

COMMUNIQUE

A bi-annual newsletter of EN Department

Volume 4, Issue 1

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Editor's Message



Greetings and welcome to the next edition of the departmental

biannual newsletter. It is a matter of immense privilege and honour to present the I^{st} issue of Volume-IV of the Departmental Newsletter. This issue covers all the major activities conducted by the department during the past six months. I feel delighted to present the students, faculty and staff who have heartedly proved their mettle in events like, Faculty Development Programme, Workshops, All India Seminar, Events organized under Technical Society, Industrial visits, Guest Lectures etc. This newsletter serves as a perfect platform to exhibit the achievements of Electrical and Electronics Engineering Department. This newsletter is expected to reinforce and allow increased awareness, improved interaction and integration among all of us. I do hope that the newsletter will encourage many more students to use this as a platform of expressing their creativity. I look forward to reader's valuable and constructive feedback and suggestions. Happy Reading!

> Isha Rajput Sr.Asst. Prof., EN Dept.

Director's Message



The level of graduating students, from any engineering department, is entirely determined by the quality of education they receive. For sustained development in engineering education, continuous quality improvement is an essential requirement. Simply performing the curricular tasks is not sufficient enough for the holistic development of the students; rather a fusion of co-

curricular and extracurricular activities is also needed. There is indeed, another requirement to establish Industry academia relationship for providing a necessary foundation in perpetual growth of the department. I am glad that the department of electrical and electronics engineering is striving to enhance the knowledge and skill levels of its major stake holders i.e. students and faculty members, by regularly organizing co curricular events including FDPs, workshops, seminars, expert lectures and most important - the industrial visits. Multiple research publications through quality project work and research, both by faculty and students, is sign of zeal and enthusiasm among them, towards achieving quality. I congratulate EN faculty members, staff and students for publishing the Ist issue, 4th volume of departmental News letter. I wish all the success and growth to the EN department.

-Prof. (Dr.) Vijay Athavale

DeanAcademics's Message



It gives me immense pride to state that Department of Electrical & Electronics Engineering (EN) is moving towards achieving Institute's vision of being leader in Engineering Education. I would like to congratulate the entire team of EN department for successfully unveiling this first issue of Volume-IV of Communique. Communique effectively has showcased the various events, workshops, Faculty Development Programme, All India Seminar. The department

also organized various events under Technical Society and Guest Lectures. Interaction with industries through industrial visits depicts department's commitment towards building a strong Industry-Institute Interface.

I wish all the success to the Team EN in future endeavors. I hope this newsletter would motivate the team members to bring their best.

Prof. Gajendra Singh, EN

Head (EN) Message



Our department always endeavors to arrogate the challenges of new technological advancements, by adapting the best practices prevalent in the field and providing quality education. We, at EN, do believe that "best learning happens by doing" and therefore we keep persistent focus on practical exposure, research and comprehensive development of not only students, but

the faculty members. The department always strives to create a vibrant environment by profusion of technical activities and maintaining perpetual connects with the Industry and academia. Some of the achievements and efforts put in by the department, towards imparting quality education, are highlighted in this 4th volume, 1st Issue of our departmental newsletter. Regular visits, expert lectures, National seminar, research publications, professional and other activities mentioned in the Newsletter corroborates our commitment towards creating an environment of quality education and developing industry academia relationship. I attribute these efforts to all our faculty/staff members, who work rigorously at imparting quality education, and the meritorious students of the department.

-Prof. Hemant Ahuja

Vision

To impart futuristic technical education and instill high patterns of discipline through our dedicated staff, who shall set global standards, making our students technologically superior and ethically strong, who in turn shall improve the quality of life of society at large.

Mission

- To conduct the undergraduate programs with practical exposure, creating new knowledge and skill-sets by engaging in the research oriented approach and promoting the academic growth.
- To identify the areas of specialization needed in the industry, upon which the focus is needed.
- To promote creative thinking and innovations by the students and faculty.
- To develop strong industry-academia relationship, which offer long term opportunities and benefits.
- Strive for the continuous growth of the department by up gradation of the existing facilities and experimental setup in the department.
- To develop human potential to its fullest extent so that intellectually capable and creative leaders can emerge from the department.
- To nurture students and infuse professional ethics, human values and positive attitude in the students.

