ANURAG UNIVERSITY

SDG-7 AFFORDABLE AND CLEAN ENERGY 2025



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Executive Summary 2025

1. Policy to ensure all renovations or new builds follow energy efficiency standards

Anurag University adopted a formal Energy Policy in February 2024, mandating that all new buildings and major renovation works adhere to nationally recognised green building and energy efficiency standards. The policy emphasises passive solar design, maximum use of natural daylight and ventilation, high-insulation materials, low-emissivity windows, reflective roofing and provision for rooftop solar installations. Renovated facilities are required to incorporate LED lighting, energy-efficient equipment and smart sensors to minimise energy consumption. The University Energy Management Committee (UEMC) is responsible for overseeing the implementation of the policy and ensuring that all construction and renovation projects comply with the prescribed energy efficiency requirements.

2. Plans to upgrade existing buildings to higher energy efficiency

Anurag University has an approved policy for progressively improving the energy efficiency of its existing buildings. As part of this initiative, the University has been undertaking the replacement of CFL and tube lights with LEDs, installation of smart sensors and automatic controls, retrofitting of HVAC systems with 5-star rated models, improving insulation and ventilation, and preventive maintenance of electrical infrastructure. These measures form part of the University's Energy Sustainability Strategy and are guided by the recommendations of the 2024 UEMC Energy Review, which identified specific areas requiring energy efficiency improvements. The upgrades are being implemented on a continuous basis across the campus.

3. Carbon management and reducing carbon dioxide emissions

Carbon management at Anurag University is overseen by the University Energy Management Committee (UEMC), which coordinates the monitoring of energy consumption and implementation of emission reduction measures. The University periodically reviews its energy performance, using monthly consumption records of electricity and transport fuels, along with data on rooftop solar generation, to identify areas requiring improvement. Particular attention is given to emissions

from campus transportation and diesel generators. Measures being pursued include greater use of electric vehicles, vehicle-pooling, and replacement of inefficient electrical equipment. Progress is assessed regularly. These measures are guided by the University's Energy Policy, which sets 2040 as the target year for achieving carbon neutrality and transitioning entirely to renewable electricity.

4. Energy efficiency plan to reduce overall energy consumption

Anurag University's Energy Sustainability Strategy, supported by its Energy Policy, provides the framework for improving energy performance across the campus. The University follows a planned approach involving baseline energy assessments, periodic review of targets, adoption of passive building design and expansion of solar energy installations. Alongside infrastructure improvements, behavioural awareness programmes encourage students and employees to adopt energy-conscious practices in their day-to-day activities. The University has set a target of reducing energy consumption intensity by 30% over a period of 10 years. Progress towards this target is assessed through regular energy monitoring and periodic reviews, while campus-wide awareness initiatives encourage the efficient use of electricity and other energy resources.

5. Energy efficiency plan to reduce overall energy consumption

The University Energy Management Committee (UEMC) carries out periodic assessments of campus energy performance to identify areas requiring improvement. The 2024 Energy Review established the baseline using electricity bills, fuel consumption records and solar power generation data. The subsequent 2025 review reported a reduction of almost 10% in energy consumption. In addition to analysing consumption records, the reviews involve physical inspections and interactions with facility personnel to identify inefficiencies in areas such as HVAC systems, laboratories and campus transport. The University follows monthly monitoring of energy consumption and annual reviews to assess progress and identify further opportunities for savings. The findings are documented in annual energy reports, which serve as a basis for taking corrective measures and improving energy efficiency across the campus.

6. Policy on divesting investments from carbon-intensive energy industries notably coal and oil

As a higher education institution in India, Anurag University does not maintain investment portfolios in fossil-fuel industries; hence, no divestment policy is required. However, the University's Energy Policy and long-term goals functionally align with divestment principles by prioritizing renewable and low-carbon energy.
The University has no investments in coal or oil sectors and has committed to:

- Transitioning to 100% renewable electricity by 2040
- Expanding rooftop solar capacity and hybrid systems
- Reducing fossil fuel usage through EV adoption and sustainable mobility

These actions demonstrate institutional direction consistent with divestment from carbon-intensive energy sources.

7. Energy use density

- Energy usage per sqm: 0.056513 GJ per sqm
- Total Energy Used: 7,875.43 GJ
- University floor space (sqm): 139355

8. Programs for local community on energy efficiency & clean energy

Anurag University organised a series of expert talks, technical sessions, industry visits and community outreach programmes during 2025 to familiarise students with developments in energy efficiency, renewable energy and the power sector. These activities provided opportunities to understand practical applications of emerging technologies, interact with industry professionals and extend awareness of clean energy solutions to the local community.

Building Energy Management Systems (BEMS): On 16 December 2025, the ISTE Student Chapter of the Department of Electrical and Electronics Engineering (EEE), in association with ILM Group, Hyderabad, organised an invited talk on Building Energy Management Systems. The session covered the use of smart meters, sensors, controllers and monitoring software for managing electricity consumption in residential and commercial buildings. Students were introduced to automation in lighting and air-conditioning systems, smart building technologies and

energy conservation practices. The discussion also highlighted career opportunities in energy auditing, system design and building automation.

Renewable Energy and Community Outreach: On 14 July 2025, the ECE-ISTE Chapter, in association with NSS, organised an outreach activity on the role of solar energy in agriculture at the School of Agriculture. The programme involved students and members of the farming community. Participants observed a solar-powered irrigation system and learnt about its operation, installation and maintenance. The session also covered solar-powered crop drying, cold storage, greenhouses and precision farming. Government initiatives such as the PM-KUSUM scheme were discussed to familiarise farmers with available opportunities for adopting solar technologies. The activity helped students understand how renewable energy can reduce farmers' dependence on grid electricity and diesel, lower operational costs and support sustainable farming.

Emerging Renewable Energy Technologies: On 18 July 2025, the Department of EEE organised an invited talk on "Challenges and Opportunities in New Energy Sources in Generation and Grid Integration". The resource person from AMFLIND Pvt. Ltd. discussed the integration of solar, wind, biomass and hydrogen into existing power systems. Technical challenges relating to intermittency, grid stability and energy storage were explained, along with emerging opportunities in smart grids, microgrids and electric vehicle infrastructure. Students were also guided on industry internships, technical certifications and practical skills required for careers in the renewable energy sector.

Energy-Efficient Technologies: Two technical sessions were organised to expose students to energy-efficient electronic systems. On 29 August 2025, the Department of ECE conducted an expert talk on "Low Power Design Applications & Hold Time Case Study", with an industry expert from AMD, Hyderabad. The session covered low-power VLSI design, power dissipation, clock gating, voltage scaling and timing analysis. On 12 September 2025, the Department of EEE organised another expert talk on "Energy-Efficient VLSI Solutions for EV Control & Monitoring". The discussion focused on battery management systems, motor control, low-power circuits and real-time monitoring technologies used in electric vehicles.

Industry Exposure: On 20 December 2025, the EEE Department organised an industrial visit to Power Grid Corporation of India Limited, Ghanpur, Hyderabad. Students visited the substation and control room and learnt about high-voltage transmission systems, transformers, circuit breakers, protection equipment and grid monitoring. Engineers also explained safety procedures and the practical challenges involved in electricity transmission.

9. Direct services to local industry on energy efficiency & clean energy

The University undertook several initiatives to support local industries in improving energy efficiency and adopting clean energy practices. These activities facilitated the exchange of technical knowledge and industry experience through interactions with energy experts, industry professionals and energy-sector organisations. The focus was on emerging technologies, energy conservation and renewable energy solutions.

The following activities were carried out as part of these efforts:

Invited Talks by Energy and Industry Experts: Invited talks were organised by experts from the energy sector, power utilities and industries on energy efficiency, conservation, renewable energy and sustainable industrial practices. These sessions provided insights into technological developments and practical approaches to reducing energy consumption.

Workshops and Seminars Involving Industry: Workshops, seminars and technical discussions involving industry representatives were conducted on energy-efficient technologies, clean energy solutions and sustainable energy management. These programmes facilitated knowledge exchange and sharing of industry best practices.

Connecting Student Energy Clubs with Experts: Interactions between student energy clubs and industry professionals provided exposure to real-world energy challenges and emerging solutions. These engagements also encouraged students to exchange ideas and understand industry requirements.

Faculty Development Programmes with Industry Experts: FDPs with industry professionals as resource persons helped faculty members update their knowledge of energy-efficient processes, renewable energy technologies, energy audits and industrial energy management. They also provided insights into potential areas for collaborative research and consultancy.

Industrial Visits to Energy Companies: Visits were organised for students and faculty to organisations such as Power Grid Corporation of India Limited and other energy-sector companies. These provided practical exposure to power transmission systems, energy infrastructure and industry operations, along with opportunities to interact with professionals.

Panel Discussions with Energy and Industry Experts: Panel discussions involving industry representatives, energy experts and academicians provided a platform to deliberate on challenges and

opportunities in energy efficiency, renewable energy adoption and sustainable industrial practices. The discussions enabled exchange of perspectives and exploration of practical approaches to improving energy performance and promoting clean energy solutions.

10. Support governments in policy development on clean energy and energy-efficient technology

Anurag University has contributed to policy-related awareness and discussions through academic events that provided opportunities to understand government policies, their implementation requirements and the role of technology in achieving policy objectives.

On 5 December 2025, the Department of Electrical and Electronics Engineering facilitated student participation in the International Conference on Green Technology, Policy & Finance 4.0, organised in collaboration with the Renewable Energy Innovation Club. The conference brought together policymakers, researchers, entrepreneurs and industry representatives to discuss renewable energy development, green technology, sustainable finance and policy frameworks. Discussions covered solar energy, energy storage, grid modernisation, artificial intelligence and international approaches to clean energy transition. Interaction with experts and policymakers provided exposure to policy challenges, technological requirements and financial mechanisms necessary for implementing renewable energy initiatives.

Earlier, on 24 September 2025, the Department organised a Poster Competition on National Education Policy (NEP) 2020 under its IEI Professional Chapter. Students presented their understanding of the policy's objectives, including multidisciplinary education, skill development, research and innovation. The event helped create awareness about the policy and its implications for higher education.

11. Start-up Support for Low Carbon Technology

HIVE is Anurag University's ecosystem for fostering innovation, entrepreneurship, collaboration, and intellectual property creation. It's a space where students, faculty, staff, industry experts, mentors, and entrepreneurs come together as one hive mind, cross-pollinating ideas and turning individual sparks into collective momentum.

HIVE doesn't just support innovation; it architects the entire journey. With robust Intellectual Property Management, hands-on prototyping facilities, dynamic entrepreneurship and incubation programs, and the strategic backing of the Institute Innovation Council, every innovator has the structure, mentorship, and momentum to move forward with confidence.

From the first spark of an idea to a fully scaled venture ideation, prototyping, incubation, acceleration, and scaling, HIVE is the engine that carries the entire distance. Whether it's a first-time student founder testing the first prototype or a seasoned mentor building the next big venture, HIVE meets all the expectations and requirements.

12. Total energy used from low-carbon sources

- Total Energy Used: 7875.43 GJ
- Total Energy Used from low-carbon sources: 0.36 GJ

University Energy Management Committee

Minutes of the Meeting of the University Energy Management Committee (UEMC) – April, 2025

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Minutes of the Meeting of the University Energy Management Committee (UEMC)

Date: 28-04-2025
Venue: A-Block, 4th floor
Time: 10.00 A.M.

Agenda

- To review the 2024 energy baseline and the recommendations made in 2024.
- To propose measures for energy conservation and renewable energy adoption in 2025.
- To plan awareness programmes and monitoring mechanisms for 2025.

Proceedings

1. Welcome address. The Convener welcomed the members and highlighted the importance of energy management and sustainability in alignment with the University's green initiatives.

2. Baseline review. The committee reviewed the 2024 energy data (electricity 1,70,916 kWh; diesel 2,08,600 L; petrol 1600 L; solar energy 100 kWh, and total about 8,722.33 GJ) and noted that petrol and diesel account for about 90% of total energy consumed.

3. Status of 2024 recommendations. The committee reviewed the recommendations made in the 2024 review and noted their status at the start of 2025:

- **LED replacement:** recommended for all departments and hostels; a phase-wise plan was resolved.
- **Sub-meters:** recommended for high-consumption buildings.
- **Solar expansion:** feasibility analysis of the remaining blocks was assigned to the Energy Division.
- **Awareness programmes:** an Energy Conservation Awareness Plan was resolved to be circulated among departments.
- **EV and transport measures:** carpooling, shuttle buses, EV usage and EV charging stations were proposed.
- Items not completed are carried into the 2025 plan.

4. Measures for 2025. The committee agreed to take up the following during January–December 2025:

- Phase-wise replacement of CFL and tube lights with LEDs in departments and hostels.
- Solar feasibility for the remaining blocks, leading to additional rooftop capacity (the 200 kW expansion recommended in the review).
- Sub-meters in high-consumption buildings to track usage patterns.
- Energy Conservation Week and student-led campaigns under the guidance of the UEMC.
- Carpooling, shuttle services and gradual use of EVs, to reduce dependence on petrol and diesel.
- Exploring EV charging stations as a long-term measure.

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- Monthly collection of energy data by the Energy Division for comparison with the 2024 baseline.

Resolutions Proposed

1. To adopt 2024 as the baseline year for future comparison.
2. To implement the phase-wise LED replacement plan during 2025.
3. To carry out feasibility for additional solar capacity and sub-metering.
4. To circulate an Energy Conservation Awareness Plan among all departments.

The meeting concluded with a vote of thanks by the Convener, appreciating the participation of all members and their commitment to making Anurag University a model for energy efficiency and sustainability.

Members Present

S. No.	Name & Details	Designation
1	Dr. Md. Yaseen, Head, Dept. of EEE	Chairperson
2	Dr. T. Dinesh, Associate Professor, Dept. of EEE	Member
3	Dr. J. Srinivas, Assistant Professor, Dept. of EEE	Member
4	Mr. Narayana, Energy Division	Member
5	Mr. M. Karunakar Reddy Marri, Transport In-Charge	Member
6	Dr. M. Saravanan, Director, IQAC	Convener

Dr. Md. Yaseen,
Head, Dept. of EEE & Chairperson, UEMC

Dr. M. Saravanan
Director, IQAC & Convener, UEMC

Copy to:

- Vice Chancellor
- Registrar
- All Committee Members

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Minutes of the Meeting of the University Energy Management Committee (UEMC) – October, 2025

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Minutes of the Meeting of the University Energy Management Committee (UEMC)

Date: 27-10-2025
Venue: A-Block, 4th floor
Time: 10.00 A.M.

Agenda

- To review energy performance for January–September 2025 against the 2024 baseline.
- To review the implementation of the measures planned for 2025.

Proceedings

1. Welcome address. The Convener welcomed the members and briefed them on the purpose of the year-end review.

2. Energy performance. The Energy Division presented the consolidated data for January–September 2025. The committee compared electricity, diesel, petrol and solar generation with the 2024 baseline in Gigajoules - GJ. Total energy consumed was 5912 GJ (for 9 months) against 8,722.33 GJ in 2024 (12 months), a reduction of 630 GJ (7.23%) on pro-rata basis for 9 month-period. The committee noted the need to expand solar capacity and to continue reducing diesel use.

3. Implementation review. The committee reviewed the status of the 2024 recommendations against the 2025 energy data.
The committee noted the achievement of the year may be attributed to: carpooling, reduced generator running & others changes. The target of reducing dependence on petrol and diesel remains a continuing priority, as these fuels are still over 90% of total energy.
Energy efficiency (LED, equipment upgrades, preventive maintenance): Electricity consumption reduced and the committee noted that the phase-wise LED replacement and equipment upgrades are progressing and will continue.
Solar rooftop expansion and hybrid systems: Solar generation remained at 100 kWh, with no increase over 2024. Regarding the expansion of 200 kW, the feasibility analysis and the hybrid solar–battery proposal are therefore need to be considered in the next year.
Sub-meters, digital dashboards and EV charging stations: These are in the planning or feasibility stage and to be considered are to be in the next year.

4. Awareness and engagement. Energy Conservation Week was observed from 12th September 2025 with expert talk. 151 students and 09 staff participated, organized by EEE Department.

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Resolutions Proposed

1. To Prepare Annual Report for 2025.
2. To carry forward the pending recommendations to the next cycle.

Next Steps

- Convener to finalize the report and forward it to the Registrar.

The meeting concluded with a vote of thanks by the Convener, appreciating the participation of all members.

Members Present

S. No.	Name & Details	Designation
1	Dr. Md. Yaseen, Head, Dept. of EEE	Chairperson
2	Dr. T. Dinesh, Associate Professor, Dept. of EEE	Member
3	Dr. J. Srinivas, Assistant Professor, Dept. of EEE	Member
4	Mr. Narayana, Energy Division	Member
5	Mr. MKarunakar Reddy Marri, Transport In-Charge	Member
6	Dr. M. Saravanan, Director, IQAC	Convener

Dr. Md. Yaseen,
Head, Dept. of EEE & Chairperson, UEMC

Dr. M. Saravanan
Director, IQAC & Convener, UEMC

Copy to:

- Vice Chancellor
- Registrar
- All Committee Members

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Annual Energy Review Report

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(Established under the Act No. 13 of 2007 as per the Telangana State Private Universities Act, 2018. Sponsored by Gnanthi Educational & Cultural Trust)

Annual Energy Review Report

Prepared by: University Energy Management Committee (UEMC)

Reporting Period: January 2025 – December 2025

1. Objectives

- To assess the baseline energy consumption across various campus facilities.
- To identify major areas of energy usage and potential wastage.
- To recommend feasible measures for energy conservation and renewable energy adoption.
- To promote sustainable mobility and reduction of fossil fuel dependency.

