

MARATHWADA MITRA MANDAL'S COLLEGE OF ENGINEERING

KARVENAGAR, PUNE-52
(Accredited With 'A' Grade by NAAC)

Newsletter
Jan.2020 Issue 9

YANTRADNYA

The Newsletter of
Department of Mechanical Engineering

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**Marathwada Mitra Mandal's
COLLEGE OF ENGINEERING**
Karvenagar, Pune
Permanently affiliated to SPPU | Accredited with 'A' Grade by NAAC
Recipient of 'Best College' award in 2018-19 by SPPU

Vision

To aspire for the Welfare of Society
through excellence in Science and Technology.

Mission.

Our Mission is to

- ❖ **M**ould young talent for higher endeavours.
- ❖ **M**eeet the challenges of globalization.
- ❖ **C**ommit for social progress with values and ethics.
- ❖ **O**rient faculty and students for research and development.
- ❖ **E**mphasize excellence in all disciplines.



Dr. P. S. Purandare

Welcome to the Department of Mechanical Engineering of Marathwada Mitra Mandal's College of Engineering Karve nagar, Pune. We started our journey in the year of 2006. Over the last fourteen years, we have grown our expertise and 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 and innovation of new technologies. The students are encouraged to undertake various research projects. A 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 and research. Faculty members have excellent academic credentials and are highly regarded. Our department looks forward to contributing to solving the technological challenges of the society with active participation from all sections of the society.

- Team Abhedya Racers won two prizes in National Level supra SAEINDIA July 2019 Competition held at Noida,Delhi
a)Second prize of Rs. 20000 in Acceleration.
b)Prestigious ‘ Dronacharya Award’ to Dr.K.R.Patil
- Team Abhedya scored 152/200 in virtual BAJA 2019 competition held at Chandigarh and qualified for Main BAJA SAEINDIA 2020 competition held at pithampur,Indore
- Team Abhedya' has been selected and registered for International event in USA. Participating in 'BAJA SAE ARIZONA, USA' in the month of April 2020 along with 13 students
- Team Achilles : Team Achilles participated in 'SAEINDIA EFFICYCLE 2019 Competition' held at Lovely Professional University, Phagwara, Punjab., Achilles won total 5 prizes

- 1.CAE - Winner
- 2.Acceleration - Winner
- 3.Gradient - Winner
- 4.Design - Runner up
- 5.Cost - Runner up



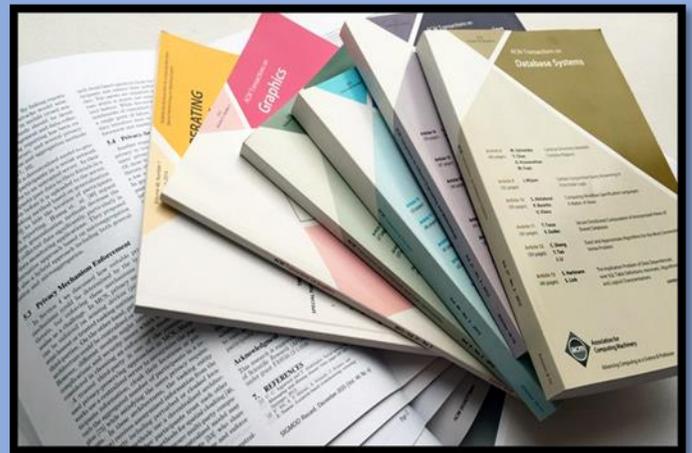
- Dr. P.S.Purandare and Prof.V.A .Naikwadi Published Patent titled "Design and development of AI based Air conditioning system with passenger detection mechanism and after parking heat treatment regulations" Patent No-201921030909,year:2019-20
- Dr.K.R.Patil and Prof.V.A .Naikwadi Published Patent titled Indian patent related to Automotive Domain "Design and Development of modified Automatic defogger assembly with frontal safety mechanism "which was filed on 29/08/2019 and published on 20/09/2019 Patent application no. 201921034826.
- Prof.V.A .Naikwadi published Patent on "Innovation in Steering Mechanism in modern vehicles for after parking straight wheel alignment", Patent No-201921025313,year:2019-20

