PERFORMANCE ANALYSIS OF DC FAST CHARGING ARCHITECTURE OF VEHICLE-TO-GRID TECHNOLOGY IN A MICRO GRID USING PID CONTROLLING TECHNIQUES.

A Project Report Submitted in Partial Fulfilment of the Requirements for the Award of the degree of

BACHELOR OF TECHNOLOGY

In

ELECTRICAL AND ELECTRONICS ENGINEERING

Submitted by

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EXTERNAL EXAMINER

Chapter-19

Vehicle-to-Grid Technology in a Micro-Grid Using DC Fast Charging Architecture

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Energy storage systems are important components of a micro-grid as they enable the integration of intermittent renewable energy sources. Electric vehicle (EV) batteries can be utilized as effective storage devices in micro-grids when they are plugged-in for charging. Most personal transportation vehicles sit parked for about 22 hours each day, during which time they represent an idle asset. EVs could potentially help in micro-grid energy management by storing energy when there is surplus (Grid-To-Vehicle, G2V) and feeding this energy back to the grid when there is demand for it (Vehicle-To-Grid). V2G applied to the general power grid faces some challenges such as; it is complicated to control, needs large amount of EVs and is hard to realize in short term

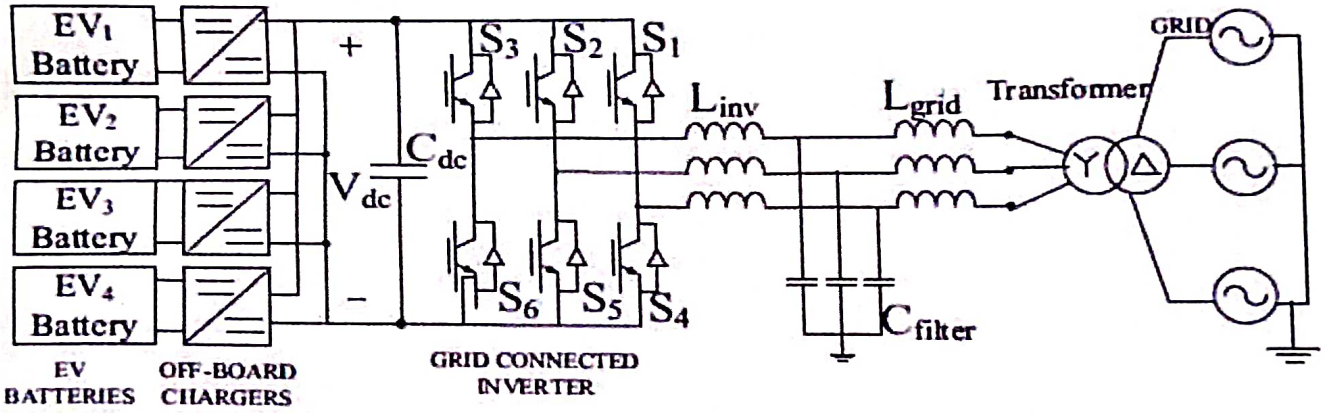

Fig.1: Block Diagram

In this scenario, it is easy to implement V2G system in a micro-grid. The Society of Automotive Engineers defines three levels of charging for EVs. Level 1 charging uses a plug to connect to the vehicle's on-board charger and a standard household (120 V) outlet. This is the slowest form of charging and works for those who travel less than 60 kilometres a day and have all night to charge. Level 2 charging uses a dedicated Electric Vehicle Supply Equipment (EVSE) at home or at a public station to provide power at 220 V or 240 V and up to 30 A. The level 3 charging is also referred to as dc fast charging. DC fast charging stations provide charging power up to 90 kW at 200/450 V, reducing the charging time to 20-30 mins. DC fast charging is preferred for implementing a V2G architecture in micro-grid due to the quick power transfer that is required when EVs are utilized for energy storage. Also, the dc bus can be used for integrating renewable generation sources into the system

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GENERATION OF ELECTRICITY BY USINGPLASTIC MATERIALS

A project work Thesis
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IN
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EXTERANAL EXAMINER

Chapter-8

Generation of Electricity by Using Plastic Waste

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In this present scenario everything is computerized. So, usage of power is increased. But production of power is less due to lack of Natural resources. For that we need to consume electricity as much as we can. Here we are using waste management for generating electricity through a heating panel. Industrial waste is generated in industrial processes which is not put into any practical use and is lost, wasted, and dumped into the environment. Recovering the waste material can be conducted through various waste heat recovery technologies to provide valuable energy sources and reduce the overall energy consumption. It can be utilized for various DC loads here we have arranged 4 big LED bulbs which are connected in parallel and we have designed an automatic street lighting system for this system arrangement we have designed a power supply circuit board which contains BC 547 transistor, LDR (light dependent resistor), 1Kilo ohm and 4 Kilo ohm resistors, 8 LED diodes and we have arranged these diodes in parallel connection and the results are shown in an experimental way by using hardware components.

The above Block Diagram Indicates the entire out view of this Project Generation of Electrical Energy by Reutilizing Low lab Grade Waste. The conventional fuels required for production of electricity is decreasing day by day and it is very important to find out alternative sources which can be used as the fuel for the production of electricity especially for developing countries. The natural resources in the form of fossil fuels are the raw materials from which electrical energy is generated and the day-to-day life of the people of today's world is solely dependent on the electrical energy.

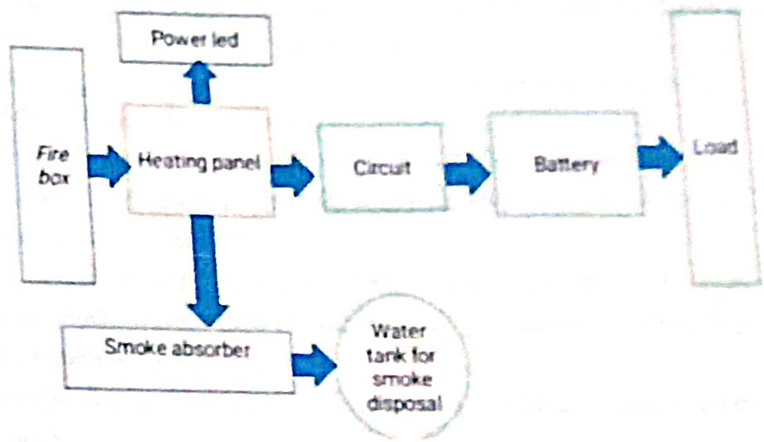

Fig.1: Block Diagram.

The usage of electrical energy is increasing day by day. There is not enough generation of electrical energy to keep up with the demand, and there is a scarcity of raw materials for producing the energy. Alternative sources are now explored to prepare for the future dearth of traditional energy sources. The waste materials can be a good source of energy as the amount of waste is increasing every day, and can help in meeting the electrical energy. Many countries are now switching to renewable energy sources, as they are clean and a suitable substitute for fossil fuels. Some part of the world has already established a few wastes to energy power plants but this is not

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STAND ALONE BLDC DRIVE USING SOLAR POWER

A project report submitted in partial fulfillment of the requirements for the award of the degree of

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EXTERNAL EXAMINER

Chapter-14

Stand Alone BLDC Motor Drive Using Solar Power

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Modern day usage of electrical energy has increased unimaginably to the extent that conventional energy sources are likely to be exhausted very soon in near future Their persistent use has led to heavy increase in environmental pollution paving way for use of renewable sources for generating electrical energy.

This chapter deals with the development of a simple, cost effective, efficient, reliable, and eco-friendly water pumping system which utilizes a DC-DC boost converter as an intermediate power conditioning unit in Solar Photovoltaic (SPV)water pumping system. The power optimization of solar photovoltaic array and limiting the starting inrush current of BLDC are the two major functions of DC-DC boost converter. The starting current is controlled without any additional circuit. The boost converter offers many privileges over other DC-DC converters in solar photovoltaic array-based applications. The voltage source inverter (VSI) utilized here performs the electronic commutation of brushless DC motor. The motor is operated with pulses of fundamental frequency hereby avoiding switching losses caused by the pulses of high frequency. Further, the speed of brushless DC motor is controlled by using a variable DC link voltage which results in absolute elimination of sensor that would have been otherwise required for speed control of the motor. The proposed solar photovoltaic array-based water pumping system is modelled, designed, and simulated in the SIMULINK environment of MATLAB and various performance indices have been analysed under practical conditions, thereby, confirming its suitability and credibility for water pumping purposes.

Though solar power extraction systems are prevalent, there is a need to develop low cost and highly efficient systems. Most common existing system makes use of two stage converters present between the PV array and the grid/load. The first converter is a DC-DC boost converter meant to increase the low DC voltage coming from the PV array. This boosted DC voltage is then fed to an inverter for converting the DC into AC at a desired voltage level. This system, however, is costly due to the presence of the two converters and absence of a common input source for the two stages resulting in asymmetrical operation. The large size, weight and low reliability also contribute to the

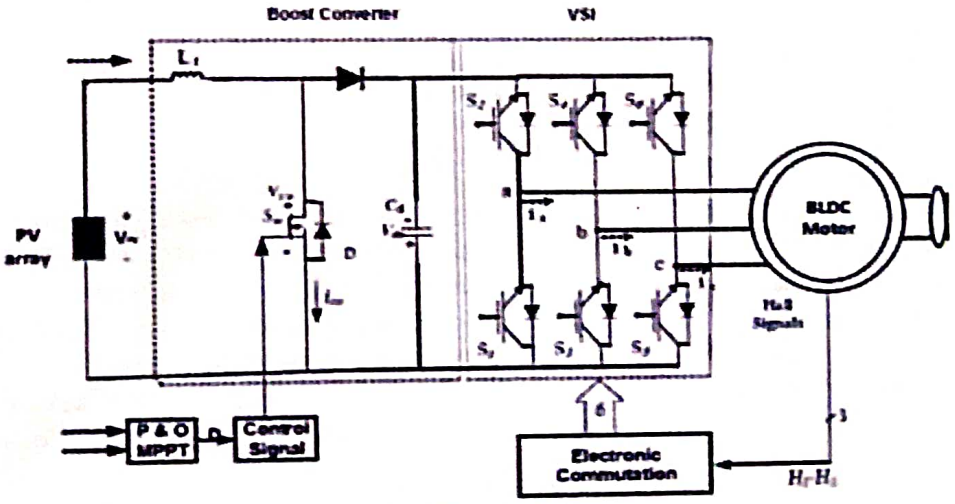

Fig 2: Circuit Diagram

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STATE OF CHARGE ANALYSIS OF ELECTRICAL VEHICLE BATTERY SYSTEM

A Project Report submitted in partial fulfilment of the requirements for the award of the Degree of

