PRAGATIENGINEERINGCOLLEGE

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3-180, ADB Road, Sutampalem-533 437,Near Peddapuram, Kakinada District,A.P
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(Recognized by UGC Under Sections 2(f) and 12 (b) of UGC act, 1956)
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ELECTRICALANDELECTRONICSENGINEERINGDEPARTMENT

AcademicYear:2025-26

Date:05.08.2025

CIRCULAR

It is to inform all the students of B Tech II Year that the **Electric Vehicles Club (EVC)**, Department of Electrical & Electronics Engineering is organizing a session on **"Cell to wheel : EV design basics"** to be held on **06-08-2025**.

This event aims to create awareness among students about Electrical Vehicle designing Like Electric Vehicles Parts, Operation and working of EV parts, battery design of electrical vehicles and future integration in smart cities.
The session will be delivered by Sai Teja

Interested students are invited to participate as per the schedule below:

- Date & Time of Event: 06.08.2025| 2:00PM -4:00 PM
- Venue: MS-14(CORE BLOCK)

For further details, please contact the event coordinators.

Faculty Event Coordinator:

Mr.D.Prakasarao,

Asst.Professor, EEE dept

Student Event Coordinators:
Sk.Samshad (24A35A0202),
V.Shalini (24A35A0203),
N.SaiTeja Vignesh (23A31A0245)
III EEE Electric Vehicles Club.

Faculty Event Coordinator

HOD-EEE

5/8/25

PRAGATI ENGINEERING COLLEGE (A) EEE-HOD SURAMPALEM

Copyto:

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ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT

ELECTRIC VEHICLES CLUB REPORT

I. Club Information

- Club Name: Electric Vehicles Club (Pragati Engineering College)
- Date: 06.08.2025
- Event Name: Electric Vehicles Design
- Student Coordinator: SK.Shamshad, III EEE
- Faculty Coordinator: Mr. P.V.V. Ramana, Asst. Professor, EEE Dept

II. Executive Summary

The Electrical Vehicles Club of Pragati Engineering College conducted a technical session on *Electrical Vehicles Design* on 6th August 2025, providing students with a clear and comprehensive understanding of EV design and operation. The session covered the various types of electric vehicles, their construction, key components, and the working principles of each component. Detailed explanations were given on electric powertrains, battery systems, motors, controllers, and auxiliary systems. Additionally, the session highlighted the different types of EV charging stations, their specifications, and operational features. This event equipped participants with practical knowledge and technical clarity, fostering interest and innovation in sustainable transportation technologies.

III. Concept of EV DESIGN

The session began with an introduction to the concept of Electrical Vehicle (EV) design, focusing on how EVs differ from conventional fuel-based vehicles and the importance of sustainable mobility. It covered the various types of EVs, the design of key components such as the powertrain, battery system, and controllers, and explained their working principles. The discussion also included charging infrastructure, efficiency considerations, and the role of innovative design in improving performance and reducing environmental impact.

IV. Components and Structure of EV DESIGN

During the session, participants gained a clear understanding of the core components and overall structure of an electrical vehicle. The discussion focused on the electric motor, battery pack, power electronics controller, battery management system (BMS), and regenerative braking system. Each component's function and working principle were explained, along with how these elements integrate to form a complete and efficient EV system. The explanations provided participants with practical clarity and a solid technical foundation in EV design.

- Electric Motor – Converts electrical energy into mechanical energy to drive the vehicle.
- Battery Pack – Stores electrical energy required for vehicle operation.
- Power Electronics Controller – Regulates power flow between the battery and the motor.
- Battery Management System (BMS) – Monitors battery health, temperature, and charging cycles.
- Regenerative Braking System – Recovers energy during braking and stores it in the battery.

V. Challenges in the Adoption of Electrical Vehicles

Despite the growing interest in electric mobility, several challenges still limit the widespread adoption of EVs. These include high initial costs, limited driving range, inadequate charging infrastructure, long charging times, battery degradation over time, and concerns about battery recycling and disposal. Addressing these challenges is essential for making EVs more accessible, affordable, and practical for everyday use.

VI. Future of Electrical Vehicles

Through this session, participants gained an idea about the promising future of electrical vehicles, driven by advancements in battery technology, charging infrastructure, and overall vehicle efficiency. The discussion highlighted ongoing research aimed at increasing driving range, reducing charging times, and making EVs more affordable. Participants also learned about government policies, industry initiatives, and renewable energy integration that are accelerating EV adoption. Insights were shared on upcoming developments such as smart grids, wireless charging, and autonomous driving features, emphasizing the role of EVs in creating sustainable and eco-friendly transportation systems in the years ahead.

