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# Department of Mechanical Engineering

## MECHAZINE

*Bi Annual Bulletin*

### Editors:

**Prof. Rushikesh M. Rasal**  
(Assistant Professor, Mechanical Engineering)

**Prof. Mandar S. Padhye**  
(Assistant Professor, Mechanical Engineering)

**A Project by- Finolex**

# Team Mechanical

## Faculty Members



❁ Dr. Kaushal K. Prasad	(Principal)
❁ Dr. Milind S. Kirkire	(Professor, Dean Academics and HoD)
❁ Dr. Shashikant S. Goilkar	(Professor, Dean, R & D)
❁ Dr. Milind S. Yadav	(Professor)
❁ Mr. V. MuraliMohan	(Associate Professor)
❁ Mr. Vikram S. Chougule	(Associate Professor)
❁ Mr. Sachin S. Mestry	(Assistant Professor)
❁ Mr. Vidyasheel S. Bagade	(Assistant Professor)
❁ Mrs. Gayatri J. Abhyankar	(Assistant Professor)
❁ Mrs. Abhilasha S. Jadhav	(Assistant Professor)
❁ Mr. Sumit S. Malusare	(Assistant Professor)
❁ Mr. Harshal R. Salvi	(Assistant Professor)
❁ Mr. Hemant V. Chavan	(Assistant Professor)
❁ Mr. Amar S. Yekane	(Assistant Professor)
❁ Mr. Jayesh S. Anavkar	(Assistant Professor)
❁ Mr. Mahadev L. Naik	(Assistant Professor)
❁ Mr. Shodhan U. Mayekar	(Assistant Professor)
❁ Dr. Tarang R. Shinde	(Associate Professor)
❁ Mr. Vikram V. Nagale	(Assistant Professor)
❁ Mr. Sachin S. Gurav	(Assistant Professor)
❁ Mr. Prabodh B. Horambe	(Assistant Professor)
❁ Mr. Rushikesh M. Rasal	(Assistant Professor)
❁ Mr. Abhijit M. Date	(Assistant Professor)
❁ Mr. Pratik R. Kamble	(Assistant Professor)
❁ Mr. Mandar S. Padhye	(Assistant Professor)
❁ Priyanka A. Date	(Assistant Professor)

## Staff Members

- ❁ Mr. R. V. Utekar
- ❁ Mr. A. V. Nhivekar
- ❁ Mr. A. A. Lingayat
- ❁ Mr. V. V. Lohar
- ❁ Mr. D. Y. Mestry

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# VISION

- ⚙️ To become a center of quality education by developing competent engineers who can address challenges in the field of mechanical engineering.

# MISSION

- ⚙️ To establish state of the art facilities in department enabling effective training of students and creating research environment
- ⚙️ Evolve competent technical professionals through effective delivery of curriculum and contents beyond, which fulfil the needs of industry and society.
- ⚙️ To inculcate sense of social responsibility and human values amongst the students.

# PROGRAM SPECIFIC OUTCOMES

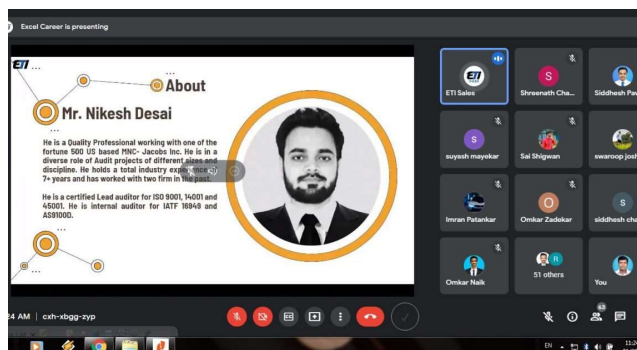
- ⚙️ Students will be able to investigate problems in the fields of design, thermal and manufacturing processes through application of statistical techniques
- ⚙️ Students will be able to provide computer-based automation solutions to mechanical and allied industries.

