

YANTRADNYA

NEWSLETTER ●

JUNE 25

● ISSUE 16

THE NEWSLETTER OF DEPARTMENT OF MECHANICAL ENGINEERING



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MECHANICAL DEPARTMENT



ABOUT US...

MECHANICAL ENGINEERING IS ONE OF THE BASIC & MOST DIVERSE AND ENGINEERING BRANCHES THAT TOUCHES VIRTUALLY EVERY ASPECT OF MODERN LIFE, INCLUDING THE HUMAN BODY & HIGHLY COMPLEX MACHINES, THE ROLE OF A MECHANICAL ENGINEER IS TO TAKE A PRODUCT FROM AN IDEA TO THE MARKETPLACE. MECHANICAL ENGINEERS PLAY KEY ROLES IN A WIDE RANGE OF INDUSTRIES INCLUDING AUTOMOTIVE, AEROSPACE, BIOTECHNOLOGY, COMPUTERS, ELECTRONICS, ROBOTICS & AUTOMATION, MICROELECTROMECHANICAL SYSTEMS, ENERGY CONVERSION, AND MANUFACTURING. THE MECHANICAL ENGINEERING DEPARTMENT IS ONE OF THE FINEST AND BIGGEST DEPARTMENTS OF THE INSTITUTE ESTABLISHED IN 2006 WITH THE PRESENT INTAKE OF 120 STUDENTS FOR THE UG PROGRAMME. THE DEPARTMENT IS VERY WELL EQUIPPED WITH WORKSHOPS, LABORATORIES, DEPARTMENTAL LIBRARY, AND DIGITAL LIBRARY FACILITIES. THE CLASSROOMS ARE WELL-DESIGNED ROOMS THAT INCORPORATE EVERYTHING NEEDED FOR A PLEASANT LEARNING ATMOSPHERE. IT PERSISTENTLY SEEKS AND ADOPTS INNOVATIVE METHODS TO IMPROVE THE QUALITY OF EDUCATION CONSISTENTLY. QUALIFIED AND EXPERIENCED FACULTIES ARE STRONGLY ENCOURAGED TO NURTURE THE STUDENTS. REALIZING THE IMPORTANCE OF LEARNING BEYOND CLASSROOMS, THE DEPARTMENT ENCOURAGES STUDENTS TO INDULGE IN CO-CURRICULAR ACTIVITIES. THE DEPARTMENT HAS ESTABLISHED STUDENT CHAPTERS IN ASSOCIATION WITH INTERNATIONAL & NATIONAL PROFESSIONAL BODIES LIKE SAEINDIA, ISHRAE, ASHRAE, ISTE, QCFI, ETC.

VISION

To aspire for the welfare of society through excellence in Science and Technology.

MISSION

To develop professional skills through student centric activities and the industry interactions.

To prepare students for higher education, research and innovation.

To make globally competent and socially committed Mechanical Engineers with morals and ethical values.

FROM HOD'S DESK



Dr. V. R. Deulgaonkar
Professor and Head

Welcome to the Department of Mechanical Engineering of Marathwada Mitra Mandal's College of Engineering Karvenagar, Pune. We started our journey in the year of 2006. Over the last fifteen years, we have grown our expertise & competence in the core Mechanical Engineering curriculum.

The primary focus of our curriculum is to impart technical know-how to students, promote their problem-solving skills & innovate new technologies. The students are encouraged to undertake various research projects.

We have state-of-the-art research facilities in the constitution with industry to support our academic programs. Our department has a distinguished record in both teaching & research. Faculty members have excellent academic credentials & are highly regarded. Our department looks forward to contributing to solving the technological challenges of society with active participation from all sections of society.

The goal of this newsletter is to keep you updated with developments in the Mechanical Engineering Department of MMCOE. This department is continuously transforming. New initiatives have been launched related to academics, student affairs, research, and extra curricular activities.

The students & faculty members of the department are sincerely participating in various activities organized at the institute or other places. It is elevating to see the sound performance of students. I offer best wishes for future activities. At last, I thank the editors of YANTRADNYA for their sincere efforts & I offer my best wishes to the readers of this newsletter.



