



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

कौशल्यम्-२
A.Y. 2022-23

“Foster Your Skills”

Hands-on Workshop for CO₂ Laser Cutter & Engraver
and 3D Printing

Event Report

(In Association with Mechanical Engineering Department, GCET)

DATE: 21st-23rd July, 2022

INSTITUTE: G H Patel College of Engineering & Technology

VENUE: ROOM A206, A208 and AICTE IDEA LAB

MODE OF EVENT: Offline

Event Coordinators: Prof. Jvalant Trivedi & Prof. Purnank Bhatt

Event Poster:



Mechanical Engineering Department
In Association With
AICTE IDEALab

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“Foster Your Skills”



Workshop on:
CO₂ Laser Cutter & Engraver
3 - D Printer

 21st July 2022
to
23rd July 2022

 Sarang Pandya: 9537007077
Tirth Joshi: 7778962439

Register Now!

G H Patel College of Engineering & Technology
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Event Poster:

Registration Form:

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Name:
Designation:
Department:
Organization:
Address:

Mobile No.:
Email id:
Educational Qualification:

Category: UG/PG student
Research scholar

I shall attend the training for entire duration. Also, I undertake the responsibility to inform the coordinator well in advance, incase I am unable to attend the training.

Signature

For Queries Contact:

Sarang Pandya: 9537007077
Tirth Joshi: 7778962439

3-D Printer

3-D printer is a rapid prototyping technique, categorised under additive manufacturing process. A 3-D model is developed which in turn helps in developing a 3-D object. Plastics, liquids and powder grains can be fused for developing the object.

CO₂ Laser Cutter & Engraver

CO₂ laser cutter and engraver uses heat directed from the laser beam to machine the required surface. Thermal energy removes material from the non-metallic surface. Depending on the properties of laser beam one can decide the material which can be machined. The laser which you will be using for cutting and engraving operations will be of CO₂. It can machine acrylic sheet and wooden sheet.



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"Foster your skills"

Workshop on:

**CO₂ Laser Cutter & Engraver
3 - D Printer**

Enroll yourself for one of the most amazing event and get first hand training now!

21st to 23rd July 2022

Mechanical Engineering Department
In Association With
AICTE IDEA Lab

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Schedule of कौशल्यम-२

DAY-1(21st July, 2022)			
Sr. No.	Name of the Speaker	Topic	Venue
1.	Prof. Purnank Bhatt	3D Printing Overview	A206, IDEA LAB,GCET
2.	Tirth Joshi	History of 3D Printer, Use of software with its different features.	A206, IDEA LAB,GCET
3.	Prof. Aakarsh Jain	CO2 laser cutter and engraver Overview.	A208, IDEA LAB,GCET
4.	Sarang Pandya	History and Operation of CO ₂ Laser Cutter	A208, IDEA LAB,GCET
DAY-2 (22nd July,2022)			
Sr. No.	Name of the Speaker	Topic	Venue
1.	Prof. Jvalant Trivedi	Overview of Additive manufacturing and 3D printing with its applications	A206, IDEA LAB,GCET
2.	Tirth Joshi	The 3D printing software and unique shapes that can be manufactured by 3D printing.	A206, IDEA LAB,GCET
3.	Prof. Mihir Solanki	Basics of CO ₂ laser cutter and the different uses of the machine.	A208, IDEA LAB,GCET
4.	Sarang Pandya	Use of the CO ₂ Laser Cutter, its history, Operation of CO ₂ Laser Cutter with its different features.	A208, IDEA LAB,GCET
DAY-3 (23rd July,2022)			
Sr. No.	Name of the Speaker	Topic	Venue
1.	Sarang Pandya & Tirth Joshi	Project Assigned	IDEA LAB,GCET
2.	Prof. Purnank Bhatt & Prof. Jvalant Trivedi	Guiding students to complete assigned project	IDEA LAB,GCET
3.	Prof. Aakarsh Jain & Prof. Mihir Solanki	Guiding students to complete assigned project	IDEA LAB,GCET

Overview of Event:

- **No. of Participants:** 42 (36 student participants and 6 faculties)
- **Event Description:** AICTE IDEA Lab has organized KAUSHALYAM-2 to motivate students of 3rd year of mechanical branch of college to learn about 3D printers and CO2 laser cutter and engraver by introducing them to LUBAN SNAPMAKER & Z-SUIT ZORTAX software.
- **Objective:** The goal was to make the students familiar with software and the machine so that they can make different design from it and also to give them Hand-on experience.
- **Outcome/Benefit:** The students learnt about the basics of both the software and learn how 3D printer and CO2 laser cutter machines works.
- **Link of the announcement on social media:**
 - 1) <https://www.instagram.com/p/CgDmVPkqqJ3/?igshid=YmMyMTA2M2Y=>
 - 2) https://twitter.com/GCET_Official/status/1548131015159189504?t=9POI_0k-CvXBaM1k10-tw&s=08
 - 3) https://m.facebook.com/story.php?story_fbid=pfbid0x4PtRxrXAJjeYDSLQ3Kflq15a6fhDQQ9kfBkugBveCj47Geu5vdMmxWVAYgoezyEI&id=100046328324695

Event Details:

An event KAUSHALYAM-2 was organized by AICTE IDEA Lab (MECHANICAL DEPARTMENT) from 21st to 23rd July introducing 3rd year students of Mechanical Engineering branch to 3D Printer and CO₂ Laser Cutter Machine. For ease of conduct of hands-on training students were divided into two batches.

