



NANDHA ENGINEERING COLLEGE

(AUTONOMOUS)

ERODE – 638052, TAMILNADU.

Affiliated to Anna University, Chennai. Accredited by NAAC A+ Grade

Department of Mechanical Engineering

(Accredited by NBA)



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ABOUT THE DEPARTMENT

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The Department of Mechanical Engineering was established in the year 2005. At present, the department offers Graduate Programme – B.E., in Mechanical Engineering, Post Graduate Programme – M.E, in Engineering Design and Doctorate Programme – Ph.D., in Mechanical Engineering. The department has been accredited by National Board of Accreditation (NBA) in the year 2013 and Reaccredited in the year 2023. It is reputed for producing Engineers as Professionals, Researchers and Entrepreneurs. Many of its alumni play key roles in Industries and Institutions in India as well as in abroad. The department is proud to be collaborated with well-known Industries and Institutions in the emerging fields of Mechanical Engineering.

With a right combination of theory, practical, projects (hands-on) and industrial training in the areas such as Design, Thermal, Manufacturing and Energy Engineering, this programme has well placed itself as a well-known preference for the students

VISION

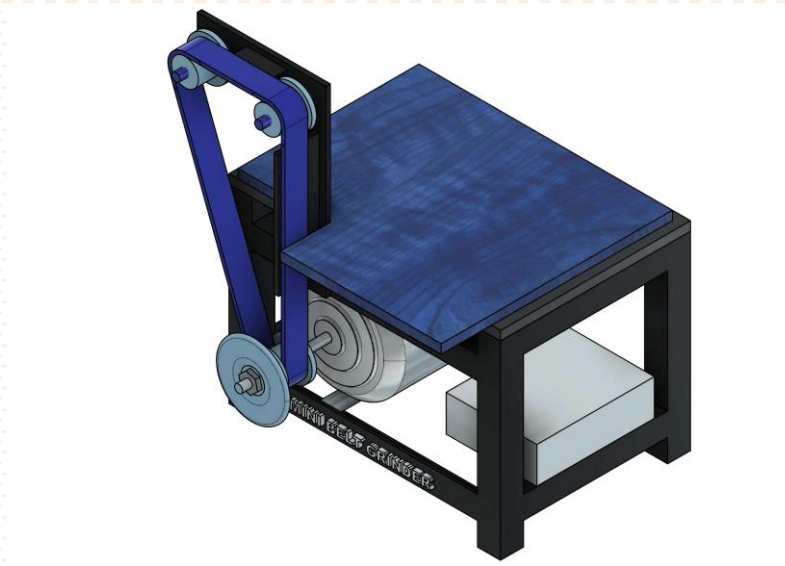
To be recognised as a centre of excellence in the field of Mechanical Engineering and to produce competent engineers with multi-disciplinary exposure to meet the changing needs of the society.

MISSION

- To enrich technical knowledge and skills by imparting quality education with ethics and social responsibility.
- To empower the students in the thrust areas of Mechanical, Allied Engineering and Entrepreneurship in the continually changing global market.
- To provide a conducive learning environment for improving continually to cater the needs of the society.

STUDENTS' ARTICLES

MINI BELT GRINDER



Belt grinding is a rough machining process used for grinding wood and different materials. In industry, it is commonly used for finishing products. A belt, covered in rough material, is kept running over the surface to be handled so as to evacuate material or create the ideal finish. This belt grinder project is made from metal. This mini grinder project consists of a DC motor that fundamentally rotates the pulley attached to it, along with a mini grinder, grinding paper, and an abrasive belt grinder. The second pulley is attached to the base vertically with the tension spring. The grinding paper is then fitted into a pulley. To support the mini grinder, a base frame is provided, which helps in grinding wooden material. The components used for making this belt grinder are a DC motor, a base frame (support frame), an abrasive grinder belt, a coupling, and a pulley. A belt grinder helps to shape the material without putting in much effort and produces accurate results. The mini belt grinder is a compact and versatile tool designed for precision grinding and shaping tasks. Featuring a small footprint, it offers efficient material removal and detailed work on various surfaces. Ideal for hobbyists and craftsmen, it provides a portable solution for diverse grinding applications in a user-friendly form.