EDITORIAL



Dr. Swanand Kirpekar

It brings me immense joy & pleasure to introduce the thirteenth edition of the departmental newsletter 'YANTRADNYA'. All the creative energies that came into this

platform in the form of faculty experts & students is finally presenting a replica of their enthusiastic hard work through this extravaganza that has come out so organically.

Technical & Arts every section shines out differently in its true sense. All the events conducted throughout the year were perfectly planned & executed & the overwhelming response it received said it all! This piece of art would not have been complete without the sheer determination & perseverance of all the students who pushed their limits every time to bring out this artistic reality. Their efforts coupled with immense support from the faculties truly have done justice to carry on the legacy. I am grateful for all the support YANTRADNYA has received throughout the year in every possible way from the faculties & Students. I hope the readers of the newsletter have a wonderful reading experience & wish this year's edition to receive your love & support like it has always received to date.



There is no denying that one day my memory of words will turn vague but every page of this newsletter will open a box of memory so vivid! Filled with hard work, dedication & limitless time put in making this one book that I will always be grateful to "YANTRADNYA" will make you fall

in love with drawings again! It gives me immense pleasure to bring to you an extraordinary & masterly collection of the events, activities, achievements, and highlights at the college presented in the 11th Annual departmental newsletter "YANTRADNYA- 2024" Issue 15



Chirag Jain
Content Editor

The newsletter reflects the identity of MMCOE as well as gives the students & teachers a platform to explore their creativity & imagination. This work is a result of the various phases from planning to data collection to segregation to organization to proofreading to designing. I take this opportunity to express my gratitude to our HOD Dr.V.R.Deulgaonker professor & head & Mrs. Mayuri P. Rode for their constant assistance & guidance. My sincerest thanks to all the captains, heads, mentors & teams without whom this newsletter would have just been a dream. Last but the most least, you, the readers, YANTRADNYA would not have been what it is today without you. So, as you turn through the pages, I hope you like the curation of emotions, fervor, faith, ideas & aspirations expressed in words.



Program Educational Objectives

PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)

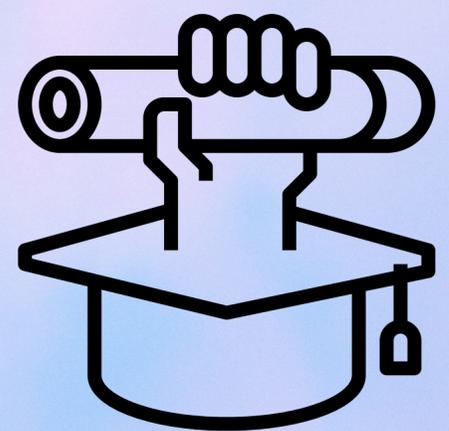
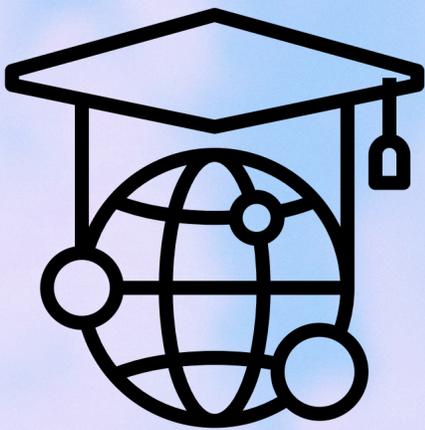
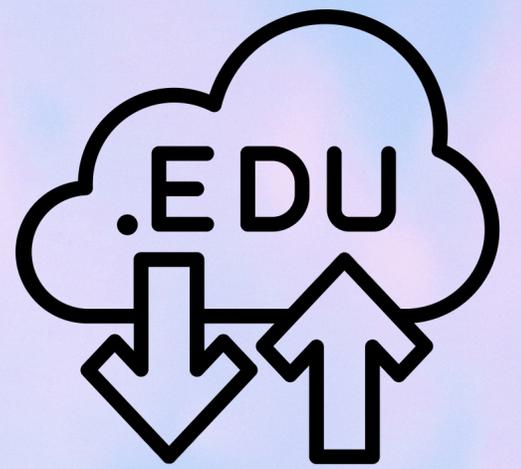
Graduates from our department will

