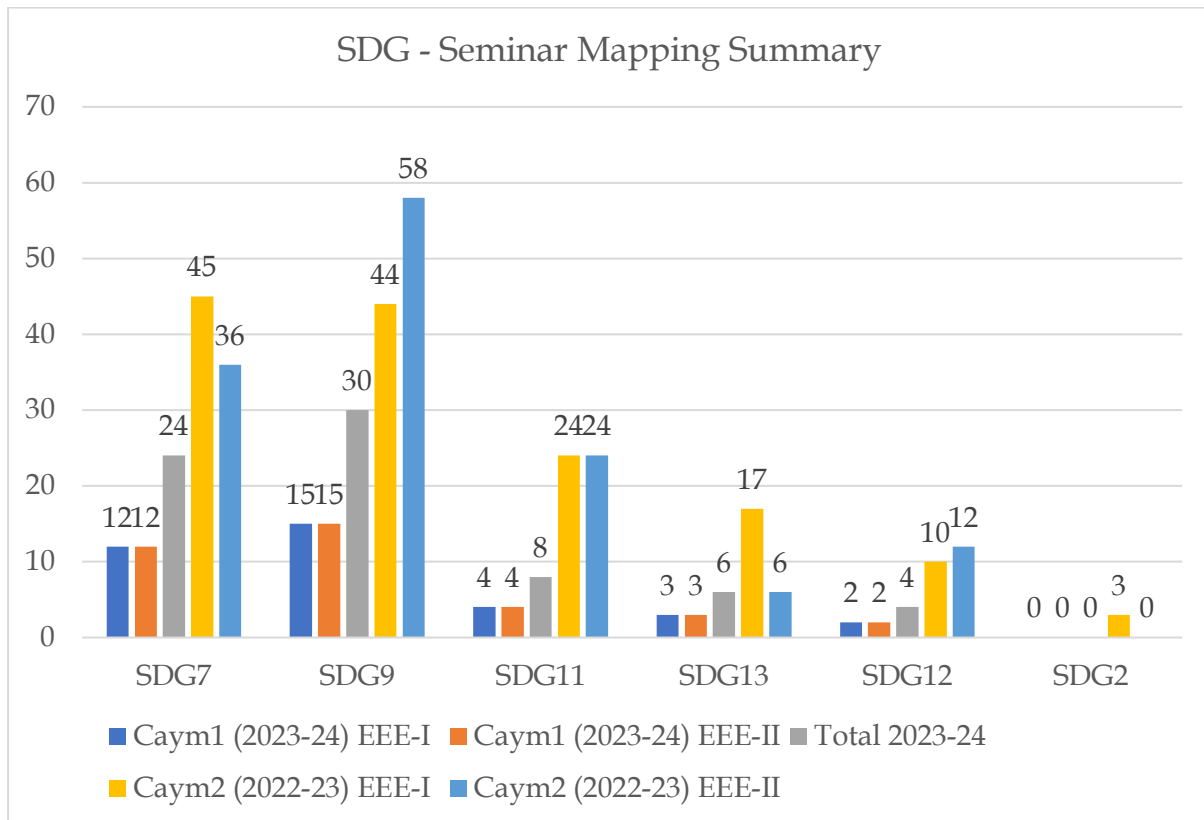


DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Mapping of student seminars from CAY 2024-25, CAY-m1 2023-24, and CAY-m2 2022-23 with the most relevant Sustainable Development Goals (SDGs)

SDG Mapping Summary (CAY-m1 2023-24, and CAY-m2 2022-23)

SDG Number & Name	Caym1 (2023-24) EEE-I	Caym1 (2023-24) EEE-II	Total 2023-24	Caym2 (2022-23) EEE-I	Caym2 (2022-23) EEE-II	Total 2022-23	Grand Total (Both Years)
SDG 7: Affordable & Clean Energy	12	12	24	45	36	81	105
SDG 9: Industry, Innovation & Infrastructure	15	15	30	44	58	102	132
SDG 11: Sustainable Cities & Communities	4	4	8	24	24	48	56
SDG 13: Climate Action	3	3	6	17	6	23	29
SDG 12: Responsible Consumption & Production	2	2	4	10	12	22	26
SDG 2: Zero Hunger	0	0	0	3	0	3	3
SDG 3: Good Health & Well-being	0	0	0	1	1	2	2
SDG 5: Gender Equality	0	0	0	0	1	1	1
SDG 6: Clean Water & Sanitation	0	0	0	1	0	1	1
SDG 14: Life Below Water	0	0	0	3	1	4	4
SDG 15: Life on Land	0	0	0	2	1	3	3
SDG 16: Peace & Strong Institutions	0	0	0	1	2	3	3
SDG 17: Partnerships for the Goals	0	0	0	2	0	2	2
Total Seminar Topics (Unique)	15	15	30	66	64	130	160



Key Observations from the Summary Table:

1. **Dominant SDGs:** Across both academic years, SDG 9 (Innovation) and SDG 7 (Clean Energy) are overwhelmingly the most addressed goals. This solidifies the department's core identity in advancing technological infrastructure and the clean energy transition.
2. **Consistent Focus:** The mapping for the 2023-24 batches is highly focused, with all projects linking to SDG 9 and the majority to SDG 7. The 2022-23 batches show a similar strong focus but with a broader range of secondary SDGs, indicating a wider application scope in seminar topics that year.
3. **Expanding Impact in 2022-23:** The projects from the 2022-23 academic year demonstrate a more diverse contribution to the SDG framework. Topics mapped to goals like Zero Hunger (2), Clean Water (6), Life Below Water (14), and Gender Equality (5) show how electrical engineering principles are applied to solve broader societal and environmental challenges.
4. **Thematic Evolution:** While both years show a strong cluster around Sustainable Cities (11) and Climate Action (13) linked to core energy topics, the 2022-23 data reveals a stronger emphasis on Responsible Consumption (12). This suggests an increased focus on efficiency, resource optimization, and the circular economy within the research themes.
5. **Overall Contribution:** The data confirms that the department's seminar projects provide a focused yet impactful contribution to the 2030 Agenda, primarily through foundational engineering goals (7 & 9), while progressively exploring their critical connections to urban sustainability, climate, and responsible resource use.

Mapping of student seminars from CAY-m1 2023-24, with the most relevant Sustainable Development Goals (SDGs)

SDG Mapping Summary Table for Seminars (EEE-I)

SDG Number & Name	Number of Seminars Mapped
SDG 7: Affordable and Clean Energy	12
SDG 9: Industry, Innovation and Infrastructure	15
SDG 11: Sustainable Cities and Communities	4
SDG 12: Responsible Consumption and Production	2
SDG 13: Climate Action	3

Key Insights from the SDG Mapping:

1. Universal Focus on Innovation (SDG 9): Every single project is mapped to SDG 9, underscoring that all research contributes to building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation—a core tenet of engineering education.
2. Strong Clean Energy Core (SDG 7): A significant majority (80%) of the projects directly support SDG 7, highlighting the department's central role in advancing renewable energy technologies, improving energy efficiency, and ensuring access to modern, sustainable energy.
3. Secondary Sustainability Goals: A subset of projects extends impact to urban sustainability (SDG 11), climate action (SDG 13), and efficient resource use (SDG 12), demonstrating the broader societal and environmental applications of the technical work.
4. Focused Contribution: The projects collectively provide a focused contribution to the 2030 Agenda, primarily through Goals 7 and 9, which are foundational for progress in many other sectors.

