GOAL

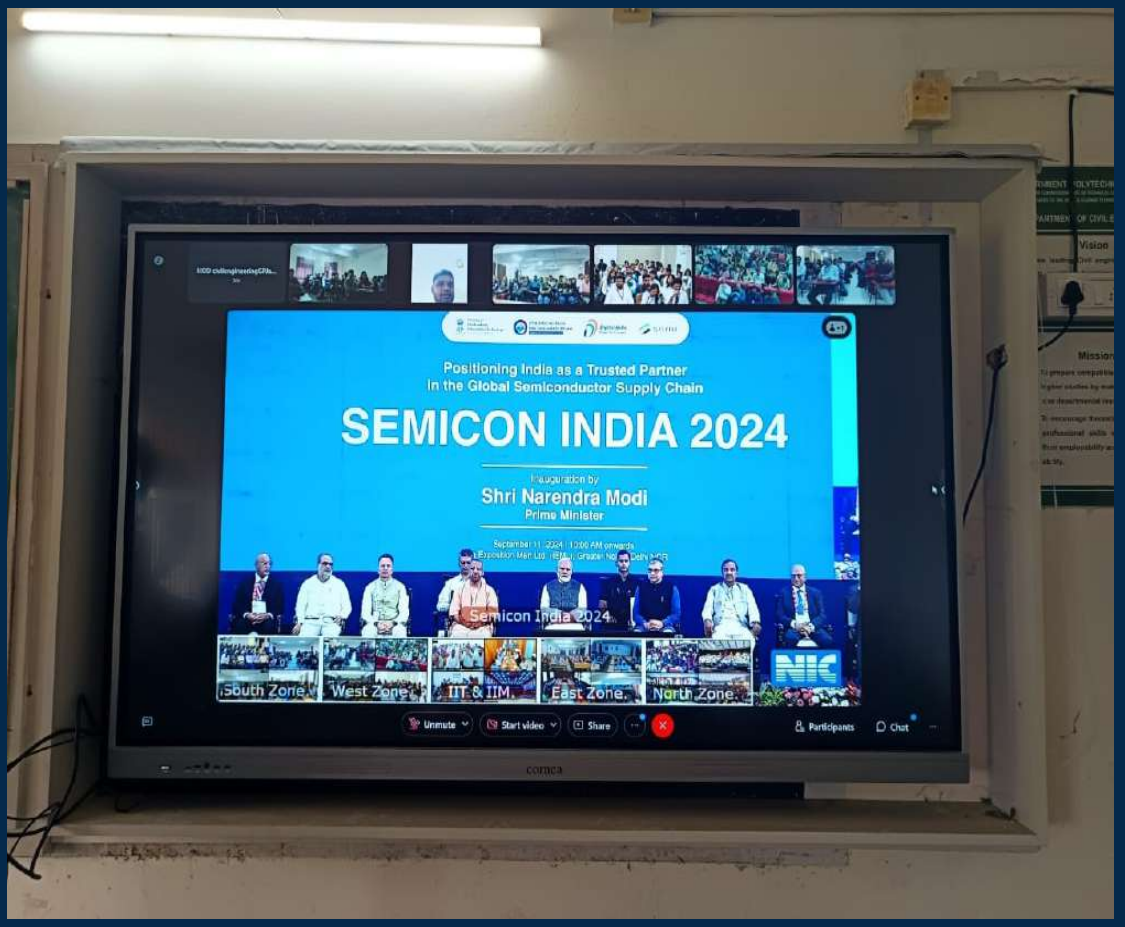
Mechanical Department Newsletter

Government Polytechnic Jamnagar

Volume 22 Issue 1

Date: 1st JAN 2025

JUL 2024 to DEC 2024



Principal's Desk

Dear Students and Faculty Members,

Government Polytechnic Jamnagar is moving ahead on many fronts. In this duration the consistent efforts and hard work of all has resulted in getting success in every events. I congratulate and appreciate the efforts of all involved in the process.