- studies, research & industries.
- Become competent engineers for successful careers in higher
- Acquire knowledge-based skills to solve problems in mechanical engineering & related fields.
- Achieve professional ethics & managerial skills.
- Respond to the growing demands of society through lifelong learning and extension.

ACTIVITIES FOR HIGHER STUDY

- Ketankumar Patil gave an expert session on “How to Prepare for Competitive Exams: UPSC and MPSC in association with UNIQUE ACADEMY Pune.
- Global Connect Cell Seminar on Abroad Applications, by Pranav Kulkarni, for all branches along with BE Mechanical Students





INDICATION PROGRAM

- The Mechanical Engineering Department organised an FE induction program for FE mechanical students.
- The Mechanical Engineering Department organised an SE welcome function for SE mechanical students.
- Per the Savitribai Phule Pune University, Pune notification dated, we are celebrating the “National Education Policy Week” from to. Given this, we need to disseminate information about NEP 2020 to our stakeholders.
- Admission Campaign at DSK School for Parents, Teachers, and Students.

FOR FACULTY

- Prof.S.S.Kirpekar Published an ordinary patent on “Innovative temperature control system inside vehicle” Application No- 202321039765. Dated –
- Dr.V.W.Bhatkar for Nomination as IEC zonal chair at ISHARE HQ Level
- Dr.V.W.Bhatka has been selected as a member of the ISHRAE EDUCATION COMMITTEE for the West Region.
- Dr. V.W.Bhatka's project proposal was sanctioned by ASHRAE USA for \$4800.Four students are working on this project.

WORKSHOP ORGANISED BY THE DEPARTMENT

- One week FDP on “Recent trends in Heating Ventilation Air conditioning and Refrigeration” from 26-12-24 to 30-12-2024





TECHNICAL EVENTS

Sr. No.	Name of Professional Societies / chapters	Title of Event Organized	Date
1	Mechanical Department (Dexterity)	Mech-Mind Cad WarShark Tank	05/10/ 2024
2	MESA	Alumni Interaction	07/07/2024



ADD ON MODULES

- Skill Development Program on GD&T for TE Students by Mr.Suraj Kad, in association with Plastic Omnium Pune, from
- Skill Development Program on Solid Works for TE students by Mr. Anand Bhise (Director, Mechatol Product Engineering Solutions Pvt. Ltd.) .
- Skill Development Program on Hands-on Training on MD Solids 4.0
- Skill Development program on Python and machine learning in association with AI ventures, Pune.



FACULTY PUBLICATIONS

- Dr. Deulgaonkar V.R., Failure Analysis of Industrial Screw Conveyors, Journal of Failure Analysis and Prevention, 06/203.<https://doi.org/10.1007/s11668-023-01719-3>
- Dr. Swapnil Lahane, Evaluation, and ranking of solutions to overcome the barriers of Industry 4.0 enabled sustainable food supply chain adoption, Journal of Cleaner Logistics and Supply Chain, Volume 8, September 2023, 100116, July 2023, <https://doi.org/10.1016/j.clscn.2023.100116>

