

# GOVERNMENT ENGINEERING COLLEGE, MODASA

Newsletter

January – June 2024

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GECEM E-NEWS

# FROM THE PRINCIPAL'S DESK



**Dear Students, Faculty Members, and Stakeholders,**

**Warm greetings to all.**

**It gives me great pleasure to present the 4th volume, 1st issue of our Institute's e-newsletter, covering the period from January 2024 to June 2024.**

**This edition captures the vibrant activities and achievements of our Institute during these months. Our involvement in the Vibrant Gujarat 2024 Exhibition provided students with insights into cutting-edge technologies and innovations, fostering a connection between theoretical knowledge and practical applications. The District-Level Placement Fair held in March 2024 was a notable success, with 101 students securing job offers from participating industries.**

**We also actively engaged in fostering a culture of innovation through the SSIP Awareness Session and the PoC and Patent Scrutiny initiatives. These efforts highlight our commitment to encouraging entrepreneurship and intellectual property development among our students.**

**The Institute also hosted a variety of cultural and sports events, including the Republic Day Celebration, Aarambh 2.0 sports event, and International Yoga Day. These activities not only nurtured a spirit of patriotism and teamwork but also promoted physical and mental well-being among students and staff.**

**Additionally, our Khelmahakhumbh 2.0 participation was remarkable, with students and faculty excelling in various sports, including badminton, volleyball, and athletics. The Hostel Cup 2024 further strengthened the camaraderie and competitive spirit among our hostel residents.**

**I extend my heartfelt congratulations to all who contributed to these achievements and to the editorial team for their diligent efforts in bringing out this newsletter.**

**Thank you, and best wishes for continued success.**

**Principal**

**Dr. B. J. Shah**

# COLLEGE SAGA

## Placement Fair 2024

On March 5, 2024, a District-Level Placement Fair was organized at Government Engineering College (GEC), Modasa. This significant event brought together 10 government and grant-in-aid (GIA) institutes from the Aravalli district, providing a valuable platform for students to connect with potential employers. The placement fair saw active participation from 27 different industries, ranging from manufacturing to IT and services. These industries were keen on recruiting fresh talent from the region, offering various job roles across multiple domains. Throughout the day, company representatives conducted interviews, group discussions, and skill assessments to identify the most suitable candidates. The event was a resounding success, with 101 students receiving job offers from the participating industries. The fair provided a crucial opportunity for final-year students to secure employment before completing their studies, significantly boosting their career prospects.



## Vibrant Gujarat Exhibition 2024

On January 13, 2024, a group of 55 students, accompanied by 4 faculty members, visited the Vibrant Gujarat 2024 Exhibition. This event, renowned for showcasing the latest innovations and technological advancements, provided an exceptional learning experience for the students. The exhibition featured a diverse range of exhibits from both government and private companies, highlighting cutting-edge technologies being developed in Gujarat and across the nation. Students had the opportunity to explore various sectors, including renewable energy, artificial intelligence, smart manufacturing, biotechnology, and digital infrastructure. The exhibits demonstrated how these technologies are shaping the future and driving economic growth in the region. The visit was not only educational but also inspiring, as students interacted with industry experts, learned about new trends, and understood the significant investments being made by both the government and private sectors in these areas. Faculty members guided the students through the exhibition, helping them connect theoretical knowledge with practical applications.





# COLLEGE SAGA

## The ENCOMAA SOUVENIR 2024

The ENCOMAA SOUVENIR 2024, published in April 2024, encapsulates the highlights of the recent ENCOMAA event. This publication features an alumni detail, faculty details, institute details, overview of the event's agenda, including keynotes from notable alumni. The souvenir outlines, objectives of association and governing body, providing a comprehensive summary of ENCOMAA activities.



## SSIP CELL

### SSIP 2.0 Awareness Session CE/IT

On March 28, 2024, an SSIP (Student Startup and Innovation Policy) Awareness Session was held at the Department of Computer Engineering & Information Technology, specifically in Room No: 8119 and 8219, Seminar Hall. The session, attended by 123 students, aimed to educate participants on innovation and startups, encouraging them to turn their ideas into products. The session focused on the significance of the SSIP 2.0 policy, which is designed to foster a culture of innovation and entrepreneurship among students. Attendees were informed about the various benefits of SSIP, including financial support and mentorship, which are crucial for developing prototypes and launching startups. The speakers provided detailed guidance on how to apply for SSIP grants, emphasizing the importance of utilizing these resources to bring innovative ideas to life.

### SSIP PoC and Patent Scrutiny

In March-April 2024, the departments of Computer Engineering & Information Technology, Mechanical Engineering, and Automobile Engineering conducted a thorough review of Proofs of Concept (PoCs) and patent applications as part of the SSIP (Student Startup and Innovation Policy) initiative. The scrutiny process led to the registration of 11 new PoCs, showcasing innovative projects and ideas developed by students. These PoCs are poised for further development and potential commercialization. Additionally, the review resulted in the filing of two patents, highlighting the originality and impact of the student innovations. This rigorous evaluation underscores the effectiveness of the SSIP in fostering a culture of

# COLLEGE SAGA

innovation and providing support for intellectual property protection. The successful registration of PoCs and patent filings demonstrate the valuable contributions of students and their readiness to advance their ideas into tangible products.



