



Rayat Shikshan Sanstha's
**KARMAVEER BHAURAO PATIL
POLYTECHNIC, SATARA**

MECHATRON

SEMI-ANNUAL NEWSLETTER ✨ ✨ ✨

**Odd Semester
2024-25
Volume 05 Issue 01**



Official Newsletter of Department
of Mechanical engineering

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Our Tribute



Dr. Karmaveer Bhaurao Patil
Founder,
Rayat Shikshan Sanstha,
Satara



Sou. Laxmibai Bhaurao Patil
Rayat Mauli

Our Desk



Hon'ble Chandrakant Dalvi,
IAS(Retd)
Chairman
Rayat Shikshan Sanstha,
Satara



Hon'ble Shri. Vikas Deshmukh,
IAS(Retd)
Secretary
Rayat Shikshan Sanstha,
Satara



Hon'ble Prin. Shivling Menkudale
Joint Secretary
Rayat Shikshan Sanstha,
Satara



Mr. Narendra B. Devi
Principal
Karmaveer Bhaurao Patil Polytechnic
Satara

VISION

To provide quality education in Mechanical Engineering, promoting technical expertise, ethical values and environmental awareness to meet industry and societal needs.

MISSION

M1: To provide technical knowledge and hands-on skills in Mechanical Engineering using modern tools and techniques.

M2: To develop students for recent industrial and societal requirements through industry-institute collaboration.

M3: To impart ethical values, professional responsibility, and environmental awareness for eco-friendly engineering solutions.

M4: To motivate students toward lifelong learning, skill enhancement and career development in Mechanical Engineering.

BEST POLYTECHNIC AWARD



ENGINEER'S DAY 2024

15 Sept 2024

Karmaveer Bhaurao Patil Polytechnic, Satara has been honored with the "Best Polytechnic" Award in the Satara region by the Builder's Association of Satara on the occasion of Engineer's Day 2024. Principal Mr. N. B. Devi accepted the award on behalf of the Polytechnic, reflecting the institution's commitment to excellence in technical education and its contributions to the field.

About Mechanical engineering Department

Mechanical engineering is one of the oldest branches of engineering. It is also referred to as the mother branch of engineering. Another appealing feature of mechanical engineering is that the application base of this field of study is extremely broad and diverse. Almost all inventions during the ancient period and a vast majority in the modern era are direct contributions of one or the other application of mechanics. Traditionally, mechanical engineers have to deal with concepts such as mechanics, thermodynamics, robotics, kinematics, structural analysis, fluid mechanics and many others. These concepts are applied in the process of designing state-of-the-art manufacturing units, different types of motor vehicles, aircraft and aerospace parts and a vast assortment of industrial machinery. Mechanical engineers also contribute in the development of various engines, power plant equipment, heating and cooling systems and other simple and complex machinery. Mechanical engineers not only design new mechanical systems but they are also responsible for testing, maintaining and manufacturing them. The aforementioned are the conventional roles and responsibilities of mechanical engineers.



However, times have changed. Nowadays the scope of mechanical engineering is expanding beyond its traditional boundaries. Mechanical engineers are focusing their attention towards new areas of research such as nanotechnology, development of composite materials, biomedical applications, environmental conservation, etc. The ever increasing scope of this particular job profile now requires professionals to get into financial and marketing aspects of product development and even into people and resource management. All in all mechanical engineering offers a wide bouquet of job options to students who are looking for a stable and stimulating career.

Program Outcomes (PO's) of Mechanical Engineering Department

At the entry point of the industry soon after successful completion of the diploma program, students will be able to

PO 1 – Basic and Discipline specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

PO 2 – Problem analysis: Identify and analyse well-defined engineering problems using codified standard methods.

PO 3 – Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

PO 4 – Engineering Tools, Experimentation and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO 5 – Engineering practices for society, sustainability and environment: Apply appropriate technology in context of society, sustainability, environment and ethical practices..

PO 6 – Project Management: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

PO 7 – Life-long learning: Ability to analyse individual needs and engage in updating in the context of technological changes

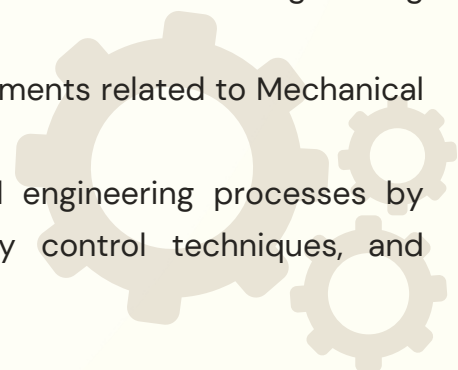
Program Specific Outcomes (PSO's) of Mechanical Engg. Department

At the entry point of the industry soon after successful completion of the Mechanical Engineering Diploma program, students will be able to

PSO 1 – Modern Software Usage: Use latest Mechanical engineering related software's for simple design, drafting, manufacturing, maintenance and documentation of mechanical engineering components and processes.