2. Methodology

The energy review was conducted through:

- **Collection of utility data:** Electricity bills, diesel/petrol usage, and solar energy generation records for the given period.
- **Site inspections:** Physical surveys of academic blocks, laboratories, hostels, and administrative buildings.
- **Interviews:** Discussions with facility management and maintenance teams.
- **Data analysis:** Conversion of energy data into common units (Gigajoules - GJ) and comparison across facilities.

1. Energy Consumption Summary

Source	Factor	2024 usage	2024 GJ	2025 usage	2025 GJ
Electricity (kWh)	0.0036 GJ/kWh	1,70,916 kWh	615.29	1,62,370 kWh	584.53
Diesel (litres)	0.0386 GJ/L	2,08,600 L	8,051.96	1,87,740 L	7246.76
Petrol (litres)	0.0342 GJ/L	1600 L	54.72	1,280 L	43.78
Solar generated (kWh)	0.0036 GJ/kWh	100 kWh	0.36	100 kWh	0.36
Total energy consumed	*	*	**8722.33**	*	**7875.43**

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4. Key Findings

- **Overall:** total energy consumed fell from 8,722.33 GJ (2024) to 7,875.43 GJ (2025), a reduction of 846.90 GJ (9.7%).
- **Petrol and diesel** used for campus transport and power backup represent about 92.6% of total energy consumption (7,290.54 GJ), compared with 92.9% in 2024. Diesel use reduced by 10.0% and petrol use by 20.0%, together accounting for 816.14 GJ of the total reduction.
- **Electricity** accounts for about 7.4% of total energy consumption (584.53 GJ), against 7.05% in 2024. Consumption fell by 5.0% (from 1,70,916 kWh to 1,62,370 kWh).
- **Solar energy** generation was 100 kWh, unchanged from 2024. It contributes about 0.06% of the university's electricity demand (about 0.005% of total energy), indicating high potential for further expansion.
- **Laboratory and computing equipment** contribute significantly to energy demand.

5. Recommendations

- Replace remaining CFL and tube lights with LED fittings.
- Upgrade old air-conditioning units with 5-star rated equipment; conduct preventive maintenance.
- Install sub-meters for each major block and implement digital dashboards for reporting and awareness.
- Expand solar rooftop systems (additional 200 kW) and explore hybrid solar–battery systems for critical areas.
- Promote carpooling, cycling and shuttle services; gradually introduce EVs and install charging stations.
- Conduct Energy Conservation Week with poster competitions, talks and student-led audits; include sustainability projects in final-year and club activities.

6. Baseline and Future Monitoring

The 2024 data will serve as the baseline year for future comparison. The university will track annual energy performance indicators such as:

- Energy Use Intensity (EUI) = Total Energy (GJ) / Floor Area (m^2)
- % Renewable Energy Contribution
- % Reduction in Diesel and Petrol Usage

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7. Conclusion

The Energy Review indicates a 9.7% reduction in total energy consumption in 2025 compared with the 2024 baseline, driven mainly by lower diesel use, along with reductions in electricity and petrol use. Solar generation remained at 100 kWh, so expanding rooftop capacity is the main opportunity for renewable energy. Further opportunities remain in the areas of transport energy reduction, smart monitoring, and equipment upgrades. The UEMC will continue to oversee the implementation of the recommended actions and report progress annually.

8. Signatures

S. No.	Name & Details	Designation	Signatures
1	Dr. Md. Yaseen, Head, Dept. of EEE	Chairperson	
2	Dr. T. Dinesh, Associate Professor, Dept. of EEE	Member	
3	Dr. J. Srinivas, Assistant Professor, Dept. of EEE	Member	
4	Mr. Narayana, Energy Division	Member	
5	Mr. M. Karunakar Reddy Marri, AO Transport In-Charge	Member	
6	Dr. M. Saravanan, Director, IQAC	Convener	

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(Established under the Act No. 13 of 2020 as per the Telangana State Private Universities Act, 2018. Sponsored by Gayathri Educational & Cultural Trust)

No AU / Admin / UEMC / 2025 /722 **Date: 02nd April, 2025**

ORDER

Subject: Re-constitution of the University Energy Management Committee (UEMC)

The Vice-Chancellor has re-constituted the University Energy Management Committee (UEMC) with immediate effect. The Committee consists of the following members:

S. No.	Name & Details	Designation
1	Dr. Md. Yaseen, Head, Dept. of EEE	Chairperson
2	Dr. T. Dinesh, Associate Professor, Dept. of EEE	Member
3	Dr. J. Srinivas, Assistant Professor, Dept. of EEE	Member
4	Mr. Narayana, Energy Division	Member
5	Mr. M. Karunakar Reddy, Transport In-Charge	Member
6	Dr. M. Saravanan, Director, IQAC	Convener

The re-constituted Committee may take such action as is necessary for the implementation of the Energy Policy.

(Dr. A. Padmanabha Rao)
Deputy Registrar

REGISTRAR
ANURAG UNIVERSITY
Venkatapur (V), Ghatkesar (M),
Medchal-Malkajgiri (Dist.)-500 088

To

1. The committee members
2. The Deans / Directors/ Heads
3. AO

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Report on Community Outreach programs for Energy Efficiency

Outreach programs

The University provides students with opportunities to engage with current developments in energy, understand practical applications of energy-efficient technologies and gain exposure to the power and renewable-energy sectors. During 2025, these opportunities were provided through expert talks, technical sessions, industry exposure and community outreach activities.

Building Energy Management Systems (BEMS)

Date: 16th December, 2025

Time: 11.00 AM – 1.00 PM

Venue: B-BLOCK Arambh Hall, Anurag University

No. of Participants: 150



The ISTE student chapter of Electrical and Electronics Engineering department of Anurag University organized an Invited Talk on "Building Energy Management Systems (BEMS)" with "ILM Group, Hyderabad" on 16th December, 2025 during 11 AM to 1 PM at B-Block Aarambh Hall. Total 100 students were participated in the event.

Dr. T. Anil Kumar, HOD, Electrical & Electronics Engineering Department introduced the resource persons from ILM Group, Hyderabad to the EEE students.

The resource person explained the importance of saving energy in residential and commercial buildings. He introduced the concept of Building Energy Management Systems and described how these systems help in monitoring and controlling energy usage in buildings.



During the session, the speaker discussed the main parts of BEMS such as sensors, smart meters, controllers, and monitoring software. The role of automation and smart technologies in controlling lighting, air conditioning, and other electrical systems was explained in a simple manner.

The speaker also shared real-life examples of smart buildings where energy management systems are used to reduce power consumption and electricity bills. The importance of renewable energy and energy-efficient practices was highlighted. The session was interactive, and students actively participated by asking questions. The talk helped students understand modern energy management techniques and their applications in real-world buildings.



The primary objectives of the invited talk were:

1. To introduce the concept and importance of Building Energy Management Systems (BEMS) in modern infrastructure.

2. To create awareness about energy efficiency, conservation, and sustainable building practices.

3. To explain the architecture, components, and working principles of BEMS.

4. To highlight the role of automation, IoT, and smart sensors in energy monitoring and control.

5. To encourage students and faculty to explore research and career opportunities in smart building technologies.

The invited talk was a wake-up call for students to look beyond traditional power engineering. The BEMS industry is growing rapidly, offering roles in system design, energy auditing, commissioning, and software development.

The speaker encouraged students to learn about sensors, PLC programming, and energy efficiency standards. By mastering Building Energy Management Systems, EEE students can position themselves at the

forefront of the global transition toward "Smart Cities" and a sustainable future.

The invited talk received positive feedback from students, many of whom expressed a keen interest in further exploring the software and its applications in their academic projects and future careers.

NSS Outreach Programme – Public Pledge on Promoting 100% Renewable Energy

Date: December 2025
Time: 9.30 AM
Venue: Zilla Parishad High School, Tharamathipet Village, Abdullapurmet Mandal, Ranga Reddy District
No. of Participants: 80 (students and local farmer community)

In December 2025, the University's National Service Scheme (NSS) conducted an outreach programme at Zilla Parishad High School, Tharamathipet Village, Abdullapurmet Mandal, Ranga Reddy District, to create awareness among school students about the importance of transitioning towards 100% renewable energy. The students were encouraged to take a public pledge to support the use of renewable energy, reduce unnecessary consumption of electricity and adopt energy-saving practices in their daily lives. They were also motivated to spread awareness among their parents, friends and the wider community and encourage them to shift towards renewable sources of energy. The programme aimed to develop environmental responsibility among young students and make them active participants in promoting clean energy and sustainable living.



Clean Energy Awareness

The University extends its engagement on clean and renewable energy beyond the campus through community-oriented activities. These initiatives provide students with opportunities to share knowledge on renewable energy and understand its relevance to agriculture and local communities.

Solar Energy in Agriculture

NSS Outreach – Role of Solar in Agriculture

Date: 14th July 2025
Time: 9.30 AM to 4.10 PM
Venue: School of Agriculture, Anurag University
No. of Participants: 65 (students and local farmer community)

ECE-ISTE in collaboration with NSS (National Service Scheme) Anurag University initiative, a field visit was conducted to the School of Agriculture on 14th July 2025. The objective was to understand the role of renewable energy in sustainable farming, with a focus on the application of solar energy in agriculture.

Objectives of the Outreach

- To raise awareness about solar energy applications in agriculture
- To promote sustainable farming practices among rural communities
- To highlight government initiatives supporting solar adoption
- To encourage youth participation in climate-resilient agriculture

Session Overview:

During the visit, the participants observed the setup and working of a solar-powered irrigation system. The participants learned how these systems can efficiently draw groundwater or surface water to irrigate fields without relying on grid electricity or diesel generators. The importance of proper panel placement, orientation towards sunlight, and maintenance for optimal energy generation was discussed. The system is especially beneficial in remote and rural areas where access to electricity is limited or unreliable. Solar-powered irrigation not only reduces fuel costs and carbon emissions but also supports sustainable agriculture by ensuring consistent water supply.

How It Works?

1. Solar panels convert sunlight into direct current (DC) electricity. The amount of electricity produced depends on the size of the panels and sunlight availability.

2. A solar controller regulates the power flow to the pump. In AC systems, an inverter is used to convert DC electricity into alternating current (AC) to run standard pumps.

3. The electric power drives a submersible or surface pump, which draws water from a source like a well, river, or tank.

4. The pumped water is either stored in a tank for later use or directly supplied to the fields through drip, sprinkler, or flood irrigation systems.

Types of Solar Irrigation Pumps:

DC Pumps: Directly powered by DC from solar panels; more efficient and simpler. AC Pumps: Powered via an inverter; compatible with existing electric pumps. Submersible Pumps: Used when the water source is deep underground. Surface Pumps: Used for shallow water sources like ponds, tanks, or canals.

Key Applications of Solar Energy in Agriculture

1. **Solar-Powered Irrigation**
   - Solar water pumps reduce dependency on diesel and grid electricity
   - Enable irrigation in remote areas with limited power access
   - Lower operational costs and carbon emissions

2. **Solar Crop Drying**
   - Helps reduce post-harvest losses
   - Maintains crop quality and extends shelf life
   - Especially useful for grains, spices, and medicinal plants

3. **Solar Cold Storage**
   - Preserves perishable produce like fruits and vegetables
   - Reduces spoilage and enhances market value
   - Supports small-scale farmers in remote regions

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4. Solar Greenhouses

- Regulate temperature and humidity for high-value crops
- Improve yield and reduce energy costs
- Enable year-round cultivation

5. Government Initiatives PM-KUSUM Scheme

- Launched to promote solar pumps and grid-connected solar power plants
- Offers subsidies and financial support to farmers

6. Climate Smart Precision Farming

- Integrates solar with drip irrigation and protected cultivation
- Enhances water-use efficiency and crop productivity

7. Impact on Rural Communities

- Economic Empowerment: Reduced energy costs and increased income
- Environmental Benefits: Lower greenhouse gas emissions
- Social Upliftment: Improved livelihoods and gender inclusion
- Energy Security: Reliable power for farming operations

8. Learnings from Outreach Activities

- Many farmers are unaware of solar schemes and benefits
- Hands-on demonstrations increase adoption rates
- Youth volunteers play a key role in bridging the information gap
- Collaboration with local panchayats and NGOs enhances impact

Recommendations

- Organize regular solar awareness camps in villages
- Partner with renewable energy start-ups for tech demonstrations
- Encourage NSS volunteers to act as sustainability ambassadors
- Advocate for policy support and faster subsidy disbursement

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Renewable Energy

The University provides students with opportunities to understand developments in renewable energy, emerging energy sources and their integration into modern power systems. The following event is one such initiative conducted in 2025.

Challenges and Opportunities in New Energy Sources in Generation and Grid Integration

Date: 18th July, 2025

Time: 1.30 PM - 4 PM

No. of Participants: 75

The Department of Electrical and Electronics Engineering (EEE) organized an invited talk titled "Challenges and Opportunities in New Energy Sources in Generation and Grid Integration" on 18th July, 2025 under ISTE student chapter. The session was delivered by Mr. Ramesh, a leading expert in renewable energy systems and smart grid technologies, currently working with AMFLIND Pvt ltd.

The event was held at EEE Simulation Lab and witnessed active participation from final-year EEE students. The purpose of the talk was to provide students with real-world insights into the growing role of renewable energy in the power generation sector and its integration into existing grid infrastructure.

The expert addressed several critical aspects of the modern power sector, focusing on both the technical challenges and emerging opportunities in integrating new energy sources into the grid. The following topics were covered:

Transition to Renewable Energy:

- The global shift toward cleaner energy sources such as solar, wind, biomass, and hydrogen.
- Government policies and international commitments towards net-zero emissions.

Technical Challenges:

- Intermittency and variability of renewable energy sources.
- Grid stability and synchronization issues with distributed generation.

- Integration of energy storage systems and demand response techniques.

Opportunities for Innovation:

- Development of smart grids and AI-based grid management systems.
- Increased demand for engineers skilled in power electronics, control systems, and IoT for energy applications.
- Opportunities in micro grids, hybrid systems, and electric vehicle (EV) infrastructure.

The expert emphasized the role of Electrical Engineers in shaping the future of sustainable energy. He encouraged students to develop a strong foundation in both core EEE subjects and emerging technologies like AI, machine learning, and data analytics for smart energy systems.

Student Interaction and Internship Opportunities

Following the technical session, an interactive Q&A was held where students engaged with expert on career paths and internship opportunities. Some important takeaways from this session include:

Industry Readiness:

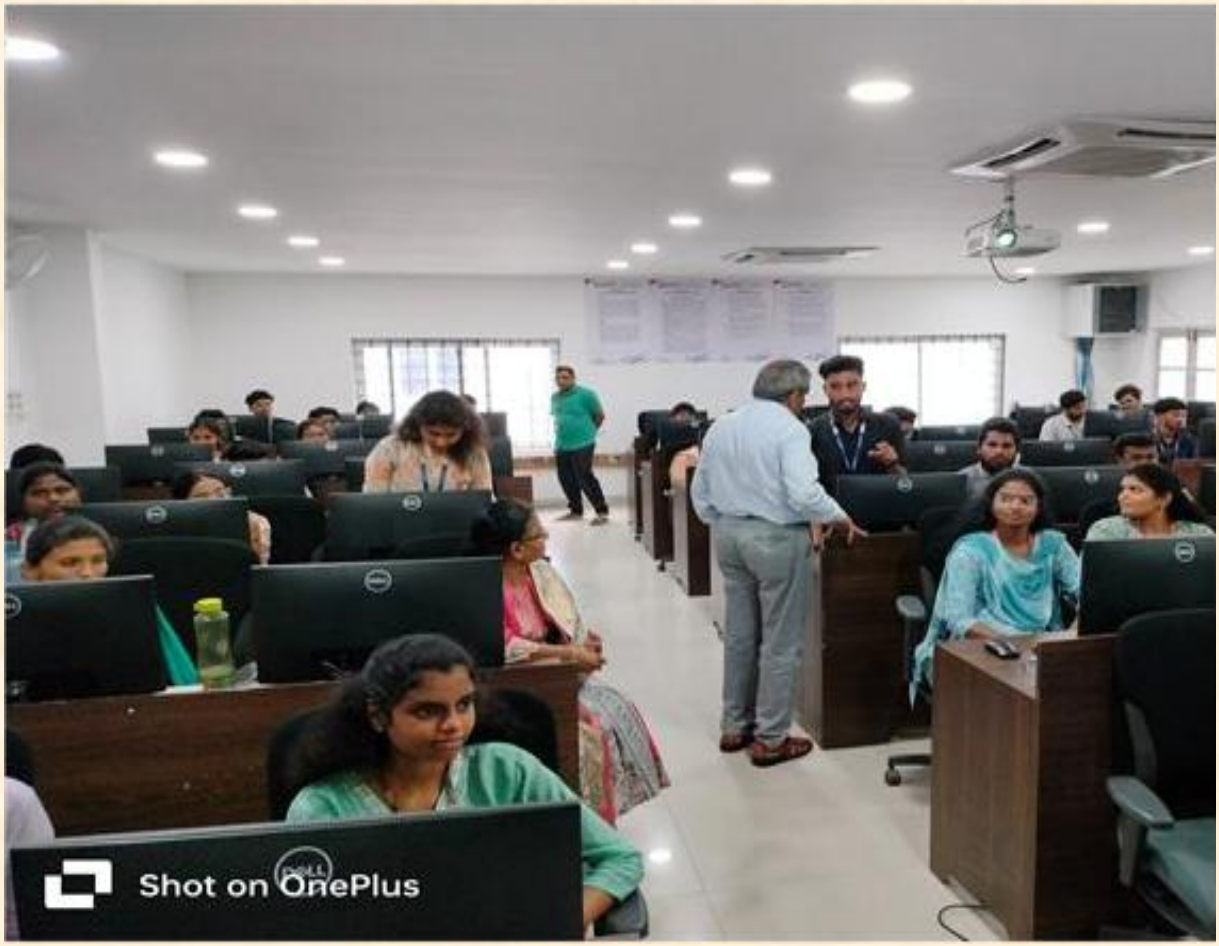
- Students were advised to strengthen their practical skills through hands-on projects and certifications in tools like MATLAB, PSCAD, SCADA, and ETAP.
- The importance of mini-projects and industrial training in renewable energy firms was highlighted.

