GOVERNMENT ENGINEERING COLLEGE PATAN
MECHANICAL ENGINEERING DEPARTMENT
NEWSLETTER

TORQUE-TALK
(2021-2022)

Editor Team:

PROF. K. V. PATEL
SAVALIYA TANESH
PANCHAL VINIT

MESSAGE FROM THE HEAD OF INSTITUTE

Prof. Dr. H. S. Patel

Principal
Government
Engineering College
Patan

It gives me immense pleasure to extend my heartfelt greetings to the Mechanical Engineering Department for bringing out this edition of the departmental newsletter.

Mechanical Engineering, being one of the core branches of engineering, plays a vital role in shaping innovations that drive technological advancement. I am proud of the department's consistent efforts in fostering academic excellence, promoting research culture, and encouraging students to participate in technical and industrial activities. The department has always been at the forefront in organizing workshops, industrial visits, expert talks, and student-driven projects, which contribute significantly to the overall development of our budding engineers.

I congratulate the editorial team, faculty members, and students for their dedicated efforts in making this newsletter a reality. I wish the Mechanical Engineering Department continued success in all its future endeavors.

MESSAGE FROM THE HEAD OF DEPARTMENT

Prof. Dr. A B Dhruv

Head of Department
Mechanical Engineering

Dear Students, Faculty and Stake Holders,

Warm greetings to All.
It is with great pleasure and pride that I address you today as the Head of the Mechanical Engineering Department. As I stand before you, I am reminded of the incredible journey we have embarked upon, pushing the boundaries of innovation, and contributing to the remarkable advancements in the field of mechanical engineering
Our department, comprising a team of brilliant minds and dedicated individuals, has consistently strived for excellence in education, research, and development. We believe in nurturing the next generation of engineers who will shape the future with their knowledge, skills, and creativity.

GOVERNMENT ENGINEERING COLLEGE PATAN

ABOUT THE INSTITUTE

What we are...

Government Engineering College, Patan was established in April 2004 with three branches: Computer Engineering, Electronics and Communication Engineering, and Mechanical Engineering each with intake of 60 totaling to 180. The institute was initially functioning in the premises of the K. D. Polytechnic, Patan temporarily. It was shifted to its own newly built-up green premise in August 2008 at Katpur village on Chanasma- Patan road 8 kms before Patan.

Two more branches of Electrical Engineering and Civil Engineering each with intake of 60 were introduced from June- 2009. The intake of Electronics and communication was reduced to 30 and Mechanical Engineering was reduced to 90 from 2020. Currently institute have total intake 330. Each department has well established laboratories, computer centers and well qualified staff.

VISION

To prepare Human Resources with value based competency for technical advancements and growth of society.

MISSION

- To deliver technical programs and services to cater the current needs of society and industry.
- Helping industries in solving challenges by means of providing best technical human resources.
- To contribute in sustainable growth of society.

MECHANICAL ENGINEERING DEPARTMENT

ABOUT THE DEPARTMENT

Our strong academic performance in high school enables you to pursue a range of educational opportunities. One avenue you'll want to explore is mechanical engineering. Studying mechanical engineering at Government Engineering College Patan will equip you with a broad education, preparing you for a variety of career paths graduation and providing a solid foundation for continuing education. Mechanical engineering encompasses many areas. In short, anything that involves the design and or manufacturing of mechanical, thermal or electronic devices and or processes falls entrepreneurs, chief engineers, astronauts, faculty, physicians and patent attorneys, among other occupations. The field includes activities such as designing, developing, manufacturing, managing, researching and controlling engineering systems and their components.

VISION

To create a centre of excellence for imparting education in mechanical engineering field to meet the current and future challenges of technological and sustainable development."

MISSION

- To build enabling environment for excellent teaching, learning and research in order to produce entrepreneurs and innovators in the field of Mechanical Engineering for sustainable improvement.
- To impart adequate fundamental knowledge, technical and soft skills to students.
- To develop Mechanical Engineering solutions for the problems of industry and society.