MOU 's

- MoU signed between MSRTC'S S.T central workshop Dapodi Pune and MMCOE pune
- MoU signed between India Machine Tool Manufacturers Association (IMTMA), Pune and Centre of Excellence in Automation and Robotics, Department of Mechanical Engineering, MMCOE



- Dr. P.K. Katare enlisted as Associate Editor on Editorial Board of Journal of Thermal Engineering (Scopus indexed journal) published by YILDIZ Technical University Press Turkey.
- Dr.R.J.Yadhav Research paper is published in Scopus indexed journal IJITEE, UGC care list, further 3 papers are selected for the International Conference of Repute IHMTC 2019 at IIT Roorkee, for oral presentation which is organized by Indian Society of Heat and Mass Transfer (ISHMT) and American Society of Thermal and Fluid Engineering (ASTFE) biannually
- Prof.P.K.Tamkhade Published paper "Thermal analysis and performance evaluation of triple heat exchanger" in scopus and UGC care listed journal IJAET.
- Prof.M.V.Kawade successfully completed 4 week NPTEL Course on “Manufacturing Automation” with a ELITE Certification in exam.
- Prof.H.C.Pisal Selected for admission at Symbiosis Univeristy, Pune for Ph.D



- One week Faculty development program on “Product Design & Development-Concept to production” in association with Tata Technologies Ltd.Pune and Marathwada Mitramandal centre for Invention, Innovation and Incubation (MMCI) organized by Department of Mechanical Engineering, Dated 06th to 12th April,2019
- Mechanical Department has organized “Two days hands on workshop using CATIA software” sponsored by M CAD solution.
- 2 days workshop on 'Mastercam' is organised by IMTMA for BE Students.
- Inauguration program of ATV Fest is organized
- 2 days workshop on 'Computer Aided Engineering using Altair Hyperworks. HyperMesh Software' is organized by G2 innvoation for BE Students.
- One day workshop on "Build Solar Panels from Fruit Juices and Produce Electricity" in affiliation with PC Technologies, USA



- Kundan Pawar, Pratik Kudale, Atharva Raverkar, Amod Raut along with Dr. V.R. Deulgaonkar has published a research paper in 'Engineering failure analysis' in Elsevier Journal with an impact factor of 2.249
- Mr. Shivraj Narkhede, BE Student of Batch 18-19, won consolation prize of Rs. 2000 at Best Design Award Competition organized by IMTMA
- Mr. Salil Deshpande, SE Mech student secured third place in SPPU, Pune City Zone Intercollegiate Best Physique Competition (in 65 KG)
- Mr. Shreyash Phapale (SE mechanical) got state level 1st rank in Elocution & state level 2nd rank in poetry



- Mechanical Engineering Students' Association Organized "SE welcome Function" on 31st July 2019.
- Mechanical Engineering Students' Association Organized "donation Camp to help out needy people in sangali and kholapur flooded region" on 12th& 13th August 2019.
- Mechanical Engineering Students' Association Organized "Gurupornima and Teachers Day Function" for the staff on 5th Sept. 2019.



- “Engineers Day” Event celebrated by IE (I) on 16th sept 2019
- Chief Guest Mr.Rajesh mandlik (Managing director,SETCO Spindles India Pvt.Ltd) addressing on the topic” Engineering for Change”
- Guest of honour Prof.K.K.Ghosh (Chairman,All India Students Committee,IEi) Guiding the students about various inter-disciplinary studies and changing trends in Engineering.



