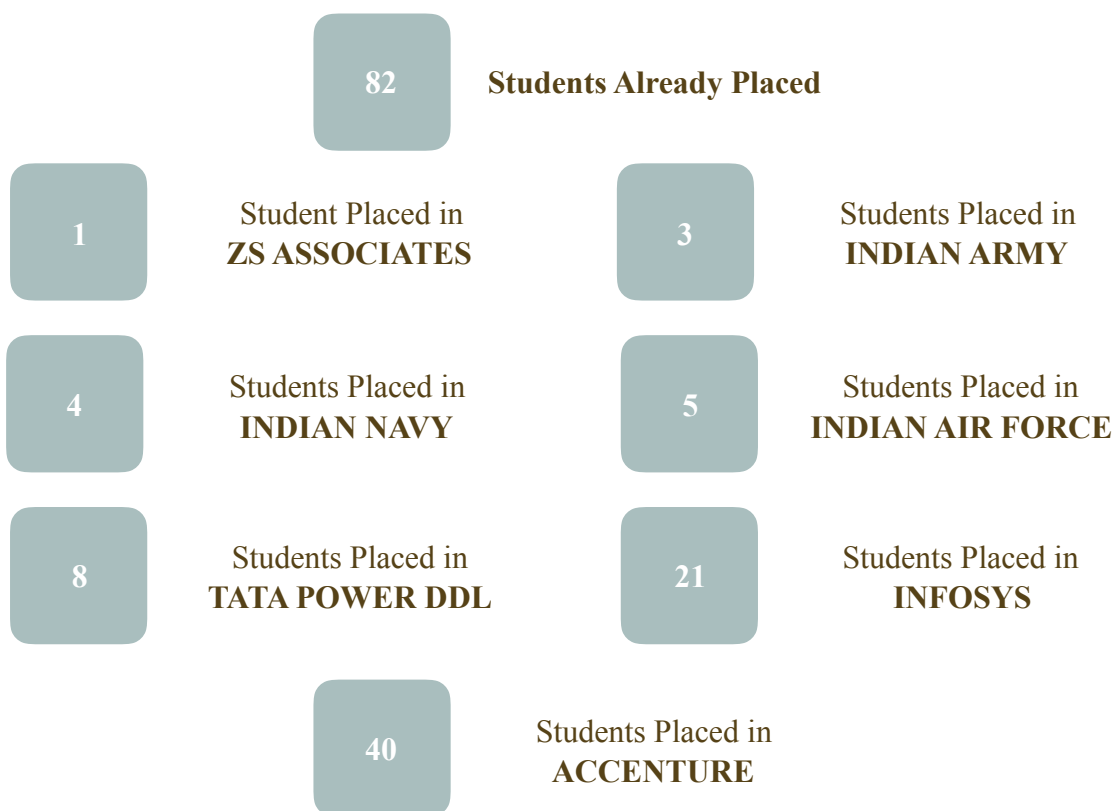
To ensure transformational impact on learning community and **modernization in industry** by providing **quality education** with orientation towards **research and higher education**, imbining the students with **moral and ethical values**.

- A. To emphasize **quality education** by imparting highest quality teaching in a conducive learning environment for the students to meet dynamic industry and global challenges. This shall enable us to be strong provider of skilled human capital to the industry, both in core and software sectors.
- B. To develop state of the art classrooms, seminar hall and **modernized** laboratory. All the laboratory experiments which are normally performed with the help of hardware equipment shall be backed up and boot strapped with the software experiments.
- C. To develop a strong centre of excellence for technical education and **research** activities thereby promoting a creative environment for the students to address global challenges and excel at all levels.
- D. Inculcating the spirit of team work, innovation, entrepreneurship and motivate the students to pursue **higher education** for their overall development.
- E. Enable students to be competent **professionals with industrial aptitude** ready to face the challenges due to globalization like energy conservation and green revolution.
- F. To enhance the position of EEE department as one of the **top ranked** teaching and research department in MAIT, GGSIPU and subsequently in India.
- G. To impart **moral and ethical values** and interpersonal skills to students by providing personal guidance and career counseling by our experienced faculty and staff.