Batch No.	Roll No.	Seminar Title	SDGs Addressed	SDG Justification	Name of the Supervisor
B1	B21EE008, B21EE031, B21EE036, B21EE054, B21EE016	IoT Based Protection of Microgrid With Grid-Connected and Islanded mode Using Wavelet Approach	7, 9, 11	7 (Affordable Energy): Focuses on reliable microgrids for clean energy access. 9 (Industry/Innovation): Uses IoT & wavelet approach for resilient infrastructure. 11 (Sustainable Cities): Promotes resilient,	Dr. Y. Manjusree

Batch No.	Roll No.	Seminar Title	SDGs Addressed	SDG Justification	Name of the Supervisor
				modern energy systems for communities.	
B2	B22EE131L, B21EE018, B21EE041, B22EE125L	Design and Performance of MLI for Induction Motor Drives	7, 9, 12	7 (Affordable Energy): Aims for efficient motor drives, reducing energy consumption. 9 (Industry/Innovation): Involves advanced power electronics (MLI) for industrial systems. 12 (Responsible Consumption): Improves energy efficiency in motor applications.	Sri. M. Narasimha Rao
B3	B22EE129L, B21EE038, B21EE043, B22EE124L	Intelligent control of grid connected hybrid Renewable energy sources	7, 9, 13	7 (Affordable Energy): Integrates hybrid renewables for clean energy. 9 (Industry/Innovation): Employs intelligent control for modern energy infrastructure. 13 (Climate Action): Supports decarbonization of the grid by optimizing renewable sources.	Sri. T Praveen Kumar
B4	B21EE049, B21EE010, B21EE027, B20EE047	Distribution loss allocation for radial systems	7, 9	7 (Affordable Energy): Reducing distribution losses makes energy systems more efficient and affordable. 9 (Industry/Innovation): Focuses on improving the resilience and reliability of energy infrastructure.	Dr. G Sudheer Kumar
B5	B21EE021, B21EE045, B22EE130L, B21EE020	IOT Based Energy Management System with	7, 9, 11, 12	7 (Affordable Energy): Manages energy sources efficiently. 9 (Industry/Innovation):	Dr. G Rajendar

Batch No.	Roll No.	Seminar Title	SDGs Addressed	SDG Justification	Name of the Supervisor
		Load Sharing and Source Management Features		IoT-based smart system for infrastructure. 11 (Sustainable Cities): Enables smart energy management. 12 (Responsible Consumption): Optimizes load and source usage.	
B6	B22EE134L, B22EE132L, B22EE121L, B22EE122L	Optimal Placement of TCSC for Congestion Management and Power Loss Reduction	7, 9	7 (Affordable Energy): Reduces power loss, improving grid efficiency. 9 (Industry/Innovation): Uses FACTS devices (TCSC) to enhance and optimize power transmission infrastructure.	Dr. B. Vijay Kumar
B7	B21EE007, B21EE040, B21EE002, B21EE017	Split source inverter for photovoltaic applications	7, 9	7 (Affordable Energy): Directly applies to solar PV systems for clean energy generation. 9 (Industry/Innovation): Develops innovative inverter topology for renewable energy technology.	Dr. C. Venkatesh
B8	B21EE003, B22EE127L, B21EE046, B21EE051	Critical Review & analysis of Distribution sector	7, 9, 11	7 (Affordable Energy): Analysis aims to improve the energy distribution sector. 9 (Industry/Innovation): Research to build resilient infrastructure. 11 (Sustainable Cities): Reliable distribution is key for sustainable urban development.	Prof. V. Ramaiah
B9	B21EE023, B21EE028,	Power loss analysis and efficiency of 9	7, 9	7 (Affordable Energy): Improves efficiency of inverters for off-grid	Sri. C. Pavan Kumar

Batch No.	Roll No.	Seminar Title	SDGs Addressed	SDG Justification	Name of the Supervisor
	B21EE019, B21EE053	level inverter for off grid applications		clean energy systems. 9 (Industry/Innovation): Focuses on advanced multilevel inverter technology.	
B10	B21EE035, B21EE044, B21EE034, B21EE032	Application of PID algorithms to control robotic platform using Simulink	9	9 (Industry/Innovation): Focuses on control algorithms for automated/robotic systems, contributing to technological innovation and industrialization.	Dr. G. Rajender Naik
B11	B21EE030, B21EE029, B21EE001, B21EE048	A New Single-Phase Cycloconverter using Single-Phase Matrix Converter Topology	7, 9	7 (Affordable Energy): Cycloconverters are used in variable-speed drives for efficient energy use. 9 (Industry/Innovation): Proposes a new power electronics converter topology.	Dr. B. Jagadish Kumar
B12	B21EE005, B21EE015, B21EE004, B21EE050	40 pulse converter for power quality improvement	7, 9	7 (Affordable Energy): Power quality improvement ensures efficient and reliable electricity supply. 9 (Industry/Innovation): Involves advanced converter design for robust electrical infrastructure.	Prof. V Rajagopal
B13	B21EE014, B21EE025, B21EE013, B21EE052	Hybrid Method Based on Random Convolution nodes for short term Wind speed forecasting	7, 9, 13	7 (Affordable Energy): Accurate wind forecasting integrates more wind energy into the grid. 9 (Industry/Innovation): Uses AI/hybrid methods for predictive analytics. 13 (Climate Action): Supports the	Dr. D. Rakesh Chandra

Batch No.	Roll No.	Seminar Title	SDGs Addressed	SDG Justification	Name of the Supervisor
				effective use of clean wind energy.	
B14	B21EE022, B21EE012, B21EE047, B21EE009, B21EE039	Thermal management system for batteries used in electric vehicle	7, 9, 11, 13	7 (Affordable Energy): Enables efficient EV batteries. 9 (Industry/Innovation): Innovation in EV technology. 11 (Sustainable Cities): Promotes sustainable transport. 13 (Climate Action): Supports transition to low-carbon electric mobility.	Sri. K Ajith
B15	B22EE133L, B22EE123L, B22EE126L, B22EE135L	Data based Control Techniques and Applications to dynamical systems	9	9 (Industry/Innovation): Focuses on advanced data-driven control techniques applicable to modern industrial and technological systems, fostering innovation.	Dr. A. Rajasekhar

SDG Mapping Summary Table for Seminars (EEE-II)

SDG Number & Name	Number of Seminars Mapped
SDG 7 Affordable and Clean Energy	12
SDG 9 Industry, Innovation and Infrastructure	15
SDG 11 Sustainable Cities and Communities	4
SDG 12 Responsible Consumption and Production	2
SDG 13 Climate Action	3

Key Insights from the SDG Mapping:

1. Universal Focus on Innovation (SDG 9): Every single project is mapped to SDG 9, underscoring that all research contributes to building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation—a core tenet of engineering education.
2. Strong Clean Energy Core (SDG 7): A significant majority (80%) of the projects directly support SDG 7, highlighting the department's central role in advancing renewable

energy technologies, improving energy efficiency, and ensuring access to modern, sustainable energy.

