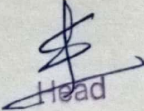
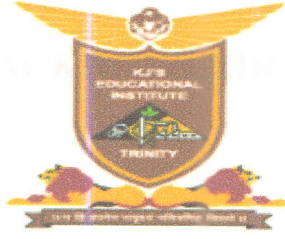


KJ'S EDUCATIONAL INSTITUTES
TRINITY COLLEGE OF ENGINEERING AND RESEARCH PUNE
DEPARTMENT OF Electrical Engineering
BE final Year Project 2022-23

Group no	Roll no	Name of Students	Topic Name
1	EL4038	MASURE SUDARSHAN BALAJI	IOT and Solar based E-uniform for soldiers with real time tracking
	EL4039	MEHER AKSHAY RAMCHANDRA	
	EL4059	THULE SANGRAM ROHIDAS	
	EL4009	BHAND SUJIT NARAYAN	
2	EL4049	SALUNKE PRATIK DATTATRAY	PLC based Smart car parking
	EL4011	BHUSARI PALLAVI ARVIND	
	EL4016	DAKHOLE SURBHI ANILRAO	
	EL4030	KAD ABHISHEK VILAS	
3	EL4022	GAIKWAD MOHIT DATTATRAY	Smart Recognition using computer vision
	EL4060	TODKAR OMPRAKASH RAMLING	
	EL4041	MUNESHWAR ABHILASH CHANDRAKIRAN	
	EL4018	DHOTE KUNAL VILAS	
4	EL4024	GHODKE OMKAR GENDAJI	Battery monitoring System
	EL4046	PIMPAL PRATIK PRAMOD	
	EL4043	PAWAR SHUBHAM CHANDRAKANT	
5	EL4048	RAUT SANKET VACHISHTA	Solar Operating Electrical vehicle with IOT based monitoring
	EL4061	VIBHUTE SHRUTI PANDIT	
	EL4056	TAKLIKAR SNEHA UTTAM	
6	EL4050	SHINDE VIJAY EKANATH	Solar Tracking Powered cricket Stadium
	EL4032	KAMBLE YOGESH AVINASH	
	EL4040	MHOPARE RUSHIKESH TANAJI	
	EL4058	THORAT PRANALI ANGAD	
7	EL4033	KATTE SANKET SHRISHAIL	Automatic drip irrigation system using PLC
	EL4025	GUJAR RUSHIKESH JAYPRAKASH	
	EL4020	GAIKAR SANKET ULHAS	
	EL4013	CHIMANE KAJAL RANBA	
8	EL4042	PATIL SANSKAR SUNIL	GSM based smart energy meter
	EL4051	SONAWANE ADITYA SHIVAJI	
	EL4031	KALANE AYUSH BALKRISHNA	
	EL4010	BHOJANE YOGESH GOVIND	
9	EL4057	TENGAL SAMEER SANJAY	IOT based smart Helmat
	EL4004	BALKAR AKSHAY KADUBA	
	EL4044	PAWAR TEJAS SUNIL	
	EL4001	AWAGHDE SANTOSH PRAVHAKAR	
10	EL4005	BANGAD RAVIRAJ SHRINIVAS	IOT based smart Agriculture monitoring System
	EL4029	JATHAR SAURABH LAXMAN	
	EL4027	JAGTAP PRITHVIRAJ SURESH	
	EL4012	CHAVAN RAJASHREE AMAR	
11	EL4063	ZANJAD RUTUJA ROHIDAS	Design of an intelligent MPPT based on ANN using a real photovoltaic system
	EL4037	MARATHE KEDAR SHRIRAM	
	EL4062	WAGH AKASH GORAKHNATH	
	EL4028	JAGTAP RUTUJA MOHAN	
12	EL4002	VIRAJ AWATE	IOT based Transformer Monitoring
	EL4003	AKSHAY BACHULKAR	
	EL4052	VISHAL SONAWANE	
13	EL4054	SURYAWANSHI VIJAY VYANKAT	Smart Street Light
	EL4036	MANKAR ASHUTOSH SUNIL	
	EL4021	GAIKWAD ANAND MAHADEV	
14	EL4008	BHADRASHETTE PRITAM RAJKUMAR	PLC based Industry automatic light control
	EL4006	BELHEKAR ANIKET DASHARATH	
	EL4045	PHARANDE CHIRAG MANIK	
	EL4019	DIGHE HARSHADA DATTATRAY	
15	EL4035	MANIYAR ARSHAD RIYAZ	SEAWAGE COLLECTOR
	EL4026	HALKARE PRAJWAL SANTOSH	
	EL4015	DAHALE RUSHIKESH GANESH	


Head

Dept. of Electrical Engg.
Trinity College of Engg. & Resear
Pune-411 048.