On day-1 i.e. on 21st July Batch A students gathered as participants at ME audio visual room. The event started with a lecture by Prof. Purnank Bhatt on 3D printing Technology where he introduced the students to the basics and history of the machine. Also explained the students on different shapes and requirement of support. Later Prof. Jvalant Trivedi explained the type of the software like LUBAN and Z-suite that can be used in 3D printing. In the second part implementation of the software and demo of 3D Printer



was explained to students at IdeaLab. At the end of the day 1, students were able to 3D print simple objects on a printer. Then they were assigned with task of making a phone stand.

For Batch B students, Prof. Aakarsh jain and Prof. Mihir Solanki gave lecture on CO₂ Laser Cutter and Engraver machine and its basics. Both the professors shared their experience on it. They explained different limitations of machines regarding the type of material and thickness of material to be used on cutter. After the lecture, students visited the Idea Lab where the students were guided with the safety and proper utilization of the machine, also the machine was demonstrated to them by making different products on it. This batch was assigned with task of engraving a group photograph on wood that they have clicked with HOD sir.

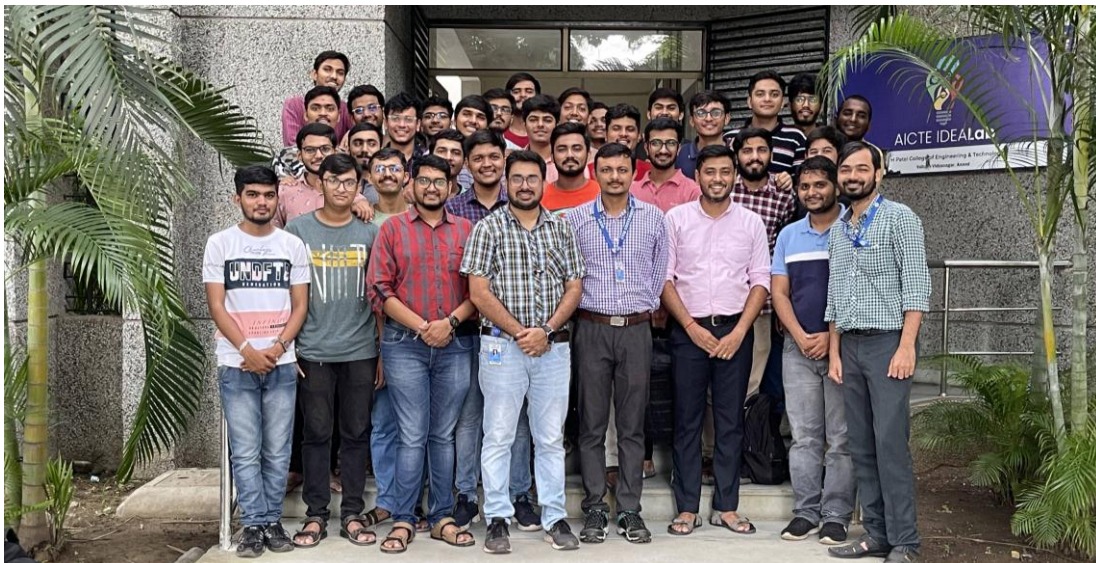
On Day-2, both the batch students were swapped and they received the similar kind of training of the machines that other batch had received on Day 1. Also, some other tasks were assigned to them as a part of their learning.

Day 3 was dedicated to Project work to prove their learnings, for this students gathered as participants at AICTE IDEA LAB. A day before the students were asked to prepare and upload a 3D model of the project assigned in a Google drive folder so that they have some research what had been taught. Based on the submissions of work, faculty coordinators selected the best design and decided to make a model of gear box, using both the machines. And this task was to be done by students in batches and final model was prepared and assembled.

After the completion of the Day 3 professors and coordinators thanks students to participate and asked them that if they have any doubts they can come and have practice on it.