Programme Educational Objectives (PEOs)

- To provide solid foundation in electrical and electronics engineering along with good communication and entrepreneurship skills for tackling social issues.
- To impart students with good scientific and engineering knowledge in order to analyze, design and create novel products for giving practical solutions to real life problems.
- To create engineers with sound technical knowledge for facing all sorts of challenges in industry or in pursuance of higher studies.
- To motivate students acquire aptitude for lifelong learning along with leadership skills, team spirit and ethical values so that they upgrade themselves with the latest trends in the field of engineering in order to serve the society.

Programme Outcomes (POs)

- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

- Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multi-disciplinary settings.
- 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.
- 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 multi-disciplinary environments.
- 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.

Programme Specific Outcomes (PSOs)

- An ability to specify, design and analyze systems that efficiently generate, transmit, distribute and utilize electrical power.
- An ability to analyze and design electrical machinery, electrical/electronic circuits, electrical/solid state drive systems, lighting systems and deliver technological solution by assimilating advances in allied disciplines.
- An ability to specify, design, implement and test analog and embedded signal processing electronic systems using the state of the art components and software tools.
- An ability to analyze, design and implement the learning in electrical instrumentation, control and automation applications.

FDP/Workshop/Seminar attended by Faculty Members

Dr.Hemant Ahuja

- Attended the Bridge Conference 2018 on the theme "Fostering India for Industry 4.0", the largest Industry Institute Interaction event of Asia, organized at Hotel shangri-La's Eros Hotel, New Delhi, by ICT Academy, India (An initiative of Government of India) on 12th December, 2018.
- Attended the 4th World summit on "Accreditation (WOSA-2018)" organized at the Ashok hotel, New Delhi, on the theme "Challenges and opportunities in outcome based Education" during 7th - 9th September 2018.
- Dr. Vikas Singh Bhadoria and Dr. Amit
 Agrawal
 - Attended a 6-Days Refresher Program on "Innovation and Creativity in Teaching Learning Process" organized at G. L. Bajaj Institute of Management & Research, Greater Noida during 2nd - 7th July 2018.
- All faculty members of Department
 - Attended a Faculty Development Program on "Application of MATLAB/Labview in Engineering" organized at ABES Engineering College, Ghaziabad during 9th - 13th July 2018.

Publications by Faculty Members

* Ms. Shilpa Sambhi

Published a paper on "Thermal Imaging Technology for Predictive Maintenance of Electrical Installation in Manufacturing Plant – A Literature Review " in 2nd IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES-2018), organizedat Delhi Technical University, Delhi on 22nd October 2018.

* Dr. Vikas Singh Bhadoria

Published four papers in 9th International Conference on Quality, Reliability, Infocom Technology and Business Operations (Trends and Future Directions), during 27th-29th December 2018. Topics are given below:

1. Installation Strategy of Distributed Generators in Distribution System under availability of Different Types of Generators.

2. Performance Analysis of Optimal Placement of Multiple DG Using PSO.

3. Heuristic Approach of Decision Making for Utilities Investment.

4. Smart Industrial Packaging and Sorting System.

- Published a paper on "Effect of Inertia Weight of PSO on Optimal Placement of DG" in International Conference on "Startup ventures: Technology Developments and Future Strategies (SV-TDFS)" organized at Manipal University Jaipur, during 8th -9th October 2018.
- Published a paper on, "Electric Vehicles in India: Opportunities and Challenges" in International Conference on Automation and Computational Engineering (ICACE-2018), organized at Amity Univeristy, Greater Noida during 3rd-5th October, 2018.