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IN

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EXTERNAL EXAMINER

Chapter-2

SOC Analysis of EV Batter System

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In this chapter, the components of the BEV system were addressed in this study's abstract, and a simulation of a BEV model using the MATLAB-Simulink platform was performed. Since they have demonstrated a significant potential to reduce the consumption of petroleum-based and other high CO2-emitting transportation fuels, electric vehicles (EVs) are anticipated to be an alternative energy mode of transportation in the future. The pertinent electrical system parts and their matching equations for validation were also found. Additionally, every simulation outcome was considered. A complex and interdisciplinary subject, the sociological study of battery electric vehicles (BEVs) calls for the integration of diverse social, economic, environmental, and technological elements. The purpose of this abstract is to give a concise outline of the major themes and problems surrounding the social study of BEVs. The sociological examination of BEVs must thus take a variety of aspects into account, such as consumer behavior, public regulations, technical innovation, and the larger social and cultural environment in which BEVs are introduced. Including viewpoints from the disciplines of engineering, sociology, psychology, economics, and environmental science in this study is equally important.

Fig.1: Block Diagram

The methodology of SOC analysis of battery EV in MATLAB involves simulating the operation of the BEV using a battery model and driving cycle data, calculating the SOC of the battery at each time step, and analyzing the SOC data to determine the battery performance and optimize its operation.

The battery electric car components were designed using MATLAB-Simulink, which was also utilized to integrate the entire system. Additionally, the battery electric vehicle and its accompanying equation were simulated using MATLAB-Simulink for verification

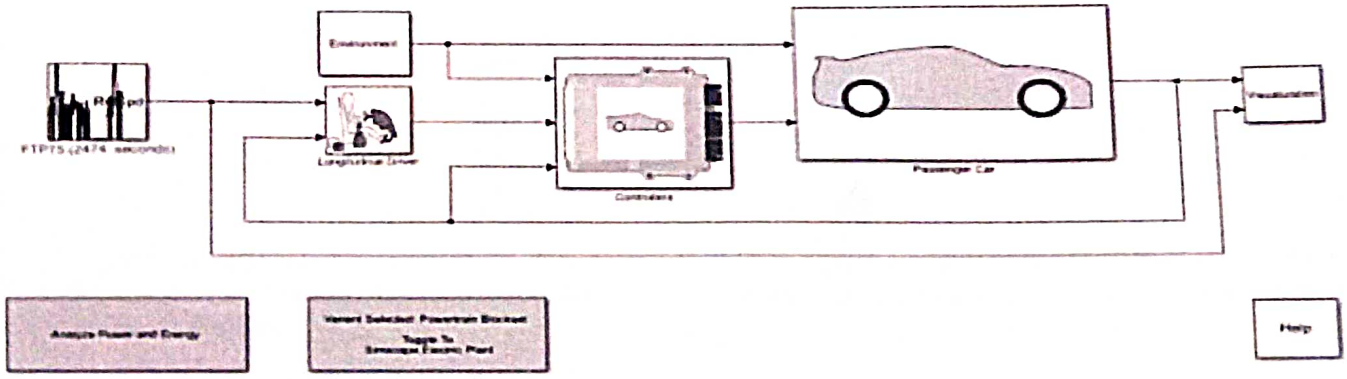

Fig 2: Circuit Diagram

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GAS LEAKAGE TRACER USING MOS SENSORS BY SMS ALERT AND BUZZ

A Project Report submitted in partial fulfilment of the requirements for the award of the Degree of
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EXTERNAL EXAMINER

Chapter-12

Gas Leakage Tracer Using Mos Sensors by SMS Alert And Buzz

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Gas use presents major problems in both the home and the office. Liquid petroleum gas (LPG) and other flammable gases are combustible gases that are commonly utilized in homes and workplaces. Human lives and cultural heritage have been irreparably damaged as a result of the gas spill. Keeping this, we decided to develop a system that identifies gas leaks and protects workplaces by taking the necessary steps at the proper time.

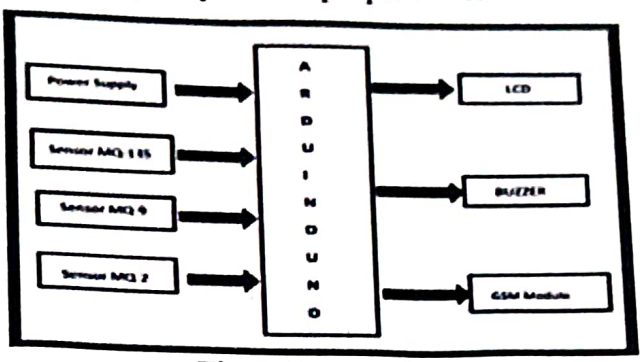

Fig.1: Block Diagram

The primary goal of a Gas Leakage Detection System, is to detect any gas leakage in the surrounding environment and inform users with a warning signal, such as a buzzer sound, as well as show the gas level on an LCD screen. The system detects gas concentrations with a gas sensor, such as the MQ series gas sensor, which is linked to an Arduino board. The gas sensor sends an analogue voltage signal to the Arduino board that is proportional to the gas concentration. The signal is then processed by the Arduino board and compared to a threshold value. If the gas concentration reaches the threshold amount, the system raises an alarm by activating a buzzer, which emits a sound to warn users of a possible gas leak. Simultaneously, the system shows the level of gas concentration on an LCD screen, providing a visual indicator of the gas level in the surrounding environment. The Gas Leakage Detection System with Arduino, LCD, and Buzzer is a simple and low-cost method for detecting gas leaks and avoiding potential hazards. It is simple to install and use, and it detects gas leaks accurately and reliably, assuring the safety of people and the surrounding environment.

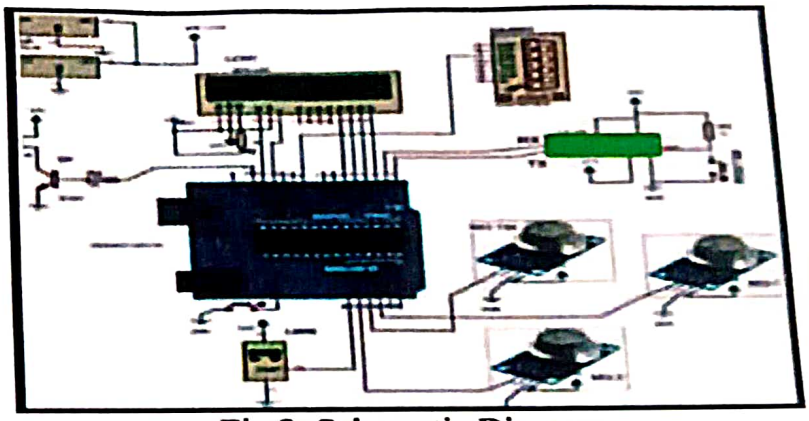

Fig 2: Schematic Diagram

1. There are various reasons why Gas Leakage Detection System should be considered: Safety: Gas leaks can be dangerous, triggers a fire or explosion and causing harm or even

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IMPLEMENTATION OF SPEED AND TORQUE CONTROL OF INDUCTION MOTOR DRIVE USING SPACE VECTOR MODULATION

A Project Report Submitted in partial fulfillment of the requirements for the award of the Degree of

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IN

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This is to certify that the Project work entitled **"Implementation of speed and torque control of induction motor drive using space vector modulation"** is a being submitted by KARANAM PAVANI (20U45A0225), BABBODI PAPINAIDU (20U45A0205), JALLA VISWASWARA RAO (20U45A0220). In partial fulfillment of the Requirement for the award of the degree of BACHELOR OF TECHNOLOGY IN ELECTRICAL AND ELECTRONICS ENGINEERING during the academic year 2022-23.

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EXTERNAL EXAMINER

Chapter-10

Speed and Torque Control of Induction Motor using Space Vector Modulation

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A control strategy based on SVM is proposed for achieving precise speed and torque control of induction motor drives. The project begins with a literature review of various speed and torque control methods for induction motors and an explanation of the principles of space vector modulation. The back ground and mathematical models are developed for the induction motor drive and the SVM-based control algorithm.

Space vector modulation (SVM) is a pulse width modulation (PWM) technique that is used to generate the required voltage waveform for the control of induction motors. SVM provides higher output voltage compared to other PWM techniques, resulting in smoother motor operation, and reduced harmonic distortion.

