Newsletter: 2021-22
Issue 02

G H Patel College of Engineering & Technology
(A Constituent College of CVM University)

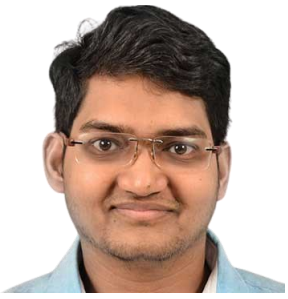
MECHANICAL ENGINEERING DEPARTMENT

Inside this issue:

From Department Head

It is pleasure to release this issue (2021/22, issue 2) of department newsletter. One more semester with full of good activities and events, but now offline with much more enthusiasm. It's a happy moment to seethe rapid development of IDEALab and students getting training of non conventional machines. This issue is also featuring experience sharing by one of the esteemed alumni Mr. Ronak Arya who is currently pursing MBA from IIT Jodhpur . We are very eager to have such memory sharing from all our alumnae.

Editor's Note



" Strive not to be a success, but rather to be of value." - Albert Einstein. With the same thoughts IDEALab has geared up and accelerating. This semester was a 'back to normal', where we organised the iMaze, industrial visits and training programs in offline mode. Also a 10 year analysis of placement count is included in this issue. A blog on crypto currency and another blog on repercussion of COVID on car industries, is contributed by a student and myself in this newsletter.

Student Editorial Team

Kishan Patel
(Final year ME)

Deep Shah
(Final year ME)

Yash Patel
(Final year ME)

Vandan Joshi
(Third year ME)

Students' achievements

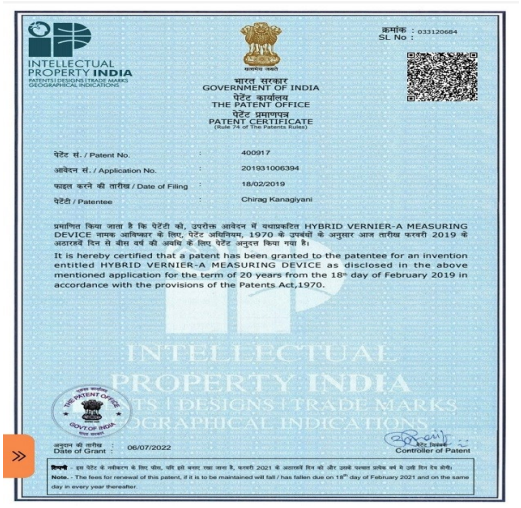
Mr. Neel Bharatkumar Patel, final year student of Mechanical Engineering, has been honoured with the NIDHI PRAYAS prototyping grant of ₹10 lakhs by venture studios, Ahmedabad University on 7th June 2022. He has received this grant for his innovative project named 'KRISHIMANI' which is an autonomous rover which is capable of performing all post harvest operations in farm like seed sowing, fertilizer laying and pesticides spray. It is categorized under EV segment. There were total 200 applications for this grant out of which Krishimani was one of the shortlisted team for the Jury Presentation, and on successful completion of this round he was compensated with the grant.

NIDHI PRAYAS

"Believe in yourself. You are braver than you think, more talented than you know, and capable of more than you imagine."

Students' achievements

Former graduate student of Mechanical Engineering Department, Mr. Chirag Kanagiyani has been successfully granted a patent by IPR Govt. of India for a period of 20 years on 24th July 2022. He has received this patent for his work "Hybrid Vernier - A measuring device", which was guided by Prof. Aakarsh Jain.


INTELLECTUAL PROPERTY INDIA

भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE

पेटेंट सं. / Patent No. : 400917
आवेदन सं. / Application No. : 201931006394
फाइल करने की तारीख / Date of Filing : 18/02/2019
पेटेंटी / Patentee : Chirag Kanagiyani

It is hereby certified that a patent has been granted to the patentee for an invention entitled HYBRID VERNIER-A MEASURING DEVICE as disclosed in the above mentioned application for the term of 20 years from the 18th day of February 2019 in accordance with the provisions of the Patents Act,1970.