* Dr. Amit Agrawal

- Published a paper on "Smart Industrial Packaging and Sorting System" in 9th International Conference on Quality, Reliability, Infocom Technology and Business Operations (Trends and Future Directions), organized at NIT Delhi, during 27th-29th December 2018.
- Published a research article titled "A 26 watt Power Supply Based on Luo Converter with Improved Power Factor and Total harmonic Distortion" in International Conference on "Intelligent Computing Techniques for Smart Energy Systems" organized by Springer at Manipal University Jaipur, during 22nd - 23rd December 2018.
- Published three research articles in International Conference on "Startup ventures: Technology Developments and Future Strategies (SV-TDFS)" organized at Manipal University Jaipur, during 8th -9th October 2018. Topics are given below:

I. Single Stage High Brightness LED Driver with Improved Power Quality.

2. Feasibility Analysis of 100kW Solar Power Plant for Chandigarh, India.

3. Robust throttle control of Hybrid Electric Vehicle.

Faculty Members as Resource Persons

* Dr.Gajendra Singh

- Delivered a talk on "Student-Teacher Relationship" in a Seminar organized by Schools run by St. Joseph's Church, Greater Noida on 4th November 2018.
- Was invited as a Eminent Speaker in National Seminar on "Indian Ethos and Indian Models of Economy, Business and Management" organized at ABES Engineering college, Ghaziabad on 2nd November 2018.
- Delivered a talk on "Mind Your Management" in a Faculty Development Programme organized at Madan Mohan Malaviya University of Technology, Gorakhpur during 19th – 20th September 2018.
- Delivered a talk on "Latest trends in harnessing renewable energy" in All India Seminar on 'Renewable Energy for Sustainable Development' organized by the department, in association with Ghaziabad Local Centre of The Institution of Engineers (India), at ABES Engineering College, Ghaziabad during 27th-28th July, 2018.
- Delivered a talk on "Importance of value Education in Institution of higher learning" in a National Conference organized at Dr. A.P.J. Abdul Kalam Technical University, Lucknow during 6th – 8thJuly 2018. During this Conference under his leadership a team of faculty members and college Registrar presented the Review of human values based activities undertaken at ABES Engineering college, Ghaziabad and he has been appointed as Dean Value Education of Dr. A.P.J. Abdul Kalam Technical University, Lucknow.

* Dr. Hemant Ahuja

- Delivered an expert Lecture on "Circuit models and simulation of variable speed grid connected wind Energy conversion systems" in a two week short term course on "Tools and Techniques for Modeling and simulation (TTMS-2018)" organized by Instrumentation and control Engineering Division of Netaji Subhas University of Technology, New Delhi on 26th December 2018.
- Was Invited as a judge for "Technovation-2018", a two day technical fest and Exhibition of projects organized by IMS Engineering college, Ghaziabad during 26th – 27th October 2018.

- Was invited as a Guest speaker for workshop on "Learning outcomes and Attainment Process" conducted by Electrical Engineering Department of Institute of Engineering and Technology, MJP Rohilkhand University, Bareilly n 29th September 2018.
- Delivered a talk during two days Industry-Institute Interaction Programme cum Induction workshop organized by Electrical Engineering Department of Institute of Engineering and Technology, MJP Rohilkhand University, Bareilly during 24th- 25th August 2018.
- Was invited as a Guest speaker for workshop on "Outcome based Education and Accreditation" conducted by Electrical Engineering Department of Institute of Engineering and Technology, MJP Rohilkhand University, Bareilly on 11th August 2018.

Industrial Visits

Industrial visit bridge the gap between classroom theoretical learning and practical training in a real-life environment. Industrial visit is considered as one of the most tactical methods of teaching. Students get an opportunity to gain in-depth knowledge about the field of their interest. Moreover, it gives exposure to practical working environment and increases practical awareness of various Industrial sectors. This also gives a platform to the students to enhance their interpersonal skills.

 An industrial visit for III year students of the Department was organized to Narora Atomic Power Station, Naroraon 14th November 2018.

