







A D Patel Institute of Technology AICTE IDEA Lab

Monthly

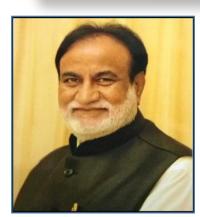
Activity Newsletter:

Aug-Sep Issue 02

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Message from Chairman



AICTE-IDEA (Idea Development, Evaluation & Application) Labs are being established across the country for encouraging students for application of Science, Technology, Engineering and Mathematics (STEM) fundamentals towards enhanced hands-on experience, learning by doing and even product visualization.

Activities will be conducted to align with many of the national initiatives to develop "Aatma Nirbhar Bharat".

The Institute has already started courses under "National Skill Qualifications Framework" scheme, for skill development of youth, and the IDEA lab infrastructure will be shared for such courses also.

IDEA Lab provides all facilities under one roof, for conversion of an idea into a prototype. The ultimate objective is to transform engineering and science knowledge using such a Lab for nearby technical institutions and school students and for this they must proactively expose all students. The IDEA LAB should frequently organize training sessions for interested students as well as support projects to improve employability or entrepreneurship skills of students through experiential learning.

Head of the institute as chief mentor, faculty coordinators and student ambassadors will be responsible for overall implementation of AICTE initiative. Trainings, boot camps, internships and professional training programs will be organized throughout the year for faculty and students.

Faculty would be encouraged to get trained in these Labs and strive for creating problems/ projects/ internships in their own subjects/ disciplines and mentor the students. The industry, academia, technical institutions and school learners must take advantages of established resources under AICTE IDEA LAB.

Best wishes

Er. Bhikhubhai B. Patel President, CVM University Chairman, CVM

Message from Chief Mentor



AICTE IDEA LAB at ADIT aims to develop as a physical and virtual environment for generating, developing, and commercializing innovative students' ideas through relevant trainings, mentoring and technology put at their disposal. Members of idea lab team were actively involved in providing guidance, mentoring and support to realize complexity, nature of problem and effective utilization of resources of IDEA LAB.

IDEA LAB would serve as "Clinic" for engineers in line with Hospitals for Medical students. The focus will be on imparting hands-on training among students so that they become imaginative and creative and stay confidently on workplace or as an independent entrepreneur. Interdisciplinary Design with Experimental orientation in the laboratory promotes new-innovation through material experimentation and performance-based design strategies. It also leverages students to participate at national and international level competitions such as Smart India Hackathon (SIH), ROBOCON, SAE- Baja (India), e-Yantra etc.

Integrated platform for students, faculty and Industry is beneficial mutually at every forefront of design in advancing knowledge and learning from each other. Industry-Academia interaction with help of IDEA LAB and MoUs with corporate sectors and research institutions have ensured that students obtain best possible exposure to multiple learning experiences.

I strongly believe that AICTE IDEA LABs will act as the main driver for continuous improvement in quality technical education and serve as the benchmark for future engineering endeavours.

Best Wishes

Dr. Vishal Singh Chief Mentor, AICTE IDEA LAB, ADIT Principal, A D Patel Institute of Technology

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Visit us: http://www.adit.ac.in/idealab.jsp

Message from Coordinator



The primary goal of the Idea-Lab is to serve as a 'Technology Incubator' that aims to impart skill development among young minds and support potential ideas with good technological merit. Students should engage in activities, events and projects according to their interests. Prime minister's vision of new age learning- by 5E's such as Engage, Explore, Experience, Express, and Excel can be accomplished through it.

IDEA Lab would serve as an infrastructure for faculty to take up and promote multidisciplinary education and research emphasized in the National Education Policy 2020.

Basically, IDEA LAB word is coined from Innovation Design & Empowerment Applications Lab. It will make engineering graduates more imaginative and creative, besides getting basic hands-on training skills like-critical thinking, problem-solving, research, collaboration, communication, lifelong learning etc. essential for modern industry environment.

The main objectives of AICTE IDEA LAB are skill development, trainings in critical thinking, problem solving, design thinking, boot camps, internships and professional training programs, collaborations with industry and research organizations will be throughout the year for faculty, students, and institute growth. We always believe in collaboration and excellence.