VII. Conclusion

The *Electrical Vehicles Design* session provided participants with valuable technical insights into the structure, components, challenges, and future of electric vehicles. It not only enhanced their understanding of EV technology but also encouraged innovative thinking and awareness of sustainable mobility solutions. By bridging theoretical knowledge with practical applications, the session successfully inspired participants to explore new ideas and contribute to the advancement of clean transportation technologies.

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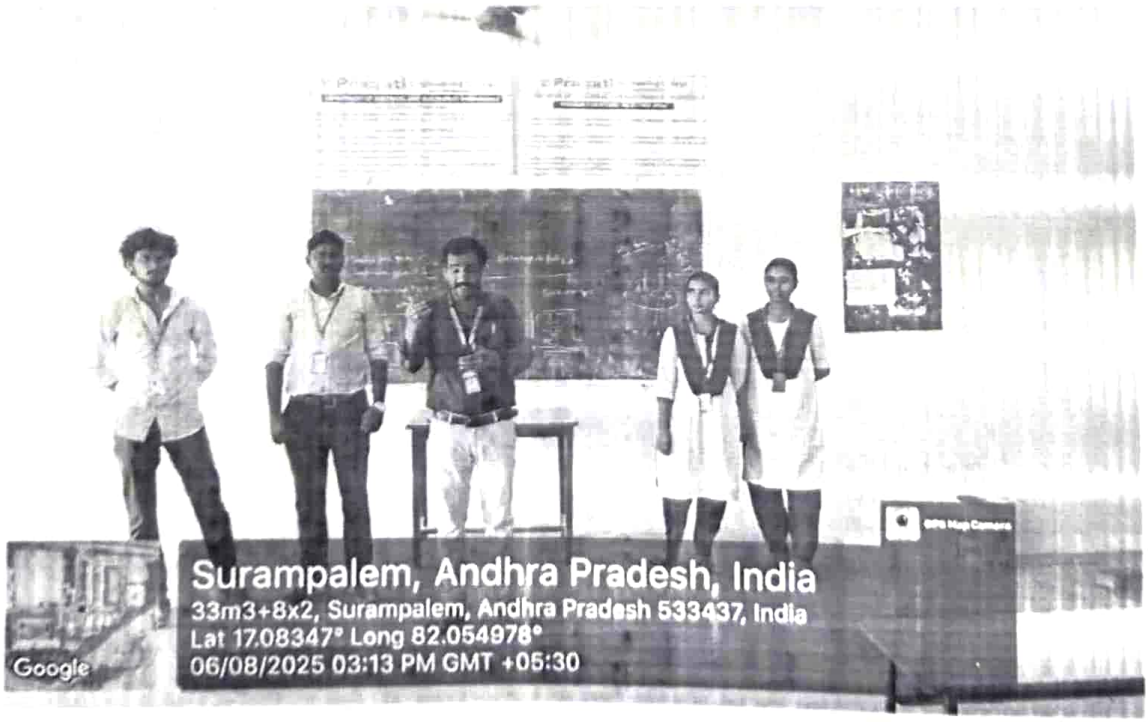
ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT

PHOTOS



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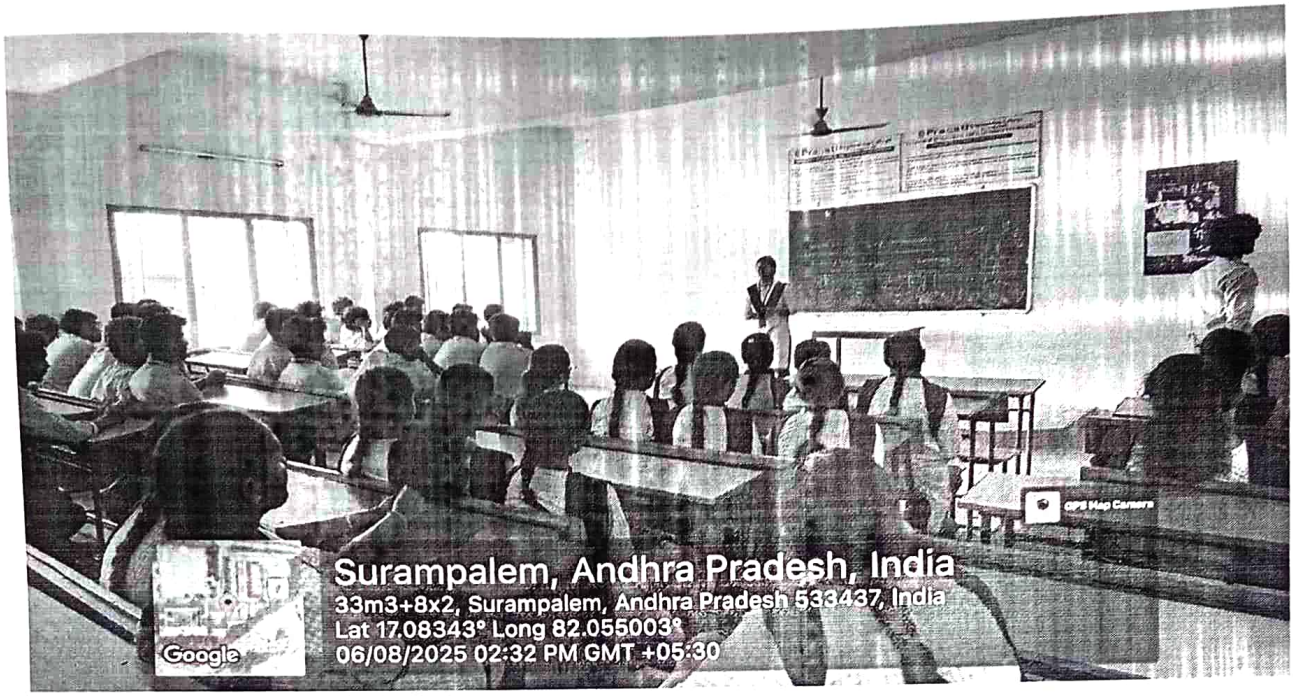

