



DEPARTMENT OF MECHANICAL ENGINEERING

REPORT ON "SKILL ADVANCED COURSE"

Event Type	: Skill Advanced Course
Date / Duration	: 22-08-2022 to 27-08-2022(Online) & 05-09-2022 to 10-09-2022(Offline) (Two weeks)
Name of the Event	: Electric & Solar Vehicle-Design & Development
Resource Person	: Mr.Rahul Ranjan, Senior Automotive Engineer, AMZ Automotive, Jaipur. Mr.Vinay Pathak,Chief Information officer, I Prime Skills, Jaipur.
Name of the Coordinator(s)	: Mr. S.Rami Reddy, Sr.Assistant Professor. Mr.K.Venkateswara Reddy, Assistant Professor. Mr.A.Pratyush, Assistant Professor.
Target Audience	: B. Tech-V Semester
Total Number of students	: 133
Objective of the event	: To get Electrical and solar vehicle design and development skills.
Outcome of event	: Students acquired more knowledge on Electrical and solar vehicle design and development and applied to core related examples.
Description / Report on Event:	The Mechanical Engineering Department conducted two weeks skill advanced course on Electrical and solar vehicle design and development for V Semester Students from 22-08-2022 to 27-08-2022 and 05-09-2022 to 09-09-2022 in association with I Prime Skill.During the training sessions, the students got the knowledge on the following topics.
	<ul style="list-style-type: none">➤ Introduction to Product Design, Types of Design, Features of Design, Procedure of Design.➤ Introduction to "Automobile Engineering" ,Difference b/w super, ATV, sports, formula car , Chassis , Goals of chassis , Types of chassis: a) Monocoque b) Ladder-frame c) Space-frame➤ Braking mechanism ,Classification of Braking System, Disc Brakes, Drum Brakes, Braking Fluid, Braking Principles, Pascal Law's➤ Brake Connections, Safety Features for Braking System, Antilock Braking System, Introduction to Steering Mechanism.➤ Suspension system for on road and off road application , Types of suspension springs , Uses and applications of each , Concept of all terms related to suspension designing (Camber / Caster / king pin inclination/ toe angle / bump & Rebound/ spring rate / camber thrust /jacking forces) , Types of dampers and application , Suspension mechanisms➤ Introduction to Aerodynamics, Types of Aerodynamics Force, Aerodynamics Devices, Equation of Continuity
Feed back/ Suggestions	: Overall students are satisfied with this training program.

Two Weeks Skill Advanced Course Boucher:

About the Institute

The Lakireddy Bali Reddy College of Engineering (LBRCE) was established in the year 1998 by Lakireddy Bali Reddy Charitable Trust, whose architect is Er. Lakireddy Bali Reddy garu. The institute is established with the sole aim of providing high quality educational opportunities in the field of science, engineering, technology and management. It is spread over 60 acres of sprawling lush green landscape spotted with orchids and grooves. It is approved by AICTE, affiliated to JNTUK, Kakinada and attained autonomous status in the year 2010. Institute has NAAC accreditation and almost five programs were accredited under NBA-Tier1. The College has also been awarded 2(f) and 12(B) status, apart from the recognition as a 'College with Potential for Excellence (CPE)' from the UGC.

LBRCE has sophisticated infrastructure with dedicated, well qualified and experienced faculty. A separate R&D cell is established in the college to focus on continuous research. It has various sponsored research projects by various funding agencies. All laboratories are equipped with state-of-the art facilities backed by advanced computer systems with latest software. Recently Institute has started the Advanced Robotic Control (ARC) centre in association with German Collaboration.

About the Department

Mechanical Engineering is one of the major disciplines in the engineering profession and its principles are involved in the thermal, design and fabrication of nearly all of the physical devices and systems. Continued research and development have led to better machines and processes helping the mankind.

