



**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING**

**(AUTONOMOUS)**

**Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)**

**Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada**

**L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India**

**LAKSHYA - 2K21**

*An Invocation To True Warriors....*

**15<sup>th</sup> NATIONAL LEVEL TECHNICAL & CULTURAL FEST**

**23<sup>rd</sup> December 2021**

**DEPARTMENT OF  
MECHANICAL ENGINEERING**



## LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC with B++ Grade, ISO 9001:2015 Certified Institution

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

### Department of Mechanical Engineering

#### COLLEGES PARTICIPATED IN LAKSHYA-2K21

EVENT	INTERNAL	EXTERNAL	TOTAL
SRUJANA	05	09	14
PRAGNA	07	09	16
IDEATHON	07	03	10

S. No.	Name of the Participated Institutions
1	REVA University , Bangalore, Karnataka
2	Ideal Institute of Technology, Kakinada, Andhra Pradesh
3	VR Siddhartha Engineering College, Vijayawada, Andhra Pradesh
4	RK College Of Engineering , Kethanakonda, Andhra Pradesh
5	Ramachandra College of Engineering, Vatluru, Andhra Pradesh
6	Bannari Amman Institute of Technology, Sathyamangalam, Tamilnadu
7	RVR & JC College of Engineering, Guntur, Andhra Pradesh
8	University Tun Hussein Onn , Malaysia
9	Seshadri Rao Gulavalleru Engineering College, Gudlavalleru, Andhra Pradesh
10	SRKR Engineering College , Bhimvaram, Andhra Pradesh
11	Dhanekula College of Engineering and Technology, Gangur, Andhra Pradesh
12	VEL Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai, Tamilnadu



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**Department of Mechanical Engineering**

**LAKSHYA 2k21\_Srujana (Paper) Report**

## **1. SOLAR CAR**

### **ABSTRACT**

Recently rapid population growth, high volume of energy demand and depletion of fossil fuels intend to search for an alternative energy source in automobile industry. An abundant source of renewable energy V Recently such challenge. The vehicle leaves no emissions like conventional IC engines to control the greenhouse effect and other natural hazards. The renewable energy is vital for today's world as in near future the non renewable sources that we are using are going to get exhausted. The solar vehicle is a step in saving these non renewable sources of energy. The basic principle of solar car is to use energy that is stored in a battery during and after charging it from a solar panel. The charged batteries are used to drive the motor which serves here as an engine and moves the vehicle in reverse or forward direction. The electrical tapping rheostat is provided so as to control the motor speed. This avoids excess flow of current when the vehicle is supposed to be stopped suddenly as it is in normal cars with regards to fuel. This idea, in future, may help protect our fuels from getting extinguished. The design of the vehicle consists of PV cells, motors and other mechanism for both cost effectiveness and environment friendly to optimize the energy efficiency. The paper shows the design and analysis of a solar propelled vehicle and its performance test in terms of mileage, speed and emissions. The design of the solar vehicle is based on the previous review of hybrid vehicles and focused on to improve the efficiency and make it cost effective. The integrated system consisting of the solar module, charge controller modules, and BLDC motor, henceforth developed into the solar powered vehicle. The vehicle so designed to have a good mileage of 30-40km/hr on free road and the charging can be done on both stationary and running conditions. The vehicle can take the maximum load capacity of 2.5 quintal on full load conditions.

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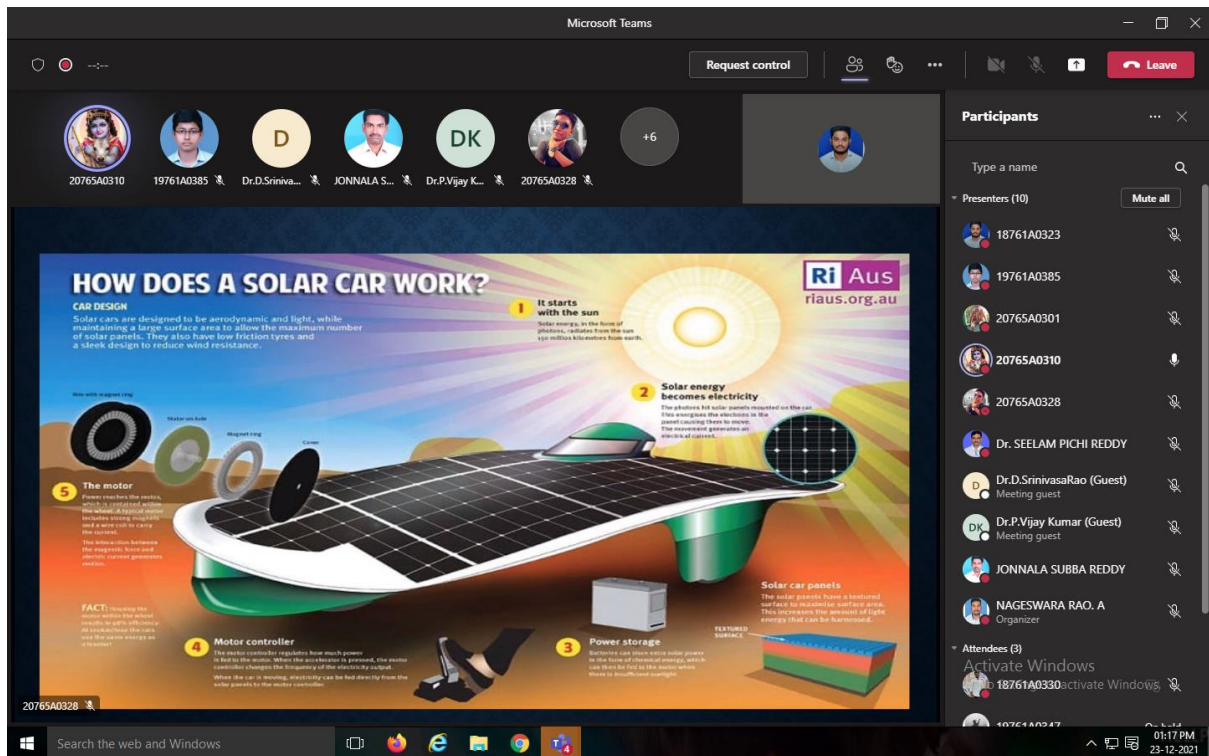
REG ID: 20765A0301

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## 2. ALTERNATIVE FUELS

### ABSTRACT

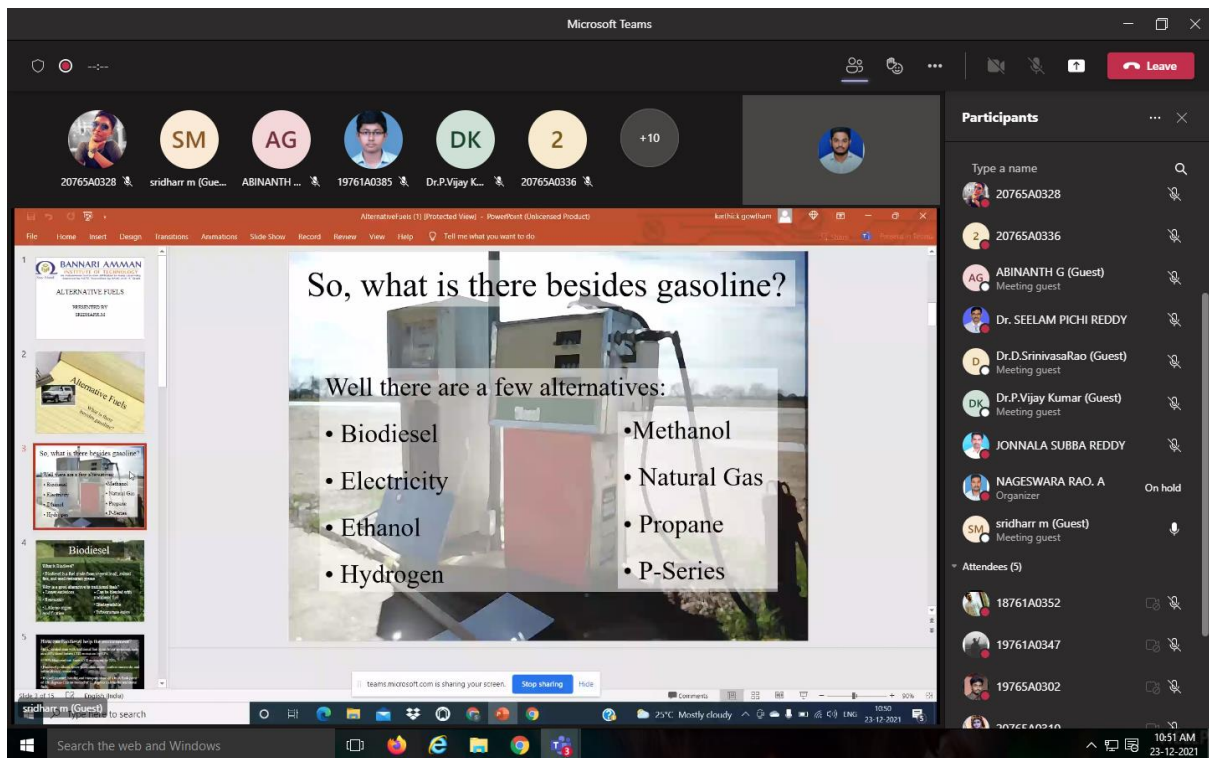
Development of alternative fuels has been driven by climate change concerns and energy security. A number of alternative fuel options have been considered and developed, including alcohols, biomass-based diesel, methane, hydrogen, and synthetic fuels. The choice of future fuel/powertrain combinations, ideally based on well-to-wheel energy efficiency and emission analysis, is limited by such factors as alternative fuel resources and distribution infrastructure. Alternative fuels for both spark ignition (SI) and compression ignition (CI) engines have become very important owing to increased environmental protection concern, the need to reduce dependency on petroleum and even socioeconomic aspects. In the paper a review of alternative fuels for combustion engines has been performed, including physicochemical properties of these fuels, their sources and technological aspects of production, as well as recent data on R&D work and application.

Use of alternate fuels like biodiesel on locomotive engines provides an opportunity for Indian railways to reduce diesel consumption, reduce carbon footprint and reduce associated environmental degradation. Biodiesel can act as a drop-in-fuel for diesel locomotives. Biodiesel is known to reduce emissions of harmful particulates and smoke, reduce life cycles emissions of greenhouse gases by more than 70% and helps local agriculture economy.

Team Leader Name:SRIDHARR.M

- Regd. Id:211ME549
- University/College:BANNARI AMMAN INSTITUTE OF TECHNOLOGY

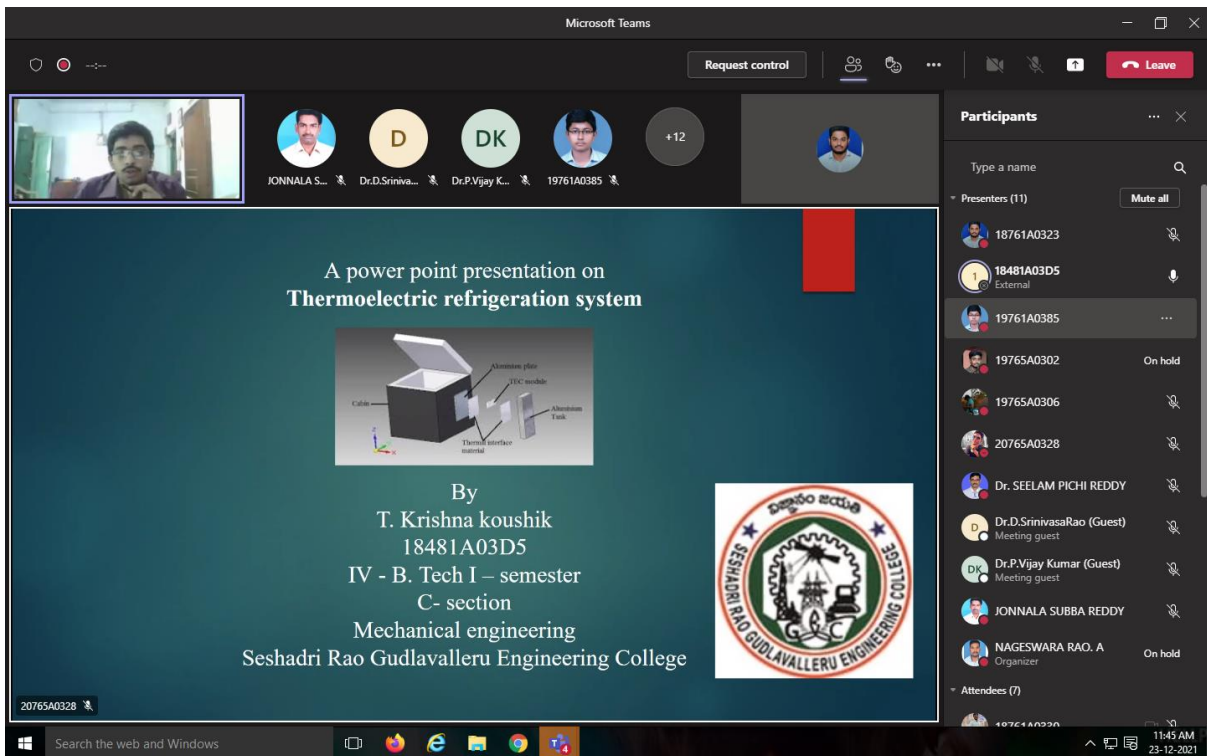
- UG/PG:UGMAN INSTITUTE OF TECHNOLOGY
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### 3. Thermoelectric refrigeration system

In the paper presentation, that I would like to present, I basically included the five basic thermoelectric effects on which a thermoelectric refrigeration system (a non-conventional mode of refrigeration system) works. In addition to that, I have also given some points regarding the requirements of a thermo electric refrigerator required in these systems. Then, I went on to the working of thermoelectric refrigeration system followed by its analysis, advantages, disadvantages and ended up with its daily life applications.

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#### 4. **Vibrational Characteristics of Tapered Isotropic Plates with discrete patches and Point Masses**

##### **ABSTRACT**

In the proposed work, we planned to perform free vibration Characteristics of tapered Isotropic plates with discrete patches and point masses using finite element method by keeping the total mass of the plate plus point masses constant. Four different cross sections are considered for tapered plates for the analysis. The influence of location of attached discrete patches and point masses on free vibration characteristics are investigated for different cases. The variation of natural frequencies for different cross sections of tapered plates will be analysed with FEM based ANSYS tool.

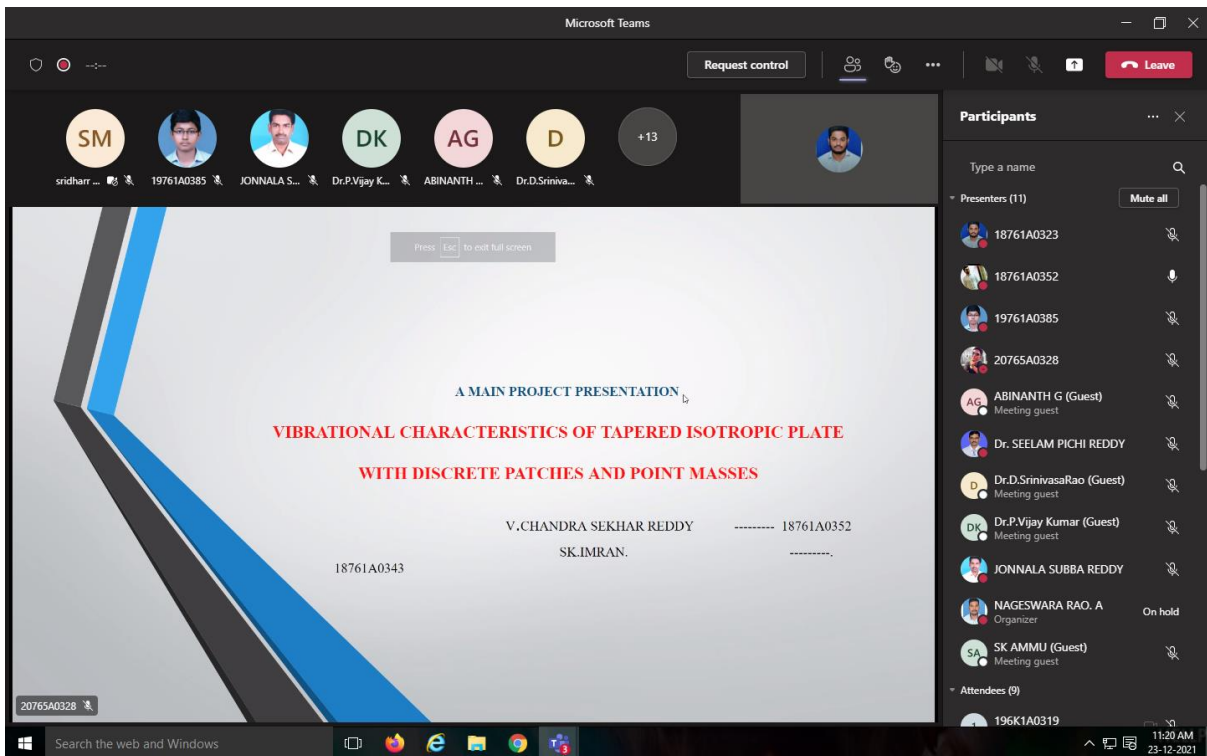
It is also planned to vary different thermal loads for the vibrational analysis of tapered plates. Four different cases of discrete patches and three different cases of point masses are considered for the investigation. Finally by analysing the vibration responses of all cases the salient points and influencing cases will be reported.