PSO 2 – Equipment and Instruments: Maintain equipment and instruments related to Mechanical Engineering.

PSO 3 – Mechanical Engineering Processes: Manage Mechanical engineering processes by selecting and scheduling relevant equipment, substrates, quality control techniques, and operational parameters



PRINCIPAL'S DESK

Dear Students and Faculty,

It is a pleasure to congratulate you all on the successful publication of our Odd Semester Newsletter for the Mechanical Engineering Department. This edition reflects the dedication, enthusiasm, and collective efforts of our students and faculty.

The semester has been filled with remarkable achievements, with students showcasing their skills in technical projects, research endeavors, and competitions. Their passion for learning and innovation continues to bring pride to the department. It is truly commendable to see them turning challenges into opportunities for growth.

I extend my sincere gratitude to the faculty for their constant support and guidance, which play a vital role in shaping the success of our students. Let us continue striving for excellence and celebrating new accomplishments in the future. Congratulations once again!



Mr. N. B. Devi

Principal
Karmaveer Bhaurao Patil
Polytechnic,
Satara

HOD'S DESK

Dear Students and Faculty,

As the Head of the Mechanical Engineering Department at Karmaveer Bhaurao Patil Polytechnic, Satara, it is my pleasure to welcome you to the latest edition of our Odd Semester Technical Newsletter. This publication reflects our unwavering commitment to academic excellence and the all-round development of our students.

Our diploma program is designed to provide a strong foundation in mechanical engineering, integrating practical training and industry-relevant skills. I am proud of our students, who continue to excel in various technical competitions, innovative projects, and research endeavors, demonstrating their talent and perseverance.

This newsletter captures the essence of our semester, highlighting academic progress, co-curricular initiatives, and significant achievements of both students and faculty. I extend my heartfelt appreciation to the editorial team for their dedication in bringing this edition to life.

May this publication serve as an inspiration, motivating us to embrace new challenges with confidence, enthusiasm, and a spirit of continuous learning.

Wishing you all success in the journey ahead!



Mr. S. S. Yewale

Head of Department
(Mechanical Engineering)

EDITOR'S DESK

MR. P.V. ZORE

**Training and Placement Officer
Lecturer (Mechanical Engineering)**

Welcome to the latest edition of the Mechanical Engineering Department Newsletter!

I'd like to extend my sincere gratitude to our Principal, Head of Department, and all my colleagues for their invaluable support in creating this newsletter.

This edition is packed with details about our department's activities and accomplishments from the last semester.

We invite you to explore it all to better understand our distinguished department.



Reporting of departmental activities and events is the main objective of this newsletter. It will be as good as your contribution and participation in helping us in collecting and organizing data and information pertinent to your portfolio. We hope you would appreciate this endeavor of ours and enrich us with your valuable feedback, comments and suggestions.

EDITORIAL BOARD

- Mr.N .B. Devi (Principal, K.B.P. Polytechnic, Satara)
- Mr. S. S. Yewale (Head of Mechanical Engineering Department)
- Mr. P. V. Zore (Editor)
(Training and Placement Officer)

Our Faculty Members



Mr. Sameer Shivaji Yewale
Head of Department
M.E. Heat Power Engineering
Experience: 12 Years

Mr. Kishor Babanrao Dhanawade
Workshop Superintendent
M.E. Heat Power Engineering
Experience: 11 Years



Mr. Prathamesh Vijay Zore
TPO
B.E. Mechanical Engineering
Experience: 12 Years

Mr. Ravindra Vasant Kumbhar
Lecturer
B.E. Mechanical Engineering
Experience: 10 Years



Ms. Komal Haribhau Sakhare
Lecturer
B.E. Mechanical Engineering
Experience: 10 Years

Our Faculty Members



Mr. Rahul Santosh Mane
Sports Incharge
B.E. Production Engineering
Experience: 10 Years

Mr. Omkar Amrut Khairmode
Lecturer/ DMESA Coordinator
M. Tech Mechanical Engineering (Heat
Power)
Experience: 10 Years



Mr. Pratik Rajendra Deshmane
Lecturer
B.E. Mechanical Engineering
Experience: 00 Years

Mr. Sabar Karim Shaikh
Lecturer
B.E. Mechanical Engineering
Experience: 00 Years



DMESA COMMITTEE 2024-25

SR. NO	POST	CLASS	NAME
1	President	TY	Shantanu Sanjay Jadhav
2	Vice – President	SY	Ritesh Rahul Gujar
4	Treasurer	TY	Yash Milind Chiplunkar
5	Treasurer	SY	Shreyas Santosh Jagtap
6	Auditor	TY	Atharv Sachin Kachare
7	Auditor	SY	Varad Dnyanash Bachal
8	CR	TY	Pramod Namdev Khade
9	CR	SY	Soham Dattatray Munjal
10	Ladies Representative	TY	Samruddhi Santosh Gaikwad
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12	CR	FY	Aditya Amol Deshmukh
13	Sports Secretary	SY	Harshvardhan Mohan Rathod
14	Sports Secretary	TY	Aditya Mahesh Jadhav



