

A.V.PAREKH TECHNICAL INSTITUTE , RAJKOT



Tech Chronicle

AVPTIans' Vision on Platter

Newsletter , July- December 2023 www.avpt.cteguj.in/newsletter



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- R.M.Pathak (I.C. Dept.)
- G.B.Harnesha (General Dept.)
- C.C.Shah (Electrical Dept.)



About Institute

Amrutlal Virpal Parekh Technical Institute, popularly known as AVPTI, was established in 1948 by a generous donor of that era Sheth Amrutlal Virpal Parekh. The courses like Wireless Telegraphy got introduced for the first time in this campus in the whole country. The institute has District Innovative Centre and SSIP Regional Centre for the Saurashtra and Kutch Region. The Institute shares its expertise with the engineers coming up with innovative ideas and upscales all the resources to convert their dreams into reality. Institute assists not only technically and financially but also supports the patent filing process. With all these consistent efforts and contribution, the institute

--- • ----NBA Accredited Courses --- • ----

- -- Computer Engineering -- • -- Electrical Engineering -- •
- -- Bio-Medical Engineering -- • -
- -- Computer Aided Costume Design & Dress Making -- •

Diploma Engineering Intake: Programme wise

Programmes	Sanctioned Intake
Biomedical Engineering	60
Computer Aided Costume Design & Dress Making	30
Computer Engineering	180
Electrical Engineering	150
Electronics & Communication Engineering	60
Instrumentation & Control Engineering	60
Information & Communication Technology	60
Renewable Energy Engineering	30



DTE Vision Mission

DTE's VISION:

To facilitate quality technical and professional education having relevance for both industry and society, with moral and ethical values, giving equal opportunity and access, aiming to prepare globally competent technocrats.

DTE's MISSION:

1. Quality technical and professional education with continuous improvement of all the resources and personnel
2. To promote conducive ecosystem for Academic, Industry, Research, Innovations and Start-ups
3. To provide affordable quality professional education with moral values, equal opportunities, accessibility and accountability
4. To allocate competent and dedicated human resources and infrastructure to the institutions for providing world-class professional education to become a Global Leader ("Vishwa Guru")



Institute Vision Mission

Vision

“To cater skilled engineers having potential to convert global challenges into opportunities through embedded values and quality technical education.”

Mission

A. V. Parekh Technical Institute is committed to

M1: Impart quality technical education and prepare diploma engineering professionals to meet the need of industries and society.

M2: Adopt latest tools and technologies for promoting systematic problem-solving skills to promote innovation and entrepreneurship.

M3: Emphasize individual development of students by inculcating moral, ethical and life skills.



Principal's Message



It is a matter of immense pleasure to roll out newsletter from one of the education pioneer institutes of Saurashtra Zone - AVPTI. In this newsletter prime activities of all the Departments of the Institute are highlighted.

The newsletter incorporates briefing of co-curricular and extra-curricular activities, executed in the past 6 months, like workshops, seminars, expert talks, industrial visits, SSIP programs, faculty development programs, articles on current trends and so on to equip the students as well as faculties to acquire the skills and expertise as per the demand of the current times.

I strongly believe that education is a collaborative effort that involves professional administrators, committed teachers and motivated students. We dedicate ourselves as professional administrators and academicians in creating a vibrant education Campus culture, empowering students on a global perspective!

Electrical Engineering Department

Co-curricular activity



Workshop on Hands on Solar PV and Energy Audit

The "Hands-On Solar PV and Energy Audit" workshop was organized on 2/11/2023 which S provided participants with a holistic understanding of solar PV systems and energy auditing. The combination of theoretical knowledge and practical applications has equipped participants with valuable skills in the renewable energy and energy efficiency sectors. The workshop's positive impact is reflected in the participants' increased confidence and competence in the field. Workshop experts were Shri Amit Pathak and Hardik Pandya. VVP Eng. College. College coordinator was shri K V Dave.



1. Expert Lecture on “Personality Development by Ramkrishna Mission”

The Personality Development Workshop conducted by the Ramakrishna Mission aimed to enhance participants' personal and interpersonal skills, fostering holistic growth. The workshop took place on 2/11/2023 at Seminar Hall Electrical Department AVPTI and was organized by Electrical department for the students of all semesters. The event attracted 78 participants from all semesters.