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## 5. IMPACT OF AUTOMATION AND ARTIFICIAL INTELLIGENCE ON UPSKILLING THE FORCE

### ABSTRACT

While automation and AI in the workforce may eliminate some positions, it can also create jobs and help job seekers avoid unemployment. A report from the World Economic Forum estimated that AI would create a net total of 97 million new jobs by 2025. According to a report in the Economist, AI will help remove unconscious and conscious biases in the hiring and remuneration of staff. According to a report in the Economist, AI will help remove unconscious and conscious biases in the hiring and remuneration of staff.

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NOT RESPONDED

## 6. Automation and Robotics

## ABSTRACT

Intelligent Environments are aimed at improving the inhabitants' experience and task performance. Automate functions in the home. Provide services to the inhabitants. Decisions coming from the decision maker(s) in the environment have to be executed. Decisions require actions to be performed on devices. Decisions are frequently not elementary device interactions but rather relatively complex commands. Decisions define set points or results that have to be achieved. Decisions can require entire tasks to be performed. Robots have to be capable of achieving task objectives without human input. Robots have to be able to make and execute their own decisions based on sensor information. Intuitive Human-Robot Interfaces. Use of robots in smart homes can not require extensive user training. Commands to robots should be natural for inhabitants. Adaptation. Robots have to be able to adjust to changes in the environment.

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## 7. SPACE ROBOTICS



## ABSTRACT

Space Robotics is a relatively new field of science and engineering that was developed as an answer to growing needs created by space exploration and space missions. New technologies had to be invented and designed in order to meet demands in extremely hostile environments. Those technologies have to work in a gravityless environment, rarefied atmosphere and often in high temperature. This paper recalls some of the major robotics missions in space and explains technologies related to them. Space robotic manipulators, especially flexible link and flexible joint robots are discussed. Autonomous robots for unmanned, long duration mission are presented.

### Y. RAJESH

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M.LAKSHMANARAO

IV ME

The screenshot shows a Microsoft Teams meeting interface. The main content is a presentation slide with the following text: "R.K COLLEGE OF ENGINEERING", "Kethanakond, Vijayawada-521456", "SPACE ROBOTICS", and "-Y. RAJESH - M.LAKSHMANARAO IV ME". The slide also features an image of a humanoid robot. The meeting controls at the top show a "Request control" button and a "Leave" button. The participants list on the right includes 10 presenters and 10 attendees, with names like "18761A0323", "19761A0385", "19765A0306", "20765A0328", "Dr. SEELAM PICHU REDDY", "Dr.D.SrinivasaRao (Guest)", "Dr.P.Vijay Kumar (Guest)", "JONNALA SUBBA REDDY", "NAGESWARA RAO. A", "RAJESH (Guest)", and "18761A0352".

## 8. BLOCKCHAIN TECHNOLOGY

## Abstract

Blockchain is a technology that is developed using a combination of various techniques such as mathematics, algorithms, cryptography, economic models, and so on. Blockchain is a public ledger of all cryptocurrency transactions that are digitized and decentralized. All the transactions of cryptocurrencies are stored in chronological order to help users in tracking the transactions without maintaining any central record of the transactions. Application prospects of blockchain are promising and have been delivering the result since its inception. Blockchain technology has evolved from initial cryptocurrency to new age smart contracts and has been implemented and applied in many fields. Although many studies have been carried out on the security and privacy issues of the blockchain, a systematic examination on the security of blockchain systems is still missing. In this chapter, we will try to demonstrate a systematic illustration on the security threats to blockchain and survey the corresponding real attacks by examining popular blockchain systems. This chapter will discuss the security and privacy of the blockchain along with their impact with regards to different trends and applications. The chapter is intended to discuss key security attacks and the enhancements that will help develop a better blockchain systems.

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## 9. EMERGING TECHNOLOGIES

### ABSTRACT

**Emerging technologies** are technologies whose development, practical applications, or both are still largely unrealized, such that they are figuratively emerging into prominence from a background of nonexistence or obscurity. These technologies are generally new but also include older technologies that are still relatively undeveloped in potential, such as gene therapy (which dates to circa 1990 but even today still has large undeveloped potential). Emerging technologies are often perceived as capable of changing the status quo.

Emerging technologies are characterized by radical novelty (in application even if not in origins), relatively fast growth, coherence, prominent impact, and uncertainty and ambiguity. In other words, an emerging technology can be defined as "a radically novel and relatively fast growing technology characterised by a certain degree of coherence persisting over time and with the potential to exert a considerable impact on the socio-economic domain(s) which is observed in terms of the composition of actors, institutions and patterns of interactions among those, along with the associated knowledge production processes. Its most prominent impact, however, lies in the future and so in the emergence phase is still somewhat uncertain and ambiguous."<sup>[1]</sup>

Emerging technologies include a variety of technologies such as educational technology, information technology, nanotechnology, biotechnology, cognitive science, robotics, and artificial intelligence.<sup>[note 1]</sup>

New technological fields may result from the technological convergence of different systems evolving towards similar goals. Convergence brings previously separate technologies such as voice (and telephony features), data (and productivity applications) and video together so that they share resources and interact with each other, creating new efficiencies.

Emerging technologies are those technical innovations which represent progressive developments within a field for competitive advantage;<sup>[2]</sup> converging technologies represent previously distinct fields which are in some way moving towards stronger inter-connection and similar goals. However, the opinion on the degree of the impact, status and economic viability of several emerging and converging technologies varies.

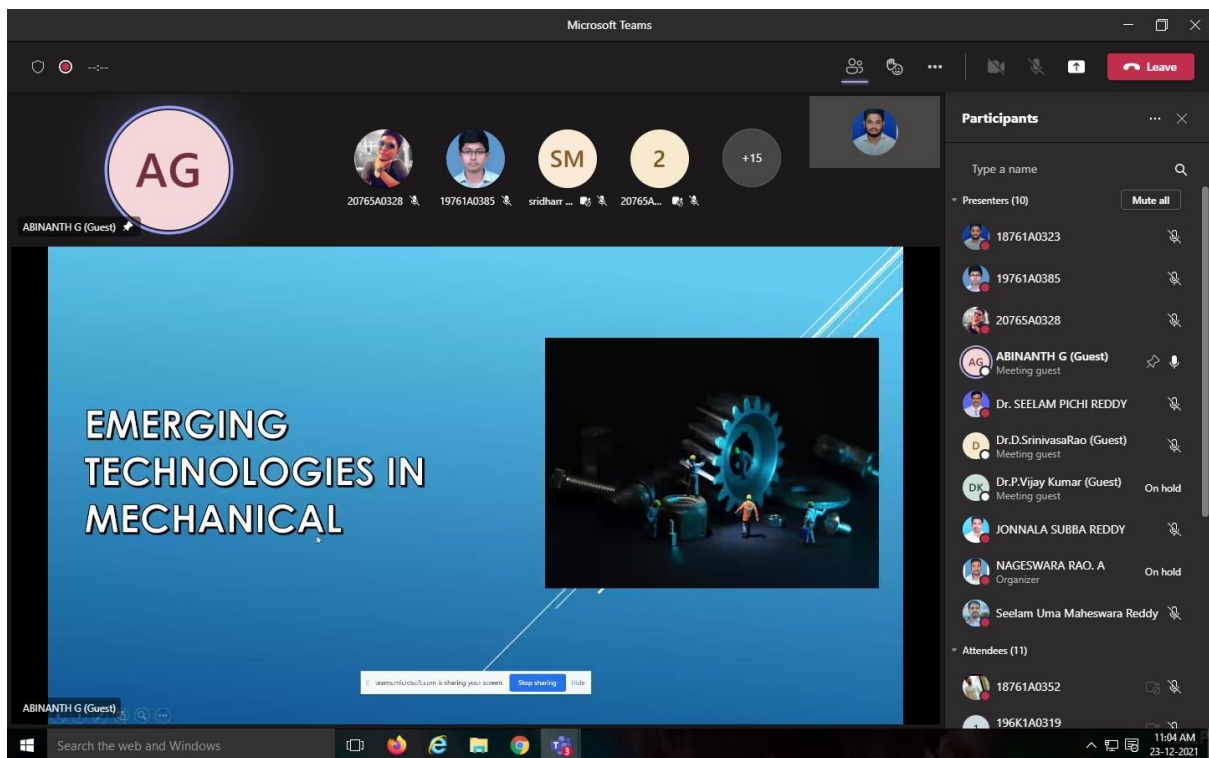
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## 10. REGENERATIVE BRAKING SYSTEM IN ELECTRICAL CARS

### ABSTRACT;

The kinetic energy stored in a moving vehicle is related to the mass and speed of the vehicle by the equation  $E = \frac{1}{2}mv^2$ . All else being equal, if your car is twice as heavy it has twice the kinetic energy and if it is moving twice as fast it has four times the kinetic energy. Any time your car slows down the kinetic energy stored in the vehicle has to go somewhere. Let's take a look at where this energy goes. There is always some kinetic energy consumed by the rolling resistance, mechanical friction, and aerodynamics of your car. These bits of energy go into heating the road, the surrounding air, and various spinning parts in your car. But the vast majority of the kinetic energy is converted into heat by your brake pads when you stomp on the brakes. regenerative braking recovers some energy that would otherwise have been wasted in the brakes.

Unfortunately, the adage "your mileage may vary" applies to regeneration as well. The amount of energy you can recover depends on how and where you drive. From the power train point of view it looks pretty good. The energy conversion efficiencies from chemical to electrical (battery), DC current to AC current (inverter), electrical to mechanical (motor), and torque to force (transmission and wheels) are all quite high and work just as efficiently returning energy into the battery. The bigger problem is aerodynamic losses and higher speeds and rolling friction of the tires. These both act to slow the car, but the energy dissipated cannot be

recovered. We must also remember that, even though the battery-to-wheel conversion efficiency is pretty good.

Due to the simplicity of the AC induction motor's single moving part, the Tesla Roadster does not experience the engine compression braking of a traditional internal combustion engine (ICE). Instead, the advanced algorithms in the motor controller give it complete control of the motor torque for both driving and regenerative braking. A torque command is derived from the position of the throttle pedal. The motor controller converts this torque command into the appropriate 3-phase voltage and current waveforms to produce the commanded torque in the motor in the most efficient way. The torque command can be positive or negative.

There are a number of goals and restrictions when using regenerative braking. It is still putting the Performance: Regenerative braking can enhance the driving experience in ways not available with a traditional internal combustion engine (ICE). Driving with regeneration is fun! Having that instant positive and negative torque command right at your toes really make you feel in control.

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Microsoft Teams

Request control

Participants

Type a name

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Dr. SEELAM PICHU REDDY

Dr.D.SrinivasaRao (Guest)  
Meeting guest

Dr.P.Vijay Kumar (Guest)  
Meeting guest

JONNALA SUBBA REDDY

NAGESWARA RAO, A  
Organizer

Vidyadhar Nannapaneni (Gue...  
Meeting guest

Attendees (7)

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23-12-2021

REGENERATIVE BREAKING SYSTEM IN ELECTRIC CARS

PRESENTED BY :  
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19765A0302  
G.ANIL  
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23-12-2021

## 11. FUELS FROM PLASTIC WASTE

### ABSTRACT

The waste plastics are subjected to depolymerisation, pyrolysis, thermal cracking and distillation to obtain different value added fuels such as petrol, kerosene, and diesel, lube oil etc. Converting waste plastics into fuel hold great promise for both the environmental and economic scenarios. properties and faster rate of production of plastics are affecting our health; on the other hand, plastics play important role inPlastics are an indispensable part of our today's life, Its specific domestic and industrial applications. In that situation, due to plastic production lots of environmental challenges are arising as if it is not disposed properly. In that condition, waste plastic recycling, regeneration and its utilization are necessary for human life, environment, and nation.

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9618520834

The image is a screenshot of a Microsoft Teams meeting. The main window displays a presentation slide with the title "FUELS FROM PLASTIC WASTE" and the author "LAKSHYA 2K21". The slide is presented in a dark-themed application window. The Teams interface includes a top navigation bar with icons for chat, call, and a "Leave" button. Below the navigation bar, there is a header area with a large number "2" in a pink circle, indicating the current slide, and a row of participant avatars with initials: "19761A0385", "Dr.D.Sriniva...", "A.PAVA...", "MH", and "+15". To the right of the main window is a "Participants" list with names and icons for each participant, including "20765A0337 (Guest)", "Dileepsai Meduri (Guest)", "Dr. SEELAM PICHU REDDY", "Dr.D.SrinivasaRao (Guest)", "Dr.P.Vijay Kumar (Guest)", "JONNALA SUBBA REDDY", "Mohamed Nassimdeen Fathi...", and "NAGESWARA RAO. A". The bottom of the screenshot shows the Windows taskbar with various application icons and the system clock displaying "12:19 PM 23-12-2021".

## 12. DRONE TECHNOLOGIES

### ABSTRACT

A drone is a kind of aircraft. A drone is also known as an unmanned aerial vehicle (UAV). A drone is “unmanned” because it does not need a pilot on board to fly it. A person on the ground flies a drone. Some drones are guided by a remote control. Others are guided by computers. Some are flown by people thousands of miles away. Drones are available in different sizes and shapes. Many have cameras that take pictures or record video. The U.S. military has used drones since the mid-1990s. Since early 2013, many people have started flying drones for fun. So many people own drones that the government had to create rules for flying them. Militaries have used unmanned aircraft for many years. During the Civil War (1861–1865), armies tried using balloons to drop explosives into enemy camps. The British Royal Navy created a drone-like vehicle in the 1930s. Pilots used it to practice their shooting skills. The U.S. military began using modern drones in 1995. The military first used drones to collect information. For example, a drone could be used to find an enemy’s hiding place. Unlike an airplane or a helicopter, a drone does not need a pilot on board. The people who fly drones can be thousands of miles away. For this reason, drones are safer to fly over dangerous areas.

