Jan-Dec,2022 Vol. 3

ELECTRIK

Department of Electrical and Electronics Engineering (NBA accredited)

Maharaja Surajmal Institute of Technology, NEW DELHI

IN THIS ISSUE

It is a matter of great pleasure to present to you yet another issue of the Newsletter of the Department of Electrical and Electronics Engineering "ELECTRIK". which summarizes the achievements of our students, faculty members, and staff members.

RESEARCH PUBLICATIONS

JOURNALS

1.Sunil Gupta et al., “Design and analysis of triangular patch antenna with enhanced bandwidth for RF energy harvesting”, Journal of Information and Optimization Sciences, 43(1), pp. 101-106, Feb. 2022.

2.Sunil Gupta et al., “An optimized design of warehouse management system for MSME and multilevel industries”, Journal of Information and Optimization Sciences, 43(3), pp. 411-418, Feb. 2022.

3.Sunil Gupta et al., “A Comparative approach on enhancing the lifetime of wireless sensor networks”, Journal of Pharmaceutical Negative Results, pp. 1291–1299, 2022.

4.Sunil Gupta et al., “Internet of things based pest and growth management system using natural pesticides & fertilizers for small scale organic farming”, Neuro Quantology, 20(15), pp. 5777-5785, November 2022. (SCOPUS)

5.Sonia Goel and Meena Tushir, “A new semi-supervised clustering for incomplete data”, Journal of Intelligent & Fuzzy Systems, 42(2), pp. 727-739, 2022. (SCIE indexed, Impact factor 1.739)

6.Jyoti Jain, Uma Nangia and N.K.jain, “Adaptive social acceleration constant based particle swarm optimization”, International Journal of Mathematical Sciences and Computing, 8(2), pp. 28-36, 2022.

7.Meena Tushir et al., “Mcbc-smote: a majority clustering model for classification of imbalanced data”, Computers, Materials & Continua, 73(3), pp. 4801–4817, 2022 (SCIE indexed, Impact Factor-3.8)

8.Nidhi Gupta, "Fuzzy controlled AGC strategy of two areas interconnected thermal power system incorporating", MSIT Journal of Research –SATYAM, 9, pp. 109-114, 2021.

9.Nidhi Gupta and S.M. Arora, "A novel Jaya-based automatic generation control of two areas interconnected power system", Indian Journal of Science & Technology, 115(47), pp. 2667-2672, 2022.

10.Nidhi Gupta, N Kumarr and B. Chitti Babu, "JAYA optimized generation control strategy for interconnected diverse source power system with varying participation", Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Taylor and Francis, 44(1), 1813-1829, 2022. (SCI, Impact Factor – 3.447).

11.Rakhi Kamra and Annu Dagar, "RFID and IR based smart parking system", Advancement of Signal Processing and its Application, 5, pp.1-6, 2022.

CONFERENCES

1.Sonia Goel and Meena Tushir, "Kernel functions for clustering of incomplete data: A comparative study", In Advances in Data Computing, Communication, and Security, pp. 63-75. Springer, Singapore, 2022.

2.Mamta Rani, Jyoti Yadav, Neeru Rathee and Sonal Goyal, "Comparative study of various preprocessing techniques for CNN based image fusion'" in IEEE conference DELCON 2022, NSUT, New Delhi February 2022.

3.Monu Malik, Rakhi Kamra, Annu Dagar and Shilpam Malik, "High-performance standby photovoltaic for LED Lights", Advancement of Signal Processing and its Application, 5, pp.1-6, 2022.

PATENTS PUBLISHED

1.Sachit Rathi, Monu Malik, Rakhi Kamra, Shilpam Malik, Annu Dagar, Mamta Rani, and Jyoti Jain, “System and Technique for Global Optimization Based on Quantum Mechanical Models”, Application No. 202221054792, published on 11/02/2022.

2.Monu Malik and Shilpam Malik, “System and method for charging a Traction batter of a hybrid Electric Vehicle using an Engine”, Application No. 202231067891, published on 2/12/2022.

