PRAGATI ENGINEERING COLLEGE

(Autonomous)

Learning is Supreme Duty

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Date: 16-04-2026

CIRCULAR

It is to inform to all the students of B.Tech II, III & IV Year that the Student Chapter **Institution of Engineers (India)** Department of Electrical & Electronics Engineering is Organizing Seminar on "**Importance of CHARGING INFRASTRUCTURES**" on 18-04-2026. In this regard All the interested students participate actively.

Faculty coordinator: Mr. S.NANI BABU, Asst professor

Student Coordinators: 24A35A0208-E.S.S.KIRAN

Venue : MS-10 (CORE BLOCK)
Date & Time : 18-04-2026 @ 2:00 PM

HOD-EEE 16/4/26

PRAGATI ENGINEERING COLLEGE EEE-HOD SURAMPALEM

Copy to:

1) Circulate among students and staff
2) Department Notice Board
3) Department File
4) Principal for Information

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

A.Y:2025-26 Date: 20-03-2026

REPORT ON

IMPORTANCE OF CHARGING INFRASTRUCTURES

- **Introduction**

The rapid growth of electric vehicles (EVs) has created a strong demand for efficient and reliable charging infrastructure. Charging infrastructure refers to the network of charging stations and supporting systems required to recharge electric vehicles. It plays a crucial role in enabling the transition from conventional fossil fuel-based transportation to sustainable and eco-friendly mobility solutions.

Need for Charging Infrastructure

The adoption of electric vehicles depends largely on the availability and accessibility of charging stations. Unlike traditional fuel stations, EV charging requires time and proper planning. Therefore, a well-developed charging infrastructure is essential to support:

- Increasing number of EV users
- Long-distance travel convenience
- Reduction of range anxiety
- Urban and rural connectivity

Types of Charging Infrastructure

1. Home Charging

- Installed in residential areas
- Suitable for overnight charging
- Cost-effective and convenient

2. Public Charging Stations

- Located in public places such as malls, highways, and parking areas
- Essential for long-distance travel
- Includes slow, fast, and rapid chargers

3. Fast Charging Stations

- Provides high power output
- Reduces charging time significantly
- Ideal for commercial and highway usage

Wireless Charging (Emerging Technology)

- Uses electromagnetic fields
- Provides convenience without physical connections

- Still under development

Importance of Charging Infrastructure

1. Promotes EV Adoption

A robust charging network encourages more people to switch to electric vehicles by eliminating concerns about battery depletion.

2. Reduces Range Anxiety

Availability of charging stations at regular intervals ensures drivers can travel long distances without fear of running out of charge.

3. Supports Environmental Sustainability

Charging infrastructure helps reduce dependence on fossil fuels and lowers greenhouse gas emissions, contributing to a cleaner environment.

4. Enhances Economic Growth

- Creates job opportunities in installation, maintenance, and operation
- Encourages investments in green technologies
- Boosts the energy and transportation sectors

5. Enables Smart Grid Integration

- Modern charging systems can be integrated with smart grids, allowing efficient energy management, load balancing, and use of renewable energy sources.

Challenges in Charging Infrastructure

- High initial installation cost
- Lack of standardization
- Grid capacity limitations
- Limited availability in rural areas
- Long charging time compared to fuel refilling

Government Initiatives and Policies

Governments worldwide are promoting EV charging infrastructure through subsidies, incentives, and policies. In India, initiatives such as FAME (Faster Adoption and Manufacturing of Electric Vehicles) aim to expand EV adoption and infrastructure development.

Future Trends

- Ultra-fast charging technologies
- Expansion of charging networks in rural areas
- Integration with renewable energy sources (solar/wind)
- Development of battery swapping stations
- Smart and IoT-enabled charging systems

Conclusion

Charging infrastructure is the backbone of the electric vehicle ecosystem. Its development is essential for the widespread adoption of EVs and the transition to sustainable transportation. By addressing current challenges and investing in advanced technologies, a reliable and efficient charging network can be established, ensuring a greener and more energy-efficient future.