M.Sai dileep kumar

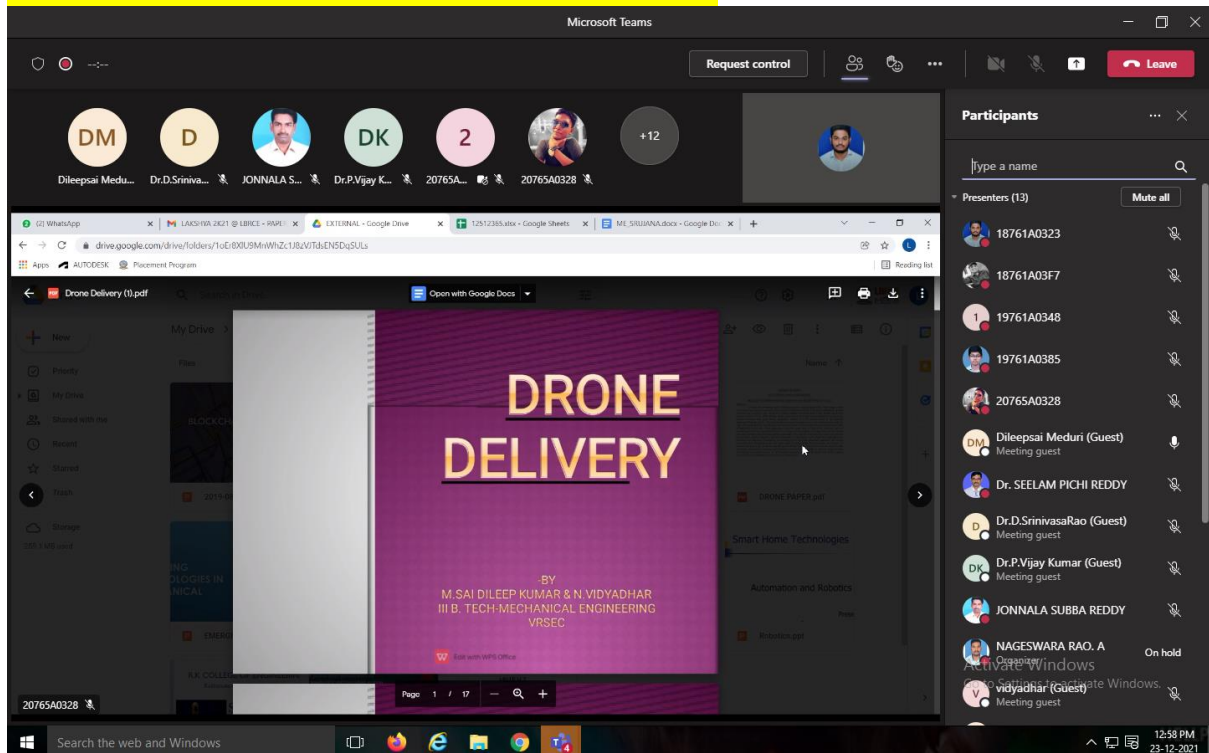
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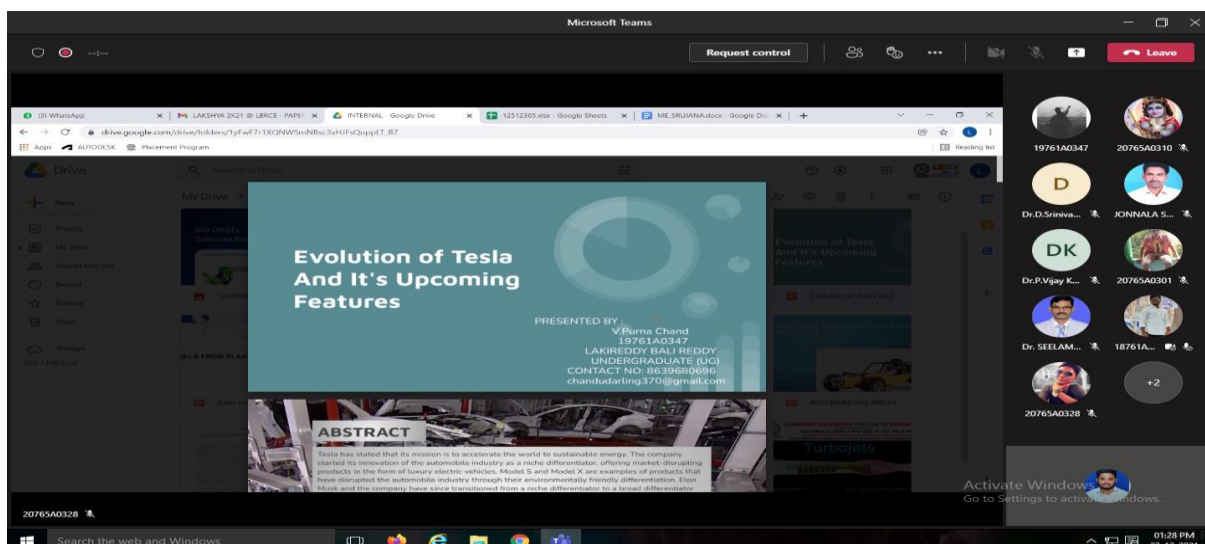


### 13. EVOLUTION OF TESLA AND ITS UPCOMING FEATURES

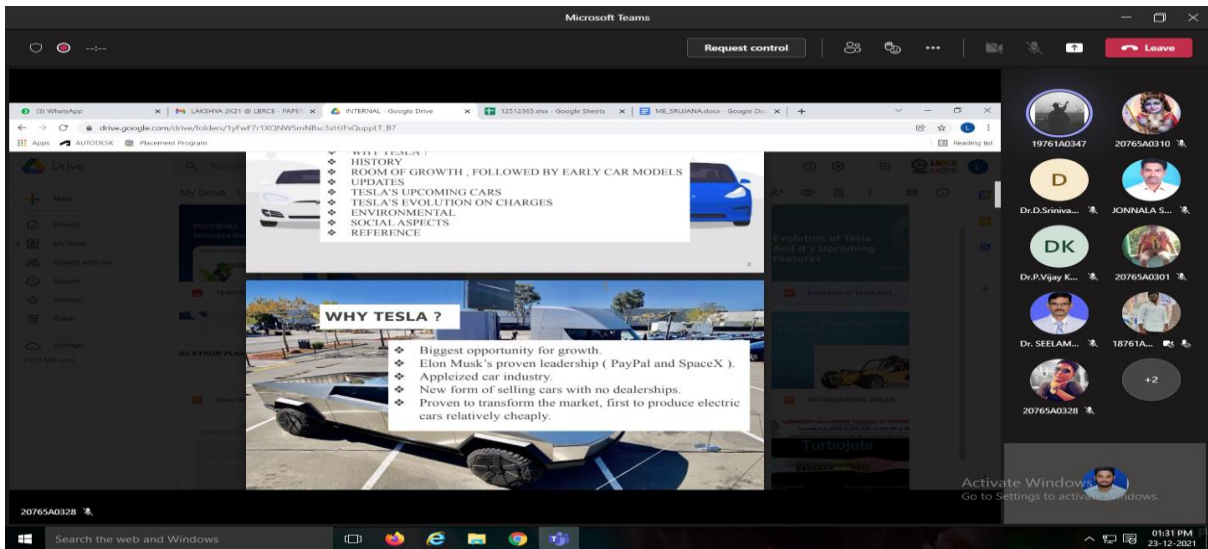
#### ABSTRACT

Tesla has stated that its mission is to accelerate the world to sustainable energy. The company started its innovation of the automobile industry as a niche differentiator, offering market-disrupting products in the form of luxury electric vehicles. Model S and Model X are examples of products that have disrupted the automobile industry through their environmentally friendly differentiation. Elon Musk and the company have since transitioned from a niche differentiator to a broad differentiator business strategy through the implementation of lithium battery products and the acquisition of the company SolarCity. Tesla’s investments in automation and research were a liability in early 2015, However, they became an asset in 2018–2019 due to their long term sustainable competitive advantage in terms of product quality. Their product differentiation comes in the form of customizable cars, regular software updates, solar panels, supercharging compatibility, and self-driving features. Built-in relationships with material suppliers have scored Tesla lithium deposits, decreasing the material costs of their highly automated assembly lines. Sales are an innovative factor in Tesla’s marketing division, offering online customizable orders. Marketing is organic, as Elon Musk’s twitter accounts for the majority of their earned media, with zero paid advertising. Their HR department prioritized productivity, and hence Tesla has an intense work culture and high-level TQM metrics. Tesla’s broad differentiation strategy is a long term play, with a focus on electric automobile automation, battery technology, and environmentally friendly products such as solar roof tiles.

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**Coordinator**

**Mr. A NAGESWARA RAO**

**Head of the Department**

**Dr S Pichi Reddy**



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## Department of Mechanical Engineering

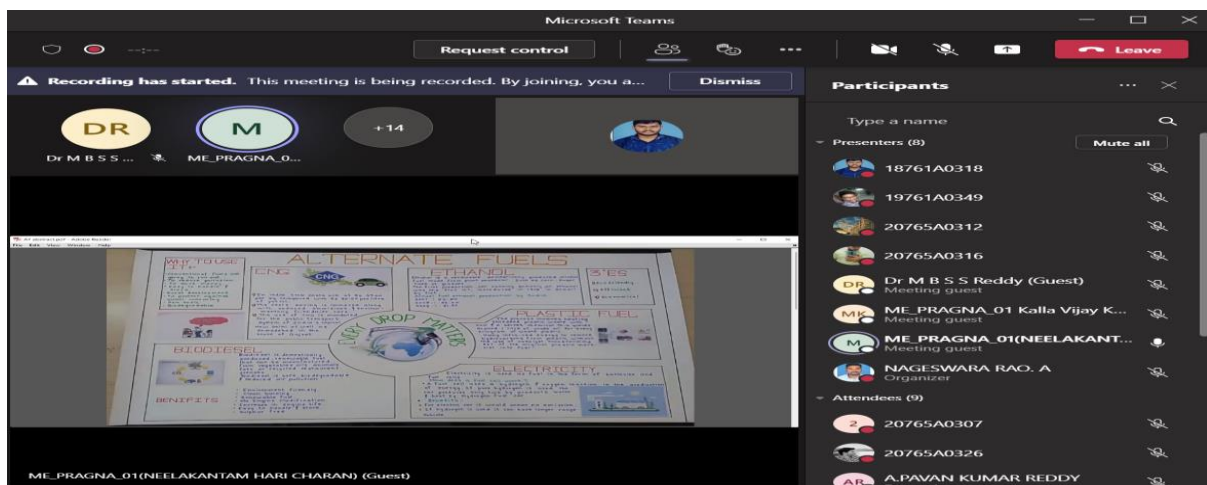
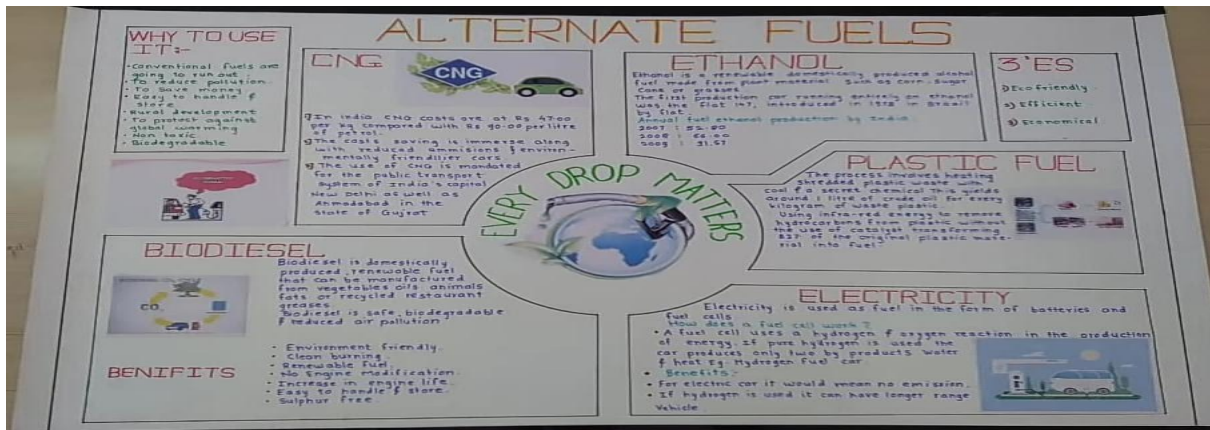
### LAKSHYA 2k21\_Pragna (Poster) Report

Date: 23-12-2021

#### 1. ALTERNATIVE FUELS

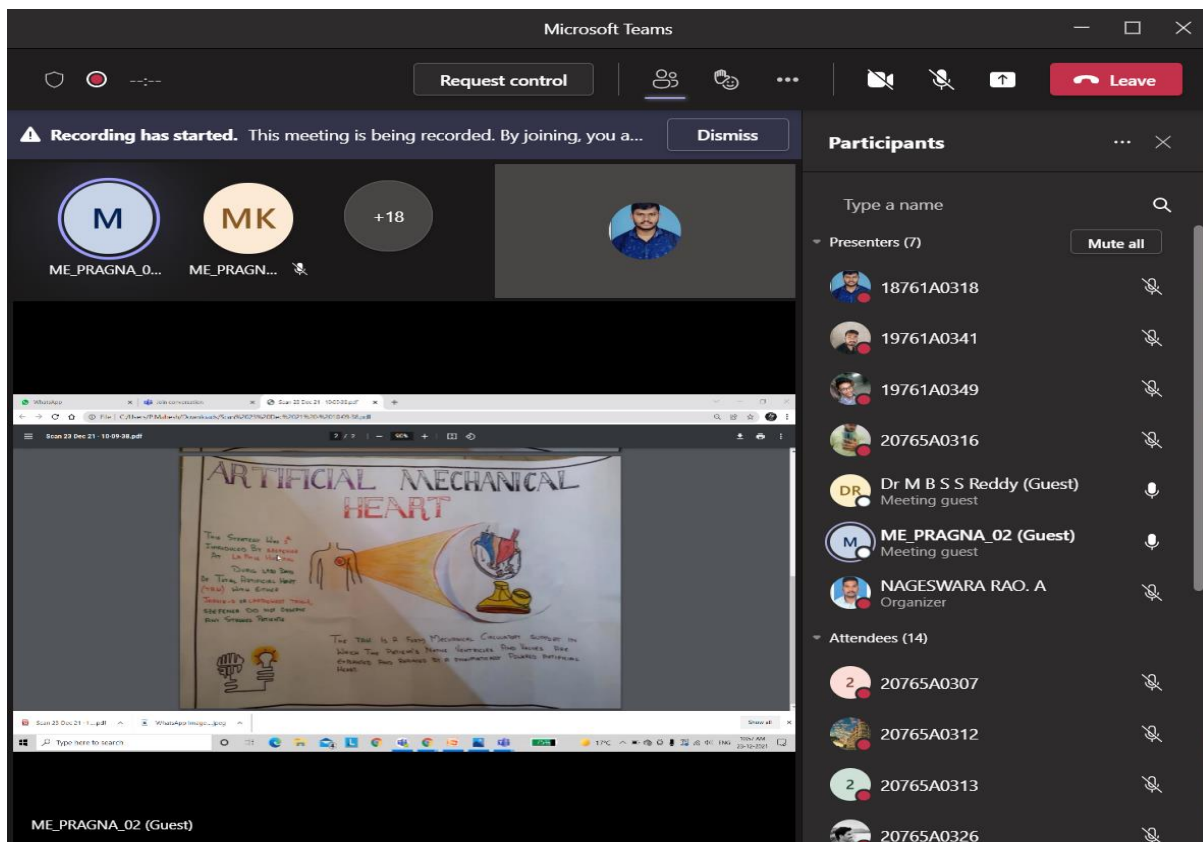
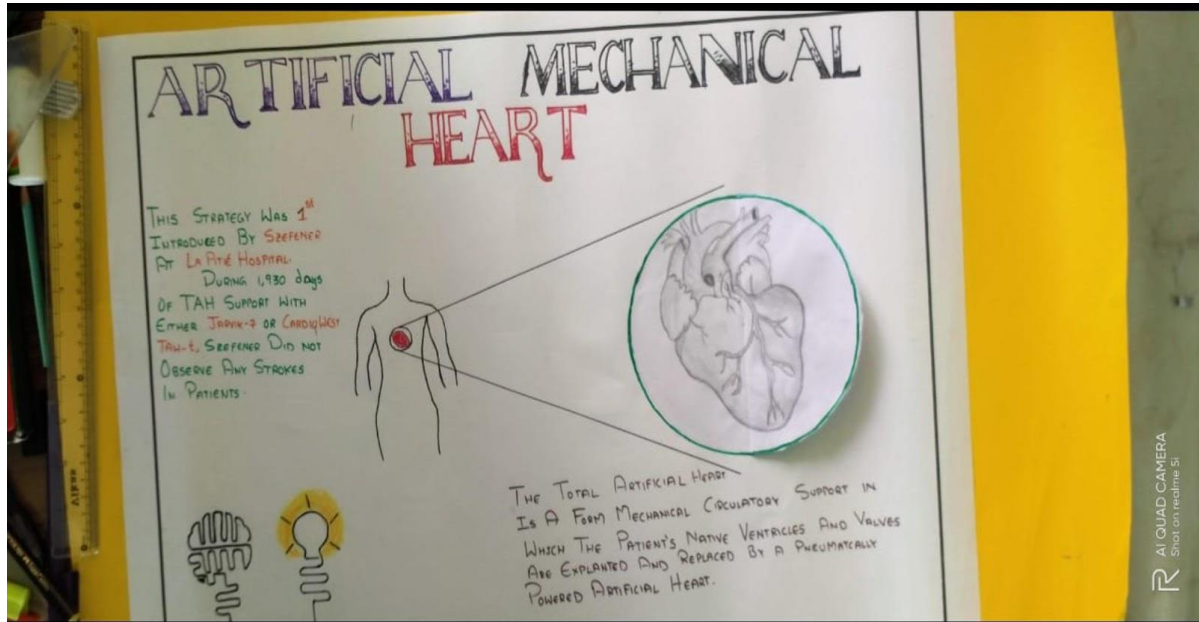
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Other member: kalla vijay kumar , VR siddhartha Engineering College,



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# 3. HYPER LOOP

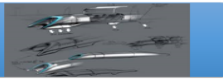
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Other member: Pujala Mani Srinivasa Rao, LBRCE ,



**Lakireddy Balli Reddy College of Engineering (Autonomous)**  
Accredited by NAAC with 'A' Grade.  
NBA Accredited, Affiliated to JNTUK, Kakinada ISO 9001:2015 Certified

**HYPER LOOP : "5TH MODE OF TRANSPORTATION"**  
VIPPARLA.MANEESH  
20765A0315



### ABSTRACT

Built as the fastest way to cross the surface of the earth, Hyperloop represents the greatest leap in transport infrastructure for generations. With passengers sitting in pods, they travel at high speeds through pressurised tubes using electric propulsion and magnetic levitation the concept promises to slash journey times between major cities from several hours to a matter of minutes Hyperloop is a new mode of transport that seeks to change this paradigm by being both fast and inexpensive for people and goods. Hyperloop is also unique in that it is an open design concept like Linux. Hyperloop was first conceived in 2012 by Tesla and SpaceX founder Elon Musk. Hyperloop had been an open source and Elon Musk actively encouraged others to come together and develop the necessary technology independently. With Musk's involvement this led to the formation of several start-ups and student teams developing various aspects of hyperloop technology with varying degrees of success now several fully fledged companies are making significant strides to bring Hyperloop systems into reality. Hyperloop transportation technologies are making aggressive advancements and recently constructed a full-scale test track in France, however the clear leaders of the pack in the current standings, are "Virgin Hyperloop One" and are on track to achieve their bold ambition of bringing an Hyperloop system into operation by 2022. The Hyperloop are currently working in partnership with India to build the Hyperloop between Mumbai - Chennai and Bengaluru - Chennai.

