Ministry of Micro, Small and Medium Enterprises, Government of India

MSME MICRO, SMALL & MEDIUM ENTERPRISES

SINCE 2007

CERTIFIED ISO 9001:2015 COMPANY

ACADEMIC LIVE PROJECTS 2024-25

takeoff edu® GROUP

ELECTRICAL

- Power Systems
- Power Electronics
- Electrical Drives
- Control Systems
- Hardware & more

+91 9030 333 433, +91 8776 681 444

NASSCOM

Skill India कौशल भारत-कुशल भारत

THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS • INDIA •

startupindia

CII Confederation of Indian Industry

TOGETHER FOR BETTER TOMORROW. TCOAP TECHNOLOGICAL COMPANIES OF ANDHRA PRADESH

2024 – 2025 EEE POWER SYSTEMS IEEE TITLES

TITLE ID	TITLE	DOMAIN
TEMAPS881, TEMAPE342, TEMAED243, TEPGPS871, TEPGPE309, TEPGED237,	**Hybrid Compensation Based Efficient Wireless Charging System Design with Solar Photovoltaic Interface Toward Sustainable Transportation** **Objective:** The main objective of this project, is to design an efficient wireless charging system integrated with a solar photovoltaic interface to support sustainable transportation. The focus is on improving energy transfer efficiency and ensuring reliable power delivery to electric vehicles (EVs) using renewable energy sources.	Solar Power Generation
TEMAPS883, TEPGPS873, TEMACS866, TEPGCS112, TEMAPE344, TEPGPE311	**An Adaptive Fuzzy Controller-Based Distributed Voltage Control Strategy for a Remote Microgrid System With Solar Energy and Battery Support** **Objective**: The main objective of this project is to propose an adaptive fuzzy controller-based distributed voltage control strategy for a remote microgrid system with solar energy and battery support.	Solar Power Generation
TEMAPS878, TEPGPS868, TEMAPE341, TEPGPE308	**Two-Stage Three-Phase Transformerless Hybrid Multilevel Inverter for Solar PV Application** **Objective:** The main objective of this project, is to develop an efficient, high-performance inverter system that converts the direct current	Solar Power Generation

	(DC) from solar photovoltaic (PV) panels into alternating current (AC) suitable for grid integration or load supply.	
TEMAPS879, TEPGPS869, TEMACS864, TEPGCS110, TEMAED242, TEPGED236	**Generalized DSC-FDC-PLL Based Synchronization of PV Array-BES Fed Water Pump System With Utility Grid** **Objective**: The Main objective of this project is to develop and implement a generalized delayed signal cancellation (GDSC)-based phase-locked loop (PLL) for synchronizing a photovoltaic (PV) array and battery-supported water pump system with the utility grid, ensuring efficient power management in both grid-connected and islanded modes.	Solar Power Generation
TEMAPS872, TEMAPE337, TEPGPS862, TEPGPE304	**A Capacitor Voltage Balancing Hybrid PWM Technique to Improve the Performance of T-Type NPC Inverters** **Objective:** The main objective of this project is to improve the performance of T-Type NPC Inverters by using a capacitor voltage balancing hybrid PWM technique.	Solar Power Generation
TEMAPS871, TEPGPS861, TEMAED240, TEPGED234, TEMACS860, TEPGCS106	**GAO Optimized Sliding Mode Based Reconfigurable Step Size Pb&O MPPT Controller With Grid Integrated EV Charging Station** **Objective:** The main objective of this project is to develop a GAO-optimized sliding mode-based reconfigurable step size Pb&O MPPT controller to maximize the efficiency of PV systems. This system will seamlessly integrate with grid-connected EV charging stations, ensuring optimal energy utilization and reliable 24/7 charging.	Solar Power Generation

TEMAPS868, TEMAPE334, TEMACS858, TEPGPS858, TEPGPE301, TEPGCS104	**Modulated Predictive Current Control of Photovoltaic Central NPC Inverter With Reduced Computational Burden** **Objective:** The main objective of this project is to develop and implement a modulated predictive current control strategy for a photovoltaic central NPC inverter, to enhance performance while minimizing computational demands.	Solar Power Generation
TEMAPS867, TEPGPS857, TEMAPE333, TEPGPE300	**Single-Phase 15-Level Switched-Capacitor Boost Multilevel Inverter Topology for Renewable Energy Applications** **Objective:** The main objective of this project is to provide a high-efficiency, low-cost inverter that can boost and convert DC power from renewable sources into high-quality AC power, while reducing the number of power electronic components and achieving better voltage regulation and harmonic performance.	Solar Power Generation
TEMAPS858, TEPGPS848, TEMAED238, TEPGED232	**Conjugate-Gradient Based Control in a Grid-Integrated PV With 24/7 Distortion-Free Charging for Bidirectional EV Charger** **Objective:** The main objective of this project is to optimize the power flow and enhance the efficiency of energy transfer between the grid, PV system, and EV charger. This approach aims to minimize harmonic distortions and ensure seamless charging and discharging of EV batteries, promoting reliable and sustainable energy management.	Solar Power Generation

TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299	**Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules** The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.	Solar Power Generation
TEMAPS859, TEMACS855, TEPGPS849, TEPGCS101	**A Fuzzy-Based Adaptive P&O MPPT Algorithm for PV Systems with Fast Tracking and Low Oscillations Under Rapidly Irradiance Change Conditions** **Objective:** The main objective of this project is to get fast tracking and low oscillations under rapidly irradiance change conditions in PV system by using Fuzzy-Based adaptive P&O MPPT Algorithm.	Solar Power Generation
TEMAPS860, TEMAPS861, TEPGPS850, TEPGPS851, TEMAPE328, TEPGPE295	**Voltage Feed-Forward Control of Photovoltaic Battery DC Microgrid Based on Improved Seeker Optimization Algorithm** **Objective:** The main objective of this project is to develop a voltage feed-forward control system for a photovoltaic-battery DC microgrid, utilizing an Improved Seeker Optimization Algorithm (ISOA).	Solar Power Generation
TEMAPS856, TEPGPS846, TEMAPS857, TEPGPS847, TEMAED236, TEPGED230	**A Single-Stage Bridgeless PFC Charger with Enhanced Power Quality for LEV Mounted Solar PV Panel** **Objective:** The main objective of the project is to design a single-stage bridgeless Power Factor	Solar Power Generation

	Correction (PFC) charger that enhances power quality for solar photovoltaic (PV) panels installed on light electric vehicles (LEVs). This integrated approach optimizes efficiency, minimizes power losses.	
TEMAPS854, TEMACS854, TEPGPS845, TEPGCS100	**Improved Photovoltaic MPPT Algorithm Based on Ant Colony Optimization and Fuzzy Logic Under Conditions of Partial Shading** **Objective:** The main objective of this project is to get the improved performance from PV array by using the AFO based MPPT algorithm under partial shading conditions.	Solar Power Generation
TEMAPS855, TEPGPS843, TEMAPS853, TEPGPS844	**Three-Phase Grid Connected Shunt Active Power Filter Based on Adaptive Q-LMF Control Technique** **Objective:** The main objective of this project is to improve power quality in dynamic conditions in Three-Phase grid connected applications by using SAPF based on Q-LMF control Technique.	Solar Power Generation
TEPGPS839, TEMAPS848, TEPGPS838, TEMAPS847	**Active Power Sharing Scheme in a PV Integrated DC Microgrid With Composite Energy Storage Devices** **Objective:** The main objective of this project is to optimize power distribution among storage systems to enhance stability and efficiency. This ensures balanced power output, improved system reliability, and voltage stability.	Solar Power Generation
TEMAPS827, TEMAED224, TEPGPS818, TEPGED218	**Integrated Three-Port Converter for Solar-Charged Electric Vehicle Applications** **Objective:** The main objective of this project	Solar Power Generation

	is to efficiently manage power flow from solar panels to both a high-voltage battery (HVB) and a low-voltage battery (LVB). Optimizing the use of solar energy even under partial shading conditions.	
TEMAPS833, TEMAPS834, TEPGPS824, TEPGPS825, TEMACS102, TEPGCS96	**Experimental Investigations on Photovoltaic Interface Neutral Point Clamped Multilevel Inverter-Based Shunt Active Power Filter to Enhance Grid Power Quality** **Objective:** The main objective of this project is to enhance the power quality by using PV interfaced NPC-MLI based shunt active power filter in grid related applications.	Solar Power Generation
TEMAPS813, TEMAPS814, TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212	**Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid** **Objective:** The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated control strategies.	Solar Power Generation
TEMAPS846, TEPGPS837, TEMAPE325, TEPGPE292, TEMAED234, TEPGED228	**A New Multilevel Inverter with Reduced Component Count for a Standalone Solar Energy Conversion System** **Objective**: The main objective of this project is to propose a new multilevel inverter with reduced component count for a standalone solar energy conversion system-based application.	Solar Power Generation

