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SANJAY BHOKARE GROUP OF INSTITUTES,
Faculty of Engineering, Miraj.
Department Of Mechanical Engineering.
ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

- **TITLE OF PROJECT:** "EXPERIMENTAL STUDY OF CARBON-DIOXIDE AND SULPHUR DIOXIDE REMOVAL FROM EXHAUST GASES".

- **Name of Project Students (with roll numbers):**

Roll. No	Name	PRN. No
4002	Jadhav Indrajit Shivaji	51664420181161210046
4004	Gaikwad Sourabh Vijayanand	51664420181161210079
4011	Gayachare Vitthal alias Suraj Dnyaneshwar	51664420181161210080
4042	Patil Sushant Dhondiram	51664420181161210057

- **Project Guide Name:** Prof. A. A. KHANDAGLE

- **Abstract:** In today's era the use of internal combustion Engine is at peak, which is major cause of global warming, climate change and some other effects of it. Some automobile manufacturers introduced electric vehicles, but the electric power which they run is coming from power plants which burns coal and other fossil fuel to produce. So the vehicles which run now is basically polluting vehicle. Even the renewable energy sources are even polluting so we decided to deal with this situation. We use catalyst viz Magnesium to remove carbon-dioxide and sulfur-dioxide which are the prime pollutants which are thrown out of exhaust gases. This project uses magnesium which is burnt to extract oxygen from pollutants to make their single compound. This removes all carbon-dioxide and sulfur-dioxide reducing the effects of global warming and acid rain. The remaining pollutants such as NOx and HC are expelled out from pressure vessel after the pressure reaches more than 5 bar.

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Project Co-0rdinator	Head of Department	Director
Mr. U.C.Rajmane	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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Department Of Mechanical Engineering.
ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT : "Development Of Dish End Flanging Machine For Milk Chiller".

Name of Project Students :

PATIL SAGAR GIRMALLA (4043)

GHADGE ASHITOSH PRATAPRAO (4013)

SANAP SUYASH HANMANT (4010)

KOLHAR RAHUL SURESH (4024)

Project Guide :

PROF. KOPARDE A. G.

Abstract :

In this project, development of a machine for bending the sheet for dish end of milk chillers is manufactured. A prototype is made in order to bend the sheet at small scale level. Construction and working of the system is explained in this report. Therefore, to increase the productivity, the industry requires some sort of automation and with all these considerations this project is being designed.

This problem statement was found out in the industry namely "MAX-V REFRIGERATION Pvt. Ltd." situated in Madhavnagar, Sangli. This company deals with the development of the systems for the refrigeration and air conditioning. They provide their service in India as well as nearby countries.

Project Co-Ordinator	Head of Department	Director
Prof. Koparde A. G	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT: "DEVELOPMENT OF REFRIGRATION VACCINE STORAGE WITH THERMAL STORAGE"

Name of Project Students (with roll numbers):

Pujari Chintamani Mahadev-4071

Makandar Naeem Gous-4077

Sharikmaslat Saklen Nisar-4064

Pujari Sadguru Dilip-4054

Project Guide: Prof. U.C.Rajmane

Abstract: COVID-19 has taken a toll on mankind in terms of economy as well as lives. This has turned into an economic tragedy and devastation. Until this date, no drug has yet been derived that can destroy the virus from the root. This leaves us only one option to intake vaccines that are available in the market such as Covaxin, Covishield, and Sputnik V, etc. These vaccines are requested to store under the controlled environment which is prescribed by the manufacturer, as well as by World Health Organization. If these vaccines are not stored in the prescribed temperature and humidity conditions, their chemical composition changes drastically due to bacterial growth reducing its effectiveness over the disease. Phase Change Material is placed inside the cabinet to store the vaccines. During working condition of VCRS system PCM materials gets charged and converts its phase from liquid to solid. Whereas during power cut-off conditions, PCM will release its cooling effect to the cabinet in turn helps to maintain constant prescribed temperature range for multiple hours.

