

GOVERNMENT ENGINEERING COLLEGE PATAN
MECHANICAL ENGINEERING DEPARTMENT
NEWSLETTER

TORQUE-TALK

JAN-JUNE 2023



Editor Team:

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.



The signature is handwritten in black ink. It features a stylized 'A' at the top left, followed by 'B' and 'Dhruv'. Below the name, there is a diagonal line and the text '@TORQUE-TALK'.

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.

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SPOTLIGHT

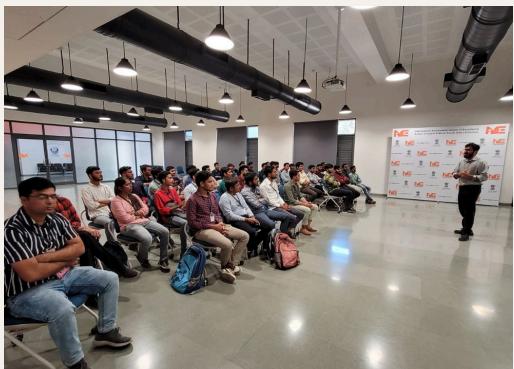
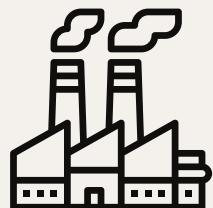


In Indian culture and tradition, Guru has been given a higher position than God. It is the Guru who illuminates the life of disciple with the light of education and knowledge and it is the Guru who paves the path of progress for his disciple. Guru Purnima Parv is organized by the Mechanical Department as a humble cultural initiative to show gratitude and respect to the Guru.

- Khanji Raish Abdulkhalif has successfully attended a workshop program on AutoCAD software, where he gained practical knowledge and hands-on experience in computer-aided design techniques used in engineering and drafting applications.
- Suthar Karankumar Ashvinbhai has successfully completed all modules of the Technical Writing Skills program through an online learning platform on 20/04/2023, gaining essential knowledge in professional documentation, communication, and report-writing techniques.

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INDUSTRIAL VISIT



On 27th February 2023, Semester 6 students visited the Pandit Dindayal Energy University - International Automobile Center of Excellence, Gandhinagar. The facility provides hands-on training in vehicle diagnostics, hybrid and electric vehicle systems, and emission testing. Students explored cutting-edge labs equipped with real-time simulation tools and engine test benches. The visit enhanced their understanding of drivetrain systems, suspension mechanisms, and automotive electronics. It bridged the gap between classroom theories and modern vehicle technology. 41 students were accompanied by Dr. N. A. Patel, Prof. D. J. Parmar, and Prof. K. H. Thakkar.

On the same day, students also visited the Center for Bio Fuel and Bio Energy Studies at PDEU. The visit introduced students to alternative fuels such as bioethanol, biodiesel, and algae-based fuel systems. They toured pilot-scale biofuel plants and learned about fuel synthesis, blending, and testing. The session included expert talks on the future of sustainable energy in mechanical engineering. This provided a practical perspective to environmental sustainability topics. 41 students participated under the same faculty members.



On 20th April 2023, 29 students from Semester 4 visited Marshal Thresher, a company specializing in agricultural machinery. Students observed the full assembly line of threshers—from raw material handling to final quality checks. Engineers demonstrated welding, painting, and hydraulic system fitting processes. This helped students relate their classroom subjects to fabrication and manufacturing techniques. They also learned about cost control and standardization in mass production. The visit was coordinated by Dr. N. A. Patel.



On 21st April 2023, 35 Semester 6 students visited Marshal Thresher for an advanced tour. The visit emphasized component design, tolerance matching, and balancing of rotating parts. Students had in-depth discussions with plant engineers regarding machine maintenance and testing protocols. They were shown inspection routines for safety and performance assurance. Exposure to agricultural machinery deepened their awareness of mechanical design applications in the rural sector. The visit was led by Dr. N. A. Patel and Prof. D. K. Patel.