- Successfully established Aero-Club-Team Alerios Guest of honour-Air vice Marshal Rtd. Ravindra Limaye Executive Committee Members of Aeronautical Society of India Demo Lecture on 'Science of Flight' by Mr. Madhav Khare, Former key resource person, Aerodynamics, NCSTC (DST) Govt. of India
- ALERIOS and Aeronautical Society of India (Pune chapter) jointly organized a Resource Person Training Workshop. Workshop by experienced aeromodeller Mr. Madhav Khare, former key Resource Person in Aerodynamics and Aeromodelling, NCSTC (DST), Govt. of India.
- **Photographs of the Events:**



1. Theory Session by Mr. Madhav Khare



2. Participants with Mr. Khare and HOD(Mech)



3. Flying Checks at MMCOE Ground



4. Actual Flying of rubber powered aircraft model

- The National level competition **Aero Design Challenge 2019** was organized on 19th-21st July by **SAEINDIA Southern Section** and was hosted by **SRM University** at **Kattankulathur, Chennai**. **Team Alerios** participated and represented **MMCOE** in this competition in a **micro class** category of RC aircrafts.



ISHRAE (Indian Society of Heating, Refrigerating & Air Conditioning Engineers)

- ISHRAE conducted campus interview of seven girls for Western India HVAC Systems* Ms. Tejaswini Arvind Pawar selected as Jr HVAC Engineer
- ISHRAE organized a expert talk on 'Basics of Air Conditioning' by Mr. G.M. Lele, Dy.General Manager, Voltas, Mumbai
- Drawing Competition organized by ISHRAE MMCOE Student Chapter under K12 activities
- ISHRAE MMCOE Student Chapter organized aQUEST technical quiz competition organised by Hitachi. Total 30 teams from 15 different colleges participated. Team MMCOE secured second position.



- One day training on Basics of Industry 4.0 at Renishaw Company on 27th Dec.2019.Pune : The Students of MMCOE had an opportunity to attends the workshop on “Basics of Industry 4.0”at Renishaw Metrology system Pvt.Ltd Company.The main motive of the workshop was to inculcate knowledge and opportunities in automation Industry to students,IOT applications and introduction of the revolutionary chnges in Manufacurinfn and inspection techniques.The students were guided by Prof. M.P.Rode, Prof.M.C.Rajeshirke and Prof.P.S.Khade.



Sr.N	Date	Name of Company	Beneficiaries
1	04/10/2019	Mapro Industri, Garware Industry & Milk Processing unit, Wai,	SE Mechanical
2	03 & 04/10/2019	PMC's warje Pumping station (WTP), Warje	TE Mechanical
3	28/09/2019	Automation Expo 2019, Mumbai	BE Mechanical
4	23&24/09/ 2019	Prabhat Tyres, Kothrud Industrial Estate, Kothrud, Pune	BE Mechanical
5	23/09/2019	Sant Tukaram Sakha karkhana, Pune	SE Mechanical
6	20/09/2019	AASK Precision Engineering Pvt. Ltd., Erandwana, Pune	TE Mechanical
7	29 & 30/08/2019	Pavana Hydroelectric Power Station, Pune.	TE Mechanical
8	20/07/2019	IMTMA Technology center, Pune.	BE Mechanical