Project Co-Ordinator
Mr. U.C.Rajmane

Head of Department
Mrs. S. N. Hublikar

Director
Dr. A.C. Bhagali

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ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT: GENERATION OF ELECTRICITY BY USING AUTOMOBILE WASTE HEAT FROM EXHAUST

Name of Project Students (with roll numbers):

NAME	ROLLNO
TAMBOLI ASHRUF IMAM	4041
JADHAV PRAMOD YASHWANT	4003
METHE PRANAV SAMBHAJI	4014
JADHAV ROHIT NARAYAN	4001

Project Guide: Prof. U.C.Rajmane

Abstract: Due to the growing rate of population in the world today indicates that the energy demand is likely to increase, currently fossil fuels are depleting, while in recent years cost per unit electricity also increases, thus the non-conventional energies are more attractive alternatives.In our concept a substantial thermal energy is available from the exhaust gas in modern automotive engine.Using this thermal energy we generate electricity using advance technology device called "Thermoelectric Generator" OR "Peltier Module". Heat energy is available from the exhaust gas in modern automotive engines, 2/3 of the energy from combustion in vehicle is lost as waste-heat of which 40% is in the form of exhaust gas.The latest developments and technologies on waste heat recovery of exhaust gas from IC engine is 'Thermoelectric generator'.
The thermal energy of engine also available at the engine exhaust pipes it can be used for power generation.The TEG generates power using waste heat and this power can be store in batteries for other purpose.

Project Co-Ordinator
Mr. U.C.Rajmane

Head of Department
Mrs. S. N. Hublikar

Director
Dr. A.C. Bhagali

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ACADEMIC YEAR - 2020-21

GLIMPSE OF

Title -- Manufacturing and testing of Natural

Name of Project (with roll)

1	Shenole Rakesh Ramesh	4053
2	Patil Prajwal Shrikant	4055
3	Nana Alise Swarup Shivaji Pati	4059
4	Rabakavi Amar Ramachandra	4068

Project Guide Name **Prof.V.D.Shikalgar**

Abstractt:

we Due to the cost, ease of use, easy replacement and customized design, the demand for plasticproducts is increasing drastically. Plastic synthetic materials are made from a variety of organic polymer such as PVC, Nylon and Polyethylene. The word plastic is derived from Greek word 'plastikos' (capable of being mould). It exhibits an adaptability to change according to the environment. The benefits of plastic was outlined by Yarsley and Couzents in 1940s .Their of benefits is in the beginning of the "Plastic age. The polymers are compared that can be processed by flow. Mostly plastics are made from the petro chemicals .

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Project Co-Ordinator	Head of Department	Director
Mr.V. D. Shikalgar	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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GLIMPSE OF PROJECT

TITLE OF PROJECT: Manufacturing and analysis of Composite material leaf spring with different fiber orientation

Name of Project Students:

1)Digvijay Maruti Durgade	4031
2)Rohit Ramchandra Mandavkar	4012
3)Rushikesh Shailendra Chavan	4005
4)Akshay Dinkar Kadam	4087

Project Guide: Prof .U.C.Rajmane

Abstract: The Automobile Industry has shown keen interest for replacement of steel leaf spring with that of fiber composite leaf spring, since the composite material has high strength to weight ratio, good corrosion resistance and tolerable properties. They are found to be the potential materials for replacing these conventional metallic leaf springs without giving up the strength and by reducing the structural weight substantially. Therefore, analysis of the composite material becomes equally important to study the behavior of Composite Leaf Spring. The aim is to review the paper about fabrication and analysis of composite leaf spring. The numerical analysis is carried via finite element analysis using ANSYS software.

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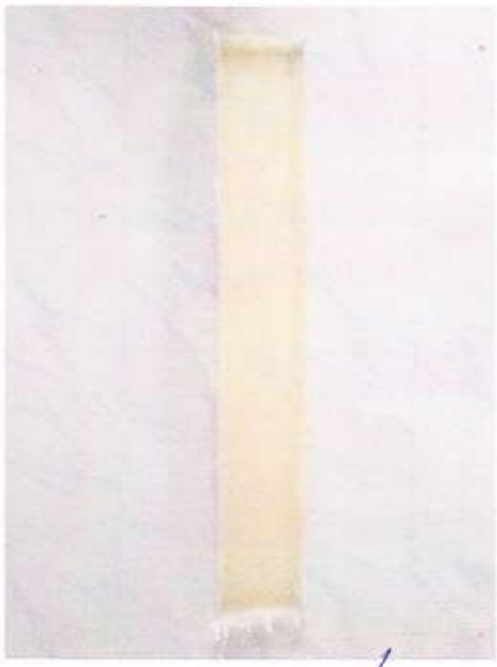