The Personality Development Workshop by the Ramakrishna Mission successfully achieved its objectives by providing participants with a comprehensive set of skills and tools for personal growth. The event served as a testament to the mission's commitment to holistic development and the empowerment of individuals.



2. Expert Lecture - “AC and DC Drives”

A Expert Talk on AC and DC Drives has been conducted on 3RD November 2023, at electrical engineering department, Avpti Rajkot for Final year Diploma Electrical Engineering students. Expert faculty was Prof V J Rupapara AP from Govt. Eng College Morbi.



3. Expert Lecture on Installation, Commissioning and Testing of EHV Circuit Breaker

- A Expert Talk on “Installation, Commissioning and Testing of EHV Circuit Breaker has been conducted on 30th October 2023, at electrical engineering department, Avpti- Rajkot for Final year Diploma Electrical Engineering students. Shri S.D.Patel DE TESTING GETCO was the key note expert for guiding students for the subject.





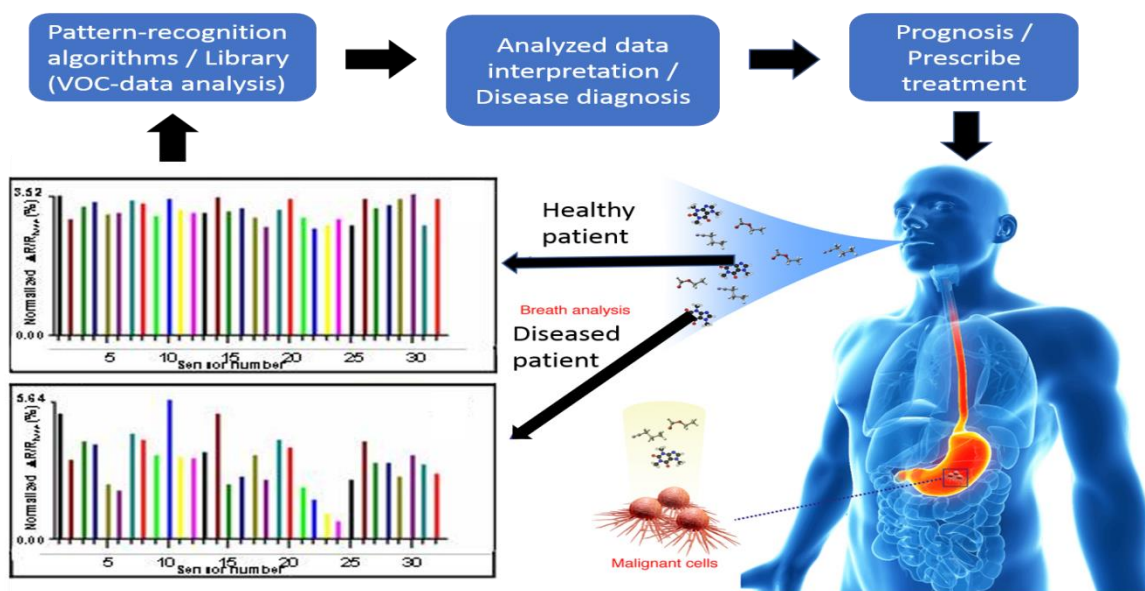
HUMAN DISEASE detection: Step towards pre-diagnosis

A.B.Bhatt

(Lecturer-Biomedical Engineering)

Major diseases like liver cancer, lung cancer, diabetes, asthma, respiratory diseases & others We have diagnostic tools for it, like GC-MS, CT, MRI & others diagnostic tools. But all have common disadvantages are Bulky, Time-consuming, Non-portable, Not easy to use required special skills to operate. All such diagnostic tools available in specialized laboratory, patient will refer by doctor to diagnose once they (patient) find symptoms present in body. If we can predict such major diseases at home by easy use handling device then we can take an early steps to cure. Human breath is a complex gas, containing more than 3500 different VOCs. Breath analysis techniques offer a potential revolution in health care diagnostics. If we can make a sensor that can detect effect of diseases present in body based on breath analysis, we can take early steps to cure. i.e. urin albumin test strip, Pregnancy test strip, blood glucose measurement device used at home.