### HYPERLOOP SYSTEM

**Basic Principle of Hyperloop System:**  
Hyperloop technology combines two basic principles.

- The first principle is "Magnetic Levitation" or Maglev, that technology already used in monorails to lift the passenger pods and move them along their rails magnetic levitation uses two sets of magnets, one to repel the train from the track and lift it upwards and the other to move the floating train along the track at considerable speed with reduced friction.
- The second principle is the use of a low-pressure vacuum sealed environment for the passenger pods to travel through. By removing most of the air from the tubes and having no contact with the ground the pods face little to no resistance as they move. Air pressure inside the tube are equivalent to flying 200,000 feet above sea level such environment enables the pod to reach speed of over 1220 kmph using less energy. By virtue of being in a tube, the system is protected from the weather and can operate in almost all climatic conditions.
- Hyperloop system is controlled by advanced software that ensures acceleration and deceleration occurs gradually, going relatively unnoticed by those travelling inside.

### WHY HYPERLOOP ?

- Hyperloop stations called portals are planned to be located within intercity areas with easy links to existing transport infrastructure, this gives Hyperloop systems a distinct advantage over air travel.
- Additionally, the system is being developed to function on a "turn up and go" principle without a lengthy check in process and with accelerated advanced security checks.
- Another clear benefit is its speed. The Hyperloop is placed between cities, so this helps people to possibly live between two different cities. This opens wide range of Employment Opportunities.
- A Hyperloop system requires very little energy to propel pods as the vacuum environment posses little resistance. As such, the system can be powered by Renewable energies.


### COST & ESTIMATION

**Table 1. Crew capsule weight and cost breakdown**

Vehicle Component	Cost (\$)	Weight (kg)
Capsule Structure & Doors:	\$ 245,000	3100
Interior & Seats:	\$ 255,000	2500
Propulsion System:	\$ 75,000	700
Suspension & Air Bearings:	\$ 200,000	1000
Batteries, Motor & Coolant:	\$ 150,000	2500
Air Compressor:	\$ 275,000	1800
Emergency Braking:	\$ 50,000	600
General Assembly:	\$ 100,000	N/A
Passengers & Luggage:	N/A	2800
<b>Total/Capsule:</b>	<b>\$ 1,350,000</b>	<b>15000</b>
<b>Total for Hyperloop:</b>	<b>\$ 4,000,000</b>	

**Table 2. Cargo and crew capsule weight and cost breakdown**

Vehicle Component	Cost (\$)	Weight (kg)
Capsule Structure & Doors:	\$ 275,000	3500
Interior & Seats:	\$ 185,000	2700
Propulsion System:	\$ 80,000	800
Suspension & Air Bearings:	\$ 265,000	1300
Batteries, Motor & Coolant:	\$ 200,000	3500
Air Compressor:	\$ 300,000	2500
Emergency Braking:	\$ 70,000	800
General Assembly:	\$ 150,000	N/A
Passengers & Luggage:	N/A	1400
Star & Cargo:	N/A	2500
<b>Total/Capsule:</b>	<b>\$ 1,525,000</b>	<b>26000</b>
<b>Total for Hyperloop:</b>	<b>\$ 61,000,000</b>	



LENGTH: 8.7 METRES  
WIDTH: 2.7 METRES  
HEIGHT: 2.4 METRES

**ENERGY NEED:**  
Propulsion is required for only 10% of the track. Once the top speed is reached, the pod can glide for 100 miles without the application of any energy.

### SPEED COMPARISON

Concorde	2179 km/ph
Speed of sound	1235 km/ph
Hyperloop	1233 km/ ph
Bullet Train	320 km/ph

❖ It takes only 20 minutes to travel from Mumbai to pune.

### SAFETY

To achieve the set safety goals and preserve the safety of involved people at all times, safety measures are incorporated into all times, safety measures are incorporated into all areas of the Hyperloop infrastructure. These measures range from on-board screens to communication between pod and control center and evacuation routes.

TEAM LEAD NAME: VIPPARLA MANEESH  
REG.ID: 20765A0315  
COLLEGE: LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING  
UG/PG: UG  
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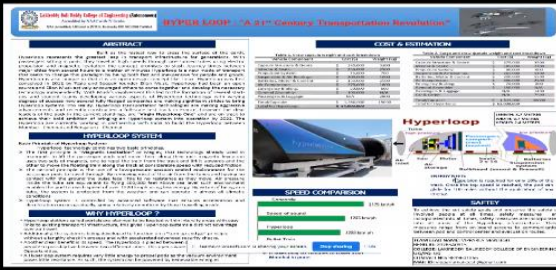
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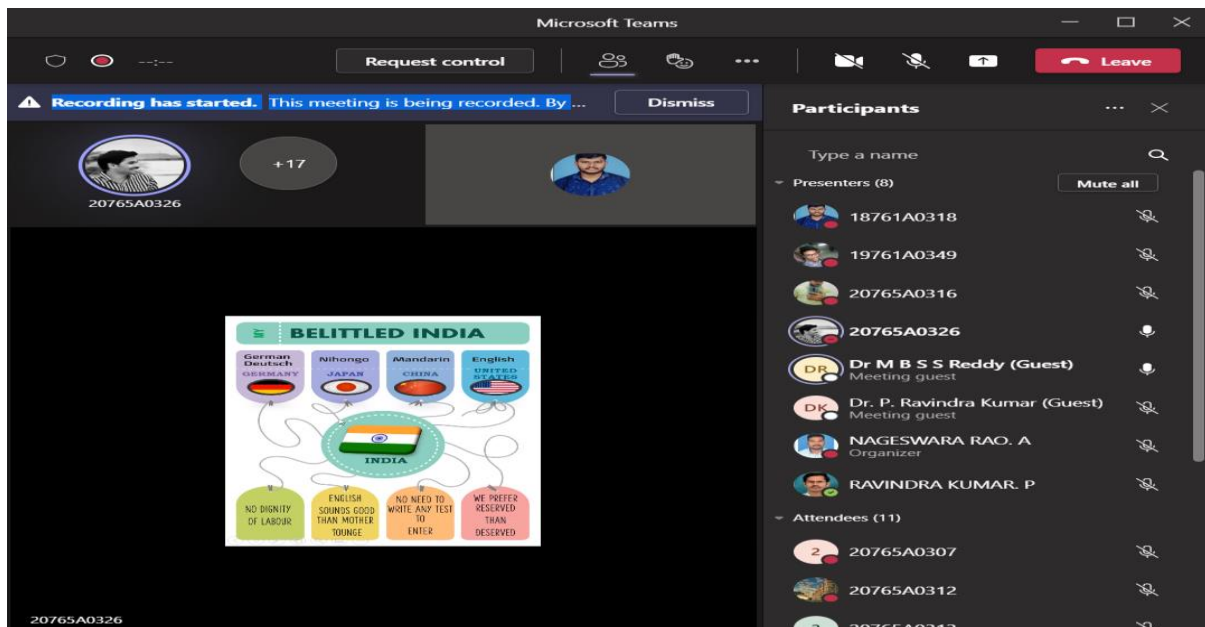
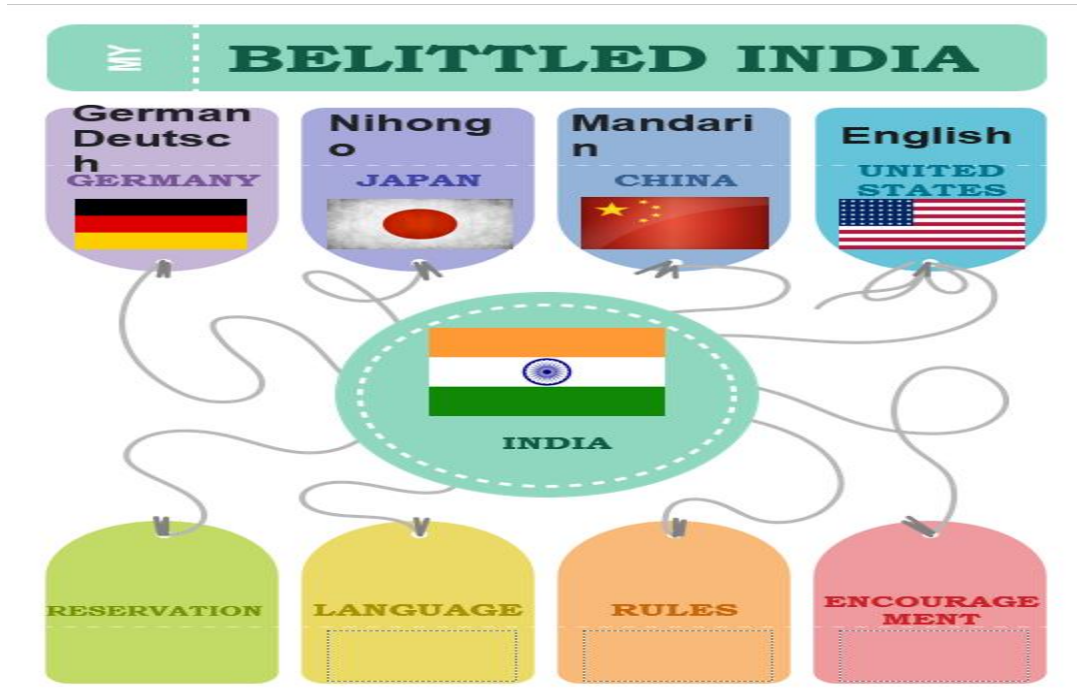
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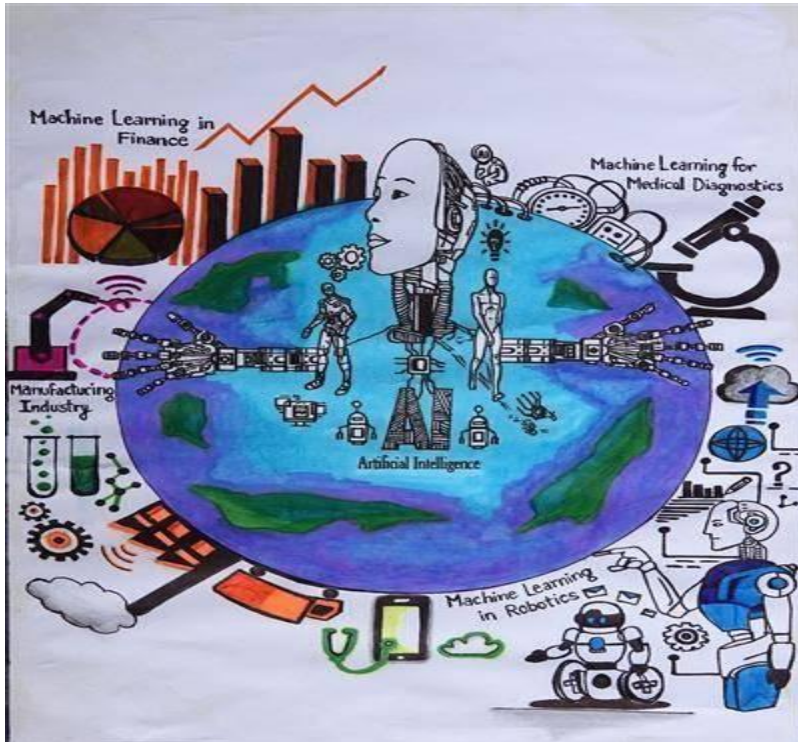
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Other member: Moturi Venkata monish, LBRCE,



## 5. ARTIFICIAL INTELLIGENCE

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koppisetysaitharun645@gmail.com, 9381677294



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- 20765A0316
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- Dr. P. Ravindra Kumar (Guest)  
Meeting guest
- ME\_PRAGNA\_05 Vemuri Aksh...  
Meeting guest
- ME\_PRAGNA\_05(Koppisetty ...  
Meeting guest
- Mr. VEERANJANEYA VARA PR...
- NAGESWARA RAO. A  
Organizer

Attendees (9)

- 20765A0307
- 20765A0312
- 20765A0313

ME\_PRAGNA\_05(Koppisetty Sai Tarun) (Guest)

# 6. DESIGN AND FABRICATION OF RECTANGULAR PYRAMID SOLAR STILL FOR ENHANCED DESALINATION

**Details:** Mula Nagendra Reddy , Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology , vtu14619@gmail.com, 6303331807

**Details:** Ammireddy pavan kumar reddy , Vel Tech Rangarajan Dr Sanguthala R&D Institute of Science and Technology ,

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**Design and Fabrication of Rectangular Pyramid Solar Still for Enhanced Desalination**

MULA NAGENDRA REDDY, PAVAN KUMAR REDDY AMMIREDDY

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**ABSTRACT**

This study is aimed at enhancing the production of fresh water from brackish and saltwater using solar energy. The main objective of this project is to design a solar still that can produce fresh water from brackish and saltwater using solar energy. The main objective of this project is to design a solar still that can produce fresh water from brackish and saltwater using solar energy.

**OBJECTIVES**

- To study the various factors that affect the production of fresh water from brackish and saltwater using solar energy.
- To design a solar still that can produce fresh water from brackish and saltwater using solar energy.
- To fabricate a solar still that can produce fresh water from brackish and saltwater using solar energy.
- To test the solar still that can produce fresh water from brackish and saltwater using solar energy.

**MATERIALS & SPECIFICATIONS**

Sl. No.	Material	Quantity	Specification
1	Acrylic	100mm x 100mm	1mm thickness
2	Acrylic	100mm x 100mm	1mm thickness
3	Acrylic	100mm x 100mm	1mm thickness
4	Acrylic	100mm x 100mm	1mm thickness
5	Acrylic	100mm x 100mm	1mm thickness

**WORKING PRINCIPLE**

The solar still is a device that uses solar energy to produce fresh water from brackish and saltwater. The solar still consists of a glass cover, a solar collector, and a condenser. The solar collector is a flat plate that is painted black and is used to absorb solar energy. The condenser is a glass plate that is tilted at an angle and is used to condense the water vapor that is produced in the solar collector.

**PROJECT METHODOLOGY**

The project methodology consists of the following steps:

- Problem Definition
- Literature Review
- Design
- Fabrication
- Experimentation
- Result and conclusion

**OUTCOMES/CONCLUSIONS**

- The solar still is a device that uses solar energy to produce fresh water from brackish and saltwater.
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**CONTACT**

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External  
Organizer
- NAGESWARA RAO. A

Attendees (8)

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- 20765A0312

MULA NAGENDRA REDDY

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**CONTACT**

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LBRCE

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# 7. WATER FUELLED VEHICLE

**Details:** Kolanti Sandeep , LBRCE , kolantisandeep143@gmail.com, 9573239203

## WATER FUELLED VEHICLE

**INTRODUCTION**  
A water-fuelled car is an automobile that hypothetically derives its energy directly from water. It is mainly used to conserve fossil fuels. It acts as a good eco friendly vehicle.