MECHANICAL ENGINEERING DEPARTMENT

Programme Educational Objectives (PEOs)

1.To prepare graduates with a technical knowledge of mathematical, scientific, engineering, technology, management, humanities and various other interdisciplinary subjects for a successful career.

2.Graduates will apply the knowledge of Mechanical Engineering to solve real Engineering problems for sustainable development.

3.To inculcate graduates with leadership skills with high level of integrity, Professional personality and ethical values.

4.To equip graduates with modern tools, technology and advanced software's for deliberating engineering solutions.

Programme Specific Outcomes (PSOs)

- PSO1: Apply the advanced software skills to model, simulate, analyze and optimize Mechanical systems and Processes.

- PSO2: Acquire technical and managerial skills for innovative activities.

DESIGN USING CAD SOFTWARE WORKSHOP

From 23rd to 29th March 2022, an online AutoCAD Software Workshop was successfully organized for the students of the Mechanical Engineering branch. The workshop was jointly coordinated by Prof. R. A. Oza and Prof. K. V. Patel, with the aim of enhancing students' technical knowledge and software skills. The sessions were conducted by Mr. Mukesh Yogi, an expert from SAI CAD Centre, who provided detailed insights into the applications of AutoCAD in mechanical engineering design and drafting. Students actively participated throughout the program and gained valuable hands-on learning experience, which will be highly beneficial for their academic projects as well as professional careers.

AN EXPERT LECTURE ON

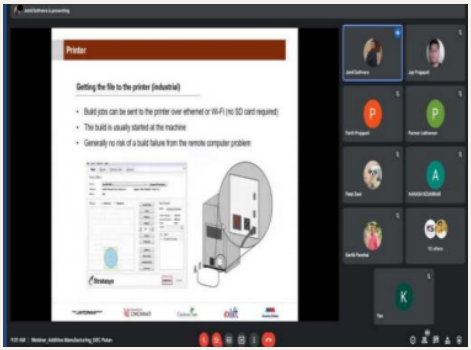
DESCRIPTION AND WORKING OF ELECTRIC CAR

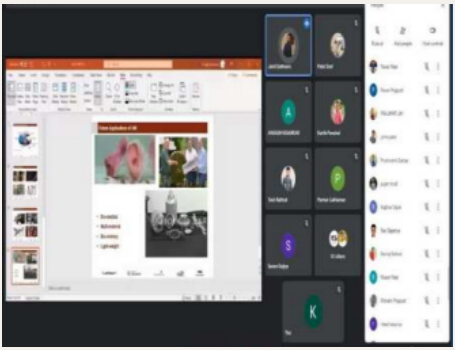
An extra lecture was conducted by Prof. N. R. Makvana, Assistant Professor, on 11/04/2022 for the Mechanical Engineering students. The session was designed to enhance students' academic learning beyond the regular curriculum and provided deeper insights into the subject matter. Prof. Makvana explained the concepts with practical examples, making the lecture highly interactive and engaging. Students actively participated, asked queries, and gained valuable knowledge that will support their academic growth and professional development. This extra lecture proved beneficial in strengthening the understanding of core topics for the students.

DEPARTMENT

EXPERT LECTURE/ WEBINAR ARRANGED

- Department has organized webinar on Additive Manufacturing on 12th September,2021
- Department has organized an expert lecture on Importance of Quality in association with ford motors on 17th July,2021
- A seminar was organized on career guidance for 6th Semester students on 31/03/2022.
- Department has organized an Impact Lecture Series on “Innovation, IPR & Entrepreneurship” on 30th June, 2022. Dr. Neha Sharma Founder of Accelerate India has delivered session on “Entrepreneurship- Idea to Opportunity” and Mr. Sagar Shah, Senior Engineer, EATON India Innovation Center, Pune has delivered session on “Fundamental of Human Centric Design and Innovation”
- An expert lecture was organized on Quality Management System Implementation in Industry and project management on 12th April, 2022 at Seminar hall of Mechanical Engineering Department. Mr. Vivekpuri Goswami, Purchase Officer from ORG Engitech Limited an alumni from institute has delivered expert talk.





DEPARTMENT

INDUSTRIAL VISIT ARRANGED

Department has organized an Industrial visit ONGC, Mehsana from 13th to 15th September, 2021 for the students of 5th and 7th Semester.