Date of Grant : 06/07/2022

Controller of Patent

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 18th day of February 2021 and on the same day in every year thereafter.

"Success is the result of perfection, hard work, learning from failure, loyalty, and persistence "


GATE 2022 ONLINE APPLICATION

GATE 2022

Name: SANKET MEHULBHAI PANCHAL
Registration Number: PI22S42006031
Gender: Male
Parent's/Guardian's name: MEHULBHAI DEVACHANDBHAI PANCHAL
Date of birth: 29-September-2001
Examination Paper: Production and Industrial Engineering (PI)
Marks out of 100*: 45.0
All India Rank in this paper: 569
Qualifying Marks**: 43.7 (General) 39.3 (OBC (NCL)/EWS) 29.1 (SC/ST/PwD)
GATE Score: 366

GATE 2022
© Copyright: GATE 2022, Indian Institute of Technology Kharagpur, West Bengal- 721302, India

Mr. Sanket Panchal, a Final year student in Mechanical Engineering Department has successfully cleared Graduate Aptitude Test (GATE) 2022 on 16th March. with a GATE score of 366 and achieved All India Rank (AIR) 569 in the Production and Industrial Engineering domain.

Students' achievements

Invitation for panel discussion at workshop on startups & SSIP 2.0, jointly organized by government of Gujarat and Gujarat Technological university

Final Year student Mr. Neel Patel and Pre-Final Year student Mr. Mitesh Maru, of Mechanical Engineering Department were invited for Panel Discussion at Workshop on Startups and SSIP 2.0 on 4th June 2022. Education Department, Government of Gujarat and Gujarat Technological University had jointly organized an Workshop on Startups and SSIP 2.0. In this event Vice Chancellors of all universities of Gujarat state, senior faculty members, Government Personnel, Principal Secretary, Higher and Technical Education, Shri. S. J. Haider, Shri GT Pandya IAS (Director of Technical Education, Govt of Gujarat) and others were present. Under this there was a panel discussion round where 8 students from different zones of state were invited to share their opinions and suggestions to the dignitaries. Out of 8 students 2 students Neel and Mitesh from GCET were part of panel, and they represented Vadodara and Ahmedabad Zone respectively.

Students' achievements

GCET student participation IDAETHON 2022

Students from 3rd-year Mitesh Maru (ME), Harshil Sathwara (EE) and Maharshi Mistry (ME) participated in the "National Innovation PitchFest 22 Ideathon" (organised by GTU) with their start-up project idea Intelligent Divider Painting Machine. Students qualified for the final round of Ideathon '22 which was conducted on 28th April 2022, and were among the top 14 out of more than 50 start-up ideas/companies across India. Our students had a very healthy competition among participants wherein many start-ups and Pvt. Ltd. companies from Pune, Chennai, Hyderabad, Gujarat, etc. took part actively. They had a competition with Glovatrix Pvt. Ltd, Alien innovations, Armed force Medical college Pune, Innovative Crane Pvt. Ltd. and many others. Prof. Sankalp Kulkarni & Prof. Aakarsh Jain provided their valuable guidance to the students for this National Level Pitch Fest.

Students' achievements

Meeting of third year Mechanical Engineering students with Shri Jagdish Panchal, Minister of State, Government of Gujarat

Third year Mechanical Engineering department students: Mitesh Maru, Maharshi Mistry, Ayush Lad and Purvang Desai had a meeting with the Minister of State Shri Jagdishbhai Panchal (Industry & Protocol Minister), on 25th April 2022 at Swarnim Sankul 2 Gandhinagar. Students interacted with Honourable Minister Sir and informed about the ED Cell activities and Idea Lab at GCET. They presented a memento which was created in the AICTE Idea Lab at GCET. The points discussed during the meeting were related to: Various scheme & policy regarding innovation and start-ups and problems which we are facing during start-up journey.

IMAZE '22
ENVISIONING NEW REALMS

Clash of planes

(14th April 2022)

In this event participants were suppose to make a perfect glider prototypes which would have the balance of lift and drag. They had to compete and with the other teams, by achieving longer and stable flights.