We are glad for your footsteps at ADIT-AICTE IDEA LAB for new collaborative efforts towards solutions. Whatever may be the reason, please check out our IDEA LAB team and projects. Again, welcome to IDEA Labs, where people, knowledge, and technologies converge! We look forward to hearing from you.

Best Wishes

Dr. Yashavant Patel Coordinator, AICTE IDEA LAB, ADIT Head, Department of Mechanical Engineering

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Message from Co - Coordinator



AICTE IDEA Lab shall transform technical education by empowering young minds with cutting-edge tools, processes, and skills. It acts as a focal forum to inculcate scientific temper for attaining new heights in research and development for welfare of masses and to improve the quality of their life as well as to solve important issues by acting as organic link between science, technology and economy.

The focus will be on training students so that they become imaginative and creative and stay so at the workplaces they join. The ultimate objective is to transform engineering education with such a Lab and for this the institute must proactively expose all students to the IDEA Lab, organize training sessions for interested students as well as support projects and by providing online learning materials. The idea lab aims at developing critical thinking & complex problem-solving abilities among the students at the institute. The lab will also provide support to schools, polytechnic colleges, and engineering colleges in the vicinity. IDEA Lab would also serve as an empowering infrastructure for faculty to delve into multidisciplinary education and research, emphasized in the National Education Policy 2022.

Best Wishes

Mr.Dhaval N Tailor Co-Coordinator, AICTE IDEA LAB, ADIT Assistant Professor, Department of Electrical Engineering M: 9601290378

Message from Editors





It makes us proud to present this edition of AICTE IDEA Lab newsletter and share the past and upcoming events happening at IDEA Lab of ADIT.

We strongly believe that skill development among youth can be achieved by practical exposure through various planned activities. IDEA lab is a constant endeavour to aid in the growth of our students in more scientific way and provide industry ready environment. The lab has various sections that deals with different skill sets to render an all-round development of the students. Common observations are among students regarding excellence in theoretical concepts but scope of improvement for their practical knowledge. We are sure that this gap can be bridged at IDEA LAB through various programs such as Skill development workshops, Awareness programmes, etc. Moreover established facilities will also benefits faculty members of all nearby institutions to become proactive for meeting 21st century challenges and diversity. The Industry personals may also utilize these facilities for their new product development and testing.

Best wishes and Happy Learning to all...

Prof. Jinal Bhagat & Prof. Sherin Mariam Jijo Editors, AICTE IDEA LAB, ADIT Department of Information Technology

About AICTE IDEALab

ADIT has been selected among 49 colleges across India by AICTE to establish IDEA LAB co-funded by CVM University.

Vision for the IDEA Lab:

- To create start-ups and Innovation community within the town and proximity rural areas to foster the "Make in India" movement of the country.
- To develop the ecosystem of individuals who exchange knowledge, ideas, and technology to empower people of all ages.
- To be a reference centre focused on the development and rapid prototyping of design projects for technological transformation and innovation in "Charotar region" of Gujarat.
- To support the learning process based on the latest trends required by the industry and the market.

Integration of IDEA Lab with existing facilities:

The institute has eight Centre of Excellence (CoE) in emerging areas of engineering and technology. Many UG/PG students are working under these CoEs for project and dissertation work; the IDEA lab may help them to carry their work to the next level. The faculty members of the institute are actively involved in R&D activities and have received many research grants from ISRO RESPOND, AICTE, DST etc.; the IDEA lab may empower faculty members to raise the research work in the institute. The institute is associated with various professional bodies like IEEE, ISTE, IE, SAE, SME, ISHRAE, AFST and IGBC; various activities under these professional bodies can also utilize the facilities available with IDEA Lab. The IDEA lab may support the SSIP cell, E&D cell and Innovation Council of the institute to promote the start-ups, entrepreneurship and Innovation related activities.