## RUSA

### Skill based training at iACE Gandhinagar, on "PLC Programming"

Students viz. Hirani Ammar Sultanbhai (220163109008), Rathod Harshrajsinh Lalsinh (210160109035), and Sodhaparmar Jigneshsinh Jayantibhai (210160109036)—successfully completed a "Skill Based Training" internship at iACE Gandhinagar in collaboration with INDO GERMAN TOOL ROOM, MSME TOOL ROOM, AHMEDABAD, from 29<sup>th</sup> June to 12<sup>th</sup> July 2024, under RUSA, GECM. During the program, they gained valuable hands-on experience in PLC programming. This practical training equips Electrical Engineering students with critical skills in automation and control systems, enhancing their technical expertise and boosting their career prospects in the evolving industrial landscape.



## Gymkhana

### Republic Day Celebration

On January 26, 2024, GEC Modasa celebrated Republic Day with fervor and patriotism. The event commenced with the principal, leading the flag hoisting ceremony, emphasizing the significance of the Indian Constitution and national unity.





# COLLEGE SAGA

## Aarambh 2.0

The Annual sports event of College. The various sports were played throughout the month of February and March to allow students to showcase the skills. More than 400 Plus registrations were received and 240 participations. Through the month in the morning and evening the events were carried out. The College hosts an annual sports event that brings together students, faculty, and staff for a celebration of athleticism, teamwork, and school spirit. This event features a variety of sports competitions, including track and field, basketball, volleyball, cricket, and more. It's a time for the college community to showcase their talents, foster camaraderie, and promote a healthy, active lifestyle.



## International Yoga day Celebration

On June 21, 2024, our college celebrated International Yoga Day with great enthusiasm and participation. The event aimed to promote physical and mental well-being among students, faculty, and staff. The celebrations began early in the morning with a mass yoga session on the college grounds, where around 100 participants, including students and faculty, gathered to practice various yoga asanas and breathing exercises. The session was led by a yoga instructor who guided everyone through a series of postures, emphasizing the importance of maintaining a healthy lifestyle.



## Blood Donation and Thalassemia Camp

On March 6, 2024, our college organized a Blood Donation and Thalassemia Awareness Camp in collaboration with the local health department and a reputable blood bank. The event aimed to raise awareness about the importance of blood

# COLLEGE SAGA

donation and educate participants about thalassemia, a genetic blood disorder. The camp started at 10:00 AM in the college, which was transformed into a well-equipped donation center. The event saw an overwhelming response from students, faculty, and staff, with over 50 volunteers registering to donate blood. Medical professionals from the partnering hospital conducted a thorough screening process to ensure the safety of both donors and recipients.



## Khelmahakhumbh 2.0

The GEC Modasa has seen 109 athletes participating in khelmahakhumbh 2.0 2024-25 edition, where in faculties and students participated in various team events and individual events.

## Khelmahakhumbh 2.0 Badminton

The district badminton completion was held in GEC Modasa gymkhana, where large number of GECM students have enjoyed the event. The event marked the presence of district SP as well.

## Khelmahakhumbh 2.0 Javelin and shotput

Pavan Goswami of GECM has secured the first place on shot put and third javelin throw district event.



## Khelmahakhumbh 2.0 Volleyball Shooting

The GECM faculty team secured second rank in district level shooting tournament.



# COLLEGE SAGA

## Voters Awareness Program

On April 25, 2024, our college conducted a Voters Awareness Program aimed at educating students about the importance of voting and encouraging active participation in the democratic process. The event was organized in collaboration with the local election commission, and it saw enthusiastic involvement from both students and faculty members.



## Hostel

### Hostel Cup 2024

The annual Hostel Cup was held at college around January-February 2024, bringing together students from the GECM hostel for an exciting and competitive series of events. This much-anticipated tournament featured a variety of sports, including badminton, volleyball, and cricket, allowing students to showcase their athletic talents and foster a sense of camaraderie. The Hostel Cup was more than just a sports event; it was a celebration of teamwork, sportsmanship, and student life at GECM. The event provided a much-needed break from academics, allowing

students to unwind and enjoy healthy competition. The tournament concluded with a prize distribution ceremony, where the winning teams and standout players were recognized for their achievements. Overall, the Hostel Cup 2024 was a resounding success, contributing to the vibrant campus life at GECM.

*“India has long been an exporter of talent to tech tech companies... But it is India that's now undergoing its own revolution.”*

*Sundar Pichai,*

*CEO of Google*



# DEPARTMENT SPOTLIGHT

## Applied Mechanics & Civil Engineering Department

### Staad Pro. Hands on session

Dr. A.J. Patel's hands-on session was a valuable learning experience for civil engineering students, offering practical skills in using STAAD Pro for structural analysis and design on 4/3/2024. The session equipped students with the foundational knowledge needed to effectively utilize the software in their academic and future professional work.