# PROGRAM EDUCATIONAL OBJECTIVES

- ⚙️ To prepare the stakeholder to exhibit leadership qualities with demonstrable attributes in lifelong learning to contribute to the societal needs.
- ⚙️ To make ready the stake holder to pursue higher education for professional development
- ⚙️ To help the stakeholder to acquire the analytical and technical skills, knowledge, analytical ability attitude and behavior through the program
- ⚙️ To prepare the stakeholders with a sound foundation in the mathematical, scientific and engineering fundamentals
- ⚙️ To motivate the learner in the art of self-learning and to use modern tools for solving real life problems and also inculcate a professional and ethical attitude and good leadership qualities
- ⚙️ To prepare the stakeholder to be able to design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

# Programs Organized by department

## Webinar on Future Scope and Career Opportunities in Mechanical Industry



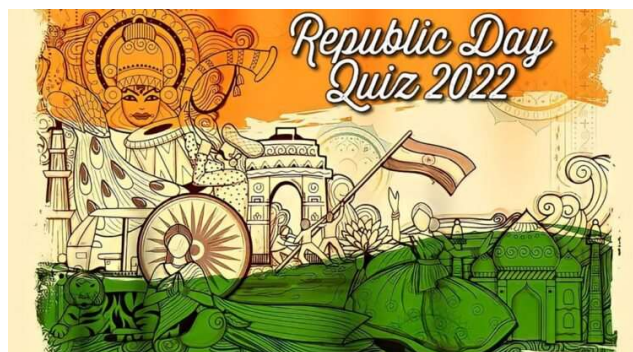
### Mr. Nikesh Desai Delivering online session

The Department of Mechanical Engineering of Finolex Academy of Management and Technology, Ratnagiri in association with ETI organized a career guidance Webinar on Future Scope & Career Opportunities in Mechanical Industry on 22nd January 2022 for the students of Final year Mechanical Engineering.

Experienced experts from multiple fields conducted the webinar. Mr Nikesh Desai, working as a Quality Manager at Jacobs Engineering, Mr Aatish Rane working at Max Aerospace, Prof. Prathamesh Sawant from Patvin Engineering delivered the webinar. The function began with the welcome and introduction of field experts by Prof. P. B. Horambe. Mr Nikesh Desai shared his experience with Quality Engineering in detail. Mr Aatish Rane inspired the students to enter the field of Aerospace Engineering with his in-depth guidance and live experiences. Prof. Prathamesh Sawant talked about Piping Industry in all aspects. The experts also guided the students about getting their first job, career abroad and guidelines about jobs in MNC's. The webinar concluded with a vote of thanks. 65 BE Mechanical students attended the webinar.

The program was organized under the guidance of Dr Kaushal Prasad, Principle FAMT, Dr. M. S. Kirkire, HoD Mechanical. Prof. M. L. Naik, Prof. P. B. Horambe and Prof. P. R. Kambale coordinated the webinar successfully.

## ISHRAE K12 Activity: Quiz on Republic Day Celebration



### ISHRAE K12 activity poster

ISHRAE FAMT Students Chapter has conducted Quiz on Republic Day using Google Form from 26 January to 28 January 2022. The quiz aimed to promote national integration and to make the students aware and feel proud of our country.

A total of 35 students participated in this quiz competition. In the end, certificates were given to each participating student. The program was coordinated by FAMT ISHRAE student members under the guidance of Prof. V S Bagade and Prof. S U Mayekar, Faculty Advisors, Dr M. S. Kirkire, Dean Academics and HoD Mechanical Department, Dr Kaushal Prasad, Principal.