Human breath is largely composed of oxygen, carbon dioxide, water vapor, nitrogen and numerous compounds in trace concentration. Exhaled Breath analysis is non-invasive, real-time and low cost technique which can be applied in medicine field both as a diagnostic tool and as a way to monitor the progress of therapies. Breath is a complex matrix where flow rate, temperature, humidity, and gas concentration are multifarious and time dependent variables. The analysis of the breath allows assess different body functions in a convenient and flexible way. Certain gases in the breath are known to be indicators of the presence of diseases and clinical conditions. For example, acetone has been linked to diabetes; ammonia is an indicative of renal disease etc. Exhaled nitric oxide and other volatile organic compounds in breath is an easy to measure, noninvasive measure of airway inflammation like asthma



Associated Diseases/Disorders/Conditions	Biomarker Compounds
AFDL ,URTI	Acetaldehyde
Lung cancer ,NSCLC	Acetoin (3-hydroxy-2-butanone)
ARDS Lung cancer CIP CPD Cystic fibrosis Diabetes mellitus Hepatic cirrhosis	Acetone
AHI ,Asthma ,COPD ,Cystic fibrosis IBD ,IHD, angina, ILD Lung cancer ,Oxidative stress ,Schizophrenia	Ethane
AHI ,ARDS ,Asthma CIP ,Cystic fibrosis ,IBD Lung cancer ,Rheumatoid arthritis	Pentane

The future outlook for continued progress in the improvement of biomarker breath analysis to facilitate the accuracy and effectiveness of disease diagnostics is encouraging given all of the potential advantages afforded by the continued development of new e-nose technologies to detect the many and varied metabolic breath signatures associated with specific diseases found in different compartments and organs of the human body. Miniaturization of e-nose technologies using fewer sensors, smart selection of sensor types used in the sensor array and improved pattern recognition algorithms designed specifically to recognize unique breath prints, based on the presence of disease-specific mixtures of biomarkers, so that analyses can become more accurate, dependable and unequivocal, results in delivering effective early diagnoses of organ-specific diseases from breath analysis of patients during routine annual noninvasive checkups involving simple breath tests, rather than invasive biopsies or painful procedures, such as mammograms and colonoscopies.

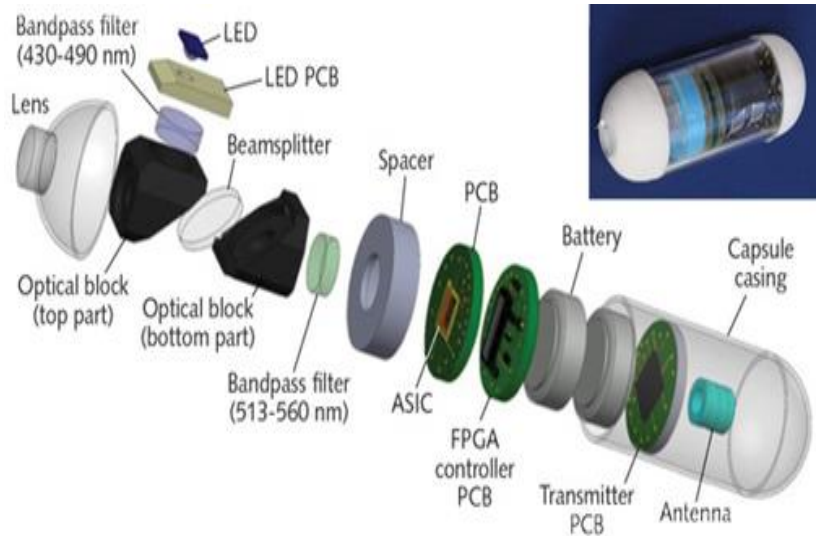


Camera Pill

A.B.Bhatt

(Lecturer-Biomedical Engineering)

With a great leap in the field of Bio-Medical science and technology at the beginning of the 21st century, people were able to witness the appearance of numerous inventions some of which are already helping patients worldwide, while other devices could lead to serious innovations in the near future.



Cancer Camera Pill

Internal Structure of pill

With the invention of this camera pill it became possible to spot the earliest signs of cancer. The device was developed with the goal of taking quality, color images in confined spaces. It can **detect early signs of esophageal cancer**, which is the fastest growing type of cancer in the United States.