Pre-Imaze workshops

"KNOWLEDGE IS OF NO VALUE UNLESS YOU PUT IT INTO PRACTICE"

-Anton Chekhov

WORKSHOP ON ADVANCEMENT IN AUTOMOBILE ENGINEERING

(12th April 2022)

In this workshop there were two speakers. The first one was Mr. Mehul Kunpara, he gave a lecture on performance of electric vehicle equipment where he introduced the how many type of electrical equipment are their to test a performance of electrical vehicle. The second lecture was given by Mr. Darshit Vyas their he introduced that evolution in Automobile industry and now a day which type of electrical car is available in World and in India. In this workshop students got a chance to learn various advancements happening in the automobile industries and different sensor systems.

SIX SIGMA WORKSHOP

(9th April 2022)

This was a two days workshop led by Dr. Darshak Desai 'Lean six sigma black belt'. Total of 80 students had participated in this lean yellow belt certification workshop. *I*n this workshop students learned various six sigma ideology and different tools related to it.

IMAZE '22

Imaze'22, a university level Techfest was organized during 14th - 15th April 2022. A total of 176 students were registered for various technical events. The students took part in very enthusiastic way and were highly active till the end of the event. Mechanical Engineering department came up with new ideas for upgrading the knowledge of students and promoting 'learning by fun'.

Imaze'22 events

Assembly & Disassembly

(15th April 2022)

In this event participants got exposure of the real mechanical assemblies like Carburetor, chain, Bike engine. Students got chance to assemble and explore the things inside actual assemblies

CAM-O-MANIA

(15th April 2022)

The participants got a chance to apply their knowledge related to computer aided manufacturing in deciding the proper CNC programming codes for manufacturing of a given object.

Catapulto

(14th April 2022)

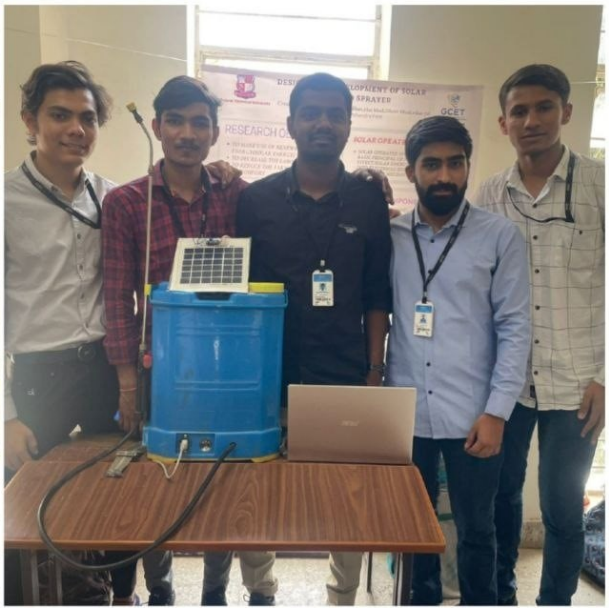
In this event participants were given a chance to prepare the catapult. And then there was a competition divided in three levels to prove their design.

KAUSHALYAM-1
BY
AICTE IDEA LAB

"PRACTICAL KNOWLEDGE IS THE IMPORTANT KEY OF SUCCESS"

An event **KAUSHALYAM-1** was organized by **GCET-AICTE IDEA Lab (Association with Mechanical Engineering Department)** on 4th and 5th March introducing students of all branches to computer drafting and designing by introducing them to AutoCAD software. Apart from AutoCAD students were also introduced to rapid prototyping and additive manufacturing. After getting required knowledge of AutoCAD, students were asked to get hands on experience.

DESIGN ENGINEERING PROJECT FAIR



Design Engineering Project Fair on 7th April,2022. Total 29 projects were demonstrated by Mechanical Engineering students. They have displayed poster & prototype of their project. An open invitation was sent to all staff member & students of the institute. External Judges namely, Mr. Ashlesh Patel, Mr. Jill Patel and Mr. Dhiraj Dhakan were invited for evaluation and provide their to the students. Project fair gives a platform for students to show their skills & ideas to industries & thereby enhancing project quality as per need of industry.