DEPARTMENTAL ACTIVITIES

Expert's Lecture



TOPIC: PERSONALITY DEVELOPMENT

Expert Guest Lecture delivered by Dr. Manisha Binayak Shirodker from Yashwantrao Chavan School of social Work Jakatwadi, Satara on topic of Personality Development on 08/10/2024 for For SYME & TYME Student

Dr. Shirodker, an esteemed academician and personality development expert, shared valuable insights on enhancing communication skills, building self-confidence, and developing a positive attitude. She emphasized the importance of soft skills, time management, and emotional intelligence in shaping a successful professional career.

Rayat Shikshan Sanstha's
Karmaveer Bhaurao Patil Polytechnic, Satara
Department of Mechanical Engineering
Organizes
Expert Guest Lecture On
Personality Development
For SYME & TYME Student
Date : 08/10/2024
Time : 01:00 PM
Venue: Auditorium
Resource Person
Dr. Manisha Binayak Shirodker
Professor
Yashwantrao Chavan School of social Work
Jakatwadi, Satara
Mr. R. V. Kumbhar Coordinator
Mr. S.S. Yewale I/c HOD
Mr. N. B. Devl I/C Principal

The interactive session engaged students through real-life examples, practical exercises, and motivational discussions, making it a highly enriching experience. The students actively participated and expressed their gratitude for the opportunity to learn from an expert in the field. The department extends heartfelt thanks to Dr. Manisha Binayak Shirodker for her inspiring session and looks forward to organizing more such knowledge-enhancing events in the future.

DEPARTMENTAL ACTIVITIES

EXPERT'S LECTURE



TOPIC: CAD/CAM/CAE

Expert Guest Lecture delivered by Mr. Mahesh Sathe, Director Design Solution Vidyanagar, Karad on topic of Recent Trends in Mechanical Engineering on 21/10/2024 for SYME & TYME Student



He also shared his expertise on designing using advanced 3D software such as CATIA and AutoCAD, highlighting their applications in modern product development and industrial design.

The session was highly interactive, with students actively participating in discussions and asking insightful questions. Mr. Sathe demonstrated real-world case studies and industry applications of these design tools, helping students understand their practical significance in engineering.

The department expresses sincere gratitude to Mr. Mahesh Sathe for sharing his expertise and inspiring students to enhance their technical skills in mechanical design and emerging technologies.

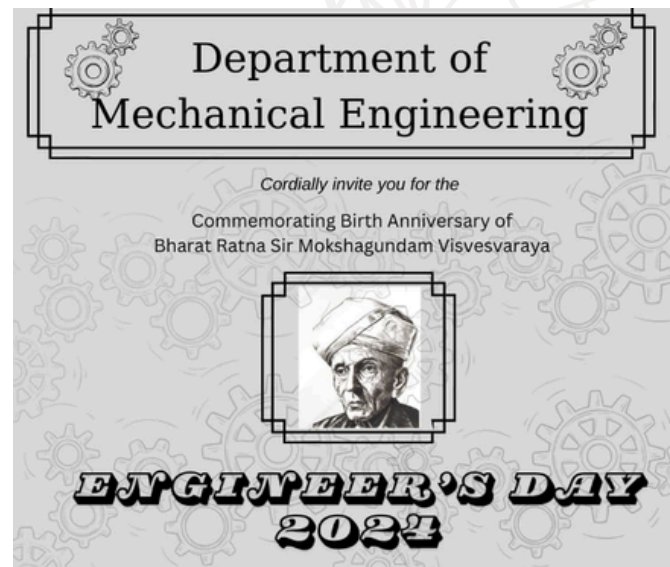
DEPARTMENTAL ACTIVITIES

EXPERT'S LECTURE



ENGINEERS DAY

Expert Guest Lecture delivered by Mr. Vaibhav Raut Plant Manager and facility, Maharashtra Scooters on Topic "Opportunities for Mechanical Engineering" on Occasion of Engineers Day



Mr. Raut shared valuable insights into the various career opportunities available for mechanical engineers in industries such as automobile, manufacturing, robotics, renewable energy, and research & development. He highlighted the importance of technical skills, adaptability, and continuous learning in staying competitive in the dynamic engineering landscape.

The session was highly engaging, with students actively participating in discussions. Mr. Raut also provided guidance on industry expectations, required skill sets, and emerging trends that will shape the future of mechanical engineering.

The department expresses its sincere gratitude to Mr. Vaibhav Raut for his valuable time and expertise, making Engineers' Day truly insightful and inspiring for our students.

DEPARTMENTAL ACTIVITIES

TEACHERS DAY



The faculty members were felicitated as a token of respect and appreciation for their unwavering support in nurturing young engineers. The event concluded with a vote of thanks, acknowledging the efforts of both students and teachers in making the celebration memorable.

