GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

INDEX

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Society of Manufacturing Engineers

Collegiate club of Gokaraju Rangaraju Institute of Engg. & Tech

1.Objective: **The Society of Manufacturing Engineers (SME) GRIET student chapter to promote manufacturing through organized effort in study, research and discussion of the profession and the dissemination of knowledge thereby gained.**

Aim:

1. **To make the students aware about the latest technical advancements.**
2. **To inculcate a sense of teamwork and responsibility by encouraging them to organize events.**
3. **To make them acquainted with various useful technologies by conducting workshops**
4. **To provide industrial experience by conducting various industrial tours.**
5. **To stress the importance of Manufacturing and thereby encouraging the members to manufacture products**
6. **To provide exposure on various technologies by encouraging them to attend various conferences and festivals.**

2. FACULTY ADVISORS:

A. Anitha Lakshmi – Co-convenor

Asst. Professor, Mechanical Department.

CORE TEAM:

Student Chair: M Vamsi Sai Santosh

Secretary: A Nikhil Goud

Treasurer: Ch. Rahul

EXECUTIVE TEAM:

Technical Head: T Sowmya

Documentation: Anantha Lakshmi

Core Cheif: Sridhar.

SME MEMBERS LIST:

1.	Pareekshith	000015685069
2.	Srivathsav	000015685075
3.	Adireddy	000015683085
4.	P Nikhil	000015686075

5.	Sai sandeep	000015685081
6.	P prem kumar	000015747778
7.	B v monisha	000015756750
8.	Akhil	000015764543
9.	Manasa	000015789454
10.	Sumanth	000015764715
11.	Kavya	000015789515
12.	Dommaraju Vinay Kumar	000015810521
13.	Anupama Tallada	000015809391
14.	Yamini Katakam	000015809385
15.	Shaik Ejaz Wasim	000015809377
16.	B Balakrishna	000015809331
17.	B Indusrija	000015809543
18.	C Deepak	000015812250
19.	ChVijayalakshmi	000015809261
20.	D Vikram	000015812225
21.	E Ajay Babu	000015810452
22.	G Bharath Kumar	000015809518
23.	J PavanSudheer	000015809337
24.	K Manasa	000015812216
25.	M Dinesh Varma	000015809531
26.	M Rahul	000015809553
27.	M Sreelaxmi	000015809451
28.	MdNayeemuddin	00015808904
29.	Neha Ahmed	000015810573
30.	P Badrinath	000015810602
31.	P Laksmidevi	000015812244
32.	P Naveesh	000015810462
33.	P Samipya	000015809293
34.	P Sravankumar	000015808928
35.	Pradeepkumar	000015810523
36.	R Avinash	000015809299

37.	R Manikanta	000015809510
38.	R Shireesha	000015810444
39.	R Vishnu Vardhan Reddy	000015809273
40.	S Gopi Krishna	000015810595
41.	S Gowtham	000015809279
42.	S Kiran	000015809267
43.	S Meenakumari	000015809561
44.	S Pallavi	000015810586
45.	S Sridhar	000015809287
46.	Satish Kumar Thakur	000015812268
47.	V Deepika Reddy	000015812238
48.	V Sirisha	000015812232
49.	Y Lochana	000015809245
50.	Y Saitheja Reddy	000015810547
51.	H Ganeshbhargav	000015809444
52.	A Jahnavi	000015810501
53.	Siddantham Tulasi Sameera	000015809464
54.	V. Raga Geethika	000015810487
55.	Hari Kumar Saga	000015810588
56.	Mounika S.D	000015810470
57.	Andalu S	000015810534
58.	Ravi Surikanti	000015810494
59.	R. Sai Prasanna	000015810541
60.	Y Sandhya Rani	000015810508
61.	Swathi T	000015810561
62.	Y Sai Swetha	000015810446
63.	G Sudeep Rao	000015825939
64.	Ch Sarath Chandra	000015825281
65.	J Sri Krishna	001093341298
66.		
67.	G Srinivasa Bhargav	001093341819

3. S.M.E Inauguration

The student chapter under **Society Of Manufacturing Engineers** (SME), has been inaugurated grandly on **Feb 8th, 2014** by Department Of **Mechanical Engineering**, GRIET. The ceremony was graced by Dr. Jandhyala N.Murthy Principal GRIET, Dr. P A P Nagendra Varma HOD Mechanical Engineering (Convener), Dr. KGK Murti Vice-Principal, Mrs. Anitha Lakshmi Asst. Professor (Co-Convener) delivered their valuable speech and conveyed regards.

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY

2014-2015

4. Event : Vencermos

WORKSHOP :ANDROID BOTIX

Team Leader: R. Sarvesh (Mech 3rd year)

Co-ordinators: Sk. Ejaz Waseem (Mech 3rd year)

M. Kavya Sri Durga(Mech 3rd year)

T. Sowmya(Mech 3rd year)

K. Swathi(Mech 3rd year)

Organisers: Sai Venkat (Mech 2nd year)

Sirisha (Mech 2nd year)

Manasa (Mech 2nd year)

Priyanka (Mech 2nd year)

CONDUCTED BY: GRIET in collaboration with **ARK Techno Solutions.**

DURATION: One day Workshop (10:00 AM to 6:00 PM)

About Workshop:

Android is an open mobile phone platform that was developed by Google and, later, by the Open Handset Alliance. Application andoperation of robots by android application is termed as “AndroidBotix”. What are you thinking while reading the name “AndroidBotix”??? Here students will be able to control robot using their own Android OS enabled smartphone with the help of application. AndroidBotix is a new approach in controlling robots which will differentiate conventional way of Robotics. Basically this workshop is divided in two phase. Phase one will have understanding of Android OS, application development on Android OS. Second phase will cover robot & its applications.