On 29th April 2023, 48 Semester 6 students visited the Solar R&D Center at GPERI, Mewad. The center focuses on sustainable energy systems and solar-driven cooling solutions. Students explored solar refrigeration units, absorption chillers, and passive cooling technologies linked to the RAC subject. Real-time data collection methods and efficiency analysis tools were also introduced. The visit promoted awareness of energy-efficient systems for HVAC applications. The visit was coordinated by Dr. H. N. Panchal and Dr. H. R. Prajapati.



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TRAINING ATTENDED

- Prof. K H Thakkar has completed Training on LabView Software Programming at NITTTR Bhopal during 31/07/2023 to 04/08/2023
- Prof. D. J. Param ar attended the program “Blended Learning” at NITTTR Bhopal during 30/01/2023 to 03/02/2023.
- Dr. Hiremkumar R. Prajapati attended the program “Induction Phase – II” at NITTTR Bhopal during 13/02/2023 to 24/02/2023.
- Prof. D. J. Param ar completed the course “Introduction to Programming in C” through Swayam NPTEL during 16/01/2023 to 31/03/2023.
- Prof. M. G. Patel completed the course “E-Content Development” through Swayam NPTEL on 01/07/2023.

FACULTY

PARTICIPATIONS AND ACHIVEMENTS

Dr. H. N. Panchal, from the Department of Mechanical Engineering, Government Engineering College, Patan, received funded project from Technical Education – STEM for an amount of ₹2 Lakh. The project titled “Investigation on Solar Desalination System to Enhance the Distillate Output” has a duration of 1 year and was sanctioned in the year 2022–23.

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RESEARCH AND PUBLICATIONS



Name of Faculty	Title of Research Paper	Type of Publication
Hitesh Panchal	Highly carbonized <i>Prunus dulcis</i> shell-derived activated carbon for high-performance supercapacitor applications	Scopus & WoS publication
Hitesh Panchal	Performance comparison of powder mixed EDM and traditional EDM on TZM-molybdenum super alloy using response surface methodology	Scopus & WoS publication
Hitesh Panchal	Heat transfer enhancement of heat exchanger using rectangular channel with cavities	Scopus & WoS publication
Hitesh Panchal	Prediction of various parameters of desalination system using BOA- GPR machine learning technique for sustainable development: A case study	Scopus Indexed publications
Hitesh Panchal	Performance improvement of single and double effect solar stills with silver balls/nanofluids for bioactivation: An experimental analysis	Scopus & WoS publication
Hitesh Panchal	Performance improvement and CO and HC emission reduction of variable compression ratio spark-ignition engine using n-pentanol as a fuel additive	Scopus & WoS publication
Hitesh Panchal	A novel investigations on medical and non-medical mask performance with influence of marine waste microplastics (polypropylene)	Scopus & WoS publication
Hitesh Panchal	An Automated Network Slicing at Edge with Software Defined Networking and Network Function Virtualization: A Federated Learning Approach	Scopus & WoS publication
Hitesh Panchal	A Novel Security Algorithm RPBB31 for Securing the Social Media Analyzed Data using Machine Learning Algorithms	Scopus & WoS publication
Hitesh Panchal	A Novel Method for Analyzing the Performance of Free Space Optical Communication in WDM Using EDFA	Scopus & WoS publication
Hitesh Panchal	Performance of refrigerants employed in rooftop air-conditioners	Scopus & WoS publication
Hitesh Panchal	Machine learning application to predict the Mechanical properties of Glass Fiber mortar	Scopus & WoS publication
Hitesh Panchal	Coastal pollution analysis for environmental health and ecological safety using deep learning technique	Scopus & WoS publication