Message from Head of Mechanical Engineering Department

Dear Friends,

The duration from Aug 2024 to Dec 2024 has been full of exciting activities for our students, faculty, and staff in the Department of Mechanical Engineering. We continue to perform at traditional levels of excellence in curricular, co-curricular activities and extracurricular activities.

I invite you to read about some of these activities by this newsletter.

Institute Vision:

To be an elite institute by creating technocrats

Who will contribute towards betterment of society

Institute Mission

- To be a student centric institute imparting fundamental, experimental and innovative skill addressing societal problems for creating socially responsible citizens.
- To strengthen linkages with employee, industry, alumni and other stake holders for the betterment of the institute.
- To promote co-curricular and extra-curricular activities for overall personality development of the student.

Department Vision:

To provide quality education emphasizing technical skills to cater to needs of industry and society.

Department Mission:

M1: To impart technical knowledge by using latest available facilities.

M2: To inculcate technical skills into the students for their professional development

M3: To nourish personality emphasizing ethical values.

M4: To facilitate career development support through proper guidance.

As on 19th July 2024 SSIP PoC's first phase cheque was awarded by respected Principal Shri A. M. Patel sir for the innovative idea of separation of brass chips by machine invented by team leader Somil Busa and his team mates. The machine will be beneficial to the brass parts industry to do chip separation tasks fast and will also help workers to work in a safer way than the current manual process. Congratulations to the Mechanical Department and the Project mentor Shri K M Zala sir for another working project under the SSIP regime. I am especially thankful to the Mechanical Department HoD and SSIP team for continuously supporting and guiding innovative students

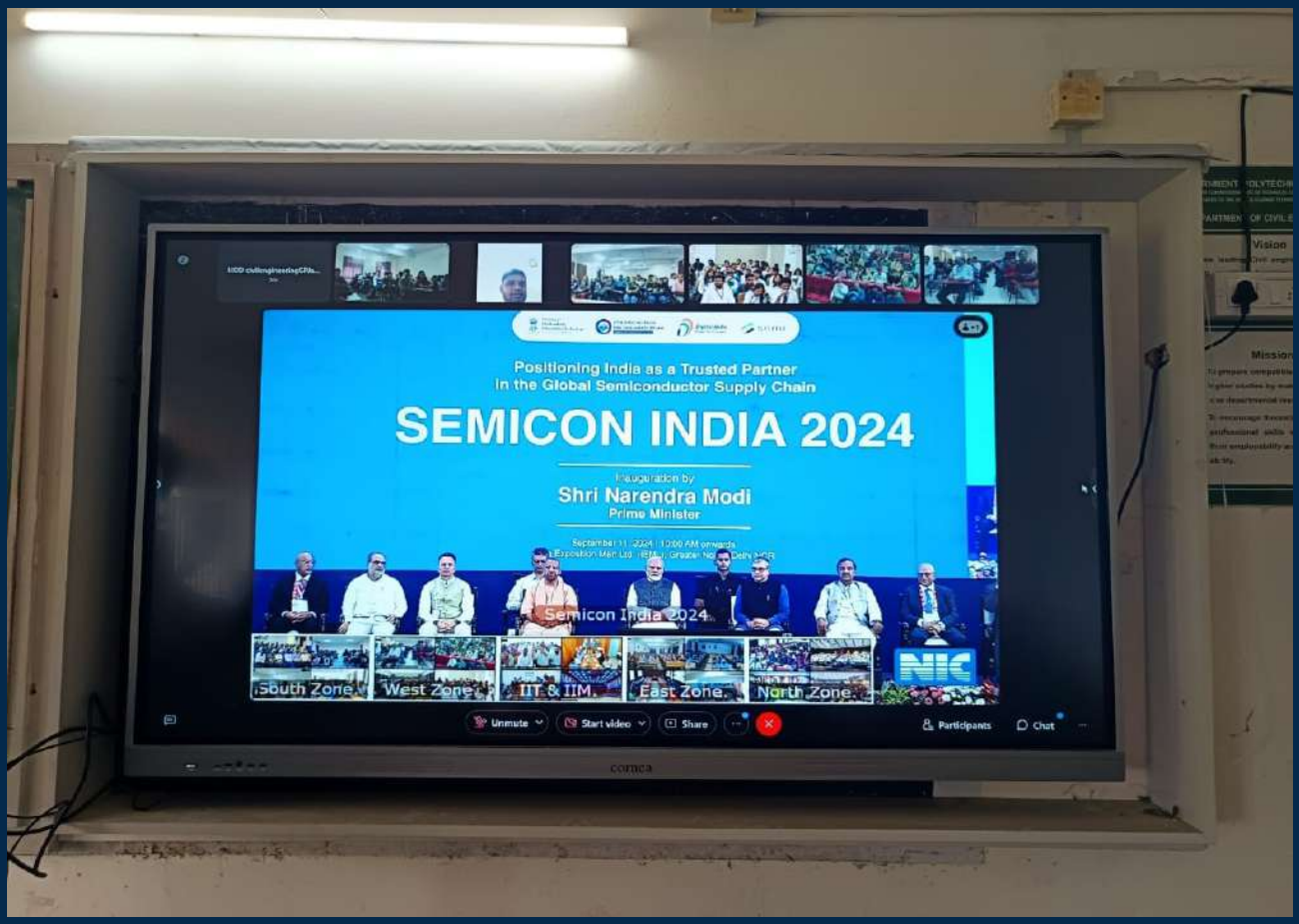
Expert lecture by Shyam Pisavadia in Mechanical department for induction program of 1st semester students.