TEMAPS838, TEMAPS839, TEPGPS829, TEPGPS830, TEMAPE322, TEPGPE289	**Grid-Forming Voltage-Source Inverter for Hybrid Wind-Solar Systems Interfacing Weak Grids** **Objective**: The main objective of this project is to propose a grid forming voltage source inverter for hybrid wind-solar systems interfacing weak grids.	Solar Power Generation
TEMAPS823, TEMAPS824, TEPGPS814, TEPGPS815, TEMACS100, TEPGCS94	**Advance Controller for Power Quality and Performance Improvement of Grid-Connected Single-Phase Rooftop PVS** **Objective:** The main objective of this project is to enhance power quality and to improve performance of grid-connected single phase roof top photo-voltaic systems by optimizing power output and ensuring stable, efficient integration with the grid.	Solar Power Generation
TEMAPS828, TEMAPS829, TEPGPS819, TEPGPS820	**Dual Fuzzy-Sugeno Method to Enhance Power Quality Performance using a Single-phase Dual UPQC-Dual PV Without DC-Link Capacitor** **Objective:** The main objective of this project is enhancing power quality performance superior voltage regulation and load balancing without the use of a DC-Link capacitor in Single-Phase Dual-UPQC and Dual PV.	Solar Power Generation
TEMAPS826, TEPGPS817, TEMAPE317, TEPGPE284, TEMAED222, TEPGED216	**Cascaded Interleaved DC–DC Converter for a Bidirectional Electric Vehicle Charging Station** **Objective:** The main objective of this project is to propose a cascaded interleaved DC-DC converter for a bidirectional Electric Vehicle charging station to reduce current and voltage	Solar Power Generation

	stress on the semi-conductors and passive elements.	
TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315, TEPGPE281, TEPGPE282, TEMAED220, TEPGED214	**Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC–DC Converter and Solar Roof** **Objective:** The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.	Solar Power Generation
TEMAPS807, TEPGPS807, TEMAPE304, TEPGPE276, TEMACS98, TEPGCS92	**Designing of a PSO-Based Adaptive SMC With a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions** **Objective:** The main objective of this project is to design a PSO-based Adaptive SMC with a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions to enhance the overall efficiency and stability of the PV system.	Solar Power Generation
TEMAPS802, TEMAED217, TEPGPS801, TEPGED211	**Efficient Bidirectional Wireless Power Transfer System Control Using Dual Phase Shift PWM Technique for Electric Vehicle Applications** **Objective:** The main objective of this project is to optimize charging efficiency and enable power from G2V and V2G by using bidirectional wireless power transfer system. It focuses on dynamic efficiency adjustments and seamless integration with EV and smart grid infrastructures.	Solar Power Generation
TEMAPS798, TEMAPS799, TEMAPS800,	**Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar**	Solar Power Generation

TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	**PV/Wind Systems Into Power Networks** **Objective:** The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.	
TEMAPS801, TEPGPS800, TEMAPE302, TEPGPE274	**Design of an Extendable High Boost Multi-Port Z-Network Converter for Small Power Grid-Connected PV Applications** **Objective**: The main objective of this project is to propose an extendable high boost Multi-port Z-Network converter for implementing in Grid Connected PV Applications.	Solar Power Generation
TEMAPS795, TEPGPS794, TEMAPE296, TEPGCS89, TEMAPE221, TEPGPE193, TEPGPE194	**Enhancement of Solar PV Efficiency Using Double Integral Sliding Mode MPPT Control** **Objective:** The main objective of this project is to enhance the efficiency of Solar Photovoltaic (PV) Panels through the implementation of a Double Integral Sliding Mode Maximum Power Point Tracking (MPPT) Control Strategy.	Solar Power Generation
TEMAPS796, TEMAPE298, TEPGPS795, TEPGPE270	**Design and Analysis of Novel High-Gain Boost Converter for Renewable Energy Systems (RES)** **Objective:** The main objective of this project is to create and evaluate a high-gain boost converter customized for RES prioritizing efficiency and performance optimization for sustainable energy applications.	Solar Power Generation

TEMAPS884, TEMACS867, TEPGPS874, TEPGCS113	**A Novel Coordinated Control Strategy for Frequency Regulation of MMC-HVDC Connecting Offshore Wind Farm** **Objective:** The main objective of this project is to regulate the frequency by using a novel coordinated control strategy for MMC-HVDC systems connecting offshore wind farms (OWFs)	Wind Power Generation
TEMAPS882, TEPGPS872, TEMAED244, TEPGED238, TEMAPE343, TEPGPE310	**Enhancing Zero Voltage Ride Through of PMSG-Based Wind Generator With Interchange of Converter Control and Optimized Supercapacitor Energy Storage System** **Objective:** The main objective of this project is to improve the reliability and stability of wind energy systems during grid disturbances. This is achieved by optimizing the control strategy of the converter and incorporating a super-capacitor-based energy storage system.	Wind Power Generation
TEMAPS880, TEPGPS870, TEMACS865, TEPGCS111	**Dual-Sequence Synchronization Stability Analysis and Control of Multi-Paralleled Wind Farms During Asymmetrical Grid Faults** **Objective:** The main objective of this project is to implement stability assessment method and a current control strategy to achieve the margin of dual-sequence synchronization under asymmetrical grid faults.	Wind Power Generation
TEMAPS877, TEPGPS867, TEMACS862, TEPGCS108	**Virtual Synchronous Generator Control Strategy of Grid-Forming Matrix Converter for Renewable Power Generation**	Wind Power Generation

	Objective: The main objective of this project is to enhance grid stability and mimic the inertia of conventional synchronous generators. This approach ensures smooth integration of renewable energy sources into the power grid by regulating voltage and frequency, thereby improving system reliability and providing support during grid disturbances.	
TEMAPS875, TEMAPE339, TEPGPS865, TEPGPE306	**An Ingenious Technique to Track the Maximum Power Point for a Wind Energy System** **Objective:** The main objective of this project is to develop an advanced Maximum Power Point Tracking (MPPT) technique for Wind Energy Conversion Systems (WECS). The goal is to maximize the extraction of power from wind energy systems by improving the efficiency and reducing oscillations around the MPP.	Wind Power Generation
TEMAPS876, TEPGPS866, TEMAED241, TEPGED235	**Passive Control for Brushless Doubly-Fed Reluctance Generator Under Unbalanced Grid Voltages** **Objective:** The main objective of this project is to develop a passive control strategy for Brushless Doubly-Fed Reluctance Generators (BDFRGs) that effectively mitigates the adverse effects of unbalanced grid voltages.	Wind Power Generation
TEMAPS836, TEPGPS827, TEMAED228,	**Experimental Validation of Feedback PI Controllers for Multi-Rotor Wind Energy Conversion Systems**	Wind Power Generation