Sr. No.	Name of Faculty	Name of Journal/ Conference	Title of paper
1	Dr. A. S. Suryawanshi	Material science and engineering technology	Prediction of coefficient of friction of solid powder lubricants under high pressure conditions using machine learning algorithms
2	A. G. Nimbalkar, Dr. R. S. Yadav	Journal of Advance Research in Fluid Mechanics and Thermal Engineering	A Comprehensive Evaluation of Recent Studies Investigating Nanofluids Utilization in Heat Exchangers
3	Dr. R. S. Yadav, A. G. Nimbalkar	Journal of Advance Research in Fluid Mechanics and Thermal Engineering	Predictive Placement of IC Chips using ANN-GA Approach for Efficient Thermal Cooling
4	Dr. Swapnil Lahane, Dr. Vikas Deulgaonkar, Mr. Nishant Sukalkar	Pragyata 2024-Green Initiatives and Sustainable Development in India	Analysing the Indicators to Circular Economy adoption: A Case of an Indian Manufacturing Industry
5	Dr. A. S. Suryawanshi	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering	Prediction of friction stir welding performances of dissimilar AA3003-H12 and C12200-H01 using machine learning algorithms



6	Amit D. Desale	Int. J. Vehicle Structures & Systems	Influence of Split Angle on Split Washer Performance: Numerical Analysis
7	Dr. R. S. Yadav, Dr. S. S. Kirpekar	Journal of Advance Research in Fluid Mechanics and Thermal Engineering	Investigating the Effect of Heat Transfer Influenced by the Application of Wavy Corrugated Twisted Tape Inserts in Double Pipe Heat Exchangers
8	Dr. R. S. Yadav, Dr. S. S. Kirpekar	Journal of Mines, Metals and Fuels	A Comprehensive Review of Electronic Cooling Technologies in Harsh Field Environments: Obstacles, Progress, and Prospects
9	Dr. P. S. Purandare	Journal of Advanced research in Numerical Heat Transfer	Computational Study on Thermal Management of IC Chips with Phase Change Materials
10	Dr. S. S. Kirpekar, Dr. R. S. Yadav, Mr. S. S. Patil, Mr. N. R. Sukalkar, Mr. A. D. Desale	International Journal of Vehicle Structures and Systems	Experimental Thermal Analysis of Temperature Rise inside the Vehicle with and without I-Cool Materials
11	Dr. R. S. Yadav, Dr. S. S. Kirpekar, Mr. A. G. Nimbalkar	International Journal of Vehicle Structures and Systems	Effect of Transformed - Induced Plasticity Steel Plate Thickness on Ultimate Tensile Strength of Butt Welded Joint using Nd:YAG Laser



12	Ms. Asma Parkar, Dr. R.S. Yadav	Journal of Mines, Metals and Fuels	Automating the Two-Dimensional Design of Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) Ducts using Computer Programming Language: An Algorithmic Approach Jump To References Section
13	Dr. R. S. Yadav, Dr. S. S. Kirpekar, Mr. S. S. Patil, Mr. D. M. Pawar,	Journal of Mines, Metals and Fuels	Influence of Plate Thickness on the Mechanical Behaviour of Mild Steel Curved Plates: An Experimental Study
14	Dr. K.R. Patil	Case Studies in Thermal Engineering	Performance evaluation of a lightweight acrylic flat plate collector with natural flow integration in a hybrid photovoltaic-thermal (PVT)system
15	Hemant C. Pisal, Dr. Vikas R. Deulgaonkar, Dr. Pradip K. Tamkhade, Amit D. Desale, Rahul U. Patil, Santosh S. Raut	International Journal of Vehicle Structures and Systems	A review on Vapour Absorption Refrigeration System and Nanofluids: Recent research, development, and applications
16	Dr. Vikas Deulgaonkar	African Journal of Applied Research	Investigation of Optimum Geometry for Robotics Torque Sensor
17	Dr. P.S.Purandare, Dr. R. S. Yadav, Dr. S. S. Kirpekar	Journal of Mines, Metals and Fuels	Comprehensive study of Helical Coil, Spiral Coil and Conical coil (O OC) Heat Exchanger for single phase Fluid Flow



DEXTERITY EVENT

Dexterity 2K24-25 is a national-level technical event that provides a platform for students to showcase their technical skills. This Year, the Mechanical Engineering department organized three events under “Dexterity 2K24-25” on 15th October 2024.