Internships:

The guest shared a list of companies and research institutes that regularly offer internships to EEE students, such as:

- NTPC Renewable Energy Division
- NLC India Ltd.
- TATA Power Solar
- MNRE-sponsored projects
- Start-ups in smart grid and EV sectors

He also encouraged students to explore internships through platforms like AICTE Internship Portal, Internshala and direct applications to companies.



Soft Skills and Networking:

In addition to technical skills, students were reminded of the importance of communication, teamwork, and professional networking via platforms like LinkedIn and IEEE student chapters.

The invited talk provided deep insights into the evolving landscape of the power sector, particularly in relation to sustainable energy generation and grid modernization. Students left the session better informed and more motivated to pursue internships and projects aligned with industry trends. The Department of EEE looks forward to organizing more such events to bridge the gap between academic learning and industry practices.

Energy-Efficient Technologies

The University provides students with opportunities to explore energy-efficient technologies and their applications in modern electrical, electronic and automotive systems. The following technical sessions conducted during 2025 provided exposure to low-power design and energy-efficient solutions.

Expert talk is for the awareness of Energy-Efficient VLSI Solution for EV Control & Monitoring

Date: 12th Sept, 2025
Time: 11:00 AM to 12:45 PM
Venue: A-422 Seminar Hall, Anurag University
No. of Participants: 151

The theme behind the expert talk is for the awareness of Energy-Efficient VLSI Solution for EV Control & Monitoring. About 101 students of III Year, on a study of Electric Vehicle Technology the expert talk is conducted on behalf of HOD on 12th September 2025, 11:00AM to 12:45PM. In this session we have learn The global shift towards electric vehicles (EVs) has created a strong demand for intelligent and energy-efficient control systems. EVs require real-time monitoring of parameters such as battery health, motor performance, charging status, and safety mechanisms. To achieve this, Very Large-Scale Integration (VLSI) solutions play a crucial role in designing compact, high-performance, and low-power hardware. By integrating advanced circuits and architectures, energy-efficient VLSI systems enable reliable EV operation while reducing overall energy consumption.

Need for Energy-Efficient VLSI in EVs

Battery Limitation: EV performance is strongly linked to battery capacity, which makes energy efficiency vital.

Real-time Processing: Control units must process sensor data instantly to ensure safety and performance.

Compact Design: VLSI enables system-on-chip (SoC) solutions that minimize size and weight.

Sustainability: Low-power circuits reduce heat dissipation and extend battery life.

Applications of VLSI in EV Control & Monitoring Battery Management System (BMS)

- Monitors state-of-charge (SoC) and state-of-health (SoH).
- Ensures safe charging/discharging cycles
- Implemented with low-power VLSI-based sensing and control circuits.

Motor Control Unit (MCU)

- Manages torque, speed, and power efficiency.
- Uses real-time digital signal processing (DSP) blocks in VLSI.

Power Electronics Interface

VLSI-based gate drivers and power controllers optimize inverter efficiency.

Vehicle Monitoring System

Integrates IoT-enabled VLSI chips for remote monitoring and diagnostics. Energy-Efficient VLSI Design Techniques

Low-Power CMOS Design: Reduces static and dynamic power consumption.

Clock Gating & Power Gating: Disables unused circuit blocks to save energy.

Voltage Scaling: Dynamic Voltage and Frequency Scaling (DVFS) adjusts performance as per workload.

System-On-Chip Integration: Combines multiple EV subsystems on a single chip to minimize power loss.

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Approximate Computing: Allows minor computation trade-offs to save power in non-critical modules.







Advantages of VLSI-Based EV Monitoring Systems

- Increased energy efficiency leading to extended driving range.
- Enhanced safety and reliability with real-time fault detection.
- Miniaturization reduces system weight and cost.
- Support for AI/ML integration in smart EVs for predictive maintenance.

Conclusion

Energy-efficient VLSI solutions are transforming the control and monitoring systems of electric vehicles by offering compact, reliable, and low-power designs. These innovations directly contribute to extending EV driving range, ensuring safety, and supporting advanced functionalities such as predictive maintenance and smart charging. As EV adoption accelerates, VLSI technology will remain a cornerstone in shaping the next generation of sustainable and intelligent mobility solutions. It was indeed a successful expert talk completed for which we express our sincere thanks to our management, HOD of EEE department, Dr. T Anil Kumar.

Expert Talk Session on Low Power Design Applications & Hold Time Case Study

Date: 29th August 2025

Time: 10.00 AM to 1.00 PM

Venue: E-Block Auditorium, Anurag University, Hyderabad

No. of Participants: 167

To bridge the gap between academic learning and industry practices in semiconductor design, the ISTE Professional Chapter of the Department of ECE, in collaboration with the Office of Industry Alliance, organized an expert talk titled "Low Power Design Applications & Hold Time Case Study." The session was conducted by Mr. Yachareni Santosh, a Fellow Silicon Designer at AMD, Hyderabad, renowned for his expertise in VLSI architecture and timing analysis. Mr Santosh is widely respected for his ability to distil complex engineering concepts into accessible insights for students and professionals alike. Mr Santosh conducted the session with exceptional clarity and patience, ensuring that each concept was thoroughly explained. His commitment to student understanding was evident throughout the session, as he welcomed questions and tailored his delivery to the academic level of the audience.

Held on 29th August 2025, the session ran from 10:00 AM to 1:00 PM, offering an immersive three-hour experience for students across four sections of the B.Tech IV ECE year. Objectives of the Session

- Introduce students to real-world challenges in low power VLSI design
- Understand the concept of hold time violations and their mitigation strategies
- Provide exposure to industry-standard tools and workflows
- Inspire students to pursue careers in semiconductor and embedded systems
- Strengthen academia-industry collaboration through expert engagement

Key Topics Covered

Low Power Design Applications

- Importance: Power efficiency is critical in mobile, IoT, and high-performance computing
- Types of Power Dissipation: Dynamic, static, leakage
- Techniques Discussed:

- Clock gating
- Power gating
- Multi-voltage domains
- Dynamic voltage and frequency scaling (DVFS)
- Use of low-power standard cell libraries

Applications:

- Smartphones and wearable's
- Data centers
- Automotive electronics
- Edge computing devices

Hold Time Case Study

- Definition: Hold time is the minimum time after a clock edge during which data must remain stable
- Violations: Can lead to incorrect data capture and system instability
- Causes:
  - Short data paths
  - Clock skew
  - Process variations

Solutions:

- Inserting delay buffers
- Re-synthesis and re-timing
- Floor planning and layout optimization

Case Study:

- Real-world example from AMD's design pipeline
- How timing closure is achieved in high-speed chips
- Use of simulation and static timing analysis tools
- Exclusive Adoption: Many companies rely solely on VLSI technologies for their workflows
- Career Opportunities: Certified professionals are in demand at firms like AMD, Intel, Texas Instruments, and Bosch

- Innovation Ecosystem: collaboration among engineers, researchers, and developers worldwide

Hold Time: A Deeper Look

Hold time is the minimum amount of time after the clock edge during which the data input to a flip-flop must remain stable to ensure correct data capture. Violating this constraint can lead to unpredictable behaviour and logic errors.

Causes of Hold Time Violations:

- Short data paths: When the data path is too fast compared to the clock path, data may change before the flip-flop has latched it.
- Clock skew: If the clock arrives earlier at the receiving flip-flop than the sending one, it can reduce the effective hold time margin.
- Process variations: Differences in manufacturing can cause timing inconsistencies across the chip.

Mitigation Techniques:

- Buffer insertion: Adding delay buffers in the data path to slow down fast signals.
- Re-synthesis: Rewriting logic to balance timing paths.
- Clock tree optimization: Adjusting the clock distribution to reduce skew and align timing.

Hold time violations are particularly tricky because they can occur even in slow-speed designs and are harder to detect than setup time violations. Static Timing Analysis (STA) tools are essential for identifying and resolving these issues.

Clock Skew: Precision Matters

Clock skew refers to the difference in arrival times of the clock signal at different flip-flops in a synchronous circuit. It's a natural consequence of variations in wire lengths, routing paths, and load capacitance.

Types of Skew:

- Positive skew: Clock arrives later at the destination flip-flop than the source.
- Negative skew: Clock arrives earlier at the destination than the source.
- Zero skew: Ideal scenario where clock arrives simultaneously at all flip-flops.

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Impact of Clock Skew:

- Setup time violations: If the clock arrives too late, data may not be stable long enough before the next clock edge.
- Hold time violations: If the clock arrives too early, data may change too soon after the clock edge.
- Reduced performance: Excessive skew limits the maximum operating frequency of the chip.
- Increased power consumption: Skewed signals may require more power to drive through the circuit.

Techniques to Minimize Skew:

- Clock Tree Synthesis (CTS): Designing balanced clock distribution networks using H-tree or matched-tree structures.
- Buffer balancing: Inserting buffers to equalize delays across paths.
- Opposite routing: Routing data and clock in opposite directions to eliminate races.

Real-World Relevance

During the session, Mr Santosh illustrated how hold time and clock skew are not just theoretical concepts but real challenges faced in high-speed chip design. He shared examples from AMD's silicon development process, where timing closure is a critical milestone. Engineers must constantly analyze and optimize these parameters to ensure reliable and efficient operation of processors and SoCs.

Understanding these concepts is essential for any aspiring VLSI designer, as they directly influence chip functionality, power efficiency, and performance.

Importance of Soft Skills

The session also highlighted the necessity of soft skills in engineering careers. Mr. Santosh stressed that technical knowledge must be complemented by:

- Effective communication
- Team collaboration
- Adaptability to new tools and technologies
- Leadership and time management

These skills are essential for thriving in multidisciplinary teams and fast-paced design environments.

Student Takeaways

- Clear understanding of low power design principles
- Exposure to timing analysis and hold time violations
- Awareness of industry tools like Synopsys Prime Time and Cadence Tempus
- Motivation to pursue internships and certifications in VLSI
- Appreciation for the role of soft skills in career success Conclusion

The expert talk by Mr. Yachareni Santosh was a resounding success. Held from 10:00 AM to 1:00 PM, the session offered a deep dive into the world of low power design and timing analysis, enriched by real-world case studies and industry insights. Mr. Santosh's patient and engaging delivery ensured that every student walked away with a stronger grasp of the subject and a clearer vision for their future in semiconductor design.

By combining technical depth with career guidance and soft skill awareness, the session served as a holistic learning experience. It reinforced the importance of bridging academic

knowledge with industry expectations and inspired students to pursue excellence in both design and communication.







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Industry Exposure

The University provides students with opportunities to gain first-hand exposure to professional energy-sector environments and understand the practical functioning of power systems. Such industry visits help students connect their academic learning with real-world applications in electricity generation, transmission and distribution.

Industrial Visit to Power Grid Corporation of India Limited

Date: 20th December, 2025

Time: 10 AM – 1 PM

Venue: Hyderabad

No. of Participants: 62

The ISTE student chapter of Electrical and Electronics Engineering department of Anurag University was organized an industrial visit to Power Grid Corporation of India Limited, Ghanpur, Hyderabad 20th December, 2025. Total 52 students from III year EEE were participated in the event.

PGCIL is a Government of India enterprise and one of the largest power transmission companies in the world. It plays a major role in transmitting electricity from generating stations to distribution networks across the country. Visiting such a reputed organization helped the students to gain practical knowledge and understand the responsibilities of electrical engineers in the power sector.

The objective of the visit to understand the structure and functioning of substations, safety measures followed in high-voltage environments, and the use of advanced technologies in power transmission. The visit also helped the students to learn about career opportunities in PGCIL and the skills required to work in the power sector.

One of the major highlights of the visit was the tour of the electrical substation. The engineers explained how substations are used to step up or step down voltage levels for efficient power transmission. High voltage transmission reduces power losses over long distances.

Students observed various voltage levels used in the substation such as 400 kV and 220 kV systems. The layout of the substation was well organized, and different equipment was clearly labeled. This helped students to relate textbook knowledge and actual equipment. During the

visit, students saw many important electrical components used in substations. These included power transformers, circuit breakers, isolators, current transformers (CTs), potential transformers (PTs), lightning arresters, and bus bars.

The engineers explained the function of each component in simple terms. For example, circuit breakers are used to interrupt fault currents, isolators are used for maintenance purposes, and lightning arresters protect equipment from voltage surges. Seeing these components physically helped students to understand their size, construction and operation.

Late students were taken to the control room, which is the heart of the substation. The control room is equipped with control panels, relays, monitoring systems, and communication devices. Engineers monitor voltage, current, frequency, and power flow continuously from the control room.

Safety is given top priority in PGCIL. The engineers explained various safety measures followed in substations, such as proper earthing, use of protective equipment, safety clearances and warning signs. The interaction with experienced PGCIL engineers was very informative. They shared their practical experiences, challenges faced in power transmission, and solutions adopted. They also explained the qualifications, skills, and competitive exams required to join PGCIL.



The engineers motivated the students to focus on core subjects and practical knowledge. They encouraged them to develop strong fundamentals in power systems, protection and high-voltage engineering.

This industrial visit helped students to gain practical knowledge about power transmission systems. They were able to understand the real-time application of electrical engineering concepts such as load flow, fault analysis, protection and control. The visit improved the knowledge of students in understanding of substations, equipment operation, and safety practices. It also gave them exposure to industrial discipline, teamwork, and professional responsibilities.

Students expressed their heartfelt thanks to the management and staff of the Power Grid Corporation of India Limited for their warm welcome and informative session. Special thanks to the engineers who took the time to explain the various aspects of the transmission grid in great detail. Students also thanked the University management, Dean-SoE and HOD-EEE for organizing the visit and providing the opportunity to experience the operation of a real-world power grid system.

Energy Efficiency Services for Local Industry

(Energy efficiency assessments, workshops, research on renewable energy options)

The University undertook several initiatives to support local industries in improving energy efficiency and promoting the adoption of clean energy practices. These initiatives facilitated the exchange of knowledge, technical expertise and industry experience between academia and industry. Through interactions with energy experts, industry professionals and energy-sector organisations, the University created opportunities to understand emerging technologies, energy conservation practices and renewable energy solutions.

The following activities were carried out as part of these efforts:

1. Invited Talks by Energy and Industry Experts: The University organised invited talks by experts from the energy sector, power utilities and industries on energy efficiency, energy conservation, renewable energy technologies and sustainable industrial practices. These sessions provided opportunities to share industry experiences, discuss technological developments and understand practical solutions for reducing energy consumption.

2. Workshops and Seminars Involving Industry: Workshops, seminars and technical discussions involving industry representatives and energy professionals were organised to create awareness about energy-efficient technologies, clean energy solutions and sustainable energy management. These programmes facilitated knowledge exchange between academia and industry and provided insights into best practices that could be adopted by local industries.

3. Connecting Student Energy Clubs with Experts: The University facilitated interactions between student energy clubs and energy professionals, industry experts and practitioners. These engagements exposed students to real-world energy challenges and emerging solutions in energy efficiency and renewable energy. They also provided a platform for students to exchange ideas and understand the practical requirements of the energy sector.

4. Faculty Development Programmes with Industry Experts: Faculty Development Programmes (FDPs) were conducted with industry experts and professionals as resource persons. These programmes helped faculty members enhance their knowledge of energy-efficient processes,

renewable energy technologies, energy audits and industrial energy management. The interactions also provided insights into industry requirements and potential areas for collaborative research and consultancy.

5. Industrial Visits to Energy Companies: Industrial visits were organised for students and faculty members to organisations such as the Power Grid Corporation of India Limited and other energy-sector companies. These visits provided first-hand exposure to power transmission systems, energy infrastructure, operational practices and technologies used in the energy sector. Interactions with industry professionals during these visits helped participants understand industry operations and identify opportunities for further academic and industry engagement.

6. Panel Discussions with Energy and Industry Experts: The University organised panel discussions involving energy experts, industry representatives and academicians to deliberate on emerging challenges and opportunities in energy efficiency, renewable energy adoption and sustainable industrial practices. These discussions provided a platform for sharing diverse perspectives, exchanging industry experiences and exploring practical approaches to improving energy performance and promoting clean energy solutions among local industries.