Benefits to students:

A.D. Patel Institute of technology is one of the leading engineering institutes in state of Gujarat with NBA accreditation (4-Branches for 2nd Term) and ISO 9001-2015 certification. Since inception, the institute provides quality education and promoting research, start-ups and innovation related activities. The institute runs 8-UG programs, 6-PG programs with 1800 students and 100 faculty members. The institute has centre of excellence in emerging areas of

engineering and technology like "Robotics, Autonomous and Intelligent Systems", "Electric Mobility", "Food product Development and Modelling" etc.

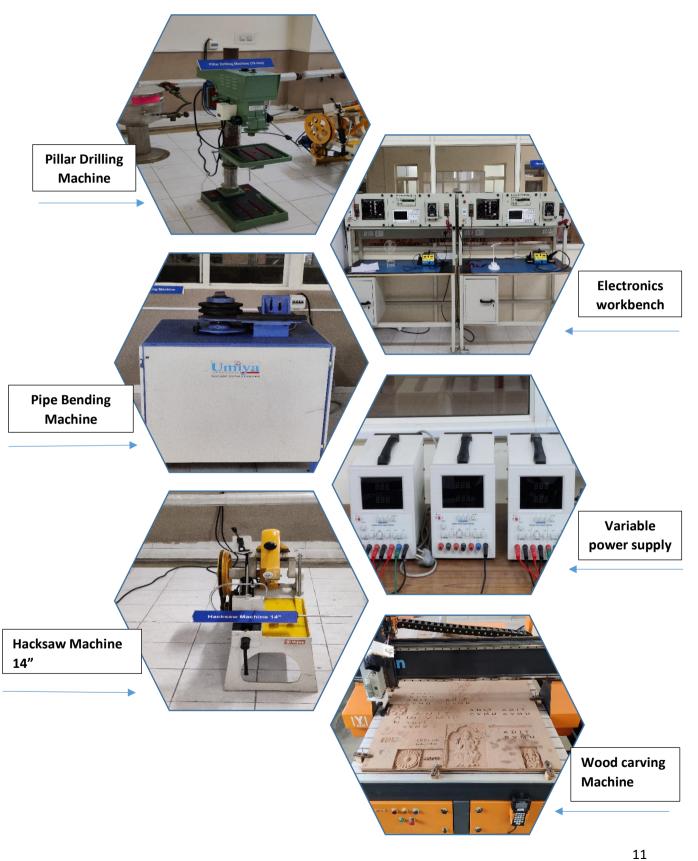
As a part of that, students of the institute brought many laurels to the institute with the active participation in many state and national level competitions. The IDEA lab will provide the promising platform for students to enhance the required skills for converting the innovative ideas into reality. The lab empowers the faculty members to accelerate the R&D activities and project-based learning in the institute. The IDEA lab will also attract and inspire the school students to think out of the box at the beginner's level.

Committee Members

Name	Designated Role
Dr. Vishal Singh	Chief Mentor, Principal, ADIT
Dr. Yashavant Patel	Coordinator, Associate Prof. and Head, Mechanical Engineering
Prof. Dhaval Tailor	Co-Coordinator, Assistant Prof., Electrical Engineering
Prof. Sankalp Bhatiya	IDEA LAB GURU, Assistant Prof., Mechanical Engineering
Prof. Mitul Malli	Member, Assistant Prof., Mechanical Engineering
Dr. Viranchi Pandya	Member, Associate Prof., Electronics and Communication
Dr. Kalpesh M Shah	IDEA LAB GURU, Assistant Prof., Electronics and Communication
Prof. Vishal sheth	Member, Assistant Prof., Electrical Engineering
Dr. Nimit Patel Member	Assistant Prof., Automobile Engineering
Prof. Kuldeep Patel	IDEA LAB GURU Assistant Prof., Automobile Engineering
Prof. Bhavin Patel	Member, Assistant Prof., Civil engineering
Prof. Shah Axay	Member, Assistant Prof., Civil engineering
Prof. Priyanka Puvar	Member, Assistant Prof., Computer Engineering
Prof. Aniruddha Kurtkoti	IDEA LAB GURU, Assistant Prof., Computer Engineering
Prof. Jitiksha Patel	Member, Assistant Prof., Information Technology
Prof. Keyur Patel	Member, Assistant Prof., Information Technology
Prof. Sherin Mariam Jijo	Member, Assistant Prof., Information technology
Prof. Jinal Bhagat	Member, Assistant Prof., Information technology
Dr. P M Ganorkar	Member, Assistant Prof., Food Processing Technology
Dr. Ankita singh	Member, Assistant Prof., Food Processing Technology
Dr. Abhay Dashdiya	Member, Assistant Prof., Soft skill and Science Cell
Prof. Devang Shah	Member, Assistant Prof., Soft skill and Science Cell