The events hosted by the Mechanical Engineering department are:

1. Mech Mind
2. CAD War
3. Shark Tank

In the Mech Mind event, students were given some raw metamaterials and assigned a task to create a hydraulic or Pneumatic-powered mechanism. In this event, 53 Students participated and made the working model. The event was coordinated by Prof. Amit Desale and Prof. Pradip Bhambure with 02 student coordinators.





In the CAD war event for the first round, a detailed 2D sketch was provided to the participants and the task was to prepare the Part drawing and the Assembly of every element. In the second round, the sketch consisted of multiple parts, and the task was to prepare the part drawing as well as make the assembly of the available components. 22 students participated in this event. The event was coordinated by Prof. Martand Pandagale and Prof. Santosh Raut with 02 student coordinators. The judge for this event was Mr. Manoj Potdar (Owner of M CAD Solutions).



At the Shark Tank event, students were required to present a business idea. In this event, 26 students participated and presented their business ideas, including their designs, manufacturing processes, customer requirements, sales strategies, and post-sales services. The event was coordinated by Prof. Swanand Kirpekar and Dr Manoj Joshi with 02 student coordinators. For the presentation, the judge was Mr Darshan Shaha (Zen Engineering Solution)





Name of Activity: Tree Plantation

Day and Date of Activity: Sunday, 07/07/2024

Venue: Smriti Van, Ram Nagar, Warje, Pune, 411058.

Mechanical Engineering Students Association (MESA) participated in the Tree Plantation activity, which is organized by Johnson Plastosonic Pvt. Ltd. Shivane and the Maharashtra State Forest Department. Sapling for the tree plantation is provided by Johnson Plastosonic Pvt. Ltd. Shivane and the Maharashtra State Forest Department.

The event started with apprising students on the benefits of planting trees, such as reducing air pollution, conserving water, and preventing soil erosion. Then, the students, along with the teachers, industry persons and the Maharashtra State Forest officer proceeded to plant saplings in the Smriti Van, Ram Nagar, Warje, Pune, 411058 premises. The saplings were of various species, including Neem, Banyan, Peepal, etc., which are known for their high oxygen production and environmental benefits. They were also taught how to take care of the plants, and were encouraged to visit the site regularly to monitor their growth and development.

The tree plantation drive was conducted with great success, and it helped create awareness among students about the importance of trees for the environment. It also encouraged them to actively participate in such events and take steps towards a greener future. The MESA and Johnson Plastosonic Pvt. Ltd. Shivane and the Maharashtra State Forest Department plans to organize more such events in the future, to create a sustainable and eco-friendly environment. Tree Plantation Activity is coordinated by Mr. Kishor Sambhaji Mohalkar and Team, Mr. Galinde Sir, Forest officer, Mr. Ajitkumar Nimbalkar, and Mr. Sachinn Patilil.





Tree Planation Activity: Director of Johnson Plastosonic Pvt. Ltd. Shivane and team



Tree Plantation Activity: Director of Johnson Plastosonic Pvt. Ltd. Shivane and Team MESA MMCOE, Karvenagar, Pune.





Tree Planation Activity: Mr. Galinde Sir Forest officer, Government of Maharashtra and Team MESA MMCOE, Karvenagar, Pune.



Tree Planation Activity: Director of Johnson Plastosonic Pvt. Ltd. Shivane and Team MESA MMCOE, Karvenagar, Pune.

Mr. A. G. Nimbalkar
MESA Co-Coordinator
Department of Mech. Engg.

Dr. P. K. Tamkhade
MESA Coordinator
Department of Mech. Engg.

Dr. V. R. Deulgaonkar
Professor and Head
Department of Mech. Engg.