3.Rakhi Kamra and Annu Dagar, “Shielding Biometrics and credentials from back-end cyber threats”, Application No. 202211043139, Published on: 05/08/2022.

PH. D AWARDED

1.Ms. Shilpam Malik completed her Ph.D. in Electrical Engineering from the Department of Electrical Engineering, NIT Kurukshetra in April 2022.

2.Ms. Nidhi Gupta completed her Ph.D. in Electrical Engineering from the Department of Electrical Engineering, DTU Delhi in May 2022.

3.Ms. Sonia Goel completed her Ph.D. in Electrical and Electronics Engineering from the Department of Electrical and Electronics Engineering, GGSIPU, New Delhi in August 2022.

Certification Courses

1.Dr. Meena Tushir has been declared a Topper (with Elite + Silver certification) in AICTE approved online proctored examination (conducted by NPTEL) of an 8-week course on “Introduction to Machine Learning” funded by the MoE, Government of India offered by IIT Kharagpur during July-Sept. 2022.

2.Dr. Sonia Goel has been declared a Topper (with Elite + Silver certification) in AICTE approved online proctored examination (conducted by NPTEL) of an 8-week course on “Introduction to Machine Learning” funded by the MoE, Government of India offered by IIT Kharagpur during July-Sept. 2022.

3.Dr. Rakhi Kamra has been declared a Topper (with Elite + Silver certification) in AICTE approved online proctored examination (conducted by NPTEL) of a 12-week course on “Introduction to Internet of Things" offered by IIT Kharagpur and funded by the MoE, Government of India during July-Oct. 2022.

4.Dr. Meena Tushir completed NPTEL-AICTE Faculty Development Programme on “An Introduction to Artificial Intelligence” funded by the MoE, Government of India from Jan-Apr 2022.

5.Dr. Rakhi Kamra completed the NPTEL-AICTE Faculty Development Programme on “Computer Networks and Internet Protocol” funded by the MoE, Government of India from Jan-Apr 2022.

6.Dr. Nidhi Gupta has completed the NPTEL-AICTE Faculty Development Programme on “Electric Vehicles- Part 1” funded by the MoE, Government of India from Jan-Apr 2022.

FACULTY DEVELOPMENT PROGRAMS

1.Dr. Jyoti Jain attended a 3-day FDP on “Stress Management” conducted by ICT Academy at Gargi college, South Delhi from 20-6-22 to 22-6-22.

2.Dr. Nidhi Gupta attended the online National Workshop on “Grid Power Electronics Technology” held at IIITDM Kancheepuram, Chennai from 18-02-2022 to 19-02-2022.

3.Dr. Nidhi Gupta attended the IPR awareness/training program under the special mission called “National Intellectual Property Awareness Mission (NIPAM)” at Maharaja Surajmal Institute of Technology on 05-01-2022.

4.Dr. Shilpam Malik attended a one-week GIAN course on “Precision Positioning Systems: Dynamics and Control” organized by NIT Kurukshetra, from 31.01.2022 To 04.02.2022.

5.Ms. Mamta Rani attended a 5-day online FDP on “Inculcating Universal Human Values in Technical Education” organized by the All India Council for Technical Education (AICTE) from 6-06-2022 to 10-06-2022.

6.Dr. Nidhi Gupta attended a two-week AICTE Training and Learning (ATAL) Academy Blended/Hybrid FDP on "Electric Vehicle Technology Challenges & Infrastructure" from 12-12-2022-12 to 23-12-2022 at Delhi Technological University.

7.Dr. Meena Tushir attended a two-week Faculty Development Programme on, “Deep Learning and OpenCV” at MSIT, Janakpuri from 21-11-2022 to 3-12-2022.

8.Dr. Sonia Goel attended a two-week Faculty Development Programme on, “Deep Learning and OpenCV” at MSIT, Janakpuri from 21-11-2022 to 3-12-2022.