A technical visit was organized at Centre of Excellence-Automobile at ITI Rajpur for 6th Semester students on 24/3/2022.Almost 60 students and 3 faculties have visited the institute. During visit different automobile system were demonstrated by instructor.

An industrial visit was organized at ONGC, Mehsana on 17th December 2021. Twenty Five students from 3rd SEM have participated in the visit. Indrajit Sir of ONGC, Mehsana has instructed about the safety precautions during visit. Students have visited two wells situated at Palavasna, Mehsana.

An Industrial Visit was organized at Neptune Industry and “Centre of Excellence”, Solar Centre at Gujarat Power Engineering College, Mehsana on 16th April 2022.31 students and 3 faculties have visited the Institute. During the visit at COE, Solar Centre at GPERI hands-on demonstration on PV simulator and Solar Air Heater was given. At Neptune Industries students have visited the manufacturing of various tailor made machines and production of Flyash bricks. Vice president of company has interacted with student

An industrial Visit was organized at Asahi India Glass limited for 4th Semester student on 27th April, 2022.17 students have visited the industry and Prof. V.K. Patel has accompanied them.

An institutional visit was organized at “International Automobile Centre of Excellence”, Gandhinagar. 37 students have visited the Center and 1 faculty member has accompanied them. During visit students have learnt about various automobile system. They have done a hand-on practice on “Welding Simulator” in Manufacturing Section

DEPARTMENT

ALUMINI MEET

An alumni meet was arranged on 18th June, 2022. During this meet around 50 student alumni were remain present.

DEPARTMENT

SPOTLIGHT

Rajbhar Dipakkumar, a 5th-semester Mechanical Engineering student, showcased exceptional strength and dedication by winning the gold medal in the Best Physique (60-65kg) category at GTU Sports Spirit. The event was held at SS Agarawal Institute of Engineering, Navsari, on December 3rd, 2021. His hard work, discipline, and passion for fitness earned him this prestigious achievement, bringing immense pride to his college and inspiring fellow students.

Meet Chaudhry from the Mechanical Engineering Department represented Gujarat at the 36th National Games in Netball, held from September 29th to 30th, 2021. Showcasing exceptional skill, teamwork, and determination, he played a crucial role in securing a bronze medal for the state. His remarkable achievement brings immense pride to his college and serves as an inspiration for aspiring athletes.

Thakor Prithviraj of 6th Semester Mechanical has participated in Republic Day Parade at New Delhi on 26th January 2022

Thakor Jayesh enrollment no 190220119096 from 5th Semester Mechanical Government Engineering College, Patan was selected to represent Gujarat Technological University Handball team for Men at AIU West zone during 20/3/2022 to 23/3/2022 held at Pacific University Udaipur.

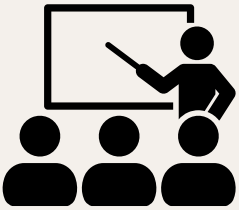
DEPARTMENT

PAPER PUBLICATION

Name of Faculty	Title of Research Paper
K V Patel	Evaluation of different approach for WEDM process optimization
D K PATEL	Artificially roughened solar air heating technology – A comprehensive review
Hitesh Panchal	Extracting water content from the ambient air in a double-slope half-cylindrical basin solar still using silica gel under Egyptian conditions
Hitesh Panchal	Investigation and performance analysis of solar still with energy storage materials: An energy- exergy efficiency analysis
Hitesh Panchal	Low-cost bilayered structure for improving the performance of solar stills: Performance/cost analysis and water yield prediction using machine learning
Hitesh Panchal	Recent progresses in wood-plastic composites: Pre-processing treatments, manufacturing techniques, recyclability and eco-friendly assessment
Hitesh Panchal	A case study on thermo-hydraulic performance of jet plate solar air heater using response surface methodology
Hitesh Panchal	A comprehensive review on the effects of diesel/biofuel blends with nanofluid additives on compression ignition engine by response surface methodology
Hitesh Panchal	An efficient LoRa-based smart agriculture management and monitoring system using wireless sensor networks
Hitesh Panchal	Applications of evacuated tubes collector to harness the solar energy: a review
Hitesh Panchal	WCO biodiesel production by heterogeneous catalyst and using cadmium (II)-based supramolecular coordination polymer additives to improve
Hitesh Panchal	FEA based analysis and design of PMSM for electric vehicle applications using magnet software
Hitesh Panchal	Investigation of mechanical properties of dual-fiber reinforcement in polymer composite
Hitesh Panchal	An enhanced multiobjective particle swarm optimisation algorithm for optimum utilisation of hybrid renewable energy systems