GUEST LECTURES

• Content Beyond Syllabus

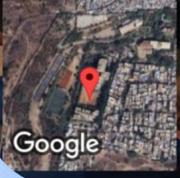
Sr. No.	Date	Class	Subject	Topic	Faculty Coordinator	Resource person details (Name, designation, organization, contact details)	No. of students attended the lecture
1	22-08-2024	TE	Design of Machine Elements	Applications of Machine Design in New Product Development	Dr.V. R. Deulgaonkar & Mr. D. M. Pawar	Mr. Rohan R. Prabhu, New Product Development Engineer, Knorr-Bremse, Pune	83
2	29-08-2024	SE	Solid Mechanics	Strain Measurement- the critical role in Engineering Design	Dr. P. V. Bansod & Mr. N. R. Sukalkar	Mr.Sathyaprakash, Chief Technical Officer, Mahesh Software Systems Pvt. Ltd, Pune	78
3	19-09-2024	BE	Dynamics of Machinery	Noise Source Characterization	Dr. A. S. Suryawanshi & Mr. R. U. Patil	Dr. Paresh Shrivage, Director, Alfa Acoustics, Pune	56
4	26/09/2024	TE	Heat & Mass Transfer	Recent Developments in Heat Exchangers	Dr. P. K. Tamkhade & Dr. K. R. Patil	Mr. Anil Shinde, Design and Technical Head, Technocrat Solutions, Pune	65
5	01/10/2024	SE	Electrical & Electronic Engineering	Embedded System and Their Applications	Ms. A. B. Parkar & Dr. S. S. Kirpekar	Mr. Rahul Shimpy Senior Embedded Engineer, SECURE THINGS.AI, Pune	80
6	17/10/2024	TE	Numerical and Statistical Methods	Use of MATLAB, Simulink, Simulink Test Toolbox, and Model-Baesd Development Engineering.	Mr. S. S. Raut & Dr. R. S. Yadav	Mrs. Suvarna Dixit, Senior Design Engineer at CADD Pvt Ltd, Pune	66
7	21/10/2024	TE	Mechatronics	Recent Trends in Industrial Automation.	Dr. S. S. Joshi & Mr. A. G. Nimbalkar	Mr. Chittaranjan Pramod Mahajan, Director, Dolphin Labs Embedded Systems (OPC) Pvt Ltd, Pune, Maharashtra.	79
8	24/10/2024	SE	Engineering Materials & Metallurgy	Recent Advancements in Engineering Metallurgy and Alloy Design	Dr. Manoj Joshi & Mr. Santosh Kedari	Dr. Ganesh S. Lohar, Lab Manager, Fluid Controls Pvt. Ltd. Pune.	102



• Curriculum Delivery:

Sr.No.	Date	Class	Subject	Topic	Faculty Coordinator	Resource person details (Name, designation, organization,contact details)	No. of students attended thelecture
1	27-08-2024	BE	Product Design and Development	Product life cycle management and product deliverable	Mr. S. S. Patil	Mr. Prasad Ramesh Patil, Product Manager, Air Product India Pvt. Ltd., Pune	66
2	04/10/2024	BE	Industrial Engineering	Product Life Cycle Management	Dr. A. S. Suryawanshi & Mr. A. D. Desale	Mr. Sandeep Kadam, Deputy Vice President, Tata Technologies, Pune.	56
3	18/10/2024	TE	Machining Science & Technology	Recent Trends in Manufacturing Science & Technology	Dr. S. S. Lahane	Mr. Vinayak Shinde, Proprietor, Stalwart Technology, Pune	60
4	17/10/2024	SE	Engineering Thermodynamics	Fuels and Combustion in Boiler Process Industries	Dr. V. W. Bhatkar & Dr. P. S. Purandare	Mr. Mukund Ranade, Ex. Research and Development Manager, Thermax India Limited, Pune	66
5	22/10/2024	BE	HVAC&R	Heat Load Calculations	Dr. R. N. Todkar & Mr. M. D. Bhambure	Mr. Mukund Ranade, Ex. Research and Development Manager, Thermax India Limited, Pune	74





Pune, Maharashtra, India
 18, Vadar Vasti Rd, Dhanashree Colony, Karve Nagar, Pune, Maharashtra 411052, India
 Lat 18.490393°
 Long 73.80914°
 19/09/24 03:06 PM GMT +05:30

GPS Map Camera



Pune, Maharashtra, India
 18, Vadar Vasti Rd, Dhanashree Colony, Karve Nagar, Pune, Maharashtra 411052, India
 Lat 18.490427°
 Long 73.809094°
 01/10/24 10:06 AM GMT +05:30