Project Co-Ordinator	Head of Department	Director
Mr. U.C.Rajmane	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT: "NON-GEARED BIKE SAFETY MANAGEMENT WITH ACCELERATION CONTROL"

Name of Project Students	Roll no.
SANAP SHUBHAM BABSAHEB	4063
JADHAV KANAD AJITSHINH	4076
GHASGHASE VRUSHAB ASHOK	4085
TARAL SHUSHANT RAMESH	4086

Project Guide: Prof. V.R. WALE

Abstract: We have seen in many social media videos or real-life incidence may be of others or has happened with us that the non-geared bike is fallen on ground or any accident happened, we try to pick the bike up while the bike is still on. When the bike is picked the acceleration increases and the bike losses its control and something goes wrong or some bad incident occurs. So, to prevent such incidences we have come up with a solution of **"NON-GEARED BIKE SAFETY MANAGEMENT WITH ACCELERATION CONTROL"** Here we are going to use some automation system to control the accelerator with the help of load cells input source and Arduino for processing.

Project Co-Ordinator	Head of Department	Director
Mr. U.C.Rajmane	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT: DESIGN AND DEVELOPMENT OF LOW COST INDUSTRIAL HAMMER FOR DIFFERENT APPLICATIONS

Name of Project Students (with roll numbers):

Mr. AVIRAJ MAHADEO POWAR-PATIL
Mr. SAMANDAR HARUN MAGDUM
Mr. PRASHANT SANBHAJI KALE
Mr. SANDIP BHAGU ZAMBADE
Mr. RISHIKESH ABHAYKUMAR SHIROTE

Project Guide: Prof. A. A. KHANDAGALE

Abstract:

There are several processes of manufacturing that are important for the conversion of raw materials into finished goods. Most of these processes deal with giving a new shape and form to the raw materials either by changing their state or shape. Power hammers are mechanical forging hammers that use a non-muscular power source to raise the hammer preparatory to striking, and accelerate it onto the work being hammered. Also called "Open Die Power Forging Hammers." They have been used by blacksmiths, bladesmiths, metalworkers, and manufacturers since the late 1880s. Hammering is the most widely used industrial as well as construction activity A hammer is a tool or device that delivers a blow (a sudden impact) to an object. Most hammers are hand tools used to drive nails, fit parts, forge metal, and break apart objects. Hammers vary in shape, size, and structure, depending on their purposes. Hammering is the most widely used industrial as well as construction activity. The hammering of screws, metal sheets, metal parts etc. requires a lot of time and effort. So, to minimize the time and effort here you are going to build an automated hammering system

In this project we have focused on to develop simple mechanism / machine which will help to improve accuracy in the hammering process.

Project Co-Ordinator	Head of Department	Director
Mr. U.C.Rajmane	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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Faculty of Engineering, Miraj.
Department Of Mechanical Engineering.
ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT: "MOBILE OPERATED INBUILT JACK SYSTEM"

Name of Project Students (with roll numbers):

1. ADKE PRATHMESH CHANDRAKANT 4201
2. HAKKE SHUBHAM SUNIL 4204
3. KULKARNI DHANASHREE PURSHOTTAM 4205
4. MOMIN MUBBASHIRA KHUDBODDIN 4208
5. PATEL MOHAMMADYUSUF TAJUDDIN 4210
6. ZARE AKSHAY ARVIND 4218

Project Guide: Mrs. S.N.Hublikar

Abstract:

This project analyzes the modification of the existing motor screw jack by incorporating an electric motor in the screw in order to make load lifting easier. In this modified design, the power screw is rotated through its connecting gear with the pinion gear when electrical power flows through the cigarette lighter receptacle connected to the motor, plugged to the automobile 12 V battery source to generate power for the prime mover (motor), which transmits its rotating speed to the pinion gear meshing with the bigger gear connected to the power screw to be rotated with required speed reduction and increased torque to drive the power screw. The significance and purpose of this work is to modify the existing car jack in order to make the operation easier, safer and more reliable in order to reduce health risks especially back ache problems associated with doing work in a bent or squatting position for a long period of time. The modified car jack is easy to use by pregnant women or whoever had problem with the vehicle tyres along the road. The designed motorized jack will also save time and requires less human energy to operate. The design when adopted will effectively curb the problems associated with Ergonomics - which is a fundamental concept of design process.