According to Eric Seibel, the lead researcher at the University of Washington, the pill has a width of an adult fingernail and is twice as long. Using the new scanning device is rather cheap due to the fact that it is small and there is no need of anesthesia and sedation.



Semiconindia 2023 Expo. Participant Companies/Institutes Expert

EVENT DATE & TIME:	29/07/2023 08:00 to 06:00
EVENT TYPE:	CO-Curricular Activity
EVENT TITLE:	“Visit Semicon India 2023 Expo-Mahatma Gandhi Mandir ,Gandhinagar”
EVENT VENUE:	Mahatma Gandhi Mandir -Gandhinagar
EVENT CO-ORDINATORS:	V.J.Pambhar

NO. OF STUDENTS PARTICIPANTS (SEMESTER):	18(4th and 6th semester students)
NO. OF FACULTY PARTICIPANTS:	01
TOPIC HIGHLIGHTS	Students Know about different research and project done/working on the semiconductor field like Chip design/Microprocessors/Memory chip etc. By Government as well as Private Sector.

**EVENT
OUTCOMES**

Students may get new direction of job in the field of chip designing/fabrication and IOT based work
And also aware about vision of Government of India in the semiconductor manufacturing industries
as semiconductor is very crucial device for making any Chip.



Instrumentation & Control Engineering Department

Co curricular Activities



Industry Visit

One day Industrial Visit to Center of Excellence at Government Engineering College, Rajkot was organized for 1st semester students on 1/08/2023 as part of local area/industry visit during their induction program by Instrumentation & Control department. 35 Students with 3 faculties visited the COE. At the beginning Mr. Manish Jani, Associate Prof. , Instrumentation & Control Department , welcomed the students & gave brief introduction of center of Excellence. The main reason behind this visit was to let students know latest technologies in engineering design, to get knowledge about instrumentation & control course. Students visited different labs of Center of Excellence at GEC. Faculties of Instrumentation & Control Department of GEC Rajkot explained different process, instruments & technologies available at different labs of COE. Students also visited different labs of Instrumentation & Control department of GEC. Overall it was good experience for students.





Instrumentation & Control Engineering Department

Co curricular Activities

Seminar on summer internship counseling

Instrumentation & Control department has organized seminar on summer internship counseling on 20th JULY 2023 for 5th semester students. 5th semester Students has to do 6 weeks summer internship as a part of their curriculum. Faculty co coordinator Mr. M. S. Khokhar & Mr. M. P. Girnari conducted the seminar. The objective of this seminar was to guide the students about curriculum of internship, evaluation scheme, how to choose industry, how this internship will be beneficial for their employment, outcomes of internship.





Instrumentation & Control Engineering Department

Co curricular Activities

Orientation program

Instrumentation and control department has organized orientation program for newly admitted first semester students on 18 JULY 2023 at Classroom no. 9 of IC Dept. Principal of Institute, head of the department and faculty members of IC department attended the program. The main objective of the programmed was to make the parents and students aware of the academic aspects of course. Students were formally welcomed and introduced to the culture of the Institute, campus and University. Students made aware about their course, different activities carried out at department and institute. The detailed program structure and evaluation criteria were explained to students. 45 students and their parents attended the orientation program.



Electronics and Communication Engineering Department

Co-curricular activity

Expert session on Wearable sensor system to track Rehabilitation Exercise using Machine Learning and IOT.

Expert Session was arranged on date 27th October 2023 The Expert is Mr. R.S.Tanna, Lecturer of E.C dept. He provide the deep understanding of the recent topic Internet of things and Machine learning .And also explains how IOT is related to sensor in the medical field. The working of wearable sensor system to track Rehabilitation exercise using Machine learning and IOT is discussed in the seminar.

The session was arranged for semester 3 and semester 5 student of E.C and ICT department.



Expert session on BLDC Motors and VFD

Expert Lecture was arranged for semester 3 E.C student on date 20/12/2023. An expert was Milan Hansaliya from Xenhester innovation p.v.t. ltd. The company manufactures BLDC motors and VFDs. The session was arranged to cover the theoretical and practical aspects of BLDC motors and VFDs.