Name of Faculty	Title of Research Paper	Type of Publication
Hitesh Panchal	Experimental investigation of heat transfer characteristics of inclined aluminium two phase closed thermosyphon	Scopus & WoS publication
Hitesh Panchal	Machine learning approaches for real-time forecasting of solar still distillate output	Scopus Indexed publications
Hitesh Panchal	Investigation on drying kinetics analysis of gooseberry slices dried under open sun	Scopus Indexed publications
Hitesh Panchal	Numerical analysis of hemodynamic parameters in stenosed arteries under pulsatile flow conditions	Scopus Indexed publications
Hitesh Panchal	Performance analysis of biofuel–ethanol blends in diesel engine and its validation with computational fluid dynamics	Scopus Indexed publications
Hitesh Panchal	Engine oil quality deterioration estimation using an integrated sensory system	Scopus & WoS publication
Hitesh Panchal	Experimental performance evaluation of solar still with zig-zag shape air cooled condenser: An energy–exergy analysis approach	Scopus & WoS publication
Hitesh Panchal	Stability and thermophysical properties enhancement of Al ₂ O ₃ -water nanofluid using cationic CTAB surfactant	Scopus Indexed publications
Hitesh Panchal	Investigation on 1-Propanol Electronic mode of fumigation on diesel engine performance and emission Fueled with diesel and lemongrass biodiesel blend using AHP- COPRAS	Scopus & WoS publication
Hitesh Panchal	Heat transfer and pressure drop analysis of a microchannel heat sink using nanofluids for energy applications	Scopus & WoS publication
Hitesh Panchal	Optimization and numerical study of the effect of using nanodiamond and nickel nanoparticles in solar desalination using two-phase mixture method and VOF	Scopus & WoS publication
Hitesh Panchal	A novel method for image captioning using multimodal feature fusion employing mask RNN and LSTM models	Scopus & WoS publication
Hitesh Panchal	A comprehensive review on the usage of the nano-sized particles along with diesel/biofuel blends and their impacts on engine behaviors	Scopus & WoS publication

DEPARTMENT

PLACEMENT



The department has a total of 130 final year students, out of which 61 students have been successfully placed in companies or government sectors, 11 students have secured admission to higher studies with valid qualifying scores such as GATE or equivalent state or national level tests (GRE, GMAT, etc.).

COMPANIES



Asahi India Glass Ltd.



DEPARTMENT



PLACEMENT

Sr. No.	Student Name	Enrollment no.	Employee Name
1	Darji Naitik	180220119014	Patels Airtemp Limited
2	Chaudhari Bhavik Manishbhai	190220119006	Mody Technical Consultancy India Pvt.
3	Chaudhari Pranay Veljibhai	190220119007	BOARD OF APPRENTICESHIP
4	Dataniya Arunkumar Manubhai	190220119012	Eternity Power Solutions Pvt. Ltd.
5	Deriya Rutik Maheshbhai	190220119013	Ammann India Private Limited
6	Dobariya Vishal Maheshbhai	190220119016	Kredis Consulting LLP.
7	ITAN Vishwas Dharmendra	190220119019	QX Global Services Private Limited
8	Kalal Dipen Yogeshkumar	190220119021	Ammann India Private Limited
9	Abhishek Pal	190220119027	Sun Pharma
10	Dhruvik Kantibhai Patel	190220119036	Ammann India Private Limited
11	Patel Jigarkumar Santusahay	190220119044	GTC oilfield Service Ltd.
12	Patel Karan Sanjaykumar	190220119045	Zydus Hospital Oncology Pvt. Ltd.
13	Patel Kushal Udaykumar	190220119047	Care B.M.W. incinerator
14	Patel Man Sanjaykumar	190220119049	Ingersoll Rand.(INDIA) Ltd.
15	Patel Mann Arvindkumar	190220119051	Narmada Seals

