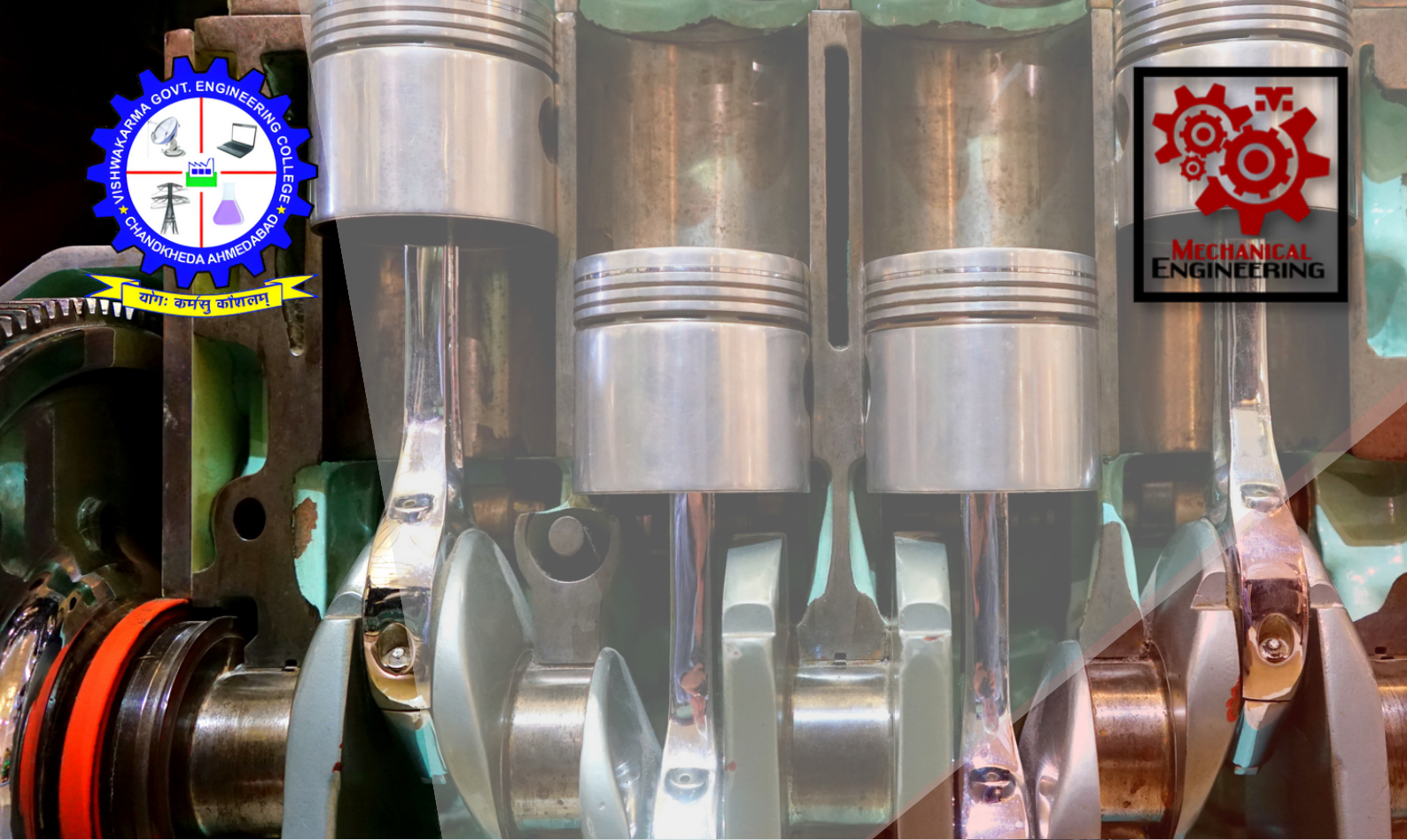




JULY-DEC 2022



Mechanical Department
Newsletter

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Vision & Mission

Vision

- To create an excellent environment for quality base education in the field of Mechanical Engineering for preparing socially responsible technocrats and entrepreneurs.