The Department of Mechanical Engineering has come into existence in LBRCE (Autonomous) in the year 1998. It offers undergraduate program in Mechanical Engineering with an intake of 180 and a Post-graduate program in the area of Thermal Engineering specialization. The Department has well qualified, dedicated faculty with good laboratory facilities including equipment required for

research work. The faculty is actively engaged in research activities in their areas of specialization. In R&D, we got DST and AICTE, MODRABS projects worth of Rs.1 Crore 27 Lakhs. The Department has DASSAULT Systems laboratory in collaboration with AP Skill Development Centre and has ANSYS 18.1 Licensed Software worth of Rs.28Lakhs for 300 users to carry out research works

About the Workshop

Electrical Vehicle (EV) is a prominent solution of fuel crises and environmental pollution for global transportation sector. This Programme is designed to provide the state-of-the-art trends and advancements in Electric Vehicle.

The Programme will focus on theoretical aspects as well as providing hands on experience to the participants. It will enable them to promote industry and institute collaborations by working on the current research problems.

The participants will be introduced to fundamentals of Electric Vehicles, components such as cables, battery, drives and controllers used in of Electric Vehicles. The participants will be trained with hands-on approach in order to have an in-depth insight into the domain of Automobile and expose them to Feasibility & future scope of EV.

Workshop Objective

The course is designed to provide Basic knowledge of Electric & Solar Vehicle- Design and Development.

Highlights of the program are

- ❖ Introduction to Product Design,
- ❖ Braking mechanism
- ❖ Introduction to Steering Mechanism.
- ❖ Suspension system for on road and off road application
- ❖ Types of dampers and application
- ❖ Introduction to Aerodynamics
- ❖ Aerodynamics Devices

LAKIREDDY BALI REDDY COLLEGE OF
ENGINEERING (AUTONOMOUS)
MYLAVARAM – 521 230
DEPARTMENT OF MECHANICAL ENGINEERING
IN ASSOCIATION WITH
I PRIME SKILLS



Two Weeks Skill Advanced Course on
“Electric & Solar Vehicle- Design and
Development”
(22nd to 27th August 2022 Online)
(05th to 10th September 2022 Offline)

Registration Form

1. Name: _____
2. Regd.No: _____
3. Year of Study: _____
4. Branch: _____
5. Institution: _____
6. Address for Correspondence

7. Phone no: _____
8. E-Mail: _____

Declaration

The above information provided is true to the best of my knowledge. I agree to abide by the rules and regulations of the workshop course.

Place: _____

Date: _____ Signature of Applicant

Sponsorship Certificate

Mr./Ms. _____
is a student of our Institute and is hereby sponsored to participate in One Week workshop on “Electric & Solar Vehicle- Design and Development”.

Place: _____

Date: _____ Signature of Head of Institution
(With seal)

COMMITTEE MEMBERS

Chief Patron:

Sri. Lakireddy Jaya Prakash Reddy
Honorary Chairman
Sri. Lakireddy Prasad Reddy
Chairman
Sri.L.Vijaya Kumar Reddy
Vice -Chairman

Patron:

Sri. G. Srinivasa Reddy
President
Dr. K.Appa Rao
Principal
Dr.K.Harinadha Reddy
Vice principal

Advisor:

Dr.M.Srinivasa Rao
Dean Academics
Dr. E.V.Krishna Rao
Dean R&D

Convener:

Dr .S.Pichi Reddy
Professor & HOD, ME

Coordinators:

Mr. S.Rami Reddy
Sr. Assistant Professor

Mr. K. Venkateswara Reddy
Assistant Professor

Mr. A.Pratyush
Assistant Professor

Important Dates

Last date for submission of application: 20-08-2022

Duration of Program: 22nd to 27th August 2022 Online
05th to 10th September 2022 Offline

Resource Persons:

1. Mr.Rahul Ranjan, Senior Automotive Engineer, AMZ Automotive, Jaipur.
2. Mr.Vinay Pathak, Chief Information officer, I Prime Skills, Jaipur.