Initiatives Undertaken

S. No	Event Organized	Name of Event	Date of Event
1	Expert Talk	Invited Talk on "Building Energy Management Systems (BEMS)"	16-12-2025
2	Expert Talk	Expert Talk on "Role of AI & Data Science in modern Power Systems"	25-08-2025
3	Expert Talk	Invited Talk on "Challenges and Opportunities in New Energy Sources in Generation and Grid Integration"	18-07-2025
4	Expert Talk	Expert Talk on From Smart Ideas to Smart Grids: Turning Innovation Into Impact In The Energy Sector	16th September, 2025
5	Expert talk	Expert talk on "Essential Skill Sets for the Modern Electrical	16-09-2025

		Engineer: Core, Coding, and Beyond"	
6	Expert talk	Expert talk on "Energy-Efficient VLSI Solution for EV Control & Monitoring.	12-09-2025
7	Policy Initiative	Policy Programme on "International Conference on Green Technology Policy & Finance 4.0"	05-12-2025
8	Policy Initiative	Poster Competition on National Education Policy (NEP) 2020	24-09-2025
9	Faculty Development Programme	A five-day online FDP on "Next Generation Power Electronics for Grid Modernization and Electric Mobility."	17th - 21st June, 2025
10	Panel Discussion	A Panel Discussion on "Women Empowerment and Gender Equality for Inclusive Growth in the Clean Energy Transition in the Emerging Power Sector"	8th December, 2025
11	Industrial Visit	Industrial Visit to Power Grid Corporation of India Limited, Hyderabad	20-12-2025
12	Workshop	A Two-Day Workshop on Mastering PCB Design: From Concept to Creation	19th & 20th February, 2025

Expert Talk on Building Energy Management Systems (BEMS)

Date: 16th December, 2025
Time: 11.00 AM – 1.00 PM
Venue: B-BLOCK Arambh Hall, Anurag University
No. of Participants: 150

The ISTE student chapter of Electrical and Electronics Engineering department of Anurag University organized an Invited Talk on "Building Energy Management Systems (BEMS)" with "ILM Group, Hyderabad" on 16th December, 2025 during 11 AM to 1 PM at B-Block Aarambh Hall. Total 100 students were participated in the event.

Dr. T. Anil Kumar, HOD, Electrical & Electronics Engineering Department introduced the resource persons from ILM Group, Hyderabad to the EEE students.



The resource person explained the importance of saving energy in residential and commercial buildings. He introduced the concept of Building Energy Management Systems and described how these systems help in monitoring and controlling energy usage in buildings.

During the session, the speaker discussed the main parts of BEMS such as sensors, smart meters, controllers, and monitoring software. The role of automation and smart technologies in controlling lighting, air conditioning, and other electrical systems was explained in a simple manner.

The speaker also shared real-life examples of smart buildings where energy management systems are used to reduce power consumption and electricity bills. The importance of renewable energy and energy-efficient practices was highlighted. The session was interactive, and students actively participated by asking questions. The talk helped students understand modern energy management techniques and their applications in real-world buildings.



The primary objectives of the invited talk were:

1. To introduce the concept and importance of Building Energy Management Systems (BEMS) in modern infrastructure.

2. To create awareness about energy efficiency, conservation, and sustainable building practices.

3. To explain the architecture, components, and working principles of BEMS.

4. To highlight the role of automation, IoT, and smart sensors in energy monitoring and control.

5. To encourage students and faculty to explore research and career opportunities in smart building technologies.

The invited talk was a wake-up call for students to look beyond traditional power engineering. The BEMS industry is growing rapidly, offering roles in system design, energy auditing, commissioning, and software development.

The speaker encouraged students to learn about sensors, PLC programming, and energy efficiency standards. By mastering Building Energy Management Systems, EEE students can position themselves at the forefront of the global transition toward "Smart Cities" and a sustainable future.

The invited talk received positive feedback from students, many of whom expressed a keen interest in further exploring the software and its applications in their academic projects and future careers.



Expert Talk on "Role of AI & Data Science in modern Power Systems"

Date: 25th August, 2025
Time: 9.30 AM – 12.30 PM
No. of Participants: 111

The Department of Electrical and Electronics Engineering (EEE) organized an expert on "Role of AI & Data Science in modern Power Systems" on 25th August, 2025 under ISTE student chapter for III B.Tech EEE Students. The session was delivered by Mr. Bhanu Murthy Vishnubhatla, Engineer- Power Electrics at INNIO Group, Austria (EU).

The session aimed to introduce students to the rapidly changing power sector and how artificial intelligence (AI) and data science are playing a key role in improving the way electricity is generated, transmitted, and used. The speaker shared practical examples, industry trends, and insights about how these advanced technologies are shaping the future of electrical engineering.

The speaker explained that AI allows machines and systems to learn from data and make decisions without explicit human instructions. In the context of power systems, AI can analyze massive amounts of operational data to predict, control, and optimize different parts of the network. For example, AI models can forecast electricity demand by learning from historical patterns and weather data. This helps power plants and grid operators plan generation schedules more effectively and reduce wastage. Similarly, AI can predict faults in equipment like transformers or transmission lines before they occur, allowing maintenance teams to act early and avoid costly outages.

Data science, on the other hand, deals with collecting, cleaning, analyzing, and interpreting large sets of data. The power sector generates huge volumes of data every second, including information from sensors, smart meters, grid control systems, and renewable energy plants. Data science tools and techniques help engineers find meaningful patterns in this data. The expert highlighted that modern grids are moving toward the concept of "smart grids," where data from millions of devices is used to make real-time decisions.

The lecture also covered how AI is helping integrate renewable energy sources like solar and wind into the grid. These sources are naturally variable because sunlight and wind are not constant. Using AI-based forecasting models, grid operators can predict how much solar or wind power will be available in the next few hours or days. This makes it easier to schedule backup generation and maintain grid stability. Moreover, AI algorithms can optimize the operation of hybrid systems where solar, wind,

and battery storage are used together, ensuring maximum efficiency and minimal cost.

Cybersecurity in power systems was also discussed, as modern grids rely heavily on digital communication. The expert pointed out that as more devices are connected to the grid, the risk of cyber-attacks increases. AI and data science can help detect unusual activities, prevent intrusions, and keep the power system secure. For example, AI algorithms can continuously monitor the behaviour of grid components and alert operators if any abnormal patterns are detected.

Towards the end of the lecture, the speaker emphasized the importance of engineers developing skills in AI, machine learning, and data analytics. The future of electrical engineering will require not only knowledge of circuits, machines, and power systems but also an understanding of how to handle data and design intelligent systems.

The session concluded with a question-and-answer round where students asked about career opportunities in this field, the challenges of implementing AI in developing countries, and how academic research can contribute to solving real-world power sector issues.

The expert talk provided valuable insights into how AI and data science are transforming modern power systems. It helped students understand the shift from traditional grid operations to smarter, data-driven, and more reliable systems. The lecture encouraged future engineers to embrace new technologies, keep learning, and be prepared for a power sector that is more digital, sustainable, and intelligent.

Digital Documentation of the Event:

Expert from the industry is addressing the students





Group photo of students with the Expert from Industry



Felicitation to the expert by HOD, EEE

Challenges and Opportunities in New Energy Sources in Generation and Grid Integration

Date: 18th July, 2025

Time: 1.30 PM - 4 PM

No. of Participants: 75

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The event was held at EEE Simulation Lab and witnessed active participation from final-year EEE students. The purpose of the talk was to provide students with real-world insights into the growing role of renewable energy in the power generation sector and its integration into existing grid infrastructure.

The expert addressed several critical aspects of the modern power sector, focusing on both the technical challenges and emerging opportunities in integrating new energy sources into the grid. The following topics were covered:

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- The global shift toward cleaner energy sources such as solar, wind, biomass, and hydrogen.
- Government policies and international commitments towards net-zero emissions.

Technical Challenges:

- Intermittency and variability of renewable energy sources.
- Grid stability and synchronization issues with distributed generation.
- Integration of energy storage systems and demand response techniques.

Opportunities for Innovation:

- Development of smart grids and AI-based grid management systems.
- Increased demand for engineers skilled in power electronics, control systems, and IoT for energy applications.

- Opportunities in micro grids, hybrid systems, and electric vehicle (EV) infrastructure.

The expert emphasized the role of Electrical Engineers in shaping the future of sustainable energy. He encouraged students to develop a strong foundation in both core EEE subjects and emerging technologies like AI, machine learning, and data analytics for smart energy systems.

Student Interaction and Internship Opportunities

Following the technical session, an interactive Q&A was held where students engaged with expert on career paths and internship opportunities. Some important takeaways from this session include:

Industry Readiness:

- Students were advised to strengthen their practical skills through hands-on projects and certifications in tools like MATLAB, PSCAD, SCADA, and ETAP.
- The importance of mini-projects and industrial training in renewable energy firms was highlighted.

Internships:

The guest shared a list of companies and research institutes that regularly offer internships to EEE students, such as:

- NTPC Renewable Energy Division
- NLC India Ltd.
- TATA Power Solar
- MNRE-sponsored projects
- Start-ups in smart grid and EV sectors

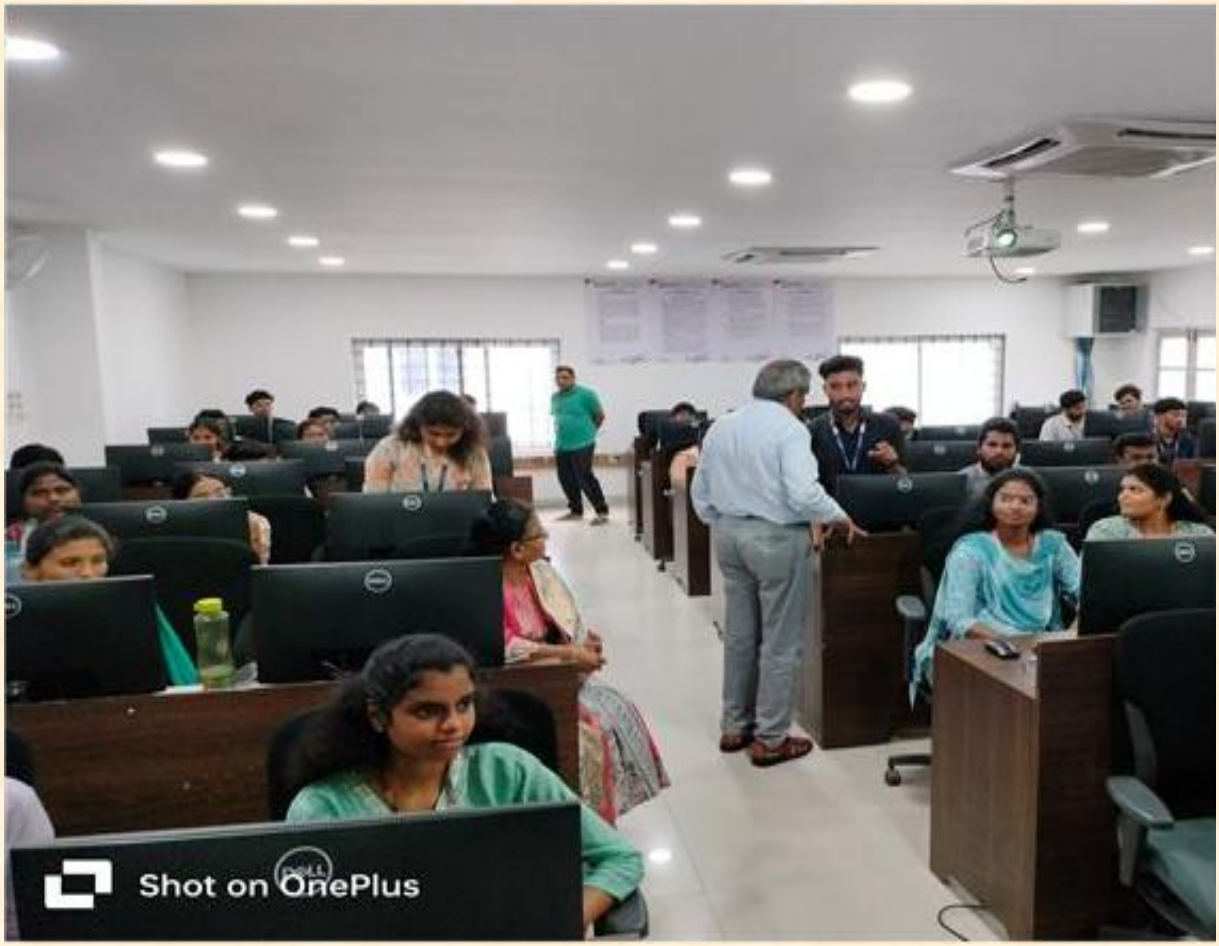
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Soft Skills and Networking:

In addition to technical skills, students were reminded of the importance of communication, teamwork, and professional networking via platforms like LinkedIn and IEEE student chapters.

The invited talk provided deep insights into the evolving landscape of the power sector, particularly in relation to sustainable energy generation and

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Need for Energy-Efficient VLSI in EVs

Battery Limitation: EV performance is strongly linked to battery capacity, which makes energy efficiency vital.
Real-time Processing: Control units must process sensor data instantly to ensure safety and performance.
Compact Design: VLSI enables system-on-chip (SoC) solutions that minimize size and weight.
Sustainability: Low-power circuits reduce heat dissipation and extend battery life.
Applications of VLSI in EV Control & Monitoring Battery Management System (BMS)

- Monitors state-of-charge (SoC) and state-of-health (SoH).
- Ensures safe charging/discharging cycles
- Implemented with low-power VLSI-based sensing and control circuits.

Motor Control Unit (MCU)

- Manages torque, speed, and power efficiency.
- Uses real-time digital signal processing (DSP) blocks in VLSI.

Power Electronics Interface

VLSI-based gate drivers and power controllers optimize inverter efficiency.

Vehicle Monitoring System

Integrates IoT-enabled VLSI chips for remote monitoring and diagnostics. Energy-Efficient VLSI Design Techniques

Low-Power CMOS Design: Reduces static and dynamic power consumption.

Clock Gating & Power Gating: Disables unused circuit blocks to save energy.

Voltage Scaling: Dynamic Voltage and Frequency Scaling (DVFS) adjusts performance as per workload.

System-On-Chip Integration: Combines multiple EV subsystems on a single chip to minimize power loss.

Approximate Computing: Allows minor computation trade-offs to save power in non-critical modules.



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DEPARTMENT OF
ELECTRICAL AND ELECTRONICS ENGINEERING
In Collaboration with
Teks Academy (TP of IIT Guwhati)
Expert Talk



Advantages of VLSI-Based EV Monitoring Systems

- Increased energy efficiency leading to extended driving range.
- Enhanced safety and reliability with real-time fault detection.
- Miniaturization reduces system weight and cost.
- Support for AI/ML integration in smart EVs for predictive maintenance.

Conclusion

Energy-efficient VLSI solutions are transforming the control and monitoring systems of electric vehicles by offering compact, reliable, and low-power designs. These innovations directly contribute to extending EV driving range, ensuring safety, and supporting advanced functionalities such as predictive maintenance and smart charging. As EV adoption accelerates, VLSI technology will remain a cornerstone in shaping the next generation of sustainable and intelligent mobility solutions. It was indeed a successful expert talk completed for which we express our sincere thanks to our management, HOD of EEE department, Dr. T Anil Kumar.

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EXPERT TALK: From Smart Ideas to Smart Grids: Turning Innovation into Impact in the Energy Sector

Name of the Event: "From Smart Ideas to Smart Grids: Turning Innovation into Impact in the Energy Sector".

Target Audience: EEE, III year, B. Tech Students

No. of Participants: 180

Program Coordinator/Organizer: Dr. A. Ajitha

Designation: Assistant Professor,

Faculty Advisor, IEEE-Power and Energy Society (PES) Chapter,

Resource Person(s): Dr. VSK Murthy Balijepalli, CEO, Luces Innovation; Secretary, IEEE R-10 PES; Chair, IEEE PES/PELS/IAS Joint Chapter, Hyderabad Section.

Professional Chapter: IEEE-Power and Energy Society (PES) chapter, Anurag University.

Venue: E-Block Auditorium

Dates: 16th September, 2025 (10:00 AM – 1:00 PM)

Description of the event:

The IEEE PES Chapter, Department of Electrical and Electronics Engineering (EEE), Anurag University, successfully organized an Expert Talk titled "From Smart Ideas to Smart Grids: Turning Innovation into Impact in the Energy Sector" on 16th September 2025 at the E-Block Auditorium. The session was delivered by Dr. VSK Murthy Balijepalli, CEO of Luces Innovation, Secretary IEEE R-10 PES, and Chair of IEEE PES/PELS/IAS Joint Chapter, Hyderabad Section.

This expert talk was aimed at III-year students, providing them valuable insights into the transformation of innovative ideas into impactful solutions in the energy sector, with a focus on smart grids, renewable integration, and technological advancements. The session emphasized how innovation can be scaled to create real-world impact in power and energy systems, aligning with future industry needs. Students had the opportunity to interact with the resource person and gained perspectives on research, entrepreneurship, and innovation pathways in the domain of smart grids and energy systems. The talk served as a platform to inspire students toward innovation-driven careers and projects. The expert also emphasized

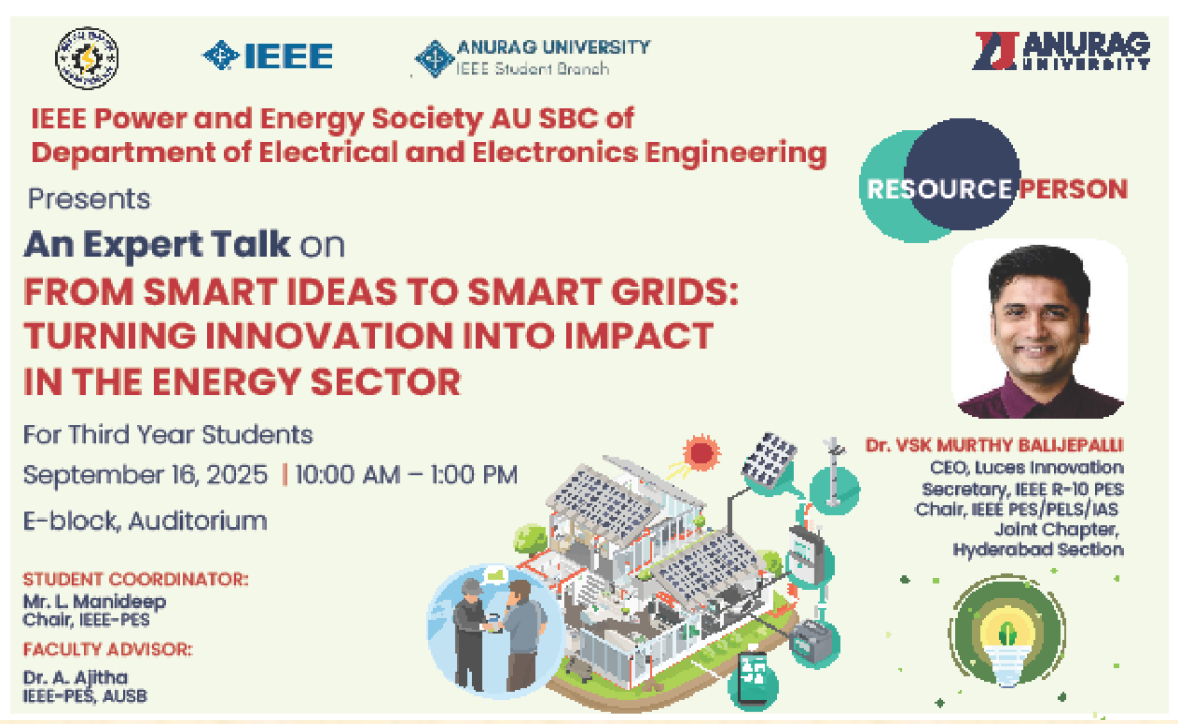
the benefits of being an IEEE member, highlighting how active participation provides students with access to global knowledge resources, professional networks, and opportunities that are vital for academic and career growth.