3. Secondary Sustainability Goals: A subset of projects extends impact to urban sustainability (SDG 11), climate action (SDG 13), and efficient resource use (SDG 12), demonstrating the broader societal and environmental applications of the technical work.
4. Focused Contribution: The projects collectively provide a focused contribution to the 2030 Agenda, primarily through Goals 7 and 9, which are foundational for progress in many other sectors.

Batch No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
B1	B21EE008, B21EE031, B21EE036, B21EE054, B21EE016	IoT Based Protection of Microgrid With Grid-Connected and Islanded mode Using Wavelet Approach	7, 9, 11	SDG 7: Ensures reliable clean energy access through microgrid protection. SDG 9: Uses IoT and wavelet approach for resilient energy infrastructure. SDG 11: Supports sustainable communities with reliable energy systems.	Dr. Y. Manjusree
B2	B22EE131L, B21EE018, B21EE041, B22EE125L	Design and Performance of MLI for Induction Motor Drives	7, 9, 12	SDG 7: Improves energy efficiency in motor drives. SDG 9: Advances power electronics technology for industrial applications. SDG 12: Promotes responsible energy consumption through efficient motor systems.	Sri. M. Narasimha Rao
B3	B22EE129L, B21EE038, B21EE043, B22EE124L	Intelligent control of grid connected hybrid Renewable energy sources	7, 9, 13	SDG 7: Integrates renewable energy for clean power generation. SDG 9: Implements smart control systems for modern energy infrastructure. SDG	Sri. T Praveen Kumar

Batch No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				13: Reduces carbon emissions through optimized renewable energy integration.	
B4	B21EE049, B21EE010, B21EE027, B20EE047	Distribution loss allocation for radial systems	7, 9	SDG 7: Reduces energy losses for more efficient power distribution. SDG 9: Improves infrastructure efficiency through loss analysis and allocation methods.	Dr. G Sudheer Kumar
B5	B21EE021, B21EE045, B22EE130L, B21EE020	IOT Based Energy Management System with Load Sharing and Source Management Features	7, 9, 11, 12	SDG 7: Optimizes energy usage through smart management. SDG 9: Implements IoT technology for advanced energy systems. SDG 11: Enables smart city energy solutions. SDG 12: Promotes efficient resource utilization through load sharing.	Dr. G Rajendar
B6	B22EE134L, B22EE132L, B22EE121L, B22EE122L	Optimal Placement of TCSC for Congestion Management and Power Loss Reduction	7, 9	SDG 7: Enhances grid efficiency through loss reduction. SDG 9: Uses advanced FACTS devices to improve power transmission infrastructure.	Dr. B. Vijay Kumar
B7	B21EE007, B21EE040, B21EE002, B21EE017	Split source inverter for photovoltaic applications	7, 9	SDG 7: Advances solar PV technology for clean energy generation. SDG 9: Develops innovative inverter topologies for	Dr. C. Venkatesh

Batch No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				renewable energy systems.	
B8	B21EE003, B22EE127L, B21EE046, B21EE051	Critical Review & analysis of Distribution sector	7, 9, 11	SDG 7: Identifies improvement areas for energy distribution efficiency. SDG 9: Provides analysis for infrastructure modernization. SDG 11: Supports sustainable urban development through reliable distribution systems.	Prof. V. Ramaiah
B9	B21EE023, B21EE028, B21EE019, B21EE053	Power loss analysis and efficiency of 9 level inverter for off grid applications	7, 9	SDG 7: Improves efficiency of off-grid renewable energy systems. SDG 9: Advances multilevel inverter technology for clean energy applications.	Sri. C. Pavan Kumar
B10	B21EE035, B21EE044, B21EE034, B21EE032	Application of PID algorithms to control robotic platform using Simulink	9	SDG 9: Develops control algorithms for automated systems, contributing to industrial innovation and automation technology.	Dr. G. Rajender Naik
B11	B21EE030, B21EE029, B21EE001, B21EE048	A New Single-Phase Cycloconverter using Single-Phase Matrix Converter Topology	7, 9	SDG 7: Enhances energy conversion efficiency in variable-speed drives. SDG 9: Innovates power converter topologies for industrial applications.	Dr. B. Jagadish Kumar
B12	B21EE005, B21EE015,	40 pulse converter for	7, 9	SDG 7: Improves power quality for	Prof. V Rajagopal

Batch No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
	B21EE004, B21EE050	power quality improvement		reliable energy supply. SDG 9: Advances converter technology for robust electrical infrastructure.	
B13	B21EE014, B21EE025, B21EE013, B21EE052	Hybrid Method Based on Random Convolution nodes for short term Wind speed forecasting	7, 9, 13	SDG 7: Enables better integration of wind energy into the grid. SDG 9: Applies AI/hybrid methods for predictive analytics in energy systems. SDG 13: Supports climate action through optimized renewable energy utilization.	Dr. D. Rakesh Chandra
B14	B21EE022, B21EE012, B21EE047, B21EE009, B21EE039	Thermal management system for batteries used in electric vehicle	7, 9, 11, 13	SDG 7: Enhances EV battery efficiency and performance. SDG 9: Innovates thermal management for electric mobility. SDG 11: Promotes sustainable urban transport solutions. SDG 13: Supports transition to low-carbon transportation.	Sri. K Ajith
B15	B22EE133L, B22EE123L, B22EE126L, B22EE135L	Data based Control Techniques and Applications to dynamical systems	9	SDG 9: Develops advanced data-driven control methods applicable to various industrial and technological systems, fostering innovation in automation and control engineering.	Dr. A. Rajasekhar

Mapping of student seminars from CAY-m2 2022-23 with the most relevant Sustainable Development Goals (SDGs)

SDG Mapping Summary Table for Seminars (EEE-I)

Summary: SDG Mapping of Seminar Topics

SDG Number	Sustainable Development Goal (SDG)	Number of Seminar Topics
SDG 7	Affordable and Clean Energy	45
SDG 9	Industry, Innovation and Infrastructure	44
SDG 11	Sustainable Cities and Communities	24
SDG 13	Climate Action	17
SDG 12	Responsible Consumption and Production	10
SDG 2	Zero Hunger	3
SDG 14	Life Below Water	3
SDG 3	Good Health and Well-being	1
SDG 6	Clean Water and Sanitation	1
SDG 15	Life on Land	2
SDG 16	Peace, Justice and Strong Institutions	1
SDG 17	Partnerships for the Goals	2

