



**ADIT**  
A D PATEL INSTITUTE  
OF TECHNOLOGY



**CVVM**  
UNIVERSITY

***We Make The World To Move***

**VAAHAN**  
**Automobile Engineering**  
**Newsletter**

**July - December 2020, Issue No. 3**

**A. D. Patel Institute of Technology,**  
**New V. V. Nagar, Gujarat**

## FROM THE DESK OF PRINCIPAL



I congratulate Automobile Engineering department for releasing 3<sup>rd</sup> issue of their newsletter “VAAHAN”. Automobile engineering department, ADIT has been creating a great value for its students, industry and society at large. The members of ADIT automobile engineering fraternity are contributing to various national and multinational companies in auto sector passionately. The department has well – equipped laboratory with state of the art instrumentation where students are imparted practical and hands on experience. Students have been participating in mega events like SAEBAJA, SUPRASAE, ATV and winning lead positions. My best wishes to all the staff members & students for the future endeavours.

Dr. V. N. Singh  
Principal

## FROM THE DESK OF THE HEAD OF DEPARTMENT



After successfully releasing 2<sup>nd</sup> issue of the newsletter, I am very happy to bring out the third issue of the Automobile Engineering Department Newsletter “VAAHAN”. This newsletter outlines various activities that have taken place during the period of July-Dec, 2020 and the achievements of faculties and students. I appreciate all the team members for their efforts in bringing out this newsletter. Department of Automobile Engineering is putting all kind of efforts to ensure the overall progress of the students. Department of Automobile Engineering is thankful to Principal, Dr. V N Singh and Charutar Vidya Mandal, Vallabh Vidyanagar for providing all kind of facilities and support as and when needed. I wish that this activity of publishing the Newsletter will continue in future and will work as a platform for faculty members and students to show their work.

Dr. S.M Patel  
Head, Automobile Engineering Department

## MESSAGE FROM EDITORIAL BOARD



It brings me immense pleasure as an editor to release the third issue of the newsletter. It's my privilege to propose thanks to my faculty colleagues for their support to structure the newsletter. During this pandemic situation, all the academic activities were transferred to the “online” learning mode with a new perspective of teaching methods. Hence this edition includes glimpses of online teaching-learning activities.

Prof. Kuldip D. Patel,  
Editor & Assistant Prof.-AE

## ABOUT CHARUTAR VIDYAMADAL

One of the greatest sons of India, Bharat Ratna, Late Shri Sardar Vallabhbhai Patel, inspired Shri Bhaikaka and Shri Bhikabhai Saheb for rural resurgence of post-independent India through education, and Charutar Vidya Mandal was born. Charutar Vidya Mandal was established in the year 1945 as a charitable trust with a prime objective of rural development through education to bring about the social awakening, social upliftment and enrichment. The uniqueness of Charutar Vidya Mandal lies in its ability to use quality education as a powerful means of social transformation. It was a stupendous task for the founders to establish a visionary organization; but the large-heartedness and high sense of philanthropy of this region made this possible. Over the subsequent years, Late Dr. H M Patel consolidated the efforts put in by the founders. Later on, in the 1990s, when Late Dr. C L Patel took over the reins of Charutar Vidya Mandal as the Chairman, the country was facing a major economic and ideological change paving the way for globalization and liberalization.

Today Charutar Vidya Mandal is empowering budding graduates to live up to the ever-changing environment and equipping them to face the Third Millennium with confidence and competence. Building competitive advantages is the renewed focus of Charutar Vidya Mandal in the 21st century. At present, Charutar Vidya Mandal operates under the chairmanship of Er. Bhikhubhai B. Patel. 50 Educational Institutes starting from nursery to higher education and a sophisticated Research Institutes along with over 30,000 students on the rolls. *CVM University was inaugurated on the day of Platinum Jubilee celebration of Charutar Vidya Mandal by Hon. Vice President of India.*



Release of 2<sup>nd</sup>-issue of Automobile newsletter "VAAHAN" by Dr. Vishal N. Singh, Principal, ADIT.