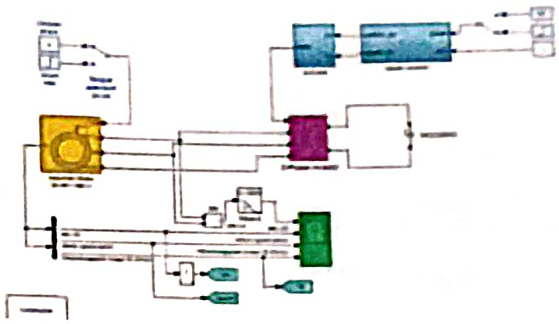

Figure 1: Simulink diagram

SVM also allows for high-resolution control of the output voltage waveform, which improves the accuracy of speed and torque control. The speed and torque control of induction motors is a critical aspect in various industrial applications such as pumps, fans, compressors, and conveyor systems. Space Vector Modulation (SVM) is a popular digital control technique that provides an efficient and accurate method for controlling the speed and torque of induction motors

The methodology for speed and torque control of induction motor drive using space vector pulse width modulation involves the following steps:

1. The first step in this project is to conduct a comprehensive literature review of the existing research on SVM-based control techniques for induction motor drives.
2. The second step is to model the induction motor drive using mathematical equations
3. The third step is to design the Space Vector Modulation (SVM)control system for the induction motor drive.
4. The SVM control algorithm will be designed based on the mathematical model of the motor drive developed in step 2. The simulation results will be used to fine-tune the control system parameter sand evaluate its performance.
5. The fourth step is to implement the designed control system on hardware. The control system will be implemented on a microcontroller board and tested on a small

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MODELLING AND SIMULATION OF SOLAR POWERED HYBRID ELECTRIC VEHICLE

A Project Thesis

Submitted in partial fulfilment of the requirements

for the award of the Degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRICAL AND ELECTRONICS ENGINEERING

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EXTERNAL EXAMINER

Chapter-6

Modelling and Simulation of Solar Powered Hybrid Electric Vehicle

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Due to increase in the use of the vehicles the harmful gases are released into the environment which result in increase of pollution. So, replacing the IC vehicle is the challenging to today's world. Electric vehicle is the alternative for IC vehicles but as it cannot travel to long distance the solar Powered hybrid electric are the best to replace the electric vehicle. The solar powered hybrid electric vehicle works on both the solar energy and the energy which is stored in the battery. This project discusses about the simulation of the solar powered hybrid vehicle in which the solar energy which is extracted depends upon different parameters. In this the solar panel use the MPPT technique which extract the maximum power and the power extracted is given to boost up and drives the motor. The SIMULINK model is based on the mathematical equation. In this DC-DC converter is used to boost up and then fed to SRM.

Solar PV cell is modelled and simulated using the MATLAB. By using the MPPT algorithm maximum power is extracted. The charge controller directs this solar power to the batteries. The DC voltage from the PV panel is then boosted up using a boost DC-DC converter. This supplied power runs the SRM motor which used as to drive the motor for the vehicle application.

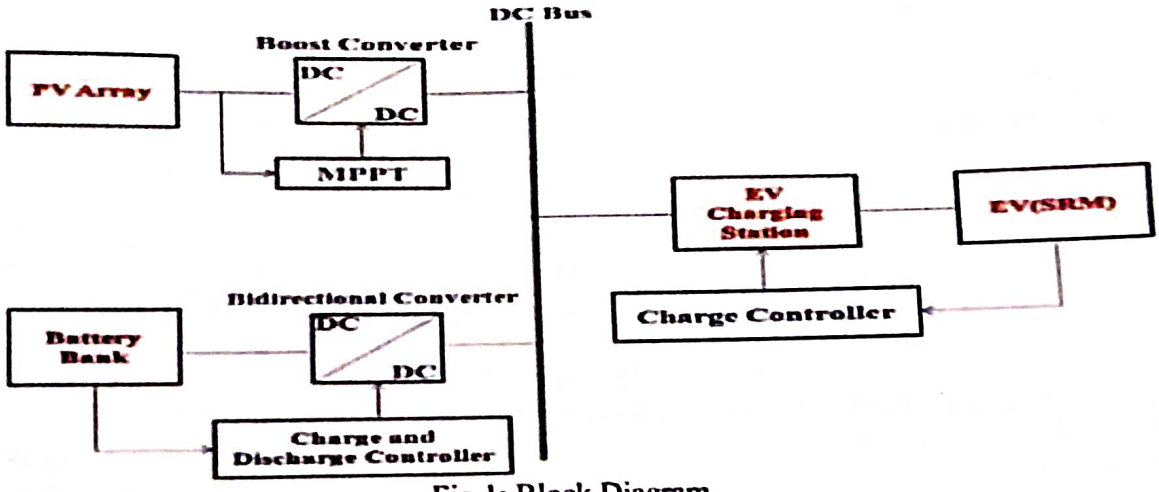

Fig.1: Block Diagram

The solar panel generates electricity from the sun and sends it to the battery for storage. The battery provides power to the electric motor, which drives the wheels of the vehicle. When the battery runs low on power, the engine kicks in to provide additional power to the electric motor and recharge the battery.

The controller manages the flow of power between the different components of the vehicle, switching between electric and gasoline power modes depending on the driving conditions. For

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IMPLEMENTATION OF SMART STREET LIGHT AUTOMATION AND FAULT DETECTION

A project Thesis submitted in partial fulfilment of the requirements for the award of the Degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRICAL AND ELECTRONICS ENGINEERING

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Implementation of Smart Street Light Automation and Fault Detection

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Automation of lighting systems and fault detection greatly reduce the need for human interaction in the actual ON/OFF switching of lights. With the use of this automation system, we can waste less energy and money. Using the internet of things will allow for efficient operation of the lighting system (IOT). The Internet of Things (IOT) is made up of a cascade of hardware, software, and sensors. The object can gather and communicate information as a result of this.

A fundamental hardware and software platform for electronics, Arduino is free and open-Source. In this system, heat radiation from the surrounding items is detected by an IR sensor, which can be utilized to detect the presence of various things. A light sensor called the LDR measures the sun's brightness. Wireless communication is the purpose of the Bluetooth module HC-05. This module can be configured as either a master or a slave.

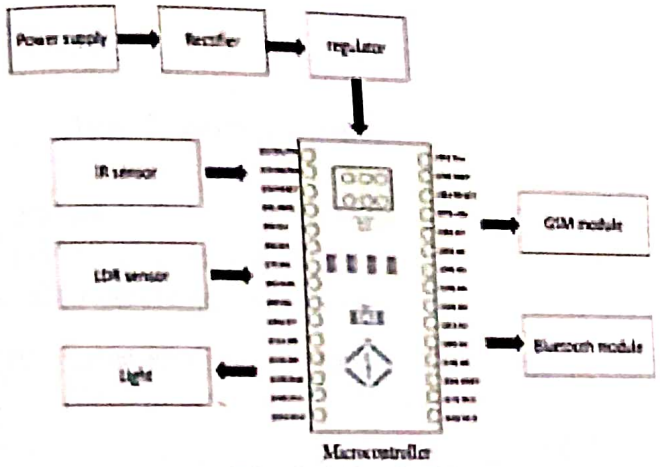

Fig.1: Block Diagram

Using this IOT- based light automation system, the numerous drawbacks of traditional lighting system can be avoided. When compared to a traditional lighting system, automation of lights allows the lights to be regulated automatically, increasing the overall efficiency of the lighting system, and saving money. Whenever there is any fault detected, the user gets notification through GSM module.

The streetlight's circuit diagram. It operates according to the changing sunshine. The LDR functions with the aid of IR sensors, which are activated under low illumination conditions and every fundamental electronic circuit will operate under regulated 5v DC. When there is enough light present, the LDR displays high resistance and acts as an insulator. When there is no light present, the LDR behaves as a low resistance path and permits the flows of electricity. When an item enters the range of an IR sensor, an IR LED emits radiation that is reflected by the object and passes through an IR photodiode. As a result, an object is found.

When it comes to the functional block, which includes LDR, LEDs, and IR sensors, these parts are more expensive, more compact, less complex, highly dependable, and suitable for low-power applications.

INNOVATIVE DIGITAL ENERGY METER WITH OVERLOAD INDICATION AND POWER THEFT CONTROL

A Project Report
Submitted in partial fulfilment of the requirements
for the award of the degree of
BACHELOR OF TECHNOLOGY

IN

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EXTERNAL EXAMINER

Innovative Digital Energy Meter with Overload Indication and Power Theft Monitoring

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***Abstract*— An energy meter, also known as a watt-hour meter, is a device used to measure the quantity of electrical energy consumed by a home or building. It is typically installed by the utility company or a qualified electrician at the main electrical panel or circuit breaker box. Energy meters can be mechanical or digital in nature. Mechanical meters use rotating dials or a spinning disc to measure energy consumption, while digital meters use electronic sensors and display screens to provide real-time energy usage data. This paper explains the development of a smart energy meter with overload protection and power theft control features. The proposed meter employs a microcontroller-based system that monitors and records the energy consumption of a household or building. The system also incorporates an overload protection mechanism that automatically switches off the power supply when the load exceeds a safe limit, thereby preventing damage to the electrical appliances and wiring. In addition to the overload protection, the smart energy meter is equipped with a power theft control feature that detects and reports any unauthorized tampering with the meter. This is achieved by monitoring the voltage and current levels, and comparing them with the expected values based on the load and power factor of the connected appliances. If any discrepancies are detected, an alert is generated, and the utility company is notified.**

Keywords—Power Factor, Electrical Measurements, Calibration, Electrodynamometer, Digital Meter, Power Quality.

I. INTRODUCTION

Digital energy meters are advanced energy measuring devices that are becoming increasingly popular in modern times. These meters utilize the latest technology to measure the consumption of electricity with greater accuracy than traditional analog meters. They are widely used in commercial and residential buildings to monitor and measure energy usage, providing essential data that can be used to make informed decisions about energy usage, billing, and maintenance. The need for digital energy meters arose from the inadequacies of traditional mechanical meters that were prone to errors and tampering [1]. Traditional meters required manual reading and estimation, which could result in inaccurate billing and disputes between consumers and energy providers. The lack of accuracy in traditional meters meant that energy providers could not accurately measure and bill customers for their actual energy consumption. The advent of digital energy meters has revolutionized the energy industry, providing more accurate measurements and enabling more effective energy management [2]. Digital energy meters are electronic devices that measure energy usage in real-time and store data for later retrieval. These meters use a digital display to show the energy consumption in kilowatt-hours (kWh), which is a measure of the amount of energy consumed in a given time [3]. The digital display allows consumers to easily monitor their energy consumption and make changes to their energy usage to reduce their overall consumption. One of the most important advantages of digital energy meters is their ability to accurately measure energy usage, ensuring that consumers are billed for the exact amount of energy they consume [4]. The accuracy of digital energy meters is not affected by external factors such as temperature and voltage fluctuations, which can cause errors in traditional mechanical meters. Digital energy meters are also resistant to tampering, making them more reliable and secure. Another advantage of digital energy meters is their ability to provide real-time data on energy consumption, enabling consumers to monitor their energy usage in real-time. This real-time data can be used to identify areas where energy consumption can be reduced, enabling consumers to make informed decisions about their energy usage [5]. This can result in significant cost savings and reduce the carbon footprint of the building. Digital energy meters can also be integrated with other energy management systems to provide a comprehensive overview of energy consumption. These systems can include building automation systems, renewable energy systems, and energy storage systems. By integrating digital energy meters with other systems, energy consumption can be effectively managed, resulting in reduced costs and improved energy efficiency. In conclusion, digital energy meters have revolutionized the energy industry by providing accurate and reliable measurements of energy consumption. These meters provide real-time data on energy usage, enabling consumers to monitor and manage their energy consumption effectively. Digital energy meters are becoming increasingly popular in commercial and residential buildings, and their integration with other energy management systems is enabling effective energy management and cost savings [6]. As technology continues to advance, digital energy meters will continue to play a vital role in the efficient management of energy consumption.