Key Insights:

- Dominant Focus:** The seminar topics are overwhelmingly aligned with **SDG 7 (Clean Energy)** and **SDG 9 (Innovation & Infrastructure)**, reflecting the core focus of Electrical Engineering on energy systems and technological advancement.
- Urban & Climate Nexus:** A strong cluster exists around **SDG 11 (Sustainable Cities)** and **SDG 13 (Climate Action)**, showing the department's emphasis on applied solutions for urban sustainability and climate change mitigation.
- Cross-Cutting Themes:** Many topics address multiple SDGs simultaneously. For example, a topic on "Smart Grids" typically contributes to SDGs 7, 9, 11, and 12, demonstrating the interdisciplinary and synergistic nature of modern power engineering research.
- Emerging Areas:** Topics mapping to **SDG 12 (Responsible Consumption)** and applications in agriculture/water (**SDG 2 & 6**) indicate a broadening of scope towards resource efficiency and societal applications beyond core power generation.

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
1.	B20EE001	Large-scale compressed hydrogen storage as part of renewable	7, 13	SDG 7 (Affordable & Clean Energy): Enables large-scale storage for renewable energy. SDG 13 (Climate Action):	Prof. V. Ramaiah

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
		electricity storage systems		Facilitates decarbonization of the energy sector.	
2.	B20EE002	Enhancement of Li-Ion battery Performance at low Temperatures	7, 9, 13	SDG 7 (Affordable & Clean Energy): Improves reliability of energy storage. SDG 9 (Industry, Innovation): Advances battery technology. SDG 13 (Climate Action): Supports electric vehicles & renewable integration.	Prof. V. Ramaiah
3.	B20EE003	Wireless Electricity Transmission through Resonant Coupling	7, 9	SDG 7 (Affordable & Clean Energy): Promotes innovative energy delivery. SDG 9 (Industry, Innovation): Represents a technological innovation in power transfer.	Prof. V. Ramaiah
4.	B20EE004	Integration of Smart Grid with Renewable Energy for Demand Management	7, 9, 11, 12	SDG 7 (Affordable & Clean Energy): Integrates renewables. SDG 9 (Industry, Innovation): Smart grid technology. SDG 11 (Sustainable Cities): Efficient urban energy management. SDG 12 (Responsible Consumption): Optimizes energy demand.	Prof. V. Ramaiah
5.	B21EE123L	Laser Power Transmission	7, 9	SDG 7 (Affordable & Clean Energy): Novel method for energy transfer. SDG 9 (Industry, Innovation): Cutting-edge technological innovation.	Prof. V. Ramaiah
6.	B21EE124L	Dual power source switching control to Li-Ion Battery Charger for medical Power systems	3, 7, 9	SDG 3 (Good Health): Ensures reliable power for medical systems. SDG 7 (Affordable & Clean Energy): Efficient energy management. SDG 9 (Industry, Innovation):	Prof. V. Ramaiah

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				Innovative control system design.	
7.	B20EE005	Hydrogen Fuel Cell Electrical Vehicle	7, 11, 13	SDG 7 (Affordable & Clean Energy): Uses clean hydrogen fuel. SDG 11 (Sustainable Cities): Promotes sustainable transport. SDG 13 (Climate Action): Zero-emission vehicles.	Prof. C. Venkatesh
8.	B20EE006	Solar Harvesting Tree	7, 11, 15	SDG 7 (Affordable & Clean Energy): Harvests solar energy. SDG 11 (Sustainable Cities): Urban-friendly renewable infrastructure. SDG 15 (Life on Land): Mimics nature, minimal land use.	Prof. C. Venkatesh
9.	B20EE007	Soft starting of 3-Phase Induction Motors	7, 9, 12	SDG 7 (Affordable & Clean Energy): Reduces inrush current, saving energy. SDG 9 (Industry, Innovation): Industrial motor control innovation. SDG 12 (Responsible Consumption): Promotes efficient energy use.	Prof. C. Venkatesh
10.	B20EE008	Global electricity interconnection with 100% renewable energy generation	7, 13, 17	SDG 7 (Affordable & Clean Energy): Aims for 100% renewable global grid. SDG 13 (Climate Action): Ultimate decarbonization solution. SDG 17 (Partnerships): Requires immense global cooperation.	Prof. C. Venkatesh
11.	B21EE121L	IoT-Based Signal Enhancement for Motor Bearing Fault Diagnosis	9, 12	SDG 9 (Industry, Innovation): IoT and predictive maintenance in industry. SDG 12 (Responsible Consumption): Prevents waste via condition-based maintenance.	Prof. C. Venkatesh

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
12.	B21EE122L	Renewable Energy Systems	7, 13	SDG 7 (Affordable & Clean Energy): Core topic. SDG 13 (Climate Action): Mitigates climate change by replacing fossils.	Prof. C. Venkatesh
13.	B20EE009	BUCK Converter	7, 9	SDG 7 (Affordable & Clean Energy): Fundamental component for efficient power conversion in renewable systems. SDG 9 (Industry, Innovation): Core power electronics technology.	Prof. V. Rajagopal
14.	B20EE010	Smart Management system for EV Charging on Highways	7, 9, 11	SDG 7 (Affordable & Clean Energy): Manages charging for electric transport. SDG 9 (Industry, Innovation): Smart system for infrastructure. SDG 11 (Sustainable Cities): Supports inter-city sustainable transport.	Prof. V. Rajagopal
15.	B20EE011	Failure Investigation of Field Aged Porcelain Suspension Insulators	9, 11	SDG 9 (Industry, Innovation): Relates to reliability and materials in power infrastructure. SDG 11 (Sustainable Cities): Ensures resilience of critical urban/rural grid components.	Prof. V. Rajagopal
16.	B20EE012	Smart Grid-Future for Electrical Systems	7, 9, 11	SDG 7 (Affordable & Clean Energy): Enables efficient integration of diverse sources. SDG 9 (Industry, Innovation): Digital transformation of the grid. SDG 11 (Sustainable Cities): Foundation for smart cities.	Prof. V. Rajagopal