## ABOUT NEW VALLABH VIDYANAGAR

New Vallabh Vidyanagar - a self contained satellite township established under the dynamic leadership of visionary Chairman of that time Late DR. C. L. Patel who believed in "Think Globally and Act locally". The campus spans over 100 acres of area and located behind the industrial belt of Vitthal Udhyog nagar. This campus encompassing various institutes of advance learning including Engineering, Pharmacy, Biotechnology and Allied Sciences, Ayurveda, Architecture and Interior design, Business and hospitality management and research institute on renewable energy. The campus is also equipped with Boy's and Girl's hostels with mess, staff apartments, Principal's Bungalow, amenity building with shopping and medical facilities and landscaped public garden. This township is a nourishing ground for budding technocrats which are going to play pivotal role in the future of the region and state in particular and country in general.

## ABOUT INSTITUTE

A D Patel Institute of Technology is one of the pioneer institute imparting technical education in the state of Gujarat, India. Established in the year 2000 and managed by Charutar Vidya Mandal (CVM), one of the leading trust of the nation established in 1948. The institute is located in satellite township of New Vallabh Vidyanagar having green natural environment and beautiful landscape near educational hub of the state, Vallabh Vidyanagar and Milk city Anand. Institute offers B.E. courses on Electronics and Communication Engineering, Computer Engineering, Information Technology, Electrical Engineering, Mechanical Engineering, Food Processing Technology, Civil Engineering and Automobile Engineering.

### VISION:

**To add significant our enduring civilized tradition of pioneering excellence in learning, knowledge, enlightenment and self-realization in a universally relevant context.**

### MISSION:

We dedicate to the perpetuation of our founder's vision of providing the infrastructure, facilities, operation conditions and overall conducive environment to conduct education for young scholars along with the desired physical, mental & character building inputs; we firmly renew our commitment to providing value added globally relevant education with an emphasis on the Techno-Management domain to ensure that our scholars fruitfully exercise their knowledge, skills & values in the global economy.

## ABOUT AUTOMOBILE ENGINEERING DEPARTMENT

The department of Automobile Engineering was started in academic year 2003-2004. Department is having young and well qualified teaching faculties and well equipped laboratories.

### OUR VISION:

Instil enduring values and excellence in learning fundamental knowledge of automobile engineering, in universally relevant context for industry and society.

### OUR MISSION:

- Creating conducive environment for learning practical applications of latest technology through state-of-the-art laboratory facilities
- Providing opportunities for interaction with industry experts, visits to automotive industry and automotive research organizations
- Motivate and support students for participating in National level competition events for out of classroom practical learning for hands-on practice and development of a professional with ability to work in team and problem solving

### DETAILS OF STAFF MEMBERS

Name of faculty	Designation	Qualification	Experience
<b>Dr. Sanjay M. Patel</b>	Asst. Professor & Head	Ph.D.	20 years
<b>Dr. Ajith Tom James</b>	Asst. Professor	Ph.D.	19 years
<b>Dr. Nimit M Patel</b>	Asst. Professor	Ph.D.	15 years
<b>Prof. Nikunj S. Yagnik</b>	Asst. Professor	M.E, Ph.D. (Pursuing)	15 years
<b>Prof. Mahesh R. Phogat</b>	Asst. Professor	M.Tech, Ph.D. (Pursuing)	10 years
<b>Prof. Y. J. Gambhava</b>	Asst. Professor	M.E, Ph.D. (Pursuing)	9 years
<b>Prof. Samarth J Shelat</b>	Asst. Professor	M.Tech, Ph.D. (Pursuing)	9 years
<b>Prof. Simit B Prajapati</b>	Asst. Professor	M.E, Ph.D. (Pursuing)	9 years
<b>Prof. Kuldeep D. Patel</b>	Asst. Professor	M.E, Ph.D. (Pursuing)	10 years
<b>Mr. Sailesh M. Patel</b>	Foreman	B.E.	19 years
<b>Mr. Paresh I. Patel</b>	Lab. Assistant	ITI	15 years
<b>Mr. Mahavir Patel</b>	Lab. Assistant	Diploma	4 years

## Details of Research Paper Publication



### Recently Published Research Paper

Dr. A T James has published a paper on “Reliability, Availability and Maintainability aspects of Automobiles” in journal of Life Cycle Reliability and Safety Engineering, ISSN: 2520-1360 in May-2020.