- Mr. Rahul Mhaske, Mr. Safalya Wanwase, Mr. Omkar Bhor, (Blueprints design, Warje, Pune) has delivered a guest lecture on “Future of making things, current trends in manufacturing industry” on 02/08/2019
- Mr. Mukund Ranade (Adjunct faculty, Ex. R&D Head, Thermax India Ltd., Pune) has delivered a guest lecture on “Refrigerant piping and Ejector refrigeration system” on 02/08/2019
- Mr. Ashwamedh Jadhav, & Ms. Suvarna Dixit, (CADD Centre Kothrud, Pune) has delivered a guest lecture on “Finite element methods its importance” on 13/08/2019
- Mr. Anand Thakar, (Sr. Consultant, CAD/CAM GURU, Pune) has delivered a guest lecture on “Electric vehicles - Design challenges” on 28/08/2019.
- Mr. Mukund Ranade (Adjunct faculty, Ex. R&D Head, Thermax India Ltd., Pune) has delivered a guest lecture on “Room air conditioning” on 18/09/2019
- Mr. Deepak Bansode, (Technical center head, Apollo Institute, Akurdi, Pune) has delivered a guest lecture on “Design & Innovation in plastic product development cycle” on 20/09/2019
- Mr. Sambhaji Barse, (Consultant, Unipart IT Services Pvt. Ltd., Pune) has delivered a guest lecture on “Condition Monitoring of machine using strain gauge” on 21/09/2019
- Ms. Vaishali Dabke, Project Manager Max Mueller pune has delivered lecturer on “Benefits of Learning German Language and Opportunities for Budding Engineers”.
- Mr. Anand Thakar, Sr. Consultant, Pune has delivered Guest Lecturer for T.E Mechanical Student on “Electric vehicles-Design Challenges.”

- Mrs. Janhavi Dandawate & Mrs. Rupali Solanke,(Cummins India Ltd., Pune)has delivered a guest lecture on “Metrology and Quality control” on 25/09/2019
- Mr. Apoorv Bapat,(CEO & Founder, Eleation, Pune)has delivered a guest lecture on “Advancement and optimization transformation” on 25/09/2019.
- Mr. Suresh B. Bhandekar,(Emeritus Chief Engineer, MAHAGENCO, Mumbai) has delivered a guest lecture on “Turbine Parameters & T. A. set rolling” on 26/09/2019.
- Mr. Govind M. Lele,(Consultant, C. V. Raman center of excellence in HVAC&R, Bhubaneshwar) has delivered a guest lecture on “Basics of air conditioning” on 27/09/2019.
- Mr. Swapnil Kapadi,(QC Engineer, Kelvion India Pvt. Ltd., Pune has delivered a guest lecture on “Application of heat exchangers,Industrial case studies of heat exchangers and Fouling in heat exchangers” on 05/10/2019.
- Dr. Prasanna Bhat (General Manager, ARAI)has delivered a guest lecture on “Future mobility towards autonomous vehicle - present status and challenges” on 05/10/2019.
- Mr. Mukund Ranade(Adjunct faculty, Ex. R&D Head, Thermax India Ltd., Pune) has delivered a guest lecture on “Application of Psychometric” on 09/10/2019.
- Mr. Nathaji Shelke,(Founder and director, Helix Integrated learning, Kothrud, Pune) has delivered a guest lecture on “Practical finite element analysis - Industry Practices” on 10/10/2019
- Mr. Atul N. Yadav,(Infosys , Hinjewadi Phase- II, Pimpri Chinchwad) has delivered a guest lecture on “Rapid prototyping and 3D manufacturing” on 12/10/2019.

GUEST Lecturer



General information concerning Patents

A patent is a form of intellectual property that gives its owner the legal right to exclude others from making, using, selling, and importing an invention for a limited period of years, in exchange for publishing an enabling public disclosure of the invention. In this Article we are going to enlighten myths and facts of Patent application.

What Are Patents, Trademarks, Service marks, and Copyrights?

Some people confuse patents, copyrights, and trademarks. Although there may be some similarities among these kinds of intellectual property protection, they are different and serve different purposes.

What is a Patent?

A patent for an invention is the grant of a property right to the inventor, issued by the Indian Patent and Trademark Office. Generally, the term of a new patent is 20 years from the date on which the application for the patent was filed in the India or, in special cases, from the date an earlier related application was filed, subject to the payment of maintenance fees.

The right conferred by the patent grant is, in the language of the statute and of the grant itself, “the right to exclude others from making, using, offering for sale, or selling” the invention in the India or “importing” the invention into the India. What is granted is not the right to make, use, offer for sale, sell or import, but the right to exclude others from making, using, offering for sale, selling or importing the invention.