Testimonial from Organizer:

The Expert Talk on 'From Smart Ideas to Smart Grids: Turning Innovation into Impact in the Energy Sector' was an enlightening experience for both students and faculty. Dr. VSK Murthy Balijepalli's engaging session bridged the gap between academic knowledge and industry practices, encouraging students to think beyond theory and towards impactful innovation. His insights on smart grids, renewable energy, and entrepreneurship deeply resonated with the students and inspired them to explore new opportunities in the energy sector.
We extend our sincere gratitude to Prof. Vijaya Kumar, Dean-SoE, AU, and Prof. T. Anil Kumar, HoD, EEE, AU, for their support in facilitating this event, and we remain committed to hosting more such initiatives under the IEEE PES Chapter to guide students toward innovation and industry readiness.



Expert Dr VSK Murthy Balijepalli delivering talk





Group photo of students with the Expert from Industry

Expert talk is for the awareness of Essential Skill Sets for the Modern Electrical Engineer: Core, Coding, and Beyond, Anurag University, Hyderabad

Date: 16th Sept, 2025
Time: 2:00 PM - 3:45 PM
No. of Participants: 151

Resource Person: Dr. Preeti Dahiya Skill Assistant Professor (Electrical Engineering),Shri Vishwakarma Skill University, Haryana

HOD: Dr. T.Anil Kumar

Venue: D-Block auditorium, Anurag University
Faculty Members: M.Lalu, Dr.P.Harish

Expert talk arranged for IIIrd & IInd year EEE students at Anurag University,Venkatapur.

The theme behind the expert talk is for the awareness of Essential Skill Sets for the Modern Electrical Engineer: Core, Coding, and Beyond.

About 101 students of IIIrd & IInd Year, on a study of Electric Vehicle Technology the expert talk is conducted on behalf of HOD on 16th September 2025, 2:00 pm to 3:45pm.In this session we have learn Electrical engineering has always been one of the most dynamic and impact branches of engineering. In the modern era, rapid technological advancements in automation, renewable energy, artificial intelligence, smart grids, and electronics demand that electrical engineers acquire not just strong core technical knowledge but also versatile skills beyond traditional boundaries.

This report outlines the essential skill sets every aspiring electrical engineer must develop to remain competitive, innovative, and future-ready.

1.Core Engineering Skills
These form the foundation of an electrical engineer's expertise:

Circuit Analysis & Design – Mastery of AC/DC circuits, transient analysis, and power electronics.

Electromagnetic – Understanding the principles behind motors, transformers, antennas, and transmission lines.

Power Systems – Knowledge of generation, transmission, distribution, and protection of electrical networks.

Control Systems – Concepts of feedback, stability, PID controllers, and real-time control.

Measurement & Instrumentation – Skills in sensors, transducers, and data acquisition systems.

Renewable Energy Systems – Basics of solar, wind, and smart grid integration.

2. Coding and Computational Skills

Modern engineering problems demand programming and computational modeling. Key coding skills include:

Programming Languages – Python, MATLAB, and C/C++ for simulation and automation.

Embedded Systems Programming – Working with microcontrollers (Arduino, PIC, STM32) and FPGAs.

Simulation Tools – MATLAB/Simulink, PSpice, ANSYS, and ETAP.

Data Analysis & AI/ML – Using Python libraries (NumPy, Pandas, TensorFlow) for predictive maintenance and smart applications.

Automation & IoT – Knowledge of communication protocols (MQTT, Modbus) and IoT platforms for smart devices.

3. Interdisciplinary Skills

Electrical engineers increasingly work across domains. Important skills include:

Electronics & Communication Basics – Understanding VLSI, digital signal processing, and wireless communication.

Cybersecurity Awareness – Protecting smart grids and IoT systems from vulnerabilities.

Sustainability Knowledg**e** – Designing energy-efficient and eco-friendly systems.

Conclusion:

The modern electrical engineer must balance strong core technical knowledge with coding, computational, and interdisciplinary skills. Beyond technical proficiency, communication, problem-solving, and ethical responsibility are crucial to thrive in a rapidly evolving industry.By embracing these skill sets, students of electrical engineering can shape themselves into versatile professionals who are not just job-ready but also capable of driving innovation for a sustainable and technologically advanced future.Develop teamwork and leadership through group projects. It was

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indeed a successful expert talk completed for which we express our sincere thanks to our management, HOD of EEE department, Dr. T Anil Kumar.



Policy Initiative

"International Conference on Green Technology Policy & Finance 4.0"

Date: 5th December, 2025
Time: 10 AM - 5 PM
No. of Participants: 50

The Department of Electrical and Electronics Engineering (EEE) organized **an outreach programme** for students by facilitating their participation in the **"International Conference on Green Technology, Policy & Finance 4.0"** under **ISTE student chapter** in collaboration with **Renewable Energy Innovation Club**. This conference was an important global event centered on green energy, sustainable development, and the policies and financial models required to support the transition to renewable energy systems. As electrical engineering is deeply connected to power generation, energy systems, and emerging clean technologies, attending this event helped students understand the real-world relevance of their academic subjects.

The outreach programme aimed to expose students to new technological developments, industrial insights, and global environmental goals. It was also designed to encourage them to think beyond textbooks and understand the role of engineers in solving global challenges like climate change, energy shortages, and environmental degradation. The event provided students with an inspiring environment where they could learn directly from policymakers, entrepreneurs, researchers, and industry leaders.

Students attended presentations, panel discussions, and expert talks throughout the conference. The inaugural session introduced them to the global need for clean energy and how climate change is influencing modern engineering decisions. This helped students understand why the shift to renewable energy is urgent and how engineers play a key role in designing and maintaining sustainable power systems.

Technical sessions were among the most valuable parts of the event. Experts discussed recent developments in solar technologies, energy storage, grid modernization, and the role of artificial intelligence in improving energy efficiency. Many of these topics are part of the EEE curriculum, and hearing them explained through industrial examples helped Students Bridge the gap between theory and practice. Students learned

how power electronics are used to integrate renewable energy with the grid, how smart meters work, and how digital technologies improve energy management.

Industry and startup exhibits gave students the opportunity to see live demonstrations of green technologies. Partners such as innovation hubs and cryogenics companies showcased prototypes, energy-efficient devices, monitoring tools, and other engineering solutions. Students interacted with entrepreneurs and engineers, asking questions about technology development, testing, and implementation. This hands-on exposure strengthened their understanding of engineering concepts.

The conference also included sessions led by international representatives. Through these discussions, students learned about the energy policies of different countries, global research collaborations, and international green technology markets. They gained valuable knowledge about how electrical engineers are in demand worldwide for roles related to renewable power plants, grid management, electric vehicles, and sustainable infrastructure.

The outreach programme resulted in several positive outcomes for students.

- It greatly improved their technical knowledge.
- The programme increased students' interest in research and innovation. Many expressed enthusiasm about starting mini-projects or final year projects related to energy efficiency, solar power or smart grid technologies.
- The outreach programme enhanced professional skills such as communication, teamwork, and confidence. By attending sessions, asking questions, and interacting with experts, students improved their ability to engage in technical discussions and present themselves in professional environments.

In conclusion, participation in the International Conference on Green Technology, Policy & Finance 4.0 was an enriching and meaningful experience for students. The outreach programme successfully fulfilled its objective of exposing students to the real-world applications of electrical engineering in the field of sustainable development. It provided them with valuable learning, global awareness and inspiration to contribute to the future of clean and renewable energy. The event helped students

understand their role as future engineers in shaping a greener and more sustainable world.

Digital Documentation of the Event:



Group Photo of Students at "International Conference on Green Technology, Policy & Finance 4.0"



Telangana Governor Shri Jishnu Dev Varma addressing the International Conference



Students visiting the exhibits during the conference

National Education Policy (NEP-2020)

Report on Poster Competition on National Education Policy (NEP) -2020

The Department of Electrical and Electronics Engineering (EEE), under the IEI Professional Chapter, organised a Poster Competition on NEP-2020 on 24 September 2025. The event encouraged students to creatively explore the policy's objectives, including holistic education, skill development, multidisciplinary learning, research, and innovation, promoting awareness of educational reforms.

Further details are provided under *Policy Development for Clean Energy*.

Faculty Development Program on "Next Generation Power Electronics For Grid Modernization And Electric Mobility"

(Online mode)

From: 17/06/2025 to 21/06/2025

Overview of the FDP

- Acquire a comprehensive understanding of next generation power electronics technologies, including SiC/GaN devices, smart grids, and EV powertrains.
- Enhance their ability to design, model, and simulate advanced power converters and battery management systems.
- Apply FDP learnings to improve curriculum delivery and initiate high-impact research in power electronics and grid modernization.
- Foster collaborations with industry and research organizations for joint projects, funding opportunities, and knowledge exchange.
- Enable faculty participants to contribute towards policy development in their professional capacity

Schedule

S. No	Date	Morning Session (10:00 AM to 11:30 AM)	Afternoon Session (2:00 PM to 3:30 PM)
1	17/06/2025	Dr. K.Anil Naik Assistant Professor, EEE Department, NIT Warangal Topic: Recent trends in PV Solar Systems	Dr. Kaibalya Prasad Panda Assistant Professor, Department of Electrical Engineering. Pandit Deendayal Energy University, Gandhinagar, Gujarat Topic: Power Management and Control in Solar PV Battery Interfacing Grid Tied Systems
2	18/06/2025	Dr. V Sandeep Assistant Professor, EEE Dept., NIT, AP Topic: Emerging Technologies in Electric Vehicles	Dr. K Sateesh Kumar Assistant Professor, Dept. of EEE, NIT, Tiruchirappalli, Tamil Nadu Topic: Grid-Connected Converters for Solar-PV Systems
3	19/06/2025	Dr. Obbu Chandra Sekhar, Professor, EEE Department, NIT, New Delhi Topic: Hybrid Electric Vehicle-Progress in the Era of 21 Century	Dr. Surya Prakash Assistant Professor, Department of Electrical Engineering, NIT Jamshedpur Topic: Design and Modeling of a Grid Tied Inverter for PV Applications
4	20/06/2025	Mr. Era Bajpai Application Engineer at Quarbz Info Systems Topic: Typhoon HIL-Advancements and Possibilities in Grid Modernization	Mr. Shivam Srivastava Application Engineer at Quarbz Info Systems Topic: Typhoon HIL-Advancements and Possibilities in Grid Modernization
5	21/06/2025	Mr. Era Bajpai Application Engineer at Quarbz Info Systems Topic: Typhoon HIL-Advancements and Possibilities in Electric Mobility	Mr. Era Bajpai Application Engineer at Quarbz Info Systems Topic: Typhoon HILL-Advancements and Possibilities in Electric Mobility

REGISTRATION FORM

Next Generation Power Electronics for Grid Modernization and Electric Mobility (Online Mode)

17th June- 21st June 2025

Name :

Gender : Male / Female

Department :

Institution :

Address for Communication:

Pin code :

Phone No. :

Mobile :

E-mail id :

Declaration:

The given information is true to the best of my knowledge. I agree to abide by the rules and regulations governing the program.

Signature of the Participant

Signature of HOD/ Head of the Institution

Registration Link

https://forms.gle/iwY6AsQCvxUwLjzV6

*Certificate: e-certificate will be given to all the participants who will attend for all the days

CONTACT:

Mr. P. Manohar -9676422012

Mr. G. Srikar- 7032518223

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Chairman, AU
Mrs. S. Neelima,
CEO, AU

Patron

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Dr. S. Satees Kumaran, Dean R&D, AU
Dr. T. Anil Kumar, HoD EEE, AU

Convener

Dr. B. Srikanth Goud
Associate Professor

Co- Convener

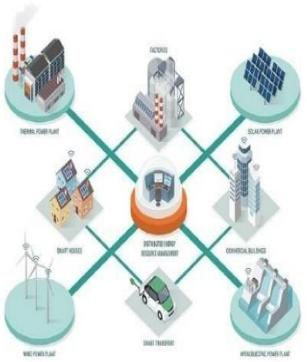
Dr. P. Harish
Associate Professor

Organizing Committee

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Mr. Koteshwar Rao, Assistant Professor

A Five-Day National Level FDP
on
Next Generation Power Electronics for Grid Modernization and Electric Mobility (Online Mode)

17th June- 21st June 2025



In collaboration with
Typhoon HIL Quarbz Info Systems
Organized by

ANURAG UNIVERSITY

Department of Electrical and Electronics Engineering
Venkatpur, Ghatkesar, Medchal-Malkajgiri District, Hyderabad, Telangana, India-5000 88

ANURAG UNIVERSITY

A PANEL DISCUSSION ON

"Women Empowerment and Gender Equality for Inclusive Growth in the Clean Energy Transition in the Emerging Power Sector"

Date: 8th December 2025

Venue: Anurag University, Hyderabad

Mode: Hybrid (Offline & Online)

Target Audience:

B. Tech Students, Research Scholars, Faculty Members, and Industry Professionals

Program Coordinator / Organizer:

Dr. A. Ajitha

Assistant Professor & Faculty Advisor – IEEE PES Student Chapter

Department of EEE, Anurag University

Professional Chapter: IEEE Power and Energy Society (PES) Student Chapter, Anurag University

Venue: Anurag University, Hyderabad

Date & Time: 8th December 2025 | 11:00 AM – 1:00 PM

Panelists:

1. Prof. Phanisree – HoD, EEE, JNTUH

2. Prof. Sudha Radhika – Associate Professor, EEE, BITS Pilani, Hyderabad Campus

3. Mrs. Sowjanya Bonda – Founder & Senior Consultant, AND Consulting

4. Dr. V. S. K. Murthy Balijepalli – Secretary, IEEE R10 PES; Chair, IEEE PES/PELS/IAS Joint Chapter, Hyderabad Section

Description of the Event:

The IEEE PES Student Chapter, Department of Electrical and Electronics Engineering, Anurag University successfully organized a panel discussion titled "Women Empowerment and Gender Equality for Inclusive Growth in the Clean Energy Transition in the Emerging Power Sector" on 8th December 2025 as part of IEEE PES ECE Week, supported by the IEEE PES Expanding Collaboration and Engagement Committee.

The session aimed to create awareness on the role of women in clean energy transition and to address gender gaps in technical and leadership domains. The panel brought together experts from academia, research, entrepreneurship, and professional bodies to share diverse perspectives.

The discussion was structured into thematic rounds covering challenges, opportunities, leadership development, entrepreneurship, and future strategies. The interactive format enabled meaningful engagement with participants.

The event significantly strengthened awareness on gender equality, leadership, and sustainability in the energy sector and aligned well with IEEE PES objectives.

Organizer's Note:

The panel discussion was highly impactful and motivating for students and faculty. The valuable insights shared by the panelists encouraged young engineers to pursue leadership roles in clean and sustainable energy domains. The event successfully promoted inclusivity, sustainability, and professional growth.




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IEEE POWER AND ENERGY SOCIETY
AU SBC OF DEPT. OF EEE
PRESENTS
A PANEL DISCUSSION







ANURAG UNIVERSITY

Industrial Visit to Power Grid Corporation of India Limited

Date: 20th December, 2025

Time: 10 AM – 1 PM

Venue: Hyderabad

No. of Participants: 62

The ISTE student chapter of Electrical and Electronics Engineering department of Anurag University was organized an industrial visit to Power Grid Corporation of India Limited, Ghanpur, Hyderabad 20th December, 2025. Total 52 students from III year EEE were participated in the event.

PGCIL is a Government of India enterprise and one of the largest power transmission companies in the world. It plays a major role in transmitting electricity from generating stations to distribution networks across the country. Visiting such a reputed organization helped the students to gain practical knowledge and understand the responsibilities of electrical engineers in the power sector.

The objective of the visit to understand the structure and functioning of substations, safety measures followed in high-voltage environments, and the use of advanced technologies in power transmission. The visit also helped the students to learn about career opportunities in PGCIL and the skills required to work in the power sector.

One of the major highlights of the visit was the tour of the electrical substation. The engineers explained how substations are used to step up or step down voltage levels for efficient power transmission. High voltage transmission reduces power losses over long distances.