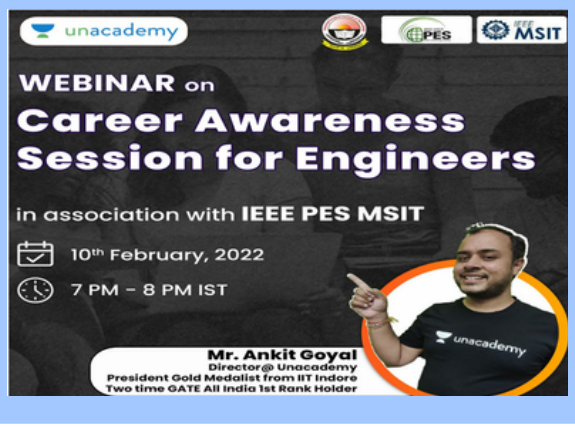
9.Ms. Mamta Rani attended a two-week Faculty Development Programme on “Deep Learning and OpenCV” at MSIT, Janakpuri from 21-11-2022 to 3-12-2022.

10.Dr. Jyoti Jain attended a two-week Faculty Development Programme on “Deep Learning and OpenCV” at MSIT, Janakpuri from 21-11-2022 to 3-12-2022.

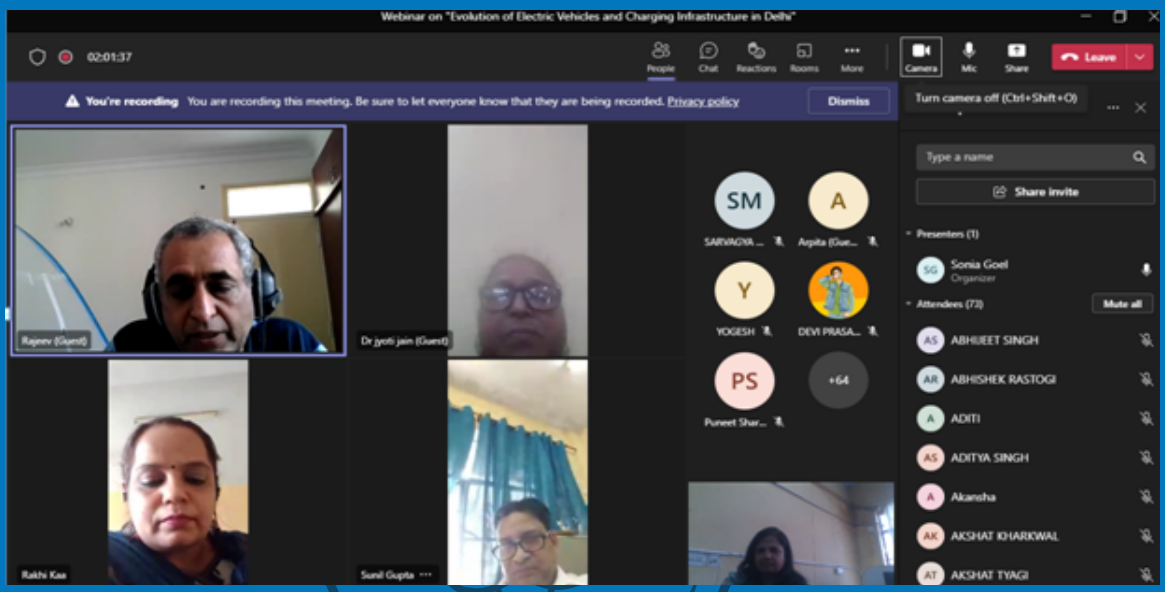
11.Mr. Sachit Rathee attended a two-week Faculty Development Programme on, “Deep Learning and OpenCV” at MSIT, Janakpuri from 21-11-2022 to 3-12-2022.