Equipment Gallery(cont.)



Equipment List

Sr.	Equipment	Sr.	Equipment
1	3D Printer	20	Portable Grinding machine
2	3D Scanner	21	Refrigerator
3	Drilling Machine 1 HP Motor	22	Normal Microwave Oven
4	Digital storage Oscilloscope	23	Magnifying Glass with stand
5	Signal Generator	24	Digital Microscope
6	PCB prototype Machine	25	Mixed SignalOsciloscope
7	Bench top grinder Machine	26	Variable Power Supply
8	Wood Lathe	27	Bench top Multimeter
9	Laser Cutter	28	Projector
10	Vinyl Cutter	29	Heavy Duty Laser Printer
11	3D Printer	30	PCB Milling Machine
12	3D Scanner	31	Computer workstations in networking
13	CNC Router	32	Quadcopter Assembly kit
14	Mini desktop Lathe cum Milling	33	Smart board
15	Handheld High Speed drilling machine 15000 rpm with accessories		
16	Sholder stations		
17	Dsoldering machine		
18	Advanced motorized sewing machine		
19	Power tools		

Event Summary

Sr.	Event Name	Date	Event Coordinators
1	Skill Development Programme " A step towards Electro- Networking"	04 to 06-08- 2022	Prof. Kalpesh Shah Prof. Priyanka Puvar
2	Awareness program for School Students	06-08-2022	Prof. Abhay Dasadia Prof. Bhavin Patel
3	Electronics Ideation Workshop	08 to 10 -08- 2022	Prof. Khushali shah Prof. Kuldip Patel
4	Workshop on 3D Scanner	16-08-2022	Prof. Krunal Shah Prof. Tejas Prajapati
5	Faculty Development Program on Homogenizer	17-08-2022	Prof. Pravin Ganorkar
6	Cotton Bag Making- For the sake of Green Environment	18-08-2022	Prof. Disha Panchal
7	Awareness program for School Students	22-08-2022	Prof. Abhay Dasadia Prof. Bhavin Patel
8	Awareness program for School Students	27-08-2022	Prof. Abhay Dasadia Prof. Bhavin Patel
9	Ideation Workshop on Homogenizer: Operational Principle, Applications and Hands on Practice	2022-09-03	Prof. Pravin ganorkar
10	One Day Workshop on 3D Printer and CNC Laser Cutter	2022-09-14	Prof. Krunal shah Prof. Mitul Malli
11	Familiarisation with electronic Workbench and CNC Machine	2022-09-15	Prof. Sankalp Bhatia Prof. Tejas Prajapati
12	One Day Skill Development program on Electronic Bench and 3D Printer	2022-09-16	Prof. Dhaval tailor Prof. Krunal Shah
13	Hands on Session of Electronic Workbench and Wood Router Machine	2022-09-19	Prof. Kuldip patel Prof. K M Shah

14	Familiarization Program of 3D Printer and Wood Router	2022-09-20	Prof. Kuldip patel Prof. Krunal J Shah
15	Familiarization Program of 3 D Printer and CNC Laser cutting Machine	2022-09-22	Prof. Mitul malli Prof. Vaishal Banker
16	Skill Development Program for Diploma Students	2022-09-24	Dr. Yashvant Patel Dr. Kalpesh Chudasma
17	One week FDP on Trends, Perspectives and Prospects in Machine Learning and its Applications	26-09-2022 to 01-10-2022	Prof. Siddharth Shah
18	One Day Workshop on Welding Fundamentals for Product Development	2022-09-27	Prof. Mitul Malli
19	Awareness program for Diploma Students	2022-09-29	Prof. Bhavin V Patel