There have been numerous research papers published on smart energy meters, covering a range of topics including their impact on energy consumption, their effectiveness in reducing energy bills, and their potential for integrating with renewable energy sources. Here are some examples of previous research papers on smart energy meters:

1. "Smart Meter Data Analytics for Energy Efficiency: A Survey," published in the journal Energies in 2018,

AUTOMATIC VEHICLE HEADLIGHT SWITCHING AND EYE BLINK RESCUE SYSTEM USING ARDUINO

A Project Thesis
Submitted in partial fulfilment of the requirements
for the award of the Degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRICAL & ELECTRONICS ENGINEERING

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ANNEXURE-1

Automatic Vehicle Headlight Switching and Eye Blink Rescue System Using Arduino

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Abstract: ***The Automatic Vehicle Headlight switching and Eye Blink Rescue System using Arduino & SMS alert is an advanced system designed to improve road safety by reducing accidents caused by headlight glare and drowsy driving. The system uses Arduino, GPS, and SMS alert to detect headlight glare and monitor the driver's eye blink patterns to prevent accidents. The system adjusts the headlight intensity based on the distance and speed of oncoming vehicles, and alerts the driver and emergency contacts in case of drowsy driving. It can be used by anyone who drives at night or in low-light conditions to enhance road safety. Overall, the Automatic Vehicle Headlight glare switching and Eye Blink Rescue System using Arduino & SMS alert aims to create a safer driving experience by reducing accidents caused by headlight glare and drowsy driving.***

Keywords: Headlight, Temporary blindness, Arduino, Eye blink Sensor, GSM.

I. INTRODUCTION

Using a headlight when driving at night is extremely frequent. The same bulb that helps the motorist see more clearly when driving at night also contributes to numerous accidents. The headlights may be altered from high beam (bright) to low beam by the driver (dim). The driver must adjust the headlamp to provide the appropriate amount of light. High beam is used when it is completely dark and there are no other lights present. Low beam is preferable in all other situations. Nonetheless, there are cars and other vehicles travelling in both directions on a two-way street. Hence, for a little period of time, a person is glared at by the intense light from a car's headlight coming from the other way. This causes disorientation to that driver. The driver's eyes will briefly close involuntarily as a result of this pain. Several traffic accidents are mostly caused by this degree of distraction. The prototype that has been created solves this issue by automatically switching our car's brilliant headlight to low beam when it detects another car nearby coming from the other direction. A basic electrical circuitry layout powers the entire dimming mechanism, sensing the environment and switching the illumination as needed.

The first factor is a lack of street lighting, particularly on rural and one-way roads with only one lane.When there is no nearby source of light, utilize high beam headlights to provide the driver a clear vision. In India, 74% of automobiles utilize high beams, which causes terrible accidents. Although using high beams is forbidden within city borders, because of a lack of knowledge and a lack of equipment to rigorously monitor the infraction, drivers continue to endanger other people's lives. According to the ministry of road transport, more than 30% of accidents that occur at night are caused by headlight glare from oncoming traffic. In 2020, there were 226 thousand road accidents across rural India caused by high beam glare from oncoming cars. Vehicle traffic onour highways is increasing daily. This in turn compelled practically all car manufacturers to consider adding extra safety equipment and electronic controls to their vehiclesin order to provide consumers with a level of safety that is derived from all road conditions via heavy traffic. When questioned, one should always clarify that driving in the appropriate conditions is quite difficult owing to the glaring light issues and the frequent manual headlamp dipping that frequently wears out the driver, especiallyduring high traffic hours. It follows that in order to solve this ongoing issue, a system that automatically dips the headlamp as needed must be developed. Different sorts of controls and accessories are given in an automobile surrounding thedriver's seat, on the dashboard, and at the footboard to maintain a motor vehicle under the driver's absolute control and reins. The dimmer switch has evolved throughout time, and its rate in the area of automotive safety is one of the highest. Controls like the clutch, brake pedal, and accelerator pedal share the same importance. Simply said, an automated dipper is a device that can detect when lowering the headlight beam is necessary and dips the headlamp from the original beam to the dipped beam. Before addressing the wiring diagram or thebuilding of the Automatic dipper, must briefly examinethe kind a design of a head light since the dipper unit is closely tied to the vehicle's lighting system.

AUTOMATIC SOLAR PANEL DUST CLEANING

A project report submitted in partial fulfillment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRICAL AND ELECTRONICS ENGINEERING

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EXTERNAL EXAMINER

Techno Economical Demand Based Analysis in End of Life Management

A Project Report submitted in partial fulfilment of the requirements for the award of the Degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRICAL AND ELECTRONICS ENGINEERING

Submitted by

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EXTERNAL EXAMINER

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Chapter-5

Techno Economical Demand Based [illegible]

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The one environmental downside to solar technology is that it contains many of the same zardous materials as electronics. The problem of disposing the hazardous waste becomes an lditional challenge. Here it was so much cheaper to make new solar panels from raw materials an to recycle them.

In this chapter, a balanced material demand-based plastic waste management optimization odel is discussed, and the model results of the economic parameters on different stages of cycling are observed. The model primarily depends on the demand of By-products of each step nd the rate of recycling and dumping. Cuckoo search algorithm and vibration particle ptimization algorithm used to evaluate the dependency of economic parameter values and the fective minimal cost of each stage in waste management of Plastic.

In this, we will deal with Cuckoo search algorithm and vibration particle optimization gorithm, Ray optimization algorithm used to evaluate the dependency of economic parameter alues and the effective minimal cost of each stage in waste management of PV.

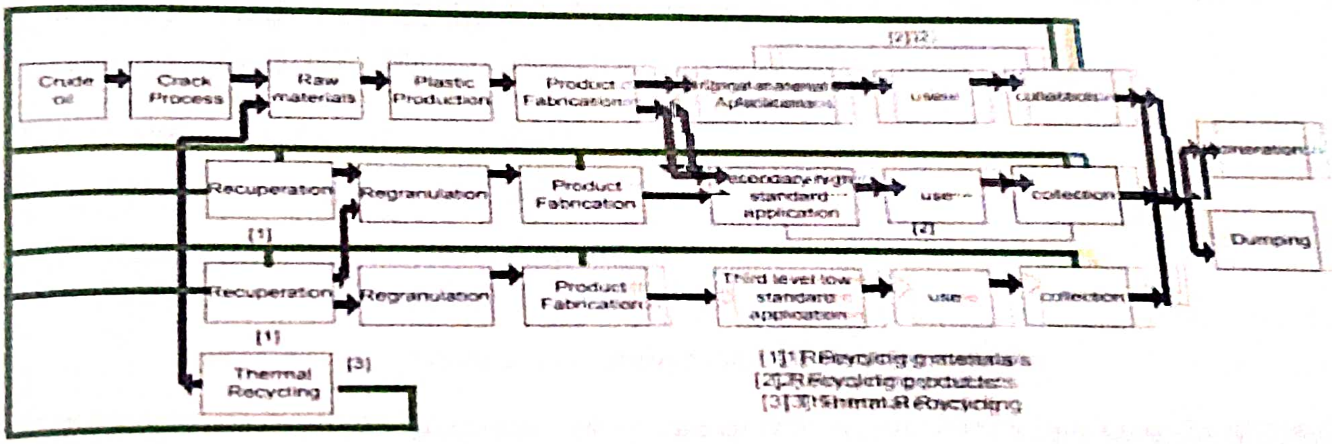

Fig 1: Plastic Waste Handling model.

High-quality applications need high-quality recycled products. At the manufacturing level of lastic, using crude oil and origin materials, plastic material manufactured and the recycled esidues collected at the industry level used for product recycling in second-level high-grade pplications. The high-quality by-products obtained from the residues of the primary nanufacturing level used for secondary products. After usage, the products could be recycled. ecuperation units clean the waste material coming from stage 1, which contains useful materials ith some unwanted vibration Particle Algorithm n materials.

DC-DC BOOST CONVERTER SLIDING MODE CONTROL FOR PHOTOVOLTAIC SYSTEMS WITH MAXIMUM POWER POINT TRACKING

A Project Report Submitted in partial fulfillment of the requirements for the award of the Degree of

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IN

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EXTERNAL EXAMINER

DC-DC Boost Converter Sliding Mode Control for Photovoltaic Systems with Maximum Power Point Tracking

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Abstract— In a PV system, the main goal is to extract the ximum power from the solar panels while maintaining a ble output voltage. SMC can achieve this by creating a ding surface that the system's output must follow. The ding surface is a function of the system's output and its rivative, and it is designed such that it converges to zero in ite time. Once the sliding surface reaches zero, the system tput remains on it, ensuring that the desired operating nditions are maintained. This paper presents a sliding mode ntrol (SMC) approach for a photovoltaic (PV) system with ximum power point tracking (MPPT) capability. The oposed control strategy is designed to ensure the PV system erates at its maximum power point (MPP) under varying erating conditions. The SMC is used to regulate the DC bus ltage of the PV system by controlling the duty cycle of the C-DC converter. The MPPT algorithm is incorporated into e control scheme to track the MPP by adjusting the duty cle of the converter based on the PV array's output voltage d current. The proposed control approach is compared to e conventional Perturb and Observe (P&O) method in rms of its efficiency and robustness. Simulation results monstrate the effectiveness of the proposed SMC approach achieving fast and accurate MPP tracking under various erating conditions, including changes in solar irradiance d temperature. The proposed control scheme is also shown be more robust to system parameter variations and sturbance than the P&O method, making it a promising ndidate for practical implementation in PV systems.

eywords- Photovoltaic systems; Boost converter; Sliding e control; Maximum power point tracking; pulse width lation; proportional integral derivate, Perturb & observe.