By
KAVYA.P
II-MECH

DESIGN AND FABRICATION OF ELECTRIC VEHICLE

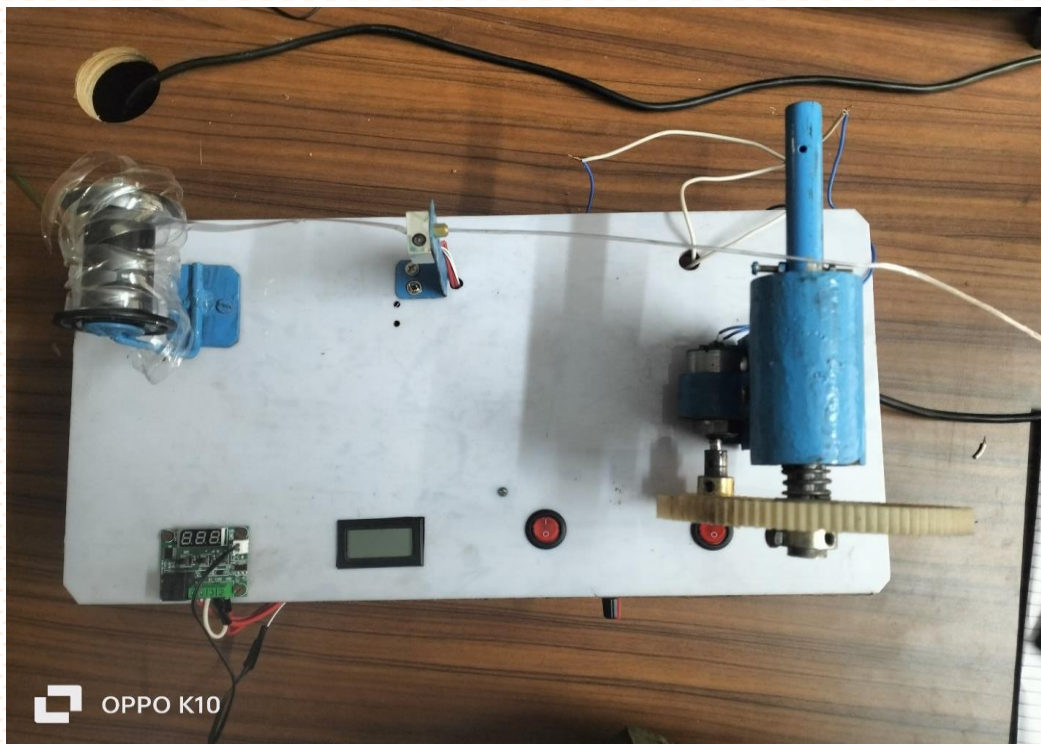
As a way to reduce carbon emissions and rely less on internal combustion engine vehicles, the use of electric vehicles is becoming more and more important. Present a secure, power-controlled car with safety technology. It also requires less time to finish. For this reason, we have created and built an electric vehicle. That's why we use a 48V BLDC motor to drive the vehicle. It will run between 30 and 40 kmph. It helps to increase ground friction and reduce drag. This is a 48-volt lead-acid battery that we are using. It offers sufficient energy to run a vehicle. The project focuses sustainability and concern for the environment in addition to advanced technology. The vehicle seeks to provide a cleaner transportation option and help reduce carbon emissions by using electric propulsion. With this project, we want to investigate the latest developments in electric vehicle design and meet the growing need for environmentally friendly mobility solutions. A strong 48V battery, a well-tuned 1.10 differential, and an efficient BLDC motor provide the basis for an advanced electric vehicle that satisfies contemporary performance and environmental standards.



By
ASHOK SRLS
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IV-MECH

INVESTIGATING THE MECHANICAL PROPERTY OF 3D PRINTING FILAMENT BY USING WASTE PEP BOTTELS

The increasing global demand for sustainable manufacturing processes has led to the exploration of innovative solutions to repurpose plastic waste. This study presents a novel approach to produce 3D printing filament using discarded polyethylene terephthalate (PET) bottles. The process involves the collection, cleaning, and processing of waste PET bottles into a high-quality filament suitable for 3D printing applications. The methodology encompasses the mechanical and chemical transformation of PET bottle waste into a uniform and durable filament through a series of shredding, extrusion, and cooling processes. The resulting filament exhibits mechanical properties comparable to commercially available counterparts, demonstrating the feasibility of utilizing waste PET bottles as a raw material for 3D printing filament production. The findings of this research contribute to the growing field of sustainable materials and additive manufacturing, offering a practical solution to repurpose plastic waste while promoting a circular economy. The utilization of waste PET bottles for 3D printing filament aligns with the principles of environmental conservation and resource efficiency, providing a compelling case for the integration of such practices into mainstream manufacturing processes.



By
ARULMURUGAN
RAHUL K.K
IV-MECH

CHAINLESS BICYCLE



- A chainless bicycle is a bicycle that transmits power to the driven wheel through a mechanism other than metal chain.
- It is advanced vertical pedaling system provides continuous gravitational force throughout the entire stroke.
- The levers that run from the pedals to a linkage on the rear hub, these allow rider to simply push up and down on the pedals, causing the rear wheel turn.
- Benefits of chainless bicycle: Longer pedal cranks deliver more power to the rear wheel. There's less stress to hips, knees and ankles and it's easy to store securely.
- One of the top benefits of chainless bicycle is its light weight and flexibility. The absence of derailleur's and chains makes it easy to move a chainless bicycle.

By

S. RAJAVIGNESH

II-MECH

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Mr. V. Thiyagarajan – Final Mech.



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