Total 26 students had attended the program. The topics are also the part of curriculum of subject Industrial electronics of semester 3 EC.



Electronics and Communication Engineering Department

Extracurricular activity



1.Seminar on “Health is better than wealth”

Gymkhana committee and Electronics & Communication Engineering Department had jointly organized seminar on “Health is better than Wealth” on 31st July 2023, to engage and empower young minds with the idea of prioritizing health over economic prosperity. The seminar targeted college students and aimed to raise awareness about the critical role of health in personal well-being, societal development, and global prosperity.

EVENT CORDINATOR: - K. V. Shingala

Brief description of event:

A seminar on “Health is better than wealth” was organized under Health working Group G20/Y20 for the students of all the departments. It was presented through a PowerPoint presentation. The seminar focused on educating college students about the importance of maintaining good physical and mental health. It aimed to empower them with knowledge about healthy lifestyle choices, disease prevention, and the long-term benefits of investing in their well-being. About 65 students had attended the seminar and participated enthusiastically.



2. Local Area visit to Mahatma Gandhi Museum

The local area visit to Gandhi Museum was organized as part of the Induction Week for first-year students of E.C and ICT branch. The visit aimed to introduce the students to the rich cultural and historical heritage of Rajkot City, with a special focus on Mahatma Gandhi's life and principles. The trip provided an excellent opportunity for the students to learn about the Father of the Nation, his values, and the impact of his teachings on India's freedom struggle.

The visit took place on 28-7-2023, from 10:30 a.m to 1:30 p.m. The students were accompanied by faculty members S.T.Jhala, K.V Shingala and J S Asal. Total 36 students of ICT branch and 31 students of EC branch had participated in the visit



3. Local Area Visit at Ramakrishna Ashram

The local area visit to Ram Krishna Ashram was organized as part of the Induction Week for first-year students of E.C and ICT branch. The visit aimed to introduce the students to the rich cultural and historical heritage of Rajkot City, with a special focus on Swami vivekanand's life and principles. The trip provided an excellent opportunity for the students to learn about the Vivekananda, his values, and the impact of his teaching.

The visit took place on, 12th July 2023, from 10:30 a. m to 1:30 p.m. The students were accompanied by faculty members P.C.Dalsania, R.B.Jani and S.T.Jhala Total 50 students of ICT branch and 39 students of EC and ICT branch had participated in the visit.





Paanch Prann Pratigya

As a part of “Meri Maati Mera Desh ”campaign Students & faculties of IC department took “Panch Prann Pratigya.” The faculty coordinator P R Thumar addressed about the core theme of Meri Maati Mera Desh. Head of the department also said that all of us in one voice shall show our loyalty to the soil that feeds and rear us. He reiterated that students of today are the future of the country, and strong youth today will lead to a better tomorrow for our great nation and they should be dedicated for the cause of the nation and for that be sincere to their studies, and service to the parents and the Nation. He also advised the young students to stay away from every kind of addiction and take prann to dedicatedly contribute towards society.





Instrumentation & Control Engineering Department
Extracurricular Activities

Visit to regional Science Center, Rajkot.

Students & Faculty of Instrumentation & Control department visited the Regional Science center, Rajkot on 23th august 2023. They visited different Galleries located on the ground floor which includes interactive exhibits, providing a platform for the exploration of various aspects of science, such as machine engineering, robotics, life sciences, and the local ceramic. Students also visited Amenities like VR Zone, Sound Park, Flight Simulator, and workshops which provide a versatile space for engaging events. Students also watched live telecast of “ Chandrayaan- 3 Launching”. Overall it was thrilling experience for the students.



Instrumentation & Control Engineering Department

Extracurricular Activities

Chandrayaan-3 Maha Quiz Celebrations.

Honorable Prime Minister, during his address to ISRO scientists on 23rd August, declared the launch of the Chandrayaan-3 Maha Quiz on the MyGov platform. The quiz was designed to engage and educate participants about India's lunar mission. Students of IC department actively participated in the Chandrayaan-3 Maha Quiz on 20th October 2023. All participants received participation certificate.