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GLIMPSE OF PROJECT

TITLE OF PROJECT: AUTOMATIC WIRE CUTTING MACHINE

Name of Project Students (with roll numbers):

1. **Ajay Bapu Waghmare** **4229**
2. **Shubham Sanjay Tambat** **4230**
3. **Dhanraj Sanjay Lad** **4231**
4. **Tousif Ilahi Mujavar** **4236**
5. **Ashish Ashok Aundhakar** **4237**

Project Guide Name: Prof.V.D.Shikalgar

Abstract:

This project gives the detailed idea about the design and development of automatic wire cutting machine. At present conventional method is used for wire cutting and measuring which takes more time which requires man power. The accuracy obtained by conventional method is also poor. The automation system solves the labour problems it saves cost, increases accuracy, decreases human errors. By using automation our objectives to achieve low cost cutting which works fast and reduces cutting time. The practical objective of automatic wire cutting machine is to cut required length of wire in required number of pieces. This system uses cam operated cutter and Arduino for cutting and measuring operation. So we had designed an automatic wire machine which gives more accuracy and reduces the human error, man power, reliable work done and save the wastage of wire.

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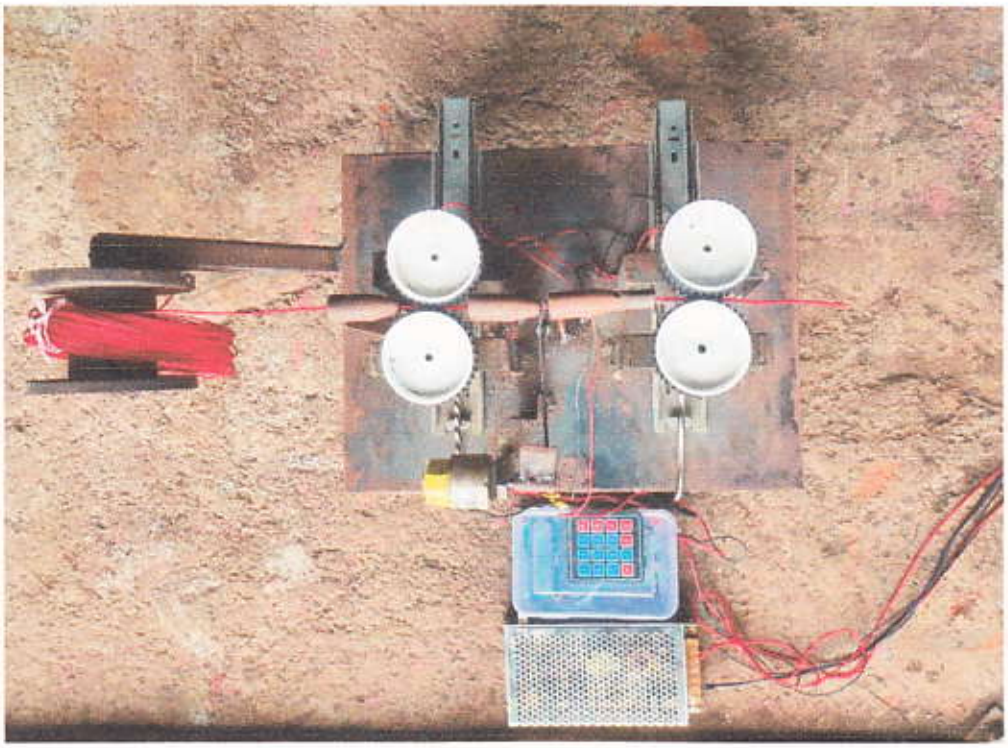