Target Audience

The workshop is open to all third year B.Tech Graduate students of AICTE approved engineering colleges.

Registration Particulars

Application in the prescribed format duly sponsored by the Head of the Institution should reach the coordinators on or before 20-08-2022

Note: Brochure & registration form can also be downloaded from our college website.
<http://www.lbrce.ac.in>

Registration Fee

For Each Student: Rs.900/-

- ❖ Certificate provided for eligible students.

NOTE

The participants need to pay the registration fee preferably through online in the given bank account. The receipt of payment details may be sent to the email: venkateswarareddyk7@gmail.com.

Account Name	LBRCE
Account Number	3172828720
Branch	Central bank of India, L.B. Reddy Nagar, Mylavaram
IFSC	CBIN0283964

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(22nd to 27th August 2022 Online)
(05th to 10th September 2022 Offline)



ORGANIZED BY

DEPARTMENT OF MECHANICAL ENGINEERING
IN ASSOCIATION
WITH I PRIME SKILLS



LAKIREDDY BALI REDDY COLLEGE OF
ENGINEERING (AUTONOMOUS)

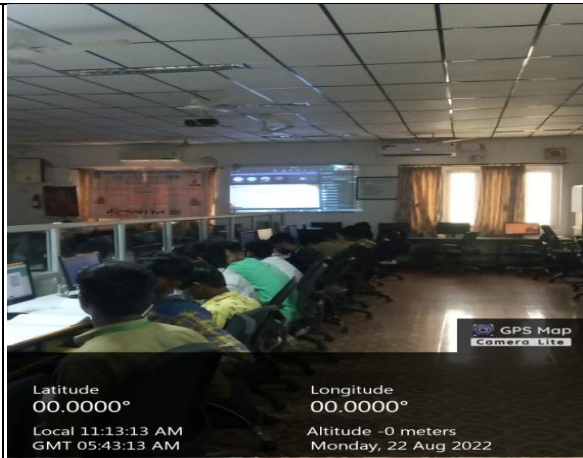
Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada, Accredited by NAAC, Accredited by NBA (Tier-I), ISO 9001:2015 Certified Institution, Mylavaram -521230, Krishna (Dt), Andhra Pradesh, India,
Ph: 08659-222933. Fax: 08659-222931

Website: www.lbrce.ac.in

Day to Day Report

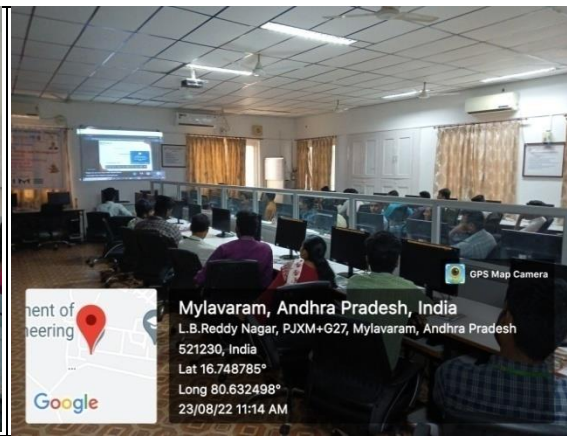
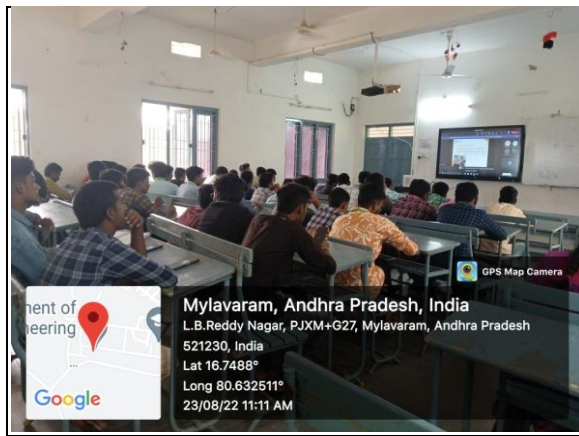
22/08/2022: Forenoon Session (11:00 AM – 12:30 PM)