Dr. A T James has published a paper on “Service Quality Evaluation of Automobile Garages uses a Structural Approach” in International Journal of Quality & Reliability Management, ISSN: 0265-671X in July-2020.

Dr. Nimit M. Patel, Dr. Sanjay M. Patel and Prof. Samarth J. Shelat published a paper on “Study of Electric Vehicle Component, Technologies, Challenges and Impact on Future Directional Development” in Alochana Chakra Journal (UGC CARE), ISSN 2231-3990, IF: 6.3.

Prof. Simit Prajapati has published a paper on “Power Generation by Trilateral Flash Cycle using Waste Low Grade Heat Energy: A Review” in international conference on research and innovation in science, engineering & technology at BVM from 4 to 5 Sept’ 2020.

Sr.	Name of faculty	No. of Research Papers published till Date
1	Dr. Sanjay M. Patel	15
2	Dr. Ajith Tom James	08
3	Dr. Nimit M. Patel	09
4	Prof. Nikunj S. Yagnik	07
5	Prof. Mahesh R. Phoghat	01
6	Prof. Yagnesh J. Gambhva	05
7	Prof. Samarth J. Shelat	11
8	Prof. Simit B. Prajapati	10
9	Prof. Kuldeep D. Patel	05

## DETAILS OF CO-CURRICULAR ACTIVITIES



**A Short Term Training Program**  
on  
**“Automobile Engineering: Beginning of New Era”**  
05th -10th Oct, 2020

Sponsored by:  
GUJCOST, DST, Govt. of Gujarat

**Organized By : Automobile Engineering Department**  
A D Patel Institute of Technology, New V V Nagar, Gujarat  
(A Constituent College of CVM University)  
[www.adit.ac.in](http://www.adit.ac.in) , [www.cvmu.edu.in](http://www.cvmu.edu.in)

GUJCOST sponsored online STTP: Co-ordinators: Dr. Sanjay M. Patel  
Prof. Yagesh Gambhva



**A Short Term Training Program**  
on  
**“Automotive Engine, Emissions &  
Green Fuel Technology”**  
12th - 17th Oct, 2020

Sponsored by:  
GUJCOST, DST, Govt. of Gujarat

**Organized By : Automobile Engineering Department**  
A D Patel Institute of Technology, New V V Nagar, Gujarat  
(A Constituent College of CVM University)  
[www.adit.ac.in](http://www.adit.ac.in) , [www.cvmu.edu.in](http://www.cvmu.edu.in)

GUJCOST sponsored online STTP: Co-ordinator: Dr. Nimit M. Patel  
Prof. Kuldip D. Patel

## CURRENT ACTIVITIES

A team of 10 Automobile engineering students have successfully cleared 1st Design review round of National level SAEISS Electric Two Wheeler Design Competition-2020, organized by SAEINDIA southern section.

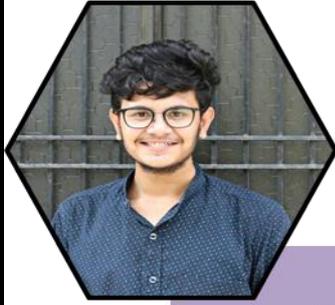
## HIGHLIGHTS OF 7<sup>th</sup> SEMESTER PROJECTS