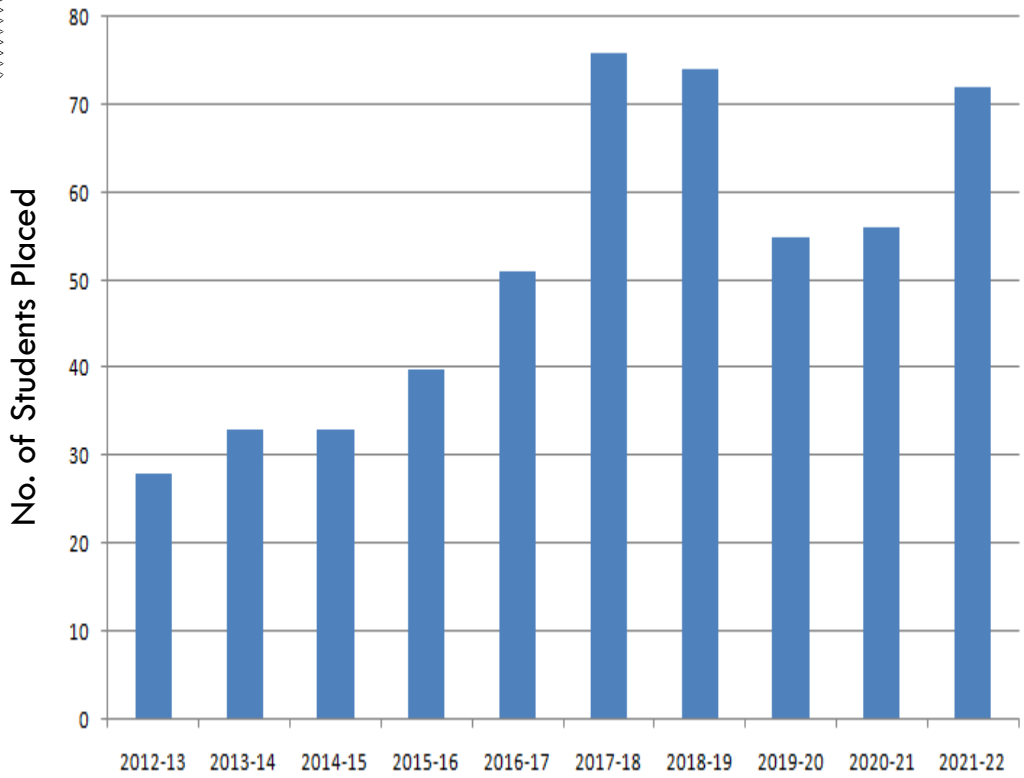
"Believe in yourself. You are braver than you think, more talented than you know, and capable of more than you imagine."