Topics Covered: Introduction to Product Design



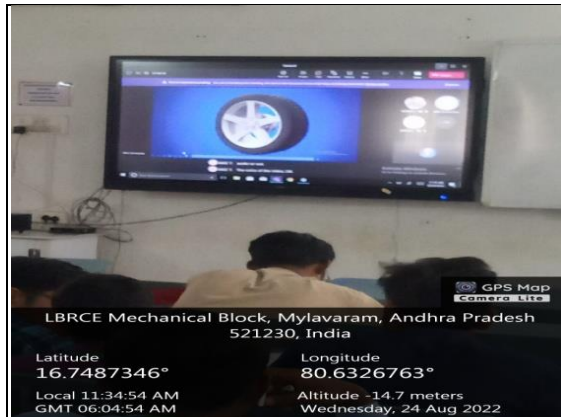
23/08/2022: Forenoon Session (11:00 AM – 12:30 PM)

Topics Covered: Introduction to “Automobile Engineering”



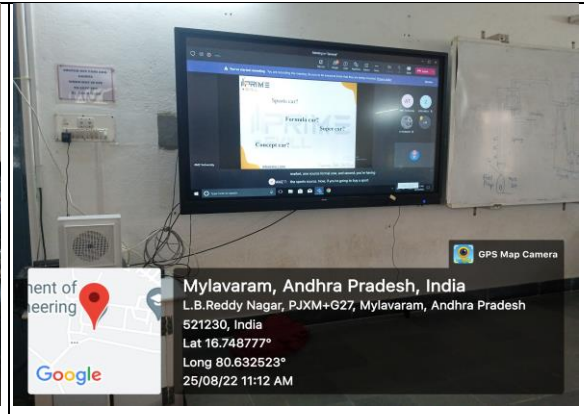
24/08/2022: Forenoon Session (11:00 AM – 12:30 PM)

Topics Covered: Braking mechanism



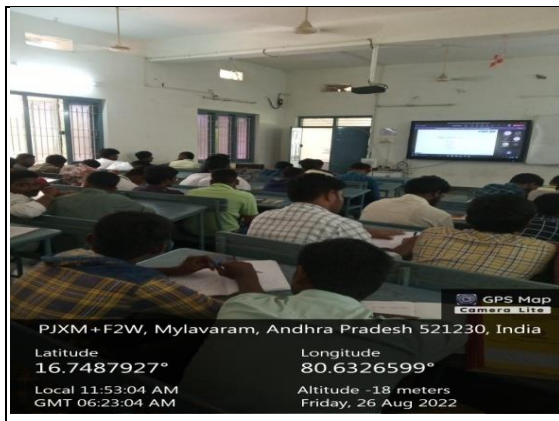
25/08/2022: Forenoon Session (11:00 AM – 12:30PM)

Topics Covered: Brake Connections, Safety Features



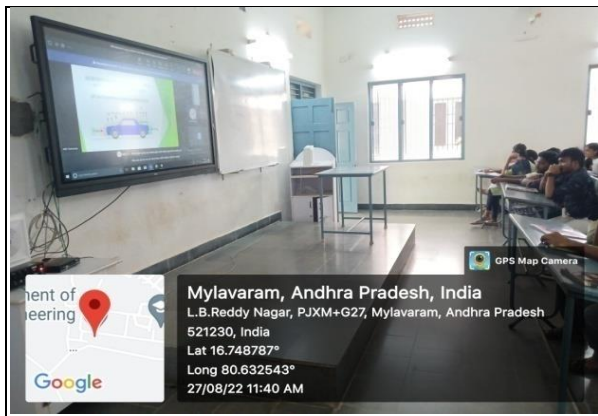
26/08/2022: Forenoon Session (11:00 AM – 12:30 PM)