"Skill Development Programme " A step towards Electro-	
	Networking"
Date:	04 to 06.08.2022
Targeted Audience:	ADIT students
Event Coordinators:	Prof. Kalpesh Shah
	Prof. Priyanka Puvar
Workshop Contain:	•Introduction to Arduino IDE.
	 Hands on Arduino Programming
	 Introduction to NODE MCU and its
	programming
	●ESP 8266 as a Web Server to
	controller
	 ESP8266 programming using the
	Blynk/RemoteXY app
	•DIY tasks for the participants

"Awareness program for School Students"	
Date:	06.08.2022
Targeted Audience:	School Students
Event Coordinators:	Prof. Abhay Dasadia
	Prof. Bhavin Patel
Workshop Contain:	 Introduction to SLA 3D printer Introduction to digital microscope Introduction to Laser cutter non metallic Metal Heat press for T shirt @MUG printing Vinyl Cutting plotter





"Electronics Ideation Workshop"		
Date:	08 to 10.08.2022	
Targeted Audience:	ADIT Students	
Event Coordinators:	Prof. Khushali shah	
	Prof. Kuldip Patel	
Workshop Contain:	•Introduction to electronics	
	workbench	
	 Electronics circuit design 	
	 PCB Design 	
	 Introduction to ARDUINO board 	
	 Hands on project based on ARDUINO 	
	board.	



"Workshop on 3D Scanner"	
Date:	16.08.2022
Targeted Audience:	Institute Students and Faculties
Event Coordinators:	Prof. Krunal Shah Prof. Tejas Prajapati
Workshop Contain:	 Introduction to 3D Scanner Introduction to Shining 3D Software Features of 3D Scanner Hand-Held Scanning Table Top Scanning Hands On Practice

"Faculty Development Program on Homogenizer"		
Date:	17-08-2022	
Targeted Audience:	All Institute Faculties	
Event Coordinators:	Prof. Pravin Ganorkar	
Workshop Contain:	•Introduction to Homogenization:	
	Principle and Mechanism	
	 Homogenized Milk: Manufacturing 	
	Process and Quality Parameters	
	 Application of homogenization in 	
	Fruit and Vegetable Processing	
	Industries	
	 Demonstration and Hands on 	
	practice of Homogenizer	





Cotton bag Making- For the sake of Green Environment		
Date:	18.08.2022	
Targeted Audience:	Institute Faculty	
Event Coordinators:	Prof. Disha Panchal	
Workshop Contain:	 Cutting Fabric Adding Interfacing and Sewing sides Sewing bag openings Handle Stitching 	



	"Awareness program for School Students"		
	Date:	22.08.2022	
	Targeted Audience:	School Students	
	Event Coordinators:	Prof. Abhay Dasadia	
		Prof. Bhavin Patel	
	Workshop Contain:	• Introduction to SLA 3D printer	
		 Introduction to digital microscope 	
)		 Introduction to Laser cutter non 	
,		metallic	
		 Metal Heat press for T shirt ©MUG 	
		printing	
		 Vinyl Cutting plotter 	

"Awareness program for School Students"	
Date:	27.08.2022
Targeted Audience:	School Students
Event Coordinators:	Prof. Abhay Dasadia
	Prof. Bhavin Patel
Workshop Contain:	 Introduction to SLA 3D printer
	 Introduction to digital microscope
	 Introduction to Laser cutter non
	metallic
	 Metal Heat press for T shirt ©MUG
	printing
	 Vinyl Cutting plotter





Date: 03-09-2022 Targeted Audience: **Institution Engineering Students Event Coordinators:** Prof. Pravin ganorkar Workshop Contain: • Introduction to Homogenization: Principle and Mechanism • Homogenized Milk: Manufacturing **Process and Quality Parameters** • Application of homogenization in Fruit and Vegetable Processing Industries • Demonstration and Hands on practice of Homogenizer