Students observed various voltage levels used in the substation such as 400 kV and 220 kV systems. The layout of the substation was well organized, and different equipment was clearly labeled. This helped students to relate textbook knowledge and actual equipment. During the visit, students saw many important electrical components used in substations. These included power transformers, circuit breakers, isolators, current transformers (CTs), potential transformers (PTs), lightning arresters, and bus bars.

The engineers explained the function of each component in simple terms. For example, circuit breakers are used to interrupt fault currents, isolators are used for maintenance purposes, and lightning arresters protect equipment from voltage surges. Seeing these components physically helped students to understand their size, construction and operation.

Late students were taken to the control room, which is the heart of the substation. The control room is equipped with control panels, relays, monitoring systems, and communication devices. Engineers monitor voltage, current, frequency, and power flow continuously from the control room.

Safety is given top priority in PGCIL. The engineers explained various safety measures followed in substations, such as proper earthing, use of protective equipment, safety clearances and warning signs. The interaction with experienced PGCIL engineers was very informative. They shared their practical experiences, challenges faced in power transmission, and solutions adopted. They also explained the qualifications, skills, and competitive exams required to join PGCIL.



The engineers motivated the students to focus on core subjects and practical knowledge. They encouraged them to develop strong fundamentals in power systems, protection and high-voltage engineering.

This industrial visit helped students to gain practical knowledge about power transmission systems. They were able to understand the real-time application of electrical engineering concepts such as load flow, fault analysis, protection and control. The visit improved the knowledge of students in understanding of substations, equipment operation, and safety practices. It also gave them exposure to industrial discipline, teamwork, and professional responsibilities.

Students expressed their heartfelt thanks to the management and staff of the Power Grid Corporation of India Limited for their warm welcome and informative session. Special thanks to the engineers who took the time to explain the various aspects of the transmission grid in great detail. Students also thanked the University management, Dean-SoE and HOD-EEE for organizing the visit and providing the opportunity to experience the operation of a real-world power grid system.

ANURAG UNIVERSITY

A TWO-DAY WORKSHOP ON
MASTERING PCB DESIGN: FROM CONCEPT TO CREATION

Date: 19th and 20th February 2025

Venue: A-Block room no-417, Anurag University
No. of Participants: 46

About the event:

The **IEEE PES Chapter, Department of Electrical and Electronics Engineering (EEE), Anurag University**, successfully organized a two-day hands-on workshop, **"Mastering PCB Design: From Concept to Creation,"** for students. The workshop was held on **19th & 20th February for Section B**, from **9:30 AM to 4:00 PM**.

This workshop was designed to equip students with **practical skills in embedded systems, circuit simulation, and PCB fabrication**—essential competencies for both academic projects and competitive platforms like hackathons.

On **Day 1**, students explored **embedded systems, sensors, and processing units**, followed by **circuit simulation using Tinkercad and EasyEDA**. On **Day 2**, they moved on to a fully immersive hands-on session, where they **designed schematics, soldered components, and assembled PCB modules using Arduino and various sensors**. This experience provided valuable insights into **PCB fabrication, circuit debugging, and real-world applications**, enhancing their **technical proficiency and problem-solving skills**.

The **IEEE PES Chapter remains committed to fostering industry-relevant expertise** through practical, skill-oriented training, ensuring that students are well-prepared to design and fabricate PCBs for their **mini and major projects, as well as competitions like hackathons**.

Testimonial from Organizer:

The **"Mastering PCB Design: From Concept to Creation"** workshop, organized under the IEEE PES Chapter, was an incredibly rewarding experience. Designed to provide III-year EEE students with hands-on exposure to **embedded systems, circuit simulation, and PCB fabrication**, the workshop exceeded expectations with enthusiastic participation and deep engagement from the students. Through immersive sessions using **Tinkercad, EasyEDA, and Arduino-based PCB module development**, students were able to bridge the gap between theoretical knowledge and real-world applications. Witnessing them confidently **design, solder, and troubleshooting their own circuits** was truly fulfilling. More importantly, this workshop equips students with the skills to **design and fabricate their own PCBs for mini and major projects, as**

well as competitions like hackathons—a crucial step toward innovation and industry readiness.

We are committed to bringing more skill**-oriented workshops** to empower students with practical expertise that aligns with industry demands. A heartfelt thanks to **Prof. Vijaya Kumar, Dean-SoE, AU, and Prof. T. Anil Kumar, HoD, EEE, AU**, for their unwavering support in facilitating this initiative and providing students with opportunities to explore and excel in cutting-edge technologies.



Hands on session on PCB design


Participants


Student Exe-Com of IEEE-PES chapter, AU

Policy Development for Clean Energy

Policy Initiative
"International Conference on Green Technology Policy & Finance 4.0"
Date: 5th December, 2025
Time: 10 AM - 5 PM
No. of Participants: 50

The Department of Electrical and Electronics Engineering (EEE) organized **an outreach programme** for students by facilitating their participation in the **"International Conference on Green Technology, Policy & Finance 4.0"** under **ISTE student chapter** in collaboration with **Renewable Energy Innovation Club**. This conference was an important global event centered on green energy, sustainable development, and the policies and financial models required to support the transition to renewable energy systems. As electrical engineering is deeply connected to power generation, energy systems, and emerging clean technologies, attending this event helped students understand the real-world relevance of their academic subjects.

The outreach programme aimed to expose students to new technological developments, industrial insights, and global environmental goals. It was also designed to encourage them to think beyond textbooks and understand the role of engineers in solving global challenges like climate change, energy shortages, and environmental degradation. The event provided students with an inspiring environment where they could learn directly from policymakers, entrepreneurs, researchers, and industry leaders.

Students attended presentations, panel discussions, and expert talks throughout the conference. The inaugural session introduced them to the global need for clean energy and how climate change is influencing modern engineering decisions. This helped students understand why the shift to renewable energy is urgent and how engineers play a key role in designing and maintaining sustainable power systems.

Technical sessions were among the most valuable parts of the event. Experts discussed recent developments in solar technologies, energy storage, grid modernization, and the role of artificial intelligence in improving energy efficiency. Many of these topics are part of the EEE curriculum, and hearing them explained through industrial examples helped Students Bridge the gap between theory and practice. Students learned how power electronics are used to integrate renewable energy with the

grid, how smart meters work, and how digital technologies improve energy management.

Industry and startup exhibits gave students the opportunity to see live demonstrations of green technologies. Partners such as innovation hubs and cryogenics companies showcased prototypes, energy-efficient devices, monitoring tools, and other engineering solutions. Students interacted with entrepreneurs and engineers, asking questions about technology development, testing, and implementation. This hands-on exposure strengthened their understanding of engineering concepts.

The conference also included sessions led by international representatives. Through these discussions, students learned about the energy policies of different countries, global research collaborations, and international green technology markets. They gained valuable knowledge about how electrical engineers are in demand worldwide for roles related to renewable power plants, grid management, electric vehicles, and sustainable infrastructure.

The outreach programme resulted in several positive outcomes for students.

- It greatly improved their technical knowledge.
- The programme increased students' interest in research and innovation. Many expressed enthusiasm about starting mini-projects or final year projects related to energy efficiency, solar power or smart grid technologies.
- The outreach programme enhanced professional skills such as communication, teamwork, and confidence. By attending sessions, asking questions, and interacting with experts, students improved their ability to engage in technical discussions and present themselves in professional environments.

In conclusion, participation in the International Conference on Green Technology, Policy & Finance 4.0 was an enriching and meaningful experience for students. The outreach programme successfully fulfilled its objective of exposing students to the real-world applications of electrical engineering in the field of sustainable development. It provided them with valuable learning, global awareness and inspiration to contribute to the future of clean and renewable energy. The event helped students

understand their role as future engineers in shaping a greener and more sustainable world.

Digital Documentation of the Event:



Group Photo of Students at "International Conference on Green Technology, Policy & Finance 4.0"



Telangana Governor Shri Jishnu Dev Varma addressing the International Conference



Students visiting the exhibits during the conference

National Education Policy (NEP-2020)
Report on Poster Competition on National Education Policy (NEP) - 2020
Date: 24th September 2025
Venue: A-Block 422, Seminar Hall, Anurag University

The Department of Electrical and Electronics Engineering (EEE), Anurag University under the IEI Professional Chapter in collaboration with NEP-2020, organized a Poster Competition on the National Education Policy (NEP-2020) on 24th September 2025. The event was conducted as part of the NEP-2020 awareness initiative to encourage students to creatively express their understanding of the policy's vision and objectives.

The event was graced by Dr. K. Sudheer Reddy, Dean – Academics and Planning, who served as the Judge for the competition. In his address, Dr. Sudheer Reddy appreciated the students for their enthusiastic participation and highlighted the importance of NEP-2020 in transforming the Indian education system through flexibility, innovation, and multidisciplinary learning.

A total of 32 registrations have been done out of which 14 students from various departments actively participated and presented visually appealing posters depicting themes such as holistic education, skill-based learning, research and innovation, and the role of technology in NEP-2020 implementation. The posters were evaluated based on content relevance, creativity, visual appeal, and clarity of message.

Prizes were awarded to the best entries — First Prize (₹1000) and Two Second Prizes (₹500 each).

The event concluded with remarks from the Head of the Department (EEE), who appreciated the efforts of the organizing team, faculty coordinators, and students for making the event a success. The competition served as an effective platform to enhance students' awareness and understanding of NEP-2020 through artistic and intellectual expression.

A heartfelt appreciation is extended to the NEP SAARATHI's and the IEI Coordinator Mr. M. Lalu, Assistant Professor, Department of EEE for their consistent support, coordination, and active involvement in successfully implementing this NEP-2020 initiative.

A heartfelt appreciation is extended to the NEP SAARATHI's and the IEI Coordinator Mr. M. Lalu, Assistant Professor, Department of EEE for their consistent support, coordination, and active involvement in successfully implementing this NEP-2020 initiative.











Prizes were awarded to the best entries

Faculty Development Program on
"Next Generation Power Electronics For Grid Modernization And Electric Mobility" (Online mode)

From: 17/06/2025 to 21/06/2025

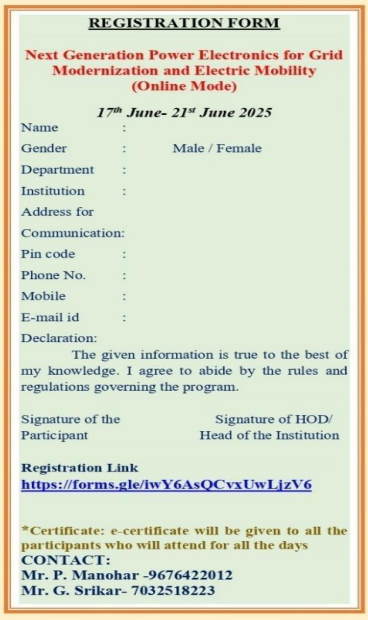
Overview of the FDP

- Acquire a comprehensive understanding of next generation power electronics technologies, including SiC/GaN devices, smart grids, and EV powertrains.
- Enhance their ability to design, model, and simulate advanced power converters and battery management systems.
- Apply FDP learnings to improve curriculum delivery and initiate high-impact research in power electronics and grid modernization.
- Foster collaborations with industry and research organizations for joint projects, funding opportunities, and knowledge exchange.
- Enable faculty participants to contribute towards policy development in their professional capacity

Schedule

S. No	Date	Morning Session (10:00 AM to 11:30 AM)	Afternoon Session (2:00 PM to 3:30 PM)
1	17/06/2025	Dr. K.Anil Naik Assistant Professor, EEE Department, NIT Warangal Topic: Recent trends in PV Solar Systems	Dr. Kaibalya Prasad Panda Assistant Professor, Department of Electrical Engineering. Pandit Deendayal Energy University, Gandhinagar, Gujarat Topic: Power Management and Control in Solar PV Battery Interfacing Grid Tied Systems
2	18/06/2025	Dr. V Sandeep Assistant Professor, EEE Dept., NIT, AP Topic: Emerging Technologies in Electric Vehicles	Dr. K Sateesh Kumar Assistant Professor, Dept. of EEE, NIT, Tiruchirappalli, Tamil Nadu Topic: Grid-Connected Converters for Solar-PV Systems
3	19/06/2025	Dr. Obbu Chandra Sekhar, Professor, EEE Department, NIT,	Dr. Surya Prakash

		New Delhi Topic: Hybrid Electric Vehicle-Progress in the Era of 21 Century	Assistant Professor, Department of Electrical Engineering, NIT Jamshedpur Topic: Design and Modeling of a Grid Tied Inverter for PV Applications
4	20/06/2025	Mr. Era Bajpai Application Engineer at Quarbz Info Systems Topic: Typhoon HIL-Advancements and Possibilities in Grid Modernization	Mr. Shivam Srivastava Application Engineer at Quarbz Info Systems Topic: Typhoon HIL-Advancements and Possibilities in Grid Modernization
5	21/06/2025	Mr. Era Bajpai Application Engineer at Quarbz Info Systems Topic: Typhoon HIL-Advancements and Possibilities in Electric Mobility	Mr. Era Bajpai Application Engineer at Quarbz Info Systems Topic: Typhoon HILL-Advancements and Possibilities in Electric Mobility



REGISTRATION FORM

Next Generation Power Electronics for Grid Modernization and Electric Mobility (Online Mode)

17th June- 21st June 2025

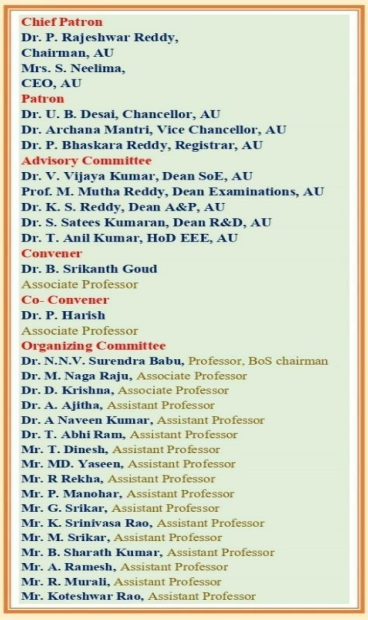
Name :
Gender : Male / Female
Department :
Institution :
Address for Communication:
Pin code :
Phone No. :
Mobile :
E-mail id :

Declaration:
The given information is true to the best of my knowledge. I agree to abide by the rules and regulations governing the program.

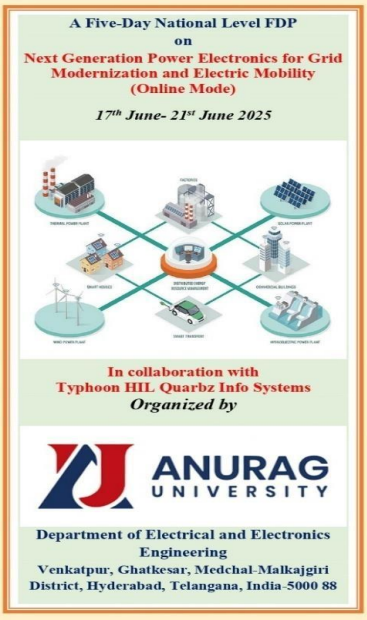
Signature of the Participant
Signature of HOD/ Head of the Institution

Registration Link
https://forms.gle/iwY6AsQCvxUwLjzV6

*Certificate: e-certificate will be given to all the participants who will attend for all the days
CONTACT:
Mr. P. Manohar -9676422012
Mr. G. Srikar- 7032518223



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Mr. Koteshwar Rao, Assistant Professor



A Five-Day National Level FDP on
Next Generation Power Electronics for Grid Modernization and Electric Mobility (Online Mode)

17th June- 21st June 2025

In collaboration with
Typhoon HIL Quarbz Info Systems
Organized by

ANURAG UNIVERSITY

Department of Electrical and Electronics Engineering
Venkatpur, Ghatkesar, Medchal-Malkajgiri District, Hyderabad, Telangana, India-5000 88

Report on Start-up Support for Low Carbon Technology

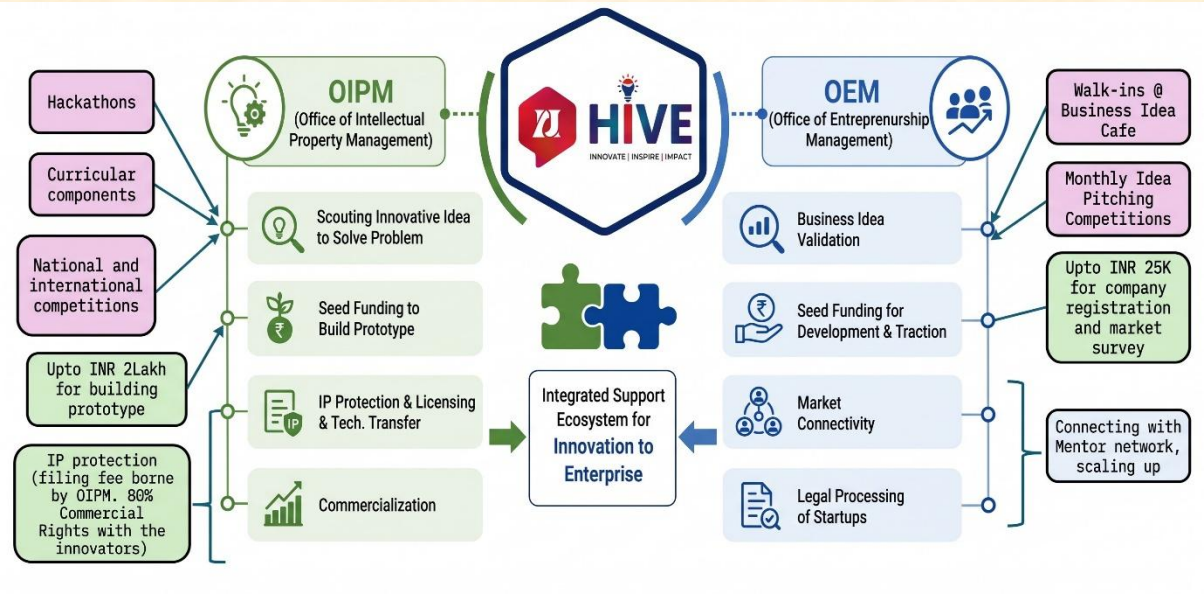
Harnessing Innovation, Vision and Entrepreneurship (HIVE)

HIVE is Anurag University's ecosystem for fostering innovation, entrepreneurship, collaboration, and intellectual property creation. It's a space where students, faculty, staff, industry experts, mentors, and entrepreneurs come together as one hive mind, cross-pollinating ideas and turning individual sparks into collective momentum.