Sr.	Project Title	Guide Name
1	Development of Portable Nitrogen Gas Filling Machine	Prof. Nikunj S Yagnik
2	Development of Novel Compressed Air Two Wheeler	Prof. Nikunj S Yagnik
3	Investigation and Analysis Of Vehicle Accidental Parts and Reconstruction (IDP)	Dr. S M Patel
4	Design and Development of Portable Vehicle Washer	Prof. Samarth Shelat
5	EV Cargo Trike	Dr. Nimit M Patel
6	Design And Analysis Of Constant Mesh Gear Box	Prof. Yagnesh Ghambhava
7	Solar Powered Vendor Vehicle	Dr. Nimit M Patel
8	CNG Electric Hybrid System	Dr. Ajith T James
9	Development Of Hybrid Two Wheeler	Dr. Nimit M Patel
10	Aerodynamic Design Optimization and Simulation in Rear End of Hatchback Passenger Vehicle	Prof. Samarth Shelat
11	Electro pneumatic Clutch Control Device	Prof. Kuldip Patel
12	Steering Propulsion System based Wheelchair	Prof. Yagnesh Ghambhava
13	Electric Beach Garbage Cleaner	Prof. Nikunj S Yagnik
14	Development of Steering Angle Display Unit	Prof. Simit Prajapati
15	Power Management Strategy of Hybrid Electric Vehicles Based on Electric Variable Transmissions	Prof. Simit Prajapati

*Education is the most powerful weapon which you can use to change the world.*

*Nelson Mandela*

## LIST OF TOPPERS



8<sup>th</sup> -Sem-A.Y-2019-20

- Hardik Joshi
- 160010102016
- CPI-8.61



8<sup>th</sup> -Sem-A.Y-2019-20

- Mohiuddin Memon
- 160010102019
- CPI-8.39



6<sup>th</sup> -Sem, A.Y-2019-20

- Sunny Verma
- 170010102049
- CPI-9.27



6<sup>th</sup> -Sem, A.Y-2019-20

- Purav Patel
- 170010102026
- CPI-8.76



4<sup>th</sup> -Sem, A.Y-2019-20

- Aayush Mistry
- 180010102021
- CPI-8.09



4<sup>th</sup> -Sem, A.Y-2019-20

- Maharshi Sompura
- 180010102046
- CPI-7.76



2<sup>nd</sup> -Sem A.Y.-2019-20

- Madhav Makwana
- 190010102008
- CPI-9.28



2<sup>nd</sup> -Sem A.Y.-2019-20

- Devansh Purohit
- 190010102017
- CPI-9.15

### Students with 10 SPI (8<sup>th</sup> Sem), A.Y-2020-2021

Sr.	Name	Enrolment No.
1	Panchal Chirag Navinbhai	160010102021
2	Patel Darshan Sunilbhai	160010102029
3	Patel Deep kalpeshbhai	160010102030
4	Rupareliya Utpal Jayeshbhai	160010102048
5	Ramodiya Ruman	170013102014

### STUDENT'S INTERNSHIP

More than 200 students have successfully completed internship at various automotive industries such as CEAT Tyres-R&D, Apollo Tyres, Eimco Elecon Ltd, GSRTC-Ahmedabad, Land Rover, BMW (Parsoli Motors, Surat), Royal Enfield and Ford Motors-Surat.

Also, many students have completed Virtual internship on Advanced Automotive Electricals and Vehicle diagnosis with BOSCH, ELEATION Industrial Internship and Advanced Automotive Technology with Ashok Leyland during COVID-Pandemic situation.

*Education is the manifestation of perfection present in man Divinity is the manifestation of the religion already in man.*