Placement details

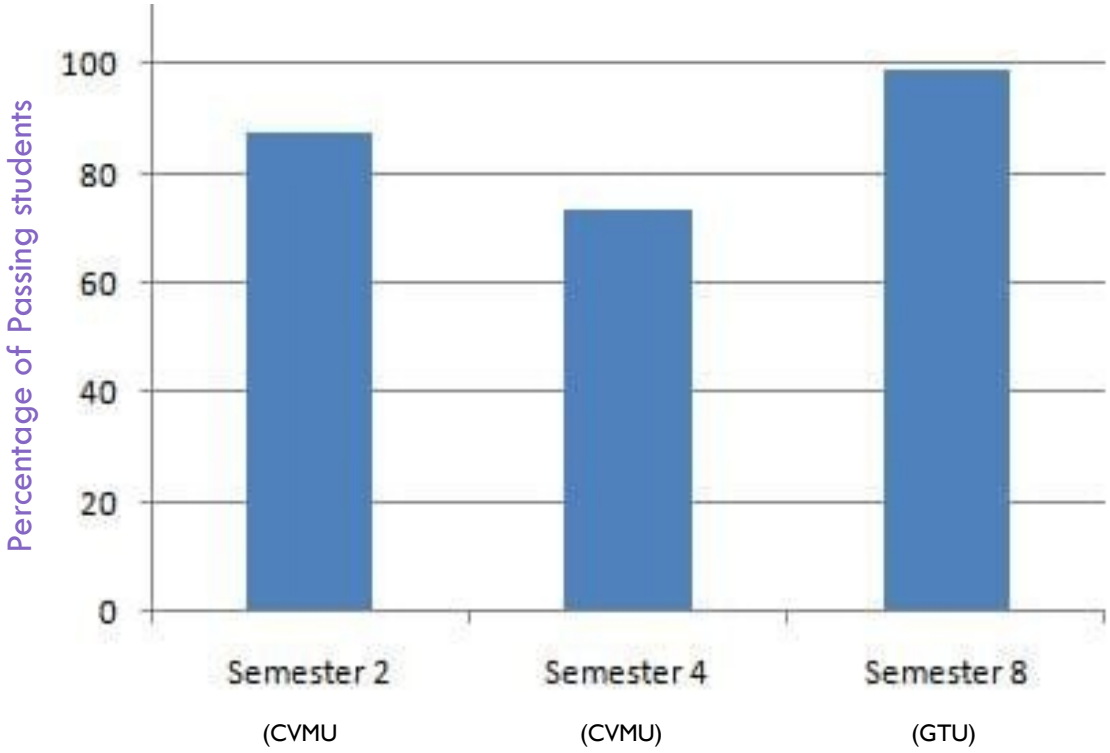
"ALL OUR DREAMS CAN COME TRUE, IF WE HAVE THE COURAGE TO PURSUE THEM"

Total no. of company visited	Total no. of students placed
21	72

10 Years of Evolution of Mechanical Engineering Placements



Result Analysis



Yash B. Rathod
SPI : 9.09
(Semester: 2)

Vinesh S. Vasava
SPI : 8.65
(Semester: 4)

Bhakhar Daksh
SPI : 10
(Semester: 8)

Industrial visits

An Industrial visit to "Vulcan"

An Industrial Visit to "Vulcan Industrial Co. Ltd , Anand" was arranged for Third year students on 5th March 2022, Total 40 students participated in the visit. Vulcan Industrial Co. Ltd offers Industrial equipment and parts for mining industries and cement industries and are providing services for mining parts Manufacturers and Exporters India and worldwide.

"LEARNING IS A TREASURE THAT WILL FOLLOW ITS OWNER EVERYWHERE"

From Student

Blog on Crypto

Yash Patel
(4th year ME)

Despite all its volatility, Bitcoin, the world's oldest crypto asset was declared as the best performing asset class of the decade until last year. Its returns were more than all other investment instruments and ten times higher than those of Nasdaq 100. Again in 2020-21 alone, it was crowned as the top asset class with returns of over 800%. It is equally true that prices of Bitcoin and other virtual assets are subject to wild gyrations across different time periods. But unlike say, a mutual fund or a share which is easy to grasp concept.

Unlike traditional currencies, crypto assets are not controlled by any central bank or any centralised authority. The concept is underpinned by a peer-to-peer computer network made up of tens of thousands of people around the world. The whole idea is that no central figure would be able to manipulate the prices or tamper with what is stored on the blockchain, the underlying technology that tracks all crypto transactions. Since 2009 when Bitcoin was first mined by its enigmatic founder, Satoshi Nakamoto, thousands of digital assets are in circulation today.

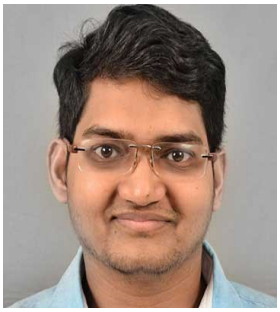
There are lots of views on the subject and almost everyone has an opinion on it. Those who are convinced of the future potential of the technology, swear by it. Others consider it to be a passing trend. Many will also point to the fact that prices of most virtual assets have plummeted in the recent past when compared to their all-time highs last year. Should this then be a good time to buy and wait for the prices to rise.