TEPGED222	**Objective:** The main objective of this project is to access the performance and stability analysis of the controllers in real-world conditions and evaluating their ability to maintain optimal rotor speeds and maximize energy conversion efficiency under varying wind conditions.	
TEPGPE288, TEMAPE321, TEPGPS826, TEMAPS835	**A Maximum Power Point Tracking Technique for a Wind Power System Based on the Trapezoidal Rule** **Objective:** The main objective of this project is to propose a maximum power point tracking (MPPT) technique for a wind power system based on the Trapezoidal Rule is to enhance the efficiency and output of the wind turbine system	Wind Power Generation
TEMAPS838, TEMAPS839, TEPGPS829, TEPGPS830, TEMAPE322, TEPGPE289	**Grid-Forming Voltage-Source Inverter for Hybrid Wind-Solar Systems Interfacing Weak Grids** **Objective**: The main objective of this project is to propose a grid forming voltage source inverter for hybrid wind-solar systems interfacing weak grids.	Wind Power Generation
TEMAPS832, TEMAPE319, TEMAED227, TEPGPS823, TEPGPE286, TEPGED221	**A Unidirectional Cascaded High-Power Wind Converter With Reduced Number of Active Devices** **Objective:** The main objective of this project is to reduce the number of active devices by using a Unidirectional Cascaded High-Power Wind Converter.	Wind Power Generation
TEMAPS844, TEMAPS845, TEPGPS835, TEPGPS836, TEMAED233, TEPGED227	**Coordinated Control of Grid-Connected PMSG Based Wind Energy System With STATCOM and Supercapacitor Energy Storage** **Objective:** The main objective of this project is	Wind Power Generation

	to propose a coordinated control of grid connected PMSG based wind energy system with STATCOM and supercapacitor energy storage systems.	
TEMAPS813, TEMAPS814, TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212	**Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid** **Objective:** The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated control strategies.	Wind Power Generation
TEMAPS830, TEPGPS821, TEMAED225, TEPGED219	**Stability Analysis and Enhanced Virtual Synchronous Control for Brushless Doubly-fed Induction Generator Based Wind Turbines** **Objective:** The main objective of this project is to analyze the stability and propose the virtual synchronous control for Brushless Doubly-fed Induction Generator Based Wind Turbines.	Wind Power Generation
TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	**Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks** **Objective:** The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration	Wind Power Generation

	of Hybrid Solar PV/Wind systems into power networks.	
TEMAPS873, TEPGPS863, TEMACS861, TEPGCS107	**Optimized PI Gain in UPQC Control Based on Improved Zero Attracting Normalized LMS** **Objective:** The main objective of this project is developing an enhanced control scheme for a 4-wire unified power quality conditioner (UPQC) using the improved reweighted zero Attracting normalized LMS (IRZA-NLMS) and self-adaptive multi population Rao (SAMP-Rao) optimization to effectively mitigate power quality issues.	Power Quality
TEMAPS862, TEPGPS852, TEMAPE330, TEPGPE297, TEMAPS863, TEPGPS853	**Improving Active Resonance Damping and Unbalanced Voltage Mitigation Based on Combined DDSRF and Washout Filter in Islanded Microgrids** **Objective:** The main objective of this project is to develop and implement a combined approach using Double Decoupled Synchronous Reference Frame (DDSRF) and Washout Filter techniques to enhance active resonance damping and mitigate unbalanced voltage conditions in islanded microgrids. This combined approach aims to improve the stability, reliability, and power quality of islanded microgrids, ensuring efficient and continuous operation under varying load and generation conditions.	Power Quality
TEMAPS856, TEPGPS846,	**A Single-Stage Bridgeless PFC Charger with Enhanced Power Quality for LEV Mounted**	Power Quality

TEMAPS857, TEPGPS847, TEMAED236, TEPGED230	**Solar PV Panel** **Objective:** The main objective of the project is to design a single-stage bridgeless Power Factor Correction (PFC) charger that enhances power quality for solar photovoltaic (PV) panels installed on light electric vehicles (LEVs). This integrated approach optimizes efficiency, minimizes power losses.	
TEMACS853, TEMAPS851, TEPGPS842, TEPGCS99	**An Advanced Control Strategy for a Weak Grid-Connected DG for Enhancing Voltage Support During Co-occurrence of Sag and Swell** **Objective:** The main objective of this project is advanced control strategy for a weak grid-connected DG system is to ensure stable operation, enhance voltage support, and improve overall power quality during sag and swell events. By achieving these, strategy contributes to reliable and efficient integration of DG into the grid, supporting sustainable energy practices and enhancing grid resilience.	Power Quality
TEMAPS855, TEPGPS843, TEMAPS853, TEPGPS844	**Three-Phase Grid Connected Shunt Active Power Filter Based on Adaptive Q-LMF Control Technique** **Objective:** The main objective of this project is to improve power quality in dynamic conditions in Three-Phase grid connected applications by using SAPF based on Q-LMF control Technique.	Power Quality
TEMACS104, TEPGCS98, TEMAPE324, TEPGPE291, TEMAPS843,	**Predictive Control of PMSG-Based Hydro-Electric System with Battery Supported UPQC** **Objective:** The main objective of this project is	Power Quality

TEPGPS834	to propose a predictive control to achieve efficient, stable, and high-quality power generation and distribution from the PMSG-based hydro-electric system, supplemented by the battery-supported UPQC	
TEPGCS97, TEMACS103, TEPGPS832, TEMAPS841	**Enhanced the Hosting Capacity of a Photovoltaic Solar System Through the Utilization of a Model Predictive Controller** **Objective:** The main objective of this project is to enhance the hosting capacity of a photovoltaic solar system by utilizing a Model Predictive Controller (MPC) to efficiently manage power flow, thereby maximizing the integration of renewable energy.	Power Quality
TEMAPS833, TEMAPS834, TEPGPS824, TEPGPS825, TEMACS102, TEPGCS96	**Experimental Investigations on Photovoltaic Interface Neutral Point Clamped Multilevel Inverter-Based Shunt Active Power Filter to Enhance Grid Power Quality** **Objective:** The main objective of this project is to enhance the power quality by using PV interfaced NPC-MLI based shunt active power filter in grid related applications.	Power Quality
TEMAPS823, TEMAPS824, TEPGPS814, TEPGPS815, TEMACS100, TEPGCS94	**Advance Controller for Power Quality and Performance Improvement of Grid-Connected Single-Phase Rooftop PVS** **Objective:** The main objective of this project is to enhance power quality and to improve performance of grid-connected single phase roof top photo-voltaic systems by optimizing power output and ensuring stable, efficient integration with the grid.	Power Quality

TEMAPS817, TEPGPS813	**Power Quality Improvement in Commercial and Industrial Sites: An Integrated Approach Mitigating Power Oscillations** **Objective:** The main objective of this project is to develop advanced control strategies and state of the art technologies to stabilize voltage and frequency, reduce oscillations, and ensure a reliable and efficient power supply, ultimately improving operational efficiency and minimizing downtime.	Power Quality
TEMAPS828, TEMAPS829, TEPGPS819, TEPGPS820	**Dual Fuzzy-Sugeno Method to Enhance Power Quality Performance using a Single-phase Dual UPQC-Dual PV Without DC-Link Capacitor** **Objective:** The main objective of this project is enhancing power quality performance superior voltage regulation and load balancing without the use of a DC-Link capacitor in Single-Phase Dual-UPQC and Dual PV.	Power Quality
TEMAPS844, TEMAPS845, TEPGPS835, TEPGPS836, TEMAED233, TEPGED227	**Coordinated Control of Grid-Connected PMSG Based Wind Energy System with STATCOM and Supercapacitor Energy Storage** **Objective:** The main objective of this project is to propose a coordinated control of grid connected PMSG based wind energy system with STATCOM and supercapacitor energy storage systems.	Power Quality
TEMAPS803, TEPGPS802	**Voltage Sag, Swell, and Interruption Compensation Using DVR Based on Energy Storage Device**	Power Quality

	Objective: The main objective of this project is to compensate voltage sag and swell by using DVR based on Energy Storage Device.	
TEMAPS804, TEMACS97, TEPGPS804, TEPGCS91	**Small Signal Modeling and Performance Analysis of Conventional- and Dual-UPQC** **Objective:** The main objective of this project is to analyze the performance of conventional and Dual-UPQC in a grid connected system.	Power Quality
TEMAPS865, TEPGPS855, TEMAPS866, TEPGPS856, TEMACS857, TEPGCS103	**Smooth and Uninterrupted Operation of Standalone DC Microgrid Under High and Low Penetration of RESs** **Objective:** The main objective of the project to ensure that a standalone DC microgrid operates seamlessly and without interruption, regardless of the fluctuations in Renewable Energy Sources (RESs). This involves maintaining a stable power supply in spite of varying levels of RES penetration.	Hybrid Systems
TEPGPS841, TEPGPS840, TEMAPS850, TEMAPS849	**Grid-Interactive Smooth Transition Control of Wind-Solar-DG Based Microgrid at Unpredictable Weather Conditions** **Objective:** The main objective of the project is to develop a reliable microgrid system integrating wind, solar, and diesel generator (DG) power sources to ensure continuous power supply during both on-grid and off-grid modes in Unpredictable Weather Conditions.	Hybrid Systems
TEMAPS831, TEPGPS822, TEMAED226, TEPGED220	**HESS management for Virtual Inertia, Frequency and Voltage Support through Off-board EV Bidirectional Chargers**	Hybrid Systems