**CLEAN COMBUSTION**

Combustion ratio is twice the normal diesel engine vehicles. Thus it decreases the fuel consumption.

**COMPACT DESIGN**

Installation of hydrogen fuel combustion unit is simple and poses flexible repairing. It's design is compact.

**WORKING**

In this engine water is decomposed into hydrogen and oxygen by hydrolysis process. This hydrogen combusts in engine cylinder. Thus it produces work output.

**MILEAGE**

Water fuelled vehicle gives an extraordinary mileage of upto 1500km/lt. Relative torque produced by it is more compared to diesel engine.

**FILLING STATIONS**

H<sub>2</sub> plants can be placed like CNG plants.

**REDUCE EMISSIONS**

Since no emissions. No global warming.

**ECO-FRIENDLY**

The exhaust gas of water fuelled vehicle is O<sub>2</sub>. Sound produced by water fuelled vehicle is less. So no sound pollution.

**USE WATER FUELLED VEHICLES**

**conclusion**

- Hydrogen Boosters and water to gas technology have great future Ahead.
- Reduces pollution and increases mileage

**PREPARED BY:**  
K. LOHNADEH (20765A0306)      K. SANDEEP (20765A0307)  
**LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING (MYLAVARAM-521230)**

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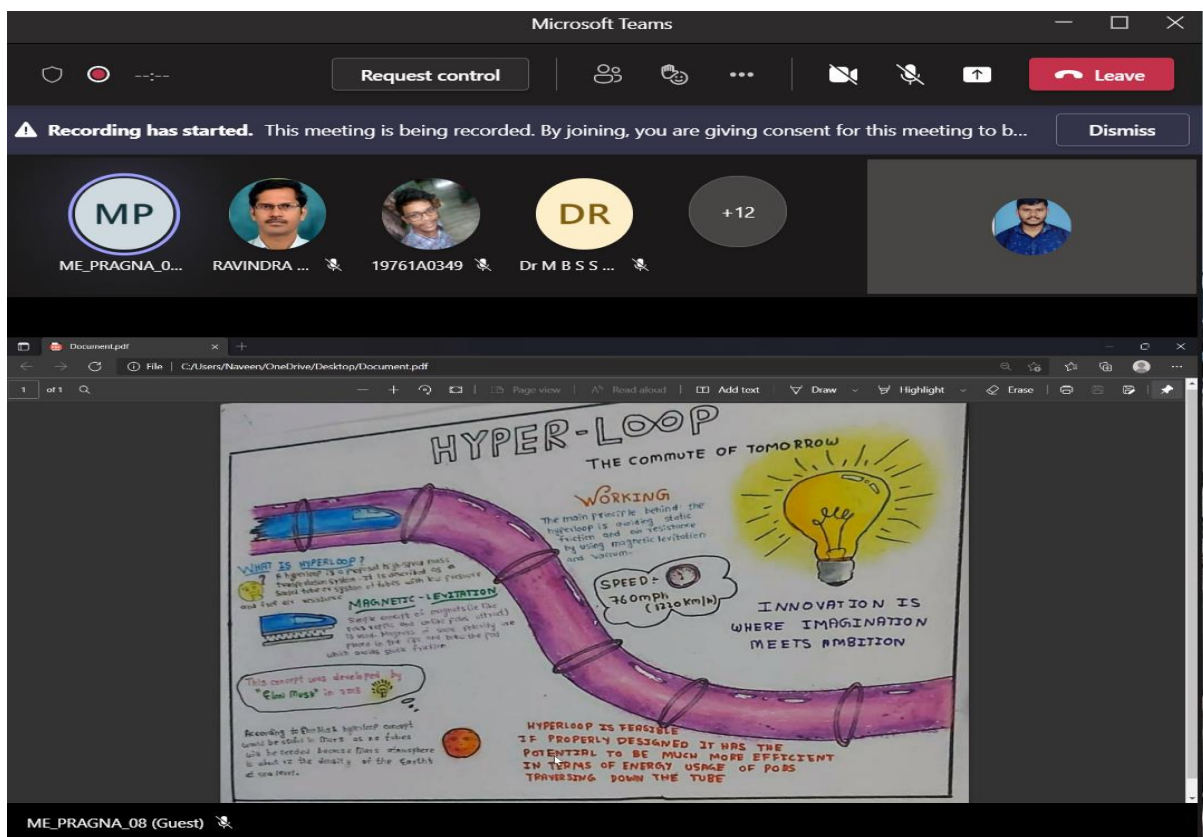
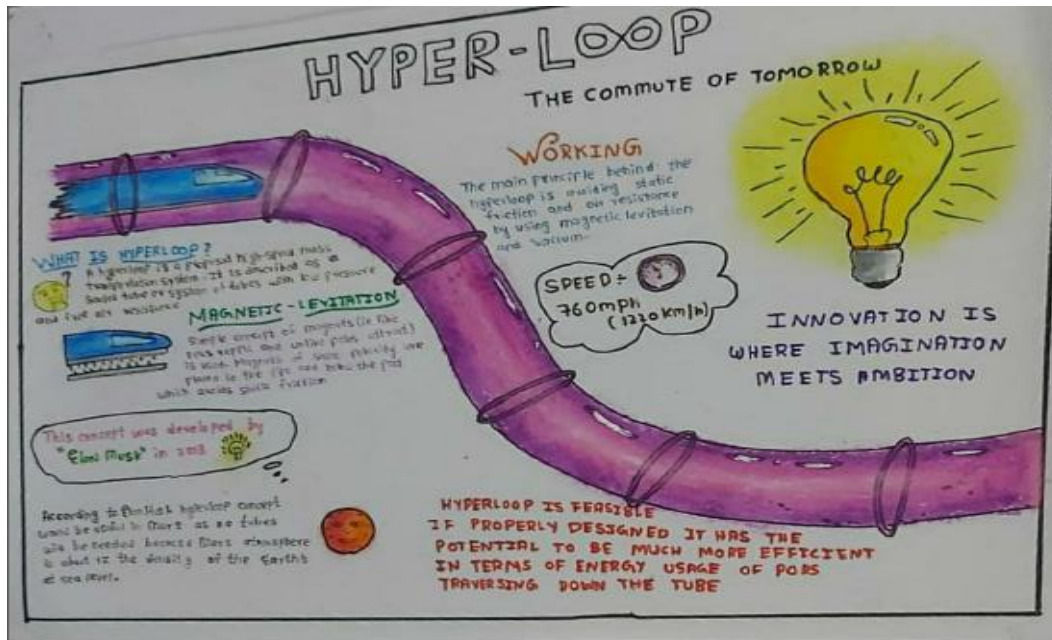
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## 8. HYPER LOOP

**Details:** Puppala Naga Venkata Pradeep , VR Siddhartha Engineering College,  
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Other member: Sali Dheeraj , VR Siddhartha Engineering College,



# 9. vehicle skid control

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Mail id :-gowthamdivvela14@gmail.com ph no: 9160651523 UG Mail -mangamuribhanusankar@gmail.com ph No:-7075730214

## Vehicle skid control

**Abstract**

Vehicle skid can be defined as the loss of traction between a vehicle's tyres and the road surface due to the forces acting on the vehicle. Most skids are caused by driver error, although only about 15% of accidents are the direct result of a vehicle skidding.

To control these skids and to prevent accidents from happening, Vehicle Skid Control(VSC) is incorporated in the vehicle.

**Objective**

- The main objective of these vehicle skid control is to reduce or avoid the skidding of the vehicle.
- Here we will use the VSC which is called vehicle skid control by using this we can easily control the skidding of the vehicle.

**Causes**

- Harsh or sudden acceleration
- Excessive or sudden braking.
- Coarse or jerky steering movements.
- Oversteer and understeer.

**Types of Skids**

- 1.The front wheel skid**
- 2.The Rear Wheel Skid**
- 3.The Four Wheel Skid**

**Causes**

- 1. Under steer**
- 2. Over steer**

**Skid control components:-**

- Yaw rate sensor.
- G-sensor.
- Steering angle sensor.
- Electronic throttle control.
- Slip indicator.
- Computer

**Working**

- It monitors information from the steering wheel, tyres, brakes and accelerators.
- By combining data from the various sensors the central processing unit can detect when a vehicle is in a stable or unstable state.
- Automatically applies light brakes pressure to a select wheel and control the throttle to maintain or restore control.

**conclusion**

Driving has become more and more dangerous with the ever increasing population of man and vehicles. It is estimated that 25% of all accidents are caused by driver distractions. Vehicle Skid Control would not, in anyway, eliminate all road accident; however it would lower the percentage of crashes there by lowering the number of fatalities.

**Advantages**

- Helps save money long term.
- Enhances the ability to dodge a renegade object in its pathways.

**Disadvantages**

- High initial costs.
- Overdependence.

**References**

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Prepared by :-D.Gowtham pin NO:20765A0303 Laki reddy bali reddy college M.Bhanu Sankar pin no:-20765A0323  
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Collaborative sharing

You can share your poster with others by going to VIEW > SHARE. You can also manually reset them by clicking on the RESET button.

Collaborative editing

You can edit your poster with others by going to VIEW > EDIT. You can also manually reset them by clicking on the RESET button.

Collaborative commenting

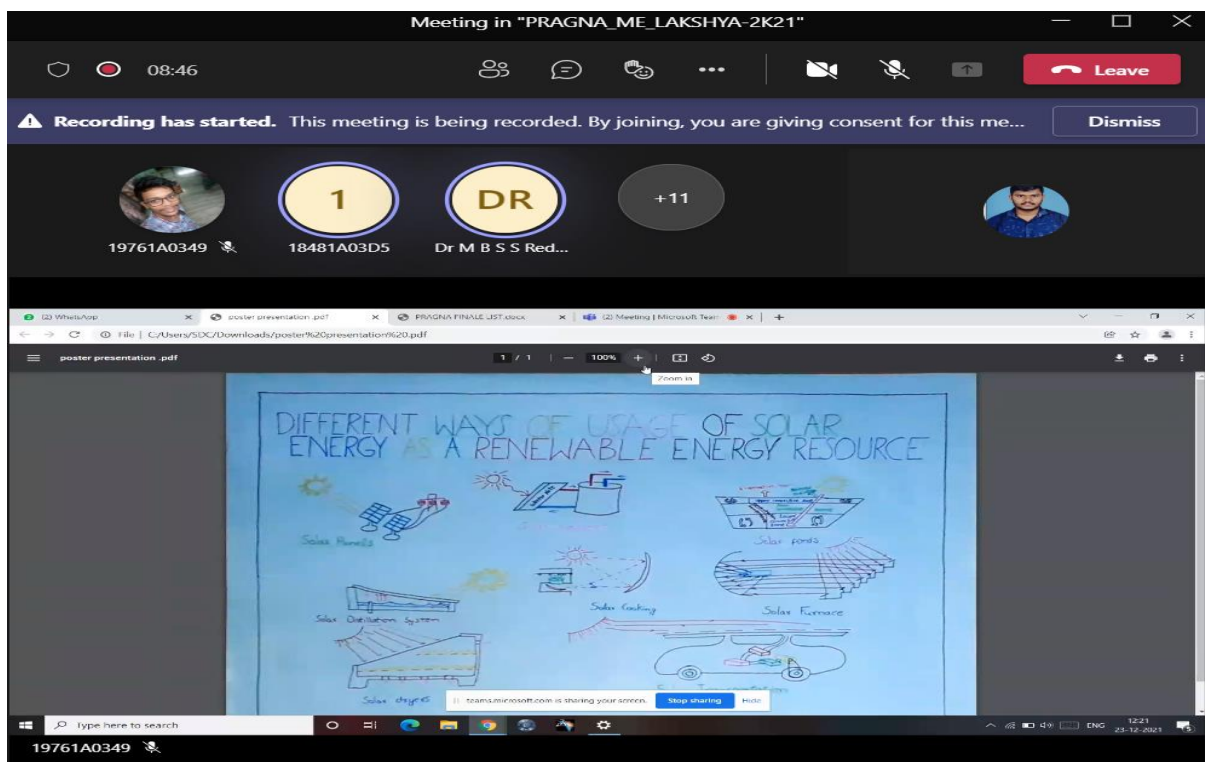
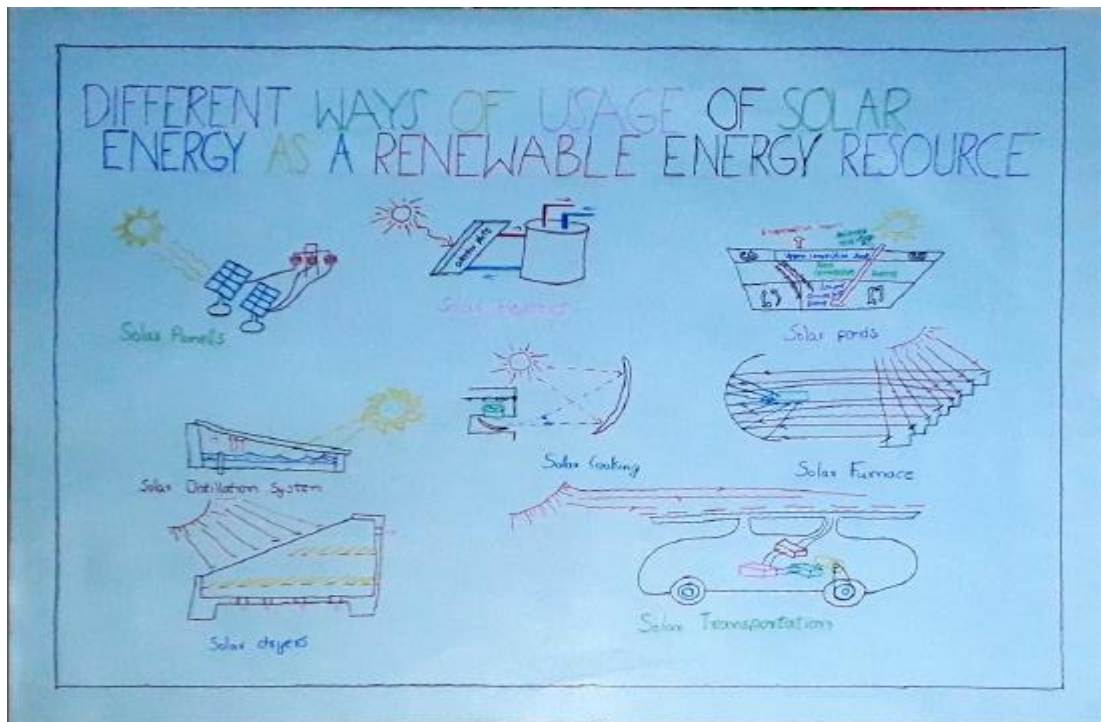
You can comment on your poster by going to VIEW > COMMENT. You can also manually reset them by clicking on the RESET button.

Collaborative rating

You can rate your poster by going to VIEW > RATE. You can also manually reset them by clicking on the RESET button.

## 10. DIFFERENT WAYS OF USAGE OF SOLAR ENERGY AS A RENEWABLE ENERGY RESOURCE

**Details:** Turaga Krishna koushik , Seshadri Rao Gudlavalleru Engineering College,  
turaga128@gmail.com, 8332867921



# 11. MANUFACTURING PROCESS OF A CAR

**Presenting by:**

**TEAM LEAD NAME :** LAKSHMIPURAM NAVEEN BABU

**REGD ID :** 198W1A03F9

**COLLEGE :** VELAGAPUDI RAMAKRISHNA SIDDHARTHA ENGINEERING COLLEGE

**UG/PG :** UG

**CONTACT NO :** 9949140979

**MAIL ID :** lakshmipuramnaveenbabu@gmail.com

**TEAM MEMBER NAME :** CHINCHINADA BHANU PRAKASH

**REGD ID :** 198W1A03D2

**COLLEGE :** VELAGAPUDI RAMAKRISHNA SIDDHARTHA ENGINEERING COLLEGE

**UG/PG :** UG

**CONTACT NO :** 8328662176

**MAIL ID :** bhanuprakashch08@gmail.com



# 12. 3D PRINTING IN ZERO GRAVITY

Details: Timmasarthy Rohith Vijay Sai, LBRCE, rohithvijaysaitimmasarthy@gmail.com, 9121705129

Other member: Thati Venkatesh, LBRCE, thativenkatesh55@gmail.com, 8712918295

## 3D Printing in zero 'G'

LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING

### Question

- > What is 3D printing ?
- > What can you expect from that ?