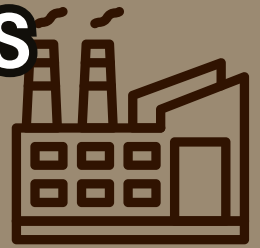
TEACHERS DAY

The Mechanical Engineering Department of Karmaveer Bhaurao Patil Polytechnic, Satara, joyfully celebrated Teachers' Day on 5th September 2024 to honor former President Sarvepalli Radhakrishnan



DEPARTMENTAL ACTIVITIES

INDUSTRIAL VISIT



Industrial Visit of THIRD YEAR MECHANICAL ENGINEERING STUDENTS WERE ORGANISED AT MSRTC Divisional Workshop, Satara ON 04/10/2024 Under Subject of Power Engineering and Refrigeration.

Industrial Visit of THIRD YEAR MECHANICAL ENGINEERING STUDENTS WERE ORGANISED AT Shree Tools , Old MIDC 10/10/2024 Under Subject of Advanced Manufacturing Processes



Industrial Visit of Second Year and THIRD YEAR MECHANICAL ENGINEERING STUDENTS WERE ORGANISED URMODI Power Generation Pvt Ltd and Renom Power Generation Chalkewadi, Satara on 16/10/2024

DEPARTMENTAL ACTIVITIES

PARENT MEET 2024-25



PARENT MEET

The Mechanical Engineering Department of Karmaveer Bhaurao Patil Polytechnic, Satara, successfully organized a Parent-Student-Teacher Meet on 21st September 2024.

The session began with a welcome address by the department faculty, emphasizing the importance of parental involvement in academic progress. Faculty members provided an overview of students' academic performance, attendance, discipline, and participation in extracurricular activities. Key discussions included industrial training opportunities, career guidance, and skill development programs.



DEPARTMENTAL ACTIVITIES

FDP ON ACADEMIC RECORD SOFTWARE, CO –PO AND MOODLE



The Mechanical Engineering Department of Karmaveer Bhaurao Patil Polytechnic, Satara, successfully conducted a Faculty Development Programme (FDP) from 28th to 30th August 2024 at Auditorium C-Wing. The event aimed to enhance the teaching methodologies, technical knowledge, and professional skills of faculty members.

The FDP featured three expert sessions by resource persons:

- Day 1: Academic Record Software & Course File – Conducted by Mr. S. S. Yewale.
- Day 2: CO-PO Mapping & Attainment Calculation – by Mr. P. V. Zore, providing insights into the effective mapping of Course Outcomes (CO) and Program Outcomes (PO) for quality education.
- Day 3: Moodle Software – Presented by Mr. O. A. Khairmode, highlighting the importance of LMS in digital education and how Moodle can be used for course management, assessments, and online learning.

The poster is for a Faculty Development Programme (FDP) organized by the Mechanical Engineering Department. It features the Rayat Shikshan Sanstha's Karmaveer Bhaurao Patil Polytechnic, Satara logo and name at the top. The title 'FACULTY DEVELOPMENT PROGRAMME' is prominently displayed, followed by 'Organized by MECHANICAL ENGINEERING DEPARTMENT'. The dates '28-30 AUGUST 2024' and time '03.00 - 05.30PM' are listed. A photograph of the college building is shown. Below, a 'RESOURCE PERSON' section lists three individuals with their photos and session details: Mr. S.S. YEWALE (Day 1: Academic Record Software & Course File Content), Mr. P.V. ZORE (Day 2: CO-PO Mapping & Attainment Calculation), and Mr. O.A. KHAIRMODE (Day 3: Overview of Moodle (LMS)).

RAYAT SHIKSHAN SANSTHA'S
KARMAVEER BHURAO PATIL POLYTECHNIC, SATARA

FACULTY DEVELOPMENT PROGRAMME
Organized by
MECHANICAL ENGINEERING DEPARTMENT

28-30 AUGUST 2024 03.00 - 05.30PM

RESOURCE PERSON

Mr. S.S. YEWALE	Mr. P.V. ZORE	Mr. O.A. KHAIRMODE
DAY 1 TOPIC ACADEMIC RECORD SOFTWARE & COURSE FILE CONTENT	DAY 2 TOPIC CO-PO MAPPING & ATTAINMENT CALCULATION	DAY 3 TOPIC OVERVIEW OF MOODLE (LMS)

DEPARTMENTAL ACTIVITIES

WELCOME FUNCTION 2K24



The Mechanical Engineering Department of Karmaveer Bhaurao Patil Polytechnic, Satara, organized a vibrant welcome function, "AARAMBH 2K24," on 23rd October 2024 at the Auditorium Hall, KBP Polytechnic, Satara.

The celebration commenced at 10:30 AM, with a warm welcome address by faculty members, followed by an introduction to the department, faculty, and institutional culture. The event aimed to familiarize First-Year and Direct Second-Year Mechanical Engineering students with academic life, extracurricular opportunities, and the values upheld by the department.