### Expert Talk on IPR

Dr. Abhijit Sinh Parmar delivered an insightful lecture on Intellectual Property Rights (IPR) tailored for civil engineering students on 8/2/2024. The session aimed to highlight the importance and implications of IPR in the field of civil engineering and beyond. The lecturer discussed how IPR is crucial for civil engineers, particularly in protecting innovative designs, construction techniques, and engineering solutions. Emphasis was placed on patents for new construction technologies and methods, which can give engineers a competitive edge and foster innovation.



### Training on First aid by red-cross

A first aid workshop, organized by the Red Cross, was held on 8th February 2024 at Department, where students learned basic first aid techniques and emergency response procedures through interactive and hands-on sessions, covering topics such as wound management, CPR, and more, and received positive feedback from participants who appreciated the practical approach and requested more workshops.



# DEPARTMENT SPOTLIGHT

## Electrical Engineering Department

### Industrial Visit at Power Lite Electricals, Ahmedabad

On 20th February 2024, an exciting educational journey took place as 31 students, accompanied by Dr. V.J. Upadhyay and Dr. U.L. Makwana, visited the renowned Powerlite Electricals. Known for their expertise in manufacturing and repairing transformers, Powerlite showcased their cutting-edge oil-immersed transformers. The visit offered a fascinating glimpse into advanced applications like drive duty, arc furnaces, and inverters. This experience was invaluable for electrical engineering students, immersing them in the world of engineering innovation and performance excellence.



### Industrial Visit at Veer Electronics, Gandhinagar

To provide close exposure, on 02/03/2024, Dr. U.L. Mackwana, Dr. K.K. Bhatt accompanied students of EE to industrial visit to Veer Electronics Private Limited. The company is ,ISO 9001 and

NABL certified manufacturer of testing and measuring instruments based in Gandhinagar, Gujarat, India. The students have undergone demonstration of the production line and test setup.



### Industrial Visit at Madhur Dairy, Gandhinagar

Dairy Industry being milk based multidisciplinary automatic processed food industry, EE dept organized visit to the dairy is a Prof. M.J. Patel and Prof. J.B. Pujara accompanied and guided through the visit, wherein 35 students accompanied on 04/03/2024. The visit offered students practical insights into industrial automation, power distribution, and control systems. It helps them understand real-world applications of their studies, such as managing electrical equipment, energy efficiency, and safety protocols in a dairy processing environment.



# DEPARTMENT SPOTLIGHT



## Industrial Visit at 220 KV Faredi Substation, Modasa

A visit to the 220 KV Faredi Substation, Modasa, exposed 35 final-year students, guided by Dr. V.J. Upadhyay and Prof. D.U. Thakar, to practical aspects of electrical power transmission. Students explored key components and switchgear applications, including circuit breakers, relays, and bus bars on 26/02/2024. They also observed efficient distribution of electrical power from incoming feeders to multiple outgoing feeders, adapting to secondary transmission voltages and power levels. The visit offered students comprehensive understanding of real-world power systems and enhancing their readiness for professional roles in the field.



## Industrial Visit at iACE, Gandhinagar

Department facilitated an enriching industrial visit to the prestigious International Automobile Centre of Excellence (iACE) in Gandhinagar on 11/03/2024. On this excursion, 38 students, accompanied by Prof. N.V. Upadhyay and Dr. V.J. Upadhyay, explored iACE's state-of-the-art infrastructure and advanced technical laboratories. As a premier institute for skill development in the automotive sector, iACE offers comprehensive 'end-to-end' training, development, and research opportunities. This visit provided students with invaluable insights into modern technologies and systems crucial to both manufacturing and servicing within the automotive industry.



## Webinar on "India's Techade: Chips for Viksit Bharat"

A webinar titled "India's Techade: Chips for Viksit Bharat" was held in hybrid mode on 17/02/2024. Attended by 50 students and 12 faculty members from the Electrical Department, it highlighted India's plans to strengthen its semiconductor facilities in Dholera, Sanand, and Morigaon. The

# DEPARTMENT SPOTLIGHT

event underscored India's ambitions in AI, semiconductor design, and quantum computing, with the Prime Minister set to lay the foundation for three new semiconductor facilities on 13th March 2024. This initiative aligns with the India Semiconductor Mission, aiming to establish India as a key player in the global semiconductor industry.



## Webinar on "Introduction to Summer Internship-2024"

On 21/03/2024, the "Introduction to Summer Internship-2024" webinar was held at EED, Dr. Abdul Kalam Hall, from 1:00 pm to 2:00 pm. Dr. V.J. Upadhyay emphasized the importance and scope of internships to 54 attending students. Faculty mentors were assigned, and Prof. Darshan Thakar explained the NOC procedure and provided essential information. The session highlighted how internships offer invaluable real-world experience

and maximize learning opportunities, especially for students entering industry settings for the first time.



## Webinar on "Modern Trends of Electric Drives"

On 1/03/2024, Shri Vishal Patel Senior Engineer of the D&MC Division at YASKAVA IND. LTD. conducted a webinar titled "Modern Trends of Electric Drives" at Dr. Abdul Kalam Hall, attended by 54 students. The session explored advanced motor design, new motor topologies, and the optimisation of power density and efficiency. The interactive workshop provided hands-on experience with Variable Frequency (VF) Drives, giving students practical insights into emerging trends. This experience was instrumental in enhancing their understanding of electric drives' applications in various sectors.