### What is 3D printing..?

3D printing is a process for making a physical object from a three-dimensional digital model, typically by laying down many successive thin layers of a material.

### What can you expect from that..?



### Key Features

Autonomous Control	Remote Operations	Pugged, Mission Critical Design
<ul style="list-style-type: none"> <li>The ability to filter toxic gases and nanoparticles is one of the major challenge...</li> </ul>	<ul style="list-style-type: none"> <li>Every process is can be Remotely controlled which reduces crew cost...</li> </ul>	<ul style="list-style-type: none"> <li>Designed to print the objects which must be exactly of what we expected and must be of fully usable...</li> </ul>

### How does it works..??



### Procedure

Step 1	Step 2	Step 3	Step 4
Get a 3D printer	Design your Desire	Print the Model as several parts	Assemble it and here is your Output!

### Uses

3D - Printing is a next-Gen era which extends our minds to new dimensions. Here are few uses..

- > Fashion & Retail
- > Medical
- > Food
- > Games & Entertainment
- > Do it yourself
- > Pop - Culture
- > Defense & space

### Future of 3D printing

- > The first thing that happens is a passive buyer will become an Active Designer!
- > Got anything broken (or) need to make something cool..? Here is your option.. Design your model and send it to 3D printer. BAM!! In moments your output is in front of you.
- > Using 3D printer, Doctors can actually be able to print Organic Parts of Human Body or any other organism soo, no donor required!!
- > Need to eat Pizza..? 3D print one for yourself... yep, we can 3D print FOOD!
- > A pregnant lady can actually be able to feel her baby's body with the help of Sonography. -> A scan on her torso and instead of fuzzy black and white look.. She can actually have a 3d printed model of baby which we can use in showcasing in future occasions.

### Conclusion

- > 3D Printing is an expanding technology which may soon start an industry in which everyone has the possibility of being a manufacturer.
- > It has lot of possible benefits to society, although the products must be regulated

### A PRESENTATION ON 3D PRINTING IN ZERO GRAVITY

**TEAM DETAILS:**

**TEAM LEAD NAME :-** TIMMASARTHY ROHITH VIJAY SAI  
**REGD.ID :-** 20765A0313  
**COLLEGE :-** LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING  
**CONTACT NO :-** 9121705129  
**MAIL ID :-** rohithvijaysaitimmasarthy@gmail.com

**TEAM MEMBER NAME :-** THATI VENKATESH  
**REGD.ID :-** 20765A0313  
**COLLEGE :-** LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING  
**CONTACT NO :-** 8712918295  
**MAIL ID :-** thativenkatesh55@gmail.com

Meeting in "PRAGNA\_ME\_LAKSHYA-2K21"

29:53
Request control

🗣️
🗑️
⋮

Leave

Recording has started. This meeting is being recorded. By joining, you are giving consent for this me... Dismiss

2  
20765A0313

DR  
Dr M B S S Red...

  
19761A0349

+13



13.


**A PRESENTATION ON 3D PRINTING IN ZERO GRAVITY**  
**TEAM DETAILS:-**

**TEAM LEAD NAME :-** TIMMASARTHY ROHITH VEJAY SAI  
**REGD.ID:-** 20765A0313  
**COLLEGE:-** LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING  
**UG/PG:-** UG  
**CONTACT NO:-** 9121705129  
**MAIL ID:-** rohithvijaysaitimmasarthy@gmail.com

**TEAM MEMBER NAME :-** THATI VENKATESH  
**REGD.ID:-** 20765A0312  
**COLLEGE:-** LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING  
**UG/PG:-** UG  
**CONTACT NO:-** 8712918295  
**MAIL ID:-** thativenkatesh55@gmail.com

**virtual surgery**

**Details:** Shaik Naeemullakhan , SRKR , sknaemullakhan@gmail.com, 9866067226



**VIRTUAL SURGERY**

S.R.K.R. ENGINEERING COLLEGE, BHIMAVARAM  
DEPARTMENT OF MECHANICAL

PRESENTED BY:-  
**SHAIK NAEEMULLAKHAN**

**INTRODUCTION:-**


- Improved surgical planning.
- Practice surgery process on 3D models.
- VR provides good tool to experiment the various complications arise during surgery.
- surgeon cannot experiment on the patient body.

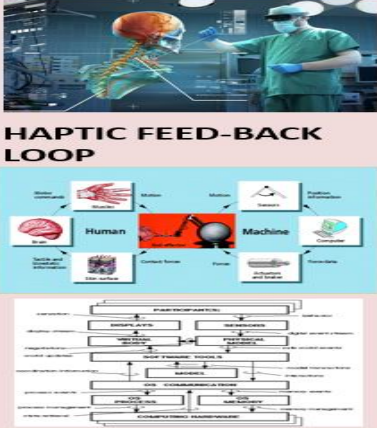
**HISTORY OF V.S.:-**

- In 1980s, companies such as Atari began working.
- First simulator for laparoscopic surgery in 2005 by Davinci.
- The first virtually surgery was performed on 17th august 2005 by Dr. David Clarke.
- Project Odysseus was developed to form a 3D image.

**V.S.SIMULATION**

- > 3D simulation
- > Touch simulation






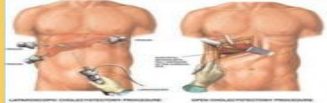
**HAPTIC FEED-BACK LOOP**

**APPLICATIONS:-**

- Training and education.
- Surgical planning.
- Image guidance.
- Tele surgery.

**DEVICES :-**

- Robots
- Computer
- Sensors
- Interface

**EFFECTS:-**

- Expensive.
- Minimizes the mistakes.
- Effective technique.
- High skill required.

**REFERENCES:-**

- ◆ Seminaronly.com
- ◆ Wikipedia
- ◆ Biotechnical.com
- ◆ youtube

THANK YOU



The screenshot shows a Zoom meeting interface. At the top, it says "Meeting in 'PRAGNA\_ME\_LAKSHYA-2K21'". Below that, there are icons for mute, video, chat, and a "Leave" button. A notification bar states "Recording has started. This meeting is being recorded. By joining, you are giving consent for this me...". There are three participants visible: "ME-13 (Guest)", "19761A0349", and "Dr M B S S...". The main content of the screen is the "VIRTUAL SURGERY" presentation slide, which is identical to the one shown in the previous block. At the bottom of the slide, it says "THANK YOU".

# 14. SIX STROKE ENGINE

Details: Thumma Raja Reddy, LBRCE, rajathumma2000@gmail.com, 7731814458

## SIX-STROKE ENGINE

The term six-stroke engine has been applied to a number of alternative **internal combustion engine** designs that attempt to improve on traditional **two-stroke** and **four-stroke** engines. Claimed advantages may include increased **fuel efficiency**, reduced **mechanical complexity**, and/or reduced **emissions**. These engines can be divided into two groups based on the number of pistons that contribute to the six strokes.

1.Intake 2.Compression 3.Fuel power 4.Fuel Exhaust 5.Steam Power Stroke 6.Steam Exhaust to Condenser

Types of six stroke engine

- FIRST APPROACH
  - Cylinder and piston engine
  - Otto cycle engine
  - Diesel cycle engine
  - Gas turbine engine
- SECOND APPROACH
  - Steam power engine
  - Stirling engine

### ADVANTAGES & DISADVANTAGES

**Advantages**

- Reduction in fuel consumption by at least 40%
- Less environmental impact (lower emissions in six strokes)
- Deposits reduction in pollution ( up to 60%)
- Higher overall efficiency & lower noise
- Cooler engine temperatures & lower noise
- Due to more air intake, the cooling system is improved

**Disadvantages**

- Stroke power & indicated power per cycle per cylinder is comparatively lesser
- Engine size increases due to many number of cylinders & additional components

**CONCLUSION:** The six stroke engine modification promises dramatic reduction of pollution and fuel consumption of an internal combustion engine. The fuel efficiency of the engine can be increased and also the valve timing can be effectively arranged to extract more work per cycle. Better scavenging is possible as air intake occurs during the fifth stroke and the exhaust during the sixth stroke. Due to more air intake, the cooling system is improved. It enables lower engine temperature and therefore increases in the overall efficiency

**Presented By: T.Raja Reddy**

Meeting in "PRAGNA\_ME\_LAKSHYA-2K21"

57:15

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19761A0341

19761A0349

Dr M B S Reddy

1:09

Edit

### Six-stroke engine

The term six-stroke engine has been applied to a number of alternative **internal combustion engine** designs that attempt to improve on traditional **two-stroke** and **four-stroke** engines. Claimed advantages may include increased **fuel efficiency**, reduced **mechanical complexity**, and/or reduced **emissions**. These engines can be divided into two groups based on the number of pistons that contribute to the six strokes.

**CONCLUSION:** The six stroke engine modification promises dramatic reduction of pollution and fuel consumption of an internal combustion engine. The fuel efficiency of the engine can be increased and also the valve timing can be effectively arranged to extract more work per cycle. Better scavenging is possible as air intake occurs during the fifth stroke and the exhaust during the sixth stroke. Due to more air intake, the cooling system is improved. It enables lower engine temperature and therefore increases in the overall efficiency

Presented By: T.Raja Reddy

19761A0341

Tools Play Share Record

# 15. DISTRACTION DRIVING

Details: Tummala anoop kumar, LBRCE, anoopkumar1.tummala@gmail.com, 8897687038



## DISTRACTION DRIVING



**CONTENTS:**

- Introduction
- Need of Study
- Types of Distractions
- Sources of Distraction
- Driving simulator
- SPSS Software

**Introduction**

Distracted driving is any activity that diverts attention from driving, including talking or texting on your phone, eating and drinking, talking to people in your vehicle, looking at digital billboards, entertainment or navigation system anything that takes your attention away from the task of safe driving. This distraction research is conducted by using a driving



**Need of the study**

Distracted driving is caused by any activity that takes your attention off the road. Whether you take your eyes off the road or your hands off the wheel - all types of distracted driving increase your risk of car crashes, major injuries and even death.



**Types Of Distractions**

Visual - Looking at something other than the road  
 Manual - Manipulating something other than the steering wheel  
 Cognitive - Thinking about something other than driving  
 Auditory - Hearing something not related to driving



**SOURCES OF DISTRACTION**

- **Associated with the vehicle** - controls, displays, navigation systems
- **Brought into the vehicle** - cell phones, computers, food, animals, grooming aids
- **External to the vehicle** - signs and displays, scenery, roadside features
- **Internal to the driver's mind** - daydreaming, "lost in thought"

**Driving Simulators**

Driving simulators are probably the most sophisticated application of computer-aided kinematic and dynamic simulation, as well as one of the biggest strengths in their development. Besides to flight simulation, driving simulators place the driver in an artificial environment believed to be a valid substitute for one or more aspects of the actual driving experience.







**SPSS SOFTWARE - IBM**  
(statistical package for social sciences)

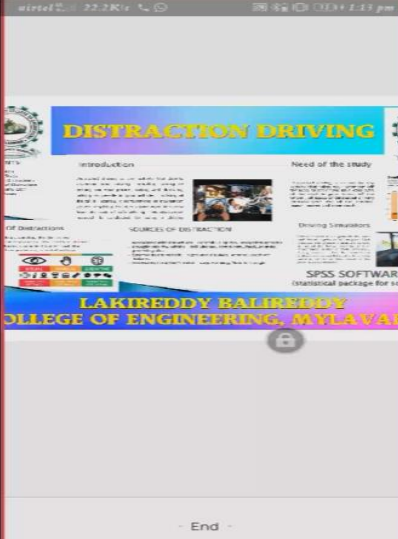
LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING, MYLAVARAM

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- End -







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**L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India**

**Department of Mechanical Engineering**

## **LAKSHYA 2k21\_Ideathon (Idea) Report**

### **1. CONVERSION OF PLASTIC WASTE TO FUEL –**

KUNAPAREDDY SYAMPAUL, GOBERU SASANK

*III rd year graduate, Mechanical, LBRCE,  
E-mail: syam541741@gmail.com*

#### **ABSTARCT:**

Plastics have woven their way into our daily lives and now pose a tremendous threat to the environment. Over a 100million tonnes of plastics are produced annually worldwide, and the used products have become a common feature at over flowing bins and landfills. Though work has been done to make futuristic biodegradable plastics, there have not been many conclusive steps towards cleaning up the existing problem. Here, the process of converting waste plastic into value added fuels is explained as a viable solution for recycling of plastics. Thus, the process of converting plastics to fuel has now turned the problems into an opportunity to make wealth from waste. The hazards of plastic waste is well known to us. The conversion of oil from plastic has dual benefits. First of all the oil produced can be used as a fuel for domestic purposes and also in vehicles and industries when further refined. Secondly the various types of pollution caused due to waste plastics can be minimized. Plastic in the first place is manufactured from natural gas specifically from ethane which is a constituent of natural gas. Therefore the waste plastic can be converted back into it. For the process of conversion a machine can be used which will heat the plastic to a temperature so that it melts and does not burns

Microsoft Teams

Participants

Type a name

- 19761A03C1
- 20765A0334
- DHANA RAJU V
- ME, DEATHON, OI (Guest)
- Meeting guest
- Ms. OLIVA MEDURI
- Murahari Kollu (Guest)
- Meeting guest
- NAGESWARA RAO, A
- Organizer

Attendees (9)

- 18761A0352
- 18761A0353
- 18761A03E8
- 19761A0323
- 19761A0333

On hold

12:21  
23-12-2021

Microsoft Teams

Participants

Type a name

Presenters (9)

Mute all

- 19761A0337
- 19761A0348
- 19761A0381
- 19761A03C1
- 20765A0334
- DHANA RAJU V
- Ms. OLIVA MEDURI
- Murahari Kollu (Guest)
- Meeting guest
- NAGESWARA RAO, A
- Organizer

Attendees (9)

- 18761A0352
- 18761A0353

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23-12-2021

Microsoft Teams

Participants

Type a name

Presenters (9)

Mute all

- 19761A0337
- 19761A0348
- 19761A0381
- 19761A03C1
- 20765A0334
- DHANA RAJU V
- Ms. OLIVA MEDURI
- Murahari Kollu (Guest)
- Meeting guest
- NAGESWARA RAO, A
- Organizer

Attendees (9)