	Objective: The main objective of this project is to enhance grid stability by dynamically balancing power supply and demand, providing rapid frequency response and maintaining voltage levels.	
TEMAPS813, TEMAPS814, TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212	**Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid** **Objective:** The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated control strategies.	Hybrid Systems
TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	**Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks** **Objective:** The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.	Hybrid Systems
TEMAPS874, TEPGPS864, TEMAPE338, TEPGPE305	**An Unbalance and Power Controller Allowing Smooth Islanded Transitions in Three-Phase Microgrids** **Objective**: The main objective of this project is to develop a power controller for seamless islanded transitions in three-phase microgrids, ensuring stable voltage and frequency during grid-to-island mode shifts.	Microgrid

TEMAPS865, TEPGPS855, TEMAPS866, TEPGPS856, TEMACS857, TEPGCS103	**Smooth and Uninterrupted Operation of Standalone DC Microgrid Under High and Low Penetration of RESs** **Objective:** The main objective of the project to ensure that a standalone DC microgrid operates seamlessly and without interruption, regardless of the fluctuations in Renewable Energy Sources (RESs). This involves maintaining a stable power supply in spite of varying levels of RES penetration.	Microgrid
TEMAPS862, TEPGPS852, TEMAPE330, TEPGPE297, TEMAPS863, TEPGPS853	**Improving Active Resonance Damping and Unbalanced Voltage Mitigation Based on Combined DDSRF and Washout Filter in Islanded Microgrids** **Objective:** The main objective of this project is to develop and implement a combined approach using Double Decoupled Synchronous Reference Frame (DDSRF) and Washout Filter techniques to enhance active resonance damping and mitigate unbalanced voltage conditions in islanded microgrids. This combined approach aims to improve the stability, reliability, and power quality of islanded microgrids, ensuring efficient and continuous operation under varying load and generation conditions.	Microgrid
TEMAPS860, TEMAPS861, TEPGPS850, TEPGPS851, TEMAPE328, TEPGPE295	**Voltage Feed-Forward Control of Photovoltaic Battery DC Microgrid Based on Improved Seeker Optimization Algorithm** **Objective:** The main objective of this project is to develop a voltage feed-forward control system for a photovoltaic-battery DC microgrid, utilizing an Improved Seeker Optimization Algorithm (ISOA).	Microgrid

TEPGPS841, TEPGPS840, TEMAPS850, TEMAPS849	**Grid-Interactive Smooth Transition Control of Wind-Solar-DG Based Microgrid at Unpredictable Weather Conditions** **Objective:** The main objective of the project is to develop a reliable microgrid system integrating wind, solar, and diesel generator (DG) power sources to ensure continuous power supply during both on-grid and off-grid modes in Unpredictable Weather Conditions.	Microgrid
TEPGPS839, TEMAPS848, TEPGPS838, TEMAPS847	**Active Power Sharing Scheme in a PV Integrated DC Microgrid With Composite Energy Storage Devices** **Objective:** The main objective of this project is to optimize power distribution among storage systems to enhance stability and efficiency. This ensures balanced power output, improved system reliability, and voltage stability.	Microgrid
TEMACS99, TEPGCS93, TEMAPS811, TEPGPS811	**Impedance Model Based Coordination Control of Secondary Ripple in DC Microgrid** **Objective:** The main objective of this project is to develop a continuous coordination control method based on impedance models for mitigating secondary ripple in DC Microgrids	Microgrid
TEMAPS837, TEPGPS828, TEMAED229, TEPGED223	**Analysis of Renewable Energy Sources and Electrical Vehicles Integration Into Microgrid** **Objective:** The main objective of this project is to analyze how the renewable energy sources and electric vehicles are responding to load changes at grid.	Microgrid

2024 – 2025 EEE Control Systems IEEE TITLES

TITLE ID	TITLE	DOMAIN
TEMAPS884, TEMACS867, TEPGPS874, TEPGCS113	**A Novel Coordinated Control Strategy for Frequency Regulation of MMC-HVDC Connecting Offshore Wind Farm** **Objective:** The main objective of this project is to regulate the frequency by using a novel coordinated control strategy for MMC-HVDC systems connecting offshore wind farms (OWFs)	Control Systems
TEMAPS880, TEPGPS870, TEMACS865, TEPGCS111	**Dual-Sequence Synchronization Stability Analysis and Control of Multi-Paralleled Wind Farms During Asymmetrical Grid Faults** **Objective:** The main objective of this project is to implement stability assessment method and a current control strategy to achieve the margin of dual-sequence synchronization under asymmetrical grid faults.	Control Systems
TEMAPS883, TEPGPS873, TEMACS866, TEPGCS112, TEMAPE344, TEPGPE311	**An Adaptive Fuzzy Controller-Based Distributed Voltage Control Strategy for a Remote Microgrid System With Solar Energy and Battery Support** **Objective**: The main objective of this project is to propose an adaptive fuzzy controller-based distributed voltage control strategy for a remote microgrid system with solar energy and battery support.	Control Systems
TEMAPS879, TEPGPS869, TEMACS864, TEPGCS110,	**Generalized DSC-FDC-PLL Based Synchronization of PV Array-BES Fed Water Pump System With Utility Grid**	Control Systems

TEMAED242, TEPGED236	**Objective**: The Main objective of this project is to develop and implement a generalized delayed signal cancellation (GDSC)-based phase-locked loop (PLL) for synchronizing a photovoltaic (PV) array and battery-supported water pump system with the utility grid, ensuring efficient power management in both grid-connected and islanded modes.	
TEMACS863, TEMAPE340, TEPGCS109, TEPGPE307	**Adaptive Control for Improved Virtual Synchronous Generator Under Imbalanced Grid Voltage** **Objective:** The main objective of this project is to develop an adaptive control strategy for a Virtual Synchronous Generator (VSG) that enhances performance and stability under imbalanced grid voltage conditions.	Control Systems
TEMAPS877, TEPGPS867, TEMACS862, TEPGCS108	**Virtual Synchronous Generator Control Strategy of Grid-Forming Matrix Converter for Renewable Power Generation** **Objective:** The main objective of this project is to enhance grid stability and mimic the inertia of conventional synchronous generators. This approach ensures smooth integration of renewable energy sources into the power grid by regulating voltage and frequency, thereby improving system reliability and providing support during grid disturbances.	Control Systems
TEMAPS873, TEPGPS863, TEMACS861, TEPGCS107	**Optimized PI Gain in UPQC Control Based on Improved Zero Attracting Normalized LMS**	Control Systems