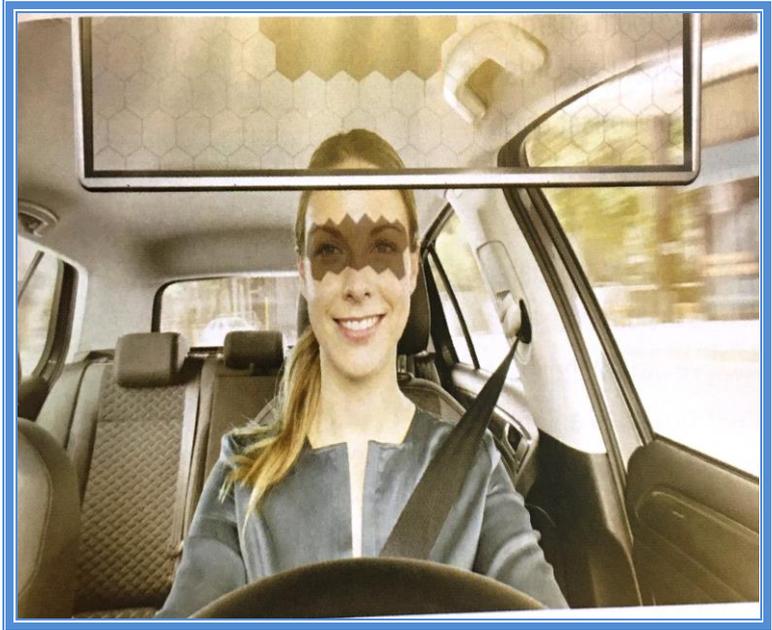
*Swami Vivekananda*

### LCD SUN VISOR

**Bosch** have re-imagined the sun visor as transparent LCD panel the uses algorithms to darken only the area where sunlight hits the driver's eyes. The rest of the visor panel remains see-through for visibility.

It comprises of hexagonal -shaped (Approximately 2 cm) pixel in a honeycomb grid and a driver-facing red, blue and green camera to see sun-cast shadow on the face (average distance between eyes is 6.5 cm).

This advanced system completely works on a Artificial intelligence.



*Source: MOBILITY ENGINEERING, Issue: 1, January-March 2020, SAEINDIA*

### RED DOT AWARDED E-SCOOTER

**Ujet**, the Luxembourg start-up, has won the Red Dot Award: Product Design 2019. It is the first vehicle equipped with orbital wheels and nano-augmented tires. Besides its excellent handling and extreme lightness, it is also foldable and equipped with an intelligent removable battery system.

The scooter has no SUSPENSION fitted in it; however, it gives a comfortable ride in different road conditions through the torsion module built in the vehicle.

Mileage claimed 45 Km/h.



*Source: MOBILITY ENGINEERING, Issue: 4, October-December 2019, SAEINDIA*

#### Compiled By:

Kuldip D .Patel

Assistant Professor, AE-Department

## ALUMNI TESTIMONIAL



**Karan Vyas**  
**WOW Services, V U Nagar**  
**Workshop On Wheels**  
**Year of Passing: 2011**

*“Whatever I'm today is all because of ADIT. Their teachings and theoretical knowledge have indeed helped in shaping my practical skills. Today I have my very own workshop, which wouldn't have been there without my faculties' support and encouragement. I'm thankful to all of them for boosting my confidence as an automobile engineer, and also as a person.”*



**Ankur Patel**  
**“Shayona”**  
**Automobile Service, Petlad**  
**Year of Passing: 2011**

*“ADIT, A world, where I passed my beautiful time. And staff from the automobile department made my time beautiful. The whole staff from the automobile is helpful, quick response, taken care of us like own child. I especially thank Principal, all professors, and staff of the automobile department. ADIT has helped me to grow professionally, socially and spiritual ly ”*

**Disclaimer:** All information published in this newsletter is based on institutional events and report generated at A.D Patel Institute of Technology. The purpose of this newsletter is for academic and educational only. The editor or publisher does not take responsibility for the content presented during the events. Errors, if any, are purely unintentional and readers are requested to communicate such errors to authorities.

### CONTACT US:

www.adit.ac.in, www.cvmu.edu.in, head.ae@adit.ac.in

E-Mail: 1. automobilenewsletter@adit.ac.in

2. For Admission Inquiry:- Prof. Yagnesh Gambhva  
ae.yagnesh@adit.ac.in; **Mob:** 9824384884

3. For Placement Inquiry:- Prof. Samarth Shelat  
placements.ae@adit.ac.in; **Mob:** 9725735830

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