Course Details of the workshop:

Know Android

- Introduction to JAVA
- Installing Android
- Creating Hello World application
- Android Packages

Basic building blocks of Android

- Activities, Activity Lifecycle
- Services, Service Lifecycle,
- Content Provider, Intent, Intent Filters

Android Bot Application:

- Working on the application required to control robot
- Debugging

- Installing application to Android OS smartphone

Introduction to Robotics:

- Current trends in robotics
- Future of robotics and embedded systems
- Levels of robotics
- Commutation of robotics

Introduction to Microcontrollers:

- Introduction to Embedded C for AVR controllers
- Using an IDE
- Features of AT mega microcontroller
- Programming your controller
- I/O pins, delay, LCD, Timers

Various types of Communication:

- Bluetooth
- Wi-Fi
- Infrared
- RF
- IF

Selecting best way for communication between phone and robot.
Hands ON

- Understanding & development of Android Application
- Construction of Robot
- Pairing of Robot & Android Phone using Bluetooth technique
- Controlling robot using android application

FEEDBACK:

POSITIVES:
1. Students acquired knowledge on how to control robot using android application.
2. Workshop is satisfactory.

NEGETIVES:

1. Lack of Time Management.

REGISTRATIONS:
Total number of registrations - 40

WORKSHOP: SIXTH SENSE IBOTZ

DURATION: One day Workshop (9 hours)

Team Leader: V. Prashanth Reddy (Mech 3rd year)

Co-ordinates: B.V Monisha (Mech 3rd year)
K. Gladwym George(Mech 3rd year)
D.Manoj (Mech 3rd year)
T. Ashika (Mech 3rd year)

Organisers: S. Sameera (Mech 2nd year)
S. Meena (Mech 2nd year)

S. Kiran (Mech 2nd year)

A. Jahnavi (Mech 2nd year)

P. Vinay (Mech 2nd Year)

Pavan Sudheer. J (mech 2nd year)

Organised By: **GRIET** in collaboration with ARK Techno Solutions

DURATION: One day Workshop (10:00 AM to 6:00 PM)

ABOUT THE WORKSHOP:
Interface of digital world with physical world is Sixth Sense Technology. We all sit in front of computer entire day for our daily activity and one hand is busy clicking the things on the computer, then we felt to design something that can interface the real human with the computer. We humans can see the things around us, differentiate

between colours then why can't machine? All these days the participants would have used traditional sensors like IR, ultrasonic, LDR sensors etc. which were used for ensing an obstacle or light, but these sensors where never able tell the robot the colour of the light or the type of obstacle present in front of the robot. In this workshop, using a camera, the robot will be able to tell what the robot is sensing.

For processing of the images, we use a tool called as MATLAB, which is widely used in industries.

In this workshop, the applications that will be taught to the participants are as mentioned below:-

- Colour Recognition Application
- Ball following robot
- Gesture controlled robot.
- Gesture controlled windows media player.
- Gesture controlled mouse pointer(demo).

The course content which will be followed for the workshop is as mentioned below:

- Introduction
- Introduction to Vision based robots
- Vision Controlled Motion
- Image Processing
- Introduction
- Image acquisition devices
- Image Processor
- Image analysis tools
- Machine Control
- Image acquisition devices/sensors
- Digital Camera
- Analogue Camera
- Tools used for Image Processing
- Hands on experience
- Getting started with MATLAB
- Functions
- M files

FEEDBACK:

POSITIVES:
1. Workshop session was satisfactory.
2. Team work is good.

NEGETIVES:
1. Faced little problem in providing laptops, But later an alternative has been arranged.

REGISTRATIONS:
Total number of registrations - 54

POWERPOINT PRESENTATIONS

DURATION: One day (10:00 AM to 4:30 AM)

TEAM LEADERS:

T. Adi Reddy (Mech 3rd year)

M.Bhavani (Mech 3rd year)

CO-ORDINATORS:

P.Nikhil (Mech 3rd year)

N. Manasa (Mech 3rd year)

K. Yamini (Mech 3rd year)

ORGANISERS:

Ganesh Bhargav (Mech 2nd year)

Venkat Krishna (Mech 2nd year)

Nikhitha (Mech 2nd year)

Priyanka (Mech 2nd year)

Prasuna (Mech 2nd year)

Registrations: 180 **Abstracts** has been received out of which 50 have given their presentation.

FEEDBACK:

- Lack of time management
- Unavailability of judges in time
- Lack of clarity about the event to the lecturers

TIMINGS:

They are conducted in room no: 4412 & room no: 4512. Paper presentations is started at 10 AM and it was continued upto 4:30PM

OUTCOME:

60% result is obtained out of 100%.

JUDGES:

- Ms Pavani, Asst Professor, BME Department.
- Mr.Mohan, Asst Professor, Mechanical Department.
- Mr. Nookaraju, Assoc. Professor, Mechanical Department.
- Mrs. U S Jyothi, Asst Professor, Mechanical Department.
- Mr. P.P.C. Prasad, Assoc. Professor, Mechanical Department.
- Dr. K.G.K. Murti, Vice - Principal, Mechanical Department.
- Mrs. Gayathri, Asst Professor, Mechanical Department.
- Mrs. Anitha lakshmi, Asst Professor, Mechanical Department.
- Mr. Ratna Babu, Asst Professor, Mechanical Department.

WINNERS:

- Abhilash from CBIT (Mechanical)- Food Processing
- Ch. Priyanka from JNTU (Mechanical)- Micro Chemical System.

NON TECHNICAL EVENTS

1. **MAZES**:

No: of members per Team: 2

Registration Fee: Rs. 40/-

2. **TRICKY COLOURS:**

No: of members per Team: 1

Registration Fee: Rs. 10/-

3. BLIND CRICKET:

No: of members per Team: 1

Registration Fee: Rs. 20/-

4. **PHOTOMANIA:**

No: of members per Team: 2

Registration Fee: Rs. 40/-

5. LKG MATHS

No: of members per Team: 1

Registration Fee: Rs. 15/-

6. BEG BORROW BUY:

No: of members per Team: 2

Registration Fee: Rs. 40/-

Gokaraju Rangaraju Institute of Engineering and Technology

5. EVENT SUMMARY REPORT

Nature of the Event (Workshop / FDP / Seminar / Guest Lecture / Talk GD/ Training Program / Quiz / Presentation)	Workshop
Title / Theme of the Event	Vencermos
Details of the Conveners	P.A.P. Nagendra Varma – Convener A. Anitha Laxmi (Asst. Professor), ME
Details of the Resource Persons:	ARK Techno Solutions.
Date on which Event is held	11 Aug 2014
Details of the Speaker / Guest	T. Praveen ARK Techno Solutions.