Electrical Engineering Department

Extracurricular Activities



Seminar on “DENTAL AWARENESS SEMINAR”

Gymkhana committee and Electrical Engineering Department had jointly organized seminar on “Dental Awareness Seminar” on 15th July 2023 with the aim of promoting oral health awareness and educating students about the importance of maintaining good dental hygiene. The seminar was part of the college's commitment to holistic well-being and health education for faculties and students.

EVENT COORDINATOR: - Chandni C Shah

Brief description of event:

The seminar commenced at 3:15 pm with a warm welcome of Dr. Vivekadevi and Dr. Dhruva, who is a renowned dentist and oral health advocate. The seminar featured engaging presentations, interactive sessions, and informative videos that covered various aspects of oral health. Some of the key highlights included:

Oral Hygiene Practices: The importance of brushing, flossing, and using mouthwash regularly for maintaining healthy gums and teeth was emphasized. Proper techniques for brushing and flossing were demonstrated to ensure maximum effectiveness.

Diet and Oral Health: The connection between diet and oral health was discussed, focusing on the impact of sugary and acidic foods on tooth decay. Attendees were educated about making healthier dietary choices for better oral hygiene.

Common Dental Issues: Various common dental issues such as cavities, gum diseases, and bad breath were explained in detail. Prevention strategies, early warning signs, and steps to take in case of such issues were discussed.

Myths and Facts: The seminar addressed common myths surrounding oral health, such as the belief that teeth whitening damages enamel or that baby teeth are not important. Evidence-based

explanations were provided to dispel these misconceptions.

Importance of Regular Check-ups: The speaker stressed the significance of regular dental check-ups for early detection of dental problems. Attendees were encouraged to schedule routine appointments with dental professionals.

Interactive Sessions:

The seminar included interactive sessions to engage the attendees actively. Participants were encouraged to ask questions, share their experiences, and clarify doubts. A short quiz session was arranged with token of appreciation. The speaker provided personalized advice and answered queries, making the seminar informative and relatable.

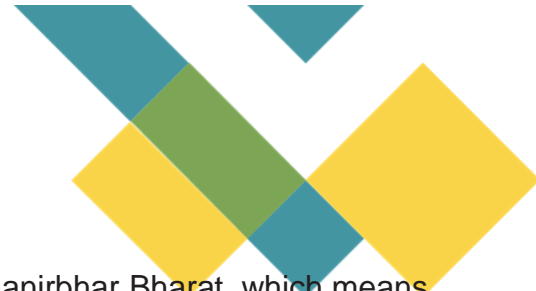


2. Local Area visit to Mahatma Gandhi Museum

The local area visit to Gandhi Museum was organized as part of the Induction Week for first-year students of Electrical and Renewable branch. The visit aimed to introduce the students to the rich cultural and historical heritage of Rajkot City, with a special focus on Mahatma Gandhi's life and principles. The trip provided an excellent opportunity for the students to learn about the Father of the Nation, his values, and the impact of his teachings on India's freedom struggle.

The visit took place on 28-7-2023, from 11:30 a.m to 2:00 p.m. The students were accompanied by faculty members S M Kanani, C C Shah and C K Vyas. Total 64 students of Electrical and 4 students of RE had participated in the visit





3. Seminar on Swadeshi and Atmanirbhar Bharat

Swadeshi, which translates to "of our own country," and Atmanirbhar Bharat, which means "self-reliant India," have become guiding principles for our nation's economic and industrial growth. Technical education plays a pivotal role in realizing the vision of Swadeshi and Atmanirbhar Bharat. It equips our youth with the skills, knowledge, and innovation necessary to foster self-reliance and indigenously develop cutting-edge technologies.

Such a seminar was arranged by Electrical Department 29/9/2023 at Electrical department seminar hall. Nearly 138 students participated in this seminar

The keynote address was delivered by Shri Tapan Ladani expert in the field of self-reliance and Swadeshi He also elaborated on the historical context of Swadeshi, tracing its roots back to the Indian independence movement, and discussed the government's initiatives under the Atmanirbhar Bharat Abhiyan.

Shri Jaydeep Faldu from Industry inspector and Shri Ramchandra Jadeja from Kutir Udyog Sahay also explained students about different government initiative and loan and other funding tools for new startups. How to apply and what are the eligibility.