There are three types of patents:

- 1) Utility patents may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof;
- 2) Design patents may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture; and
- 3) Plant patents may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant.

What Is a Trademark or Servicemark?

A trademark is a word, name, symbol, or device that is used in trade with goods to indicate the source of the goods and to distinguish them from the goods of others. A servicemark is the same as a trademark except that it identifies and distinguishes the source of a service rather than a product. The terms “trademark” and “mark” are commonly used to refer to both trademarks and servicemarks.

Trademark rights may be used to prevent others from using a confusingly similar mark, but not to prevent others from making the same goods or from selling the same goods or services under a clearly different mark.. The registration procedure for trademarks and general information concerning trademarks can be found in the separate book entitled “Basic Facts about Trademarks

What is a Copyright?

Copyright is a form of protection provided to the authors of "original works of authorship" including literary, dramatic, musical, artistic, and certain other intellectual works, both published and unpublished. The 1976 Copyright Act generally gives the owner of copyright the exclusive right to reproduce the copyrighted work, to prepare derivative works, to distribute copies or phonorecords of the copyrighted work, to perform the copyrighted work publicly, or to display the copyrighted work publicly.

What Can Be Patented

The patent law specifies the general field of subject matter that can be patented and the conditions under which a patent may be obtained.

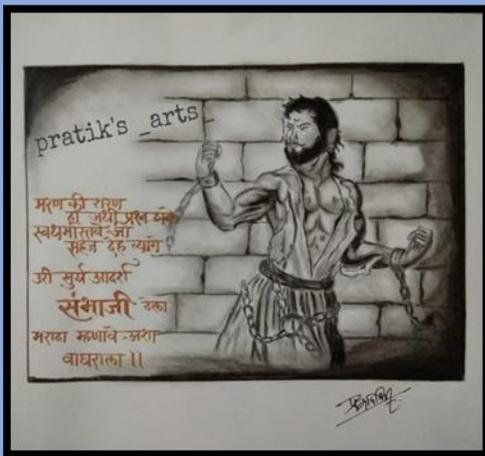
In the language of the statute, any person who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent," subject to the conditions and requirements of the law. The word "process" is defined by law as a process, act, or method, and primarily includes industrial or technical processes. The term "machine" used in the statute needs no explanation. The term "manufacture" refers to articles that are made, and includes all manufactured articles. The term "composition of matter" relates to chemical compositions and may include mixtures of ingredients as well as new chemical compounds.