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Name Organization	
Target Audience (Teaching Faculty / Non-Teaching Faculty / Students)	UG Students.
Summary of the Event	1. SIXTH SENSE IBOTZ 2. ANDROID BOTIX Interface of digital world with physical world is Sixth Sense Technology. We all sit in front of computer entire day for our daily activity and one hand is busy clicking the things on the computer, then we felt to design something that can interface the real human with the computer. We humans can see the things around us, differentiate between colours then why can't machine? All these days the participants would have used traditional sensors like IR, ultrasonic, LDR sensors etc. which were used for sensing an obstacle or light, but these sensors where never able tell the robot the colour of the light or the type of obstacle present in front of the robot. In this workshop, using a camera, the robot will be able to tell what the robot is sensing. For processing of the images, we use a tool called as MATLAB, which is widely used in industries. Android is an open mobile phone platform that was developed by Google and, later, by the Open Handset Alliance. Application andoperation of robots by android application is termed as "AndroidBotix". What are you thinking while reading the name "AndroidBotix"??? Here students will be able to control robot using their own Android OS enabled smartphone with the help of application. AndroidBotix is a new approach in controlling robots which will differentiate conventional way of Robotics. Basically this workshop is divided in two phase. Phase one will have understanding of Android OS, application development on Android OS. Second phase will cover robot & its applications.

POs attained with this Event (number and description)	PO 1 – critical analysis of manufacturing problems. PO 3 – knowledge of modern technological concepts PO 5 – ethics and attitude development in research PO6 - Lifelong learning
	

6. Auto CADD Training

Date of Training: 11 Aug 2014

The Auto-CAD Training program is conducted on 11 August, 2014 under **SME** student chapter for 2nd and 3rd year students with team of 5 (4th year students) and

two faculty advisors. The total duration of the program was 20 days. The total numbers of students are attended for this training program is 42(28 from 2nd year & 14 from 3rd year).

The topics which are discussed on this program are: Introduction to AutoCAD, Co-ordinate systems, Fundamentals of 2D drafting, Fundamentals of 2D drafting, Construction of 2D models (Covering all commands), Dimensioning & Annotation, Views (Orthographic, Isometric, Oblique, Perspective), Explanation of Isometric views and Fundamentals of 3D drafting.

The faculty advisors are Dr. Satyanarayana and A.Anitha Laxmi.

The certificates for participated students are given based on assessment test. And the certification is divided into three levels Excellent, good and satisfactory based on their performance. The closing ceremony was conducted on 11 October, 2014.

AUTOCAD SCHEDULE

Timings:

2nd year – 2:00 pm to 4:00 pm

3rd year – 3:00 pm to 5:00 pm

4th year – 9:00 am to 11:00 am

Syllabus:

DAY 1:

Introduction to Autocad (1hr)

- Explanation of Autocad
- Creation of New drawing sheet and saving etc.

- Explanation of tool bars, properties and settings

Practical session (1hr)

DAY 2:

Co-ordinate systems (1hr)

- Rectangular Co-ordinate system
- Polar Co-ordinate system

Practical session (1hr)

- No. of working models – 4

Class-3:

Fundamentals of 2D drafting (1hr)

- Basic Commands (line, circle, arcs, ellipse, rectangle etc.)

Practical session (1hr)

- No. of working models –10

Class-4:

Fundamentals of 2D drafting (1hr)

- Basic Commands (Copy, move, mirror, fillet, offset, array, stretch, etc.)

Practical session (1hr)

- No. of working models – 4

Class-5:

Construction of 2D models(Covering all commands-2hr)

- No. of working models – 5

Class-6:

Dimensioning & Annotation

- Dimensioning of 2D models (linear, aligned, radius, diameter, etc.)
- Explanation of texts, defining table and standards.

Practical session (1hr)

Class-7:

Views (Orthographic, Isometric, Oblique, Perspective)

- Explanation of Orthographic views (1hr)

Practical session (1hr)

- No. of working models – 3

Class-8:

Views

- Explanation of Isometric views (1hr)

Practical session (1hr)

- No. of working models – 3

Auto CADD Training Inauguration

Details of the Resource Persons: Dr. K. Satya Narayana, A. Anitha Lakshmi.

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2015-2016

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7. Report on the occasion of the Product Development Workshop in **Udyata-2015** held in **GokaRaju RangaRaju Institute** under **SME-Griet Student Branch**

Udyata Acknowledgement

We have taken immense efforts for this event to be a great success. However, it would not have been possible without the kind support and help of many individuals and organization. We would like to extend my sincere thanks to all of them namely.

1. **College Management**
   (a) PRINCIPAL
   (b) HEAD OF THE DEPARTMENT
2. **Tech-Equip**

3. Our Sponsors

Time	Program
9:00am	Inauguration
9:05am	Jyothi Prajwala
9:10am	Opening Remarks by convener
9:15am	Address by the Student Chapter Chair Person
9:20am	Motivational Speech by the Principal
9:30am	Closing Remarks by HOD

Udyata 2015

Our Tag Line-*Fuelling Creativity and Innovation*

The event was all about to spread awareness among the students about the latest technology in Manufacturing. This was an attempt done by SME-GRIET to spread the importance of Manufacturing field . In India this field is depleting its dominance year by year due to many factors like ignorance towards it, underestimating the benefits of Manufacturing field .Now it is the day of realization for many, about Manufacturing ..The technology introduced was on CNC namely Computer Numerically Controlled Machines.

Event

(Product Development)

About

This is a workshop conducted by SME-GRIET student chapter for spreading awareness about the latest technology namely Additive and Subtractive Manufacturing. These are the main trends presently in practice in the field of Manufacturing and many students are unaware about them .This event was mainly focused on the filling the gap.

Day1: 02-03-2015

Inauguration –Started with the inauguration ceremony.

The event started with the Jyothi Prajwala by the honorable dignitaries namely Principal Sir, Hod Sir and Convener of SME student Chapter. Then there was a welcoming remarks by Convener.

Mrs. A.Anitha Lakshmi, Convener, SME

It was succeded with speech by SME-Griet Chairman, Principal and Hod Sir.