- 18761A0349
- 18761A0352

12:25  
23-12-2021

## 2. ELECTRICITY GENERATION FROM SPEED BREAKER-

DIVVELA GOWTHAM, VIPPARLA MANEESH

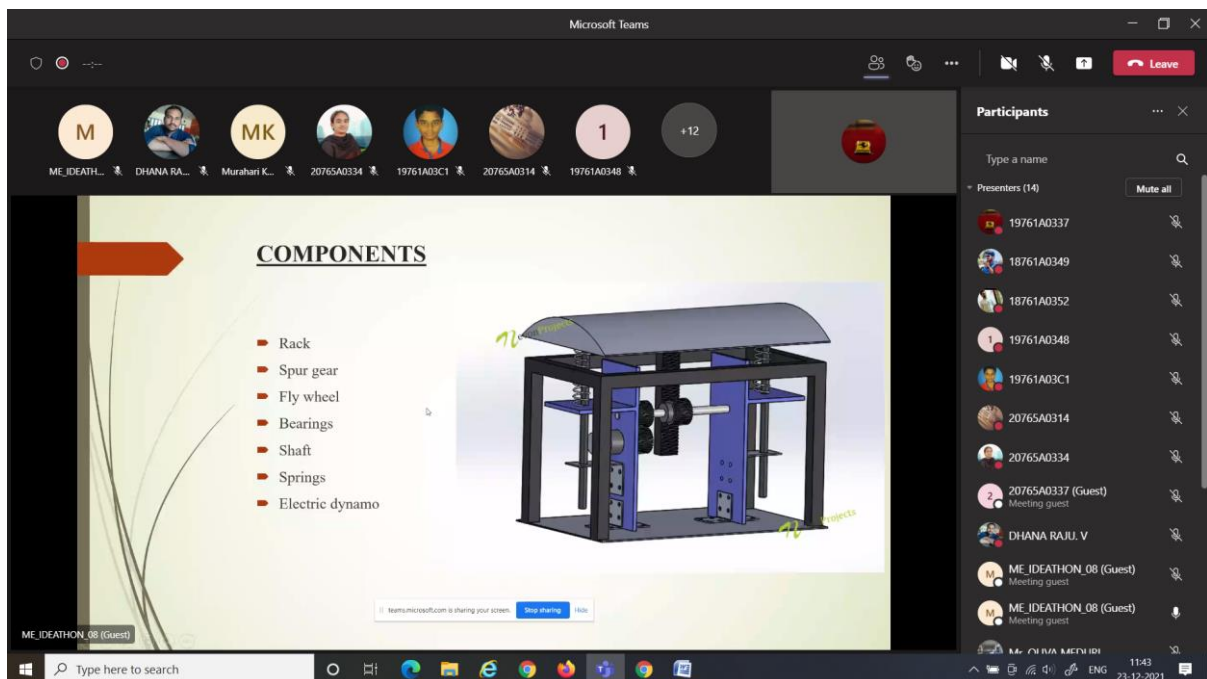
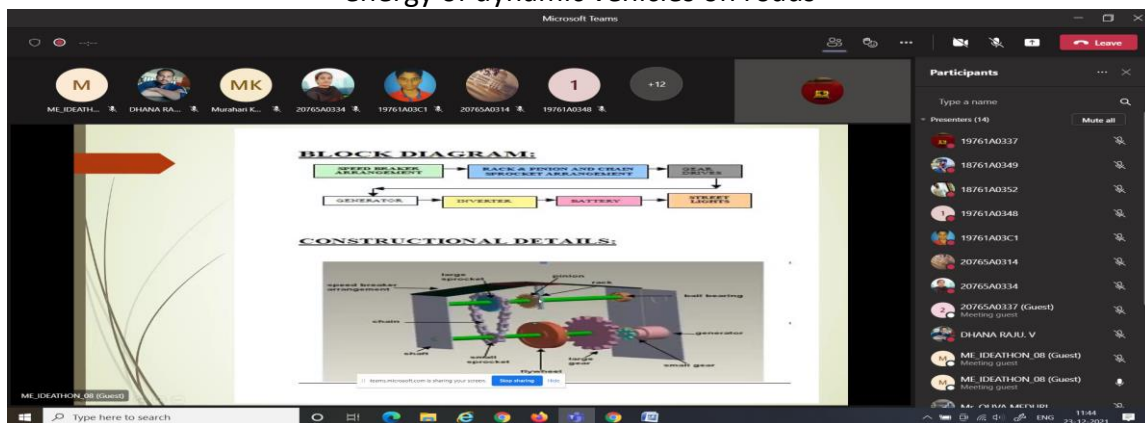
*III Year Graduate, Department of MECHANICAL, LBRCE,*

*E-mail: gowthamdivvela14@gmail.com*

### ABSTARCT:

- Electricity is generated by replacing the usual speed breakers with some simple mechanism. As vehicles pass over the speed breakers, rack and pinion mechanism works and with the help of high tension springs in turn generate electricity. This method is an effective way to produce electricity as the number of vehicles is ever increasing. It can be effectively placed near toll plazas, parking lots and other locations where density of vehicles is very high. A rack and pinion, spring assembly mechanism is provided which transfer the motion to a DC motor/generator for electricity generation.

This method provides a cost effective way to generate electricity from the mechanical energy of dynamic vehicles on roads



# 3. FABRICATION OF GEAR CUTTING ATTACHMENT ON LATHE FOR A SPUR GEAR-

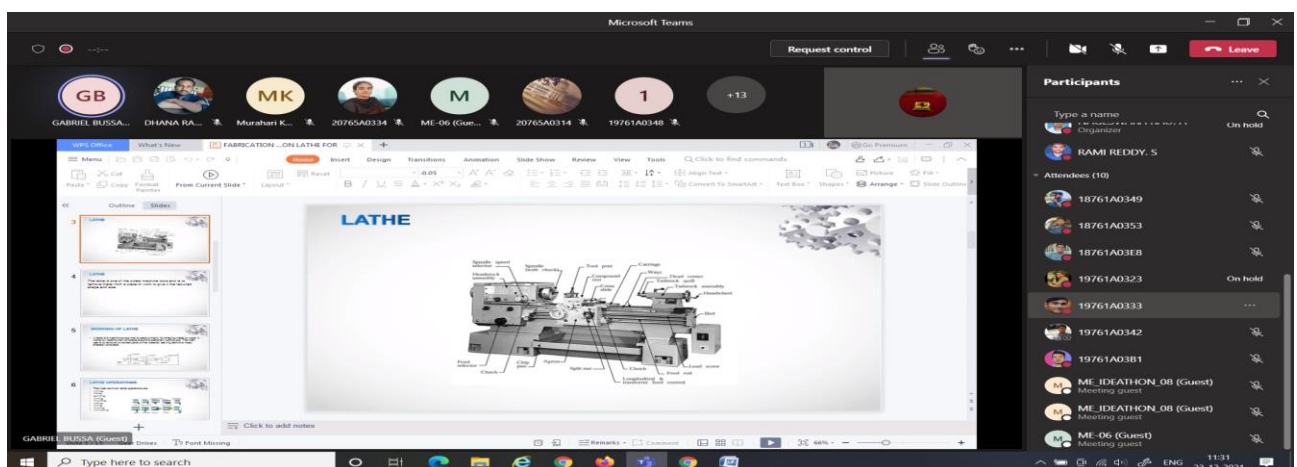
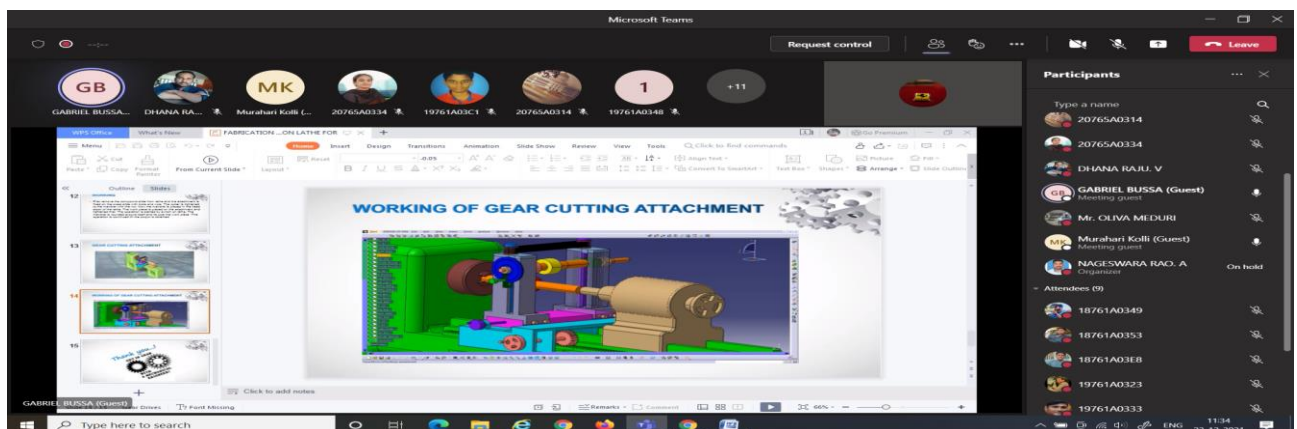
NEERAJ KUMAR BUSSA, GABRIEL BUSSA

*III Year Graduate, Department of MECHANICAL, R.V.R. & J.C. COLLEGE OF ENGINEERING, A.P., India*

**E-mail:** Gabrielbussa33@gmmail.com

## ABSTARCT:

The project is based on the fabrication of spur gear cutting attachment is used to cut gears over the cylindrical job. The main aim is to prove a lathe is a versatile machine. This gear cutting operation is done by lathe on lathe. The available Lathe attachments are Taper turning attachment, Grinding attachment, Gear cutting attachment, Milling attachment, Thread chasing dials. Advantages are Fixture cost is low, no need of purchase special machine for this, Production cost is low.



## 4. Robotics-

Venkateswarlu

*II Year Graduate, Department of MECHANICAL, Dhanekula institute of engineering and technology, A.P., India*

***E-mail:*** Venkateswarlupunugoti@gmail.com

### **ABSTRACT:**

The 21st century is a century for robotics. Robots have long borne the potential to bridge the gap between the cybernetic world (the internet of things) and the physical world. As the most promising candidate to theme the next major industrial revolution succeeding the present third (digital) industrial revolution, robotics is set to play an ever increasingly important role in society for its influence in every aspect of life in Hong Kong, including medicine and healthcare, building service, manufacturing, food production, logistics and transportation.

# 5. HYDROELECTRIC POWER GENERATION-

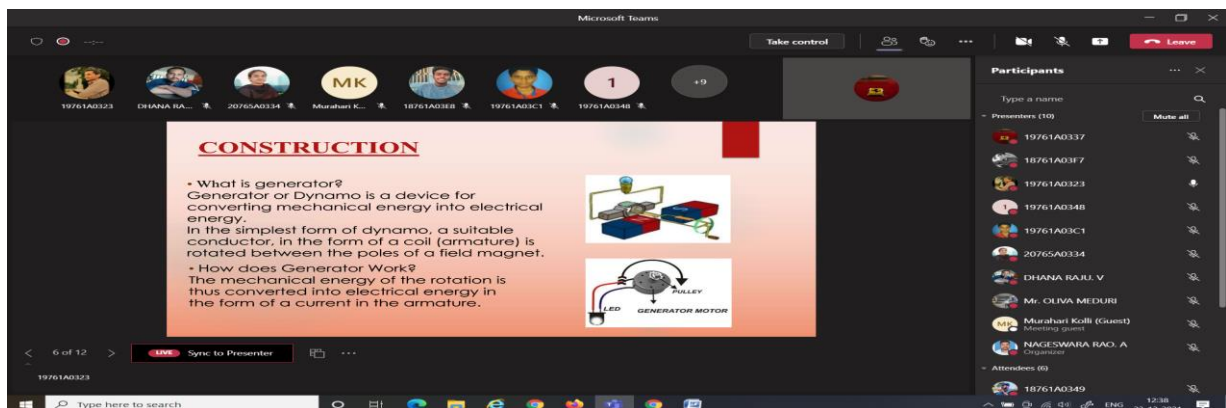
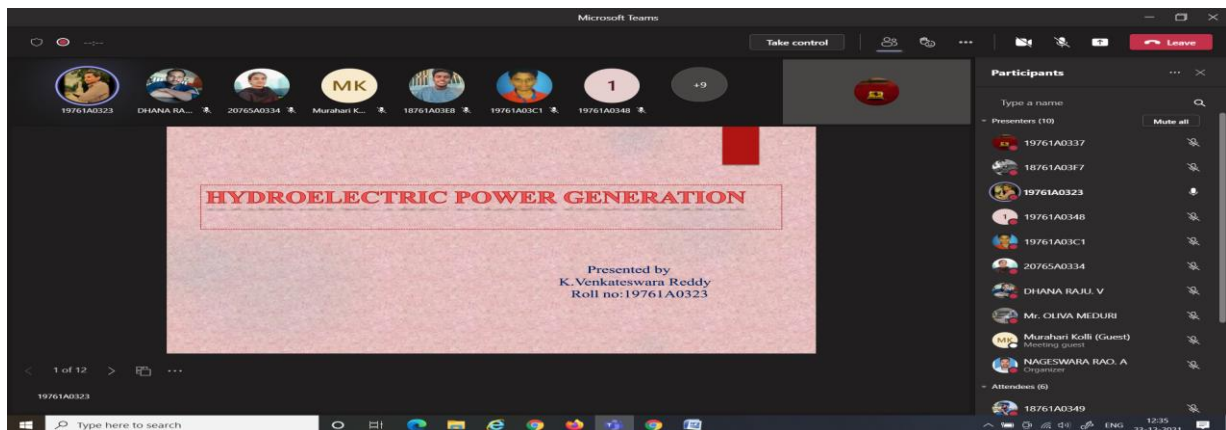
Kuppireddy Venkateswara Reddy,Shaik.Imran

III Year Graduate, Department of MECHANICAL, LBRCE, A.P., India

**Email:** venkateswarareddy9120@gmail.com

## ABSTRACT:

Hydroelectric power generation is one of many ways in which electricity can be generated. In 2009, the three most heavily used sources for generating electricity were coal, natural gas and oil. These sources not only release emission that are harmful to the environment, that they are resources that quickly running out. Therefore, different ways of generating power will need to be explored. Hydroelectric power works to harvest the inherent energy of moving water by directing The water through turbine converting the energy of the moving water into mechanical energy.





# 6. Implementation of electronic cruise control system in bike-

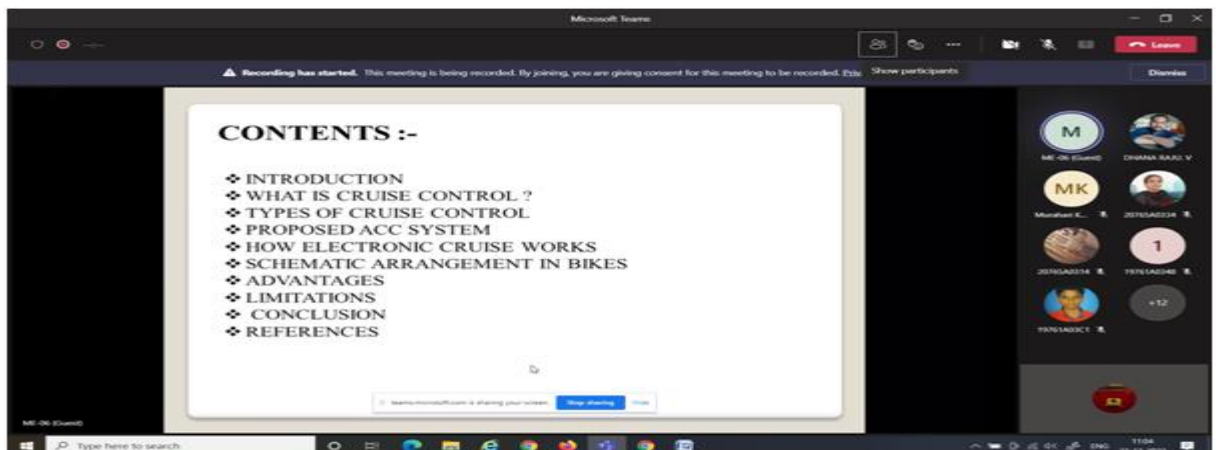
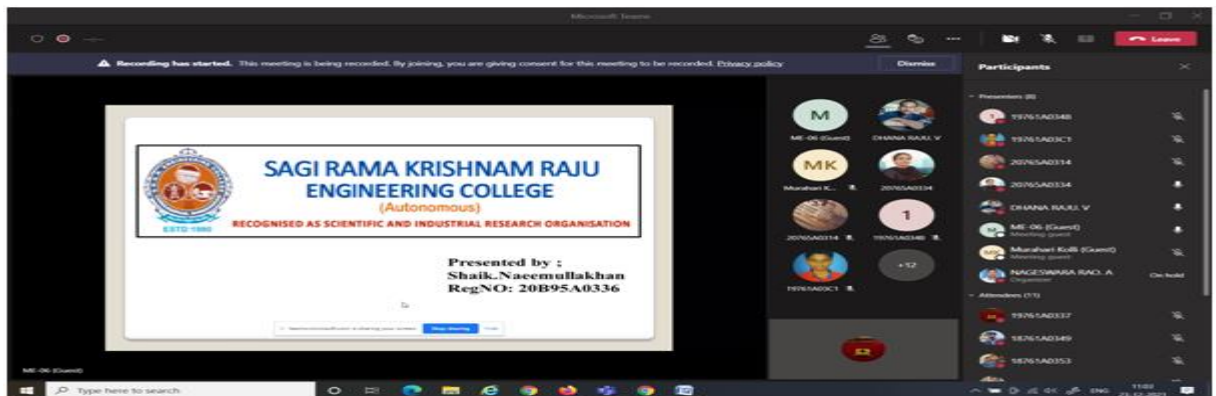
SHAIK NAEEMULLAKHAN

*III Year Graduate, Department of MECHANICAL, S.R.K.R. ENGINEERING COLLEGE,*

*A.P, India Email: sknaeemullakhan@gmail.com*

## ABSTRACT:

Cruise control system is a quite famous and successful technological advancement in the field of motored vehicles especially cars. It allows the user to let the vehicle control the speed and the throttle on its own. It could maintain in a particular speed relieving the driver from his/her burden. This has many advantages like mileage saving, safer transport etc. and hence we thought why not we bring this technology to the two wheelers so that they too get benefited from this technology? Hence we did this study on how the cruise control system can be implemented into the two wheelers with help of its ECU (Engine Control Unit / Electronic Control Unit). And also introducing adaptive cruise system into it.