Sr. No.	Student Name	Enrollment no.	Employee Name
16	Patel Rajkumar Pravinbhai	190220119054	Rishi Laser Ltd.
17	Patel Rupen Pravin	190220119055	Harsha Engineers
18	Patel Tirth Mukeshkumar	190220119057	Radhe Tapes
19	Patel Viral Manilal	190220119059	Anderson Greenwood Crosby sanmar Ltd.
20	Patel Vishalkumar Pappubhai	190220119060	Monarch Innovation
21	Prajapati Jay Kalpeshkumar	190220119064	Vivan Hydraulics
22	Prajapati Jayminkumar Jagdishbhai	190220119065	Inductotherm Group India
23	Prajapati Kishankumar Arvindbhai	190220119068	Munjal Kiriu Industries Pvt. Ltd.
24	Prajapati Vivekkumar Arvindbhai	190220119073	Gaurav Engineering
25	Rajput Gaurangsinh Arvindji	190220119077	Ishiv India Solution Pvt. Ltd.
26	Raval Pragneshkumar Arvindbhai	190220119080	Mechatronics Calibration Services
27	Roy Himanshukumar	190220119081	Monarch Innovation
28	Sathwara Jay Pradeepbhai	190220119082	ATC Chains INDIA
29	Suthar Vaibhavkumar Kantilal	190220119093	Munjal Kiriu Industries Pvt. Ltd.
30	Upadhyay Ruchik Vimalkumar	190220119098	IMAC Design & Engineering Sevices
31	Yadav Kripesh Omprakash	190220119100	Virani Dynamics LLP.
32	Zapadiya Shubham Mansukhbhai	190220119102	Chandan Steel Limited
33	Varun Rattan	190220119103	Carolina Outsourcing Pvt. Ltd.
34	Jethwa Pinak Kanabhai	200220119502	Manek Metalcraft @TORQUE-TALK
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Sr. No.	Student Name	Enrollment no.	Employee Name
35	Sunariya Aryan Arvindbhai	200220119504	Ammann India Private Limited
36	Patel Dharmdev Alakeshkumar	200220119506	Fil sep Equipment Pvt. Ltd.
37	Patel Priya Dasharathbhai	200220119508	John Energy Limited
38	Modi Jay Jagdishkumar	200220119511	Monarch Innovation
39	Modi Pratham Ajaykumar	200220119512	Naman In store India Ltd.
40	Panchal Kartik Bharatkumar	200220119515	Rishabh Software
41	Prajapati Akshaykumar Prahladbhai	200220119519	Ammann India Private Limited
42	Rana Dhruv Kiritkumar	200220119522	Maxxis Rubber India Pvt. Ltd.
43	Bhatt Harsh Rakeshkumar	200220119525	JohnSon Screens
44	Prajapati Krunalkumar Shaileshbhai	200220119527	Nexcharge
45	Pandya Harsh Rohitkumar	200220119528	Nexcharge
46	Maisuriya Dushyant Sanjaybhai	200220119532	Ingersoll Rand.
47	Parmar Dharmeshkumar Dhirajbhai	200220119534	Madhav Associates
48	Kartikkumar R Patel	200220119535	Gemini Eng-feb Pvt. Ltd.
49	Kanjareeya Keyurkumar Ramnikbhai	200220119540	Trishul Pumps
50	Patel Bhavinkumar Dineshbhai	200220119544	Waaree Shree Godiji Factory
51	Patel Harsh Ambalal	200220119550	CYNECTIX
52	Prajapati Ajay Jayantilal	200220119551	Ammann India Private Limited
53	Prajapati Dixitkumar Dahyabhai	200220119553	3DMAS @TORQUE-TALK

Sr. No.	Student Name	Enrollment no.	Employee Name
54	Yadav Aakashkumar Ramdin	200220119557	TATA Motors Passangers Vehical Limited.
55	Prajapati Pavankumar Gopalbhai	200220119560	Avant Garde Clean Room & Engg. Solutions Pvt. Ltd.
56	Prajapati Ravikumar Rohitkumar	200220119561	Oswal Industries Ltd.
57	Patel Jil Amrutlal	200220119563	Asahi India Glass Ltd.
58	Patel Jaykumar Narsinhbhai	200220119566	Vishwak Industries
59	Patel Arju Dineshbhai	200220119568	Anjaria Associates
60	Prajapati Rahulbhai Bharatbhai	200220119570	Citizen Industries Pvt. Ltd.
61	Machhi Hiren Vureshbhai	200220119574	Central machinery and plastic products