Events Organised

1.Department of Electrical and Electronics Engineering in association with IEEE PES MSIT organized a session on “Career Awareness for Engineers” on February 10, 2022. The speaker Mr. Ankit Goyal (Co-Founder at Kreatryx & AVP Unacademy) is an educator and GATE enthusiast aiming to carter high-quality education amongst the students looking forward to cracking competitive exams. He guided students about all the options available after graduation.



2.Department of Electrical and Electronics Engineering in association with IEEE PES MSIT organized an expert lecture on “Electrical Vehicle and Charging infrastructure in Delhi” on March 26, 2022. Mr. Rajeev Sapra (Dy. General Manager (Technical), Delhi Transco Limited was the speaker for the session. Delhi Transco Limited (DTL) which is the State Transmission Utility (STU) of the NCT of Delhi has been designated as State Nodal Agency for setting up charging infrastructure in the entire NCT of Delhi.



3.Department of Electrical and Electronics Engineering organized an industrial trip to Raheja Hydel Power Private Limited, Dharamshala, Himachal Pradesh on April 15, 2022, to enhance the industrial and practical knowledge of the students. Around 52 students with three faculty members visited the industry.

4.IEEE PES MSIT in association with the Department of Electrical and Electronics Engineering and TERI School of Advanced Studies, New Delhi, organized a seminar on April 23, 2022. The session was aimed at career opportunities in the areas of Sustainability, Renewable Energy, Urban Development, and Water Resources. The speakers Ms. Sonika Goyal, Dr. Prateek Sharma, Dr. Shaleen, Dr. Sapan, and Dr. Sherly enlightened the students about the career opportunities in niche areas such as environmental studies, business sustainability, biotechnology, renewable energy, water resources, and climate change.

5.Department of Electrical and Electronics Engineering in association with IEEE PES MSIT organized an industrial visit to Delhi Transco Limited- 220kV Sub-Station Pappankalan-II, Dwarka, to enhance the industrial and practical knowledge of the students. Students of third-year and two faculty members Dr. Jyoti Jain (Associate Prof.) and Dr. Monu Malik (Asstt. Prof.) visited the substation on 11th October 2022. Engineer-in-charge Mr. V.V. Prasad (Assistant Engineer, DTL) explained the working of the sub-station.

6.IEEE PES MSIT, IEEE PES-IAS Delhi Chapter, and the Department of Electrical and Electronics Engineering organized an expert lecture on "Power System Operation" on October 21, 2022. Mr. Chandan Kumar, Chief Manager, Power System Operation Corporation (POSOCO), Kolkata, West Bengal, was the speaker. POSOCO operates and manages the Indian PowerGrid in their Eastern Control Centre. Mr. Chandan Kumar is involved in various projects in the areas of Power System Protection, Wide Area Measurement System, and Wide Area Situational Awareness Analytics Development.

Students Achievements

1. **Team- “Empathetic coders” from Maharaja Surajmal Institute of Technology, Delhi, won Smart India Hackathon 2022 organized by MHRD. Soumya Chaudhary, student of EEE III year, was Graphic Designer of the team.**
2. **Mr. Mayank Sharma, Mr. Aman Singhal and Mr. Abhishek Rastogi of EEE IV year, published a patent, “System to manage magnetic detachable lamp”, Application No. 202231103465 2, published on 6/24/2022 under the mentorship of Dr. Nidhi Gupta, Assistant Prof., EEE, MSIT.**

STUDENT RESEARCH AND PUBLICATIONS

1.Jyoti Jain and Arpita, “Management, IT and Engineering sector under hybrid work models”, International conference on “Economic & Social Perspective of New Normal through hybrid work models” on 29th & 30th July 2022 at MSI. pp.158-165,2022.

2.Rakhi Kamra, Monu Malik, Jagriti Krishnan, Rakhi Pal, and Annu Dagar, “Effect of COVID Pandemic on Hospitality Industry”, Journal of Advancement in Communication System, 5, pp.1-7, 2022.