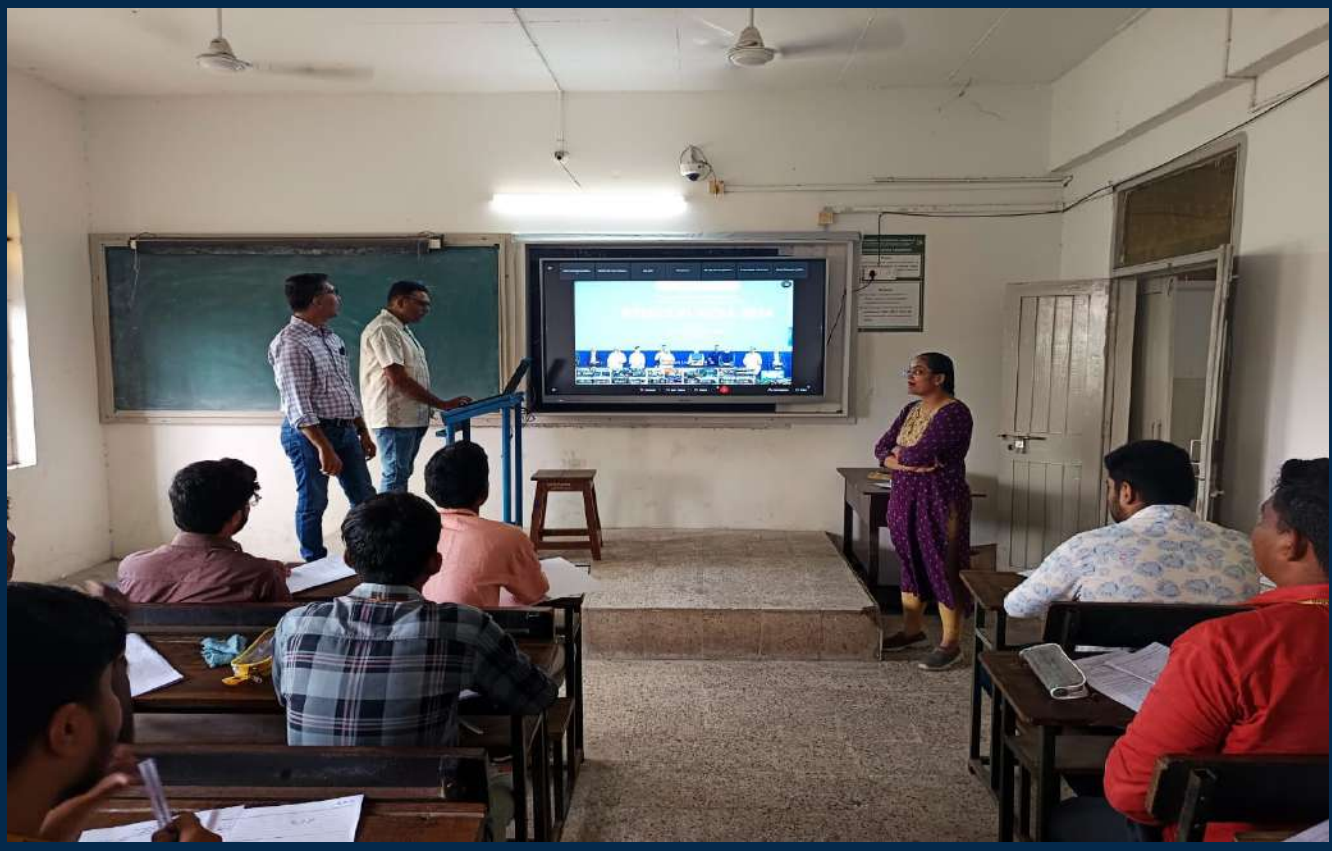
Independence day celebration

Celebration of national space day 2024