# Programs Organized by department

## ISHRAE Activity: Virtual Industrial Visit to VOLTAS Beko



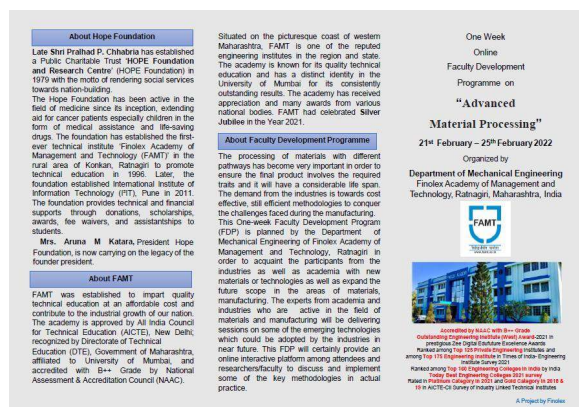
### Virtual Industrial Visit to VOLTAS Beko Poster

ISHRAE FAMT Students Chapter organized a Virtual Industrial Visit to VOLTAS Beko on 18th February 2022 for ISHRAE members. Voltas is a part of the Tata group which was founded in 1954. It is India's most trusted and largest air conditioning brand. Beko is an international home appliance brand of the Arcelik Group. Voltas Beko designs products and services with a consumer-first approach. The virtual visit improved the knowledge about industrial refrigeration and air conditioning systems through various departments. The walkthrough was guided by Mr. Viral Shah, a company executive who explained the technical concepts of Industrial refrigeration and air conditioning systems.

The program was conducted between 4.00 pm to 5.30 pm. Around 90+ students participated in the above event from various affiliating colleges to University of Mumbai.

The program was coordinated by FAMT ISHRAE student members under the guidance of Prof. V. S. Bagade and Prof. S. U. Mayekar, Faculty Advisors, Dr. M. S. Kirkire, Dean Academics and HoD Mechanical Department and Dr. Kaushal Prasad, Principal.

## One Week FDP on Advanced Materials Processing



### FDP Flyer

Department of Mechanical Engineering organized One-week Online Faculty Development Program on Advanced Materials Processing. The sessions were delivered by experts in the field of Heat Treatment, Energy Storage Materials, Additive Friction Stir Processing and the Manufacturing area. The program was scheduled from Monday 21st February to Friday 25th February 2022 on Google Meet.

The Faculty Development Program sessions were delivered by the faculty from NIT, DIAT, COEP and Trinity College Dublin and the experts from industries. The program was inaugurated by the Principal Dr Kaushal Prasad and Dr. Milind Kirkire, Professor, Dean Academics and Head of Mechanical Engineering Department, introduced the activities of Mechanical Engineering Department.

The FDP brought together people from different domains such as Mechanical Engineering, Materials, Manufacturing and acquainted the participants from the industries and academia to new materials or technologies exploring the future scope in the areas of materials and manufacturing.

# Programs Organized by department

Total 56 participants from different academic institutions participated in this program. Dr. Tarang Shinde, Associate Professor, Mechanical Engineering Department, was the convener and Prof. Sachin Gurav and Prof. Jayesh Anavkar, Assistant Professors, Mechanical Engineering Department coordinated the program successfully.

## Seminar on Basics of Electric Vehicles



**Dr. Sanjay Patel delivering online session**

The Department of Mechanical Engineering conducted an online Seminar on Basics of Electric Vehicles on Friday, 04/03/2022 for the students of Second, Third and Final year Mechanical Engineering. Dr. Sanjay Patel, Head of Automobile Engineering Department, A. D. Patel Institute of Technology, Gujrat, was invited as a resource person for the seminar. The seminar introduced the students to the basics of electric vehicles and their future perspectives.

Dr. M. S. Yadav elaborated the objectives of the seminar and introduced the resource person during the inauguration. In his speech, Dr. Milind Kirkire, Dean Academics and HoD, welcomed Dr. Sanjay Patel and discussed the technological developments happening in India in the domain of Electric Vehicles. Dr. Sanjay Patel shared the history of EV development in India

and explained the need for EVs and their benefits and drawbacks compared to conventional internal combustion engines. Further, he elaborated on EV driveline components and factors to be looked at the time of EV purchase. Battery charging and swapping technologies were also discussed along with the technical parameters. The session ended with a question-answer session and a vote of thanks.