• **PHOTOGRAPHS:**





Attendance:



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Department of Mechanical Engineering

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







Attendance Sheet

Sr.No	Full name	Enrollment Number	Signature
1	Harsh Shah	12102080501022	ABSENT
2	Gadhavi Kushal Hiteshkumar	12002060501016	ABSENT
3	Hrishikesh Bharatbhai Patel	12002090501013	<i>[Signature]</i>
4	Haard Trivedi	12002090501009	<i>[Signature]</i>
5	Ambaliyasana Maherbanali Akbarali	12002090501023	<i>[Signature]</i>
6	Ritesh pandey	12002090501036	<i>[Signature]</i>
7	Zala Pushparajsinh Girirajsinh	12002090501035	<i>[Signature]</i>
8	Hardik Mukesh bhai Parmar	12002090501010	<i>[Signature]</i>
9	Shivam Solanki	12002090501039	<i>[Signature]</i>
10	JETANI JEMIS NARESHBHAI	12002090501016	<i>[Signature]</i>
11	Manav Munjpara	12002090501025	<i>[Signature]</i>
12	Harsarajsingh tomar	12102090503006	ABSENT
13	Narendra Mulji Prajapati	12002090501031	<i>[Signature]</i>
14	Patel kashyapkumar ashokbhai	12002090501020	<i>[Signature]</i>
15	PRANAY SURANA	12002090501033	<i>[Signature]</i>
16	Navpreet Singh Sains	12002090501032	<i>[Signature]</i>
17	Chintan kalpeshbhai Bhadiyadra	12002090501006	<i>[Signature]</i>
18	Jiren pandya	12002090501018	<i>[Signature]</i>

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01.07.2022

Sr.No	Name	Enrollment No	Signature
19	Tanmay Ganorkar	12002090501042	
20	Kavish Patel	12002060501013	ABSENT
21	Kirtan Kareliya	12002060501014	ABSENT
22	Avadh bandhiya	12002090501004	
23	Abhishek Parekh	12002090501002	
24	Barot vivek Rajeshbhai	12002090501046	V.R. Barot
25	MAYUR	12002090501026	
26	Ayer ishan Mohanbhai	12002060501006	ABSENT
27	Vandan Manishkumar Joshi	12102090503020	
28	ACHARYA JANMESH DURVASA	12102100501016	ABSENT
29	Godara LaxmanRam	12002090501021	
30	Vishvaraj Barot	12102100503017	V.J. Barot
31	Darshak Pinkeshbhai Patel	12002060501003	ABSENT
32	Rayka Jimit Dineshbhai	12002090501017	
33	Shubhankar Rajendra Jadhav	12002090501040	
34	Shyam Kamleshbhai Kotecha	12002090501041	S.K.K.
35	Mayurkumar Jaykantbhai Patel	12002090501027	MJP
36	Jyot s pandya	12002090501019	
37	Utsav Rameshbhai Dholakiya	12002090501044	
38	Vedanshu rushiraj vyas	12002090501045	

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4	Haard Trivedi	12002090501009	Haard
5	Ambaliyasana Maherbanali Akbarali	12002090501023	Ambali
6	Ritesh pandey	12002090501036	Ritesh
7	Zala Pushparajsinh Girirajsinh	12002090501035	Zala
8	Hardik Mukesh bhai Parmar	12002090501010	Hardik
9	Shivam Solanki	12002090501039	Shivam
10	JETANI JEMIS NARESHBHAI	12002090501016	Jemish
11	Manav Munjpara	12002090501025	Manav
12	Harsarajsingh tomar	12102090503006	ABSENT
13	Narendra Mulji Prajapati	12002090501031	Narendra
14	Patel kashyapkumar ashokbhai	12002090501020	Kashyap
15	PRANAY SURANA	12002090501033	Pranay
16	Navpreet Singh Sains	12002090501032	Navpreet
17	Chintan kalpeshbhai Bhadiyadra	12002090501006	Chintan
18	Jiren pandya	12002090501018	Jiren

22/7



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22	Avadh bandhiya	12002090501004	<i>Avadh</i>
23	Abhishek Parekh	12002090501002	<i>Abhishek</i>
24	Barot vivek Rajeshbhai	12002090501046	V.R.Barot
25	MAYUR	12002090501026	<i>Mayur</i>
26	Ayer ishan Mohanbhai	12002060501006	ABSENT
27	Vandan Manishkumar Joshi	12102090503020	<i>Vandan</i>
28	ACHARYA JANMESH DURVASA	12102100501016	ABSENT
29	Godara LaxmanRam	12002090501021	<i>Godara</i>
30	Vishvaraj Barot	12102100503017	V.S.Barot
31	Darshak Pinkeshbhai Patel	12002060501003	ABSENT
32	Rayka Jimit Dineshbhai	12002090501017	<i>Rayka</i>
33	Shubhankar Rajendra Jadhav	12002090501040	<i>Shubhankar</i>
34	Shyam Kamleshbhai Kotecha	12002090501041	S.K.K.
35	Mayurkumar Jaykantbhai Patel	12002090501027	<i>MJP</i>
36	Jyot s pandya	12002090501019	<i>Jyot</i>
37	Utsav Rameshbhai Dholakiya	12002090501044	<i>Utsav</i>
38	Vedanshu rushiraj vyas	12002090501045	<i>V.R.</i>

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