The function was filled with engaging performances, interactive sessions, and fun activities, making it an unforgettable experience for the freshers. Senior students shared their experiences and guided the newcomers on how to excel in academics and co-curricular activities.



INNOVATIVE APPROACHES

In our continuous effort to elevate the learning experience for students in the Department of Mechanical Engineering, we are excited to highlight some innovative educational tools and strategies that are transforming how our students engage with their studies.



MOODLE LEARNING MANAGEMENT SYSTEMS (LMS)

We are leveraging platforms like Moodle to provide centralized access of study materials. Students can find lecture notes, video tutorials, and interactive assignments, Practical Tutorials all in one place, allowing for self-paced learning and fostering a collaborative environment.

A screenshot of a web application titled 'Academic Record Software'. At the top, it says 'Rayat Shishan Sanstha's Karmaveer Bhaurao Patil Polytechnic, Satara'. Below the title are several dropdown menus: '2024-25', 'Odd', 'Mechanical Engineering', and 'C'. At the bottom are 'Ok' and 'Close' buttons.

ATTENDANCE TRACKING WITH ACADEMIC RECORD SOFTWARE

Our Department has implemented Academic Record Software to automate attendance tracking and enhance student support through the Guardian Faculty Scheme. This tool allows faculty to monitor attendance, generate reports, and communicate effectively, ensuring timely intervention for students and fostering a supportive academic environment.



ONLINE QUIZZES AND ASSESSMENTS USING QUIZZIZ

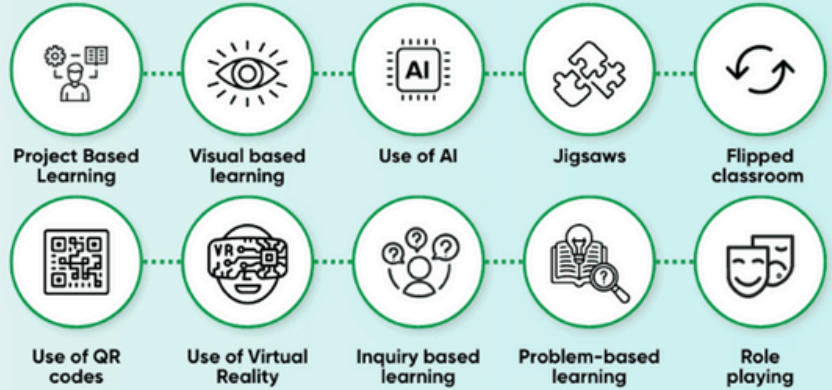
Engagement is key to effective learning, which is why we utilize tools such as Quizizz for online quizzes. These interactive assessments not only help reinforce understanding but also introduce an element of gamification that motivates students through friendly competition.

INNOVATIONS IN TEACHING AND LEARNING



Mr. Narendra Devi
(I/c Principal)
Karmaveer Bhaurao Patil
Polytechnic, Satara
M.E. Mechanical (Prod)

10 Innovative Teaching Methods



What is Innovative Teaching?

Before talking about innovative teaching methods, let me tell you what exactly innovative teaching means. Innovative teaching is student-centric teaching that tries to achieve active participation from students. These methods help students to develop critical thinking and problem-solving skills. It uses intelligent technologies such as AI, digital tools, and virtual reality.

It is also true that the latest technologies improve the learning process, but innovative teaching methods do not always mean using modern technologies. It is also about developing a collaborative and interactive learning environment.

As an educator, instead of only writing notes on the board and giving general information, you should focus on making your interactions with students more engaging and fun. Also, try to play with students' curiosities.

Need for Innovative Teaching Methods with Examples

Have you ever wondered why we need innovative teaching methods? What's wrong with the regular or traditional teaching practices?

Let's figure out.

Suppose there are 60 students in your class, each with different social and academic backgrounds. They also differ in learning styles, such as visual or auditory learners. It would be very tough for you to provide quality teaching while fulfilling everyone's demands. Innovative teaching methods can easily solve these kinds of problems.

You can use smartboards to provide visual and audio-based learning. Images, infographics, and videos will make the learning process highly engaging.

This is one of the reasons behind the need for innovative teaching methods.

On the other side business organizations are interested in something other than a degree but in the skill set candidates have. Skills like critical thinking, problem-solving, and collaboration have become almost mandatory for achieving the desired goals in the 21st century.

The problem is that traditional teaching methods do not fulfill the market's demands. You cannot help your students to win in this world by using old teaching approaches.

You need new and effective teaching methods to ignite students' curiosity and shape their personality. And that is why we need innovative teaching methods.