I. INTRODUCTION

a long-term reliable and eco-friendly source of energy, otovoltaic power generation systems have an endless ply of potential energy. It is possible to employ otovoltaic power generation systems to generate electricity ile also lowering carbon dioxide emissions and working ard renewable energy targets. In reality, the installed PV er systems worldwide have grown at a rate of roughly % for the past eight years in a row [1].

e conversion of energy using the photovoltaic effect ables the provision of essential energizing services (such lighting, air conditioning, pumps, etc.) and the fulfillment numerous professional requirements relay radio, remote nitoring, lighting systems. The photovoltaic energy is undeniably a technical and cost-effective solution for the electrification of remote areas, whether in developing or industrialized nations [2] This is due to its flexibility and ease of installation and maintenance. The photovoltaic technology also has sociological implications because, in addition to advancing remote areas, it also helps to slow down the phenomena of rural exodus.

Environmental elements like temperature and irradiance have an impact on how much electricity a PV cell can produce. In order to adapt the solar cell power to environmental changes, a controller known as a maximum power point tracker (MPPT) is needed because a solar cell's characteristic curve displays a nonlinear voltage-current characteristic [3].

One of the most significant sources of renewable energy is solar energy. Solar energy is pure, limitless, and cost-free in contrast to conventional, non-renewable sources like coal, gas, etc. Photovoltaic (PV) systems are mostly used for grid-connected (hybrid systems, power plants) or stand-alone (water pumping, home and outdoor lighting, electric cars, military and space applications) purposes. PV generating systems, however, suffer from two main issues: the conversion efficiency in the creation of electric power is low (generally less than 17%, especially in low irradiation situations), and the amount of electric power produced by solar arrays changes continuously with the weather.

Many authors have suggested various investigations. The Perturb and Observe (P&O), Incremental Conductance method, Fuzzy Logic (FL) method, Fractional Open Circuit Voltage (FOCV) method, Fractional Short Circuit Current (FSCC) method, etc. are a few examples [4].

Sliding mode control (SMC), one of these control systems, has drawn the most attention because of its significant benefits, including stability assurance, resistance to parameter fluctuations, quick dynamic response, and ease of implementation. SMC-based MPPT was used for a PV system with a Boost type converter in order to specifically control the PV current. We discovered SMC being utilized in to control the output voltage of the Buck converter in order to maximize PV power.

In this paper, we present the design of the SMC to track

VELOCITY CONTROL OF PMSM FED BY AN INVERTER DC/DC BUCK POWER ELECTRONIC CONVERTER

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ocity Control of a PMSM Fed by an Inverter-DC Buck Power Electronic Converter

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RACT This paper is concerned with velocity control in a permanent magnet synchronous (PMSM) when it is fed by an inverter-DC/DC Buck power converter system as power amplifier. esent, for the first time, a formal local asymptotic stability proof to solve this control problem. We stress is is the first time that this problem is solved for an AC motor. Our control scheme is simple when red to differential flatness- and backsteping-based proposals in the literature to solve this problem motors. The key for these achievements is the employment of a novel passivity-based approach takes advantage of the natural energy exchange among the electrical and mechanical subsystems mpose the inverter-DC/DC Buck power converter-PMSM system. The main features of this novel ty-based approach are summarized in this paper.

X TERMS Energy-based control, inverter-dc/dc buck power converter system, Lyapunov stability, nent magnet synchronous motors, velocity control.

ODUCTION

ommon technique that is used to provide power tromechanical systems is pulse width modulation . However, the hard commutation that is intrinsic M stresses the actuator (electric motors) inducing changes in its dynamics which are observed as sudden s in voltages and electric currents [1]. One manner d this situation is the employment of DC/DC power ic converters. Since these devices have embedded rs and inductors, they provide smooth voltages and currents, diminishing noise produced by the hard tation in PWM-based power amplifiers.

mathematical models of some DC/DC power elec- converter-DC motor systems were proposed for the me in [2]. Since then, many works have been d on the control of different combinations of sev- C/DC power electronic converter topologies and tors [3]–[13].

In the recent works [14]–[17], the introduction of an inverter between the DC/DC power electronic converter and the DC motor has rendered possible the bidirectional control of velocity. The problem with the proposed inverter-DC/DC power electronic converter topology is that the hard commutation of the inverter still appears at the DC-motor terminals. Motivated by this drawback, in [18] is proposed a novel inverter-DC/DC power electronic converter topology having the advantage that the hard commutation of the inverter is not present at the DC-motor terminals.

In the present paper we extend the application of the inverter-DC/DC power converter topology introduced in [18] to feed a permanent magnet synchronous motor (PMSM) for velocity regulation purposes. We present a formal stability proof ensuring asymptotic stability when the desired velocity is constant. Our main contribution is that, for the first time, velocity is controlled in an AC motor when it is fed by an inverter-DC/DC power converter. We stress that the previous works in the literature are devoted to control DC-motors whose dynamical model is well known to be linear. Recall that AC motor models, and in particular the PMSM model,

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SENSORLESS BLDC MOTOR DRIVE FOR AUTOMOTIVE APPLICATIONS

A Project Report

Submitted in partial fulfilment of the requirements

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Sensorless BLDC Motor Drive for Automotive Applications

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Abstract— In recent years, sensorless BLDC motor drives have become increasingly popular in automotive applications due to their lower cost, improved reliability, and simplified construction. This paper aims to design a sensorless BLDC motor drive for automotive applications using a Direct back EMF method, motor rotation detection and Current sensing technique The project includes a detailed study of the BLDC motor's speed regulation characteristics, a selection of suitable power electronics components, and the development of a microcontroller-based control system. The software development involves programming the microcontroller Finally, the paper includes extensive testing and validation to ensure the system's reliability and performance under various conditions and loads. The results of this project are expected to demonstrate the feasibility and effectiveness of a sensorless BLDC motor drive for automotive applications.

Keywords—Back-electromotive-force (EMF), Current sensing, Motor rotation detection, Sensor less BLDC Motor, Potentiometer.

I. INTRODUCTION

The brushless dc (BLDC) motor is gaining popularity these days for use in automobiles. This is because BLDCoperates more quietly, more reliably, and with less maintenance than its brushed dc cousin. continuous powerincreases the permanent-magnet brushless motor is a dependable, cost-effective alternative for a variety of adjustable speed applications. It also has controller ICs and power semiconductors. Power steering, engine cooling fans, fuel pumps, water pumps, air conditioning compressors, and heating, ventilation, and air conditioning (HVAC) blower motors are among the applications for which BLDC motorsare being developed or are already in use. Only two phases ofa three-phase BLDC motor can have current flowing through

them at once because to six-step commutation with a 120-conduction time. As a result, the third phase can be used to sense the return EMF, which shows the rotor location. Sensingthe back EMF will allow the controller to drive the motor because it is directly tied to the rotor position. a direct back EMF sensing method where the motor neutral point is not sensed and back EMF signals can be directly retrieved foreach phase. The back EMF sensing system is superior to the traditional approach in some ways. Since the motor neutral voltage is not used for zero crossing comparison, the back EMF signal is not attenuated, and there is no problem with high common mode voltage. Without low pass filtering, precise BEMF zero crossing detection can be accomplished. This control mechanism performs well. This low-cost microcontroller with the direct back EMF sensing approach has been employed for a number of applications [6] [7]. This method's enhancements, including ones that lessen time delays in high voltage applications and power loss inMOSFETs for low voltage applications, were published in [7].But because this direct back EMF sensing method needs a minimal amount of PWM "off" time, the duty cycle is constrained to a value below 100%. To make the most of the low bus voltage in many automotive applications, it is preferred to run the motor at 100% duty cycles. The motor back EMF is sampled synchronously during either the PWM off period or the PWM on time in an improved direct back EMF detection approach art up as a result.

LITERATURE SURVEY

In 2015 Nikita Tiwari, Prof. Ritesh Diwan "Speed Control of Brushless DC Motor using Fuzzy and Neuro Fuzzy" In this article the DC drive systems are often used in many industrial applications such as robotics, actuation and manipulators. The purpose of this paper is to control the speed of Brushless DC motor by using Fuzzy logic controller (FLC) and Neuro-fuzzy controller in MATLAB / SIMULINK model. The scopes include the modelling and simulation of Brushless DC motor, application of fuzzy logic controller to actual DC motor. This paper is going to present the new capacity of assessing speed and control of the Brushless DC motor. By utilizing the Neuro fuzzy controller, the rate can be tuned until it gets like the desired output that a user wants.

M. Daniel Pradeep, "a novel method of speed and voltage control of BLDC motor" This paper presents the speed control of BLDC motor by the 3phase semiconductor bridge by the signal sensed by rotor position sensor. In the proposed method the back emf of the motor is stored in the battery and the speed of motor is sensed and is given the pi controller which drives the semiconductor thus, by this proposed method the energy consumption will be less and generated energy can be stored and reused, and it has high, long operating life, noiseless operation, and highspeed range.