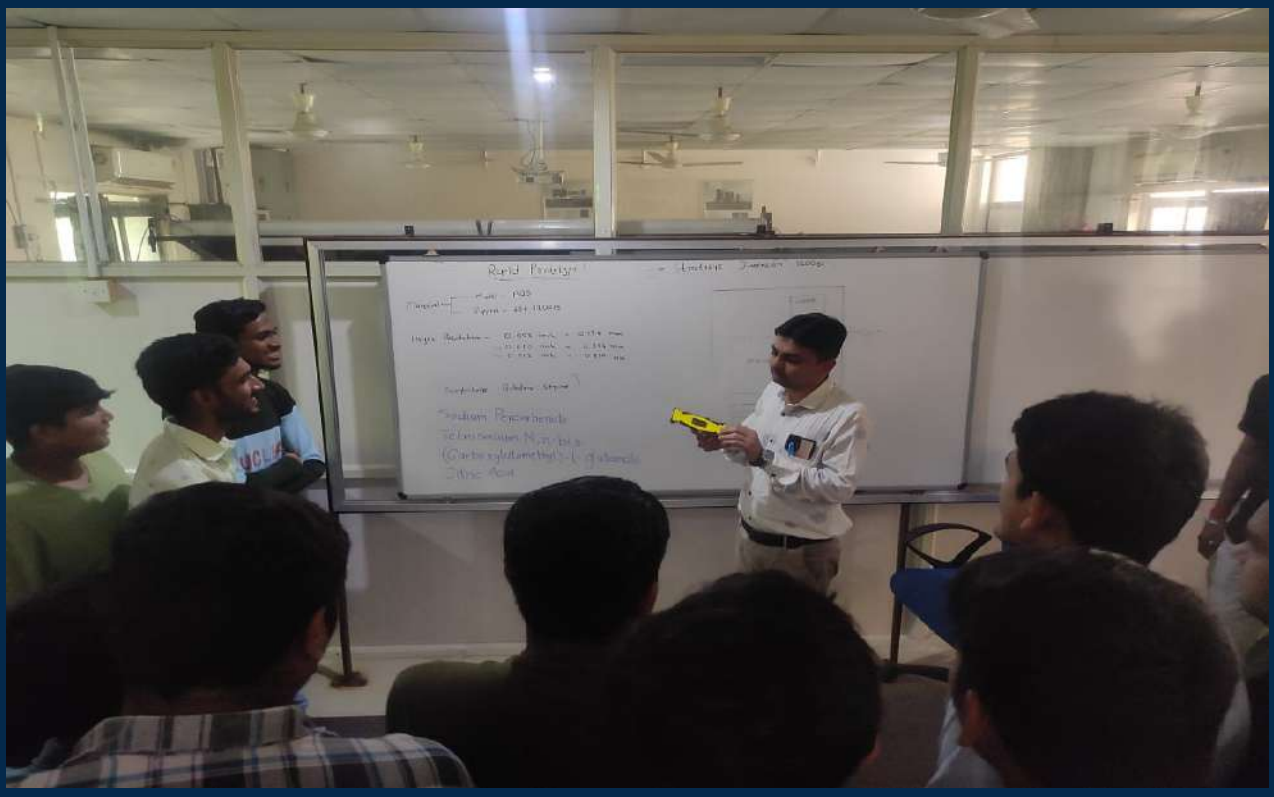
Teachers day celebration in our college as on 5tb September 2024.