DEPARTMENT

STUDENTS ADMITTED TO HIGHER STUDIES



Sr. No.	Enrollment. No.	Student name	Course Name	Address
1	190220119008	Chaudhary Dushyant Jashvantbhai	EN55 Master of Professional Engineering	Queensland University of Technology
2	190220119011	Darji Sachinbhai Ashokbhai	EN55 Master of Professional Engineering	Queensland University of Technology
3	190220119025	Malek Arsh Mahmudhanif	Master Of Science Power Engineering - Energieerzeugung durch fossile und erneuerbare	BTU Cottbus - Sentenberg · Postfach
4	190220119058	Patel Vijaykumar Bharatbhai	Mechanical Engineering (M.Tech) Electric Vehical Technology	L. D. College Of Engineering, Ahmedabad
5	190220119084	David Kumar Sharma	Mechanical Engineering (M.Tech) Thermal Science	The Maharaja Sayajirao University,
6	190220119088	Singh Masoom Mahesh Prasad	Sadhana (Foundation Cum Advance-2Year Course)	Shankar IAS Academy, Anna Nagar.
7	200220119501	Parmar Sunny Maheshbhai	Master of Engineering (Production Engineering in Mechanical)	The Maharaja Sayajirao University,
8	200220119505	Patel Neel Manishbhai	MEng-Mechanical Engineering	University Of Windsor, CANADA
9	200220119520	Dabhi Jay Chimanbhai	L.L.B.	A.R. Bhatt LLB College
10	200220119537	Yash Dharmeshkumar Chaudhari	Master Of Science in Mechanical Engineering	Florida Atlantic University
11	200220119538	Bagul Chirag Prahaladbhai	Mechanical Engineering (M.Tech) Electric Vehical Technology	L. D. College Of Engineering, Ahmedabad

DEPARTMENT SCHOOLAR

CONGRATULATIONS

ACADEMIC YEAR: 2019 TO 2023 (2023 PASS OUT)

FINAL YEAR TOPPERS

Rank	Enrollment No.	Name of the student	CPI	CGPA	SPI
1	190220119084	DAVID KUMAR SHARMA	9.01	8.96	10
2	190220119089	SOLANKI AJAYSINH ASHOKSINH	8.81	8.73	9
3	200220119550	PATEL HARSH AMBALAL	8.77	8.74	10
4	200220119511	MODI JAY JAGADISHKUMAR	8.7	8.49	10
5	190220119058	PATEL VIJAYKUMAR BHARATBHAI	8.66	8.62	8
6	200220119527	PRAJAPATI KRUNALKUMAR SHAILESBHAI M	8.62	8.71	10
7	190220119060	PATEL VISHALKUMAR PAPPUBHAI	8.56	8.72	10
8	190220119059	PATEL VIRAL MANILAL	8.49	8.45	10
9	200220119528	PANDYA HARSH ROHITKUMAR	8.35	8.53	9
10	200220119557	YADAV AAKASHKUMAR RAMDIN	8.15	8.29	9

FACULTY AND STAFF



Sr. No.	Name	Qualification	Designation
1	Dr. A. B. Dhruv	PhD	Professor
2	Dr. D K Patel	PhD Mechanical	Professor
3	Prof. D J Parmar	ME Mechanical	Assistant Professor
4	Prof.C.C.Patel	ME Mechanical	Assistant Professor
5	Prof. M G.Patel	ME Mechanical	Assistant Professor
6	Dr.S.P.Patel	PhD Mechanical	Assistant Professor
7	Dr. N.A.Patel	PhD Mechanical	Assistant Professor
8	Dr.K.V.Patel	PhD Mechanical	Assistant Professor
9	Prof.K.H.Thakkar	ME Mechanical	Assistant Professor
10	Prof.B.B.Patel	ME Mechanical	Assistant Professor
11	Prof.V.K.Patel	ME Mechanical	Assistant Professor
12	Prof.N.R.Makvana	ME Mechanical	Assistant Professor
13	Dr.H.N.Panchal	PhD Mechanical	Assistant Professor
14	Prof.R.A.Oza	ME Mechanical	Assistant Professor
15	Dr.H.R.Prajapati	PhD Mechanical	Assistant Professor
16	Prof.C.P.Kadia	BE Mechanical	Assistant Professor
17	Prof.K.K.Rabari	ME Mechanical	Assistant Professor
18	WWW.GCPATAN.AC.IN Prof.D.K.Patel	ME Mechanical	@TORQUE-TALK Assistant Professor

DEPARTMENT MAP



GROUND FLOOR