Topics Covered: Suspension system



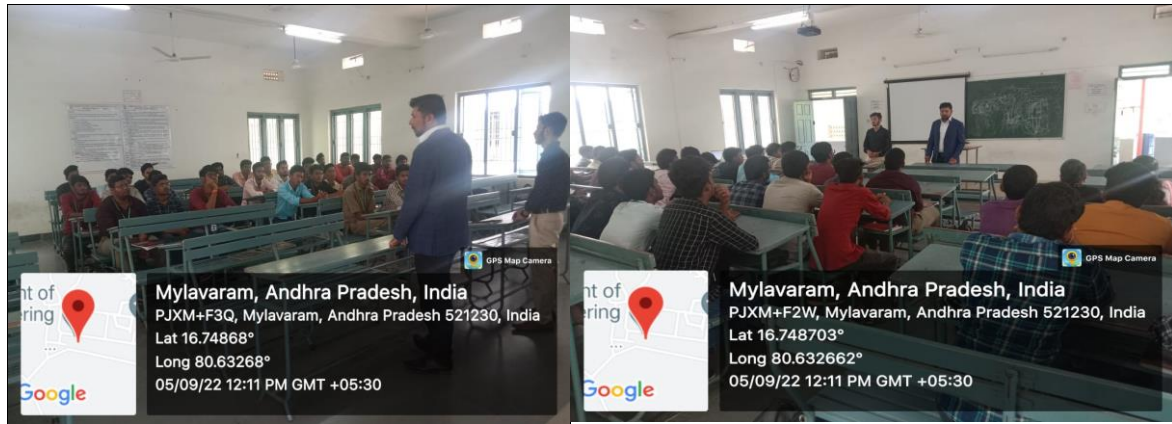
27/08/2022: Forenoon Session (11:00 AM – 12:30 PM)

Topics Covered: Introduction to Aerodynamics



05/09/2022: Forenoon Session (09:00AM–12:30PM)

Topics Covered: Introduction to Mat lab, Coding Environment, Basics Building Block of Mat lab, Battery Pack Basic Calculations.



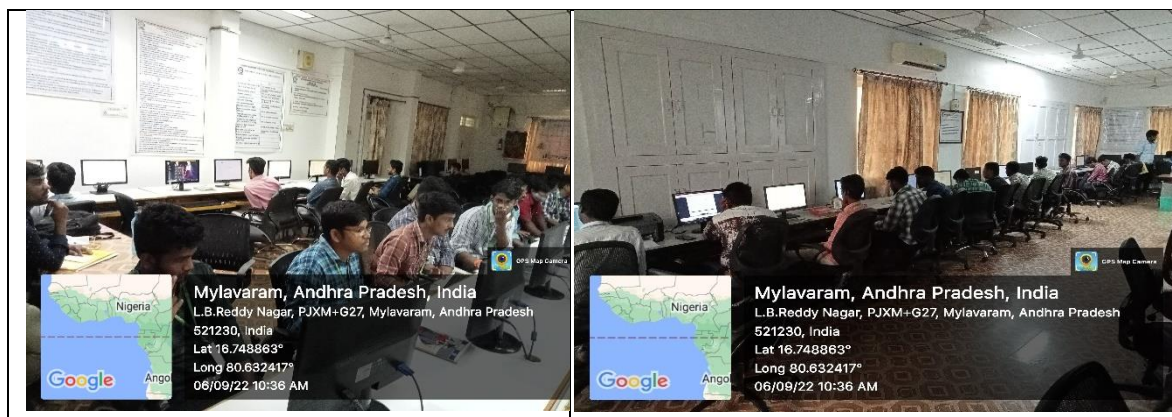
05/09/2022: Afternoon Session (01:30PM–4:00PM)

Topics Covered: Battery Pack Modeling (Discharge Circuit), Hybrids Battery Pack Designing Using Mat lab, MOSFET (Overview)