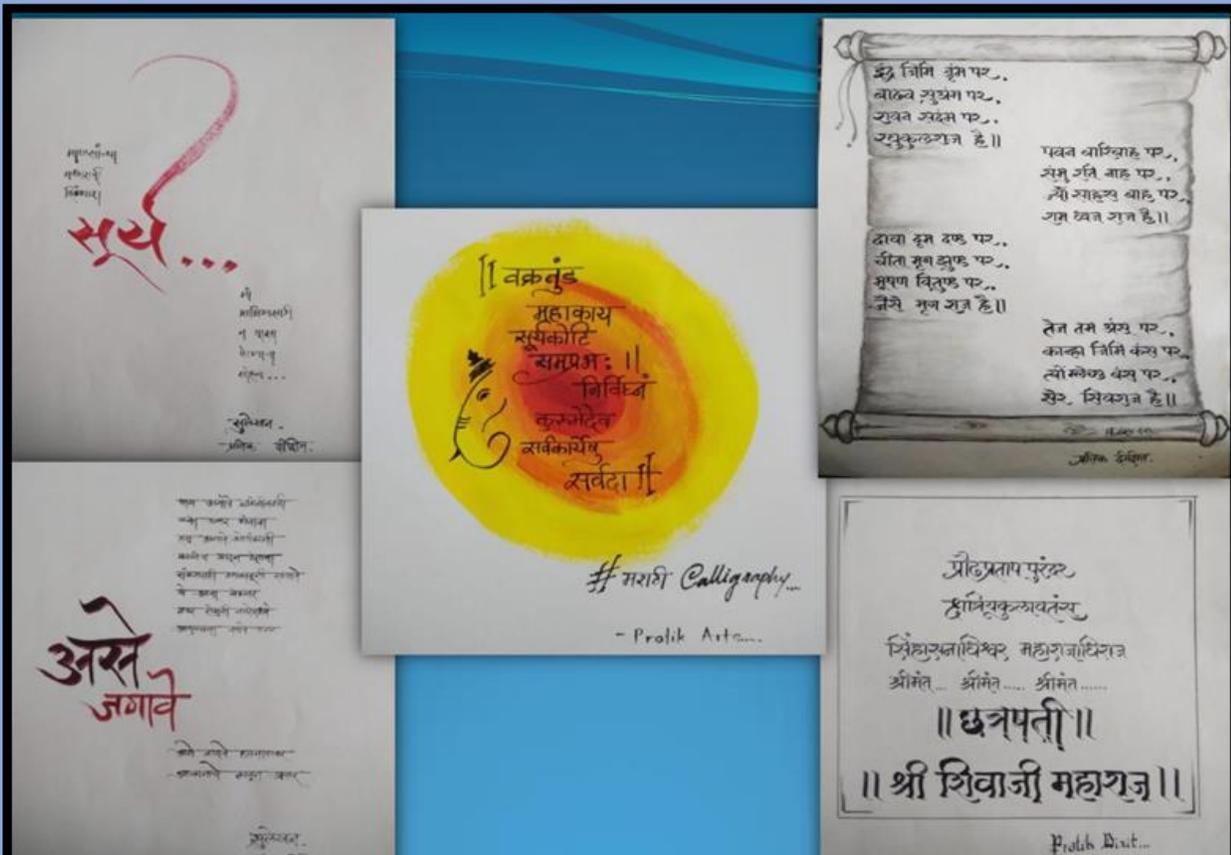
These classes of subject matter taken together include practically everything that is made by man and the processes for making the products.

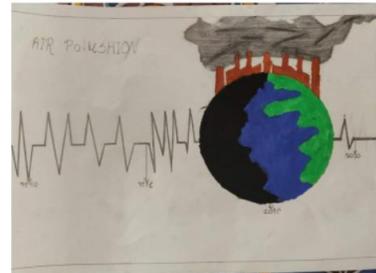
The patent law specifies that the subject matter must be "useful." The term "useful" in this connection refers to the condition that the subject matter has a useful purpose and also includes cooperativeness, that is, a machine which will not operate to perform the intended purpose would not be called useful, and therefore would not be granted a patent.

Prof.V.A.Naikwadi

Assistant Professor









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Department of Mechanical Engineering

Vision

Excellence in Mechanical Engineering for global competency and social welfare.

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

Program Educational Objectives (PEOs)

Graduates from our program will :

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

Program Outcomes (POs)

Engineering Graduates will be able to :

- 1. Engineering Knowledge** : Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems
- 2. Problem Analysis** : Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
- 3. Design / Development of Solutions** : 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
- 4. Conduct Investigations of Complex Problems** : Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions for complex problems
- 5. Modern Tool Usage** : Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
- 6. The Engineer and Society** : Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice
- 7. Environment and Sustainability** : Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
- 8. Ethics** : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. Individual and Team Work** : Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
- 10. Communication** : Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
- 11. Project Management and Finance** : Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
- 12. Life-long Learning** : Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

Program Specific Outcomes (PSOs)

Graduates from our program will :

- ❖ PSO-I : Identify, formulate and analyze engineering problems by applying the principles of thermal, design, manufacturing, interdisciplinary and allied engineering
- ❖ PSO-II : Contribute to the project in the core and associated domain by using add-on skills like CAD, CAM and CAE

Faculty Editor :- Prof. M.P.Rode
Student Editor:- Mandar Y. Nirantar