	Objective: The main objective of this project is developing an enhanced control scheme for a 4-wire unified power quality conditioner (UPQC) using the improved reweighted zero Attracting normalized LMS (IRZA-NLMS) and self-adaptive multi population Rao (SAMP-Rao) optimization to effectively mitigate power quality issues.	
TEMAPS871, TEPGPS861, TEMAED240, TEPGED234, TEMACS860, TEPGCS106	**GAO Optimized Sliding Mode Based Reconfigurable Step Size Pb&O MPPT Controller With Grid Integrated EV Charging Station** **Objective:** The main objective of this project is to develop a GAO-optimized sliding mode-based reconfigurable step size Pb&O MPPT controller to maximize the efficiency of PV systems. This system will seamlessly integrate with grid-connected EV charging stations, ensuring optimal energy utilization and reliable 24/7 charging.	Control Systems
TEMAPS868, TEMAPE334, TEMACS858, TEPGPS858, TEPGPE301, TEPGCS104	**Modulated Predictive Current Control of Photovoltaic Central NPC Inverter With Reduced Computational Burden** **Objective:** The main objective of this project is to develop and implement a modulated predictive current control strategy for a photovoltaic central NPC inverter, to enhance performance while minimizing computational demands.	Control Systems
TEMACS859, TEPGCS105, TEMAPE335, TEPGPE302	**Grid-Connected Converter with Grid-Forming and Grid-Following Modes Presenting Symmetrical and Asymmetrical Fault Ride-Through Capability** **Objective:** The main objective of this project is to propose a grid-connected converter with grid-forming and grid following modes presenting symmetrical and asymmetrical fault ride-through	Control Systems

	capability.	
TEMAPS865, TEPGPS855, TEMAPS866, TEPGPS856, TEMACS857, TEPGCS103	**Smooth and Uninterrupted Operation of Standalone DC Microgrid Under High and Low Penetration of RESs** **Objective:** The main objective of the project to ensure that a standalone DC microgrid operates seamlessly and without interruption, regardless of the fluctuations in Renewable Energy Sources (RESs). This involves maintaining a stable power supply in spite of varying levels of RES penetration.	Control Systems
TEMAPS859, TEMACS855, TEPGPS849, TEPGCS101	**A Fuzzy-Based Adaptive P&O MPPT Algorithm for PV Systems with Fast Tracking and Low Oscillations Under Rapidly Irradiance Change Conditions** **Objective:** The main objective of this project is to get fast tracking and low oscillations under rapidly irradiance change conditions in PV system by using Fuzzy-Based adaptive P&O MPPT Algorithm.	Control Systems
TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299	**Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules** The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.	Control Systems
TEMACS853, TEMAPS851, TEPGPS842, TEPGCS99	**An Advanced Control Strategy for a Weak Grid-Connected DG for Enhancing Voltage Support During Co-occurrence of Sag and Swell** **Objective:** The main objective of this project is	Control Systems

	advanced control strategy for a weak grid-connected DG system is to ensure stable operation, enhance voltage support, and improve overall power quality during sag and swell events. By achieving these, strategy contributes to reliable and efficient integration of DG into the grid, supporting sustainable energy practices and enhancing grid resilience.	
TEMAPS854, TEMACS854, TEPGPS845, TEPGCS100	**Improved Photovoltaic MPPT Algorithm Based on Ant Colony Optimization and Fuzzy Logic Under Conditions of Partial Shading** **Objective:** The main objective of this project is to get the improved performance from PV array by using the AFO based MPPT algorithm under partial shading conditions.	Control Systems
TEMACS104, TEPGCS98, TEMAPE324, TEPGPE291, TEMAPS843, TEPGPS834	**Predictive Control of PMSG-Based Hydro-Electric System with Battery Supported UPQC** **Objective:** The main objective of this project is to propose a predictive control to achieve efficient, stable, and high-quality power generation and distribution from the PMSG-based hydro-electric system, supplemented by the battery-supported UPQC	Control Systems
TEPGCS97, TEMACS103, TEPGPS832, TEMAPS841	**Enhanced the Hosting Capacity of a Photovoltaic Solar System Through the Utilization of a Model Predictive Controller** **Objective:** The main objective of this project is to enhance the hosting capacity of a photovoltaic solar system by utilizing a Model Predictive Controller (MPC) to efficiently manage power flow, thereby maximizing the integration of renewable energy.	Control Systems

TEMAPE320, TEPGPE287, TEMACS101, TEPGCS95	**Sliding Mode Control of Vienna Rectifier Under Unbalanced Weak Power Grid** **Objective:** The main objective of this project is to control the Vienne Rectifier by using Sliding Mode Controller under unbalanced weak power grid.	Control Systems
TEMAPS833, TEMAPS834, TEPGPS824, TEPGPS825, TEMACS102, TEPGCS96	**Experimental Investigations on Photovoltaic Interface Neutral Point Clamped Multilevel Inverter-Based Shunt Active Power Filter to Enhance Grid Power Quality** **Objective:** The main objective of this project is to enhance the power quality by using PV interfaced NPC-MLI based shunt active power filter in grid related applications.	Control Systems
TEMAPS823, TEMAPS824, TEPGPS814, TEPGPS815, TEMACS100, TEPGCS94	**Advance Controller for Power Quality and Performance Improvement of Grid-Connected Single-Phase Rooftop PVS** **Objective:** The main objective of this project is to enhance power quality and to improve performance of grid-connected single phase roof top photo-voltaic systems by optimizing power output and ensuring stable, efficient integration with the grid.	Control Systems
TEMAPS804, TEMACS97, TEPGPS804, TEPGCS91	**Small Signal Modeling and Performance Analysis of Conventional- and Dual-UPQC** **Objective:** The main objective of this project is to analyze the performance of conventional and Dual-UPQC in a grid connected system.	Control Systems

TEMAPS807, TEPGPS807, TEMAPE304, TEPGPE276, TEMACS98, TEPGCS92	**Designing of a PSO-Based Adaptive SMC With a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions** **Objective:** The main objective of this project is to design a PSO-based Adaptive SMC with a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions to enhance the overall efficiency and stability of the PV system.	Control Systems
TEMAPS795, TEPGPS794, TEMAPE296, TEPGCS89, TEMAPE221, TEPGPE193, TEPGPE194	**Enhancement of Solar PV Efficiency Using Double Integral Sliding Mode MPPT Control** **Objective:** The main objective of this project is to enhance the efficiency of Solar Photovoltaic (PV) Panels through the implementation of a Double Integral Sliding Mode Maximum Power Point Tracking (MPPT) Control Strategy.	Control Systems
TEMACS99, TEPGCS93, TEMAPS811, TEPGPS811	**Impedance Model Based Coordination Control of Secondary Ripple in DC Microgrid** **Objective:** The main objective of this project is to develop a continuous coordination control method based on impedance models for mitigating secondary ripple in DC Microgrids	Control Systems

2024 – 2025 EEE POWER ELECTRONICS IEEE TITLES

S.NO	TITLE	DOMAIN
TEMAPE327, TEMAED237, TEPGPE294, TEPGED231	**Multifunctional Integrated DC–DC Converter for Electric Vehicles** **Objective:** The main objective of this project is to develop a single integrated DC-DC converter that can perform multiple functions (G2V, V2G, and LDC modes) efficiently, reducing the number of components, complexity, and overall cost, while improving the performance and reliability of power conversion in electric vehicles	DC-DC Converters
TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299	**Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules** The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.	DC-DC Converters
TEMAPS860, TEMAPS861, TEPGPS850, TEPGPS851, TEMAPE328, TEPGPE295	**Voltage Feed-Forward Control of Photovoltaic Battery DC Microgrid Based on Improved Seeker Optimization Algorithm** **Objective:** The main objective of this project is to develop a voltage feed-forward control system for a photovoltaic-battery DC microgrid, utilizing an Improved Seeker Optimization Algorithm (ISOA).	DC-DC Converters
TEMAPE326, TEMAED235, TEPGPE293, TEPGED229	**A Boost-LC Resonance Multimode DC–DC Converter for EV Charger Application** **Objective:** The main objective of this project is to achieve high efficiency, high voltage gain, and a wide output voltage range while overcoming	DC-DC Converters

	the limitations of conventional full-bridge (FB) LLC resonant converters.	
TEPGPE288, TEMAPE321, TEPGPS826, TEMAPS835	**A Maximum Power Point Tracking Technique for a Wind Power System Based on the Trapezoidal Rule** **Objective:** The main objective of this project is to propose a maximum power point tracking (MPPT) technique for a wind power system based on the Trapezoidal Rule is to enhance the efficiency and output of the wind turbine system	DC-DC Converters
TEMAPS795, TEPGPS794, TEMAPE296, TEPGCS89, TEMAPE221, TEPGPE193, TEPGPE194	**Enhancement of Solar PV Efficiency Using Double Integral Sliding Mode MPPT Control** **Objective:** The main objective of this project is to enhance the efficiency of Solar Photovoltaic (PV) Panels through the implementation of a Double Integral Sliding Mode Maximum Power Point Tracking (MPPT) Control Strategy.	DC-DC Converters
TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315, TEPGPE281, TEPGPE282, TEMAED220, TEPGED214	**Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC–DC Converter and Solar Roof** **Objective:** The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.	DC-DC Converters
TEMAPS826, TEPGPS817, TEMAPE317, TEPGPE284, TEMAED222, TEPGED216	**Cascaded Interleaved DC–DC Converter for a Bidirectional Electric Vehicle Charging Station** **Objective:** The main objective of this project is to propose a cascaded interleaved DC-DC	DC-DC Converters