In 2015 Maloth Purnalal1, Sunil Kumar T K2 "Development of Mathematical Model and Speed Control of BLDC Motor" In this article the electronically commutated Brushless DC motors are enormously used in many industrial applications which increases the need for design of efficient control strategy for these noiseless motors. This paper deals with a closed loop speed control of BLDC motor and performance of the BLDC motor are simulated. The duty ratio is controlled by the PI controller, which determines the duty

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ARDUINO BASED WIRELESS ELECTRONIC NOTICE BOARD USING GSM MODEM

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stract— A notice board, also known as a bulletin board, is rd on which notices or messages are posted for public g. They can be made of various materials such as cork, or metal, and are typically found in public spaces such as ls, universities, community centers, and workplaces. A city is a city that uses modern technology and data-driven ons to improve the quality of life for its citizens. Smart board is an innovative solution that provides an effective of communication in public spaces. It combines the nience of traditional notice boards with the efficiency of rn technology to display important information in real- The system is designed to automatically update and y various types of content, such as news, weather updates, rtisements, and emergency notifications. The user-friendly face allows users to easily upload and manage content, the customizable display options enable the board to fit lessly into any environment. The Smart notice board is a ffective, eco-friendly, and flexible solution that can nce communication and engagement in public spaces. This deals with advanced notice board for smart cities. It nts a prototype based notice board incorporating micro- roller PIC18F2550. A communication GSM module SIM device is interfaced to the ports of the micro-controller 8F2550.

eywords—Smart Cities, Electronic Board, Display Unit, crocontroller, Mobile Interface, E-News.

I. INTRODUCTION

smart city is a modern city that uses digital technologies data analytics to enhance the quality of life of its citizens, ove sustainability, and optimize its operations. Smart utilize a variety of technologies, such as sensors, data tics, and internet of things (IoT) devices, to collect and ze data from various sources in real-time [1]. This mation is then used to make informed decisions that ove city services, optimize traffic flow, and enhance c safety. Smart cities also focus on improving the quality e for their citizens by providing access to digital services esources. This can include providing free public Wi-Fi, loping mobile applications to make it easier for citizens cess city services, and creating digital platforms for en engagement. The content on a notice board is usually ged frequently, and it is important to keep it up-to-date to e that people receive accurate information. Notice boards e maintained by designated individuals such as teachers, nistrators, or office staff [2]. Alternatively, they can be up as a communal space where anyone can post mation. Smart notice boards are an innovative application gital technology that is transforming the way we communicate and share information. Smart notice boards use digital displays and connectivity to provide real-time updates and notifications to users [3]. They are designed to be easy to use, customizable, and accessible from anywhere, making them an ideal solution for a variety of settings, such as schools, universities, offices, public spaces, and more. Smart notice boards are typically comprised of a digital display that can be customized to show a variety of information, such as event schedules, news feeds, weather updates, and social media feeds [4]. The content displayed on the board can be updated in real-time, either manually or through an automated system that pulls information from various sources, such as social media accounts, RSS feeds, or APIs. One of the key advantages of smart notice boards is their ability to provide real-time updates and notifications to users. For example, a school might use a smart notice board to provide up-to-date information on exam schedules, student activities, and school closures. In an office setting, a smart notice board might display meeting schedules, project updates, and other important information that employees need to stay informed [5]. One of the most significant benefits of smart notice boards is their ability to enhance communication and collaboration among users. By providing real-time updates and notifications, smart notice boards help to ensure that all stakeholders are on the same page and have an opportunity access for the data they need to make informed decisions. Another important benefit of smart notice boards is their ability to promote engagement and participation. By displaying dynamic and interactive content, smart notice boards can help to capture the attention of users and encourage them to take action, whether it's attending an event, participating in a survey, or sharing information with others. Smart notice boards can also help to reduce the environmental impact of traditional notice boards, which often rely on paper-based materials that are both wasteful and costly. By using digital displays and connectivity, smart notice boards eliminate the need for paper-based materials, reducing waste and lowering costs. In addition to their many benefits, smart notice boards also present some challenges and considerations. For example, implementing a smart notice board can need an initial financial investment in computer equipment and firmware, as well as ongoing maintenance and support costs. It is also important to consider data security and privacy concerns when using smart notice boards, as they often rely on data connectivity and can potentially expose sensitive information to unauthorized users. One of the key features of smart notice boards is their ability to provide real-time updates and notifications to users. This has been highlighted in several studies, which have shown that real-

A Study on Load frequency Control of BESS in Distribution Generation

A Project Report submitted in partial fulfilment of the requirements for the award of the Degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRICAL AND ELECTRONICS ENGINEERING

Submitted by

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B.L.N. MANIKANTA	**(20U45A0209)**
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CERTIFICATE

This is to certify that the Project work entitled **"A Study on Load frequency Control of BESS in Distribution Generation"** is being submitted by **D RAVI TEJA (20U45A0211),B.L.N MANIKANTA (20U45A0209), G LAKSHMAN (20U45A0219)** in partial fulfilment of the Requirement for the award of the degree of **BACHELOR OF TECHNOLOGY IN ELECTRICAL AND ELECTRONICS ENGINEERING** during the academic year 2021-23.

Ch. L. Prasanna.

Mrs.CH LAKSHMI PRASANNA
ASSISTANT PROFESSOR
PROJECT GUIDE

Dr. A.S.L.K. GOPALAMMA
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EXTERNAL EXAMINER

ANNEXURE -1

A Study on Load frequency Control of BESS in Distribution Generation

*Note: Sub-titles are not captured in Xplore and should not be used

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***Abstract*— The main goal of a power system is to balance the electricity generated at the generator end with the power needed at the consumption end. However, consumer demand is always shifting as a result of advancement. Therefore, it is necessary to continuously check on and meet load demand. The system frequency will be impacted by any imbalance between power generation and demand. The use of renewable energy sources (RES) has become more prevalent in contemporary power systems. From an economic standpoint, the flexibility of installing RES gives energy producers and consumers the option to choose an energy transaction. In addition to this, RES also has an effect on current power systems. For load frequency regulation, an isolated power system is modelled in the current research, the asynchronous generation has also been modelled and integrated into the current model to see how it affects the features of the Power system Load frequency. Additionally, a battery energy storage system has been designed and integrated into other models. In this study, single area load frequency control (LFC) utilising an integrated controller is initially taken into consideration. Second, Distributed generation is used to examine Single area LFC (DG). Following that, the battery energy storage (BES) system is used to assess single area LFC. As per the study we can determine the proper gain for the PI controller, the impact of increasing DG penetration level, and the impact of the BES system using MATLAB Simulink R2018A software. Additionally, frequency discrepancies were seen when different controllers were added to a single area LFC with and without DG embedded and BES system.**

***Keywords*—Battery energy storage system, Distributed Generation, Integral controller, Load frequency control, Single area, Power system.**

I. INTRODUCTION

The load affects the frequency of the power system. Unpredictable load variations are based on consumer preferences. Any kind of discrepancy between the amount of power generated and the amount of power needed by the load will result in imbalances in the electromagnetic and mechanical torque of the generators, which will change the network's frequency and jeopardise the stability of the system [1].

Frequency dependent loads and other system equipment are affected by changes in frequency. The technique of controlling the frequency by monitoring changes in the load and altering the generator's input is known as load frequency control [2]. Rotor-angle, speed, frequency, and power are power system characteristics that are interconnected and are altered by load fluctuation. System frequency is at the standard specified value, or 50 Hz, when the power system is in a normal functioning state with no form of power imbalance (India) [3]. However, there is a frequency mismatch when a load changes, a condition that is abnormal happens, or a system parameter is changed. Such mismatches can be avoided by using AGC to control frequency within certain bounds [4].

Most proportional-integral controllers, which are well-known conventional controllers used for load-frequency, are employed in the secondary loop to achieve zero steady state error [5]. The magnitude of the gain (Ki) of the PI (Proportional Integral) controller plays a crucial role in the change of frequency (Δf) when the secondary loop of control in LFC is used [6].

The usage of several controller architectures for load frequency control has been mentioned in recent literature. For multi-area power systems with parametric limitations, Lim et al [7], have suggested a reliable decentralised load frequency controller based on the Riccati-Equation technique. For controlling load frequency, the conventional PID controller has been widely employed. Later, expert systems like fuzzy logic and neural networks were used to get beyond the limitations of traditional controllers. BES is introduced for LFC application [8][9].

Renewable energy sources including wind, solar, gas, and fuel cells are examples of distributed generation (DG), which provides active power to a system that is linked close to the consumer end [10]. Due to its numerous advantages, distributed power production is growing in popularity. The shortfall power (difference between power demand and power output) can be provided to the system by installing renewable energy resources close to the load centres. It is necessary to look at how these renewable energy sources (RES) affect the system's load frequency characteristics [11].

The addition of storage facilities, namely a battery energy storage facility, during peak demand periods will increase LFC's performance. BES can be used to boost the effectiveness of load frequency management since it can offer quick and active power correction. Additionally, BES increases supply dependability during periods of high demand. Additional dynamic advantages offered by storage

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ANAKAPALLE

EEE (2020 Admitted Batch)

Pre-final review Attendance

S.No.	HT.No	StudentName	Signature
1	20U41A0202	ORUPULA PUJA HEMANTH	O. Puja Hemanth
2	20U41A0203	PEYYALA MOHAN	P. Mohan
3	20U41A0205	KASIREDDY SAI YASWANTH	K. Sai Yaswanth
4	20U41A0206	SIYYADRI JAGAN KUMAR	S. Jagan Kumar
5	20U41A0207	BODDAPU MANIKANTA	B. Manikanta
6	20U41A0208	GANTA VISWESWARA RAO	G. Visweswara Rao
7	20U41A0209	GEDDAM BHARATHI	G. Bharathi
8	20U41A0210	CHEEPURUPALLI MAHESH	Ch. Mahesh
9	20U41A0211	SAMMIDI SURYA ROHIT	S. Surya Rohit
10	20U41A0212	KATARI VENKATESH	K. Venkatesh
11	20U41A0213	BUDDHA SHYAM SUNDHAR	B. Shyam
12	20U41A0214	ANGA SRINIVAS	A. Srinivas
13	20U41A0215	KAKARLAMOODI VISHNU VARDHAN	K. Vishnu Vardhan
14	21U45A0201	ARREPU NOOKESH KUMAR	A. Nookesh
15	21U45A0202	ATHAVA PRAVEEN KUMAR	A. Praveen Kumar
16	21U45A0203	BARNIKANA GOVINDA	B. Govinda
17	21U45A0205	DAKAMARRI RAMU	D. Ramu
18	21U45A0206	DASARI YASWANTH	D. Yaswanth
19	21U45A0207	DUKKA SRINIVASA REDDY	D. Srinivasa Reddy
20	21U45A0208	DULLA PAVAN KUMAR	D. Pavan Kumar
21	21U45A0209	GANDRETI GOWTHAM PATNAIK	G. Gowtham Patnaik
22	21U45A0210	GANGUPAM DURGA SAI PRASAD	Durga Sai
23	21U45A0211	GANNU UMA MAHESWARI	G. Uma Maheswari
24	21U45A0212	GINNI NAVEEN KUMAR	Naveen Kumar
25	21U45A0213	GOPASANA YASWANTH SURYA PADMAKAR	G. Y. S. Padmakar
26	21U45A0214	KALLEMPUDI SAI	K. Sai
27	21U45A0216	KANDREGULA BHARGAVI	K. Bhargavi
28	21U45A0217	KANUMAREDDY LEELA VARAHA LAVANYA	K. L. V. Lavanya
29	21U45A0218	KORUKONDA YAMINI PRIYANKA	K. Y. Priyanka
30	21U45A0219	KUNDALA BHANU SAI KRISHNA	K. Bhanu
31	21U45A0220	CHODIPALLI MUTYALA NAIDU	Ch. Mutyalanaidu
32	21U45A0221	MADAKA RAMA KRISHNA	M. Rama krishna
33	21U45A0222	MADETI MANIKANTA	M. Manikanta
34	21U45A0223	MALLA HARIKA	M. Harika
35	21U45A0224	MALLA VENKATA KUMAR	M. Venkata kumar
36	21U45A0225	MARISERLA VENKATA SAI	M. Venkata Sai
37	21U45A0226	MEESALA NAGARAJU	M. Nagaraju