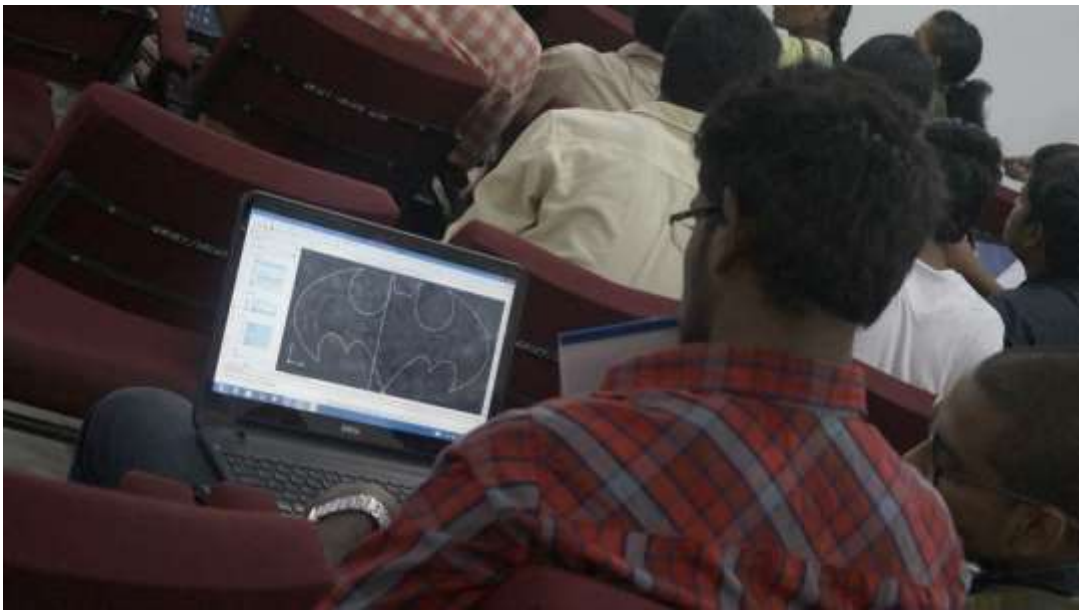
Principal Sir. Dr. Jandhyala N Murthy

H.O.D Sir, Sri. B.Ch. Nookaraju

Production Workshop

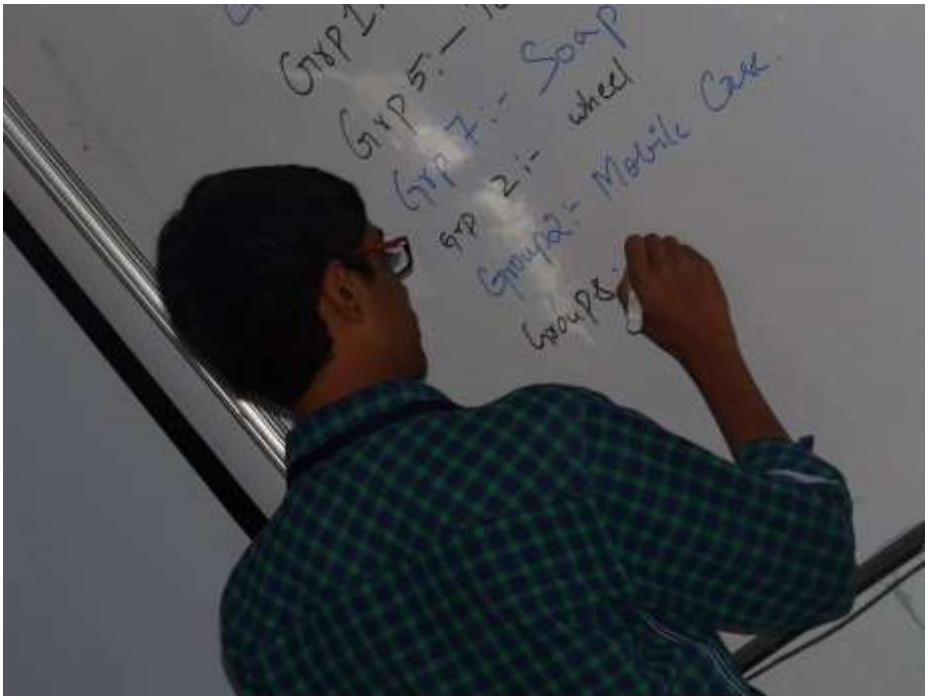
Event-

First the event started with the introduction of the presenters from SVP Technologies. Then the presenters gave an overview about the Technologies. They also gave inputs about Machine Tools subject that is, about cutting tools, cutting parameters etc. They went on with topics like Lathe Machines, Milling Machines. Now with the perquisites given they went on with the core subject related with the workshop like introduction to CNC machines, its working. Then they went on to teach the G and M Codes which are the heart of CNC coding using their software named MULTICNC.They made the participants to do the practical coding of their own shape using the software. Then they went on with the drafting of complex shapes which are to tedious through manual coding .They also taught how to create the DFX file which is the input file to the MULTICNC software for cutting irregular shapes.Then their was a handsome experience where the participants creativity was tested and their drawings were cut by the machines bought by them.



A Participant using Draft Sight

Now each group was given a mandatory product name which should be manufactured in machine after the lunch break session.



A Participant writing his product name

Then we had the lunch session which was a very peaceful thing for the participants as the got time to chat with their friends after a tiring workshop session . It was a wonderful and adorable session as the volunteers were personally serving the participants.

A participant been served by students

Then there was a hands on session on the product manufacturing design by the participants.

Participants assembling their cut parts

At the end of the Day we had a small session on AutoCAM2D by the head of the company. He gave information about the software and also gave exercise for participants as home work.

Day 2: 03-03-2015

We started the second day on a promising note will full attendance with students completing their desired products which were left undone the previous day.

The new topic started on that day was Vectorization which means it converts images into files required for CNC machines. The exercise given on the topic was to create your own logo using creativity and innovate. This was a good session and students liked it.Then we had handsome experience for the students. Then there was a session on robo cnc namely carrom bot, plotter robo.

Carrom Bot

Plotter

Then after completion of the session we had the big things coming that were we had to make different types of mechanisms by their hands. All the material required were provided. This session continued till the afternoon and then we had a lecture on Additive Manufacturing and 3-D printer by the head of the company . We also shown them a demo on 3-D printer for making a statue of a face.