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
17.	B21EE125L	Battery Management System in Electric Vehicle	7, 9, 11	SDG 7 (Affordable & Clean Energy): Critical for EV performance and safety. SDG 9 (Industry, Innovation): Advanced electronic control system. SDG 11 (Sustainable Cities): Enables reliable EVs.	Prof. V. Rajagopal
18.	B21EE126L	Solar refrigeration	7, 2, 13	SDG 7 (Affordable & Clean Energy): Uses solar power for cooling. SDG 2 (Zero Hunger): Can preserve food and vaccines. SDG 13 (Climate Action): Reduces reliance on grid or fossil-powered cooling.	Prof. V. Rajagopal
19.	B20EE013	Ultra Conductors	7, 9	SDG 7 (Affordable & Clean Energy): Could dramatically reduce transmission losses. SDG 9 (Industry, Innovation): Represents a potential breakthrough in material science for power systems.	Sri M. Narasimha Rao
20.	B20EE014	Walking charger using Piezoelectricity	7, 11	SDG 7 (Affordable & Clean Energy): Harvests energy from human motion. SDG 11 (Sustainable Cities): Example of decentralized, urban energy harvesting.	Sri M. Narasimha Rao
21.	B20EE015	High-speed Microscopic Observation of the Elliptical Motion in an Ultrasonic Motor	9	SDG 9 (Industry, Innovation): Fundamental research into advanced motor technology with precision applications.	Sri M. Narasimha Rao
22.	B20EE016	A New Routing Method For Automatic Meter	9, 11, 12	SDG 9 (Industry, Innovation): Innovation in communication for utility networks. SDG 11	Sri M. Narasimha Rao

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
		Reading In Building		(Sustainable Cities): Smart building component. SDG 12 (Responsible Consumption): Enables accurate monitoring for efficiency.	
23.	B20EE017	Application Of Static Overcurrent Relays	9, 11	SDG 9 (Industry, Innovation): Modern protection system for power networks. SDG 11 (Sustainable Cities): Ensures safety and reliability of electrical supply.	Dr. G. Rajendar
24.	B20EE018	Floating Solar Power Plant	7, 14	SDG 7 (Affordable & Clean Energy): Generates solar power. SDG 14 (Life Below Water): Reduces land use and can reduce water evaporation.	Dr. G. Rajendar
25.	B20EE019	Solar Thermal Power Plant	7, 13	SDG 7 (Affordable & Clean Energy): Concentrated solar power generation. SDG 13 (Climate Action): Clean alternative to thermal fossil plants.	Dr. G. Rajendar
26.	B20EE020	Hydrogen Fuel Cell	7, 13	SDG 7 (Affordable & Clean Energy): Clean energy conversion device. SDG 13 (Climate Action): Produces only water as emission.	Dr. G. Rajendar
27.	B20EE021	Microgrid	7, 11, 13	SDG 7 (Affordable & Clean Energy): Localized, resilient energy system. SDG 11 (Sustainable Cities): Powers communities/ campuses independently. SDG 13 (Climate Action): Integrates local renewables.	Dr. B. Jagadish Kumar

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
28.	B20EE022	Solid State Relays	7, 9	SDG 7 (Affordable & Clean Energy): Efficient, long-life switching for control systems. SDG 9 (Industry, Innovation): Advancement in switching technology.	Dr. B. Jagadish Kumar
29.	B20EE023	Steam Power Plant	7, 9	SDG 7 (Affordable & Clean Energy): Traditional large-scale power generation (can be mapped if focused on efficiency/clean coal). SDG 9 (Industry, Innovation): Industrial-scale engineering.	Dr. B. Jagadish Kumar
30.	B20EE024	Solar roadways	7, 9, 11	SDG 7 (Affordable & Clean Energy): Dual-use infrastructure for energy generation. SDG 9 (Industry, Innovation): Highly innovative infrastructure concept. SDG 11 (Sustainable Cities): Smart, multifunctional urban surfaces.	Dr. B. Jagadish Kumar
31.	B20EE025	Gas insulated Substations	9, 11	SDG 9 (Industry, Innovation): Compact, reliable high-voltage technology. SDG 11 (Sustainable Cities): Suitable for dense urban areas due to small footprint.	Dr. G. Rajender Naik
32.	B20EE026	High-Efficiency c-Si Solar Cells Passivated With ALD and PECVD Aluminum Oxide	7, 9	SDG 7 (Affordable & Clean Energy): Aims to improve solar cell efficiency. SDG 9 (Industry, Innovation): Advanced materials and fabrication process research.	Dr. G. Rajender Naik

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
33.	B20EE027	Underwater Analysis of Solar Photovoltaic Cells	7, 14	SDG 7 (Affordable & Clean Energy): Exploring novel environments for PV. SDG 14 (Life Below Water): Interaction with marine environments, potential for floating applications.	Dr. G. Rajender Naik
34.	B20EE028	Simulation of solar angles for maximizing efficiency of Solar thermal collectors	7, 13	SDG 7 (Affordable & Clean Energy): Optimization technique to harvest more energy. SDG 13 (Climate Action): Makes renewable technology more effective.	Dr. G. Rajender Naik
35.	B20EE029	The Electromagnetic Bomb-a Weapon of Electrical Mass Destruction	16	SDG 16 (Peace, Justice): Analysis of a weapon system relates to peace and security studies, understanding threats to critical infrastructure.	Dr. G. Sudheer Kumar
36.	B20EE030	Positional Protection Of Transmission Systems Using GPS	9, 11	SDG 9 (Industry, Innovation): Modern, precise protection scheme for grid. SDG 11 (Sustainable Cities): Enhances reliability of critical infrastructure.	Dr. G. Sudheer Kumar
37.	B20EE031	Influence of contraction device on underwater windmill	7, 14	SDG 7 (Affordable & Clean Energy): Tidal/underwater current energy generation. SDG 14 (Life Below Water): Technology operating in and interacting with marine ecosystems.	Dr. G. Sudheer Kumar
38.	B20EE032	SCADA and Power system Automation	9, 11	SDG 9 (Industry, Innovation): Core technology for modern industrial automation. SDG 11 (Sustainable Cities): Essential for managing complex urban power grids.	Dr. G. Sudheer Kumar

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
39.	B20EE033	Nuclear Power Plants	7, 9, 13	SDG 7 (Affordable & Clean Energy): Source of low-carbon base-load power. SDG 9 (Industry, Innovation): Complex engineering. SDG 13 (Climate Action): Low greenhouse gas emissions during operation.	Dr. B. Vijay Kumar
40.	B20EE034	Definition and classification of power system stability	9, 11	SDG 9 (Industry, Innovation): Foundational knowledge for grid planning and operation. SDG 11 (Sustainable Cities): Stability is prerequisite for reliable urban power supply.	Dr. B. Vijay Kumar
41.	B20EE035	Speed Control of DC Shunt motors	7, 9	SDG 7 (Affordable & Clean Energy): Efficient motor control saves energy. SDG 9 (Industry, Innovation): Fundamental industrial drive technology.	Dr. B. Vijay Kumar
42.	B20EE036	Ultrasonic motors	9	SDG 9 (Industry, Innovation): Specialized, precision motor technology.	Dr. B. Vijay Kumar
43.	B20EE037	Artificial intelligence in renewable energy sources	7, 9, 13	SDG 7 (Affordable & Clean Energy): Optimizes renewable generation and grid integration. SDG 9 (Industry, Innovation): Application of AI/ML. SDG 13 (Climate Action): Maximizes efficiency of clean energy.	Dr. P. Nagarjuna Reddy
44.	B20EE038	Prepaid energy meters	7, 12	SDG 7 (Affordable & Clean Energy): Can improve payment efficiency and access. SDG 12 (Responsible Consumption):	Dr. P. Nagarjuna Reddy