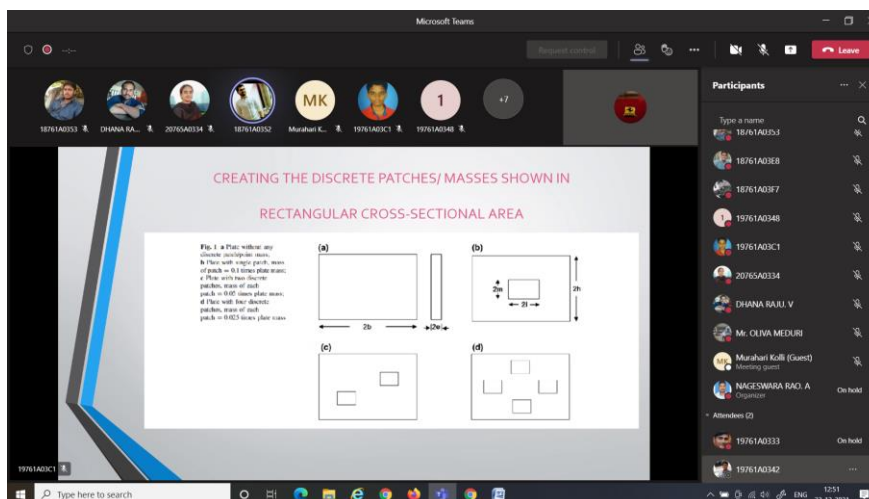
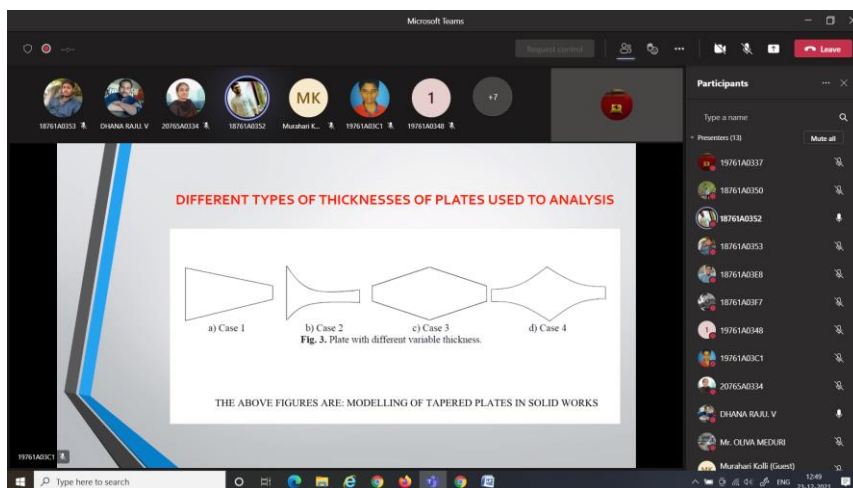
## 7. VIBRATIONAL CHARACTERISTICS OF TAPERED ISOTROPIC PLAT WITH DISCRETE PATCHES AND POINT MASSES-

Vennapusa pedda venkataramireddy  
IV Year Graduate, Department of MECHANICAL, LBRCE,A.P, India

**Email:** venkataramireddy506@gmail.com

### ABSTRACT :

A comparison of sound radiation behavior of plate in air medium with attached discrete patches/point masses having different thickness variations with different taper ratio of 0.3, 0.6, and 0.9 is analysed. Finite element method is used to find the vibration characteristics while Rayleigh integral is used to predict the sound radiation characteristics. Minimum peak sound power level obtained is at a taper ratio of 0.6 with parabolic increasing-decreasing thickness variation for plate with four discrete patches. At higher taper ratio, linearly increasing-decreasing thickness variation is another alternative for minimum peak sound power level suppression with discrete patches. It is found that, in low frequency range, average radiation efficiency remains almost the same, but near first peak, four patches or four point masses cause increase in average radiation efficiency; that is, redistribution of point masses/patches does have effect on average radiation efficiency at a given taper ratio.

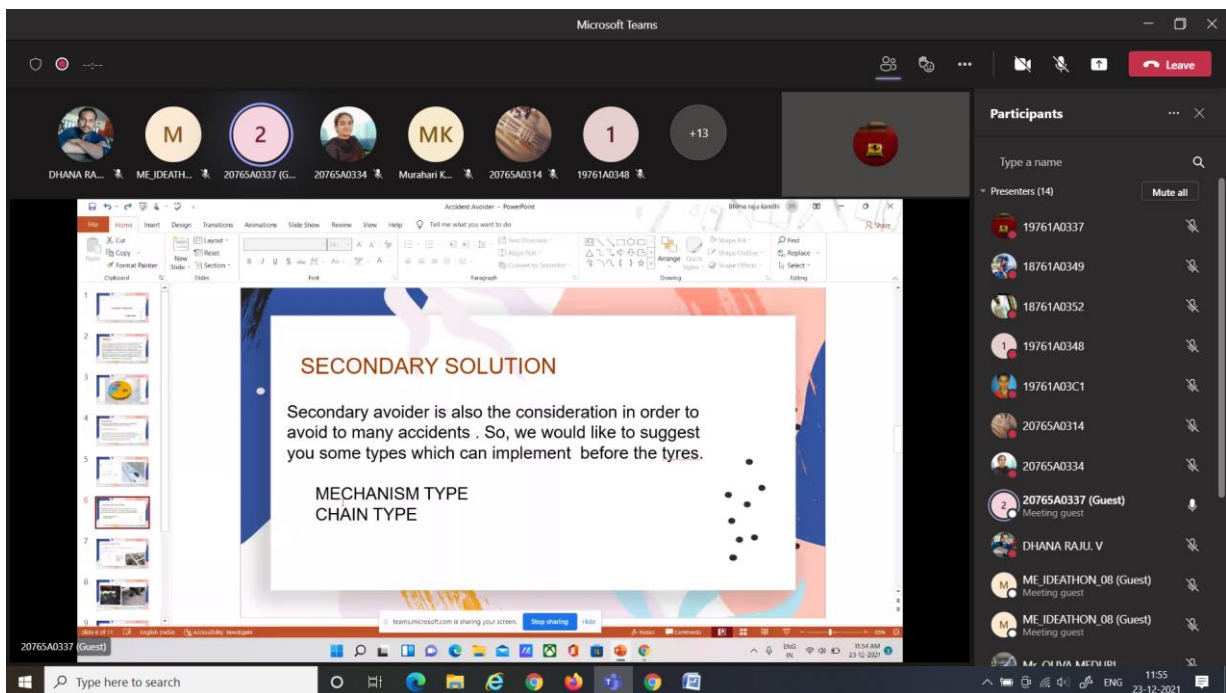
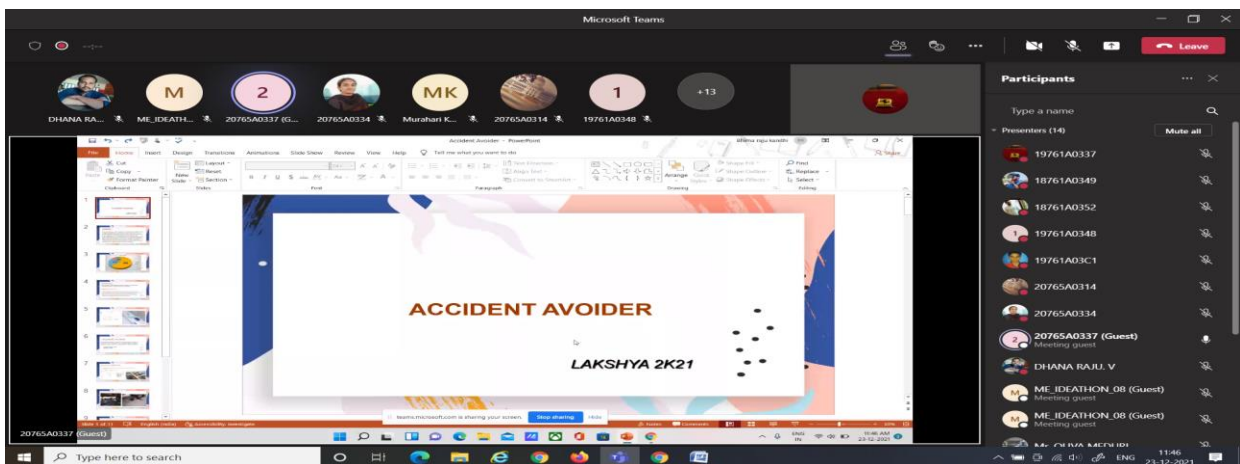


# 8.ACCIDENT AVOIDER-

VALLABHU RAJA RAMA MOHAN ROY, KUNDRAPU VENKATESH,  
III Year Graduate, Department of MECHANICAL, LBRCE,A.P, India

Email: [Vallabhuraju108@gmail.com](mailto:Vallabhuraju108@gmail.com)

**ABSTRACT :**The main theme of our project is to avoid the accidents : Now a day's road accident is one of the major concerns in our country. Reckless vehicle driving is the major reason behind those road accidents. Alarming rate of accidents and uncontrollable car in the road demand an automatic system that would guide drivers immediate in dangerous situation. When any obstacle (like human body, vehicle, and other object) comes in front of the vehicle, speed control of the vehicle is the viable solution to avoid accident.



## 9. Analysis and material optimization of leafspring-

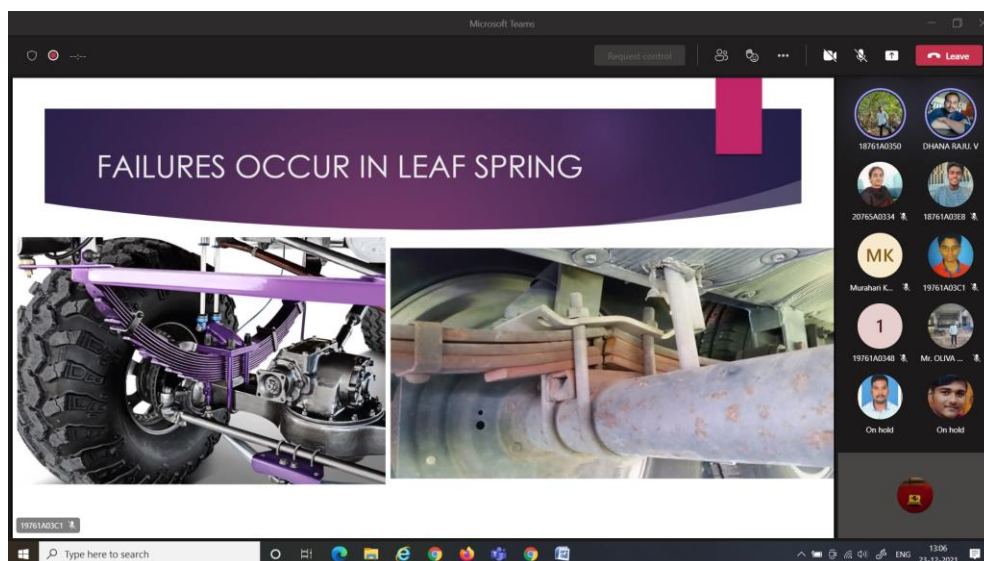
Kelleti Venkata Balaji Yashwanth , Veerla Sai Tharun

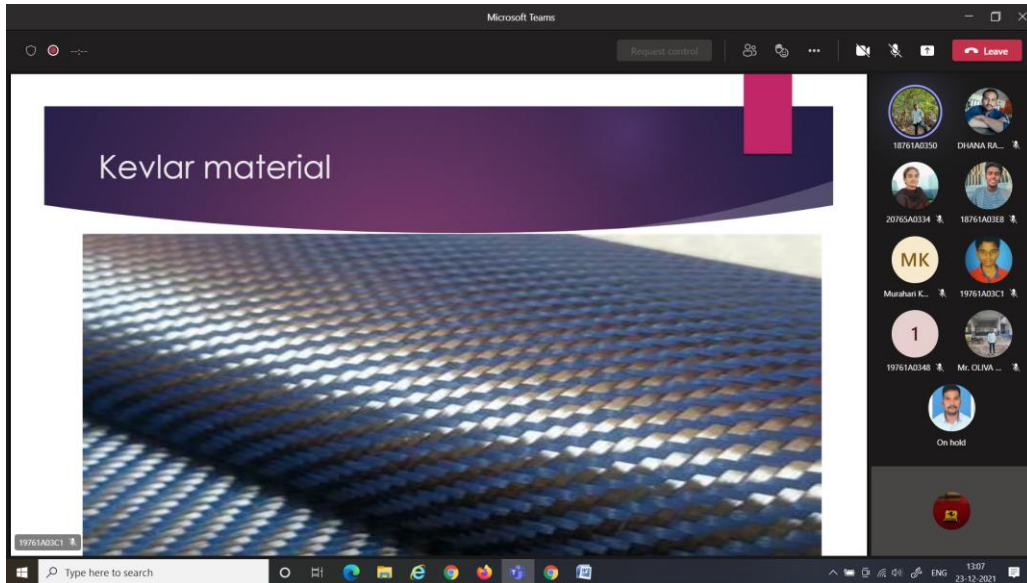
*IV Year Graduate, Department of MECHANICAL, LBRCE,A.P, India*

**Email:** [byaswanth36@gmail.com](mailto:byaswanth36@gmail.com)

### **ABSTRACT:**

The Automobile Industry has shown increase interest for replacing of steel leaf spring with composite leaf spring, since the composite material has high strength to weight ratio, good corrosion resistance. The paper describes static and dynamic analysis of steel leaf spring and laminated composite multi leaf spring . The objective is to compare displacement, frequencies, deflection and weight saving of composite leaf spring with that of steel leaf spring. The dimensions of an exist conventional steel leaf spring of a light design calculations. Static and Dynamic analysis of the 3D model of connectional leaf spring ids performed using ANSYS. Same dimensions are used in composite multi leaf spring using S2 Glass and Kevlar material. Analysis is done by layer stacking method for composite by changing reinforcement angles for different layers. The weight of composite leaf soring is compared with that of steel leaf spring. The design considerations are stress and deflection. A weight reduction will achieve by composite leaf spring.





## ***10. SOLAR POWERED LED STREET LIGHTS-***

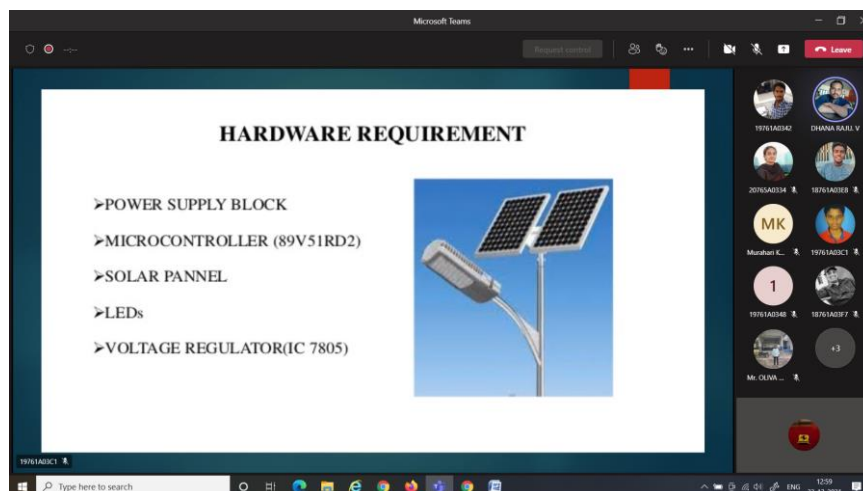
*POKOLA GUNA HARSHITH, UPPUTURI SIVA REDDY*

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### ***Abstract:***

It is very common these days that we see street light powered with solar panels. As the fossil fuels a redegrading and also polluting the environment the use efficient power systems needs to be implemented. This paper presents a remote sense based street light system. This system can put effort to vary intensity according to the density of the traffic and pedestrians. Also the High Intensity Discharge lamp is replaced by LED's. The system can be easily implemented widely where there is need of timely control.



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## SOLAR PANEL

There Are 2 Types Of Solar Panel

- Mono-crystalline.
- Poly-crystalline.

➤ Conversion rate of mono-crystalline solar panel is much higher than poly-crystalline.

➤ Solar panel is one of the most important parts of solar street lights, as solar panel will convert solar energy into electricity.

➤ Specifications : Output 5V, Operating temperature range is -20 to +65 degree Celsius.

Cell Type: Monocrystalline.

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