Team leads:-M. Rahul , S.Kiran.

We all are obliged to techquip and our college management for making this event a grand success.

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8. EVENT SUMMARY REPORT

Nature of the Event (Workshop / FDP / Seminar / Guest Lecture / Talk GD/ Training Program / Quiz / Presentation)	WORKSHOP
Title / Theme of the Event	UDYATA 2k15
Details of the Conveners	A.AnithaLaxmi (Asst.Professor), ME
Details of the Resource Persons:	**SVP Laser Technologies Pvt.Ltd.** **Innovians Technologies**
Date on which Event is held	2-13 Mar 2015

Details of the Speaker / Guest Name Organization	VISWESH SRINIVASAN CHAITANYA SAGAR VINEET JAGANNATHAN
Target Audience (Teaching Faculty / Non-Teaching Faculty / Students)	UG Students.
Summary of the Event	This event is mainly organized by students of **SME** student chapter. By this event students get a chance to participate in different workshops. Its main emphasis is to improve the knowledge of the students in various fields of technology. 1cnc (Prototyping/Productdevelopment) Workshop This workshop is useful for all product designers and developers that are looking forward for ways to prototype their dreams. This workshop will guide to students how to provide professional touch to their product, Additive and subtractive manufacturing. This workshop will be conducted for two days, in consecutive sessions. It has both theory and hands-on experience. It is conducted in collaboration with **SVP Laser Technologies Pvt.Ltd**. It is a design and manufacturing company providing high end services to diverse engineering Industries using advanced Laser, Plasma, Router and CNC profile cutting technologies. *2.* Animax (Animation & 3d Designing) Workshop **Animax** is a workshop based on **Animation & 3D Designing** .This workshop is an overview of the 3D computer animation industry, Basic modelling techniques, Creation of materials & Texture maps, Basic lighting techniques, Basic camera manipulation, Hierarchy linking, Basic key framing techniques, Rendering and Basic

	designing techniques of animation. After this workshop participants will come up with a short 3D movie designed by them. And it is more useful for the students who like to work in the animation industry. This workshop will be conducted in collaboration with **Innovians Technologies.** It is an India's fastest growing company in the field of Practical Educational Training, Professional Training, Corporate Training, Web & IT Services, with most advanced technologies & experience in hand.
POs attained with this Event (number and description)	PO 1 – critical analysis of manufacturing problems. PO 3 – knowledge of modern technological concepts PO 5 – ethics and attitude development in research PO6 - Lifelong learning

	   

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INSTITUTE OF ENGINEERING AND TECHNOLOGY

2016-2017

9. National Kart Racing Championship (NKRC)

The students of GRIET under SME Student Chapter participated in National Kart Racing Championship (NKRC) on 27 September 2016 at Kolhapur, Maharashtra.

SME Faculty Coordinator – A.Anitha laxmi , Asst. prof, Dept. of Mechanical Engineering

SME Incharge – Manikanta ,B.Tech ,IV year, Mechanical

SME Treasurer - Shammi Mohammed, B.Tech, IV year, Mechanical

We are of 20 members team divided into sub groups to built the gokart.

Chassis System:

1 Akshay - 4th year

2 Raghu - 4th year

3 Sharath - 4th year

4 Samrat - 3rd year

5 Sai Nishanth - 3rd year

Steering system:

1 Vishnu - 4th year

2 Shammi - 4th year

3 Satish - 4th year

4 William - 3rd year

5 Aakansha - 3rd year

Braking System:

1 Manikanta - 4th year

2 Shravan Putta - 4th year

3 Sham - 4th year

4 Sowmya - 3rd year

5 Shresta - 3rd year

Transmission System:

1 Shahidha - 4th year

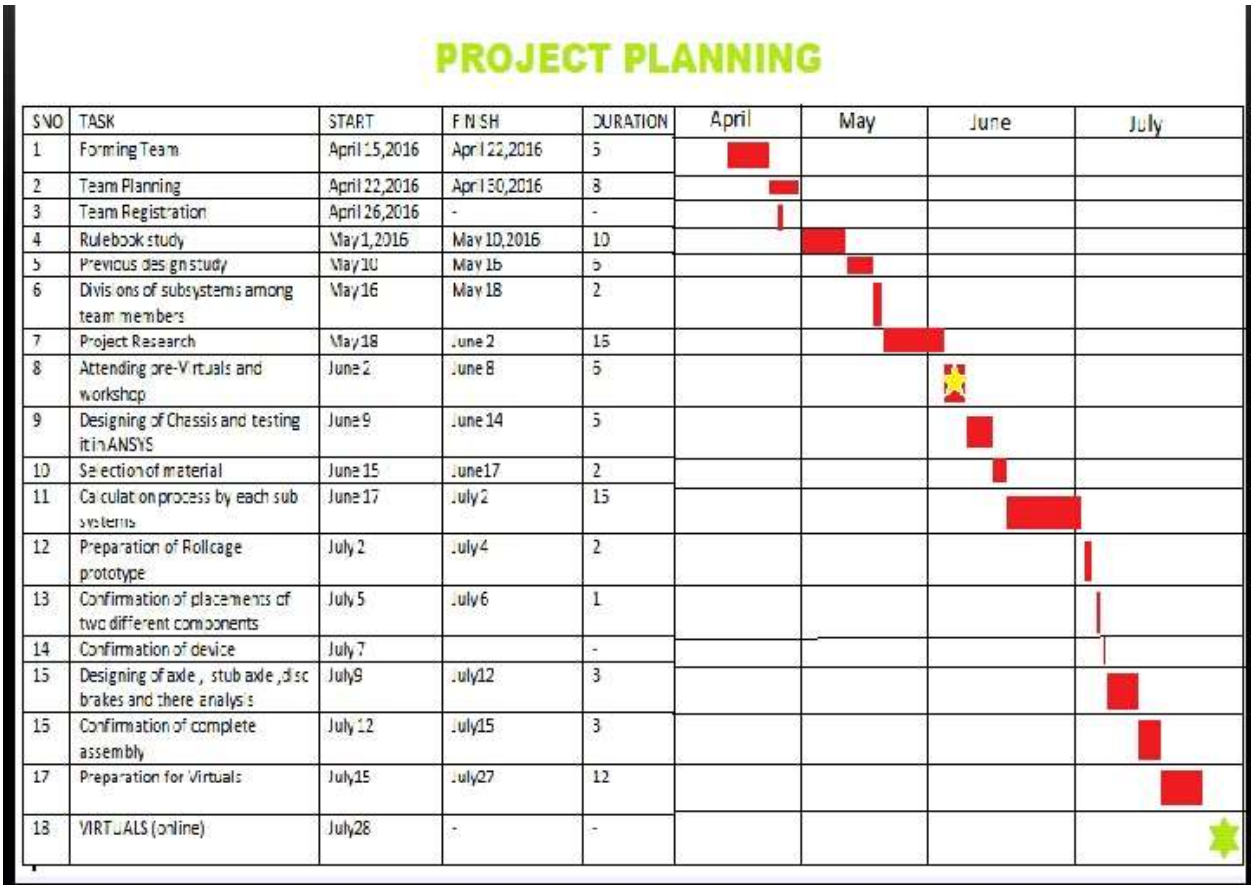
2 Vishnuvardhan - 4th year

3 Durga - 4th year

4 Jahangeer - 3rd year

5 Sachin - 3rd year

Schedule of the complete Project planning is given in the below table.



DFMEA

sub system	Design function/ requirement	Potential effect of failure	Severity	Potential cause/ mechanism of failure	Occurance	Current Controls-prevention	Current controls/ detection	Detection	RPN	Recommended action	Action taken	Severity	Occurance	Detection	RPN
Chassis	Frame	Direct impact on driver	10	Loss of control on vehicle	1	Presence of bumpers & Suitable design	Loss of control on vehicle	1	10	Simulation in software	Rigid and robust bumpers	10	1	2	20
	Spindle brackets	Failure due to fatigue	7	Decrease in ground clearance	2	High FOS	Malfunctioning of vehicle	4	56	Checking of strength of bracket materials	Rockwell test	7	2	3	42
Power train	Engine	Malfunction of engine	7		4		Erratic run of vehicle	3	84	Use of good air and fuel filters		7	3	3	63
		Disengagement of chain sprocket	8	loose chain	3			2	48						
braking system	brake circuit	Leakage in brake line	9	Cavitation	2			3	54	Proper fixing of brake lines	Diligent testing to ensure functionality	9	1	2	18
	Disk	Overheating of disc	7			Thermal analysis of disc		3			Diligent testing to ensure functionality				
	Pedals	Mechanical		Excess load by driver			Inability to operate			High factor of safety	Diligent testing				
Steering system	Spindle brackets	Mechanical	/	Shock/impact loads	3	Proper welding to frame	Improper steering	3	63		Diligent testing				
	Steering column	Mechanical	7	Damage by debris	3			2	42	Verify specification before selecting					
Ergonomics	Goggles			Damage by debris		Selecting the proper goggles				Verify specification before selecting					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VIRTUALR
National Kart
SEASON - 2
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2017-2018

1. Participated in **National Kart Racing Championship (NKRC)** on 30 th september-3 rd October in Bhopal, Madhya Pradesh.

2. Manufactured Coconut cutting and drilling machine.

3. Modified coconut machine: Tri-cycle coconut machine

4.Design of Ripe Cocnut Husk Removing Machine

10. National Kart Racing Championship (NKRC)

The students of GRIET under SME Student Chapter participated in National Kart Racing Championship (NKRC) on 30 th september-3 rd October in Bhopal, Madhya Pradesh.

SME Faculty Coordinator – A.Anitha lakshmi , Asst. prof, Dept. of Mechanical Engineering

SME In charge – Samrat, B.Tech ,IV year, Mechanical

SME Treasurer - William, B.Tech, IV year, Mechanical

We are of 17 members team divided into sub groups to built the go-kart.

Members:

Jahangeer (Captain)	14241A03C8
Samrat (Vice President)	14241A03E9
Navasai	15241A0318
Tarun Sai	14241A03G9
Sachin	14241A03D1
Praveen	14241A0320
Shiva kumar	14241A03C1
William	14241A03B8
Vivek	14241A03C4
Srinivas Gadi	14241A03D3
Subhashish Bose	14241A03C3
Manasa	15241A0331
Akhil	15241A0301
Pavan	15241A0314

Adhi Narayana 16241A0301

Sujeeth 16241A0316

Harshith 16241A0317

Schedule of the complete Project planning is given in the below table.

NKRC SEASON 4 REPORT :

We started our journey 6 months back and finally go-kart was manufactured and we were ready to participate in the competition. We boarded the train on 27th sept,2017. We reached Bhopal station on 28th September,2017 by 5 pm. The competition was going to start from 30th sept-3rd Oct.

Day-1:

The event was held at Radharaman college, Bhopal. We reached the event site through bus provided by the organizers by 10am. Then we went on with the registration process and did assembling of the body panels.

Day-2:

we reached the event side by 10am. We gathered in the event site for the inauguration ceremony after that We continued our repair work and did finishing of the go-kart. We went to the design evaluation and finally the day ended.

Day-3:

On the 3rd day we went to the Technical-Inspection and he told us some changes to make, after rectifying the mistakes we went again and finally we came out with the TI sticker on the vehicle. Around at 4 pm we went for the dynamic round i.e., for the brake and acceleration test. We tried the first attempt and next day we continued the later events.

Day-4:

We went again for the brake test and sucessfully completed the test with brake test qualified sticker. Later we went for the skid pad test and traction test. In the evening they announced the results for the endurance test, we qualified for the endurance. In the mean while there was DJ night going on, on the same day. We did packing of the vehicle and dropped the vehicle on the track.

Day-5: This is the final day of the event and everyone was eagerly waiting for the endurance test to begin. Organizers announced the slots for the test. We got slot-2. So finally the vehicle was on the track, it was minutes away from the excitement to get started and the slot-2 has been announced to assemble go karts on the track. That's it we were on the track and finally the race began we tried our best to overtake everyone we tried our best. Finally, the event ended with question mark on everyone's face.

On 4th October we had started our journey back to the Hyderabad and reached Hyderabad on 5th early morning.