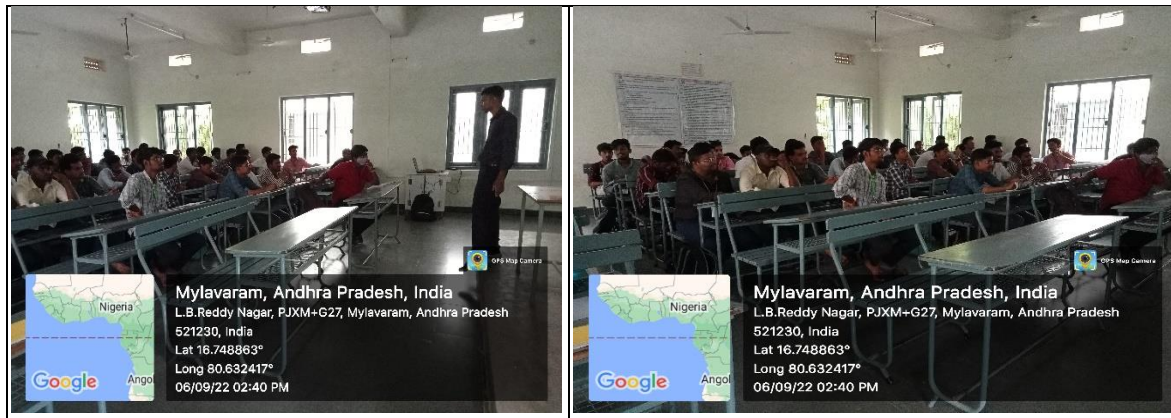
06/09/2022: Forenoon Session (09:00AM–12:30PM)

Topics Covered: Introduction on Future EV, Introduction, History of Electric Car 50s, Future Electric Car and Trucks, Brief on Electric Cars, Electric Cars vs IC Cars Working Function.



06/09/2022: Afternoon Session (01:30PM– 4:00PM)

Topics Covered: The Difference on Fuel Vs Pure Electric Vs Fuel And Electric, Benefits of Electrics Cars, Safe Electric on Car and Bike, Brief on Environment Impact.



07/09/2022: Forenoon Session (09:00AM–12:30PM)

Topics Covered: On-Traction system: what is the motor, DC motor, Types of Motor, what is BLDC motor, Inner motor and Outer rotor difference, working Principle, Arrangement of the magnet, Controller, Hall sensor feedback effect table, control system of BLDC.



07/09/2022: Afternoon Session(01:30PM– 4:00PM)

Topics Covered: Matlab sim Waveform, SVPWM waveform, 3ph sinusoidal model waveform. (Safety measurements and wiring harness) safety measures, warning symbols, tools required, battery protection, wiring selection, Connectors, Ingress Protection, bldc and controller wiring harness.



08/09/2022: Forenoon Session (09:00AM–12:30PM)

Topics Covered: Battery, Lead Acid Battery, Nickel Metal Hydride Battery, Li-ion Battery, Battery specifications, battery Chemistry, Charging Time Calculation, Discharge Time Calculation, BMS, Photovoltaic Solar Panels, Electrical safety measures.



08/09/2022: Afternoon Session (01:30PM– 4:00PM)