HIVE doesn't just support innovation; it architects the entire journey. With robust Intellectual Property Management, hands-on prototyping facilities, dynamic entrepreneurship and incubation programs, and the strategic backing of the Institute Innovation Council, every innovator has the structure, mentorship, and momentum to move forward with confidence.

From the first spark of an idea to a fully scaled venture ideation, prototyping, incubation, acceleration, and scaling, HIVE is the engine that carries the entire distance. Whether it’s a first-time student founder testing the first prototype or a seasoned mentor building the next big venture, HIVE meets all the expectations and requirements.

Process and Ecosystem of Innovation and Entrepreneurship



Startup Stories in Renewable Energy & Related Segments

Sector	Number of Startups	Name of the Startups
Automotive & Mobility	2	• Gear Head Motors Pvt Ltd, • Secure Savers LLP
EdTech & CareerTech	2	• Campx Edutech Pvt Ltd, • Nexus Careers LLP
HealthTech & AssistiveTech	5	• Vaishrutha Innovations LLP, • Assist Link LLP, • Visionarc Technologies LLP, • Rx Shield LLP, • VitalEdge HealthTech LLP
Construction & CivilTech	3	• Siddhi Dynamics LLP, • CivilCode TechWorks LLP, • PaveSense InfraTech LLP
AgriTech & FoodTech	8	• Heliofresh Organic LLP, • VizFarm Tech LLP, • Solar PV Power LLP, • AquacultureX, • AgriVolt Protection Systems LLP, • SmartHarvest Robotics LLP, • EkamTwin Digital Systems LLP, TobaccoVision Analytics LLP
IoT & AI & Robotics	3	• Anurag-SAPNA IoT Solutions Pvt Ltd, • Automowton LLP, • EcoGenie Smart Solutions LLP
SpaceTech & ARVR	2	• Krutrim Space Tech LLP, • SpaceVerse Innovations LLP
Energy & Environmental	4	• Viviclean LLP, • PyroCycle Analytics LLP, • HelioWind TreeTech LLP, • GreenShield EnviroTech LLP
Manufacturing & Materials	1	• SG Paints Pvt Ltd



Gear Head Motors Pvt. Ltd
Develops innovative automotive solutions, vehicle components, and smart mobility technologies for efficient transportation systems.

Founders: Nikhil Gunda & Sai Meher

Annual Turnover: 36 Crore



CircuitSprint

Alumnus, Electrical and Electronics Engineering, Anurag University, Class of 2023

CircuitSprint streamlined PCB fabrication, component integration, assembly, and engineering services for industries across the country.

Pushing the boundaries of safety technology, Sai Shiva, the founder, has directed the development of an advanced multi-sensor battery safety platform. Designed to provide early warnings for thermal and chemical anomalies in high-voltage battery systems, this platform integrates real-time electrolyte-vapor, hydrogen, and temperature monitoring. Today, his work encompasses industrial sensing, embedded systems, flexible heating, and high-reliability hardware—serving as a compelling proof that with technical rigor and vision, engineers can transform complex problems into deployable, domestic technologies that power critical infrastructure.

Founder: S. Sai Shiva Rama Krishna
Founder

Annual Turnover:1 Crore

Start-ups Incubated at HIVE Innovation and Entrepreneurship Centre, Anurag University

#	Startup Name	Student Founders	About Startup
1	Gear Head Motors Pvt Ltd	Nikhil Gunda, Sai Meher	Develops innovative automotive solutions, vehicle components, and smart mobility technologies for efficient transportation systems.
2	SG Paints Pvt.Ltd	Mr. Erroju Sreenivas	Manufactures eco-friendly paints and coating solutions for residential, industrial, and commercial applications.
3	Campx Edutech Private Limited Pvt. Ltd	Ketan Srisai, Narasimha Rao, Sai Srikanth	Provides digital learning, skill development, and educational technology solutions for students and institutions.
4	Vaishrutha Innovations LLP	A. Sravani, Vishnu Vardhan Reddy	This startup developed an innovation named as InCase is an affordable QR-based emergency identification platform that enables instant medical access, rider verification, and AI-powered data entry without requiring any app.
5	Assist Link LLP	Raju Yuva Bhargav Reddy, L. Naresh	Comprehensive care for individuals with disabilities includes medical support, assistive technologies, rehabilitation services, personalized education, and social inclusion programs designed to enhance independence, dignity, and quality of life.
6	Siddhi Dynamics LLP	S. Sai Vara Prasad, Devi Vara Prasad	An automated building plan generator that creates customized construction layouts and cost estimates based on land dimensions, orientation, and user
7	Heliofresh Organic LLP	P. Vaishnavi, CH. Madhu, G. Arnold Joseph, E. Mahesh, P. Rakesh,	Portable solar-powered drying system for vegetables, fruits, and crops that enables controlled temperature and humidity drying, ensuring safe processing while preserving nutritional value.
8	Visionarc Technologies LLP	Rajasree, Meghana, Varun, Rakesh	Provide services like Design and implementation of an autonomous self-driving wheelchair for specially abled individuals that enables safe, intelligent, and independent mobility using sensor-based navigation and obstacle detection systems.
9	VizFarm Tech LLP	C. Vijaya Lakshmi, Sai, Kezaish, Sayyad	A multifunctional paddy harvesting machine that cuts, collects, cleans, and dries rice in a single process, reducing post-harvest losses and ensuring ready-

			to-store grains even during adverse weather conditions.
10	Anurag-SAPNA IoT Solutions Pvt.ltd	Pavitra Basupalli, Devasoth Narendhar Singh	IoT-based technology startup that develops smart, connected solutions using sensor systems and automation to improve efficiency, monitoring, and decision-making across real-world applications.
11	Krutrim Space Tech LLP	Gaddaley Shruthi, Harshini, Shreyas Chanda, Mandari Rakshit Raj, Rujul Rajeev Rumale	It is a space-tech startup focused on developing advanced aerospace and satellite-based solutions to support innovation in space exploration, remote sensing, and related engineering applications.
12	Viviclean LLP	G.Akshaya, M.Tulasi Ranadheer, Sk.Afrin, M.Kiranmai	Provide services to develop a solar-powered smart waste bin that uses sensors to monitor fill levels and send alerts for timely collection, promoting efficient, eco-friendly, and sustainable campus waste management.
13	Automowton LLP	Inavolu Poornadeep Dakamari Yashwanth, M.Tarun Kumar, P.Rishi	The startup provides an AI-powered multifunctional robotics startup developing an intelligent autonomous robot that performs multiple tasks such as lawn mowing, cleaning, watering, transport, and aquatic feeding using smart sensors and AI-based automation.
14	Rx Shield LLP	Meghana Mungelkar Kottari Reshma	Services based on cloud-based clinical decision support platform that provides real-time drug–drug and food–drug interaction alerts with a simple interface and color-coded severity warnings to help healthcare providers make safer, faster, and cost-effective prescribing decisions.
15	Nexus Careers LLP	Varaprasad	AI-powered placement platform that streamlines campus recruitment by automating student data management, resume analysis, verification, and opportunity tracking through a unified, gamified system and admin dashboard.
16	Secure Savers LLP	R.Naga Swetha	A real-time tanker tracking and geofencing solution that monitors routes, stops, and deviations while using tamper-proof alerts to prevent fuel theft and unauthorized access.
17	Solar PV Power LLP	A.Ajitha	Provides An AI-enabled solar irrigation system services that uses soil moisture

			sensors and intelligent valve control to regulate water flow efficiently, reducing energy usage and preventing over-irrigation while conserving water for sustainable farming.
18	AquacultureX	Shruthi, Rajeev	AquacultureX provides technology-driven solutions and services for the aquaculture industry, supporting efficient fish farming, monitoring, and sustainable production practices.
19	PyroCycle Analytics LLP	Ch Spoorthi, P Mallikarjuna	Power cycle simulation and energy optimization solutions for industries and research applications.
20	HelioWind TreeTech LLP	S Sai Charan P Shiva kumar Imtiyaz Ch Vinay K Mounika	Compact wind energy systems for sustainable urban and smart city applications.
21	EcoGenie Smart Solutions LLP	Uppari Ganesh Uyyala Gangothri Devarai Yogishwar Kurikuri Akash Sagar Gajapaka Tharun	Smart home automation and energy-saving IoT solutions for efficient living.
22	AgriVolt Protection Systems LLP	Ranjith Kumar Vemmula Sai Manish Dasa Dusari Manideep Saragalla Purnasri	Intelligent motor protection systems for agricultural irrigation and farm equipment.
23	CivilCode TechWorks LLP	R.Joshau P.Sudharshan Kalyan Babu M.Prajwal	Digital tools for civil engineering design, calculations, and project management.
24	PaveSense InfraTech LLP	Malladi Venkata Surya Prakash Rao Bommerla Sai Sankeerth Daida Ankitha	AI-enabled pavement monitoring and predictive road maintenance solutions.
25	SpaceVerse Innovations LLP	Karthik Guntoju Akshith Ambatipudi Prince Sahas Gajjala Arjun Kura Priyanshu Kumar	Interactive space technology learning and simulation platforms using AR and VR.
26	SmartHarvest Robotics LLP	V.Yashwanth Kumar G.Greshmi Ratna Anwesha Sahu M.Srinath Naidu	Precision farming and agricultural automation technologies for modern farming.
27	GreenShield EnviroTech LLP	Marri Joyce Hanan Vulli Thraiambica	Smart environmental monitoring and sustainable waste management solutions.

		Varun Koppula Mandala Sri Amulya	
28	VitalEdge HealthTech LLP	K.R.Keshav	Smart health monitoring and preventive wellness technology solutions.
29	EkamTwin Digital Systems LLP	G.Venkat Charan Ch.Yeshwanth Reddy R.Kiruthisha	Digital twin and smart trade support solutions for agriculture markets.
30	TobaccoVision Analytics LLP	1. K Vishnu Vardhan Reddy 2. Piyush.J 3. A.Sravani	Develops AI-powered tobacco grading and quality assessment solutions using computer vision and machine learning for accurate classification and automated inspection.

ANURAG UNIVERSITY

University Support to Patents in Sustainable Energy Sector

Patents Published in 2025

#	Patent Application No	Title	Inventors
1	202541115661	Compact Dual-Purpose Pelletizing System For Biomass And Feed Applications	1. Mr. Madduri Rajkumar Reddy Assistant Professor, Mechanical Engineering, Anurag University 2. Dr. Srikanth Vadlamudi Assistant Professor, Mechanical Engineering, Anurag University 3. Dr. E. Sadanandam Assistant Professor, Mechanical Engineering, Anurag University 4. Dr. P.Saritha Associate Professor, Mechanical Engineering, Anurag University 5. Dr. N. Madan Mohan Reddy Associate Professor, Mechanical Engineering, Anurag University 6. Dr. K. Srinivasa Chalapathi Associate Professor, Mechanical Engineering, Anurag University
2	202541098501	Smart Solar Energy Optimization and Management System: Shakti	Dr. C. Dastagiraiah, Assistant Professor, CSE Department, Anurag University Dr.G.Vishnu Murthy, Dean & Professor, CSE Department, Anurag University Dr.G.Balram, Assistant Professor, CSE Department, Anurag University Dr.V.Ramakrishna, Assistant Professor, CSE Department, Anurag University PALLE SRI SATWIKA REDDY KUPPURI YASWANTH CHOWDARY VISHWANATH ADITI ARSHITA CHANDALA DEETI RAKSHAN PATEL

3	202541099191	A Nano-Boost Polyethersulfone (PES) Nanocomposite Membrane System for Enhanced Electricity Generation in a Microbial Fuel Cell (MFC)	1.Dr. Swathi Aleti, Assistant professor 2.Dr. Savita Belwal, Professor & Head, dept. of Chemistry, Anurag University. 3.Dr. M. Mukunda Vani, Professor & Head, dept. of Chemical Engg., CBIT. 4.Dr. K. Sandhya, Assistant professor 5.Mr. S. Shankar, Assistant professor
4	202541098487	AI-Enabled Thermal Management System For Enhanced Ev Battery Safety, Efficiency, And Lifespan	1 Mr I VIJAYA KUMAR, Assistant Professor 2 Rekha Rangam, Assistant Professor 3 K Anand Kumar, Assistant Professor 4 D. Ramesh, Assistant Professor 5 T. CHARAN TEJA 6 G. YASHWANTH 7 P. DHEERAJ KUMAR 8 PRAVEEN KUMAR 9 T. SAI KUMAR
5	202541099201	System For Autonomous Multi-Source Energy Harvesting And Self-Reconfigurable Wireless Sensor Network	1 Dr. N. Srikanth, Associate Professor 2 Mr. T. Nageswara Rao, Assistant Professor 3 Mr. K. Murali Chandra Babu, Assistant Professor 4 Mr. Ch. Ravi Teja, Assistant Professor
6	202541070179	Iot-Enabled Real-Time Smart Metering And Slab-Aware Energy Optimization System For Rural And Urban Households	Dr. Rajesh Thumma, DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY

7	202541069081	Solar Based Ploughing, Leveling And Seeding Using DTMF	Dr. Kumar Neeraj Dr.HariKrishna Kamatham Prof. N. Mangala Gouri Praveen Kumar Lendale Dr.P.Lokeshwara Reddy Mrs. M. Swathi Mr.R.Ramprakash Dr.D.Narendar Singh Mrs. S. Poornima P. Vajradhar A. Shanmukh Reddy D.Shivamani
8	202541069177	Real Time Power Theft Monitoring And Detection System Using IOT	Mr. Murali Krishna. M :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Dr.HariKrishna Kamatham :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Prof. N. Mangala Gouri :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Dr.S.Sathees Kumaran :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Praveen Kumar Lendale :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Dr.V.Vinay Kumar :DEPARTMENT OF

			ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Mrs. M Swathi :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Dr Rajesh Thumma :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Mrs.T.Annamani :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY Mr. M. Murali Krishna :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY K. Vaishnavi :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY B. Hari Haran :DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, ANURAG UNIVERSITY
9	202541069188	Energy Harvesting From Swing Motion Using Electromagnetic Induction	Dr. T. Krishnaiah :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY Dr. B P Maddilety :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY

			Dr. S. Naga Kishore :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY Dr. K. Srinivasa Chalapathi :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY Mr. K. Sandeep Kumar :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY Dr N. Madan Mohan Reddy :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY Dr. MD. Sikindar Baba :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY K Sushmitha :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY A.Sai Chandana :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY M. Mohana Krishna :DEPARTMENT OF MECHANICAL ENGINEERING, ANURAG UNIVERSITY
10	202541069193	Two Bladed Savonius Wind Turbine With Optimized Blade Geometry	Dr. S. Naga Kishore Dr. MD. Sikindar Baba Dr. K. Srinivasa Chalapathi Dr.T.Krishnaiah Dr.B.P Maddilety Dr.N.Madan Mohan Reddy Mr.K.Srinivasulu Annam Bhanuprasad Tavutu Sai Sowmith Raj Miryala Balaji Valusa Hrushikesh
11	202541069195	Hybrid Sensing Solar Tracker With Smart	Mrs. A. Neeraja Dr. K. Srinivasa Chalapathi Dr. N. Madan Mohan Reddy

		Control For Off-Grid Agricultural Irrigation	Dr. B.P. Maddilety Y Pawan Kumar Reddy B. Venkat Ramana M. Vamshi Krishna G. Mahendar Reddy G.Sridhar B Nithin Reddy S.Karthikeya P. Aswanth T. Vishnu Vardhan
12	202541069271	AUTOMATIC POWER FAILURE ALERTS FOR ELECTRICAL CONSUMERS BY USING WIRELESS COMMUNICATION SYSTEM	Mr Md Yaseen Mr. T. Dinesh Mr. Ch. Srinivasa Rao Mr. I. Vijaya Kumar Mr. K Srinivasa Rao Dr T Anil Kumar A Manasa J Jyothi Medi Vishnu Vardhan L Praneetha K Bhargavi
13	202541069272	CONDITION MONITORING OF MULTIPLE ELECTRICAL DRIVE SYSTEMS USING Lora WAN MODULE	Dr T Anil Kumar K Srinivasa Rao Prabhulingam Rachuti G. RAJAVARDHAN RAO Shaik Salman P Nithin Goud S Sai Charan Tej
14	202541069276	Smart Pedal Assist Electric Bicycle	Mr. K Srinivasa Rao Mr G Kamalakar Dr P Harish Dr D Krishna Mr MD Yaseen Dr T Anil Kumar D. Suresh B. Deekshith kumar M. Sai Chandra P. Shashank
15	202541070172	IoT-Based Smart Energy Meter	Dr. T. Anil Kumar T. Dinesh MD. Yaseen B.Joseph B.Prabhas P.Gayathri

			G. Sridhar A.Vamshi
16	202541070176	Low-Cost Solar-Powered Iot-Integrated Smart Crop Dryer With Automated Humidity-Based Control	Dr. P. Vishwanath Kumar Dr. A. Muni Tanuja Mr. H. Ameresh Dr. P. Narayan Reddy Dr. K. Srinivasa Chalapathi Mr. K. Srinivas Rao G. Manohar Prasad T. Hithesh G. Arnold Joseph Md. Sajeed K. Koushika E. Mahesh
17	202541070171	Development Of Solar Driven Water Purifier Using Ro And Uf Technologies	Dr. Srikanth Vadlamudi Mr. Madduri Rajkumar Reddy Dr. K. Srinivasa Chalapathi Dr. Md. Sikindar Baba Dr. S. Naga Kishore Mr. K. Sandeep Kumar M. Santhosh Kumar P. Prakash Raj V. Venu
18	202541070173	A Compact Hybrid Vertical Axis Wind Turbine (Vawt) System For Residential And Urban Power Generation	Dr. G. Vishnu Murthy Dr. G. Balakrishna Dr. G. Balram Dr. B. Ravinder Reddy Mr. M. Praveen Kumar Mrs. S. Tejaswi Mrs. K. Rashmi
19	202541070181	Smart Solar Light Trap System For Agricultural Pest Control With Remote Operation And Surveillance Capability	Mr. Ravi Teja CH.V. Prof. N. Mangala Gouri
20	202541043052	A Method Of Thermal Performance Evaluation Of Commercial Scale Circulating	1. Dr.B.P Maddilety, Assistant Professor, Department of Mechanical Engg. 2. Dr. S. Naga Kishore, Assistant Professor, Department of Mechanical Engg.