Visit started with the detailed presentation on the various sections of Narora Atomic Power Station and their operation was shown to the students during the visit. The NAPS and their preparedness to any mishap were discussed. Students were taken to the information room, where various slides were presented to give the detailed insight of the working of plant. There they have shown the model of Reactor building and the Turbines as well. The visit allowed the students to have a visual exposure of how power plant functions as well as made them aware that atomic power plants take every caution to ensure safety in terms of radiation leakage. Students also learnt about the energy management and production through various other sources of energy like nuclear, thermal, hydraulic energy and had chance to extract more knowledge of functioning and working of a Atomic Power Plant.

The working of Reactor, Cooling system towers and turbine were demonstrated to the students. Students got the exposure and knowledge of Nuclear Power Plant Types, Construction, Function of elements. Students learnt the actual concept of Nuclear Power Plant working and related the knowledge gained in theoretical subjects like Power Plant Engineering.



A group photograph at Narora Atomic Power Station, Narora

An industrial visit for III year students of the Department was organized to Automation Engineers A. B. Pvt. Ltd, Noida on 11th October 2018. Automation Engineers A B Pvt Ltd deals with Automation and Marketing in Electrical and Electronics field.

During the visit, students learnt about recent research in automation and development. They also got to learn the importance of PLC, SCADA, HMI etc. in automation, recent research field and future life. The trainer told them various ways about how students could plan their future in different areas like technical marketing, coding and training etc. Students also got the idea about how a PLC can control an industry to provide complete industrial automation.



A group photograph at Automation Engineers A. B. Pvt. Ltd, Noida



Training session at Automation Engineers A. B. Pvt. Ltd, Noida

 An industrial visit for II year students of the Department was organized to Deki Electronics, Noida on 6th September 2018.

Deki Electronics is the largest manufacturer& supplier of Film Capacitors, Plastic Film Capacitors, Mylar Capacitor, Pulse Capacitors and Power Capacitors in India. In all 56 students visited the company and gained knowledge related to manufacturing of different types of capacitors and experienced the manufacturing process controlling with Programmable Logic Controllers etc.



A group photograph at Deki Electronics, Noida

Guest Lectures

- An Activity based session on Electromagnetic effects was organized for III year students of the Department on 2nd November 2018. Prof. A.K.Tandon, Founder Director, Bhagwan Parshuram Institute of Technology, Delhi and Ex-Professor, DTU was invited to deliver a hands-on workshop on "understanding of Electromagnetic" effects through prototype models of Electrical machines, Transducers and Controllers.
- A Presentation on "POWER ON MONEY ON" was organized for III year students of the Department on 8th October 2018. The resource person for the presentation was Mr. Gurvinder Chhatwal from "3M"Building Industrial Technical solution.

He initiated his lecture by giving a brief idea about total graphics solution that provides high impact & message consistency while delivering product reliability and durability.

He explained the following applications:

- Acoustic Control
- > Filtration, Separation & Purification
- > Porous Materials & Membranes

Some of the products were demonstrated like 3M[™] Thermally Conductive EpoxyAdhesiveTC-2707 which is a thermally conductive 2-part epoxy using aluminum metal fillers for good thermal conductivity with high adhesion, 3M[™] Novec[™] Electronic Degreaser. 3M[™] Novec[™] Electronic Degreaser effectively removes oils, greases and handling soils from electric motors, electrical equipment, precision devices and other electro-mechanical or sensitive devices. Based on proprietary 3M solvent technology:it is a non-flammable, non-ozone depleting industrial-strength spray cleaner and degreaser. It contains no HCFCs, HFCs, nPB or HAPs.

He concluded his presentation by giving the importance of the devices which are commercially available and useful for electrical engineering based projects.

A Guest Lecture on "Use of imperfection for sensing application" was organized for II year students of the Department on 5th October 2018. The resource person for the lecture was Dr.Tariqul Islam, Professor of Electrical Engineering Department in Jamia Millia Islamia University, New Delhi.

- Prof. Tariqul Islam started his lecture by discussion on body sensors. During his lecture he detailed the following points:
 - Various defects in a material such as void, Nano rod, Nano wire etc.
 - > Silicon & Porous silicon

During his lecture he told the importance of impurity and emphasized that impure material also have many useful applications such as sensors.