The seminar was attended by 61 students which was coordinated successfully by Dr. Milind Yadav, Prof. Tushar Kawatkar and Prof. Rushikesh Rasal.

## Webinar on 3D- EXPERIENCE SOLIDWORKS – The Future of Design



**Mr. Gurpreet Singh delivering online session**

Dassault Systems India Private Limited organized a Webinar on 3D-EXPERIENCE SOLIDWORKS – The Future of Design on Friday, 04 March 2022 for the students of Second-year Mechanical Engineering. Mr. Gurpreet Singh, Sr. Industry Consultant Manager, 3DEXPERIENCE Works and Mr. Rohit Chhabra, Director, 3DEXPERIENCE Works were speakers for the Webinar.

The webinar introduced the students to the basics of workflow based on Industry Standard Cloud-based 3DEXPERIENCE Works



# Programs Organized by department

with SOLIDWORKS. Mr. Gurpreet Singh demonstrated the use of 3D Creator and 3D SCULPTOR for complex modelling. Mr. Rohit Chhabra discussed the way cloud-based workflow helps to connect all stages of product development and enables all teams to access common central data to work simultaneously. The session ended with a question-answer session and a vote of thanks. The webinar was attended by 53 students held under the guidance of Dr. M. S. Kirkire, HoD Mechanical. Prof. V. V. Nagle and Prof. M. S. Padhye coordinated the webinar successfully.

## One Month Online Internship Program in Large Scale Industry



**Internship Program poster**

The Adani Institute of Infrastructure Engineering (AIIE) in collaboration with Adani Dahanu Thermal Power Station (ADTPS), Dahanu organized a one-month online internship program in Large Scale Industry from 14th February to 13th March 2022. The students from the Mechanical and Electrical Engineering departments of FAMT participated in this internship program.

The program started with the introductory session about the large-scale industry. It was followed by the sessions

discussing safety practices, fundamentals, operations and maintenance practices, construction details of a few major Equipment in the large-scale industries. Energy conservation initiatives, raw water system process, condition monitoring for Mechanical equipment, innovations, Six Sigma initiatives in large scale industry were the other important topics covered in the later sessions. Experienced field experts conducted these sessions with an in-depth guidance and discussions. The internship concluded with a session creating awareness about career opportunities in the field of large-scale industries. A total of 77 students from FAMT completed the internship successfully.

Dr Kaushal Prasad, Principle FAMT, Dr M. S. Kirkire, HoD Mechanical, Prof. M. L. Naik, Prof. P. B. Horambe and Prof. P. R. Kambale supported the students in all possible ways.

## Industrial Visit to Aboobaker Ice & Cold Storage Plant



**Students during visit to Aboobaker Ice & cold storage**

The Department of Mechanical Engineering arranged an industrial Visit to Aboobaker Ice & Cold Storage, MIDC, Mirjole, Ratnagiri on 25th March, 2022 for the students of third-year Mechanical Engineering students.

# Programs Organized by department

The visit was undertaken for the subject- Heating, Ventilation Air conditioning, Refrigeration, Semester VI of Mechanical Engineering. The student gained knowledge about Ice Plant working on Vapour Compression Refrigeration Systems. They also got the opportunity to closely observe the working of the three-cylinder Reciprocating Compressor and Induced Draft Cooling tower.

A total of 130 students including ISHRAE, ASHRAE and ASME student members were present during the visit. Prof. S. S. Gurav, Prof. H. V. Chavan were the coordinators for this industrial visit. The Department of Mechanical Engineering is very much thankful to all the staff of Aboobaker Ice & Cold Storage for their kind co-operation.