		Fluidized Bed Combustion (Cfbc) Boiler Using Python Tool	3. Dr. MD. Sikindar Baba, Professor, Department of Mechanical Engg. 4. Dr. K. Srinivasa Chalapathi, Associate Professor, Department of Mechanical Engg. 5. Dr.T.Krishnaiah, Associate Professor, Department of Mechanical Engg. 6. Dr.E.Srinivas, Associate Professor, Department of ECE.
21	202541043053	An Intelligent Solar-Powered Potable Gan-Based Power Converters For Reverse Osmosis Water Purification System	1. Dr.D. Krishna, Associate Professor Department of EEE Anurag University, Hyderabad 2. Dr.E. Himabindu, Associate Professor Department of EEE Geethanjali College of Engineering, Hyderabad 3.Dr.T. Anil Kumar, Professor Department of EEE Anurag University, Hyderabad 4. K. Koteswara Rao, Assistant professor Department of EEE Anurag university, Hyderabad 5.Azra Zaineb, Sr. Assistant Professor Department of EEE Geethanjali College of Engineering, Hyderabad
22	202541043055	A Square Pyramid Solar Desalination System	1. Dr.D. Krishna, Associate Professor Department of EEE Anurag University, Hyderabad 2.Dr.E. Himabindu,Associate Professor Department of EEE Geethanjali College of Engineering, Hyderabad 3. Melam Thirupathaiah,Assistant Professor Department of EEE Nitte Meenakshi Institute of Technology, Bangalore 4.Dr.B. Srikanth Goud,Associate Professor EEE Department, Anurag University, Hyderabad

			5.Dr.P. Nagaraju Mandadi,Associate Professor Department of EEE Anurag University, Hyderabad 6.Dr.T. Anil Kumar,Professor Department of EEE Anurag University, Hyderabad
23	202541025472	A Single Slope Solar Still With Hybrid Nanoparticles For Enhanced Distillate Yield	1. Dr. P. Vishwanath Kumar Associate Professor, Department of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088 2. Emmadi Kishore - 20EG103112 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088 3. Kobbaji Akshay Kumar - 22EG50307 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088 4. Dudam Manisharan – 22EG503A17 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088 5. Modugu GangaBhavani – 22EG503A25 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088 6. Asma – 22EG503A32 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088

24	202541025475	An IoT-Based Solar Dryer System For Drying Agricultural Products	"1. Dr. P. Vishwanath Kumar Associate Professor, Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 2. Dr. A. Muni Tanuja Assistant Professor, Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 3. Mr. H. Ameresh Assistant Professor, Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 4. Dr. P. Narayan Reddy Dean-School of Agriculture, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 5. Dr. K. Srinivasa Chalapathi HOD, Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri 6. District, Hyderabad, Telangana-500088. 6. Mr. K. Srinivas Rao Assistant Professor, Depatment of EEE, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 7. 22EG503A04 – G. Manohar Prasad Anurag University, Venkatapur, Ghatkesar,

			Medchal- Malkajgiri 6. District, Hyderabad, Telangana-500088. 8. 22EG503A06 – T. Hithesh Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri 6. District, Hyderabad, Telangana-500088. 9. 22EG503A31 – G. Arnold Joseph Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri 6. District, Hyderabad, Telangana-500088. 10. 22EG503A20 - Md. Sajeed Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri 6. District, Hyderabad, Telangana-500088. 11. 22EG503A34 - K. Koushika Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri 6. District, Hyderabad, Telangana-500088. 12. 22EG503A35 - E. Mahesh Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri 6. District, Hyderabad, Telangana-500088."
25	202541025474	Sunflower-Modelled Foldable Solar Tracker For Maximum Sunlight Absorption	1. Dr. P. Vishwanath Kumar Associate Professor, Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 2. Mr. Harish Mugutkar Assistant Professor, Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 3. Dr. N. Madan Mohan Reddy Associate Professor,

			Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 4. Dr. K. Srinivasa Chalapathi Head of the Department, Depatment of Mechanical Engineering, Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 5. S. Manikanta – 21EG503328 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 6. Md. Altaf – 21EG503322 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088. 7. B. Sai Kiran – 21EG503306 Anurag University, Venkatapur, Ghatkesar, Medchal- Malkajgiri District, Hyderabad, Telangana-500088.

Research Contributions to Affordable and Clean Energy

Anurag University's research under SDG 7: Affordable and Clean Energy reflects a broad focus on renewable energy, energy efficiency, clean fuels, smart energy systems, and sustainable energy technologies. The research contributions bring together engineering, artificial intelligence, electronics, energy systems, transportation, and materials science to support the development and efficient use of cleaner and more sustainable energy solutions.

Research Focus

Research Area	Key Research Contributions
Renewable Energy Technologies	Solar PV systems, solar tracking, MPPT technologies, wind energy, renewable energy-based propulsion, polymer solar cells and solar energy harvesting
Clean Fuels & Green Energy	Green hydrogen, hydrogen–ammonia fuels, biofuel cells, hydrogen-based engine technologies and alternative fuel systems
Energy Efficiency & Conservation	Energy consumption prediction, energy-efficient algorithms, smart homes, educational institutions, cloud computing, wireless sensor networks and low-power electronic systems
Smart Grids & Energy Management	Optimal power flow, renewable-energy-integrated power systems, microgrids, load-frequency control, demand management and intelligent energy management
Electric Mobility & Energy Storage	Electric vehicle charging, wireless power transfer, renewable-energy-based EV charging, battery thermal management and battery energy-storage systems
Thermal Energy Management	Phase-change materials, latent heat energy storage, thermal regulation and thermal management of batteries and energy systems
AI, IoT & Smart Energy Systems	Machine learning for energy prediction, AI-enabled energy storage, IoT-based energy conservation, smart-city energy optimization and intelligent energy-aware systems

List of Research Publications

Title	Journal	Home Authors
Evaluating energy consumption patterns in novel foamed ternary alkali-activated masonry blocks	Scientific Reports	Nikhil Kumar Degloorkar
An Incremental Conductance MPPT Algorithm for Reconfigurable Solar Converter	International Journal of Scientific Engineering and Technology Research	Madishetty Vasavi; A Ravi Kumar
Advancing Sustainable Energy Transition Through Green Hydrogen Valleys	IEEE Access	Srikanth Goud B
An IoT based solution for Energy Conservation in Educational Institutions- a case study	2024 2nd International Conference on Recent Trends in Microelectronics, Automation, Computing and Communications Systems (ICMACC)	Dr. A Ajitha; G Srikar; P Manohar; C V Lahari; M Supriya; B Sri Harshitha
Electric Vehicle Charge Dynamic Wireless Power Transfer	E3S Web of Conferences	P Manohar
Dual Axis Solar Tracking System	E3S Web of Conferences	P Manohar
Optimized Energy-Efficient Knapsack Algorithm for Intelligent Cluster Head Selection in Wireless Sensor Networks	Engineering Technology & Applied Science Research	Abdul Aleem; Rajesh Thumma
Energy Consumption Prediction using Machine Learning for an Organization	Journal of Science Computing and Engineering Research	G Rajasekhar; D Hemasree; U Vivek Raj; D Suma Ravali
Optimizing Energy Efficiency in IoT-Enabled Wireless Sensor Networks Using an Integrated EEKA-K-means Approach	International Journal of Intelligent Engineering and Systems	Abdul Aleem; Rajesh Thumma
Eco AI: Machine learning strategies for sustainable energy consumption in smart homes	AIP Conference Proceedings	Pammi Venkata Saty Siva Prasad
Design and Implementation of Wind Tree for Sustainable Urban Energy Solutions	Sustainability and Sustainable Development	Ramesh Donthisaram
Interleaved Boost Converter with Optimized MPPT Approach for Renewable Energy Based Propulsion System of EV	2025 3rd International Conference on Device Intelligence, Computing	Dr. MD Yaseen

	and Communication Technologies (DICCT)	
Nature-powered bio-cathodes: Synergistic effects of laccase immobilization and green nanoparticles on enhanced PGEs for sustainable biofuel cells	Bioelectrochemistry	Likith G; Sai Nikhil B
Thermal Optimization of Latent Heat Energy Storage Through Fin Geometry Natural Convection and PCM Properties for Superior Phase Change Performance	Heat Transfer	R Naresh Kumar Goud
AVOA: Energy and Resource Aware Scheduling Through Cloud Environment	2025 5th International Conference on Pervasive Computing and Social Networking (ICPCSN)	Ramagowni Sivakumar
Hybrid Energy-Efficient Clustering with Reinforcement Learning for IoT-WSNs Using Knapsack and K-Means	IEEE Sensors Journal	Abdul Aleem; Rajesh Thumma
FinFET Technology Based Development of Energy Efficient Datapath System	2025 IEEE 1st International Conference on Smart and Sustainable Developments in Electrical Engineering (SSDEE)	G M Anitha Priyadarshini
Energy-Efficient Task Offloading and Scheduling in Ultra-Dense MEC for 5G Networks	2025 International Conference on Machine Learning and Autonomous Systems (ICMLAS)	K Basava Raju; Basava Raju K
Design and Performance Evaluation of an Energy-Efficient 16x16 SRAM Memory Array for Low Power Applications	Communications in computer and information science	Gaddam Renuka
Improving the Load Frequency Control of a Renewable Energy Penetrated Dual Area Power System with a 2DOFPID Controller	2024 IEEE 1st International Conference on Green Industrial Electronics and Sustainable Technologies (GIEST)	Srikanth Goud B; G Srikar
Conduction-Dominated Thermal Regulation of Graphene-Doped Paraffin PCM for Battery Systems: Influence of Fin Geometry and Heating Orientation	Journal of Thermal Science and Engineering Applications	R Naresh Kumar Goud

Entropy Optimization in Magneto Nonlinear Mixed Convective Flow of Ree-Eyring Nanofluid with Activation Energy and Gyrotactic Microorganisms	Journal of Nonlinear Mathematical Physics	K Venugopal Reddy
Smart Cities and AI: Real-Time Traffic Management and Energy Optimization with IoT Integration	2025 3rd International Conference on Data Science and Information System (ICDSIS)	Sudheer Reddy K
Solution of optimal power flow with wind power uncertainty using hybridized self-adaptive differential evolution	Scientific Reports	Harish Pulluri; Srikanth Goud B
Ni-enacapulated carbon catalyst with enhanced catalytic stability for hydrogenation of levulinic acid to γ-valerolactone	Molecular Catalysis	Manasa G; Ramineni Kishore; Pradeep Kumar Challa
Energy Harvesting Antennas for Sustainable IoT Solutions	National Journal of Antennas and Propagation	Kothakonda Sairam
A review on laser directed energy deposition (LDED) process	Aip Conference Proceedings	Madduri Rajkumar Reddy
A dynamic multi-objective control strategy for bidirectional PV grid integration with power quality improvement and intelligent energy management	Energy Exploration and Exploitation	A Naveen Kumar; K Rakesh; Srikanth Goud B
Techno-Economic Feasibility and Optimal Sizing of CHP Units for Energy Conservation: Software Development Approach	Communications in computer and information science	S M Zafarullah; T Anil Kumar
Conduction-Dominated Thermal Regulation of Graphene-Doped Paraffin Phase Change Material for Battery Systems: Influence of Fin Geometry and Heating Orientation	Journal of Thermal Science and Engineering Applications	R Naresh Kumar Goud
High-performance fault diagnosis of smart grid insulators using YOLOv11-based instance segmentation for real-time energy infrastructure monitoring	Energy Exploration and Exploitation	Srikanth Goud B

Optimization of TiO_2 Nanoparticle-Doped PEDOT:PSS Buffer Layer for Enhanced Performance in Polymer Solar Cells	Surfaces and Interfaces	Anamika Dey; Ashish Singh
Regional Level Disaggregation of EV Uptake Energy Consumption using Bottom-up Approach	IEEE Transactions on Transportation Electrification	Sudheer Kumar Battula
Retraction notice to "An improved energy-efficient cloud-optimized load-balancing for IoT frameworks" [Heliyon 9 (2023) e21947]	Heliyon	G Balakrishna
Machine learning based hydrogen fuel approach: A detailed experimental study on CRDI engine performance, combustion, and environmental characteristics	Energy	V Srikanth
Enhancement of Energy Efficiency in WSN using Sustainable Energy Aware Multipath Routing Protocol for IoT Applications	2025 International Conference on Computing Technologies and Data Communication (ICCTDC)	V Vinay Kumar
Influence of climatic parameters and dust on the performance of 40kW grid solar PV system in Kavali, India	Aip Conference Proceedings	S Naga Kishore; Md Sikindar Baba; Dr. Kolluri Srinivasa Chalapathi; B P Maddilety; T Krishnaiah
Development of battery recharge system for heavy-duty hybrid electric vehicles using waste heat from an IC engine	Aip Conference Proceedings	T Krishnaiah; Md Sikindar Baba; Dr. Kolluri Srinivasa Chalapathi; S Naga Kishore; B P Maddilety
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Analysis of Maximum Power Tracking and Battery SoC in Grid Integrated Microgrid Using Fuzzy Logic Controller	Proceedings of the 3rd International Conference on Futuristic Technology	D Krishna
Integration of Renewable Energy and Dynamic Demand in Multi-Area LFC Using Robust Fractional Order Terminal Sliding Mode Control	2025 11th International Conference on Electrical Energy Systems (ICEES)	K Kranti Kumar; T Anil Kumar

Predicting Energy Demand: Exploring Temporal and Spatial Variations	2025 5th International Conference on Intelligent Technologies (CONIT)	Ramesh Babu Pittala; B Chitra; Medikonda Asha Kiran; Lakshmi Prasanna Byrapuneni; Avula Saikumar Reddy; Mayakoti Akhil
MEDALS: A sustainable AI framework for energy-efficient routing in 5G vehicular networks	Sustainable Computing: Informatics and Systems	G Balram; Kamalakar Ramineni
Energy-Efficient Routing in Underwater Wireless Sensor Networks Using Swarm-Intelligent Cluster Optimization	2025 3rd International Conference on Data Science and Network Security (ICDSNS)	Dr.Kumar Neeraj
Solar Power Generation Prediction Using Advanced Deep Learning Approach for EV Applications	2025 First International Conference on Intelligent Computing and Communication Systems (CICCS)	Dr. T. Dinesh
A Hybrid Renewable Energy Approach for Charging Electric Vehicles	2025 5th Asian Conference on Innovation in Technology (ASIANCON)	Gadde Vasantha
Pioneering Green Dual-Fuel Solutions: An Experimental Study on Optimizing CRDI Engine Performance and Emissions with Hydrogen and Oxygenated Fuels	EPJ Web of Conferences	Srikanth Vadlamudi; H Ameresh
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Mitigation of Switching Losses and Electro Magnetic Interference with Buck Converter for Renewable Energy Applications	International Journal of Renewable Energy Research	Srikanth Goud B
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Energy-efficient knapsack algorithm for intelligent cluster head selection in IoT enabled wireless sensor networks	Indonesian Journal of Electrical Engineering and Computer Science	Abdul Aleem; Rajesh Thumma
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Adaptive Genetic Scheduling for Energy-Aware and SLA-Compliant Cloud Resource Management	Proceedings of the 1st International Conference on Research and Development in Information, Communication, and Computing Technologies,	Dr C Dastagiraiah
A comprehensive review of thermal management and predictive models in battery systems for electric vehicles	Multidisciplinary Reviews	Kothakonda Sairam
Subsidies for fossil fuels and their effect on the renewable energy industry	Multidisciplinary Reviews	Manni Sruthi
Exploring wireless electric vehicle charging systems: Emerging developments, challenges, and future directions	Multidisciplinary Reviews	Nagireddy Mounika
Evaluation of renewable energy's significance in the worldwide energy transition	Multidisciplinary Reviews	Kollathur Sudheer
Q-BodyFogNets: A Novel Energy-Aware Deep Learning Framework for Predicting Heart Diseases in Fog-BAN Environments	International Journal of Computational and Experimental Science and Engineering	Gona Jagadesh
Plasmonic Nanostructures for Enhanced Solar Energy Harvesting in Thin-Film Photovoltaic Devices	International Academic Journal of Science and Engineering	Mittapalli Premchandh