Mission

- Impart quality education and enhance the creative and innovative skills to nurture globally acceptable mechanical engineer.
- Provide state-of-the-art laboratories and teaching-learning environment through qualified faculties.
- Develop linkage with Industry for excellence in research and consultancy services.
- Encourage life-long learning, ethical values and entrepreneurship culture for industrial and societal needs.

Program Educational Objectives (PEOs).

- Apply core subject knowledge to various challenging problems.
- Adopt technical skills and leadership capability to explore the problems and present the solutions with professional ethics.
- Plan and manage the production of components as per needs of the society.
- Utilize engineering software and experimental capabilities to pursue research, higher education and entrepreneurship.

Program Specific Outcome (PSOs).

- Graduates will be able to apply technical knowledge to identify, formulate and solve Mechanical Engineering problems relating to thermodynamics, fluid sciences, materials science, design and dynamics and industrial management.
- Graduates will utilize their skills to solve industrial and R&D problems using modern engineering tools, latest software and equipment for environment friendly solution.
- Graduates will be able to pursue their career as professional entrepreneur.

From the HOD's desk

As we welcome the new year, I'm delighted to reflect on a highly productive period from July to December 2022. Our primary focus was firmly on enhancing practical skills and bridging the gap between theory and industry. We organized crucial expert lectures, including sessions on ESPRIT CAM Software and the Second Law of Thermodynamics, alongside vital industrial visits to the Automobile Centre of Excellence, GSECL Power Station, Amul Federation, and IGTR to give students essential real-world exposure. We extend our sincere thanks to all the industries and external experts who shared their valuable knowledge and resources with our students. Furthermore, the dedication of our faculty was highlighted by their NPTEL course completions and specialized training, and we proudly saw our student Aditya Kandre co-author and present a research paper, underscoring our commitment to scholarly achievement. We look forward to building on this successful foundation in the coming year. At the end I wish one and all including students, staff and faculty, a very happy, healthy, peaceful and prosperous New Year. With the advent of the New Year, we welcome new hopes and aspirations to make a better tomorrow

Dr. P K Brahmabhatt



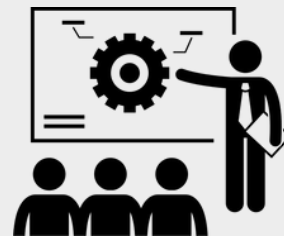
Research or Publication

- **Prof. D S Mehta and Aaditya Kandre** published and presented a research paper on “**The State of art on Technological development, Policies & Challenges of Solar PV panels in India**” in International Multidisciplinary Engineering Conference organized at Sankalchand Patel College of Engineering, Visnagar during 06-08 August, 2022
- **Prof. S B Pipaliya and Dr. D S Mehta** presented a research paper on “**The State of Art of Stepped Solar Desalination System Productivity Enhancement**” in International Conference on Sustainable Energy and Clean Technologies organized at Pandit Deendayal Energy University, Gandhinagar on September 2 - 4, 2022

Number of quality publications in referred/SCI journals, citations, books/book chapters etc for 2022