	converter for a bidirectional Electric Vehicle charging station to reduce current and voltage stress on the semi-conductors and passive elements.	
TEMAPS796, TEMAPE298, TEPGPS795, TEPGPE270	**Design and Analysis of Novel High-Gain Boost Converter for Renewable Energy Systems (RES)** **Objective:** The main objective of this project is to create and evaluate a high-gain boost converter customized for RES prioritizing efficiency and performance optimization for sustainable energy applications.	DC-DC Converters
TEMAPE316, TEPGPE283, TEMAED221, TEPGED215	**New Integrated DC–DC Conversion System for Electric Vehicles** **Objective:** The main objective of this project is to propose a new integrated DC-DC conversion system for Electric Vehicles to reduce the components as well as power losses.	DC-DC Converters
TEMAPS882, TEPGPS872, TEMAED244, TEPGED238, TEMAPE343, TEPGPE310	**Enhancing Zero Voltage Ride Through of PMSG-Based Wind Generator With Interchange of Converter Control and Optimized Supercapacitor Energy Storage System** **Objective:** The main objective of this project is to improve the reliability and stability of wind energy systems during grid disturbances. This is achieved by optimizing the control strategy of the converter and incorporating a super-capacitor-based energy storage system.	AC-DC Converters
TEMAPS875, TEMAPE339, TEPGPS865, TEPGPE306	**An Ingenious Technique to Track the Maximum Power Point for a Wind Energy System**	AC-DC Converters

	Objective: The main objective of this project is to develop an advanced Maximum Power Point Tracking (MPPT) technique for Wind Energy Conversion Systems (WECS). The goal is to maximize the extraction of power from wind energy systems by improving the efficiency and reducing oscillations around the MPP.	
TEMAPE320, TEPGPE287, TEMACS101, TEPGCS95	**Sliding Mode Control of Vienna Rectifier Under Unbalanced Weak Power Grid** **Objective:** The main objective of this project is to control the Vienne Rectifier by using Sliding Mode Controller under unbalanced weak power grid.	AC-DC Converters
TEMAPE318, TEPGPE285, TEMAED223, TEPGED217	**Coordinated Control Strategy for Cascaded Current-Source Converter Under Unbalanced Grid Voltage** **Objective:** The main objective of this project is to ensure stable and efficient operation by mitigating the effects of voltage unbalance, maintaining power quality and enhancing system reliability.	AC-DC Converters
TEMAPS798, TEMAPS799, TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	**Mitigating Uncertainty Problems of Renewable Energy Resources Through Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks** **Objective:** The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.	AC-DC Converters
TEMAED219, TEMAPE313, TEPGED213, TEPGPE280	**An LLC-Based Single-Stage Step-Up AC/DC Resonant Converter Without Boost Circuit for EV Charging With High Power Factor** **Objective:** The main objective of this project is to develop a highly efficient, cost-effective and	AC-DC Converters

	simplified power conversion solution that integrates power factor correction (PFC) and DC-DC Conversion into a single stage specifically designed for EV charging related applications.	
TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315, TEPGPE281, TEPGPE282, TEMAED220, TEPGED214	**Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC–DC Converter and Solar Roof** **Objective:** The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.	AC-DC Converters
TEMAPS838, TEMAPS839, TEPGPS829, TEPGPS830, TEMAPE322, TEPGPE289	**Grid-Forming Voltage-Source Inverter for Hybrid Wind-Solar Systems Interfacing Weak Grids** **Objective**: The main objective of this project is to propose a grid forming voltage source inverter for hybrid wind-solar systems interfacing weak grids.	AC-DC Converters
TEMAPS883, TEPGPS873, TEMACS866, TEPGCS112, TEMAPE344, TEPGPE311	**An Adaptive Fuzzy Controller-Based Distributed Voltage Control Strategy for a Remote Microgrid System With Solar Energy and Battery Support** **Objective**: The main objective of this project is to propose an adaptive fuzzy controller-based distributed voltage control strategy for a remote microgrid system with solar energy and battery support.	DC-AC Converters
TEMAPS881, TEMAPE342, TEMAED243, TEPGPS871, TEPGPE309, TEPGED237,	**Hybrid Compensation Based Efficient Wireless Charging System Design with Solar Photovoltaic Interface Toward Sustainable Transportation** **Objective:** The main objective of this project, is to design an efficient wireless charging system	DC-AC Converters

	integrated with a solar photovoltaic interface to support sustainable transportation. The focus is on improving energy transfer efficiency and ensuring reliable power delivery to electric vehicles (EVs) using renewable energy sources.	
TEMACS863, TEMAPE340, TEPGCS109, TEPGPE307	**Adaptive Control for Improved Virtual Synchronous Generator Under Imbalanced Grid Voltage** **Objective:** The main objective of this project is to develop an adaptive control strategy for a Virtual Synchronous Generator (VSG) that enhances performance and stability under imbalanced grid voltage conditions.	DC-AC Converters
TEMAPS864, TEMACS856, TEPGPS854, TEPGCS102, TEMAPE331, TEMAPE332, TEPGPE298, TEPGPE299	**Circle Search Algorithm-Based Super Twisting Sliding Mode Control for MPPT of Different Commercial PV Modules** The main objective of this project is to implement a circle search algorithm based super twisting sliding mode control for MPPT of different commercial PV modules.	DC-AC Converters
TEPGED224, TEPGPE290, TEMAED230, TEMAPE323	**Hybrid Control Method of Full-Bridge LLC Resonant Converter Based on Electric Vehicle** **Objective:** The main objective of this project is to optimizing its performance for electric vehicle applications by enhancing efficiency and stability. This involves integrating advanced control techniques to improve power conversion and reliability.	DC-AC Converters

TEMACS859, TEPGCS105, TEMAPE335, TEPGPE302	**Grid-Connected Converter with Grid-Forming and Grid-Following Modes Presenting Symmetrical and Asymmetrical Fault Ride-Through Capability** **Objective:** The main objective of this project is to propose a grid-connected converter with grid-forming and grid following modes presenting symmetrical and asymmetrical fault ride-through capability.	DC-AC Converters
TEMAPS862, TEPGPS852, TEMAPE330, TEPGPE297, TEMAPS863, TEPGPS853	**Improving Active Resonance Damping and Unbalanced Voltage Mitigation Based on Combined DDSRF and Washout Filter in Islanded Microgrids** **Objective:** The main objective of this project is to develop and implement a combined approach using Double Decoupled Synchronous Reference Frame (DDSRF) and Washout Filter techniques to enhance active resonance damping and mitigate unbalanced voltage conditions in islanded microgrids. This combined approach aims to improve the stability, reliability, and power quality of islanded microgrids, ensuring efficient and continuous operation under varying load and generation conditions.	DC-AC Converters
TEMACS104, TEPGCS98, TEMAPE324, TEPGPE291, TEMAPS843, TEPGPS834	**Predictive Control of PMSG-Based Hydro-Electric System with Battery Supported UPQC** **Objective:** The main objective of this project is to propose a predictive control to achieve efficient, stable, and high-quality power generation and distribution from the PMSG-based hydro-electric system, supplemented by the battery-supported UPQC	DC-AC Converters
TEMAPS798, TEMAPS799,	**Mitigating Uncertainty Problems of Renewable Energy Resources Through**	DC-AC Converters