# DEPARTMENT SPOTLIGHT



## Webinar on "Market Ready Yourself"

On 29/02/2024, Shri Hiren Thaker, Founder of Ayana Academy and former International Program Head at GTU, conducted a webinar titled "Market Ready Yourself" at EED, Room 7204, attended by 54 students. He covered essential strategies for effective self-marketing, including building a professional online presence, optimizing social media profiles, and attending industry events. Emphasis was also placed on self-discovery, defining a unique value proposition, networking, and continuous learning to stay competitive and market-ready.



## Webinar on Career Advancement with Industry 4.0 technology

On 17/02/2024, Department hosted a webinar on "Career Advancement with Industry 4.0 Technology" in EED, Room 7204. Shri Vishal Vadher, Assistant Manager at SOFCON (Ind) Pvt. Ltd., led the session, attended by 51 students. The webinar, initiated by Prof. Darshan U. Thakar's welcome speech, explored the digital transformation in manufacturing and Industry 4.0 technologies. The interactive session concluded with a Q&A where Vadher addressed students' queries.

# DEPARTMENT SPOTLIGHT



## Computer Engineering & Information Technology Department

### Sudo 2K24

On February 22-23, 2024, Sudo 2k24 brought together participants for a vibrant two-day event filled with engaging and challenging sub-events. These competitions spanned across various domains, from technical problem-solving to creative expression where more than 200 students participated.



## Mechanical & Automobile Engineering Department

### The Project Expo 2024

The Project Expo-2024 was organized on 4/3/2024. The project prepared by students using innovative ideas, and it drew the attention of dignitaries during the project expo. While visiting the Expo, the judges expressed their appreciation to the students for their tireless work in showcasing their creative ideas for the good of society. His motivational remarks also sparked a desire in them to succeed in the technical domain. The major objective of organizing this Project EXPO was to provide a platform, for the young minds to show their talents practically and to outcome their potential by showcasing their innovative projects developed in the 3rd Year of Design Engineering Subject either focusing Industry Defined Problems or User Defined Problems. This provided an



# DEPARTMENT SPOTLIGHT

opportunity for the students to demonstrate their learning experience.



## Celebrating World Engineering Day World

Engineering Day was celebrated on 4th March 2024. with the presence of the Dignitaries Er. Navinchandra Vasoya (National Member, Executive Council, World Federation of Engineering Organizations), Er. Vijay Solanki (Deputy Director, WMF, IEI, Ahmedabad), And Mr. Setu Shah (Multi-skilled and dynamic entrepreneurs Sujalaam, Ahmedabad). More than 120 students have participated. The main key objective of this celebration to Create awareness of World Engineering Day as an important international day for achieving sustainable development.



## Seminar on the Theme Change in Lifestyle to become aatmaNEERbhar Self Reliant in Water

A Seminar on the Theme of “Change in Lifestyle to become ‘aatmaNEERbhar’ – SelfReliant in Water.” was organized on 4-03-2024. Mr. Setu shah, multi-skilled and dynamic entrepreneurs Sujalaam, Ahmedabad had delivered the seminar. The seminar was very informative and encouraged students to adopt innovative techniques and sustainable lifestyle changes to become self-sufficient in water, fostering the development of a culture that values water conservation and responsible stewardship. More than 120 students have actively participated in the session.



# DEPARTMENT SPOTLIGHT

## Inauguration of Department magazine "MECHINSIGHT"

The "MECHINSIGHT", Mechanical Engineering Department Magazine was Inaugurated by the Er. Navinchandra Vasoya (WEFO), Er. Vijay Solanki (WMF), Mr. Setu Shah (Entrepreneurs Sujalaam), Dr. B.J.Shah (Principal GEC, Modasa), Dr. J. A. Vadher and Dr. U. V. Shah, H.O.D., Mechanical and Automobile Engineering Department respectively. This magazine contains various details namely, Faculty details, Faculty achievement, Industry partners, Placement, Expert lecture. Various achievement of students related to Technical and Sports. The aim of this magazine to motivate students to take part in every curricular activity related to college level as well as state level competitions. This magazine also provides the Platform not only for students but also for Faculty members to search their hidden talent and make it in reality.



## An Exhibition on SAVE WATER exhibit by WMF

Poster Exhibition on "Save Water" was organized with common aim to create awareness and promote action towards water conservation in association with Water Management Forum (WMF), and the Institution of Engineers (India) IEI

Ahmedabad. Through this interactive exhibition students inspired to take concrete steps towards saving water in their daily lives.