Dr. Tariqul Islam, Professor, JMI Delhi

A Guest Lecture on "Working of oscilloscope" was organized for II year students of the Department on 5th October 2018. The resource person for the lecture was Dr. Shakeb Ahmad Khan, Professor of Electrical Engineering Department in Jamia Millia Islamia University, New Delhi.

He started his lecture by introducing oscilloscope, previously called an oscillograph, and informally known as a scope or o-scope, CRO (for cathode-ray oscilloscope), or DSO (for the more modern digital storage oscilloscope).

He explained the concept of Triggered sweep and how a Triggered sweep is used to display events. He discussed about how triggering allows the display of periodic signals like sine waves, square waves and nonperiodic signals such as single pulse, or multipulse. He concluded his lecture by showing plotting of different signals.



Dr. Shakeb Ahmad Khan, Professor, JMI, New Delhi

Abhigyaan'18

The Department organised an event **"Abhigyaan '18"** a Technical Paper presentation on 10thOctober 2018 for the students of EN & ECE departments.

Total 14 papers were selected and 12 were presented in the event. Purpose for organizing the event was to develop presentation skill & competency among students. The event provided an opportunity for students who are conducting original scientific investigations, to present their work publicly and to receive recognition for their achievement. The event was coordinated by Ms. Pragati Deb, Associate Professor and Ms. Isha Rajput, Sr. Assistant Professor from EN Department.

Winners of the event were as follows:

S. No.	Name	Section and Year	Winners
Ι.	Shruti Parashar	ECE 3 rd Yr	I st Position
2.	Anshika Kumar	EN 3 rd Yr	2 nd Position
3.	Tanyata	EN 3 rd Yr	2 nd Position





Abhigyaan '18, Technical Paper presentation

Events Organized

Faculty Development Programme \div

A Faculty Development Programme on "Applications of MATLAB/ LabVIEW in Engineering" was organized by the department during 9th - 13th July 2018. This Faculty Development Program was organized under TEQIP-III, AKTU Lucknow. The aim of this FDP was to create familiarization among the participants about the application of MATLAB/ LabVIEW in key areas of Electrical Engineering such as Power System, Power Electronics & Drives, Control System and Instrumentation, Signal Processing, etc. Laboratory sessions were also conducted in order to enable the participants to get hands-on experience on the package.

Eminent Professors from premier academic institutions and experts from public sector units, industry and research organizations delivered sessions during the FDP.

The Program was well organized by Ms. Shilpa Sambhi, Associate Professor, and Dr. Preeti Assistant Professor, EN. A good number of faculty members from other instutions of UP and Delhi, NCR participated in this FDP.



Inaugural session of FDP



Session by Prof. Vineet Kumar, NSIT



Session by Prof. B.K. Panigrahi, IIT Delhi



Session by Prof. K.P.S. Rana, NSIT



Session by Dr. Nidhi, GBU



Valedictory Session

All India Seminar

The department, in association with Ghaziabad Local Centre of The Institution of Engineers (India), organized two-days All India Seminar on **'Renewable Energy for Sustainable Development'** at our campus on 27th-28th July, 2018. The seminar was sponsored by two leading Power Organizations – Power Grid Corporation of India Ltd. and Power Finance Corporation Ltd the seminar was attended by power engineers of reputed concerns such as UPPCL, MPTCL, Mount Him , JP Power Projects, APSERC, MIS, PFC, Power Grid, etc. and academicians from IIT, NIT, AMU, TERI and many other, institutions of the Nation. It was a complete technical extravaganza comprising of six technical sessions spread over two days. Each session included a key note address by an eminent speaker and paper presentation by authors. Constrains / problems in the way of large scale usage of renewable sources (solar, wind, power, etc) for the production of power were identified and their possible solutions were also been obtained. A Souvenir depicting the proceedings of the sessions was also released.