TEMAPS800, TEPGPS797, TEPGPS798, TEPGPS799, TEMAPE300, TEMAPE301, TEPGPE272, TEPGPE273	**Efficient Integration of Hybrid Solar PV/Wind Systems Into Power Networks** **Objective:** The main objective of this project is to mitigate the problems of renewable energy resources through efficient integration of Hybrid Solar PV/Wind systems into power networks.	
TEMAPS878, TEPGPS868, TEMAPE341, TEPGPE308	**Two-Stage Three-Phase Transformerless Hybrid Multilevel Inverter for Solar PV Application** **Objective:** The main objective of this project, is to develop an efficient, high-performance inverter system that converts the direct current (DC) from solar photovoltaic (PV) panels into alternating current (AC) suitable for grid integration or load supply.	Multilevel Inverters
TEMAPS872, TEMAPE337, TEPGPS862, TEPGPE304	**A Capacitor Voltage Balancing Hybrid PWM Technique to Improve the Performance of T-Type NPC Inverters** **Objective:** The main objective of this project is to improve the performance of T-Type NPC Inverters by using a capacitor voltage balancing hybrid PWM technique.	Multilevel Inverters
TEMAPS868, TEMAPE334, TEMACS858, TEPGPS858, TEPGPE301, TEPGCS104	**Modulated Predictive Current Control of Photovoltaic Central NPC Inverter With Reduced Computational Burden** **Objective:** The main objective of this project is to develop and implement a modulated predictive current control strategy for a photovoltaic central NPC inverter, to enhance performance while minimizing computational demands.	Multilevel Inverters
TEMAPS874, TEPGPS864, TEMAPE338, TEPGPE305	**An Unbalance and Power Controller Allowing Smooth Islanded Transitions in Three-Phase Microgrids**	Multilevel Inverters

	Objective: The main objective of this project is to develop a power controller for seamless islanded transitions in three-phase microgrids, ensuring stable voltage and frequency during grid-to-island mode shifts.	
TEMAPS867, TEPGPS857, TEMAPE333, TEPGPE300	**Single-Phase 15-Level Switched-Capacitor Boost Multilevel Inverter Topology for Renewable Energy Applications** **Objective:** The main objective of this project is to provide a high-efficiency, low-cost inverter that can boost and convert DC power from renewable sources into high-quality AC power, while reducing the number of power electronic components and achieving better voltage regulation and harmonic performance.	Multilevel Inverters
TEMAPS846, TEPGPS837, TEMAPE325, TEPGPE292, TEMAED234, TEPGED228	**A New Multilevel Inverter with Reduced Component Count for a Standalone Solar Energy Conversion System** **Objective**: The main objective of this project is to propose a new multilevel inverter with reduced component count for a standalone solar energy conversion system-based application.	Multilevel Inverters
TEMAPS832, TEMAPE319, TEMAED227, TEPGPS823, TEPGPE286, TEPGED221	**A Unidirectional Cascaded High-Power Wind Converter With Reduced Number of Active Devices** **Objective:** The main objective of this project is to reduce the number of active devices by using a Unidirectional Cascaded High-Power Wind Converter.	Multilevel Inverters
TEMAPS807, TEPGPS807,	**Designing of a PSO-Based Adaptive SMC With a Multilevel Inverter for MPPT of PV**	Multilevel Inverters

TEMAPE304, TEPGPE276, TEMACS98, TEPGCS92	**Systems Under Rapidly Changing Weather Conditions** **Objective:** The main objective of this project is to design a PSO-based Adaptive SMC with a Multilevel Inverter for MPPT of PV Systems Under Rapidly Changing Weather Conditions to enhance the overall efficiency and stability of the PV system.	
TEMAPS801, TEPGPS800, TEMAPE302, TEPGPE274	**Design of an Extendable High Boost Multi-Port Z-Network Converter for Small Power Grid-Connected PV Applications** **Objective**: The main objective of this project is to propose an extendable high boost Multi-port Z-Network converter for implementing in Grid Connected PV Applications.	Multilevel Inverters

2024 – 2025 EEE ELECTRICAL DRIVES IEEE TITLES

S.NO	TITLE	DOMAIN
TEMAPS882, TEPGPS872, TEMAED244, TEPGED238, TEMAPE343, TEPGPE310	**Enhancing Zero Voltage Ride Through of PMSG-Based Wind Generator With Interchange of Converter Control and Optimized Supercapacitor Energy Storage System** **Objective:** The main objective of this project is to improve the reliability and stability of wind energy systems during grid disturbances. This is achieved by optimizing the control strategy of the converter and incorporating a super-capacitor-based energy storage system.	AC Drives
TEMAPS879, TEPGPS869, TEMACS864, TEPGCS110, TEMAED242, TEPGED236	**Generalized DSC-FDC-PLL Based Synchronization of PV Array-BES Fed Water Pump System With Utility Grid** **Objective**: The Main objective of this project is to develop and implement a generalized delayed signal cancellation (GDSC)-based phase-locked loop (PLL) for synchronizing a photovoltaic (PV) array and battery-supported water pump system with the utility grid, ensuring efficient power management in both grid-connected and islanded modes.	AC Drives
TEMAPS876, TEPGPS866, TEMAED241, TEPGED235	**Passive Control for Brushless Doubly-Fed Reluctance Generator Under Unbalanced Grid Voltages** **Objective:** The main objective of this project is to develop a passive control strategy for Brushless Doubly-Fed Reluctance Generators (BDFRGs) that effectively mitigates the adverse effects of unbalanced grid voltages.	AC Drives

TEMAPS836, TEPGPS827, TEMAED228, TEPGED222	**Experimental Validation of Feedback PI Controllers for Multi-Rotor Wind Energy Conversion Systems** **Objective:** The main objective of this project is to access the performance and stability analysis of the controllers in real-world conditions and evaluating their ability to maintain optimal rotor speeds and maximize energy conversion efficiency under varying wind conditions.	AC Drives
TEMAPS846, TEPGPS837, TEMAPE325, TEPGPE292, TEMAED234, TEPGED228	**A New Multilevel Inverter with Reduced Component Count for a Standalone Solar Energy Conversion System** **Objective**: The main objective of this project is to propose a new multilevel inverter with reduced component count for a standalone solar energy conversion system-based application.	AC Drives
TEMAPS832, TEMAPE319, TEMAED227, TEPGPS823, TEPGPE286, TEPGED221	**A Unidirectional Cascaded High-Power Wind Converter With Reduced Number of Active Devices** **Objective:** The main objective of this project is to reduce the number of active devices by using a Unidirectional Cascaded High-Power Wind Converter.	AC Drives
TEMAPS830, TEPGPS821, TEMAED225, TEPGED219	**Stability Analysis and Enhanced Virtual Synchronous Control for Brushless Doubly-fed Induction Generator Based Wind Turbines** **Objective:** The main objective of this project is to analyze the stability and propose the virtual synchronous control for Brushless Doubly-fed Induction Generator Based Wind Turbines.	AC Drives
TEMAPS813, TEMAPS814,	**Modelling and Coordinated Control of Grid Connected Photovoltaic, Wind Turbine**	AC Drives

TEPGPS818, TEMAPS808, TEMAPS809, TEMAPS810, TEPGPS808, TEPGPS809, TEPGPS810, TEMAED218, TEPGED212	**Driven PMSG, and Energy Storage Device for a Hybrid DC/AC Microgrid** **Objective:** The main objective of this project is to optimize the performance and integration of grid-connected photovoltaic systems, wind-turbine driven PMSGs and energy storage devices within a hybrid dc-ac microgrid through advanced modelling and coordinated control strategies.	
TEMAPS844, TEMAPS845, TEPGPS835, TEPGPS836, TEMAED233, TEPGED227	**Coordinated Control of Grid-Connected PMSG Based Wind Energy System with STATCOM and Supercapacitor Energy Storage** **Objective:** The main objective of this project is to propose a coordinated control of grid connected PMSG based wind energy system with STATCOM and supercapacitor energy storage systems.	AC DRIVES
TEPGED210, TEMAED216, TEPGED209, TEMAED215	**Performance Analysis of a High Gain Bidirectional DC-DC Converter Fed Drive for an Electric Vehicle With Battery Charging Capability During Braking** **Objective:** The main objective of this project to implement a high gain bidirectional DC-DC Converter Fed Drive for an Electric Vehicle With Battery Charging Capability During Braking	DC DRIVES
TEMAPS881, TEMAPE342, TEMAED243, TEPGPS871, TEPGPE309, TEPGED237,	**Hybrid Compensation Based Efficient Wireless Charging System Design with Solar Photovoltaic Interface Toward Sustainable Transportation** **Objective:** The main objective of this project, is to	Electric Vehicles