Biodiesel: A Sustainable Fuel Revolution



Mr. Sameer Shivaji Yewale
(Head of Department)

M.E. Heat Power Engineering

Department of Mechanical
Engineering



In a world increasingly concerned with environmental sustainability and the urgent need to reduce carbon emissions, biodiesel has emerged as a promising and eco-friendly alternative to traditional fossil fuels. Derived from renewable organic sources, biodiesel offers a cleaner and more sustainable option for powering vehicles and machinery. In this article, we will explore the world of biodiesel, covering its benefits, and its pivotal role towards a greener energy landscape.

The Production Process

Biodiesel is a type of biofuel crafted from organic materials, typically vegetable oils, animal fats, or recycled cooking grease. The production process, known as transesterification, involves a chemical reaction between these feedstocks, an alcohol (commonly methanol or ethanol), and a catalyst. This reaction yields biodiesel and glycerin. The resulting biodiesel can be blended with traditional diesel fuel or used as a standalone fuel source in compression-ignition (diesel) engines.

Biodiesel: A Sustainable Fuel Revolution

Environmental Advantages

Renewable Resource: Biodiesel feedstocks, including soybean oil, canola oil, and algae, can be grown and harvested annually. This renewability factor makes biodiesel a sustainable alternative to finite fossil fuels, which take millions of years to form.

Reduced Greenhouse Gas Emissions: One of the most significant advantages of biodiesel is its potential to mitigate greenhouse gas emissions. When burned, biodiesel releases fewer carbon dioxide (CO₂) and particulate matter emissions compared to conventional diesel fuel. Furthermore, since biodiesel derives from renewable sources, the carbon dioxide emitted during its combustion is offset by the carbon dioxide absorbed during the growth of the feedstock crops.

Improved Air Quality: Biodiesel combustion produces fewer harmful pollutants such as sulfur dioxide (SO₂), nitrogen oxides (NO_x), and carbon monoxide (CO).

Challenges and Future Prospects

While biodiesel offers numerous advantages, it faces challenges, notably competition between biodiesel feedstocks and food crops, which raises concerns about land use and food security. Additionally, ensuring a consistent and high-quality supply of feedstock can be challenging.

Conclusion

Biodiesel represents a significant stride towards reducing our dependence on fossil fuels and mitigating the environmental impact of transportation and industry. As research and innovation continue to expand the horizons of biodiesel, we can anticipate even greater contributions towards a cleaner and greener world.

ADAS Technology: Transforming the Way We Drive

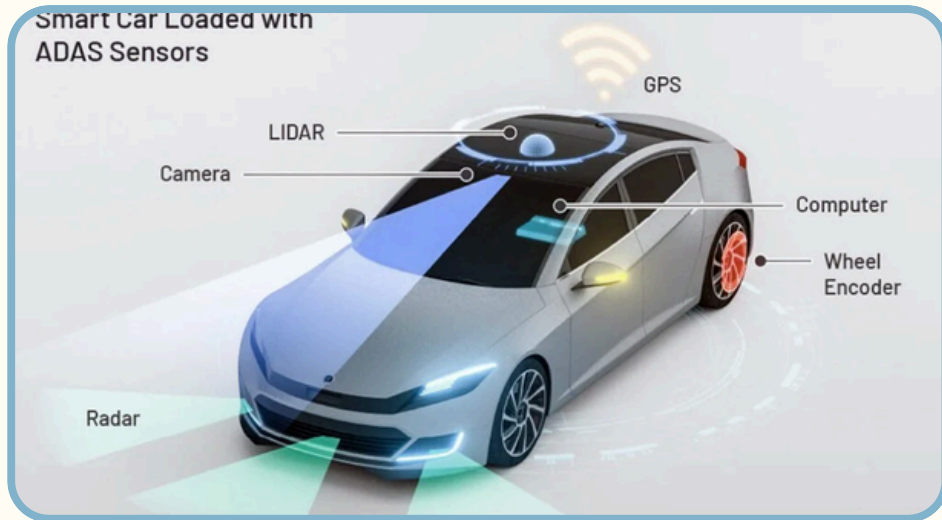


**Mr. Kishor Babanrao
Dhanawade**

(Workshop Superintendent)

M.E. Heat Power Engineering

Department of Mechanical
Engineering



Introduction

Advanced Driver Assistance Systems (ADAS) are revolutionizing the automotive industry by enhancing vehicle safety, improving driver convenience, and paving the way for autonomous driving. These innovative technologies are designed to assist drivers and reduce the likelihood of accidents by employing a combination of sensors, cameras, radar, and machine learning algorithms.

Enhanced Safety

ADAS technologies act as an extra pair of eyes and ears on the road. Features like adaptive cruise control, lane-keeping assistance, and automatic emergency braking help drivers maintain safe distances from other vehicles, stay within their lanes, and respond swiftly to potential collisions. This translates to a significant reduction in accidents and, subsequently, fewer injuries and fatalities on the road.

Improved Convenience

ADAS goes beyond safety; it also enhances the overall driving experience. Features like parking assistance, traffic sign recognition, and adaptive headlights simplify the driving process. Parking, especially in tight spaces, becomes effortless with automated steering, while traffic sign recognition ensures drivers are always aware of speed limits and other crucial information.



