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WADGAON, TALUKA WADA, DISTRICT PALGHAR, MAHARASHTRA

CERTIFICATE

This is to certify that the project entitled " **SOLAR POWERED REMOTE OPERATED MULTIPUPOSE AGRICULTURE ROBOT**" is a bonafide work of " **JADHAV SIDDHESH SANTOSH, GAUDA SHREEKANT JUDHISTIR, PATIL HARSHAD RAJENDRA, PATIL JITESH SHASHIKANT**" submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of " **Bachelors of Engineering**" in " **MECHANICAL ENGINEERING**"

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03/05/2023

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ABSTRACT

The aim of this project is to design and development of solar operated multipurpose agricultural robot. The robot can plow the soil, feed the seed, pump water for crops and cuts the grass. These all system works on battery and solar power. Vehicle is to be controlled with help of infrared remote. Approximately 50% of people in India work in agriculture sector. In this agriculture sector there is a lot of field work such as plowing, sowing, unwanted grass cuts and plant watering is also an important operation in agriculture. It is concept of investigating multi-purpose small machine which is more efficient than the large tractors and human forces. Due to this purpose, we design and developing such a system with the following feature. Harvesting is the first step in farming after the completion of this step land is ready for the seed sowing, mini water pump is used to spray the water on crop



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CERTIFICATE

This Is to Certify That Project Report Entitled " **DESIGN AND FABRICATION OF TREADMILL BYCYCLE** " is Submitted in Partial Fulfillment for The Award of **BACHELOR'S DEGREE IN MECHANICAL ENGINEERING** to **UNIVERSITY OF MUMBAI** as a Record Of Candidates Own Work Carried Out By Them Under Our Supervision. The Matter Embodied in This is Original and Not Been Submitted for The Award of Any Other Degree.

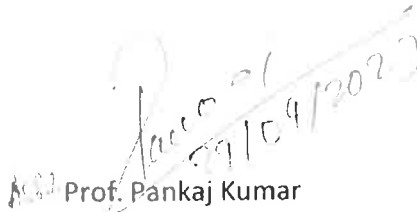
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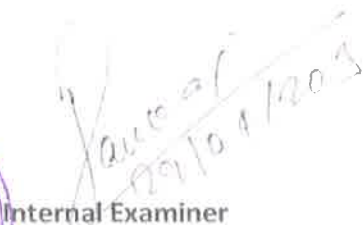


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ABSTRACT

This paper deals with the conversion of a conventional bicycle into treadmill bicycle. In this bicycle the frame of the bicycle is completely modified and the treadmill is placed in between the two wheels, on which user will walk. As the rear motor moves, it moves the belt of the treadmill.

Exercise is inevitable to keep health in good status. In this project we study the treadmill exercise outdoor and their effect on health. Also we enlisted the advantages and disadvantages of treadmill cycle exercise. One of the most popular types of home as well as outdoor exercise equipment is the treadmill cycle, which provides a straightforward, efficient aerobic workout. For many, treadmills are a good choice to begin a new exercise routine because walking is well tolerated by most individuals regardless of fitness level and for most back conditions. As strength and endurance are developed, the treadmill bicycle can be used for jogging or for interval training. The modern challenge faced with the global energy situation is the growing energy demand and the strong dependence on unsustainable fossil fuels. Another concurrent issue is the adverse health and socio-economic implications of adult obesity.

Keywords:

Treadmill, bicycle, Hub motor, Electric Bike



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This is to certify that the project entitled "SOLAR TRACKER" is a bonafide work of "SWARUP GIANSHYAM BHOIR, KARAN NANDKUMAR MADHAVI, KAUSTUBH SUNIL PATIL, PRANAV JANARDAN PATIL," submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of "Bachelors of Engineering" in "MECHANICAL ENGINEERING"

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ABSTRACT

Solar energy is quickly becoming recognized as a significant way to increase the availability of renewable energy sources. Therefore, those working in engineering professions must comprehend the technology related to this field. An automated system for tracking solar panels is part of this project. Solar tracking makes it possible to produce more electricity since it keeps the solar array aligned with the sun. This system expands on concepts covered in the course.