	design an efficient wireless charging system integrated with a solar photovoltaic interface to support sustainable transportation. The focus is on improving energy transfer efficiency and ensuring reliable power delivery to electric vehicles (EVs) using renewable energy sources.	
TEMAPS871, TEPGPS861, TEMAED240, TEPGED234, TEMACS860, TEPGCS106	**GAO Optimized Sliding Mode Based Reconfigurable Step Size Pb&O MPPT Controller With Grid Integrated EV Charging Station** **Objective:** The main objective of this project is to develop a GAO-optimized sliding mode-based reconfigurable step size Pb&O MPPT controller to maximize the efficiency of PV systems. This system will seamlessly integrate with grid-connected EV charging stations, ensuring optimal energy utilization and reliable 24/7 charging.	Electric Vehicles
TEMAPS858, TEPGPS848, TEMAED238, TEPGED232	**Conjugate-Gradient Based Control in a Grid-Integrated PV With 24/7 Distortion-Free Charging for Bidirectional EV Charger** **Objective:** The main objective of this project is to optimize the power flow and enhance the efficiency of energy transfer between the grid, PV system, and EV charger. This approach aims to minimize harmonic distortions and ensure seamless charging and discharging of EV batteries, promoting reliable and sustainable energy management.	Electric Vehicles
TEMAPE327, TEMAED237, TEPGPE294, TEPGED231	**Multifunctional Integrated DC–DC Converter for Electric Vehicles** **Objective:** The main objective of this project is to develop a single integrated DC-DC converter that can perform multiple functions (G2V, V2G, and LDC modes) efficiently, reducing the number of	Electric Vehicles

	components, complexity, and overall cost, while improving the performance and reliability of power conversion in electric vehicles	
TEMAPS856, TEPGPS846, TEMAPS857, TEPGPS847, TEMAED236, TEPGED230	**A Single-Stage Bridgeless PFC Charger with Enhanced Power Quality for LEV Mounted Solar PV Panel** **Objective:** The main objective of the project is to design a single-stage bridgeless Power Factor Correction (PFC) charger that enhances power quality for solar photovoltaic (PV) panels installed on light electric vehicles (LEVs). This integrated approach optimizes efficiency, minimizes power losses.	Electric Vehicles
TEMAPE326, TEMAED235, TEPGPE293, TEPGED229	**A Boost-LC Resonance Multimode DC–DC Converter for EV Charger Application** **Objective:** The main objective of this project is to achieve high efficiency, high voltage gain, and a wide output voltage range while overcoming the limitations of conventional full-bridge (FB) LLC resonant converters.	Electric Vehicles
TEPGED224, TEPGPE290, TEMAED230, TEMAPE323	**Hybrid Control Method of Full-Bridge LLC Resonant Converter Based on Electric Vehicle** **Objective:** The main objective of this project is to optimizing its performance for electric vehicle applications by enhancing efficiency and stability. This involves integrating advanced control techniques to improve power conversion and reliability.	Electric Vehicles
TEMAPS837, TEPGPS828, TEMAED229, TEPGED223	**Analysis of Renewable Energy Sources and Electrical Vehicles Integration Into Microgrid** **Objective:** The main objective of this project is to analyze how the renewable energy sources and electric vehicles are responding to load changes at	Electric Vehicles

	grid.	
TEMAPS831, TEPGPS822, TEMAED226, TEPGED220	**HESS management for Virtual Inertia, Frequency and Voltage Support through Off-board EV Bidirectional Chargers** **Objective:** The main objective of this project is to enhance grid stability by dynamically balancing power supply and demand, providing rapid frequency response and maintaining voltage levels.	Electric Vehicles
TEMAPS827, TEMAED224, TEPGPS818, TEPGED218	**Integrated Three-Port Converter for Solar-Charged Electric Vehicle Applications** **Objective:** The main objective of this project is to efficiently manage power flow from solar panels to both a high-voltage battery (HVB) and a low-voltage battery (LVB). Optimizing the use of solar energy even under partial shading conditions.	Electric Vehicles
TEMAPS826, TEPGPS817, TEMAPE317, TEPGPE284, TEMAED222, TEPGED216	**Cascaded Interleaved DC–DC Converter for a Bidirectional Electric Vehicle Charging Station** **Objective:** The main objective of this project is to propose a cascaded interleaved DC-DC converter for a bidirectional Electric Vehicle charging station to reduce current and voltage stress on the semi-conductors and passive elements.	Electric Vehicles
TEMAPE318, TEPGPE285, TEMAED223, TEPGED217	**Coordinated Control Strategy for Cascaded Current-Source Converter Under Unbalanced Grid Voltage** **Objective:** The main objective of this project is to ensure stable and efficient operation by mitigating the effects of voltage unbalance, maintaining power quality and enhancing system reliability.	Electric Vehicles
TEMAPS825, TEPGPS816, TEMAPE314, TEMAPE315,	**Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC–DC Converter and Solar Roof**	Electric Vehicles

TEPGPE281, TEPGPE282, TEMAED220, TEPGED214	**Objective:** The main objective of this project is to propose a multifunctional on-board charger for electric vehicles integrating a low-voltage DC-DC converter and solar roof.	
TEMAPE316, TEPGPE283, TEMAED221, TEPGED215	**New Integrated DC–DC Conversion System for Electric Vehicles** **Objective:** The main objective of this project is to propose a new integrated DC-DC conversion system for Electric Vehicles to reduce the components as well as power losses.	Electric Vehicles
TEMAED219, TEMAPE313, TEPGED213, TEPGPE280	**An LLC-Based Single-Stage Step-Up AC/DC Resonant Converter Without Boost Circuit for EV Charging With High Power Factor** **Objective:** The main objective of this project is to develop a highly efficient, cost-effective and simplified power conversion solution that integrates power factor correction (PFC) and DC-DC Conversion into a single stage specifically designed for EV charging related applications.	Electric Vehicles
TEMAPS802, TEMAED217, TEPGPS801, TEPGED211	**Efficient Bidirectional Wireless Power Transfer System Control Using Dual Phase Shift PWM Technique for Electric Vehicle Applications** **Objective:** The main objective of this project is to optimize charging efficiency and enable power from G2V and V2G by using bidirectional wireless power transfer system. It focuses on dynamic efficiency adjustments and seamless integration with EV and smart grid infrastructures.	Electric Vehicles
TEPGED210, TEMAED216, TEPGED209, TEMAED215	**Performance Analysis of a High Gain Bidirectional DC-DC Converter Fed Drive for an Electric Vehicle With Battery Charging Capability**	Electric Vehicles

	During Braking **Objective:** The main objective of this project to implement a high gain bidirectional DC-DC Converter Fed Drive for an Electric Vehicle with Battery Charging Capability During Braking	

PROJECT SUPPORTS FOR STUDENTS:

- PROJECT ABSTRACT
- PROJECT IEEE BASE PAPER/ REFERENCE PAPER
- PROJECT PRESENTATION IN PPT FORMAT
- PROJECT REVIEW ASSISTANCE FOR VIVA
- PROJECT DIAGRAMS
- PROJECT SOURCE CODE
- PROJECT REPORT
- PROJECT SCREEN SHOTS
- PROJECT DEMO
- PROJECT EXPLANATION
- PLAGARISM DOCUMENTATION
- INTERNATIONAL JOURNAL/CONFERENCE PUBLISHING
- PROJECT ACCEPTANCE LETTER
- PROJECT COMPLETION CERTIFICATE

The #1 Academic Projects Company

Google reviews for Takeoff Projects

The most Creative Company for the B.Tech and M.Tech Projects, PhD Guidance & International Assignments

Surekha

5.0 ★★★★★

5 star to the company for its outstanding support, new technology & support

Shahed

4.5 ★★★★½

Very nice project support, the explanation with the kit were very useful and easy to understand...

Madhu Sudan Reddy

5.0 ★★★★★

You guys always come up with exciting new technologies...impressive!!! Keep it up...

Our Customer Base

SPMVV TIRUPATI

BITS Pilani

KALIKIRI

takeoff edu GROUP

1-5-558, 1st Floor, 2nd Streat, Balaji Colony,
Tirupati, Andhra Pradesh-517502.

+91 90303 33433 | 0877-2261612

www.takeoffprojects.com | info@takeoffprojects.com /TakeoffEduGroup