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38	21U45A0227	MERUGU PRAMODH	M. Pramodh
39	21U45A0228	MUMMANA VINAY KUMAR	M. Vinay Kumar
40	21U45A0229	NAGA DURGA PRASAD KODIBOYINA	K.N.d.Prasad
41	21U45A0230	PALAKA GAYATHRI	Gayathri
42	21U45A0231	PATTA JYOTHI AMAR SWAROOP	P. Amar
43	21U45A0232	PEBBULI LAXMAN SAI	P. Laxman Sai
44	21U45A0233	PEDIREDLA KARTHIK	P. Karthik.
45	21U45A0234	PILLA VENKATA RAMANA	P. Venkata Ramana
46	21U45A0235	REYYI VENU	R. Venu
47	21U45A0236	S VAMSI KRISHNA	S. Vamsi Krishna
48	21U45A0237	VIRODHULA MANIKUMAR	V. Manikumar

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49	21U45A0238	YAMANA KIRANMAYE	Y. Kiranmaye
50	21U45A0239	ADARI SAIKUMAR	Adari Saikumar
51	21U45A0240	Amarapini Kushal	A. Kushal
52	21U45A0241	BAKI KURMAREDDY	
53	21U45A0242	BETHA BALAJI	B. Balaji
54	21U45A0243	BODDETI ANUSHA	B. Anusha.
55	21U45A0244	BODDETI PAVAN VAMSI	B. Pavan
56	21U45A0245	BODDU VEERA SAI MANI TEJA	Bv.S. Mani Teja
57	21U45A0246	Buddha Lohith Kumar	B Lohith Kumar
58	21U45A0247	CHEKKA SHRI SAI MOUNIKA	Ch.S.S. Mounika.
59	21U45A0248	Dadisetty Gowtham Sai Karthik	D. Gowtham
60	21U45A0249	DASARI VINAY	D. Vinay
61	21U45A0250	DEPURI NAGARAJU	D. Nagaraju
62	21U45A0251	DEVARAKONDA NAVEEN KUMAR	D. Naveen kumar.
63	21U45A0252	DEVARAPU LAXMAN KUMAR	D Laxman kumar
64	21U45A0253	DURGA PRASAD PRASADULA	D Prasad
65	21U45A0254	GALLA SRINIVASARAO	G. Srinivasarao.
66	21U45A0255	GOKULAPATI GANESH	G. Ganesh
67	21U45A0256	JALLU TULASI RAM	Absent
68	21U45A0257	KADIMI HARINADH	Absent
69	21U45A0258	KANDREGULA YOGITHA SUBHADRA	K. Yogitha
70	21U45A0259	KANNAM CHUHITHA	K. Chuhitha
71	21U45A0260	KARRI DEEKSHITH	K. Deekshith
72	21U45A0261	KISHAN KUMAR	
73	21U45A0262	KONATALA MOHAN SAI	K. Mohan Sai
74	21U45A0263	KORIBILLI VEERA VENKATA SAI BHAVANI	K.V.V.S Bhavani
75	21U45A0264	KUNDRAPU KOUSALYA	K. Kousalya
76	21U45A0265	MALLA BHARGAV SWAMY	M. B. Swamy
77	21U45A0266	MANGARAJU SWATHI	Absent
78	21U45A0267	MARISETTY NEERAJ	M. Neeraj
79	21U45A0268	MOHAMMAD GULAM MUSTHAFA	Md. Musthafa.
80	21U45A0269	MULAPARTHI ADITYA SAI	Absent
81	21U45A0270	MUMMINA PUSHPA	Absent
82	21U45A0272	PAPPALA TEJASRI	P. Tejasri
83	21U45A0273	PERLA SANDHYA	P. Sandhya
84	21U45A0274	RAMBUDDI UMA SANKAR	Absent
85	21U45A0275	RAPETI KUSUMA KOMALI	R. kusuma komali
86	21U45A0276	SARAGADAM SASHIDHAR	Absent
87	21U45A0277	SOHAN DAS	Sohan Das
88	21U45A0278	VEMPARALA VENKATA NAGA VAMSI KRISHNA	Absent

S.No.	HT.No	StudentName	Signature
89	21U45A0279	VURITI GYANA SABARISH KRISHNA	V. G. S Krishna
90	21U45A0280	THANNA VAMSI	Absent
91	21U45A0281	MANYAM SAI JAYA KRISHNA	M Sai Jaya krishna
92	21U45A0282	BYLAPUDI NARAYANARAO	Absent
93	20U45A0227	KARNAM SYAM KUMAR	K Shyam
94	20U45A0259	VINDULA CHARAN SAI TEJA	Charan Sai
95	20U45A0265	KOYYA NAVEEN	K. Naveen

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EEE-B(2020 Admitted Batch)

Batch No	HT.No	Student Name	Mentor	Marks	Title of the project	Documentation in prescribed format(Yes/No)	Results achieved/prototype developed(Yes/No)	Paper Submitted/Accepted/Published to any conference or journal
1	21U45A0272	PAPPALA TEJASRI	Dr. A S L K Gopalamma		Design & Analysis of low water head hydro power generation utilising waste water system.	Yes, Need Major changes.	Yes.	Submitted INCET2024 ID:1409 WCONF2024 ID:203
	21U45A0279	VURITI GYANA SABARISH KRISHNA						
	21U45A0251	DEVARAKONDA NAVEEN KUMAR						
	21U45A0245	BODDU VEERA SAI MANI TEJA						
2	21U45A0238	YAMANA KIRANMAYE	Ms. B. Sowmya		Fault detection in Distribution system based on Time frequency analysis	Yes, Need minor changes.	Yes	Not submitted.
	21U45A0264	KUNDRAPU KOUSALYA						
	21U45A0268	MOHAMMAD GULAM MUSTHAFA						
	21U45A0252	DEVARAPU LAXMAN KUMAR						
3	21U45A0282	BYLAPUDI NARAYANARAO	Mrs. M Hemalatha		Wifi controlled electrical equipment using alexa & bot	Yes, Need minor changes	Yes	Submitted IGTEMS -2024 PID:- 525
	21U45A0239	ADARI SAIKUMAR						
	21U45A0247	CHEKKA SHRI SAI MOUNIKA						
	21U45A0265	MALLA BHARGAV SWAMY						
4	21U45A0241	BAKI KURMAREDDY	Dr. S. Ramana Kumar Joga		Microgrid energy management system using adaptive PSO optimization technique	Yes	Yes	Accepted ICDOT -2024 PID:- 781
	21U45A0262	KONATALA MOHAN SAI						
	21U45A0276	SARAGADAM SASHIDHAR						
	21U45A0260	KARRI DEEKSHITH						

Batch No	HT.No	Student Name	Mentor	Marks	Title of the project	Documentation in prescribed format(Yes/No)	Results achieved/prototype developed(Yes/No)	Paper Submitted/ Accepted/ Published in conference or journal
	21U45A0269	MULAPARTHI ADITYA SAI	Mr. K. Srinivas rao		Fortifying Microgrid resilience by exploring wavelet multiresolution analysis and Data mining approaches	Yes, mistakes in content needy (minor chan)	Yes	Not Submitted
	21U45A0246	Buddha Lohith Kumar						
	21U45A0254	GALLA SRINIVASARAO						
	21U45A0277	ROHAN DAS						
	21U45A0243	BODDETI ANUSHA	Mr. J. Deleep Kumar		Smart shoe and Bracelet for Enhanced Obstacle Detection	NO, Documentation not Completed.	NO; Results are not achieved.	Not Submitted
	21U45A0261	KISHAN KUMAR						
	21U45A0248	Dadisetty Gowtham Sai Karthik						
	21U45A0280	THANNA VAMSI						
	21U45A0270	MUMMINA PUSHPA	Mrs. P. Sravana Lakshmi		Load flow analysis on distribution Systems to identify weak bus.	Yes, Need minor chang	Yes.	Submitted ICSSES-2024 paperID -248
	21U45A0255	GOKULAPATI GANESH						
	21U45A0266	MANGARAJU SWATHI						
	21U45A0274	RAMBUDDI UMA SANKAR						
	21U45A0258	KANDREGULA YOGITHA SUBHADRA	Mrs. K.Alfons Jose		Solar power Plant monitoring System through DC to AC inverter Based on IOT	Yes, need minor changes.	Yes	Not Submitted
	21U45A0242	BETHA BALAJI						
	21U45A0257	KADIMI HARINADH						
	21U45A0244	BODDETI PAVAN VAMSI						
	21U45A0263	KORIBILLI VEERA VENKATA SAI BHAVANI	Mr. G. Jagadeesh		Design & Implementation of Electric Bicycle with GPS.	Yes, Need minor changs	Yes	Not Submitted
	21U45A0275	RAPETI KUSUMA KOMALI						
	21U45A0278	VEMPARALA VENKATA NAGA VAMSI KRISHNA						
	20U45A0227	KARHAM SYAM KUMAR						