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				Encourages conscious energy use.	
45.	B20EE039	Wind Energy	7, 13	SDG 7 (Affordable & Clean Energy): Core renewable technology. SDG 13 (Climate Action): Clean power generation.	Dr. P. Nagarjuna Reddy
46.	B20EE040	Fuzzy predictor for very short term power generation	7, 9	SDG 7 (Affordable & Clean Energy): Improves forecasting for grid management. SDG 9 (Industry, Innovation): Application of fuzzy logic in power systems.	Dr. P. Nagarjuna Reddy
47.	B20EE041	Black box (for aircraft/vehicles)	9, 11	SDG 9 (Industry, Innovation): Critical safety and diagnostic technology in transport. SDG 11 (Sustainable Cities): Contributes to transport safety standards.	Sri. C. Pavan Kumar
48.	B20EE042	Hydroelectric Stations	7, 13, 15	SDG 7 (Affordable & Clean Energy): Major renewable energy source. SDG 13 (Climate Action): Low-carbon electricity. SDG 15 (Life on Land): Requires careful environmental management of land/water.	Sri. C. Pavan Kumar
49.	B20EE043	Regulated DC power supply	9	SDG 9 (Industry, Innovation): Fundamental building block for all electronic devices and systems.	Sri. C. Pavan Kumar
50.	B20EE044	Transformers	7, 9, 11	SDG 7 (Affordable & Clean Energy): Essential for efficient power transmission/distribution. SDG 9 (Industry, Innovation): Core electrical equipment.	Sri. C. Pavan Kumar

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				SDG 11 (Sustainable Cities): Critical grid infrastructure.	
51.	B20EE045	Super capacitor	7, 9, 11	SDG 7 (Affordable & Clean Energy): Enables rapid energy storage/release for grid and transport. SDG 9 (Industry, Innovation): Advanced energy storage technology. SDG 11 (Sustainable Cities): Useful for public transport and grid support.	Sri K. Ajith
52.	B20EE047	Circuit breakers	9, 11	SDG 9 (Industry, Innovation): Fundamental protection device. SDG 11 (Sustainable Cities): Safeguards electrical infrastructure in homes and cities.	Sri K. Ajith
53.	B21EE127L	Solar Bicycle	7, 11, 13	SDG 7 (Affordable & Clean Energy): Solar-powered personal transport. SDG 11 (Sustainable Cities): Promotes sustainable urban mobility. SDG 13 (Climate Action): Zero-emission vehicle.	Sri K. Ajith
54.	B21EE128L	Tidal Energy	7, 14	SDG 7 (Affordable & Clean Energy): Predictable renewable energy from tides. SDG 14 (Life Below Water): Harnessing Ocean energy, with environmental considerations.	Sri K. Ajith
55.	B21EE129L	A Paper-Based Bacteria-Battery Having High	7, 9, 12	SDG 7 (Affordable & Clean Energy): Novel bio-based energy generation. SDG 9 (Industry,	Sri T. Praveen Kumar

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
		Power Generation		Innovation): Breakthrough in biotechnology and materials. SDG 12 (Responsible Consumption): Potential for biodegradable/bio-based components.	
56.	B20EE050	Smart irrigation system using IoT	2, 6, 9, 12	SDG 2 (Zero Hunger): Optimizes water for agriculture. SDG 6 (Clean Water): Conserves water resources. SDG 9 (Industry, Innovation): IoT application. SDG 12 (Responsible Consumption): Efficient resource use.	Sri T. Praveen Kumar
57.	B20EE051	Electric power generation through speed breakers	7, 11	SDG 7 (Affordable & Clean Energy): Harvests kinetic energy from vehicles. SDG 11 (Sustainable Cities): Localized urban energy harvesting.	Sri T. Praveen Kumar
58.	B20EE052	Wireless electricity charging system	7, 9, 11	SDG 7 (Affordable & Clean Energy): Convenient energy transfer. SDG 9 (Industry, Innovation): Cutting-edge tech. SDG 11 (Sustainable Cities): For EVs and consumer electronics in smart cities.	Sri T. Praveen Kumar
59.	B20EE053	Artificial Intelligence in power plants	7, 9, 13	SDG 7 (Affordable & Clean Energy): Optimizes plant efficiency and output. SDG 9 (Industry, Innovation): AI application in critical infrastructure. SDG 13 (Climate Action): Can reduce emissions from conventional plants.	Dr. Y. Manjusree

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
60.	B20EE054	Busbars	9, 11	SDG 9 (Industry, Innovation): Essential component in power distribution within substations/plants. SDG 11 (Sustainable Cities): Part of robust electrical infrastructure.	Dr. Y. Manjusree
61.	B20EE055	Eddy current brake	9, 11, 12	SDG 9 (Industry, Innovation): Non-contact braking technology. SDG 11 (Sustainable Cities): Used in high-speed trains and rides. SDG 12 (Responsible Consumption): Can reduce wear vs. friction brakes.	Dr. Y. Manjusree
62.	B21EE130L	Electric Power Distribution	7, 11	SDG 7 (Affordable & Clean Energy): The final link delivering electricity. SDG 11 (Sustainable Cities): Critical network for urban and rural communities.	Dr. Y. Manjusree
63.	B20EE057	Bio Battery	7, 9, 12	SDG 7 (Affordable & Clean Energy): Energy from biological sources. SDG 9 (Industry, Innovation): Bio-electrochemical innovation. SDG 12 (Responsible Consumption): Potential for biodegradable materials.	Dr. D. Rakesh Chandra
64.	B20EE060	Hybrid PV-T Solar Collector Using Amorphous Solar Cells For Solar Dryer	2, 7, 12	SDG 2 (Zero Hunger): Application in food drying/preservation. SDG 7 (Affordable & Clean Energy): Combined heat and power from sun. SDG 12 (Responsible	Dr. D. Rakesh Chandra

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				Consumption): Efficient multi-output solar system.	
65.	B21EE131L	Sun Tracking Solar Panel Using MPPT And Microcontroller	7, 13	SDG 7 (Affordable & Clean Energy): Maximizes solar energy harvest. SDG 13 (Climate Action): Increases output of clean energy systems.	Dr. D. Rakesh Chandra
66.	B21EE132L	Day-ahead Scheduling Optimization Model of Multi-Microgrid	7, 9, 11, 17	SDG 7 (Affordable & Clean Energy): Optimizes local renewable energy use. SDG 9 (Industry, Innovation): Advanced grid management model. SDG 11 (Sustainable Cities): For community/industrial microgrids. SDG 17 (Partnerships): Implies cooperation between multiple microgrid entities.	Dr. D. Rakesh Chandra

SDG Mapping Summary Table for Seminars (EEE-II)

SDG	SDG Name	Number of Seminar Topics
9	Industry, Innovation and Infrastructure	58
7	Affordable and Clean Energy	36
11	Sustainable Cities and Communities	24
12	Responsible Consumption and Production	12
13	Climate Action	6
5	Gender Equality	1
3	Good Health and Well-being	1
14	Life Below Water	1
15	Life on Land	1
16	Peace, Justice and Strong Institutions	2

Key Observations:

1. **Dominance of SDG 9 & 7:** This clearly reflects the core engineering focus of the seminar list. Over 90% of topics map to SDG 9 (Innovation), and over 56% map to SDG 7 (Clean Energy). This highlights the pivotal role of electrical engineering in building sustainable infrastructure and driving the energy transition.