Broadcasting semicon india event in the college as on 11th September 2024.





One day workshop on RPT by mechanical department 20th September 2024



Industrial visit by Mechanical department at Bharadia Engineering as on 20th September 2024.

Expert lecture on thermodynamics law as on 20th September 2024

Expert lecture on resume writing as on 21st September 2024

Expert lecture by alumni Ms Anam for final year mechanical students as on 21st September 2024.

One day workshop on CIM as on 21st September 2024

One day workshop on CNC as on 5th October 2024

Two students completed Product design NPTEL course successfully.

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

HARSH M GUDHKA

for successfully completing the course

Product Design and Development

with a consolidated score of 58 %

Online Assignments	10/25	Proctored Exam	48/75

Total number of candidates certified in this course: 1291

Prof. Kaushik Ghosh,
Professor(Chemistry)
Coordinator CEC

Jul-Aug 2024
(4 week course)

Prof. Ranjana Pathania,
Professor (BSBE)
Coordinator (NPTEL)

Indian Institute of Technology Roorkee

swayam

Roll No: NPTEL24ME81S430400210 To verify the certificate No. of credits recommended: 1 or 2

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

NANDANI BHAGWAT

for successfully completing the course

Product Design and Development

with a consolidated score of 44 %

Online Assignments	14.17/25	Proctored Exam	30/75

Total number of candidates certified in this course: 1291

Prof. Kaushik Ghosh,
Professor(Chemistry)
Coordinator CEC

Jul-Aug 2024
(4 week course)

Prof. Ranjana Pathania,
Professor (BSBE)
Coordinator (NPTEL)

Indian Institute of Technology Roorkee

swayam

Roll No: NPTEL24ME81S345100178 To verify the certificate No. of credits recommended: 1 or 2

Newsletter Article: Recent Trends in Electric Vehicles

By Jadeja Rutikrajsinh Vanrajsinh, Semester 5, Diploma Mechanical Student (Enrollment No: 226250319061)

The automotive industry is undergoing a revolutionary transformation with the rapid adoption of electric vehicles (EVs). As environmental concerns grow and governments push for sustainable mobility, EV technology is progressing at an unprecedented pace. Here are some of the most exciting trends in the EV sector:

1. Advancements in Battery Technology

Battery efficiency and capacity have significantly improved with innovations such as solid-state batteries. These new batteries promise higher energy densities, faster charging times, and increased safety compared to traditional lithium-ion batteries.

2. Extended Range and Charging Infrastructure

Modern EVs now offer ranges exceeding 500 km on a single charge, addressing range anxiety concerns. Additionally, the installation of fast-charging stations globally ensures convenient recharging options for drivers, further promoting EV adoption.