Sr. No.	Name of Faculty	Title of Paper/Title of Book/Book Chapter (with ISSN/ISBN)	Journal Name/Book Publisher
1	Sandip S Patel	Investigation of machining characteristics of SKD 11 in WEDM ISSN : 2214-7853	Journal: Materials Today: Proceedings (Elsevier) Vol. 59, Part 1, pp. 4192-4196, 2022
2	Sandip S Patel	Evaluation of different approach for WEDM process optimization ISSN : 2214-7853	Journal: Materials Today: Proceedings (Elsevier) Vol. 66, Part 4, pp. 4078-4082, 2022
3	P.K. Brahmbhatt	Experimental Investigation on Use of Activated Alumina and Molecular Sieve 13× In Heatless Desiccant Air Dryer ISSN: 2195-4356	Book: Recent Advances in Fluid Dynamics. Lecture Notes in Mechanical Engineering (Springer) pp. 493-500, 2022
4	P K Brahmbhatt, S P Patel	Effect of bio lubricant using Jatropha biodiesel on engine vital parts life cycle ISSN: 2350-0328	Journal: International Journal of Advanced Research in Science, Engineering and Technology Vol. 9, Issue 9, 2022
5	N S Mehta	Experimental Investigations of a Minichannel Heat Sink for Electronic Applications ISSN:2228-6187	Journal: Iranian Journal of Science and Technology, Transactions of Mechanical Engineering (Springer) Vol. 45, pp. 1109–1118, 2022
6	A A Pujara	Hierarchisation modelling and validation of CE barriers to manufacturing organisations – ISM, fuzzy TISM and fuzzy MICMAC approach ISSN : 1744-9928	Journal: International Journal of Green Economics Vol. 16, Issue 4, pp. 38-66, 2022

Training **attended**



- **Prof. Digant S. Mehta** completed 12 week (July - Oct. 2022) MOOC course of “**Fundamentals of Convective Heat Transfer**” organized by NPTEL IIT Guwahati. Only 16 candidates were eligible to get course completion certificates.
- **Prof. J M Joshi** participated in one week training on “**Research Methodology and Data Analytics**” during 26-30 December, 2022 at NITTTR-Bhopal
- **Prof. S S Patel** completed a one-week short term training program on “**Document Preparation on Latex**” at NITTTR, Bhopal from 19-23 December 2022.

Student Achievement

Aditya Kandre has Published and presented a research paper based on his summer internship work/project related solar panels International Multidisciplinary Engineering Conference organized at **Sankalchand Patel College of Engineering, Visnagar** during 06-08 August, 2022 under guidance of **Dr. Digant S. Mehta**. The research paper title is “The State of art on Technological development, Policies & Challenges of Solar PV panels in India



Departmental Activities

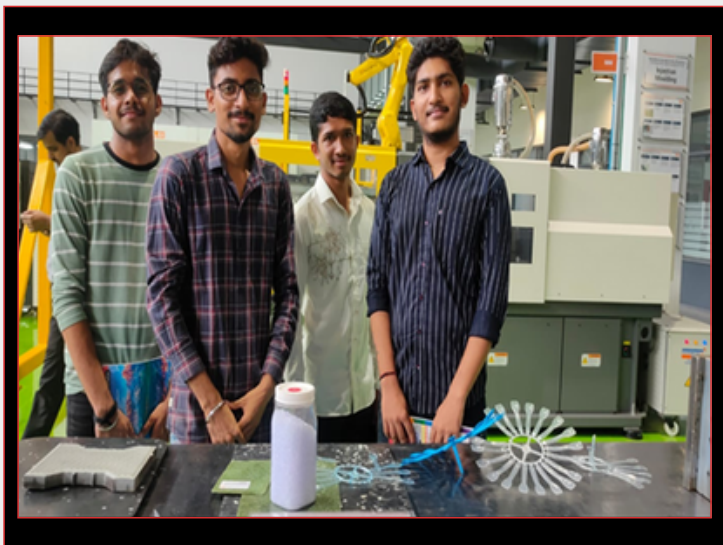
Expert Lecture on Manufacturing Process & ESPRIT CAM Software

- An expert lecture on “**Manufacturing Process & ESPRIT CAM Software**” was organized on 26 July,2022 for B.E. Sem - V/VII students to enhance the technical skills and also to familiarize students with the CAM Software. Students learnt about the turning operation in ESPRIT Software and generated G-code and M-code in Software. Students came to know about the material (often metal) which is cut to a desired final shape and size by a controlled material-removal process. It was conducted by Mr.Naimesh Shethiya(Director of Sopan Institute of Engineering and Design) under the **coordination of Prof. Rupal P.Vyasa, and Prof. Trupti Y. Rathod.**50 students participated in the event