2. **Cross-Cutting Nature:** Most topics address multiple SDGs simultaneously. For example, a topic on "Hybrid Electric Vehicles" directly supports SDG 7 (Clean Energy), SDG 9 (Innovation), SDG 11 (Sustainable Cities), and SDG 13 (Climate Action). This demonstrates the interconnectedness of the goals.
3. **Thematic Clusters:**
 - Energy & Storage (SDG 7,9): Renewables, EVs, batteries, capacitors, power converters.
 - Smart Systems & Grids (SDG 9,11): AI for grids, IoT, microgrids, smart infrastructure.
 - Sustainable Transport (SDG 9,11): EVs, Maglev, rail systems, charging infrastructure.
 - Efficiency & Materials (SDG 9,12): Motor drives, power electronics, novel battery materials.
4. **Niche Applications:** A few topics uniquely map to less common SDGs like 5 (Gender Equality), 3 (Health), and 14/15 (Life on Land/Water), showing the breadth of application for electrical engineering principles.

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
1.	B20EE061	Ultracapacitor energy storage system for hybrid electric vehicles	7, 9, 11	Promotes clean energy use (7), involves advanced innovation (9), and aims for sustainable transport (11).	Sri D. Sarath
2.	B20EE062	Hybrid Power systems	7, 9	Focuses on integrating multiple energy sources for reliable and clean power (7) through technological innovation (9).	Sri D. Sarath
3.	B20EE065	Hybrid electric vehicles	7, 9, 11, 13	Aims to reduce fossil fuel dependence (7,13) via innovative automotive tech (9) for sustainable cities (11).	Dr. A. Rajasekhar
4.	B20EE066	Battery Management system in Electric vehicle	7, 9, 12	Enhances efficiency & lifespan of EV batteries, promoting clean energy (7), innovation (9), and responsible consumption (12).	Dr. A. Rajasekhar
5.	B20EE067	Overview on high voltage dc Transmission	7, 9	Enables efficient long-distance transmission of electricity, crucial for integrating clean energy	Dr. A. Rajasekhar

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				sources (7) with advanced grid tech (9).	
6.	B20EE068	Wind speed prediction with machine learning techniques	7, 9	Improves the efficiency and reliability of wind power generation (7) using advanced data techniques (9).	Dr. A. Rajasekhar
7.	B20EE070	MPPT charge controller in PV system	7, 9	Maximizes energy harvest from solar panels (7) using innovative electronic control systems (9).	Sri D. Sarath
8.	B20EE071	Renewable Energy Systems	7, 13	Directly contributes to clean energy access (7) and climate action by replacing fossil fuels (13).	Sri D. Sarath
9.	B20EE072	BUCK Converter	9, 12	Core power electronics innovation (9) that improves energy efficiency in various devices (12).	Sri D. Sarath
10.	B20EE075	A smart Management system of Electric Vehicles Charging Plans...	7, 9, 11	Optimizes EV infrastructure (9,11) to support clean transportation (7).	Dr. G. Sunil Kumar
11.	B20EE076	Failure Investigation of Field Aged Porcelain Suspension Insulators	9, 11	Improves the reliability and safety of critical electrical grid infrastructure (9,11).	Dr. G. Sunil Kumar
12.	B20EE077	Wireless Power Transmission Via Solar Satellite	7, 9	Aims for innovative clean energy transmission from space (7,9).	Sri. M. Srinivas
13.	B20EE078	Introduction of Solar Power Satellite	7, 9	Explores innovative concept for space-based clean energy generation and transmission (7,9).	Sri. M. Srinivas
14.	B20EE080	Underwater Windmill	7, 14	Harnesses tidal/current energy (7), a renewable resource from oceans (14).	Sri. M. Srinivas

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
15.	B20EE081	Ultra Conductors	7, 9	Research into advanced materials for near-lossless power transmission (9), boosting energy efficiency (7).	Sri. R. Srinivas
16.	B20EE083	Walking charger using Piezoelectricity	7, 11	Harvests energy from human motion (7) for portable charging, a sustainable urban innovation (11).	Sri. R. Srinivas
17.	B20EE084	Brushless DC Motor	9, 12	An efficient motor technology (12) driving innovation in appliances, EVs, and industry (9).	Sri. R. Srinivas
18.	B20EE087	GPS and GSM based Rail Signaling and Traking System	9, 11	Enhances safety and efficiency of public rail transport (9,11).	Sri. B. Subhash
19.	B20EE088	ARDUINO-based smart street light system with accident avoidance...	9, 11	Uses innovation for smarter, safer urban infrastructure (9,11).	Sri. B. Subhash
20.	B20EE092	Wind speed prediction with machine learning techniques	7, 9	Improves the efficiency and reliability of wind power generation (7) using advanced data techniques (9).	Dr. P. Nagarjuna Reddy
21.	B20EE093	Integrating and Modeling the Vehicle to grid concept in Micro-grids	7, 9, 11	Turns EVs into grid assets, stabilizing microgrids with clean energy (7,9,11).	Sri. K. Srinivas
22.	B20EE095	Artificial Intelligence Techniques for fault location and detection...	9, 11	Enhances grid resilience and reliability (9,11) using AI for faster fault management.	Sri. K. Srinivas
23.	B20EE096	Artificial Intelligence in Power Systems	9, 11	Applies AI for optimizing, securing, and managing modern power grids (9,11).	Sri. K. Srinivas