3. Integration of AI and IoT

Artificial intelligence and the Internet of Things are enhancing EV performance. Features like autonomous driving, predictive maintenance, and smart charging systems are making EVs more intelligent and user-friendly.

4. Focus on Sustainability

From using recycled materials in manufacturing to adopting renewable energy sources for charging, the entire EV lifecycle is becoming more eco-friendly. This aligns with global efforts to achieve carbon neutrality.

5. Electric Commercial Vehicles

The rise of electric trucks and buses is transforming the logistics and public transport sectors. Companies are prioritizing these vehicles to reduce operational costs and environmental impact.

The future of transportation is undoubtedly electric. With continuous innovation and support from stakeholders, EVs are set to redefine how we commute while contributing to a greener planet.

Newsletter Article: Basics of Thermodynamics

By Bharadiya Ishita Mahendrabhai, Semester 5 Student (Enrollment No: 226250319007)

Thermodynamics is the branch of science that deals with energy, heat, and work, forming the foundation of mechanical engineering. Its principles are crucial for understanding energy transfer and efficiency in various systems.

Key Concepts:

First Law of Thermodynamics: Energy can neither be created nor destroyed, only transformed. It highlights the conservation of energy in a system.

Second Law of Thermodynamics: Heat flows naturally from a high-temperature area to a low-temperature one. This law introduces the concept of entropy, explaining why energy transformations are not 100% efficient.

Thermodynamic Systems: Systems are classified as open, closed, or isolated, depending on how energy and matter interact with the surroundings.

Applications: Thermodynamics is vital in designing engines, refrigerators, power plants, and HVAC systems, making it a cornerstone of engineering.

Understanding the basics of thermodynamics equips students to analyze and optimize energy systems, paving the way for innovation and sustainability.

NEWSLETTER TEAM:

Government Polytechnic Jamnagar

Department of Mechanical Engineering

No:- GPJ/MECH/NEWSLETTER/2024/01 **Date** : 01/08/2024

To initiate and successfully publish the Departmental Newsletter, the following team is hereby constituted. The aim of this newsletter is to highlight academic, co-curricular, and extracurricular achievements, as well as to share knowledge and updates within the department.

Table 1: Faculty team

Sr.No.	Name of faculty	Role	Remarks
1.	V R Maniar	Chief Editor	
2.	D D Vadalia	Co-Editor	
3.	D B Harsora	Co-ordinator	

Table 2: Student Team

Sr.No.	Name of Student	Enrolment No	Semester	Role
1.	MAKADIYA DEEPKUMAR JITENDRABHAI	226258319009	5	Content team
2.	MANDAVIYA DIVYESH PRABHULAL	226258319010	5	Design team
3.	MEHTA RONAK TARUNBHAI	226258319011	5	Technical team
4.	NAKIYA UMANG BIMALBHA	226258319012	5	Faculty team
5.	NAKUM MAULIK KIRITBHAI	226258319013	5	Photography
6.	AANDANI JENISH KISHORBHAI	236250319001	3	Content team
7.	CHANGANI KARAN JAMANBHAI	236250319020	3	Design team
8.	CHAURASIA MAYANK DILIP	236250319029	3	Technical team
9.	DAVE SHYAMAL BHARATBHAI	236250319045	3	Faculty team
10.	DHAYANI JIGAR BALUBHAI	236250319050	3	Photography
11.	BHADRA SUBH	1M09	1	Content team
12.	BHATT RANVIR	1M15	1	Design team
13.	JOGAL VISHAL	2M04	1	Technical team
14.	KATESHIYA RAHUL	2M28	1	Faculty team
15.	PATEL OM	3M18	1	Photography

Head of department
Mechanical Engineering

Copy to

1. All concerned faculty and student
2. Departmental file