Samsung Dual Camera
Shot with my Galaxy
A30tt65ttrre55t3d



4. Standard writing competition

BIS is the National Standard Body of India established under the BIS Act 2016 for the harmonious development of the activities of standardization, marking and quality certification of goods and for matters connected therewith or incidental thereto. IS has been providing traceability and tangibility benefits to the national economy in a number of ways – providing safe reliable quality goods; minimizing health hazards to consumers; promoting exports and imports substitute; control over proliferation of varieties etc. through standardization, certification and testing.

Electrical department AVPTI in association with BIS organized Standard Writing Competition for students on 27/6/2022 at electrical department Lab. The keynote speaker from BIS Mr. Rajesh Kumar Chaubey QC In charge at Intech Forge India Pvt. Ltd remained present for the event. 40 students participated for this program

Standard writing competition was arranged in machine lab. 40 students participated formed group of 2. They were given the theme and rules and regulation for competition priorly. Copies were collected and were evaluated by BIS resource person BIS Club faculty member. Results were declared and were awarded with prize money





5. Activity of TREE PLANTATION - VASUDHA VANDAN

A tree plantation event on date 10/08/2023 was arranged with the aim of fostering environmental awareness and implementing sustainable practices. This event was aligned with the concept of Vasudha Vandana, which emphasizes the reverence and care for the Earth.

This event was hosted by Electrical department and trees were planted in both the campus area of A VPTI with help of nearly 75 students and 30 staff members. This event was successful with the help of Sadbhavna trust as they helped in planting the saplings