3.Jyoti Jain, Sahil Mukamian, Kirti Kataria, Swati Srivastava and Shubham Verma, “Analysis of Speech for Detection of COVID- 19,” MSIT Journal of Research –SATYAM, 9, pp. 47-52, 2022.

HIGHER EDUCATION and PLACEMENTS

The Department of EEE, MSIT makes an effort to arrange diverse career options and pave the way for recent graduates to explore new career opportunities. The department regularly organizes various placement activities in coordination with Training and Placement Office, MSIT. Activities like aptitude and reasoning tests, group discussion, interaction with alumni, resume writing, etc. are conducted by the department, to acquaint the students with the challenges of the employment arena. The final-year students of Batch (2018-2022) have performed extremely well in the placement drive.

Students participated in the campus drive of about 80 companies including the core and IT sectors. Major recruiters this year are companies like Infosys, Accenture, ZS associates, Schneider Electric, Rockwell Automation, TCS, Jaro Education, Capgemini, Cognizant, Polestar, etc. Out of 35 interested students in placements, a total of 30 students with 64 job offers are successfully placed in these companies through campus drive. Key achievements are as follows:

1. Nityash Gautam is pursuing an MS program in Computer Engineering at the University of California, Riverside, USA.
2. Priyanka is placed in Schneider Electric at a package of 9 LPA.
3. Diksha Jaiswal is placed with Rockwell Automation at a package of 6 LPA.
4. Sara, Kartik, and Vipin Kumar are placed with ZS associates with the package of 13 LPA.
5. 04 students are placed in Polestar Ltd.
6. 02 students are placed in ByJUs Ltd.
7. 03 students are placed in Cognizant Gen C.
8. 04 students are placed in Accenture.
9. 03 students are placed in Capgemini.