"Ideation Workshop on Homogenizer: Operational Principle, Applications and Hands on Practice"



"One Day Workshop on 3D Printer and CNC Laser Cutter"	
Date:	14.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Prof. Krunal Shah & Prof. Mitul Malli
Workshop Contain:	 Introduction to SLA 3D printer Introduction to CNC Laser cutter non metallic Demonstration on 3D Printing 3D Modeling Laser Cutting Machine

"Familiarization of Electronic workbench & CNC machine"	
Date:	15.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Prof. Sankalp Bhatia & Prof. Tejas
	Prajapati
Workshop Contain:	 Introduction of Electronic
	workbench
	Electronic circuit Design
	 Introduction to CNC machine
	 Detailed demonstration of CNC
	machine





"One Day Skill Development Program on Electronic Workbench and 3D Printer" Date: 16.09.2022 Targeted Audience: Diploma Students Event Coordinators: Prof. Dhaval Tailor & Prof Krunal Shah Workshop Contain: • Introduction of Electronic workbench • Electronic circuit Design • Introduction to 3D Printer • Detailed demonstration of 3D Printer



"Hands on session of Electronic Workbench and Wood Router	
	Machine"
Date:	19.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Prof. Kuldip Patel & Prof. K M Shah
Workshop Contain:	 Introduction of Electronic workbench Electronic circuit Design Introduction to Wood Router machine Detailed demonstration of Wood
	Router machine

"Familiarization Prog	gram of 3D Printer and Wood Router
Machine"	
Date:	20.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Prof. Kuldeep Patel & Prof Krunal J Shah
Workshop Contain:	 Introduction of 3D Printer Demonstration on : 3D Printing 3D Modeling Introduction to Wood Router machine Detailed demonstration of Wood Router machine





Machine"	
Date:	22.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Prof. Mitul Malli & Prof. Vaishal Banker
Workshop Contain:	 Introduction of 3D Printer
	• Demonstration on :
	3D Printing
	 3D Modeling
	 Introduction to CNC laser cutter
	 Detailed demonstration of CNC laser
	cutter non-metalic



"Skill Development Program for Diploma Students"	
Date:	24.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Dr. Yashvant Patel Dr. Kalpesh Chudasma
Workshop Contain:	 Introduction to 3D Scanner Introduction to Shining 3D Software Introduction to Electronic workbench Electronic circuit design

"One Day Workshop on Welding Fundamentals for Product	
Development"	
Date:	27.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Prof. Mitul Malli
Workshop Contain:	 Introduction of different welding techniques Industrial Application of Welding Understanding role of welding in product development On hand practice of various welding techniques





"Awareness Program for Diploma Students"	
Date:	29.09.2022
Targeted Audience:	Diploma Students
Event Coordinators:	Prof. Bhavin V Patel
Workshop Contain:	 Introduction to SLA 3D printer Hands on 3D modelling and slicing Introduction to Digital microscope its applications with hands on practice Introduction to CNC Laser Cutting Machine and Vinyl Cutting plotter

Smart India Hackathon

To encourage Government of India's vision of innovation and skill development in order to incorporate spirit of "Atmanirbhar" amongst the youth of the country, AICTE and MoE has jointly organized Smart India Hackathon 2022, in which more than 15,000 students participated pan India at 75 nodal centers distributed across the country.

A. D. Patel Institute of Technology was selected as the nodal center in Gujarat to host the Grand Finale of Smart India Hackathon 2022 - Hardware Edition across India as a part of "Azadi Ka Amrit Mahotsav". This finale at ADIT had witnessed innovative solutions related to problem statements of National Disaster Response Force (NDRF) from 20 different teams of 115 students and 28 mentors a total of 141 participants across India. These teams were from different states like Tamil Nadu, Telangana, Rajasthan, Andhra Pradesh, Kerala and Karnataka. Dr. Gopi Bhatt was SPOC for the event and nodal center in charge. Along with her, Prof. Ravi Patel, Prof. Bhaumik Sheth and Prof. Siddharth Shah was given charge as core committee members who were responsible for organizing the entire event.