Industrial Visit to IACE, Gandhinagar

- An industrial visit was organized on 04 August, 2022 to help students to clear their theoretical as well as practical concepts of the subject Automobile Engineering at Automobile Centre of Excellence (IACE), PDPU for Mechanical Engineering students of B.E. Sem - VII under the coordination of **Prof. Sapna A. Solanki**, and **Prof. Trupti Y. Rathod**. Students were able to understand about the engines and current trends in Electric and Hybrid Vehicles. Total 48 students attended the visit



Expert lecture on Basics of Thermodynamics - Second Law of Thermodynamics and Applications of Cryogenics

- Department has organized an expert lecture of “**Basics of Thermodynamics - Second Law of Thermodynamics and Applications of Cryogenics**” by **Dr. Hemant B. Naik** (Retd. Professor NIT, Surat) on 05 August 2022 for Mechanical Engineering students of B.E. Sem - V/VII under the coordination of **Prof. Rupal P.Vyasa, Prof. Digant S. Mehta** and **Prof. Trupti Y. Rathod**. The main objective for organizing this expert talk was to enhance the student’s technical skill, practical knowledge and improve the depth of subject. Students learnt about second law and its real life observation. Students got clear idea about second law and understand its physical significance and importance in daily life. It is a law of nature that is followed everywhere. Students got to know about the concept of "Arrow of time" given by Astrophysicist "Arthur Eddington" and its use in entropy. Total 75 students attended the lecture



Industrial Visit at **GSECL, Wanakbori**

- An Industrial Visit for Semester VII students on 25 August, 2022 at **GSECL Thermal Power Station, Wanakbori, Kheda**. The agenda of this Industrial visit was to make students understand the working of Thermal Power Station. This visit reduced the gap between academia and industry. **53 students attended** the visit under the coordination of **Prof. Swapna A Pawar**, and **Prof. Vaishali K Patel**.



Industrial Visit at **IGTR, Ahmedabad**

- An Industrial Visit to the **INDO GERMAN TOOL ROOM** (IGTR) was organized for the 5th semester students on 23 September, 2022. The main objective of the visit was to give practical knowledge of various manufacturing processes, machines and technologies and to reduced the gap between academia and industry .60 students under the coordination of **Prof. M M Modan**, and **Prof.Kiran P Prajapti** attended the visit.



Industrial Visit at Amul Federation, **Bhat Gandhinagar**

An Industrial Visit for 5th semester students was organized on 20 September, 2022 at **Amul Federation, Bhat, Gandhinagar**. Objective of this visit was to make students aware about the Dairy Industries. During visit various processes and material handling equipments required for manufacturing and packaging of dairy products were shown and explained. 65 students attended the visit under the coordination of **Prof. Swapna A Pawar**, and **Prof. Digant S. Mehta**



Process Design of Shell and Tube Heat Exchanger

- An expert lecture on the topic “**Process Design of Shell and Tube Heat Exchanger**” was organized by the department on 28th September, 2022. The session was conducted by **Dr. Suchen Thakore**, a renowned academician from the Chemical Engineering Department. **Dr. Thakore** shared his extensive knowledge and practical insights into the design principles, operational considerations, and applications of shell and tube heat exchangers, which are widely used in process industries. The lecture covered essential design aspects such as heat transfer calculations, selection of materials, and optimization techniques. Event held under the coordination of **Prof. R P Vyasa and Prof. D S Mehta**

Closing Message

The Mechanical Engineering Department at VGEC continues to move forward with a clear vision – to nurture engineers who are innovative, industry-ready, and research-oriented. Through faculty development, student achievements, industrial collaborations, and research excellence, the department remains committed to building a future-ready generation of mechanical engineers.

“Innovation distinguishes leaders from followers, and teamwork turns ideas into reality.”

Faculty Coordinator

Prof. Viral A. Thakar
Prof. Swapna A. Pawar

Student Coordinator

Bhavadip Vagh
220170119104

Student

Tirth Makwana Arpit Ashok Bendre
Shwetanshu Shah Nisarg Islaniya

Vansh KO Patel
Hariom Raval