## Visit the Space Applications Centre (SAC), ISRO, Ahmedabad

Mechanical & Automobile engineering students of 4th semester visited the Space Applications Centre (SAC), is a major research and development centre of the Indian Space Research Organisation (ISRO) Ahmedabad on 11/05/2024. It was coordinated by Dr. P. M. Mistri. Students toured the cutting-edge Space Applications Centre (SAC) Lab, which features significant attractions like 3D theatre, GSLV animation, virtual presenter, augmented reality, and TV without glasses. Students gained knowledge about the fuel, engine, size, and different components of GSLV and PSLV rockets. They learned about the different kinds of satellites that India has launched, including Chandra and Mangal Yaan, and the materials used to make them. Additionally, they were given a brief overview of the materials used to make them. Additionally, they were given a brief overview of ISRO's ongoing initiatives. It was a truly wonderful pleasure to visit SAC. Then a brief overview was given to the students about the materials used to make them. Additionally, they were given a brief overview of ISRO's ongoing initiatives.



# RESEARCH AND OUTREACH

## Electronics & Communication Department

**Prof. S. H. Mansuri** has published a research paper on “A multimode frequency reconfigurable Antenna for 5G and WLAN Applications” in Indian Journal of Natural Sciences, ISSN: 0976-0997, October 2023.

**Prof. B. A. Brahmbhatt, Prof. P. V. Patel, Prof. T. A. Chaudhari and Prof. S. V. Banker** has published a research paper on “Indirect Field Oriented Control of Induction Motor” in Journal of Electrical Systems (JES), ISSN: 1112-5209, March 2024.

**Prof. B. A. Brahmbhatt, Prof. T. A. Chaudhari and Prof. S. V. Banker** has published a research paper on “Metaheuristic Optimization Algorithms Comparison Adopted for the Profit Maximization of Electricity Market Participants” in Journal of Electrical Systems (JES), ISSN: 1112-5209, May 2024.

**Prof. B. A. Brahmbhatt, Prof. P. V. Patel, Prof. N. D. Patel, Prof. N. J. Bathani and Prof. S. A. Mansuri** has published a research paper on “Implementation of Reconfigurable Modified Advanced Encryption Algorithm with Area Optimization” in International Journal of Intelligent Systems and Applications in Engineering (IJISAE), ISSN: 2147-6799, March 2024.

**Prof. B. A. Brahmbhatt, Prof. N. J. Bathani and Prof. S. K. Rana** has published a research paper on “Selective Harmonics Elimination Technique using Particle Swarm Optimization algorithms in Multilevel H5 Inverter Topology” in International Journal of Intelligent Systems and Applications in Engineering (IJISAE), ISSN: 2147-6799, March 2024.

## Computer Engineering & Information Technology Department

**Prof. N. N. Maltare and Prof. S. A. Vahora** has published a research paper on “Seasonal analysis of meteorological parameters and air pollutant concentrations in Kolkata: An evaluation of their relationship” in Journal of Cleaner Production, ISSN: 1879-1786, January 2024.

**Prof. M. M. Goyani** has published a research paper on “Adapting face recognition to the masked world: leveraging deep attention networks with a custom dataset” in International Journal of Computers and Applications, ISSN: 1206-212X, March 2024.

**Prof. T. A. Champaneria** has published a research paper on “Through deep learning, dynamic hand gesture recognition of sign language learning algorithm” in International Journal of Computational Vision and Robotics, ISSN: 1752-914X, May 2024.

**Prof. T. A. Champaneria** has published a research paper on “Heart Disease Prediction using Graph Neural Network” in International Journal of Intelligent Systems and Applications in Engineering, ISSN: 2147-6799, January 2024.

**Prof. S. G. Patel, Prof. A. D. Chaudhari, Prof. P. R. Gamit and Prof. A. K. Dodiya** has published a research paper on “A Statistical and Machine Learning Based Face Identification System with Enhanced Multiple Weighted Facial Attribute Sets” in International Journal of Intelligent Systems and Applications in Engineering (IJISAE), ISSN: 2147-6799, March 2024.

**Prof. S. G. Patel, Prof. A. D. Chaudhari, Prof. P. R. Gamit and Prof. A. K. Dodiya** has published a research paper on “Advanced Machine Learning Techniques for Precise Thyroid Disease

# RESEARCH AND OUTREACH

Classification: A Novel Approach” in International Journal of Electrical Systems (JES), ISSN: 1112-5209, April 2024.

**Prof. N. N. Maltare and Prof. S. A. Vahora** has published a research paper on “A Hybrid Approach for Mathematical Representation of Parallel Design” in 5th International Conference for Emerging Technology (INCET), May 2024.

**Prof. N. N. Maltare** has published a research paper on “An Adaptive Parallel Pattern Based Design for Molecular Dynamic Simulation” in Iraqi Journal of Science, ISSN: 0067-2904, February 2024.

**Prof. P. S. Modi** has published a research paper on “A Review on Video to Text Summarization Techniques” in International Journal of Electrical Systems (JES), ISSN: 1112-5209, July 2024.

**Prof. M. M. Goyani** delivered expert lecture on "Digital Content Creation" on date 25/06/2024 at BVM Engineering College, V.V.Nagar.

**Prof. M. M. Goyani** delivered expert lecture on "IIoT Analytics" on date 06/06/2024 at Gitanjali Institute of Technical Studies, Udaipur.