DEPARTMENT

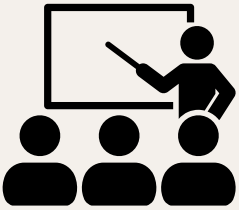
TRAINING ATTENDED



Name of Faculty	Title of Training	Organizer	Duration	Place
Prof S. S. Patel	Creativity and Innovation	NITTTR	1 Week	NITTTR Bhopal(Online)
Prof. K. V. Patel	WORK ETHICS, MOTIVATIONAL CLIMATE AND ATTITUDE DEVELOPMENT	NITTTR	1 Week	Online Mode
Prof S. P. Patel	Train the Trainer Program	NITTTR	1 Week	iACE, Gandhinagar
Prof. K. V. Patel	Effective Use of Office Software	NITTTR	1 Week	Online
Prof. K. V. Patel	Effective Use of Office Software	NITTTR	1 Week	Online Mode
Prof. K. H. Thakkar	Inculcating Universal Human Values in Technical Education	AICTE	1 Week	ONLINE

DEPARTMENT

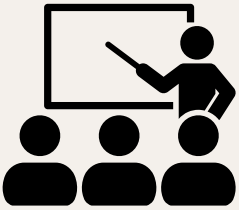
TRAINING ATTENDED



Name Of Faculty	Title Of Training	Choice	Place/Mode Of Training
Prof. B. B. Patel	Impactful Pedagogical Skills and Restructuring of Collaborations	State Goverment/ University/ Colleges	GEC-Patan (Online)
Prof. B. B. Patel	Technology Enabled Learning	Swayam NPTEL	Online
Prof. V. K. Patel	Energy conservation & Energy Managment	Private University/ Colleges	online
Prof. V. K. Patel	Welding Technology	Others	iACE, Gandhinagar
Prof. V. K. Patel	TECHNOLOGY ENABLED LEARNING	NITTTR	online(MOOC)
Prof. R.A.Oza	Technological Enable Learning	Swayam NPTEL	Online
Prof. G. S. Patel	Metallurgy for All	State Goverment/ University/ Colleges	Government Engineering College, Gandhinagar
Prof.K. P. Patel	recent trends in renewable energy	ATAL FDP	online
Prof. R.A.Oza	Metallurgy For All	NITTTR	GEC Gandhinagar (Online)
Prof. R.A.Oza	Impactful Pedagogical Skills and Restructuring of Collaborations	NITTTR	Online (LDCE)
Prof. K. H. Thakkar	Impactful Pedagogical Skills and Restructuring of Collaborations	NITTTR	Online

DEPARTMENT

FACULTY ACHIVEMENT



Name of Faculty	Brief Description of Achievement	Month and Year of Award
Dr. Hitesh Panchal	Editorial Board Member (Associate Editor) for Multidisciplinary International Journal of Gujarat Technological University (ISSN: 2581-8880)	Sep 2021
Dr. Hitesh Panchal	Listed among 100 Eminent Academicians of 2021 by the International Institute of Organized Research	Jul 2021
Dr. Hitesh Panchal	International Outstanding Young Researcher Award 2021 by Green Thinkerz International Award	Jul 2021

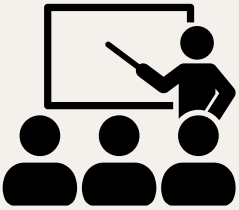
- Prof.(Dr.) A.B. Dhruv, Head Mechanical Engineering has contributed as Resource Person in ATAL online Elementary FDP on Robotics and Automation from 20/12/2021 to 24/12/2021 at Government Engineering College, Modasa.