Project Co-Ordinator	Head of Department	Director
Mr. U.C.Rajmane	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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Department Of Mechanical Engineering.
ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT: THERMAL ENERGY STORAGE IN EVAPORATOR BY USING PHASE CHANGEBLE MATERIAL

Name of Project Students (with roll numbers):

1. Abubakar najir Pathan	4228
2. Rohit Ramdas Jadhav	4239
3. Saeed Ahmed Rashid Sayyed	4243
4. Mobeen Jahangir Peerzade	4247
5. Sumangal Sudhir Belwalkar	4255

Project Guide Name: Prof.V. R. WALE

Abstract: Currently, India is facing the problem of a Power outage and its effects on food quality. In this experimental work we use different mass fraction of NaCl (3%, and 5%), KCl (3%, and 5%) and Water as a phase change material. The release and storage rate of a refrigerator is depends upon the characteristics of refrigerators and its properties using phase change material for a certain thermal load it is found that COP of conventional refrigerator is increased . The phase change material used in chamber built manually and which surrounds the evaporator chamber of a conventional refrigerator the whole heat transfer for load given to refrigerator cabin (to evaporator) evaporator to phase change material by conduction. This system hence improves the performances of household refrigerator by increasing its compressor cut-off time and thereby minimizing electrical energy usage. The use of PCM is especially suited to the storage of energy to prolong food preservation time and to improve the freezer cooling time.

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Fig. Experimental Setup

Project Guide	Head of Department	Director
Prof. V. R. Wale	Mrs. S. N. Hublikar	Dr. A.C. Bhagali

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Department Of Mechanical Engineering.
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GLIMPSE OF PROJECT

TITLE OF PROJECT:

"DESIGN AND MANUFACTURING ELECTROMAGNETIC HOVERBOARD"

Name of Project Students :

NAME	ROLL NO
HAJARE HARISH ANKUSH	4203
LAD SANDIP VILAS	4207
NALAWADE SAURABH SACHINE	4209
KOLEKAR MAYURESH MADHUKAR	4220
GOLANDAJ HUJEF RAFIQ	4221

Project Guide: Prof. S.N.Hubalikar

Abstract: In this project, electromagnetically levitating hoverboard is built. The levitation is made possible by feeding alternating current through a coil, which is placed over aluminium sheet. The coil creates alternating magnetic field when alternating current is fed to it and this magnetic field induces alternating eddy current to the aluminium sheet. Eddy currents create opposing alternating magnetic field and the interaction of magnetic fields produce lifting force. During project, a feasibility study was conducted by researching requirements to produce enough lift for given mass so levitation is achieved. Project also included designing and constructing planar coils, inverter and body for the hoverboard. Design process consisted of drafting schematics and plans as well as selecting components and materials for construction. Hoverboard testing was conducted to validate simulations and designs.

Project Co-Ordinator	Head of Department	Director
Prof. S. N. Hublikar	Prof. S. N. Hublikar	Dr. A.C. Bhagali

SANJAY BHOKARE GROUP OF INSTITUTES,

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ACADEMIC YEAR - 2020-21

GLIMPSE OF PROJECT

TITLE OF PROJECT

"Design & Development of Low Cost Cashew Shelling Machine"

SUBMITTED BY

Akshay A Soudagar	4216
Anush M Bangera	4223
Aniket D Patil	4226
Mosim K Mulani	4222
Sagar M Pandhare	4225

UNDER THE GUIDANCE OF

Prof. U.C.Rajmane

ABTRACT

Agricultural products like cashew, maize, soya bean, millet and rice, when processed into quality forms not only prolongs the useful life of these products, but increases the net profit farmers make from mechanization technologies of such products. One of the most important processing operations done to bring out the quality of cashew is shelling of its upper skin. This project deals with the mechanical characteristics of cashew nut and cutting the shell in a mechanized way to reduce the time.

In this project we have tried to develop semiautomatic machine for cashew sheller.

Project Co-0rdinator	Head of Department	Director
Mr. U.C.Rajmane	Mrs. S.N.Hublikar	Dr. A.C.Bhagali