Welcoming Hon'ble Advisor Sh. Raghunandan







Release of Souvenir

Welcoming guest Mr. R.R.Tanwar, Council member, EED, IEI



Technovironment 2.0

The Department has organised an event "Technovironment 2.0" a Technical Poster making Competition for the students of EN and EC on 19th Sept. 2018. Purpose for organizing the event was to explore and encourage creativity in students and offer them a platform to showcase their skills. It inspired them to think and work creatively in order to promote artistic excellence. The students expressed their views and thoughts about the technical topic by drawing, writing slogans and quotes. The event was coordinated by Ms. Pragati Deb, Associate Professor and Ms. Isha Rajput, Sr. Assistant Professor from EN Department.



Technovironment 2.0, Technical Poster making Competition

Winners of the event were as follows:

S.No.	Name	Section and Year	Winners
١.	Tanyata	EN 3 rd Yr	Ist Position
	Swaranjali Sharma	EN 3 rd Yr	
2.	Swati	ECE 3 rd Yr	2 nd Position
	Vidushi	ECE 3 rd Yr	
3.	Himanshu	ECE 3 rd Yr	
	lm ran	ECE 3 rd Yr	3 rd Position
	Sneha	EN 2 nd Yr	
	Surabhi Verma	EN 2 nd Yr	





Prize Distribution of "Abhigyaan '18" & "Technovironment 2.0"

Institute Innovation Council under MHRD

ABES Engineering College, Ghaziabad has established Institute Innovation Council (IIC) under the umbrella of MHRD's Innovation Cell (MIC). The institute will help the students to build new startups through this innovation Council. Presently Institute is working on 12 Startups projects with students. ABES-EC has participated in innovation program organized by MHRD on 21st Nov. Also it received the certificate regarding successful completion of IIC establishment which signifies the excellence of institute. Institute has appointed Head of the department of EN, Prof. HemantAhuja as the president of IIC and Associate Professor EN, Dr. Amit Agrawal as the convener of IIC, who will work with faculty mentors to accomplish those startups projects. Institute will help the students to develop their skill towards industries demand. The whole process will make student skillful under the skill-India for the betterment of nation.



Student Participation

- Mr. Ritik Kaushal (Final Year) participated and secured 3rd position in "800m RACE" in Dr.Abdul Kalam Sports Fest 2018-19 (Zonal Level) organized at Raj Kumar Goel Institute of Technology, Ghaziabad during 31st October 2nd November 2018.
- Ms. Anjali Sharma (III Year) participated and secured 2nd position in "National Level paper presentation-SCROLLS'18" organized by GMA (Ghaziabad Management Association) at Ajay Kumar Garg Engineering College, Ghaziabadon 26thOctober 2018.
- Mr. Sarthak Bansal (II Year), Prateek Singh (II year), Tanmay Khandelwal (III year) participated in Pre-Virtual Round of Asia's Biggest – Electric Solar Vehicle Championship-ESVC & SDP on "Electric Solar Vehicle Design and Development" organized by Imperial Society of Innovative Engineers (ISIEINDIA) Recommended by MNRE, Govt. of India during 26th – 28th October 2018.
- Mr. Sarthak Bansal (II Year) participated and secured 2nd position in "ABES Champion's League, T-10 Cricket Tournament" organized by the department of Mechanical Engineering, ABES Engineering college, Ghaziabad during 8th-31st October 2018.
- Mr. Harshit Aditya (III Year), Prakhar Ojha (II Year) and Ritik Pathak (II Year) participated in "Kisse Kahaniyan", organized by Samvaad Theatre Group at ABES Engineering College, Ghaziabad on 4th and 5th October 2018.
- Mr. Vikas Gupta (III Year) has successfully completed the "Internshala Student Partner (ISP) I I program" with Internshala during the period of September 2018 to November 2018.



Project on PLC based bottling plant



Workshop on Electro-magnetics by Prof. A. K. Tondon, Director BPIT Delhi



Project on Automatic Car Washing System



Convocation-2019

Credits

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