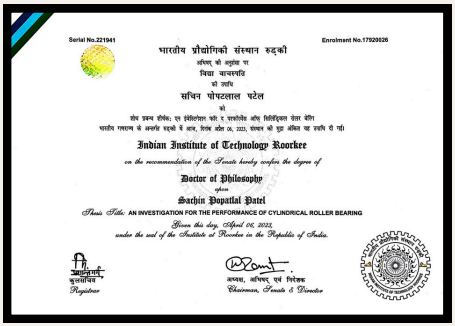
- Design Patent accepted and published of Dr. Hitesh Navinchandra Panchal, on “Solar Distillation apparatus with bottom reflector” Design No: 347409-001 in Journal No is 43/2021 and Journal Date is 22/10/2021

- Prof. (Dr.) A B Dhruv Head, Mechanical Engineering department has delivered an expert talk on “Metal Working Processes” in STTP Metallurgy for All at GEC,Gandhinagar on 23rd February, 2022.

DEPARTMENT

FACULTY ACHIVEMENT

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भारतीय प्रौद्योगिकी संस्थान रुड़की

श्री/सुश्री

सचिन पोपटलाल पटेल

को

Indian Institute of Technology Roorkee

on the recommendation of the Senate hereby confers the degree of

Doctor of Philosophy

upon

Sachin Popatlal Patel

Thesis Title: AN INVESTIGATION FOR THE PERFORMANCE OF CYLINDRICAL ROLLER BEARING

Given this day, April 06, 2022,

under the seal of the Institute at Roorkee in the Republic of India.

Registrar

Chairman, Senate & Director

Prof. S. P. Patel has successfully completed his PhD in Mechanical Engineering from Indian Institute of Technology, Roorkee.

- Dr. Hitesh Panchal received “CIEMA Research Excellence Award – 2022” for outstanding research work on Solar Desalination.
- Dr. Hitesh Panchal;s Australian Innovation patent entitled “ Innovative central processing cooling system” granted on 23rd March 2022.

DEPARTMENT

PLACEMENT

The department placement activity for the final year students shows that out of a total of 110 students, 29 students have been placed in companies or the government sector, 4 students have secured admission to higher studies with valid qualifying scores (GATE or equivalent state or national level tests, GRE, GMAT, etc.), and 3 students have successfully turned entrepreneurs.

LIST OF COMPANIES

TATA CONSULTANCY SERVICES

Raajratna WIREROPE PVT. LTD.

AMMANN

aarvi

RATNAMANI METALS & TUBES LTD.

ADITYA BIRLA HEALTH

DEPARTMENT

PLACEMENT

Sr. No.	Student Name	Enrollment no.	Employee Name
1	Bhati Sachinsinh Jitendrasinh	180220119003	RaajRatan WireRope Pvt. Ltd.
2	Chauhan Siddharajsinh Maheshsinh	180220119013	Indutch Composites Technology Pvt. Ltd.
3	Gojiya Savan Govabhai	180220119019	Aarvi Encon Ltd.
4	Jethi Arpit Prashant	180220119022	TDS LITHIUM-ION BATTERY GUJARAT
5	Modi Ayush Shaileshbhai	180220119031	Ammann India Private Limited
6	Modi Bhargav Ghanshyambhai	180220119032	Aditya Birla Health Insurance Ltd.
7	Modi Kishan Dilipbhai	180220119033	Chem Process System Pvt. Ltd.
8	Odiya Manishkumar Madhabhai	180220119036	Trishul Pumps
9	Pal Nishant Rajeshkumar	180220119037	Mirarbindo Engineering Pvt. Ltd.
10	Panchivala Niravkumar Jayeshbhai	180220119041	UNIQUO
11	Parmar Jatin Sunilkumar	180220119043	The Director, State Bank Institute of
12	Patel Jaykumar Rakeshbhai	180220119052	Ratnamani Metals and Tubes Ltd.
13	Patel Pavan Vinodkumar	180220119069	TCS Ltd.
14	Patel Utsavkumar Arvindbhai	180220119080	Shiv Auto Tech