CERTIFICATE

This is to certify that the Project - I report entitled
“Battery Monitoring System”


Submitted by


Mr. Pratik P. Pimpale
Mr. Omkar G. Ghodke
Mr. Shubham C. Pawar

Exam Seat No : B190652539
Exam Seat No : B190652520
Exam Seat No : B190652538

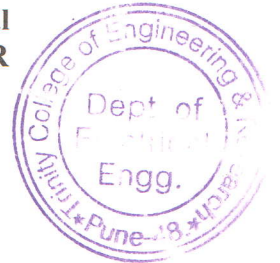
It is a bonafide work carried out and it is approved for the partial fulfillment of the requirement of Savitribai Phule Pune University, Pune for award of Degree of Bachelor, Electrical Engineering.

To the best of our knowledge and belief this project has not been submitted elsewhere for the award of any other degree.

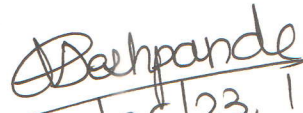

Mr. Dr. Akhilesh Mishra
Guide
Dept. of Electrical Engg.


Mrs. J. V. Satre
Head
Dept. of Electrical Engg.

Principal
TCOER



Date:
01/06/2023
Place: Pune


01/06/23, 10:35am

Mr. Chaitanya V. Deshpande

ABSTRACT

Battery Monitoring System (BMS) is an electronic system that monitors rechargeable battery with various parameters, such as battery voltage, current and State-of-Charge (SoC). In this paper we will discuss about Battery Monitoring system using Arduino. Battery seems to be very expensive and also the life of the battery has a short period of time. Between its life span if we don't take care of the battery then maintenance cost the battery-operated equipment will be increase. To avoid this, we are bringing to you Advanced Battery monitoring system using Arduino with less cost and more features. This system can be used to avoid overcharging or over discharging of batteries to increase its shelf life. Nowadays batteries are becoming so popular because of its feature of storing electric energy enables portability of electric energy even in places where electric transmission lines cannot be laid effortlessly. They are playing a significant role in reaching the objective of universal access to environment friendly, reliable & affordable electricity services. But they are unable to serve their capacity because of their lack of proper monitoring & maintenance. In order to make the battery smarter & safer a system of remote monitoring of battery for determining the battery condition by measuring various parametric quantities of battery & to publicize the condition of battery, thereby maintaining the battery to serve its full capacity as well as to prevent the system from unexpected shutdown.

TRINITY COLLEGE OF ENGINEERING & RESEARCH, PUNE
DEPARTMENT OF ELECTRICAL ENGINEERING

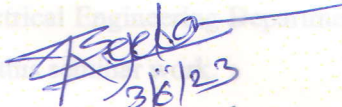
CERTIFICATE


Certified that the Project report entitled, "SOLAR POWERED CRICKET STADIUM" is a benefited work done under my guidance by 1. Kamble Yogesh Avinash (B190652529) 2. Mhopare Rushikesh Tanaji (B190652535) 3. Shinde Vijay Eknath (B190652544) 4. Thorat Pranali Angad (B190652551) in partial fulfillment of the requirements for the award of degree of Bachelor of Engineering in Electrical.

Date: 01/06/2023

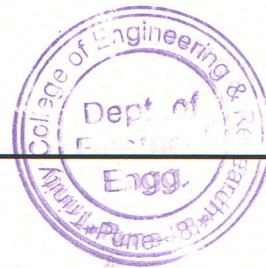

Prof. Swapnil Dhage
(Assistant Professor)

Project Guide


3/6/23
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ABSTRACT

In India cricket is the most popular sport. The required electricity for the stadium which is generated by conventional source is very costly. So, by making it more energy efficient and environmentally will be suitable for masses. This research paper focuses on the design and implementation of a solar tracking system for a cricket stadium which aims to maximize the energy output of the solar panels installed on the stadium roof by tracking the sun's movement throughout the day. The solar tracking system is powered by a combination of solar panels and batteries, ensuring that the system operates even during power outages. With the implementation of such solar tracking system, its output is 32% higher than fixed solar panel. The paper concludes by highlighting the potential for similar solar tracking systems to be implemented in other sports stadiums and large-scale facilities.

5.1	Working Principle	Kamble Yogesh Avinash (B190652529)
6	Flow Chart	Mhopare Rushikesh Tanaji (B190652535)
	Hardware Details	Shinde Vijay Eknath (B190652544)
		Thorat Pranali Angad (B190652551)
7.1	Solar Panel	7
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