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
24.	B20EE097	Underground cable fault detection method	9, 11	Improves maintenance and reliability of urban electrical infrastructure (9,11).	Sri. E.Thirupathi
25.	B20EE098	Bio Battery	7, 12	Explores bio-based energy sources (7) for potentially biodegradable/renewable power storage (12).	Sri. E.Thirupathi
26.	B20EE099	Electric Vehicle charging station Placement	7, 9, 11	Strategic planning of infrastructure critical for adopting clean transport (7,9,11).	Sri. E.Thirupathi
27.	B20EE100	Walk and charge	7, 11	Similar to piezoelectric chargers, promotes personal clean energy (7) in urban settings (11).	Sri. E.Thirupathi
28.	B20EE101	Electrical Gloves for women's safety	5, 16	Focuses on a safety product designed for women, addressing gender-specific protection needs (5) and promoting safety (16).	Ms. B. Reshma
29.	B20EE102	Power theft Detection	16	Aims to reduce non-technical losses (theft) in the electricity system, related to strong institutions and justice (16).	Ms. B. Reshma
30.	B20EE103	Flyingwheel Battery	7, 9	Mechanical energy storage innovation (9) for grid stability and renewable integration (7).	Ms. B. Reshma
31.	B20EE104	Super Capacitors	7, 9	Advanced energy storage technology (9) for rapid charging/ discharging, supporting clean energy systems (7).	Ms. B. Reshma
32.	B20EE105	Nanotechnology Enabled Hybrid Power System Suitable for Batteries...	7, 9	Applies cutting-edge nanotechnology (9) to improve energy systems for clean transport (7).	Ms. P. Shravya

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
33.	B20EE106	Wireless Power Transmission	7, 9	Enables cordless charging, an innovative (9) step towards convenient clean energy use (7).	Ms. P. Shravya
34.	B20EE111	Paper Battery	7, 12	Explores low-cost, potentially biodegradable energy storage (12) from novel materials (7).	Ms. P. Shravya
35.	B20EE113	Self Driving Vehicles	9, 11	Represents a major innovation in transport (9) with potential for safer, more efficient cities (11).	Dr. P. Nagarjuna Reddy
36.	B20EE115	MAGLEV	9, 11	High-speed, efficient rail technology (9) for sustainable transport infrastructure (11).	Dr. P. Nagarjuna Reddy
37.	B20EE116	Emerging applications and recent developments of solar PV technology	7, 9	Focuses on advancements and new uses of a key clean energy technology (7,9).	Dr. P. Nagarjuna Reddy
38.	B20EE118	Plastic Solar Cell	7, 12	Develops alternative, potentially low-cost/lighter solar materials (7,12).	Ms. B. Reshma
39.	B20EE119	Solar Mobile Charger	7	Direct application of solar energy (7) for powering personal electronics.	Ms. B. Reshma
40.	B21EE133L	Magnetic Levitation Train	9, 11	Same as MAGLEV - innovative transport (9) for sustainable infrastructure (11).	Dr. G. Sunil Kumar
41.	B21EE134L	Lightening Protection using Long Flashover arrestors	9, 11	Protects infrastructure from lightning, improving grid/power line resilience (9,11).	Dr. G. Sunil Kumar
42.	B21EE135L	HVDC Transmission Line System	7, 9	Enables efficient bulk power transfer over long distances, key for renewable integration (7)	Dr. G. Sunil Kumar

S. No.	Roll No.	Seminar Topic	SDGs Addressed	SDG Justification	Name of the Supervisor
				and grid modernization (9).	
43.	B21EE136L	Liquid Solar Energy System	7, 9	Likely involves innovative solar thermal or storage technology (9) for clean energy (7).	Sri. M. Srinivas
44.	B21EE137L	Increasing the output power and efficiency of solar panel...	7, 9	Directly aims to improve the performance and cost-effectiveness of solar energy (7,9).	Sri. M. Srinivas
45.	B21EE138L	Electric Traction	7, 9, 11	Powers trains/trams with electricity (7), a sustainable transport mode (11) using advanced drives (9).	Sri D. Sarath
46.	B21EE139L	Solar-Diesel Hybrid Power System	7, 9	Combines renewable and conventional sources for more reliable power (7), especially in off-grid areas (9).	Sri D. Sarath
47.	B21EE140L	Design Evolution of the ultrasonic Piezoelectric Motor...	9	Focuses on the development of a specialized, innovative motor technology (9).	Sri. B. Subhash
48.	B21EE141L	Techniques for Inspecting cracks in railway tracks	9, 11	Uses technology for maintenance, ensuring safety and reliability of rail infrastructure (9,11).	Sri. B. Subhash
49.	B21EE142L	The Global Super-Grid	7, 9, 13	A visionary concept for interconnecting global renewable resources (7,13) via advanced grid tech (9).	Dr. P. Nagarjuna Reddy
50.	B21EE143L	Optimal Location of Phasor Measuring unit's for better observability	9, 11	Enhances real-time monitoring and stability of smart grids (9,11).	Dr. P. Nagarjuna Reddy
51.	B21EE144L	Variables DC Power Supply with Backup unit	9, 12	Provides reliable and controllable power (9), reducing waste and improving efficiency (12).	Sri. K. Srinivas

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52.	B21EE145L	Automatic Solar Tracking System	7, 9	Increases solar energy yield (7) through automated mechanical innovation (9).	Sri. K. Srinivas
53.	B21EE146L	A new Thyristor-based DC circuit Breaker Using Diode Clamping switching	9	Develops a key protection device for modern HVDC and renewable-rich grids (9).	Sri. R. Srinivas
54.	B21EE147L	Enhancement of Li-Ion battery Performance at low Temperatures	7, 9, 12	Improves a critical technology for EVs and storage (7,12) through material/design innovation (9).	Sri. R. Srinivas
55.	B21EE148L	Automatic Control system of highway lights	9, 11	Smart infrastructure (9) for energy savings and safety on roads (11).	Sri. R. Srinivas
56.	B21EE149L	Home Automation using IR sensor	9, 12	Uses simple tech for automation, potentially increasing energy efficiency and convenience (9,12).	Ms. P. Shravya
57.	B21EE150L	Laser Power Transmission	7, 9	Explores an innovative (9) method for wireless energy transfer (7).	Ms. P. Shravya
58.	B21EE151L	Dual power source switching control to Li-Ion Battery Charger...	3, 9	Ensures reliable power for critical medical systems (3) using innovative control electronics (9).	Ms. P. Shravya
59.	B21EE152L	Hydrogen Fuel Cell Electrical Vehicle	7, 9, 13	Focuses on zero-emission vehicles (7,13) using advanced hydrogen fuel cell tech (9).	Dr. P. Nagarjuna Reddy
60.	B21EE153L	Solar Harvesting Tree	7, 9, 11, 15	An artistic/architectural integration of solar tech (7,9) in urban (11) or natural (15) settings.	Dr. P. Nagarjuna Reddy
61.	B21EE154L	Soft starting of 3-Phase	9, 12	Reduces inrush current, saving energy and reducing mechanical	Dr. P. Nagarjuna Reddy

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		Induction Motors		stress (12) using power electronics (9).	
62.	B21EE155L	IOT Technology	9	Enabling technology for smart grids, cities, and industries, core to innovation (9).	Sri. E. Thirupathi
63.	B21EE156L	Dry former and power former	9	Advanced electrical equipment technology for improved insulation and reliability in generators (9).	Sri. E. Thirupathi
64.	B21EE157L	Integrated Safety and Driving Assistance System	9, 11	Uses sensors and control systems to enhance vehicle safety (9,11), reducing accidents.	Sri. E.Thirupathi