The Road to Autonomy

ADAS technology is a stepping stone towards fully autonomous vehicles. These systems collect vast amounts of data from sensors and cameras, which can be used to train machine learning algorithms. Over time, as the technology advances, vehicles will become increasingly capable of handling complex driving tasks without human intervention.

Challenges and Future Prospects

While ADAS technology offers numerous benefits, it also faces challenges. Ensuring that these systems work seamlessly in all weather conditions and under various scenarios remains a priority for manufacturers.

Conclusion

ADAS technology is transforming the way we drive, making our roads safer and driving more convenient. We can expect a future where accidents are a rarity, and vehicles are more efficient and capable of handling complex driving tasks autonomously. In essence, ADAS technology is driving us towards a safer and more convenient driving experience while paving the way for the self-driving cars of the future. In essence, ADAS technology is driving us towards a safer and more convenient driving experience while paving the way for the self-driving cars of the future.

The Importance of Environmental Literacy for the Next Generation



**Ms. Komal Haribhau
Sakhare**

**Lecturer (B. E. Mech)
Department of Mechanical
Engineering**



In a world where climate change, deforestation, pollution, and biodiversity loss are urgent challenges, it has become crucial to equip the next generation with the knowledge, skills, and attitudes necessary to tackle these global issues. One of the most powerful tools in fostering a sustainable future is environmental literacy—an understanding of how human activities impact the environment and how to make informed decisions that promote environmental health.

Defining Environmental Literacy

Environmental literacy is the ability to understand the interconnectedness of natural systems, the impact of human behavior on the environment, and the knowledge needed to make choices that benefit both society and the planet. It involves more than just knowledge about ecosystems and climate change—it's about fostering a sense of responsibility, ethics, and agency in future generations to create a sustainable world.

The Importance of Environmental Literacy for the Next Generation

Why Environmental Literacy Matters

1. Empowering Future Leaders

The future of our planet depends on how we educate the leaders, innovators, and policymakers of tomorrow. Environmental literacy gives young people the foundation they need to make informed decisions about the environment in their professional and personal lives. Whether they become scientists, educators, activists, or business leaders, the next generation must understand environmental challenges to create effective solutions.

2. Fostering Sustainability

Sustainability is not just a buzzword; it's a necessity for the survival of ecosystems, societies, and economies. An environmentally literate generation will be better equipped to develop and implement solutions that support sustainable development. Whether it's through developing renewable energy technologies, creating sustainable agricultural practices, or advocating for policies that protect natural resources, environmentally literate individuals can drive the change needed to build a sustainable world.

3. Addressing Climate Change

Perhaps the most pressing challenge of our time is climate change, and it requires a collective effort to mitigate its impacts. Environmental literacy is essential for understanding the science behind climate change and the strategies needed to reduce carbon footprints, mitigate greenhouse gas emissions, and adapt to the changing climate. By fostering environmental literacy at a young age, we are preparing the next generation to engage in meaningful climate action.

4. Promoting Behavior Change

Environmental literacy goes beyond understanding complex issues; it's about inspiring people to take action. By educating young people on environmental issues, they can adopt sustainable habits that will last a lifetime. Simple practices like reducing waste, recycling, conserving water, and using public transportation can make a significant difference if adopted on a large scale. When children grow up with an awareness of their environmental impact, they are more likely to continue these practices into adulthood.

Conclusion

Environmental literacy is more than just an academic subject—it's an essential skill set that prepares the next generation to face the challenges of an ever-changing world. By equipping young people with the knowledge, critical thinking skills, and values to address environmental issues, we empower them to take meaningful action in creating a more sustainable, resilient planet. In the fight against climate change, biodiversity loss, and pollution, environmental literacy is not just important—it's imperative. For the future of our planet, we must ensure that the next generation is both educated and inspired to build a better world for all.

BOX TRANSPORT MECHANISM



INTRODUCTION

Industrial automation are the mechanical engineering industry: The box transport mechanism has a simple mechanism, as it operated with a crank and links arrangement. As by the electric motor rotary motion is converted into the to and fromotion of the linkages, the linear motion is obtained by conversion of rotary motion by the use of cranks and mechanical linkages. If we take the fact that same work can be done by thread mill of other mechanisms which are used in large scale industries and factories but small scale industries will not be able to afford them so this box transport mechanism comes in handy. In the case of thread mill mechanism as it always in continues in motion so when a human involvement is introduced to it sometimes causes time delays which causes an effect on production process this problem can be solved by using box transport mechanism.

This invention relates to improvements in transfer and conveyer belt devices, and it relates particularly to devices for transferring cardboard boxes and other items. It can be used by many small-scale industries and in-house industries where conveyor system is not accessible. So a basic module of moving packages is designed with time delay which could be using to do alterations if required in the package or move the package for any other purpose. This product is to improve the transfer and carrying device and it is related to the moving the set of cardboard boxes from a box folding or forming machine to the operator of a wrapping the box by semiautomated machine. Many of the famous manufacturing industries wrapped cardboard sheets used for wrapping candies, confections and cakes, cosmetics and other articles.