GPS Map Camera



Pune, MH, India
 Vadar Vasti Road, Karve Nagar, Pune, 411052, MH, India
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 Note : Captured by GPS Map Camera

GPS Map Camera



Pune, Maharashtra, India
 18, Vadar Vasti Rd, Dhanashree Colony, Karve Nagar, Pune, Maharashtra 411052, India
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 Long 73.809105°
 27/08/24 10:14 AM GMT +05:30

GPS Map Camera



MECHANICAL DEPARTMENT



STUDENTS ACHIEVEMENTS

Sr.No.	Name Of Student	Achievement Details
1	Atharva Agre, Piyush Gaike and Ujjwal Ahire	ISHRAE research funding
2	Mr. Omkar Nikam,	Secured second place in quiz competition organised by ASHRAE held at MKSSS's Cummins College of Engineering with cash price of 1500/-.
3	Mr. Amit Lad	Securing 10th rank in SE Mechanical Savitribai Phule Pune University Examination .
4	Mr. Devashish Chavan	Secured 10th rank in SE Mechanical Savitribai Phule Pune University Examination .
5	Mr. Abhishek Panaskar	Secured 8th rank in SE Mechanical Savitribai Phule Pune University Examination.



TECHNICAL REPORT

SN	Name of staff	Title of patent	Application ID	Status	Year	Indian/ International	Proof
1	Dr. Rahul Yadav, Dr. Swanand Kirpekar Dr. K. R. Patil	AIR QUALITY MONITORING AND PURIFICATION DEVICE	202421000000	Published	2024-25	Indian	https://drive.google.com/file/d/113taROmXZIO3eulnMpUBOKC124XrYrHA/view?usp=drive_link
2	Dr. Swanand Kirpekar Dr. K. R. Patil	HELMET DETECTION SYSTEM FOR HUMAN SAFETY	202521000000	Published	2024-25	Indian	https://drive.google.com/file/d/1LTvkF-5d_7eeoqwAtk7-kk52YIAVE9Tt/view?usp=drive_link
3	Dr. Swanand Kirpekar Dr. K. R. Patil	ALCOHOL DETECTION SYSTEM INTEGRATED WITH AN ENGINE LOCKING MECHANISM	202521000000	Published	2024-25	Indian	https://drive.google.com/file/d/1yAjeTMnHjlarNp6U_rw2SV0I8BudFrqY/view?usp=drive_link
4	Dr. Swapnil Lahane	Development of a Firefighting Humanoid Robot for Defence Applications	202541031164 A	Published	2024-25	Indian	Development of a Firefighting Humanoid Robot for Defence Applications
5	Dr. Swapnil Lahane	IoT-Based Real-Time Monitoring and Control System for Electric Vehicle Charging Stations	202441095577 A	Published	2024-25	Indian	IOT-BASED REAL-TIME MONITORING AND CONTROL SYSTEM FOR ELECTRIC VEHICLE CHARGING

(12) PATENT APPLICATION PUBLICATION (21) Application No.202421069226 A
 (19) INDIA
 (22) Date of filing of Application :13/09/2024 (43) Publication Date : 25/10/2024

(54) Title of the invention : AIR QUALITY MONITORING AND PURIFICATION DEVICE

<p>(51) International classification :F24F3/16, F24F8/10, F24F11/39, B01D46/00, B01D46/44, F24F11/52</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune ----- Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)VAIBHAV PRAMOD BABREKAR Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune ----- 2)ARNAV ATUL THIGALE Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune ----- 3)ROHINI RAMESH SAHINI Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune ----- 4)RAHUL SHIVAJI YADAV Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune ----- 5)SWANAND SUDHAKAR KIRPEKAR Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune ----- 6)KRISHNRAO RAJARAM PATIL Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----</p>
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(57) Abstract :
 The present invention is related the said air quality monitoring and air purification device comprises of Arduino UNO circuit (1), OLED display panel (2), Suction fan (3), Surgical cotton filter (4), Sponge filter (5), HEPA filter (6), Detachable metal casing (7) and Sensor Unit (8). The sensor unit (8) initially detects the air quality index (AQI) and displays it on OLED display panel (2) and based on the value of AQI it is decided by the system whether the purification of air is necessary or not. the said air quality monitoring and air purification device is cost- effective, user friendly and has application in hospitals, clinics, laboratories and at home as well. The said device is highly beneficial to the asthmatic patients. Refer Fig. 1