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## Mechanical & Automobile Engineering Department

**Prof. B. C. Khatri** has published a research paper on “Investigation of effect of post weld heat treatment on microhardness and microstructure of auto TIG welded stabilized SA213 TP347H weldments” in Welding International, April 2024.

**Prof. M. M. Madhikar** delivered expert session on Basics of Photography at GEC Bharuch during 18/03/2024 to 19/03/2024.

*“Performance matters because games are built on great performance, but form factor and energy efficiency matter incredibly because they want to build something that's portable and transformable..”*

*Jensen Huang,*

*CEO of NVIDIA*



# PARTICIPATION AND ACHIEVEMENTS

## PARTICIPATIONS

### Applied Mechanics & Civil Engineering Department

**Prof. A. J. Patel** has participated in NPTEL-AICTE faculty development program on Retrofitting and Rehabilitation of Civil Infrastructure during April 2024 organized by SWAYAM NPTEL.

**Prof. M. M. Bhunga** has participated in NPTEL-AICTE faculty development program on Retrofitting and Rehabilitation of Civil Infrastructure during April 2024 organized by SWAYAM NPTEL.

**Prof. N. G. Raval** has participated in online training program on Innovative Construction Techniques in Signature Bridge, Delhi during January 2024 organized by Ultratech cement and Indian concrete institute.

**Prof. U. K. Khare** has participated in international symposium at GTU on Water and waste water management (zero waste) held on 13/2/2024.

**Prof. S. S. Singh** has participated in international symposium at GTU on Water and waste water management (zero waste) held on 13/2/2024.

**Prof. U. K. Khare** has participated in workshop on Designing Learner-centric MOOCs at IIT Gandhinagar held on 16/3/2024.

**Prof. S. S. Singh** has participated in workshop on Designing Learner-centric MOOCs at IIT Gandhinagar held on 16/3/2024.

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### Electronics & Communication Department

**Prof. S. H. Mansuri** has participated in NPTEL-AICTE faculty development program on Training and

Development during April 2024 organized by SWAYAM NPTEL.

**Prof. K. R. Patel** has participated in NPTEL-AICTE faculty development program on Psychology Of Stress, Health And Well-Being during April 2024 organized by SWAYAM NPTEL.

**Prof. B. A. Brahmbhatt** has participated in one day program on Semiconductor Technology : A way forward for making Gujarat Semiconductor Hub on 27/04/2024 organized by iHub, Ahmedabad.

**Prof. N. D. Patel** has participated in one day program on Semiconductor Technology : A way forward for making Gujarat Semiconductor Hub on 27/04/2024 organized by iHub, Ahmedabad.

**Prof. P. V. Patel** has participated in one day program on Semiconductor Technology : A way forward for making Gujarat Semiconductor Hub on 27/04/2024 organized by iHub, Ahmedabad.

**Prof. M. S. Chauhan** has participated in one day program on Semiconductor Technology : A way forward for making Gujarat Semiconductor Hub on 27/04/2024 organized by iHub, Ahmedabad.

**Prof. M. S. Chauhan** has participated in Faculty Development Program (FDP) on the Fundamentals of Semiconductor Package Manufacturing & Test during June 2024, jointly organized by GTU and Micron Technology organized by iHub, Ahmedabad.

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### Electrical Engineering Department

**Prof. N. V. Upadhyay** has participated in NPTEL-AICTE faculty development program on Psychology of Stress, Health and Well Being during April 2024 organized by SWAYAM NPTEL.

**Prof. K. K. Bhatt** has participated in NPTEL-AICTE faculty development program on Psychology of Stress,

# PARTICIPATION AND ACHIEVEMENTS

Health and Well Being during April 2024 organized by SWAYAM NPTEL.

**Prof. N. V. Upadhyay** has participated in Two-weeks Industrial Training at Australian Premium Solar (Ind.) Ltd. during June 2024.

**Prof. K. K. Bhatt** has participated in Two-weeks Industrial Training at Australian Premium Solar (Ind.) Ltd. during June 2024.

**Prof. D. U. Thakar** has participated in Two-weeks Industrial Training at Australian Premium Solar (Ind.) Ltd. during June 2024.

**Prof. H. S. Pandya** has participated in Two-weeks Industrial Training at Australian Premium Solar (Ind.) Ltd. during June 2024.

**Prof. D. U. Thakar** has participated in NPTEL-AICTE faculty development program on Psychology of Stress, Health and Well Being during April 2024 organized by SWAYAM NPTEL.

**Prof. H. S. Pandya** has participated in NPTEL-AICTE faculty development program on Psychology of Stress, Health and Well Being during April 2024 organized by SWAYAM NPTEL.

**Prof. T. A. Chaudhari** has participated in one week program on Purchase Management, Tender And Quotation (Gem) during February 2024 organized by NITTTR, Bhopal.

**Prof. C. K. Baria** has participated in one week program on Purchase Management, Tender And Quotation (Gem) during February 2024 organized by NITTTR, Bhopal.

**Prof. T. P. Shah** has participated in NPTEL-AICTE faculty development program on Student Assessment during April 2024 organized by SWAYAM NPTEL.