## **MESA Organized MECHMANTRA 2K22**



**Dr. S. B. Kulkarni & Prof. R. M. Rasal during inauguration**

MECHMANTRA 2k22 was organized in the Finolex Academy of Management & Technology on 27th March 2022 by Mechanical Engineering Students Association [MESA]. The inauguration ceremony took place in the Mechanical Department block. Dr Sanjay B. Kulkarni (Prof. First Year Engg.),

Mr. Rushikesh M. Rasal (Asst. Prof. Mechanical Engineering) and Mr. Umesh K. Samant (Asst. Prof. First Year Engineering) inaugurated the event. Taking into consideration the post-global pandemic situation, this year the entire event was conducted offline after two years. The events were designed in such a way that participants enjoyed and learned some technical knowledge and skills and enhance their interest in academic and extracurricular activities.

MESA administered the event under the guidance of Dr Kaushal Prasad [Principal], Dr Milind S. Kirkire [HoD Mechanical Engg. Dept & Dean Academics] and Prof. R. M. Rasal [Assistant MESA Faculty Incharge]. MESA Head Mr. Manthan Patne, Ladies Representative Ms. Maithili Jadhav, Assistant MESA Head Mr. Prem Kolte, and other students coordinators worked hard and made the event a grand success.

## **Seminar on Robot Automation**



**Mr. Saurabh Ahelleya delivering online session**

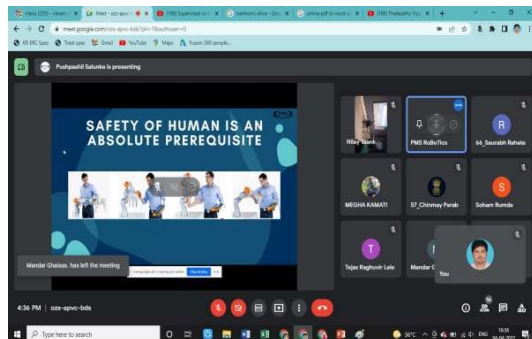
Skillo Adaptics Automation Technology Private Limited organized a Seminar on Robot Automation on Monday, 28 March 2022 in hybrid mode for the students of Third Year Mechanical Engineering. Mr. Saurabh Ahelleya, (Manager, Training and Skill Development) was the speaker for the seminar. The seminar introduced the

# Programs Organized by department

students to the basics of structure, architecture, use and applications of robot automation. Mr. Saurabh Ahelleya demonstrated the working of the robot along with its significance. The session ended with a question-answer session and a vote of thanks.

The webinar was attended by 53 students. The program was organized under the guidance of Dr. M. S. Kirkire, HoD Mechanical. Prof. V. V. Nagale and Prof. A. S. Yekane coordinated the webinar successfully.

## Seminar on Automation: Robotics & Artificial Intelligence



### Mr. Pushpashil Salunke delivering online session

PMS Robotics Research Centre (Pune) organized an online Seminar on Automation: Robotics & Artificial Intelligence on Monday, 04/04/2022 for the students in the Second, Third and Final Year of Mechanical Engineering. Mr. Pushpashil Salunke, (Founder & Managing Director) was the speaker for the seminar.

The seminar introduced the students to the basics of structure, architecture, use and applications of robot automation & AI. Mr. Pushpashil Salunke highlighted the working of the robot along with its significance. He also explained the artificial intelligence and safety issues related to

robots in the final phase of his talk. The session ended with a question-answer session and a vote of thanks.

The webinar was attended by 17 students. The program was organized under the guidance of Dr. M. S. Kirkire, HoD Mechanical. Prof. V. V. Nagale and Prof. A. S. Yekane coordinated the webinar successfully.

## Educational Visit to Jaitapur Nuclear Power Project Liaison Office, Ratnagiri



### Students during visit to Jaitapur Nuclear Power Project Office

The Department of Mechanical Engineering of Finolex Academy of Management and Technology, Ratnagiri along with ASHRAE and ASME student Chapters organized a visit to the Jaitapur Nuclear Power Project Liaison Office, Ratnagiri on 12th April 2022 for the students of Mechanical Engineering and First-Year Engineering.