Topics Covered: Fabrication of Electric vehicle



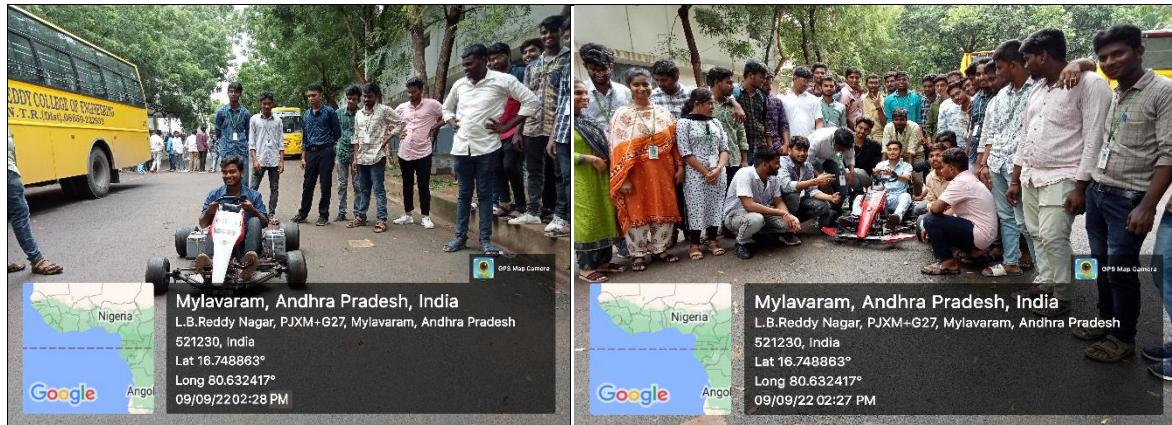
09/09/2022: Forenoon Session (09:00AM–12:30PM)

Topics Covered: HANDS ON PRACTICAL ON EV.



09/09/2022: Afternoon Session (01:30PM– 4:00PM)

Topics Covered: HANDS ON PRACTICAL ON EV.



Feedback / Suggestions:

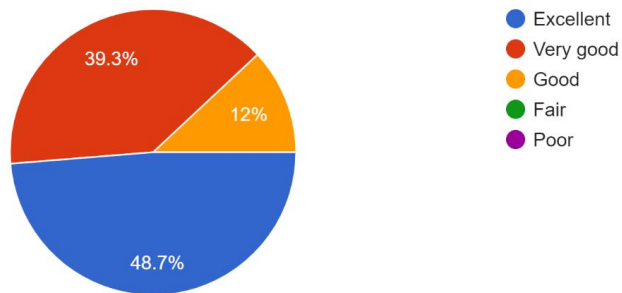
1. To conduct advanced topics on Electric & Solar Vehicle-Design & Development.
2. Conduct more workshops on Electric & Solar Vehicle-Design & Development.

Feedback Report: The student participants gave their feedback on the two weeks workshop and the responses were shown in the form of graph given below.

Feedback from the participants:

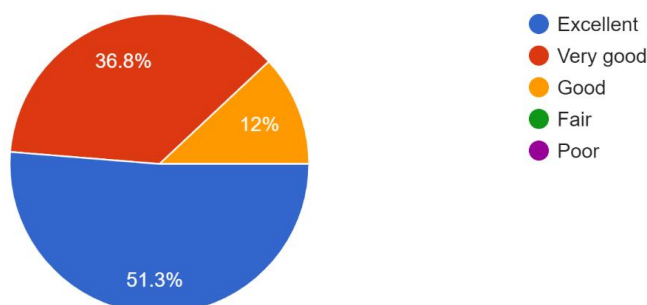
1. How were the Sessions?

117 responses



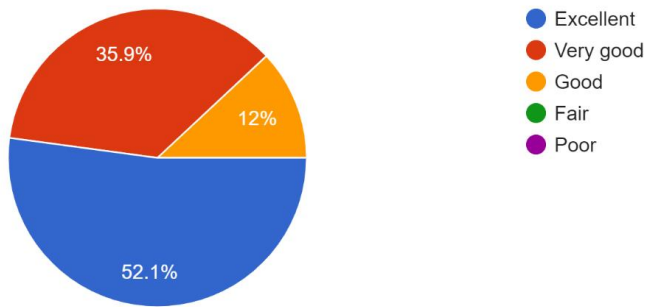
2. Delivery content of the Speaker?