**Prof. T. P. Shah** has participated in NPTEL-AICTE faculty development program on Leadership and Team

Effectiveness during April 2024 organized by SWAYAM NPTEL.

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## Computer Engineering & Information Technology Department

**Prof. M. M. Goyani** has participated in NPTEL-AICTE faculty development program on Data Analytics using Python during April 2024 organized by SWAYAM NPTEL.

**Prof. M. M. Goyani** has participated in NPTEL-AICTE faculty development program on Deep Learning using Python during April 2024 organized by SWAYAM NPTEL.

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## Mechanical & Automobile Engineering Department

**Prof. P. M. Mistri** has participated in NPTEL-AICTE faculty development program on Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems during April 2024 organized by SWAYAM NPTEL.

**Prof. M. G. Patel** has participated in NPTEL-AICTE faculty development program on Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems during April 2024 organized by SWAYAM NPTEL.

**Prof. H. I. Chaudhari** has participated in NPTEL-AICTE faculty development program on Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems during April 2024 organized by SWAYAM NPTEL.

**Prof. R. B. Shah** has participated in NPTEL-AICTE faculty development program on Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems during April 2024 organized by SWAYAM NPTEL.



# PARTICIPATION AND ACHIEVEMENTS

**Prof. J. C. Gamit** has participated in NPTEL-AICTE faculty development program on Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems during April 2024 organized by SWAYAM NPTEL.

**Prof. V. J. Chahan** has participated in NPTEL-AICTE faculty development program on Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems during April 2024 organized by SWAYAM NPTEL.

**Prof. P. M. Mistri** has participated in NPTEL-AICTE faculty development program on Training and Development during April 2024 organized by SWAYAM NPTEL.

**Prof. M. G. Patel** has participated in NPTEL-AICTE faculty development program on Training and Development during April 2024 organized by SWAYAM NPTEL.

**Prof. H. I. Chaudhari** has participated in NPTEL-AICTE faculty development program on Training and Development during April 2024 organized by SWAYAM NPTEL.

**Prof. Samrudhhi. P. Patel** has participated in NPTEL-AICTE faculty development program on Leadership and Team Effectiveness during April 2024 organized by SWAYAM NPTEL.

**Prof. M. J. Vanajara** has participated in NPTEL-AICTE faculty development program on Entrepreneurship Essentials during April 2024 organized by SWAYAM NPTEL.

**Prof. M. J. Vanajara** has participated in NPTEL-AICTE faculty development program on German-I during April 2024 organized by SWAYAM NPTEL.

**Prof. M. J. Vanajara** has participated in one week training on Advances in Manufacturing - Industrial 4.0 Perspectives" during January 2024 at GEC Dahod organized by CTE.

## FACULTY ACHIEVEMENTS

**Prof. U. K. Khare and V. R. Gor** from civil engineering department have reviewed a paper for book chapter in Contemporary research in Business, Management and Economics- June 2024 for manuscript" Base line study of Mltkie learning watershed of pawe District, north western Ethiopia".

**Prof. Safvan Vahora, Prof. Hiren Patel, Dr. Nilesh Maltare, Prof. Dr. Prashant S. Modi, Dr. Bhavik Brahmbhatt, Patel Priyank and Dr. Mahesh Goyani** have published and been granted the design patent for "Smart Speedometer with Rear-End Collision-Warning Indicator". The Design Number is 418066-001, the Journal Number is 26/2024, and the Journal Date is 28/06/2024



# PARTICIPATION AND ACHIEVEMENTS

**Prof. J. A. Vadher from Mechanical Engineering Department** have published and been granted the design patent for "An invention entitled Universal Centrifugal Casting Machine" in March 2024.



**Prof. N. V. Upadhyay from Electrical Engineering Department** was declared NPTEL Topper on 1st June 2024 on bases of MOOC course she undertaken named "Psychology of stress" grades.

**Pride Overflow! NPTEL Topper**



**Prof. P. S. Modi from Information Technology Department** has completed his Ph.D. in Appearance Features based Hybrid Method for Robust Face Recognition from GTU on 4<sup>th</sup> May 2024.

**Prof. T. A. Champaneria from Computer Engineering Department** has completed his Ph.D. in Microservice based middleware for the internet of things from CHARUSAT University on 23<sup>rd</sup> January 2024.



# PARTICIPATION AND ACHIEVEMENTS

Anand Patel, Nimesh Patel and Mehul Mehta have completed Doctor of Philosophy (Ph.D.) under the guidance of **Prof. J. A. Vadher** from Mechanical Engineering Department during Jan to June 2024.

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Pradip Gajjar and Altaf Momin have completed Doctor of Philosophy (Ph.D.) under the guidance of **Prof. B. C. Khatri** from Mechanical Engineering Department during Jan to June 2024.