PROJECT UNDERTAKEN BY THE STUDENTS

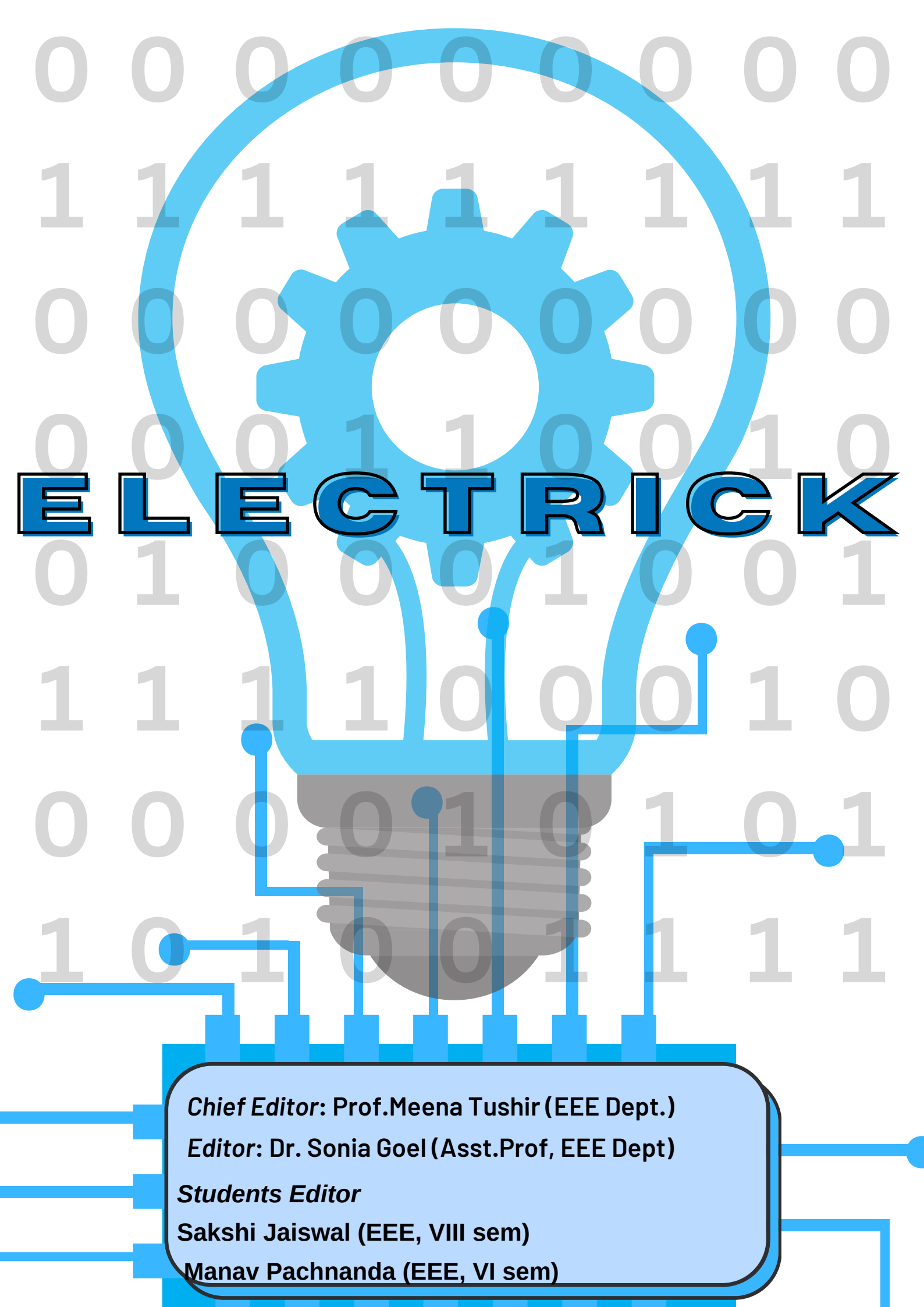
1. A project entitled “Modeling of Bidirectional EV charging system (G2V & V2G) using MATLAB Simulink” submitted by Shrajal Kumar, Sudeep George, and Utsav Kumar of EEE VII sem under the supervision of Dr. Sonia Goel is about the architecture for implementing a V2G-G2V system in a micro-grid. Electric Vehicle (EV) batteries can be utilized as potential energy storage devices in micro-grids. They can help in micro-grid energy management by storing energy when there is a surplus (Grid-To-Vehicle, G2V) and supplying energy back to the grid (Vehicle-To-Grid, V2G) when there is demand for it.

2. A project entitled “Ozone sterilization using high voltage corona discharge” submitted by Shreya Upadhyay, Vanshika Gaur, and Undresh under the guidance of Dr Sunil Gupta (HOD, EEE Dept.), is an easy and efficient method of sterilization. It is a simple and compact setup that can be made at home also and can easily be kept in a room. It takes very less time, only a few seconds to sterilize. It is an innovative approach to solve the day-to-day problem of sterilization. It has many advantages and only a few disadvantages. The main disadvantages of using ozone as a disinfectant are the risks to human health and safety, as well as the fact that ozone generators are high-voltage electric equipment. If used safely and by taking all the precautions it is a very good method for sterilization.

3. A project entitled, “Home Automation using ESP 32” submitted by Kartik Pandey, Vipin Kumar, Aditya Kumar, Hardik Arora, and Yogesh under the guidance of Ms. Mamta (Asstt. Prof. EEE Dept.), is to develop a home automation system using an ESP32 Microcontroller with an inbuilt WiFi module being remotely controlled by any Android Application. Modern houses are gradually shifting from conventional switches to centralized control systems, involving remote-controlled switches. Remote-controlled home automation systems provide the most modern solution with smartphones. To achieve this, a wifi module is interfaced to the ESP32 Microcontroller at the receiver end while on the transmitter end, a GUI application on the cell phone sends an ON/Off command to the receiver where loads are connected.

4. A project entitled “Mini Inverter” submitted by Sunesh, Deepankar Batra, and Ashutosh Tiwari of EEE VII sem under the supervision of Dr. Nidhi Gupta is about the hardware application of Inverter.

PHOTO GALLERY



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