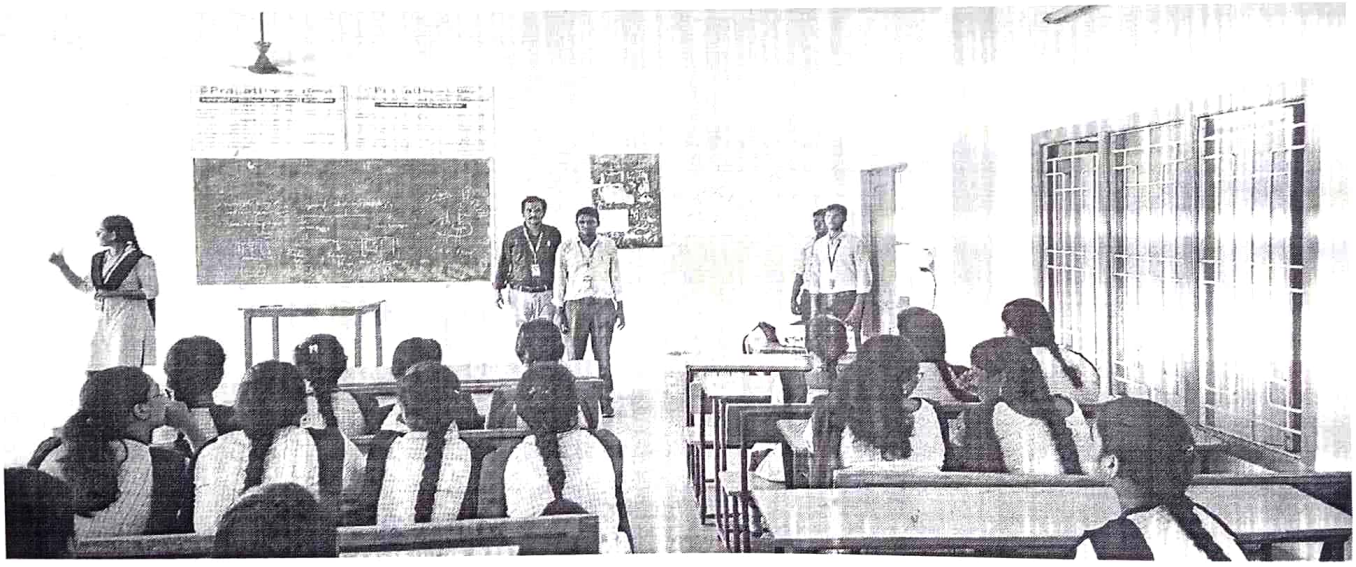

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ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT

ELECTRIC VEHICLES CLUB

Title of the Event: cell to wheel : EV design basics

Event No: 2

Speaker / Resource Person of Event: Sai teja.N & SK. Shamshad

Date of the Event: 6/8/25 **Time:** 2pm to 4pm **Venu:** MS 14 (core block)