Miss. Priyanka Prakash
Jadhav
Third Year Of Mechanical
Engineering
2024-25 Batch



Miss.Suhani Yashawant
Shinde
Third Year Of Mechanical
Engineering
2024-25 Batch

• WORKING PRINCIPLE

The project, as discussed, is the combination of two different mechanisms. One is Box Shifting Mechanism and the another one is Gearless Power Transmission Mechanism. The set up consists of similar Circular Plates with drilled holes at the Pitch Circle Diameter of 100mm. The two circular plates are then connected with the help of three Links. These three links are bent at an angle of 90° . There are two shafts connected to the two circular plates. These shafts can also be called as driver and driven shafts. The links and circular plates are connected to one side into the driver and the other in the driven shaft. Further, the driven shaft is extended towards the Crank of the Box Shifting Mechanism.

Box Shifting Mechanism consist of Linkage Mechanism which include Upper Structure, Couplers and connecting rods. Upper Structure is a very important component of this mechanism which will be used for the movement of boxes. Both of this Mechanisms are supported on the Base Structure. When the power is transmitted to the shaft, it starts rotating. This is a driver shaft which is already connected to the first circular plate. This circular plate starts rotating with the help of driver shaft. As we have stated earlier that the three bent links are connected to these two circular plates. So, because of this, the power transmission to the second circular plate becomes possible. While transmitting the power from one circular plate to another, the bent links starts reciprocating inside the drilled holes of these plates.

• Problem Statement

There has been a serious demand for mechanisms for movement Of packages in the industries right from the start. Though the continuous movement is important in the same field of assembly and packing etc. Manual handling of products can lead to increased labor cost, as workers may need to spend more time and effort to move products around. It can be challenging to track inventory levels, locations, and movements, leading to inventory management issues.

Technical Design

Process:- When the power is Transmitted through the Gearless Transmission Mechanism to driven shaft, because of the rotation of the Shaft, Crank connected to it also rotates. The rotary motion of the crank is transferred to the Couplers and then the power gets transmitted to the upper structure. This way the rotary motion gets converted into the linear motion. Now, because of this, the Upper Structure starts moving back and forth resulting into the linear movement of the boxes.

Application

- Medical Production: Can be used in medical production fields.
- Bottle Filling: Can be used in the bottle filling process
- Cold Drink Production: Can be used in cold drink production.
- Small-Scale Industries: Can be used in small-scale industries where conveyor systems are not available.

MSBTE Exam Winter 2024 Toppers

TYME



**Shinde Suhani
Yashwant**

81.81%



**Jadhav Priyanka
Prakash**

81.52%



Lakade Padmaja Balu

77.81%

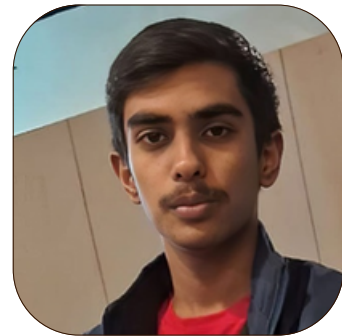
SYME



**Rathod Harshvardhan
Mohan**
79.34%



**Gaikwad Siddhant
Dipak**
76.11%



Bachal Varad Dnyanesh
70.89 %

PLACEMENT RECORD 2023-24



MULANI PALAK SHAFIUDDIN

ACG PAM Pharma
Technologies Pvt. Ltd



BHANDIRGE OMKAR BALASAHEB

Larsen & Toubro: L&T India



KALE SANKET RAJENDRA

ACG PAM Pharma
Technologies Pvt. Ltd



DHANAWADE VEDANT SANDIP

ACG PAM Pharma
Technologies Pvt. Ltd



MUJAWAR SAIED RIYAJ

ACG PAM Pharma
Technologies Pvt. Ltd

MSBTE RATING

ACADEMIC YEAR	MSBTE Departmental Rating	
2011-12	Excellent	★ ★ ★ ★ ★
2012-13	Excellent	★ ★ ★ ★ ★
2013-14	Excellent	★ ★ ★ ★ ★
2014-15	Very good	★ ★ ★ ★ ☆
2015-16	Very good	★ ★ ★ ★ ☆
2016-17	Very good	★ ★ ★ ★ ☆
2017-18	Excellent	★ ★ ★ ★ ★
2018-19	Excellent	★ ★ ★ ★ ★
2019-20	Very good	★ ★ ★ ★ ☆
2021-22	Very good	★ ★ ★ ★ ☆
2022-23	Excellent	★ ★ ★ ★ ★
2023-24	Excellent	★ ★ ★ ★ ★

**Official Newsletter of
Department of Mechanical engineering**



**THANK
YOU**

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