# Research Journals Published By The Students

S. No	Student Name	Title	Journal/Conference	Year
1	D. Atri S. Sharma	Analysis Of Cascade failure and Optimal DG Placement For Its Mitigation.	International Journal of Information Technology, Springer, Accepted and published in December 2019.	2019
2	A. Bansal B. Banerjee Y. Mishra	Smart Helmet for Mining Workers.	National conference on Recent Trends in Electrical, Electronics and Communication Engineering, Delhi, India, January 2019.	2019
3	V. Garg A. Nizmi	Wireless Electrical Appliances Control via Temperature Data Logger .	National Conference on Recent Trends in Electrical, Electronics and Communication Engineering, Delhi, India, Jan. 2019.	2019

## Placement Details for 2015-19 Batch



# Power Generation Through Speed Breaker

Project Made By - Aadesh Verma , Harshit Sharma, Neha Chauhan

## Project Description

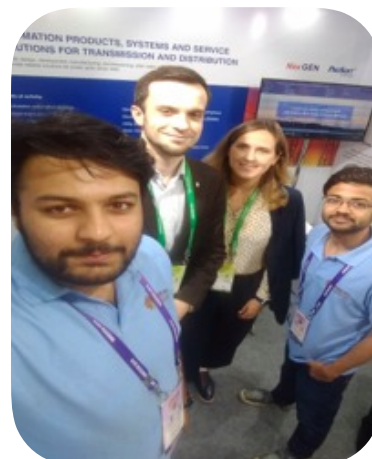
Project uses simple drive mechanism such as rack and pinion assembly. Mechanical energy is converted into electrical energy with the use of prime movers. The drive mechanism is comprised of rack and pinion assembly and shafts. The mechanical energy in the form of rotations are given to a Stepper motor. This project explains the mechanism of electricity generation from speed breakers. The vehicle load acted upon the speed breaker system is transmitted to rack and pinion arrangements. Then, reciprocating motion of the speed-breaker is converted into rotary motion using the rack



and pinion arrangement. Shaft of the motor is coupled to the rack and pinion arrangements. The rotor which rotates within a static magnetic stator cuts the magnetic flux surrounding it, thus producing the electro motive force (emf). This generated emf is then sent to an inverter, where the generated emf is regulated. This regulated emf is now sent to the storage battery where it is stored during the day time and can be used in night time for providing power to street light. The output of the generator will vary according to the traffic density and location of the setup. A flywheel installed at the rotor end of the generator will make the energy come in as damped if not continuous wave instead of pulse signal as and when the mechanism is triggered.

## Competition Description

Gridtech19 is organized by Power Grid Corporation of India Limited Supported by Ministry of Power Govt. of India. There were in total 170 teams across India who sent their project description to Power Grid out of which their union selected 70 projects. From the 70 projects, Only 25 projects were selected to present their projects at Gridtech19. At Gridtech19 there were total 166 companies across the world that were also present like- Powergrid, Sieyuan (China), Prosoft-Sistemy (Russia). Some of them (POSO, ABB, POWERGRID etc.) came to see our project. All 25 projects were awarded with Shields, Certificates & Cash prize of Rs. 20,000 and MATES management also rewarded us the same.



**"We could not achieve this award without the help and guidance of our teachers. We sincerely thanks to Prof. (Dr.) Rajveer Mittal (HOD) , and Prof. (Dr.) S. S. Deswal (Dean & Mentor)."**