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11. Workshop: Design and fabrication of GO-KART

Date: 6 Feb 2017

A Report On

RUNWAY'17

First Session

The main motto of the workshop is to share our knowledge regarding Design and Manufacturing of GO-KART with the participants. We have scheduled the date as **6th FEB,2017** at **10 a.m.**

As planned the session started at 10 a.m. The students started gathering in the seminar hall by registering their names at the help desk.

The session started with the inauguration of the workshop by lighting the Diya by our Dr L. Jayahari, HOD-Mechanical and Faculty Advisor A. Anitha Lakshmi, Asst. Prof-Mechanical. They spoke about our team and the

achievements regarding our team. They motivated the students by encouraging the students to take up some projects and participate in the competitions.

INTRODUCTION OF THE NKRC:

Sachin Rao,3rd year Mech

Captain-Vishnu,4th year Mech

Samrat, 3rd year Mech.

Raghu Vamshi ,4th year Mech

Aakanksha ,3rd year Mech

Sowmya,3rd year Mech

Nishanth and Jahangeer 3rd year mech

The introduction of the GO-KART vehicle types was given by Sachin Rao,3rd year Mech. He described about the National Kart Racing Championship (NKRC) event rules and regulations, tests conducted by them.

Next our Captain-Vishnu,4th year Mech explained the steps to be followed before participating in an event, what are the precautionary measurements to be considered, and how he built the perfect team and formation of the team.

INTRODUCTION ABOUT CHASSIS:

The introduction about Chassis was given by Samrat, 3rd year Mech. He explained the main definition of the chassis and types included in the chassis, frame, types of frames.

CHASSIS DESIGN:

The chassis design was explained by Raghu Vamshi ,4th year Mech. He explained each detail regarding the design of chassis, how it is designed, manufactured. Material type and its specifications. This topic was lasted for about 45 min.

STEERING SYSTEM:

This system was explained by Aakanksha ,3rd year Mech. She started with the introduction regarding steering and its necessity. The types of chassis that are used worldwide. Each part of the steering system was explained properly to the students. She demonstrated few videos to let them have a clear picture of the mechanism. This topic was lasted for around 30 min.

BRAKING SYSTEM:

This system was explained by Sowmya,3rd year Mech. She started with the questionnaire session by asking the necessity of using brakes. Later she explained the types of brakes, types of fluids used in the automobile industry. She demonstrated few videos of the Mechanism used in braking system. This topic was lasted for around 20 min.

Half an hour break was given to the participants to have their lunch and to get refreshed as there was an important system left to be discussed i.e., Transmission system.

SECOND SESSION:

The students have gathered in the seminar hall after the break.

TRANSMISSION SYSTEM:

The heart of the vehicle i.e., Transmission System was explained by Nishanth and Jahangeer 3rd year mech. They explained everything from IC engine to CVT, all the parts in the engine, types and the mechanism of the engine. This lasted for around 1 hour

Q&A session has started and students cleared their doubts. We demonstrated the vehicle parts providing the practical experience for them. We have given free rides of our Go-Kart to the participants at the end of the session.

BY

TEAM GRIET-WRECKERS

SME, Mechanical

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12. EVENT SUMMARY REPORT

Nature of the Event (Workshop / FDP / Seminar / Guest Lecture / Talk GD/ Training Program / Quiz / Presentation)	WORKSHOP
Title / Theme of the Event	Design and fabrication of GO-KART, RUNWAY'17
Details of the Conveners	A.AnithaLaxmi (Asst.Professor), ME
Details of the Resource Persons:	The students of GRIET under SME Student Chapter participated in National Kart Racing Championship (NKRC) on 27 September 2016 at Kolhapur, Maharashtra.

Date on which Event is held	6 Feb 2017
Details of the Speaker / Guest Name Organization	Sachin Rao,3rd Year Mech Captain-Vishnu,4th Year Mech Samrat, 3rd Year Mech. Raghu Vamshi ,4th Year Mech Aakanksha ,3rd Year Mech Sowmya,3rd Year Mech Nishanth And Jahangeer 3rd Year Mech
Target Audience (Teaching Faculty / Non-Teaching Faculty / Students)	UG Students.
Summary of the Event	The main motto of the workshop is to share our knowledge regarding Design and Manufacturing of GO-KART with the participants. We have scheduled the date as **6th FEB,2017** at **10 a.m.** The introduction of the GO-KART vehicle types was given by Sachin Rao,3rd year Mech. He described about the National Kart Racing Championship (NKRC) event rules and regulations, tests conducted by them. Next our Captain-Vishnu,4th year Mech explained the steps to be followed before participating in an event, what are the precautionary measurements to be considered, and how he built the perfect team and formation of the team. The introduction about Chassis was given by Samrat, 3rd year Mech. He explained the main definition of the chassis and types included in the chassis, frame, types of frames. The chassis design was explained by Raghu Vamshi ,4th year Mech. He explained each detail regarding the design of chassis, how it is designed, manufactured. Material type and its specifications. This topic was lasted for about 45 min.

POs attained with this Event (number and description)	PO 1 – critical analysis of manufacturing problems. PO 3 – knowledge of modern technological concepts PO 5 – ethics and attitude development in research PO6 - Lifelong learning
	 

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13. EVENT SUMMARY REPORT

Nature of the Event (Workshop / FDP / Seminar / Guest Lecture / Talk GD/ Training Program / Quiz / Presentation)	WORKSHOP
Title / Theme of the Event	MANUFACTURING OF 3 D PRINTING MACHINE
Details of the Conveners	A.AnithaLaxmi (Asst.Professor), ME
Details of the Resource Persons:	GRIET

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Date on which Event is held	20 Jan 2016
Details of the Speaker / Guest Name Organization	Dr. N SATEESH and Students of 2nd year
Target Audience (Teaching Faculty / Non-Teaching Faculty / Students)	UG Students.
Summary of the Event	The main motto of the workshop is to share our knowledge regarding Design and Manufacturing of 3 D printing Machine with the participants. The workshop discussed about different types, functions and scope of the 3 D printing machines in future. Demonstrated practically by printing small gear parts.

POs attained with this Event (number and description)	PO 1 – critical analysis of manufacturing problems. PO 3 – knowledge of modern technological concepts PO 5 – ethics and attitude development in research PO6 - Lifelong learning
	 

14. Coconut cutting and drilling Machine

21st century is all about improving the technology right from a vendor's shop to rocket science.