Maximizing solar array systems' efficiency is necessary to increase the viability of solar energy. Sun tracking is a practical method for increasing the effectiveness of solar array systems. Using this technology, a solar array's movement is managed such that it is continually pointed in the direction of the sun. Solar modules are realistic solutions to the issue of power generation in remote regions since they efficiently convert sunshine into electricity. The solar tracker developed and built in this project provides a dependable and cost-effective way to position a solar module with the sun to increase its energy output.

A hybrid hardware/software prototype called the Automatic Sun Tracking System automatically aligns solar panels with the sun for the best output (electricity) possible. Additionally, issues and solutions to them will be discussed.



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CERTIFICATE

This Is to Certify That Project Report Entitled "ELECTROMAGNETIC BREAKING SYSTEM" is Submitted in Partial Fulfilment for The Award of **BACHELOR'S DEGREE IN MECHANICAL ENGINEERING** to **UNIVERSITY OF MUMBAI** as a Record of Candidates Own Work Carried Out By Them Under Our Supervision. The Matter Embodied in This is Original and Not Been Submitted for The Award of Any Other Degree.

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ABSTRACT

The aim of this project is to develop an electromagnetic braking system which is of non friction in nature. This project uses two electromagnets for the purpose of braking and a battery used as a power supply to power electromagnets. Also, we have aluminum disc in the project which acts as a wheel and is rotated at higher speeds with the help of Battery. Then we have metal bars which acts as support for different elements in our project. we took the help of various manufacturing techniques such as drilling, welding etc. which also made us aware about hands on of different manufacturing techniques. This model will find its application in form of a supplementary braking system and can be used widely along with friction braking which will reduce maintenance to a larger extent.



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CERTIFICATE

This Is to Certify That Project Report Entitled " **FABRICATION AND DESIGN OF GO-KART BASED ON PETROL ENGINE**" is Submitted in Partial Fulfillment for The Award of **BACHELOR'S DEGREE IN MECHANICAL ENGINEERING** to **UNIVERSITY OF MUMBAI** as a Record Of Candidates Own Work Carried Out By Them Under Our Supervision. The Matter Embodied in This is Original and Not Been Submitted for The Award of Any Other Degree.

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ABSTRACT

This project aims to design and build a petrol engine go-kart with a Continuously Variable Transmission (CVT) system. The go-kart will be powered by a small petrol engine and will be designed to be both fun and safe to operate. The CVT system will allow for seamless acceleration and deceleration, providing a smooth ride for the driver. The project will include the design and fabrication of the go-kart frame, the integration of the petrol engine and CVT system, and the testing and optimization of the vehicle. The presentation will cover the design and construction process, the theory behind the CVT system, and the performance of the go-kart. This project will demonstrate the principles of mechanical engineering, including design, fabrication, and optimization, and will showcase the capabilities of the CVT system in a real-world application.



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CERTIFICATE

This Is to Certify That Project Report Entitled "**FABRICATION AND DESIGN OF GO-KART BASED ON SOLAR POWER**" is Submitted in Partial Fulfillment for The Award of **BACHELOR'S DEGREE IN MECHANICAL ENGINEERING** to **UNIVERSITY OF MUMBAI** as a Record Of Candidates Own Work Carried Out By Them Under Our Supervision. The Matter Embodied in This is Original and Not Been Submitted for The Award of Any Other Degree.

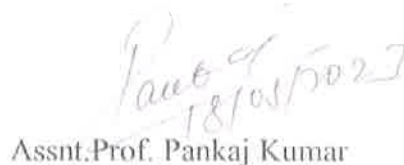
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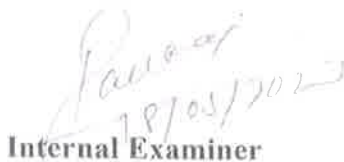
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ABSTRACT

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