117 responses



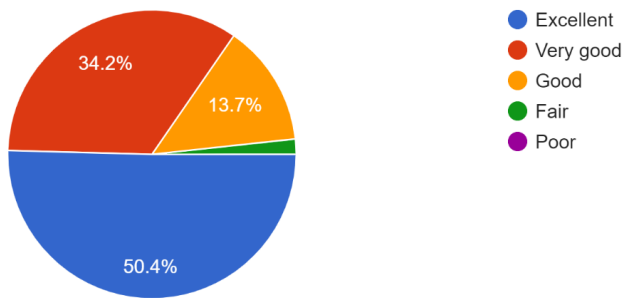
3. Teaching Skills of the Speaker?

117 responses



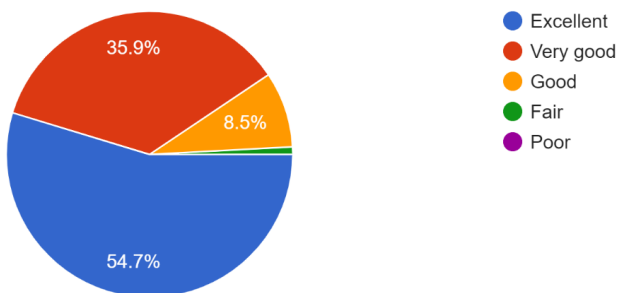
4. Clarification of doubts by the Speaker?

117 responses



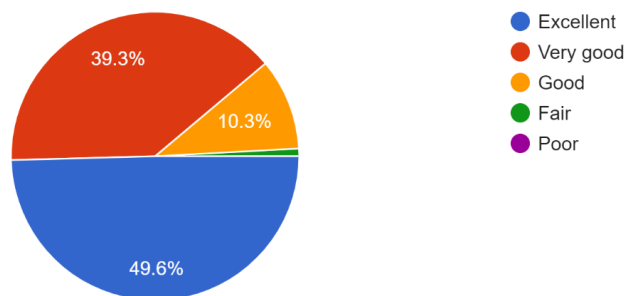
5. Is the workshop useful for the Participants ?

117 responses



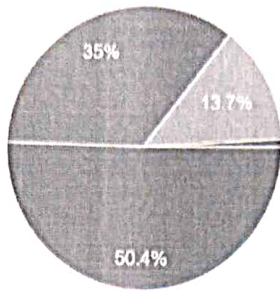
6. How would you rate overall learning experience?

117 responses



7. Are you likely participate in one of our events in future ?

117 responses



- Excellent
- Very good
- Good
- Fair
- Poor

8. Any other comments/Suggestions

117 responses

All the sessions are useful and understandable

Improvement of communication skills

Excellent

Gud

We like it

Time is insufficient, so please increase time

No

Improve communication skills

I my suggestion is try to increase the time period.

Signature		
	Mr.S.Rami Reddy, Mr.K.Venkateswara Reddy, Mr.A.Pratyush	HEAD Dept. of Mechanical Engineering LAKIREDDY BALI REDDY COLLEGE OF ENGG. MYLAVARAM-521 230., KRISHNA DT, A.P.
	Name of the Coordinator(s)	Head of the Department



I PRIME SKILL

1st Floor, 12, Shri Ashatha Ganesh Soc, Behind Tulasi
Darshan Soc Sunil Nagar, Dombivli East, Thane
Dombivli Maharashtra 421201
India
GSTIN 27AAIFI6088G1Z0

TAX INVOICE

#	: INV-000009	Place Of Supply	: Andhra Pradesh (37)
Invoice Date	: 12/09/2022		
Terms	: Due on Receipt		
Due Date	: 12/09/2022		

Bill To
Lakireddy Bali Reddy College of Engineering

Subject :
2 Week Skill Development Program on EV

#	Item & Description	Qty	Rate	Amount
1	Skill Development Program on EV	133.00	900.00	1,19,700.00

Total In Words
Indian Rupee One Lakh Nineteen Thousand Seven Hundred Only

Thanks for your business.

Sub Total	1,19,700.00
Total	₹1,19,700.00
Payment Made	(-) 1,19,700.00
Balance Due	₹0.00


Authorized Signature