Sr. No.	Student Name	Enrollment no.	Employee Name
15	Bhati Sachinsinh Jitendrasinh	180220119003	RaajRatan WireRope Pvt. Ltd.
16	Chauhan Siddharajsinh Maheshsinh	180220119013	Indutch Composites Technology Pvt. Ltd.
17	Gojiya Savan Govabhai	180220119019	Aarvi Encon Ltd.
18	Jethi Arpit Prashant	180220119022	TDS LITHIUM-ION BATTERY GUJARAT PRIVATE LIMITED
19	Modi Ayush Shaileshbhai	180220119031	Ammann India Private Limited
20	Modi Bhargav Ghanshyambhai	180220119032	Aditya Birla Health Insurance Ltd.
21	Modi Kishan Dilipbhai	180220119033	Chem Process System Pvt. Ltd.
22	Odiya Manishkumar Madhabhai	180220119036	Trishul Pumps
23	Pal Nishant Rajeshkumar	180220119037	Mirarbindo Engineering Pvt. Ltd.
24	Panchivala Niravkumar Jayeshbhai	180220119041	UNIQUO
25	Parmar Jatin Sunilkumar	180220119043	The Director, State Bank Institute of Learning & Development (SBILD)
26	Patel Jaykumar Rakeshbhai	180220119052	Ratnamani Metals and Tubes Ltd.
27	Patel Pavan Vinodkumar	180220119069	TCS Ltd.
28	Patel Utsavkumar Arvindbhai	180220119080	Shiv Auto Tech
29	Prajapati Gauravkumar Kirtibhai	180220119085	Fornnax Recycling Technology

DEPARTMENT SCHOOLAR

CONGRATULATIONS

ACADEMIC YEAR: 2018 TO 2022 (2022 PASS OUT)

FINAL YEAR TOPPERS

Rank	Enrollment No.	Name of the student	CPI	CGPA	SPI
1	170220119067	PATEL KAVAN SANJAYBHAI	9.01	9.5	10
2	180223119034	SUTHAR NAYAN NARANBHAI	8.79	9.16	9.64
3	170220119021	CHOKSHI DHRUV HEMANG	8.79	9.2	9.8
4	170220119115	VAGHELA YOGEERAJSINH BANESANG	8.58	9.2	9.8
5	170220119065	PATEL JAYKUMAR HITENDRABHAI	8.52	9.08	9.44
6	180223119036	THAKOR GOPAL DASHRATJI	8.44	8.73	9.64
7	170220119045	NAYAK MANTHAN BHARATKUMAR	8.42	9.52	10
8	170220119044	NAYAK ADITYA DINKARBHAI	8.37	9.08	10
9	180223119014	PAMPANIYA HARDIKKUMAR BHARATBHAI	8.28	8.77	9.44
10	170220119054	PANDE VISHAL RAJESH	8.22	8.79	9.2

FACULTY AND STAFF

Dr. Anand Dhruv

Designation : Professor
Qualification : Ph. D
Experience : 31 Years
Area of Interest : CAD-CAM, Metal Forming, Automobile Engg, Manufacturing Engg
Email : anand.dhruv@gecpatan.ac.in

Dr. Dineshkumar Patel

Designation : Professor
Qualification : Ph. D
Experience : 30 Years
Area of Interest : Solar Energy
Email : dinesh.patel@gecpatan.ac.in

Prof. Sandip S. Patel

Designation : Associate Professor
Qualification : M. E
Experience : 15 year
Area of Interest : Machine Design
Email : sandipuvpce@gmail.com

Prof. Chiragkumar C. Patel

Designation : Assistant Professor
Qualification : M.Tech.
Experience : 15 Years
Area of Interest : Thermal Science and Engineering
Email : ccpatel09@gmail.com

Dr. Miteshkumar Govindbhai Patel

Designation : Assistant Professor
Qualification : Ph. D
Experience : 15 Years
Area of Interest : Production
Email : mitesh.patel@gecpatan.ac.in

FACULTY AND STAFF

Prof. Sachin P. Patel

Designation : Assistant Professor
Qualification : M. E.
Experience : 15 Years
Area of Interest : Machine Design
Email : sachinunjha84@gmail.com