First, make your own decision:

It is easy to be swayed by what colleagues, friends and financial advisors might suggest. There is also a fear of missing out and the tendency to follow the herd. It would be best not to fall in any trap. Instead of following pure instincts, such decisions are best made after due diligence and research.

From Faculty

How does the global shortage of 'electronic chips' delay the delivery of Cars?



Prof. Aakarsh Jain
(Assistant Professor)

Waiting for 6-24 months for a car to get delivered has made all the cars a 'dream car' for its consumers. Sources says that as on date 7 lakhs vehicles are waiting to get delivered. This, shortage of chips has challenged the well designed and the most successfully operating supply chain system. These chip's scarcity has increased the inventory of cars and, also forced some plants to take a break in production.

To, overcome this many car manufacturers have opted to redesign the cars and its features that are dependent on electronics. They have reduced the number of sensors and other luxurious elements. There are myriad models of cars manufactured by same company, and to balance this lack of chips, they have diverted the flow of electronic components towards more running models and have put a stay on manufacturing of less popular models.

Despite all this, still the gap has not been reduced. The actual reason for this shortage and challenge in perfectly working supply chain system is the increase in the demand of mobile phones, gaming platforms, tablets and others. Due, to increase in demand here and assuming there would be decrement in demand of vehicles, the chip manufacturing industries shifted their production more towards gadgets electronics.

This, story forces us to reveal where these chips are used in automobile and then we can understand the real intensity of the problem faced by the manufacturers.

Below, is the category of systems, with examples, in an average car where electronics is used,

1) Engine electronics –

Electronic control unit (ECU)- it's the major component of a car which looks after, emission control, cooling control, fuel/throttle rate control, lubrication system control etc.

From Faculty

2) Transmission electronics –

It controls, clutch mechanism and gear shifting in automatic cars. Coordinate with ECU unit for smooth drive.

3) Chassis electronics –

It looks after, ABS – Anti-lock Braking System, ASR / TCS – Anti Slip Regulation / Traction Control System, BAS – Brake Assist, EBD – Electronic Brakeforce Distribution, EDC – Electronic Damper Control, EDS – Electronic Differential Slippery, ESP – Electronic Stability Program, ETS – Enhanced Traction System, PA – Parking Assistance.

4) Passive safety –

It acts during the time of accident or to avoid any losses due to it, like activating air bags, emergency brakes, hill descent control etc.

5) Driver assistance –

It helps driver to give a comfortable and safe driving experience, by providing lane assist system, park assist system, speed assist system, cruise control and others.

6) Passenger comfort –

It helps passengers for smooth and comfortable ride, features include, auto-climate AC, seat adjustment, auto wiper control and many more.

7) Entertainment systems -

Navigation system and passenger infotainment are the part of this system.

On average, a 2020s car has 50—150 chips, according to Chris Isidore of CNN Business. And this is the reason that why these small sized chips have delayed the delivery of new cars.

-Source: Internet

From Alumnae

Mr. Ronak Arya
BE Mechanical Engineering
(2017-2020)

I, Ronak Arya, Alumni of GCET Mechanical department, Batch of '20.I have always been interested in Operation Management since the day our HOD Darshak Desai taught us Six Sigma, and under his guidance, I did my Final Year Project in Six Sigma Domain and also completed my Yellow Belt in Six Sigma. At present, I am doing my MBA from the School of Management and Entrepreneurship, IIT Jodhpur as Majors in Operations and a Minor in Marketing.

GCET has always given me the platform to hone my skills and become a better management student by being the head of an event IMAZE.
I would like to thank all my faculties at GCET for their constant support and motivation for higher studies.

NPTEL-Swayam Exam score

Subject : 1) Computer Integrated manufacturing (CIM)
2) Inspection and quality control in manufacturing (IQCM)

SARANG PANDYA
IQCM - 73%
CIM - 81%

TIRTH JOSHI
IQCM - 62%
CIM - 82%

KISHAN PATEL
IQCM - 80%
CIM - 79%

JAY SHAH
IQCM - 68%
CIM - 77%

Subject :German-1

DEEP SHAH
76%

Subject :Inspection and quality control in manufacturing (IQCM)

VEDANSHU VYAS
66%