Size doesn't matter but skill matters

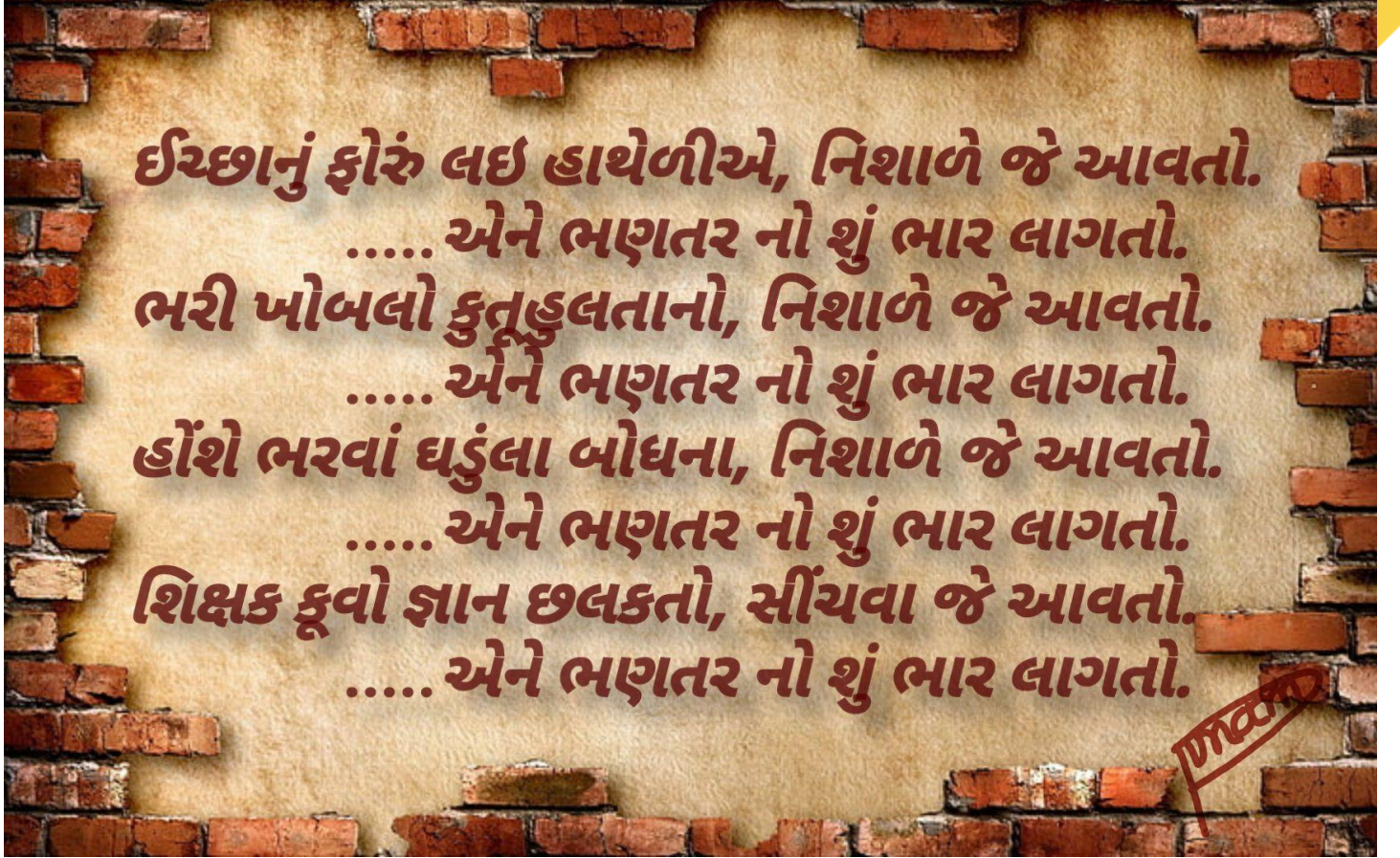


Art by Punam M. Soneji

Lecturer, IC department , AVPTI



Poem



Poem by Punam M. Soneji

Lecturer, IC Department, AVPTI



VISIT NSIC Center Rajkot

EVENT REPORT

EVENT DATE & TIME:	28/07/2023 08:00 to 06:00
EVENT TYPE:	CO-Curricular Activity
EVENT VENUE:	NSIC center, Nr Amul Circle, Rajkot.
EVENT CO-ORDINATORS:	R.A.Kadchha, V.J.Pambhar

RESOURCE PERSON DETAILS:	NSIC Center Rajkot Training person
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NO. OF STUDENTS PARTICIPANTS (SEMESTER):	Approx. 90(1st semester students)
NO. OF FACULTY PARTICIPANTS:	02

TOPIC HIGHLIGHTS	Visit NSCI center regarding different training courses available and offered by center.
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EVENT OUTCOMES	Students know about NSCI and its agenda. Students also take participant in training which is offered by NSIC.
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**“A LITTLE PROGRESS EACH
DAY ADDS UP TO BIG
RESULTS.”**

SATYA NANI

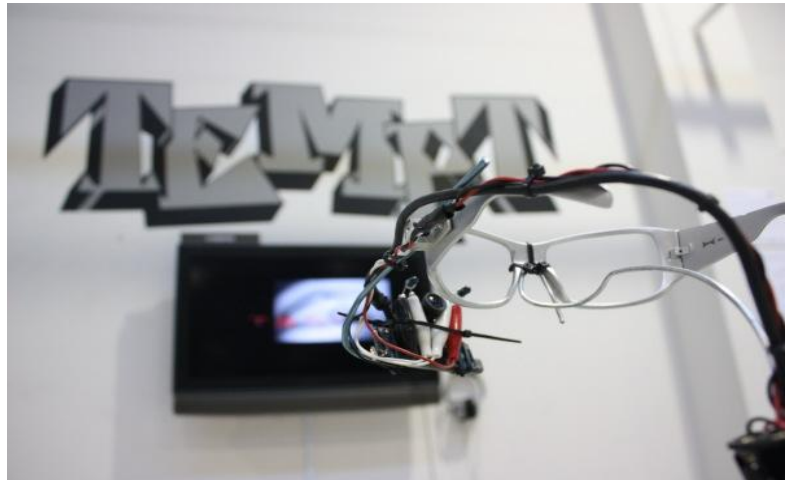




Recent TECHNOLOGICAL trend in BIOMEDICAL ENGINEERING

Eye-Writer

This device was invented to help people bound to bed communicate. It is the brainchild of researchers from the Ebeling Group, the Eye Writer makes use of low-cost eye-tracking glasses equipped with open-source software. Thus it allows people with one of neuromuscular syndromes to communicate with others by writing or drawing on the screen by tracking their eye movement and converting it to lines on a display.



Eye-Writer Device for disable patients