Dr. Kaushikkumar V. Patel

Designation : Assistant Professor
Qualification : Ph. D
Experience : 15 Years
Area of Interest : Machine Design
Email : kaushik.patel@gecpatan.ac.in

Prof. K. K. Pansal

Designation : Assistant Professor
Qualification : M.Tech.
Experience : 15 Years
Area of Interest : Thermal Science and Engineering
Email : kamleshpansal@gmail.com

Prof. Kamlesh Hasmukhlal Thakkar

Designation : Assistant Professor
Qualification : M. Tech
Experience : 10 years
Area of Interest : CAD/CAM
Email : kamlesh.thakkar@gecpatan.ac.in

Prof. Kalpesh P. Patel

Designation : Assistant Professor
Qualification : M. E.
Experience : 10 years
Area of Interest : Thermal Science and Engineering
Email : kppatelgec@gmail.com

FACULTY AND STAFF

Prof. Girish S. Patel

Designation : Assistant Professor
Qualification : M.E.
Experience : 10 years
Area of Interest : Production Engineering
Email : gsjagania@gmail.com

Prof. Bhargav B. Patel

Designation : Assistant Professor
Qualification : M.E.
Experience : 10 years
Area of Interest : CAD/CAM
Email : bbpgec@gecpatan.ac.in

Prof. Vipulkumar Kashirambhai Patel

Designation : Assistant Professor
Qualification : M.E.
Experience : 10 years
Area of Interest : CAD/CAM
Email : vipul.patel@gecpatan.ac.in

Prof. Narendrasinh Ramjibhai Makvana

Designation : Assistant Professor
Qualification : M.E. (THERMAL ENGG)
Experience : 10 years
Area of Interest : Solar Engineering
Email : naren.makvana@yahoo.com

Dr. Hitesh Panchal

Designation : Assistant Professor
Qualification : Ph. D
Experience : 10 years
Area of Interest : Solar Thermal, Solar Photovoltaic
Email : engineerhitesh2000@gmail.com

FACULTY AND STAFF

Prof. Rakesh A. Oza

Designation : Assistant Professor
Qualification : M. E.
Experience : 10 years
Area of Interest : CAD-CAM
Email : raogec@gmail.com

Prof. Chirag P Kadiya

Designation : Assistant Professor
Qualification : B.E.
Experience : 15 Years
Area of Interest : Power Plant Engineering
Email : cpkadiya@gecpatan.ac.in

Prof. Kiran K. Rabari

Designation : Assistant Professor
Qualification : M.E.
Experience : 13 Years
Area of Interest : CAD-CAM
Email : rabarikiran15@gmail.com

Prof. Dharmesh K. Patel

Designation : Assistant Professor
Qualification : M. Tech.
Experience : 11 Years
Area of Interest : Manufacturing
Email : rabarikiran15@gmail.com

FACULTY AND STAFF

Shri. Rakesh V. Patel

Designation : Lab Assistant
Qualification : D E
Experience : 11 year

Ms. Priyanka J. Patel

Designation : Lab Assistant
Qualification : B E
Experience : 11 year

DEPARTMENT

LABORATORIES

Refrigeration and Air Conditioning Lab:

This laboratory houses the vapor compression refrigeration system, air conditioning, heat pump setup, refrigerator to determine the most crucial performance parameters of RAC devices. This lab plays a very important role to understand various refrigeration cycles used in domestic as well as Industrial purpose.

Computer Aided Manufacturing Lab:

This laboratory emphasizes on computer aided manufacturing, quality control and measurement too. It also provides various activities in nonconventional manufacturing, flexible manufacturing system and automation. This lab is equipped with CNC turning centre, 5 axis robot and other equipment's required as per syllabus.

Heat Transfer Lab:

This lab course is primarily being offered to the III Year B.E. Mechanical Engineering Students to make them understand the principles of i.e. conduction, convection, Radiation boiling and Condensation modes of heat transfer and principles of Refrigeration and Air Conditioning. Laboratory is equipped with the set up of Pin Fin Apparatus, Heat transfer in Natural convection, Composite Wall Apparatus etc.

