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CERTIFICATE

This is to certified that the project entitled "**Automatic load scheduling and controlling algorithms for heavy load**" is a bonafide work of "**Bhushan Narayan Kamadi, Harshal Chandrakant Araj, Prathamesh Suhas Shelar, Shiv Dayanand Jha**" submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of "**Bachelors of Engineering**" in "**Electrical Engineering.**"

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ABSTRACT

Electric utilities load shed when there is huge demand for electricity exceeding supply or if power generated is less than the consumers demand, the need to shed load is eminent in order to avoid total breakdown of equipment's used by power distribution companies as a result of overloading effect.

Power failure in the power system is mainly due to the overloading. The possible damage to the area is losing a power. The ESP32 based load control system is a device which automatically control overload on supply by controlling power and cut-off supply whenever system exceeds the amount of power supplied for peak period.

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This is to certified that the project entitled "**SOLAR BASED GRASS CUTTER**" is a bonafide work of "**CHANDAN SANJAY DAWANE, AJAY SADU GAHALA, CHIRAG JAGAN GIMBHAL, NIKHIL BABAN MANE**" submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of "**Bachelors of Engineering**" in "**Electrical Engineering.**"

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ABSTRACT

This paper presents the fabrication and working of a solar based grass cutter. In this work, we have developed a solar-powered lawn mower and thus saved energy by decreasing air pollution and reducing labor cost. In the old model, cutting iron was used. Due to its high environmental impact, it was the most expensive cutter used by the engine. We have utilized a microcontroller in our project to control the different lawn mower actions. Two DC gear motors (100RPM, load current 0.3A and no load current 60mA) are used to move the solar grass cutter, and one johnson motor (7000 RPM, with vasista nylon trimmer wire is used to cut the grass quickly. With current technology, this new prototype is designed as a remotely controlled grass cutter using Arduino UNO 16hz ATMEGA 328P . The SOLAR BASED GRASS CUTTER is controlled via Bluetooth by using a smartphone. The Solar Based Grass Cutter can run for more than two hours when the battery is completely charged.

Keywords:
solar panel; Arduino UNO; ; DC gear motors; dual channel motor driver:nylon trimmer wire

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This is to specify that the project entitled [redacted] submitted by [redacted] on this in partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering in Electrical Engineering of University of Mumbai is a confide work to the best of my/ our knowledge and may be placed before the examination Board for their consideration.

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Date: 3/05/2023

Place: Wada

Abstract

The main reasons for using DC supply in substation or power testing is to providers a continuous power supply to the control circuit. DC is a reliable source of power supply because it can obtain from batteries. Only a battery can give continuous power supply until it fully discharge. The load bank applies an electrical energy throught resistive element as heat.

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Approved by AICTE and Affiliated to University of Mumbai

CERTIFICATE

This is to certified that the project entitled " **ELECTRICAL ENERGY METER WITH AUTO AUDIT**" is a bonafide work of "**RANJIT DADMAL, VAIBHAV GAIKWAD, GAURAV GAWAI**" submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of "**Bachelors of Engineering**" in "**Electrical Engineering.**"

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ABSTRACT

The effort of collecting electricity utility meter reading. Internet of Things (IoT) present an efficient and co- effective to transfer the information of energy consumer wirelessly as well as it provides to detect the usage of the electricity the main intention of this project is measure electricity consumption in home appliances and generate its bill automatically using IoT. The energy grid needs to be implemented in a distributed topology that can dynamically absorb different energy sources. IoT can be utilized for various applications of the smart grid with distributed energy plant meter, energy generation and energy consumption smart meter, energy demand side management and various area of energy production.

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