The visit was organized in two sessions on the occasion of Earth Day Celebration and the theme was engineering investments for our planet. Jaitapur Nuclear Power Project is a proposed nuclear power plant in Ratnagiri. If built, it would be the largest nuclear power generating station in the world by Net Power Generation Capacity of 9,900 MW. Mr. Umed

# Programs Organized by department

Yadav, Assistant Chief Engineer was the resource person for the entire event. Mr U.P. Madangiri, the Chief Construction Engineer, guided students about the working of the nuclear reactor and its safe operation. The student also gained knowledge about nuclear energy and its use as clean energy. In the end, the quiz was conducted based on the session and four winners from each session received a gift hamper from the NPCIL authorities. An information leaflet was also distributed to all the students to create awareness among the people about nuclear energy and its use as clean energy. A total of 95 students including ASHRAE, and ASME student members were present during the visit. Prof. Hemant. V. Chavan coordinated this educational visit.

## Industrial Visit to Finolex Power Plant, Ranpar, Ratnagiri



**Students during visit to Finolex Power Plant**

The Department of Mechanical Engineering organized an Industrial Visit to Finolex Power Plant, Ranpar Ratnagiri on 03rd May and 10th May 2022 for Third Year Mechanical Engineering students. A total of 47 students and 03 faculty members visited the plant. The students learnt different systems like coal and ash handling systems, raw material unloading, water treatment plant, steam boiler, turbine-generator, Air preheater, Economizer, ESP, AIS and its components and DCS (Plant control). The students also visited a coal jetty to

understand the unloading of coal from ships. The accompanying officers answered questions raised by the students. The visit was organized with the support and guidance of Dr Kaushal Prasad, Principal FAMT and Dr Milind Kirkire, Head, Mechanical Engineering Department.

The visit was successfully coordinated by Mr Harshal Salvi, Mr Shodhan Mayekar and Mr Abhijit Date, Assistant Professors, Mechanical Engineering Department.

## A Seminar on Introduction To 3D Printing



**Mr. R. M. Rasal Delivering session**

The department of Mechanical Engineering, Finolex Academy of Management and Technology, Ratnagiri organized a Seminar on Introduction to 3D Printing for the students of First Year Engineering on 14th May 2022. The event was graced by the in-charge Principal of the college and in charge HoD of the First Year Engineering Dept. Dr S B. Kulkarni, HoD Mechanical Dr M S Kirkire and event coordinators Prof V S Chougule, Prof A S Jadhav and Prof P B. Horambe.

Mr. Rushikesh M. Rasal, Assistant Professor in Mechanical Dept, FAMT, Ratnagiri was the resource person for the seminar.



# Faculty Achievements

## ⚙️ Dr. Milind S. Kirkire

- Completed ATAL FDP on Practical perspective on decision making education organized by Bharati Vidyabhavan Sardar Patel institute of Technology during 03/01/2022 to 07/01/2022
- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 08/04/2022.

## ⚙️ Dr. Shashikant S. Goilkar

- Published a paper on Analysis of High-Volume Low Speed (HVLS) Fan Blade Profiles for Industrial Ventilation in International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)

## ⚙️ Dr. Milind S. Yadav

- Completed ATAL FDP on Electric Vehicles – The Future of Mobility organized by Rajarambapu Institute of Technology, Sakharale during 03/01/2022 to 07/01/2022.
- Published a paper on Vibration Analysis of Twin Cylinder Diesel Engine Fuelled with blends of Cottonseed oil in comparison with Diesel at fixed CR and IA in Journal of Engineering, Computer and Architecture.