As well as simplifying the work plays a crucial part in advancement.

It's a well known fact that a country's growth depends on the advancement of small scale vendor's.

We students of mechanical engineering have come out with one such idea.

This model has two machines.

Drilling

Cutting

Drilling is to put a hole on the surface, to extract coconut water either by sucking it with a straw or directly pouring it into a container

After extraction of water the coconut is put under the blade and cut in to two halves(Cutting). During this process we make sure that the grip is tight.

TRI-CYCLE COCONUT MACHINE

Objective:

To develop a machine which can enhance and make it easier to extract coconut water

from coconut and cut the coconut to peel the pulp out of it.

This Machine Consists of three Appliances.

- Coconut Cutting Appliance.
- Coconut Water Extraction Appliance.
- Drilling Hole to Insert Straw.

Coconut Cutting Appliance

- This model is used to peel pulp from coconut shell.

In this model we use compound gear mechanism to make the process easy and convenient to the user.

Coconut Water Extraction Appliance

- This model is used to collect and store coconut water.
- The simple mechanism here is the limited movement of handle is converted to free

  vertical sliding motion.

Drilling Hole To Insert Straw

- The main objective of this model is to drill a hole such that a straw can be inserted.
- This model is similar to that of water extraction where the mechanism is limited movement of

  lever to free sliding motion along vertical axis.

Materials Used

- After some research we have come to the conclusion to use Stainless Steel.
- The type of Stainless Steel we will be using here is SS-202 as its corrosion resistance is high which is the primary requirement here.
- The blade used in here is also SS-202 as it has high strength, hence making the work easier.

Status of Project: Design and modelling of the machine is completed. Procurement of material is done. cutting and machining of parts is done. Welding of parts is in process. 80 % of work is done.

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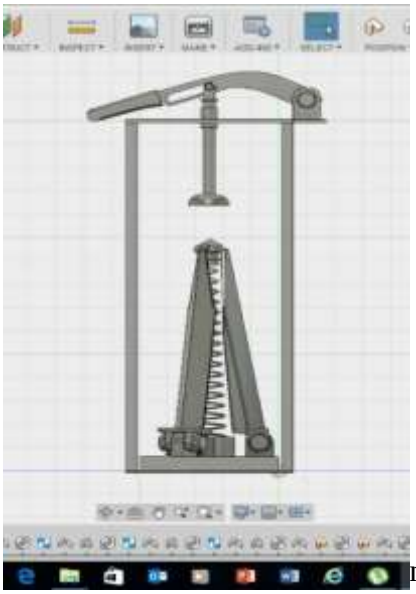
RIPE COCONUT HUSK REMOVING MACHINE

Objective: The purpose of this machine is to remove the husk from the Ripe Coconut.



Design and Model of Ripe Coconut Husk Removing Machine



n

- Numbers per hour
- Safer

- Less labour intensive

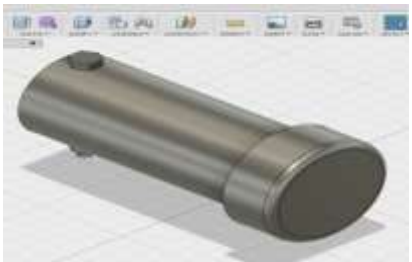
Equipment cost is Affordable

Main parts in our design are

- Tapered spring
- Teeth
- Handle
- Slider
- Support
- Base

Pins

1. and helps **Tapered spring** : this spring has four purposes, viz positioning, space, pierced easily, blooming and restoring of the handle.
2. **Teeth** : they penetrate through the coconut and remove the husk.
3. **Handle** : this is the man machine interface
4. **Slider** : this pushes the coconut towards the cone.
5. **Supports** : they hold the base plate and the top plate rigidly together.
6. **Piercing cone** : this helps the teeth to penetrate through the coconut.
7. **Pins** : these are used to hold the teeth and base together in providing the required motion in teeth.



Piercing Cone

Supports,base,top plate

slider rod

Tapered Spring

pins

Handle

MECHANISM INVOLVED

- The simple mechanism here is the limited moment of handle is converted to vertical sliding motion of slider which in turn leads to compression of spring. The movement of the sliding ring during compression leads to the blooming of the three petal knives.
- Once the peel of is complete the spring restores its position and so the handle.

2018-2019

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15. EVENT SUMMARY REPORT

Nature of the Event (Workshop / FDP / Seminar / Guest Lecture / Talk GD/ Training Program / Quiz / Presentation)	Technical Fest
Title / Theme of the Event	PRAGNYA 2019-2020
Details of the Conveners	Vijaya Latha– Convener A. Anitha Laxmi (Asst. Professor), ME, coordinator
Details of the Resource Persons:	B. Ramya Krishna (Mech III year B Section) K. Revanth (Mech III year B Section)
Date on which Event is held	21 Sept2019

Target Audience (Teaching Faculty / Non-Teaching Faculty / Students)	UG Students.
Summary of the Event	Mechanical⚙ Department is coming up with the 3 Events for Pragnya 2k19 On September 21st "BLIND FITTER"-- one person will be blind🐵 folded and the other will be the instructor. The blind folded person has to fit the bolts with nuts🔩 with the help of the instructor. In ROOM NO : 4420/4421 Registration fee - Rs.20/- per team (2 members) 👬 "Connect-Mechanical"--- The pictures🖼 will be displayed. Those pictures should be connected to get the name (tools, Machine Component, process, operation,) related to Mechanical Engineering in ROOM NO : 4422 Registration fee - Rs.20/- per team(2 members)👬 "Model Assembly"-- the parts of a Automobile🚗 will be given.

	The parts should be assembled as soon as possible in limited time given ⏳ROOM NO: 4420/4421 Registration fee - Rs 30/- per team(2 members) ATTENDANCE WILL BE PROVIDED WINNER🏆 shall be rewarded with MERIT CERTIFICATE For the REGISTRATION approach the Help Desks And for more info and queries Contact: Ramya Krishna -8978545759
POs attained with this Event (number and description)	PO 1 – critical analysis of manufacturing problems. PO 3 – knowledge of modern technological concepts PO 5 – ethics and attitude development PO 6 - Lifelong learning

BLIND FITTER

MODEL ASSEMBLY

CONNECT MECHANICAL