List of Students Attended 58

S.NO	ROLL NO	NAME	BRANCH	YEAR	SIGNATURE
1	24A31A0204	Ch. Mohana	EEE	II	Mohana.
2	24A31A0210	K. Vijaya Kumari	EEE	II	Vijaya
3.	24A31A0212	P.V.S. Varshita	EEE	II	Varshita.
4	24A31A0216	S. Geethanjali	EEE	II	Geetha
5.	24A31A0203	Ch. Varshini	EEE	II	varshini
6.	24A31A0213	P. Bhanu Sri	EEE	II	P. BhanuSri
7.	25A35A0201	P. keerthana	EEE	II	P. keerthana
8	24A31A0206	G. Anusri	EEE	II	G Anusri
9.	24A31A0202	B. Hima Sahitya	EEE	II	B. H. Sahitya
10.	24A31A0218	V. Suma	EEE	II	Suma
11.	24A31A0219	V. Lasya Ranjana	EEE	II	lasya
12.	24A31A0201	A. Preethi	EEE	II	Preethi
13.	24A31A0205	Ch. Lakshmi Sri	EEE	II	Laksh
14.	24A31A0208	J. Komali	EEE	II	Komali
15.	24A31A0215	P. Satya Sri	EEE	II	Satya
16.	24A31A0209	K. Satya Roja	EEE	II	Satya Roja.
17.	24A31A0211	M. Pragynaa	EEE	II	Pragynaa.
18	24A31A0214	P. Rohitha	EEE	II	Rohitha
19	24A31A0246	N. Mohan	EEE	II	Mohan
20.	24A31A0227	Ch. Mohan	EEE	II	Ch. Mohan

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S.NO	ROLL NO	NAME	BRANCH	YEAR	SIGNATURE
21	24A31A0242	R.Sravan	EEE	IInd	R.Sravan
22	24A31A0239	K.K.S.S.V.Raju	EEE	IInd	K.Raju
23	24A31A0241	K.S.S.N.G.Sri Surya	EEE	IInd	K.S.S.N.G.S.Surya
24	24A31A0247	N.J.S.Santosh	EEE	IInd	N.J.S.Santosh
25	24A31A0244	M.Rajkumar	EEE	IInd	M.Raj
26	24A31A0259	V.N.S.Santosh kundan	EEE	IInd	V.N.S.S.kundan
27	24A31A0252	P.Hemanth	EEE	IInd	P.Hemanth
28	25A35A0205	N.Raja	EEE	IInd	N.Raja
29	24A31A0234	T.Avinash	EEE	IInd	T.Avinash
30	24A31A0226	B.S.V.S.Vinay	EEE	IInd	B.vinay
31	24A31A0223	B.Anil Kumar	EEE	IInd	B.Anil Kumar
32	24A31A0256	K.Nishanth	EEE	IInd	K.Nishanth
33	24A31A0255	R.IMMY	EEE	IInd	R.IMMY
34	25A35A0204	K.lokesh	EEE	IInd	K.lokesh
35	24A31A0253	P.Shyam	EEE	IInd	P.Shyam
36	24A31A0248	M.vijay Kumar	EEE	IInd	M.vijay Kumar
37	24A31A0231	G.Bharga V Sai	EEE	IInd	G.Bhargav
38	24A31A0240	M.Vinay Reddy	EEE	IInd	M.Vinay Reddy
39	24A31A0229	D.Veerababu	EEE	IInd	D.Veerababu
40	24A31A0224	B.Durgesh	EEE	IInd	B.Durgesh
41	24A31A0243	M.Vamsi	EEE	IInd	M.Vamsi
42	24A31A0233	I.Jaswanth	EEE	IInd	I.Jaswanth
43	25A35A0203	K.Naveendhar	EEE	IInd	K.Naveendhar
44	25A35A0209	V.Vijay Kumar	EEE	IInd	V.Vijay Kumar
45	25A31A0249	P.Seru	EEE	IInd	P.Seru
46	25A35A0208	S.Rajagopal Varma	EEE	2nd	S.Rajagopal Varma

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Ph: 08852 – 252233, 34. Website: www.pragati.ac.in

Learning is Supreme Duty

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Name of the Event: call to wheel : EV design basics **Date :** 6/8/25

S.NO	ROLL NUMBER	NAME OF THE STUDENT	SIGNATURE
1.	25A35A0207	R. N. D. Shankar	R. Shankar.
2.	25A35A0210	Y. S. S. Vivek	Y. S. Sovivek
3	24A31A0230	D. Aoshith	D. Aoshith
4	24A31A0258	V. chaitanya	V. Chaitanya
5	24A31A0225	B. Sailokesh	B. Sailokesh
6	24A31A0237	K. Surya deep	Suryadeep
7.	24A31A0257	S. Jagan	S. Jagan
8.	24A31A0222	B. Praveen	B. Praveen
9.	24A31A0221	B - Roopchandh	Roopchdh. B
10.	24A31A0228	D. Sai Pavan tejesh	D. SP tejesh
11.	24A31A0251	P. Surya teja	P. Surya
12.	24A31A0260	Y. Teja	Y. Teja.
13			

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FEED BACK AND REMARKS SHEET

* Today's session was really amazing. We learnt the basic components of EV vehicles, types of EV vehicles and many which is related to our departments.