## ⚙️ Prof. Sachin S. Mestry

- Attended a webinar on CO-PO Attainment Computation organized by Virtual - inPods

## ⚙️ Prof. Gayatri J. Abhyankar

- Completed FDP on Practical perspective on decision making education organized by Bharati Vidyabhavan Sardar Patel institute of Technology during 03/01/2022 to 07/01/2022.
- Completed FDP on Inculcating Universal Human Values in Technical Education organized by AICTE (Online) during 9th May 2022 to 13th May 2022.
- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 01/04/2022.
- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 08/04/2022.
- Published a paper on A Study of Engine Performance and Emission Analysis by Using Bio-Diesel and Its Blends in International Journal of Scientific Research and Engineering Development.

# Faculty Achievements

## **Prof. Abhilasha S. Jadhav**

- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 01/04/2022.
- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 08/04/2022.

## **Prof. Sumit S. Malusare**

- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 01/04/2022.
- Published a paper on Smart Agro Monitoring Greenhouse in Changing technology and Rural development, CTRD 2022.
- Attended a one-day workshop on How to prepare an event report and use data collection templates organized by Finolex Academy of Management and Technology, Ratnagiri during 20/04/2022 to 21/04/2022.

## **Prof. Amar S. Yekane**

- Completed ATAL FDP Artificial Intelligence organized by Central University of Kerala during 21/02/2022 to 25/02/2022.
- Attended two-week FDP on Python Programming – A Practical Approach A Joint Initiative of MeitY & IIT Kanpur during 28/03/2022 to 28/03/2022.
- Published a paper on Wastewater Quality Improvement Techniques in Sugar Industries for Environmental Sustainability in 2<sup>nd</sup> Roorkee Water Conclave 2022.
- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 01/04/2022.

## **Prof. Mahadev L. Naik**

- Completed FDP on Advanced Materials Processing organized by Finolex Academy of Management and Technology, Ratnagiri during 21/02/2022 to 25/02/2022.
- Attended STTP on IP Awareness/Training program organized by Intellectual Property Office, India on 08/04/2022.
- Published a paper on Ranking of Identified Barriers in Implementation of Six Sigma in Indian Industries in International Journal of Scientific Research in Engineering and Management (IJSREM).
- Published a paper on Workplace safety smart kit using IoT in Changing technology and Rural development, CTRD 2022.



# Faculty Achievements

## **Prof. Mahadev L. Naik**

- Published a paper on Ranking of Identified Barriers in Implementation of Six Sigma in Indian Industries in Changing technology and Rural development, CTRD 2022.

## **Prof. Abhijit M. Date**

- Attended one-day workshop on How to prepare an event report and use data collection templates organized by Finolex Academy of Management and Technology, Ratnagiri during 20/04/2022 to 21/04/2022.
- Attended webinar on Sixth National Finite Element Developers' / FEASTSMT Users' Meet organized by Vikram Sarabhai Space Centre, Thiruvananthapuram during 04/02/2022 to 05/02/2022
- Attended a webinar on CO-PO Attainment Computation organized by Virtual – inPods

## **Prof. Mandar S. Padhye**

- Completed ATAL FDP on Electric Vehicles – The Future of Mobility organized by Rajarambapu Institute of Technology, Sakharale during 03/01/2022 to 07/01/2022.
- Published a paper on Integration of Phase Change Materials (PCMs) in Freezer of a Domestic Refrigerator: A comparative study in NCRAC 2022 organized by IIT Guwahati

## **Prof. Priyanka A. Date**

- Attended webinar on Sixth National Finite Element Developers' / FEASTSMT Users' Meet organized by Vikram Sarabhai Space Centre, Thiruvananthapuram during 04/02/2022 to 05/02/2022

# Awards and Recognition

## **Dr. Milind S. Kirkire**

- Reviewer on a journal "Quality & Quantity" by SpringerLink Journal.

## **Dr. Tarang R. Shinde**

- Reviewer on a journal of Advances in Materials and Processing Technologies.