No. of Pages : 18 No. of Claims : 7

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202521032887 A

(19) INDIA

(22) Date of filing of Application :03/04/2025

(43) Publication Date : 18/04/2025

(54) Title of the invention : HELMET DETECTION SYSTEM FOR HUMAN SAFETY

(51) International classification :A42B0003040000, G01N0015140000, G01N0021640000, G01N0015143300, G01N0033543000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :
1)MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
 Name of Applicant : NA
 Address of Applicant : NA

(72)Name of Inventor :
1)AGASHE GOURAJA RAHUL
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
2)BHANOSE ISHITA VINAY
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
3)DESHPANDE SHAUNAK SANDEEP
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
4)CHOUGULE POORVA RAVINDRA
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
5)GADEKAR TUSHAR DADASAHEB
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
6)Dr. SWANAND SUDHAKAR KIRPEKAR
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
7)DR. KRISHNRAO RAJARAM PATIL
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----

(57) Abstract :
 ABSTRACT HELMET DETECTION SYSTEM FOR HUMAN SAFETY The present invention is related to the helmet detector system for human safety comprising of an image capturing and processing unit (103), a notification module (106) and an ignition control unit (109) that are integrated with each other for detecting if the rider is wearing a helmet. The Image capturing and processing unit (103) captures images of a rider and the Data Processing section, which is operatively coupled to the image capturing unit (109), processes the captured images and detects if the rider is wearing a helmet.

Two Wheeler 101

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202521044577 A

(19) INDIA

(22) Date of filing of Application :08/05/2025

(43) Publication Date : 30/05/2025

(54) Title of the invention : ALCOHOL DETECTION SYSTEM INTEGRATED WITH AN ENGINE LOCKING MECHANISM

(51) International classification :B60K0028060000, G01N0033497000, A61B0005080000, A61B0005000000, G01N0033980000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

(71)Name of Applicant :
1)MARATHWADA MITRAMANDAL'S COLLEGE OF ENGINEERING
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
 Name of Applicant : NA
 Address of Applicant : NA

(72)Name of Inventor :
1)KUSHAL JEEVAN DERE
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
2)PRADNYESH VINAYAK GADRE
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
3)VIRAJ VHANKATESH MODAK
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
4)PANKAJ POPATRAO YENARE
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
5)DR. SWANAND SUDHAKAR KIRPEKAR
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
6)KALPANA NARAYAN HANDORE
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
7)VAISHALI NILKANTH PATIL
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
8)JALKA SUNIL SAWAIKAR
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
9)DR. KRISHNRAO RAJARAM PATIL
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----
10)SWATI NARESH DESHMUKH
 Address of Applicant :SURVEY NO. 18, PLOT NO 5/3, NEAR VANDEVI TEMPLE, KARVENAGAR, PUNE, 411052 Pune -----

(57) Abstract :
 ABSTRACT ALCOHOL DETECTION SYSTEM INTEGRATED WITH AN ENGINE LOCKING MECHANISM The present invention is related to an Alcohol Detection and Engine Locking System that uses the MQ-135 gas sensor to read the alcohol content in the driver's breath. It contributes to road safety in the sense that it automatically eliminates intoxicated people from driving. When the alcohol concentration present within the breath sample exceeds a defined tolerance value, a microcontroller activates a motorically locked mechanism to immobilize a car's engine. Thus, this system aims to significantly eliminate drunk driving incidents on highways and roads by reliable in-real-time intervention. Refer Fig 1