~~In this Section~~

* Todays Session was proposed with full knowledge in EV's. & think ~~prototype~~ prototype of EV's should be presented to understand the mechanism and Analysis better.
* So by adding working prototype we can get a more practical knowledge in EV's. Animated prototype many present.
* this session was good and Explains very well. But slightly Fast, and take more examples to understand easily.
* In this session, I have to learnt new topics about electrical vehicles.
* Today we all are learn about EV ~~we~~ cars. the explanation is nice & expressive. we want more information about this in next section. I hope you will give more information thank you for sharing avalubl information
* Use better visualizations for the ppt for better understanding.

Event Faculty Coordinator

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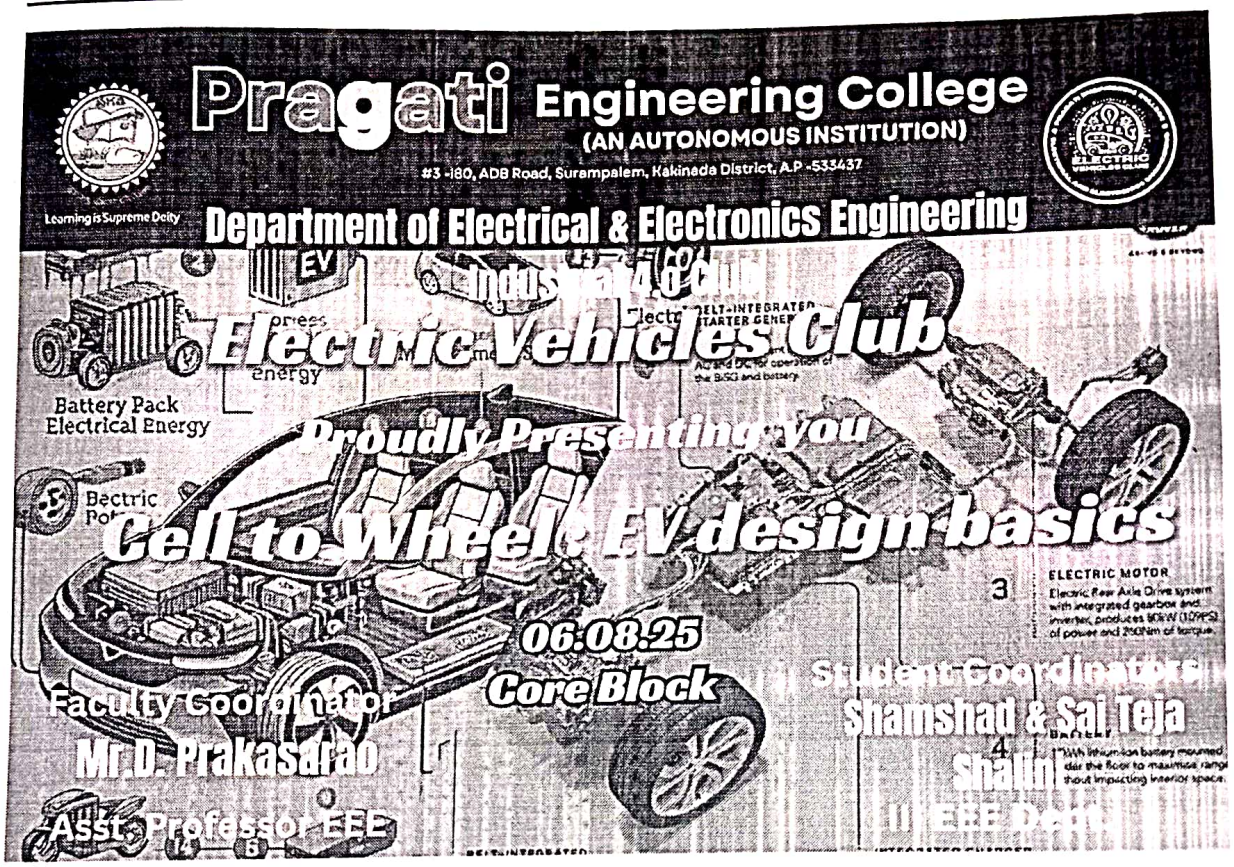

Faculty Coordinator

IQAC Coordinator

HOD - EEE

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