HT.No	StudentName	Mentor	Marks	Title of the project	Documentation in prescribed format(Yes/No)	Results achieved/prototype developed(Yes/No)	Paper Submitted/Accepted/Published to any conference or journal
21U45A0267	MARISETTY NEERAJ	Mr. K. Vijay Kumar		Power quality Improvement using dynamic voltage Restorer	Yes / Need Minor changes	Yes	Submitted ICCDS-2024 646
21U45A0259	KANNAM CHUHITHA						
21U45A0281	MANYAM SAI JAYA KRISHNA						
20U45A0259	VINDULA CHARAN SAI TEJA						
21U45A0273	PERLA SANDHYA	Mrs. Ch. Lakshmi Prasanna		Wavelet Entropy Measurement Based PQD's Diagnosis	NO, Not in prescribed format	Yes	Submitted ICSSES-2024 (294)
21U45A0253	DURGA PRASAD PRASADULA						
21U45A0240	Amarapuu Kushal						
20U45A0265	KOYYA NAVEEN						
21U45A0249	DASARI VINAY	Mrs. P. Sravana Lakshmi		Integrating vehicle-to-grid technology in a microgrid Using DC fast charging architecture with FCL as a Controller.			Not submitted.
21U45A0250	DEPURI NAGARAJU				Yes/minor Changes	Yes.	
21U45A0256	JALLU TULASI RAM						
20U41A0205	KASIREDDY SAI YASWANTH						

Verified by:

Name: Dr. K.V. Uma Rameswari

Designation: Associate Professor

Department: BS&H

Signature: Uma Rameswari

R&D Convenor

R&D Coordinator

HOD

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DADI INSTITUTE OF ENGINEERING & TECHNOLOGY

EEE-A (2020 Admitted Batch)

Batch No	HT No	Student Name	Mentor	Marks	Title of the Project	Documentation in prescribed format(Yes/No)	Results achieved/prototype developed(Yes/No)	Paper Submitted/Accepted/Published in any conference or journal
1	21U45A0233	PITHEETLA KARTHIK	Dr. A S L K Gopalamma		IIoT for Energy Mangement Systems using Green Energy.	Yes No Issues found	Yes	Submitted ICSSES - 2024 P.ID :- 247.
	20U41A0203	PETTALA MOHAN						
	21U45A0209	DANDIKETI GOWTHAM PATNAIK						
	20U41A0232	KATARI VENKATESH						
2	21U45A0221	MADALA RAMA KRISHNA	Mr. B V V Anjaneyulu		Power Quality improvement using a Combination of DSTATCOM and Hybrid Power Filter.	Yes, Need minor chages	Yes	Not Submitted.
	21U45A0225	MARISETLA VENKATA SAI						
	20U41A0213	KAKARLAMUDI VISHNU VARDHAN						
	21U45A0231	PATTA JYOTHI AMAR SWAROOP						
3	21U45A0234	PILLA VENKATA RAMANA	Mr. B V V Anjaneyulu		Analysis of SOC Estimation & Emission Reduction of various Hybrid Electric Vehicles.	~~Yes~~, no applicable two results obtained.	~~Yes~~, need proper results & discussion.	Submitted. WCONF 2024 P.ID - 233.
	21U45A0223	MALLA HARIKA						
	21U45A0207	DUKKA SRINIVASA REDDY						
	21U45A0214	KALLEMPUDI SAI						
4	21U45A0208	DULLA PAVAN KUMAR	Mrs G.Swathi		Battery Monitoring and Protection system.	Yes, Need minor chages	Yes	not submitted
	20U41A0209	GEEDAM BHARATH						
	21U45A0224	MALLA VENKATA KUMAR						
	21U45A0210	GANGUPAM DURGA SAI PRASAD						

Batch No	HT No	Student Name	Mentor	Marks	Title of the Project	Documentation in prescribed format(Yes/No)	Results achieved/prototype developed(Yes/No)	Paper Submitted/Accepted/Published in any conference or journal
1	21U343A0202	ATHAVA PRAVEEN KUMAR	Mr. K. Srinivas Rao		Smart Home Automation using IOT	Yes, Need small changes.	Yes	Submitted ICSSES-2024
	20U341A0202	ORUPULA PUJA HEMANTH						P.I.D:- 293
	21U343A0217	KANUMARTHYV LEELA VARAHA LAVANYA						~~Submitted~~
	21U341A0206	JHARAI YASWANTH						
2	21U343A0222	MAJETI MANIKANTA	Mr. G. Jagadeesh		Estimation of SOC for Lithium ion battery using EKF method	Yes, Need small changes.	Yes.	ISTEHS-2024
	21U343A0236	T VAMSI KRISHNA						P.I.D:- 311
	20U343A0207	BUDDAPU MANIKANTA						Submitted
	20U341A0210	CHITTURUPALLI MAHESH						
3	21U343A0255	EVVI VENU	Dr. S. Ramana Kumar Jogu		Fault Detection and Classification in PV system using MRA DWT and AdaBoost Classifier	Yes, Correction in alignment	Yes.	Accepted
	21U343A0218	KORUKONDA YAMINI PRIYANKA						SPECon 2024
	21U343A0233	GOPASANA YASWANTH SURYA PADMAKAR						Paper ID: 103
	21U343A0220	CHODIPALLI MUTYALA NAIDU						
4	21U343A0212	GOOD NAVEEN KUMAR	Mr. A. Krishna Nag		Electric Vehicle to Grid Reactive Power control using CPIC Techniqwe	NO Need to increase the Pages in the document	Yes	Submitted ICPEICES/2024 Pap No.→157100.
	21U343A0226	METTALA NAGARAJU						
	21U343A0229	NAGA DURGA PRASAD KODIKOYINA						
	20U341A0208	GANTA VISWESWARA RAO						6522
5	21U343A0230	PALAKA GAYATHRI	Mr. V Sudhakar		Battery & Supercapacitor fed BLDC motor for EV Application.	Yes, need major changes	Yes	Submitted microsoft CMT - 2024
	21U343A0216	KANDREGULA BHARGAVI						
	20U341A0211	SAMMETI SURYA ROHIT						
	20U341A0213	PUTCHA SHYAM SUNDHAR						PID- 231

				SOLAR POWERED OUTDOOR AIR PURIFIER	Yes, Need major modification	Yes	Not submitted
				implementation of a grid-integrated PV-battery system for residential applications & EVs	Yes, Need minor changes	Yes	Not submitted
				Resonant Wireless Power Transmission for Electric Vechicles	Yes, Need minor changes.	Yes	Submitted ISTEMS-2024 Paper ID-520

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	21U45A0209	GANDRETI GOWTHAM PATNAIK	
	20U41A0212	KATARI VENKATESH	
2	21U45A0221	MADAKA RAMA KRISHNA	Mr. J Shiva
	21U45A0225	MARISERLA VENKATA SAI	
	20U41A0215	KAKARLAMOODI VISHNU VARDHAN	
	21U45A0231	PATTA JYOTHI AMAR SWAROOP	
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	21U45A0223	MALLA HARIKA	
	21U45A0207	DUKKA SRINIVASA REDDY	
	21U45A0214	KALLEMPUDI SAI	
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	20U41A0209	GEDDAM BHARATHI	
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	21U45A0210	GANGUPAM DURGA SAI PRASAD	
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	20U41A0202	ORUPULA PUJA HEMANTH	
	21U45A0217	KANUMAREDDY LEELA VARAHA LAVANYA	
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	20U41A0207	BODDAPU MANIKANTA	
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	21U45A0218	KORUKONDA YAMINI PRIYANKA	
	21U45A0213	GOPASANA YASWANTH SURYA PADMAKAR	
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	21U45A0229	NAGA DURGA PRASAD KODIBOYINA	
	20U41A0208	GANTA VISWESWARA RAO	
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	21U45A0216	KANDREGULA BHARGAVI	
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	21U45A0264	KUNDRAPU KOUSALYA	
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	21U45A0252	DEVARAPU LAXMAN KUMAR	
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	21U45A0247	CHEKKA SHRI SAI MOUNIKA	
	21U45A0265	MALLA BHARGAV SWAMY	
4	21U45A0241	BAKI KURMAREDDY	Mr. S. Ramana Kumar Joga
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	21U45A0260	KARRI DEEKSHITH	
5	21U45A0269	MULAPARTHI ADITYA SAI	Mr. K. Srinivas rao
	21U45A0246	Buddha Lohith Kumar	
	21U45A0254	GALLA SRINIVASARAO	
	21U45A0277	SOHAN DAS	
6	21U45A0243	BODDETI ANUSHA	Mr. J. Deleep Kumar
	21U45A0261	KISHAN KUMAR	
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	21U45A0280	THANNA VAMSI	
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	21U45A0266	MANGARAJU SWATHI	
	21U45A0274	RAMBUDDI UMA SANKAR	
8	21U45A0258	KANDREGULA YOGITHA SUBHADRA	Mrs. K.Alfoni Jose
	21U45A0242	BETHA BALAJI	
	21U45A0257	KADIMI HARINADH	
	21U45A0244	BODDETI PAVAN VAMSI	
9	21U45A0263	KORIBILLI VEERA VENKATA SAI BHAVANI	Mr. G. Jagadeesh
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	21U45A0278	VEMPARALA VENKATA NAGA VAMSI KRISHNA	
	20U45A0227	KARNAM SYAM KUMAR	
10	21U45A0267	MARISETTY NEERAJ	Mr. K. Vijay Kumar
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	21U45A0281	MANYAM SAI JAYA KRISHNA	
	20U45A0259	VINDULA CHARAN SAI TEJA	
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	21U45A0253	DURGA PRASAD PRASADULA	
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	20U45A0265	KOYYA NAVEEN	
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