# Research Journals Published By The Faculty

S. No	Faculty Name	Title	Journal/Conference	Year
1	Dr. S. S. Deswal	Assessment of analog RF performance for insulated shallow extension (ISE) cylindrical surrounding gate (CSG) MOSFET incorporating gate stack.	Microsystem Technologies, vol. 25, no. 5, pp. 1547-1554, 2019.	2019
2	Dr. S. S. Deswal	Novel design to improve band to band tunneling and gate induced drain leakages (GIDL) in cylindrical gate all around (GAA) MOSFET .	Microsystem Technologies, vol. 25, no. 5, pp. 1537-1546, 2019.	2019
3	Dr. S. S. Deswal	Hafnium oxide based cylindrical junction less double surrounding gate (CJLDSG) MOSFET for high speed, high frequency digital and analog applications.	Microsystem Technologies, vol. 25, no. 5, pp. 1527-1536, Microsystem Technologies, Springer, 2019.	2019
4	Dr. S. S. Deswal	Interface trap-dependent linearity assessment in single and dual metal gate junction less accumulation mode (surrounding gate) nano-wire MOSFET .	Applied Physics A, vol. 125, no. 5, pp. 352, 2019.	2019
5	Mr. S. K. Pandey	Frequency Cascaded Adaptive Complex Filter Control for Grid Interactive PV System	IEEE international conference UPCON2019 held at Aligrah Muslim University, Aligrah, Nov. 9, 2019.	2019
6	Mr. R Sharma Dr. N. Nagpal Ms. S. Sharma	Analysis Of Cascade failure and Optimal DG Placement For Its Mitigation.	International Journal of Information Technology, Springer, Accepted and published in December 2019.	2019
7	Mr. R Sharma Dr. N. Nagpal Ms. S. Sharma	Analysis Of Cascade failure and Optimal DG Placement For Its Mitigation.	International Journal of Information Technology, Springer, Accepted and published in December 2019.	2019
8	Mr. C. Shukla	Emissions and energy metrics analysis in current Indian roof top photo voltaic market, Emissions atnd Energy Metrics analysis in current Indian Roof Top Photo Voltaic market.	International Journal of Ambient Energy, 1–13, 2019, doi-10.1080/01430750.2019.1611651.	2019

## Editorial Team

**Chief-Editor:**

Dr. Rajveer Mittal

**Editor:**

Ms. Poonam Juneja

**Student Coordinators:**

Vrinda Jain

## Research Journals Published By The Faculty

S. No	Faculty Name	Title	Journal/Conference	Year
9	Ms. P. Juneja	Smart Helmet for Mining Workers.	National conference on Recent Trends in Electrical, Electronics and Communication Engineering, Delhi, India, January 2019.	2019
10	Ms S. Sharma	Wireless Electrical Appliances Control via Temperature Data Logger .	National Conference on Recent Trends in Electrical, Electronics and Communication Engineering, Delhi, India, Jan. 2019.	2019
11	Ms S. B. Aggarwal	Matlab Tool for Analyzing Sun's Path .	International Journal of Electronics and Telecommunications, Vol. 65, NO. 4, PP. 665-670, 2019.	2019
12	Dr. Laxya	CNTFET Based OTRA and its Application as inverse low pass filter .	Microsystem Technologies, vol. 25, no. 5, pp. 1527-1536, Microsystem Technologies, Springer, 2019.	2019
13	Dr. Laxya	Current mode biquad filter using cntfet based ZC-CITA .	Indian journal of pure and applied physics IJPAP, Vol. 57(02), February 2019 page 90-94.	2019

## Workshops and Seminars Organised by the Department

1. FDP on Modern Trends in Renewable Energy Sources at MAIT during May 13-18, 2019.
2. One day seminar on "Waste Management" by Sh. Mahinder Singh, Director, NPTI, followed by visit to Simulator on May, 17, 2019 at NPTI, Faridabad.



## Teachers Pursuing Phd.

1. Mr. Udayan Kumar Jha
2. Mr. Sunil Kumar Pandey
3. Mr. Ashok Goyal
4. Mr. Jitender Lather
5. Ms. Poonam Juneja
6. Ms. Supriya Sharma
7. Ms. Shashi Bala Aggarwal
8. Ms. Monika Bhardwaj
9. Mr. Ravi Sharma
10. Mr. Lalit Aggarwal

## Teachers Completed Phd.

1. Dr Neelu Nagpal
2. Dr. Laxya Singhal

## Department Achievement

A project titled “Power Generation through Speed Breaker” under the mentorship of Prof Rajveer Mittal and Prof S. S. Deswal, received recognition and was awarded with Shields, Certificates & Cash prize of Rs. 20,000 in Gridtech19. It was organized by Power Grid Corporation of India Limited Supported by Ministry of Power Govt. of India.

## EEE Department Farewell

Farewell for the EEE department began with lighting of the ceremonial lamp and with an ode to Goddess Saraswati. A welcome address was given by our Head of Department, Dr Rajveer Mittal. He thanked all the third and fourth year students to make the event a reality; he hoped that the four years spent in the college would be remembered fondly by the students. Our Director General Dr. M.L. Goyal congratulated the students that they would soon become engineers and asked them to be at the top of their game every time.



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