Our Nodal Center was selected for problem statements related to NDRF. Total 20 teams participated for providing solutions to these problems. The 5 problem statements were:

- 1. To detect, locate and characterize voids buried at disaster site.
- 2. To develop a drone which can be used extensively during search and rescue missions like landslides, washed away roads etc.
- 3. To develop a prototype which can help to search fatal victims during underwater search operations.
- 4. To design an indigenous compact system that will help in effectively handling the borewell rescue operation and
- 5. To develop IOT enabled devices that can be helpful to mitigate the risks to the rescuer for different disasters like high altitude mountain rescue, flood water rescue, etc.

20 SIH teams visited ADIT and utilized various facility of AICTE IDEA LAB for SIH hardware edition. This event makes us one of the unique college in the entire state, where students from different states of India developed their product/prototype for five days from 25/08/2022 to 29/08/2022 using 3D printers, Vinyl printers, Laser Cutting machines, Plasma cutters, Electronic workbenches, etc in Idea Lab.













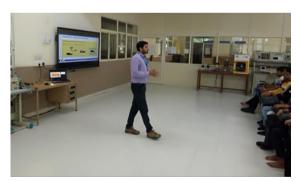
Induction Program

The goal of the student induction programme is to assist new students in settling in and becoming comfortable in their new surroundings, as well as to introduce them to the institution's ethos and culture, foster relationships between them and other students and faculty, and provide them with opportunities for self-reflection and exposure to larger goals.

The whole process of the incumbents adjusting to or acclimating to their new surroundings is typically referred to as the induction process. In other words, it's a carefully thought-out activity to inform the newcomers about a certain setting, institution, and link them to the inhabitants of it.

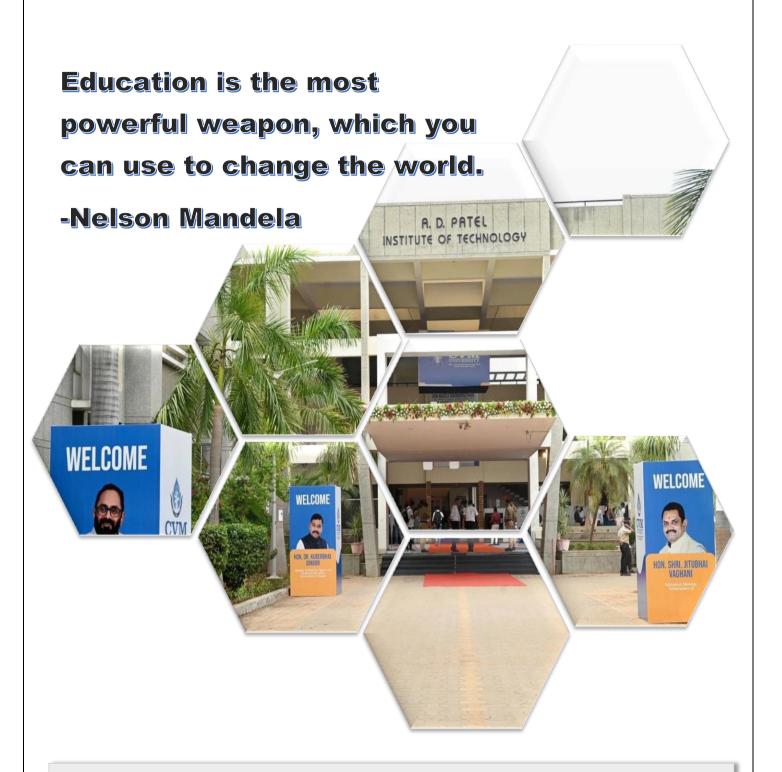
This year many sessions of induction program were conducted in Idea Lab, A D Patel Institute of Technology (CVM University constituent college). Students participated in every activity enthusiastically. They have been given knowledge of every high-tech machinery available in Idea Lab and some hands-on trainings were also imparted. These sessions as a part of Induction program contributed in enhancing of technical skills and aptitude in the students.











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