LABORATORIES

Workshop and Machine Shop Lab:

Workshop has various facilities like Machine shop, Carpentry shop, Fitting shop, Welding shop, Smithy shop, Pluming shop, Foundry shop etc. to cater to hands on experience for the students. For manufacturing process, this workshop has a more no. of lathe machine, drilling machine, shaper machine, shearing machine etc.

Internal Combustion Engine Lab:

This laboratory is equipped with modern instruments like modern internal combustion engine test rig, diesel smoke meter, variable compression ratio engine test rig, five gas exhaust gas analyzers etc. In this lab, performance optimization of engine parameters like power, fuel consumption and emissions etc are being taught to the students.

Kinematics and Dynamics of machines Lab: Students are greatly benefited by studying the demonstration of the Slider Crank Mechanism, Cam Follower Mechanism, Different Gears and Gear train Mechanism, Gyroscope etc.

Computer-Aided Design (CAD) Lab:

This lab is facilitated It is having computer systems with high-end configurations to ensure seamless performance to support students in design, simulation and analysis tools essential for modern engineering applications. The CAD Lab has 30 computers, with 12 PCs equipped with ANSYS for simulation and analysis, while all have Autodesk software for drafting and design.

LABORATORIES

Fluid Mechanics and Fluid Power Engineering Lab:

This laboratory helps students to understand the principles of fluid behavior and hydraulic machinery operations. It offers hands on experience with devices like flow meters, pumps, turbines, and hydraulic systems. Experiments cover fluid properties, flow measurement, and performance testing of machines. The lab enhances practical knowledge of theoretical fluid mechanics concepts learned in classrooms.

Automation in Manufacturing Lab:

The laboratory component of the Automation in Manufacturing course aims to provide hands-on experience with automation technologies used in manufacturing industries. Through practical experiments, students will explore industrial robotics, flexible manufacturing systems (FMS), and automation machinery. The lab exercises are designed to reinforce theoretical concepts and develop problem-solving skills for real-world automation challenges.

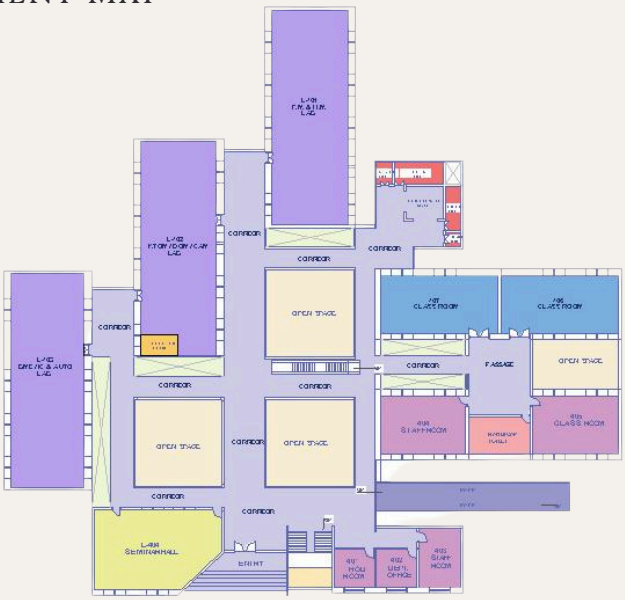
Basic Mechanical Engineering Lab:

The Basic Mechanical Engineering Laboratory provides practical exposure to fundamental mechanical systems and components. It includes models of boilers along with their mountings and accessories, helping students understand steam generation and safety mechanisms. The laboratory also features internal combustion (IC) engine models, including four-stroke and two-stroke petrol and diesel engines, enabling students to study engine components, working principles, and thermodynamic cycles.

Engineering Graphics & Design Lab:

Engineering Graphics & Design (EGD) is a vital subject that enables students to communicate engineering ideas, designs, and concepts in a clear and precise manner. The laboratory has several shapes of 2D & 3D models, which will be helpful in the visualization and understanding of the subject.

DEPARTMENT MAP



GROUND FLOOR

FIRST FLOOR