*"The biggest risk is not taking any risk.  
In a world that is changing quickly, the  
only strategy that is guaranteed to fail  
is not taking risks."*

**Ratan Tata**

**Former chairperson of the Tata  
Group**

## STUDENT ACHIEVEMENTS

**Smit Kaushikbhai Joshi** of Electrical Engineering department qualified GATE with GATE score 776 and AIR 613.

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**Shivam Shelat**, an alumnus of the Electrical Engineering Department at GEC Modasa, has made an outstanding achievement by securing an All-India Rank of 6 and being commissioned as a Lieutenant in the Indian Army. Now serving as a Class-1 Group A Gazette Officer under the authority of the President of India, his journey is a testament to his dedication, perseverance, and unwavering commitment to the nation. The institution proudly celebrates this accomplishment and looks forward to his continued success in this honorable path.



## Intellectual Property Rights and its Scope in the Market

Intellectual Property Rights (IPR) play a crucial role in today's global economy, especially in the field of computer science and technology. IPRs refer to the legal protections granted to creators and inventors to safeguard their intellectual creations and innovations. These rights are essential in fostering innovation, promoting fair competition, and enabling creators to benefit financially from their inventions.



### Types of Intellectual Property Rights

- 1. Patents:** Patents protect new inventions, granting the inventor exclusive rights to make, use, or sell the invention for a specified period, typically 20 years. In computer science, patents are often applied to new algorithms, software, hardware designs, and technological processes.
- 2. Copyrights:** Copyright protects original works of authorship, including software, code, databases, and digital content like websites and multimedia. It ensures that the creator has the exclusive right to reproduce, distribute, and display the work.
- 3. Trademarks:** Trademarks protect symbols, names, and slogans used to identify and distinguish products or services. In the tech industry, trademarks are vital for branding and establishing market presence.
- 4. Trade Secrets:** Trade secrets encompass confidential business information, such as algorithms, source code, and proprietary processes, that provide a competitive advantage. Unlike patents, trade secrets do not require public disclosure.

### Scope of IPR in the Market:

The scope of IPR in the market is expansive and vital for fostering innovation and economic growth. In the rapidly evolving field of computer science, IPR encourages companies to invest in research and development (R&D) by ensuring that their innovations are protected from unauthorized use by competitors. This protection is critical for maintaining competitive advantages in the market.



# TRENDING TECH TALKS

For instance, software companies rely heavily on patents and copyrights to safeguard their products and algorithms, which can be costly to develop. By securing IPR, these companies can prevent others from copying or reverse-engineering their products, thereby protecting their market share. Additionally, trademarks help companies establish brand recognition and loyalty, which is crucial in a competitive market.

Moreover, IPR facilitates the commercialization of technology by enabling companies to license their innovations to others. This licensing can create new revenue streams and expand the market reach of the original creators. For example, a company that develops a new encryption algorithm may license it to other companies, allowing widespread use while maintaining control over its intellectual property.

## **Challenges and Considerations:**

While IPR is essential for protecting innovations, it also presents challenges in the computer science market. The rapid pace of technological advancements can outstrip the ability of legal systems to keep up, leading to issues like patent trolls, where entities exploit the patent system to profit from litigation rather than innovation. Additionally, the global nature of the tech industry complicates IPR enforcement across different jurisdictions, necessitating international cooperation.

In conclusion, Intellectual Property Rights are a cornerstone of the computer science industry, providing the legal framework necessary to protect innovations and promote economic growth. The scope of IPR in the market is broad, influencing everything from product development and branding to licensing and commercialization. However, to fully harness the benefits of IPR, ongoing efforts are needed to address the challenges posed by the fast-paced and global nature of the tech industry.

- **Prof. P. S. Modi, Information Technology Department.**

## Machine Learning Techniques in the Internet of Things

Across industries, the Internet of Things (IoT) has become a major technology, offering real-time data from linked devices. A key component of this data analysis and insight extraction process is machine learning (ML). Here, we look at some of the most important machine learning approaches for the IoT together with case studies that show practical implementations, such as input and output data scenarios.

### 1. Supervised Learning

In Internet of Things applications where labelled data is accessible, supervised learning is commonly used. This method involves training the model on a dataset of input-output pairings such that it can anticipate fresh, unseen data with accuracy.

### 2. Unsupervised Learning

When pattern recognition or grouping of comparable data points is the aim and labelled data is not available, unsupervised learning might be helpful. This method is frequently applied in anomaly detection, in which the system detects anomalous behaviour in Internet of Things devices.

### 3. Reinforcement Learning

Through interactions with the environment and feedback in the form of rewards or penalties, an agent can learn to make decisions through a sort of machine learning called reinforcement learning (RL). RL is useful for dynamic, real-time decision making in the Internet of Things.

### 4. Deep Learning

Specifically designed for managing complex IoT data including photos, video, and audio is deep learning, a subset of machine learning. For applications like image recognition and natural language processing, neural networks with numerous layers are useful because they can learn hierarchical patterns.

### 5. Federated Learning

Federated learning is a decentralized machine learning technique that eliminates the need to send raw data to a central server by training models across a number of devices or edge nodes. For IoT applications that are privacy-sensitive, this is especially advantageous.

- **Prof.(Dr.) Tushar Champaneria, Computer Engineering Department.**



# GECM E-News

Newsletter | January – June 2024

Government Engineering College, Modasa.

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