Coordinators:

- **Faculty Coordinator:** Mr. S.NANI BABU, Asst professor
- **Student Coordinator:** 24A35A0208-E.S.S.KIRAN

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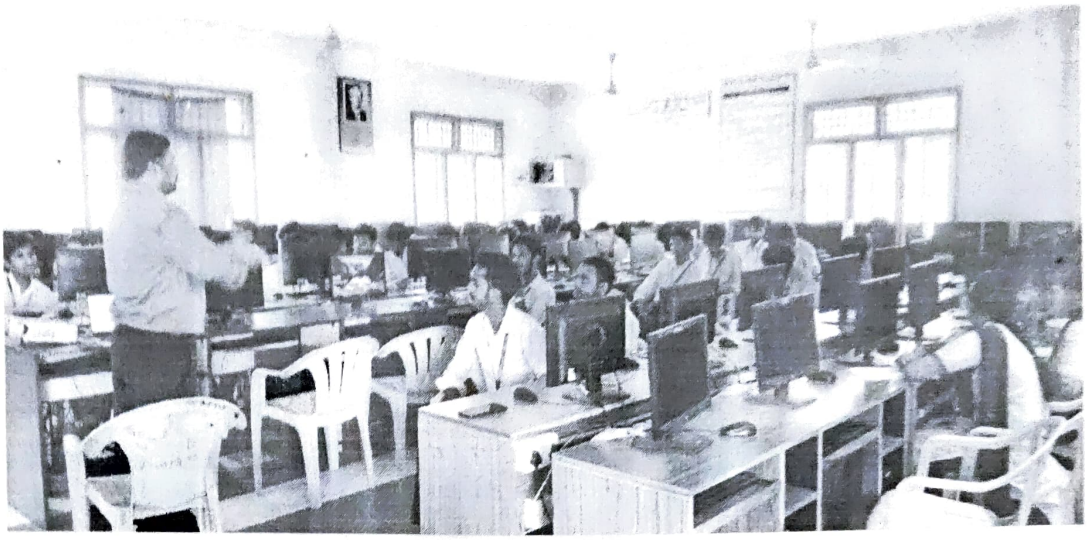

A total of 48 students participated enthusiastically. The event encouraged peer learning, team spirit, and subject confidence among students.

Date &Time of Event : 18-03-2026 @ 2:00 PM
Venue : MS-10(CORE BLOCK)

S. Nani

IE(I) INCHARGE

D. Murthy

IQAC COORDINATOR

20/3/26

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Name of the Event: Embedded of CHARGING INFRA STRUCTURE **Date:** 18-03-2026

S.NO	ROLL NUMBER	NAME OF THE STUDENT	STATUS
1	23A31A0229	E. Hemavaneela	E.Hemavaneela
2	24A35A0208	B.S.S. Kiran	B.S.S.Kiran
3	23A31A0242	M. Sivajikapu	M. Sivaji
4	23A31A0256	V. V.kag Vardhan	V.V.kagvardhan
5	23A31A0243	M. Kiran.	M.Kiran
6	23A31A0259	Y. H. H. Satyanarayana.	Y.H.H.Satyanarayana
7	23A31A0254	P. Surya manikanta	Surya
8	23A31A0227	B. HemaSundar	B.HemaSundar
9	24A35A0206	D. Dhanna Teja	Dhanna Teja
10	24A35A0211	M. Dorababu	M.Dorababu
11	24A35A0204	B. Pranodh	B.Pranodh
12	23A31A0244	M. Kanthik	M.Kanthik
13	23A31A0246	N. Murthy	N.Murthy
14	23A31A0248	P. Chandra sekhar	P.Chandra sekhar
15	23A31A0250	P. Sekhar	P.Sekhar
16	23A31A0230	G. Balakar	G.Balakar
17	23A31A0239	M. Sudhakar	M.Sudhakar
18	23A31A0255	S. Teja	S.Teja

19	23A31A0241	M. Murali Karitha	M. Murali
20	23A31A0251	P. Mokshe	P. Mokshe
21	23A31A0232	K. Surya Teja	K. Surya
22	24A35A0810	K.S.S. Narendra.	K.S.S.
23	23A31A0236	K.V.S. Achyuth	K.V.S. Achyuth
24	23A31A0240	M. Varsi	M. Varsi
25	23A1A0257	Y. Abishek	Y. Abishek
26	23A31A0245	N. Sai Teja Yugesh	N. Sai Teja
27	23A31A0235	K. Koushik	K. Koushik
28	23A31A0238	M. Ram	M. Ram
29	23A31A0260	A.S. ganesh.	A.S. ganesh
30	23A31A0218	R Ch. Sahithi	R Ch. Sahithi
31	24A35A0202	S K. Shamshad	Shamshad
32	23A31A0217	M.B. Saividya	M. Saividya
33	23A31A0205	K. Lalitha	K. Lalitha
34	23A31A0222	Vyshnavika	Vyshnavika
	23A31A0207	K. Sumathi	K. Sumathi
	23A31A0209	M. Pooja	M. Pooja
	23A31A0210	M. Uma	M. Uma
	23A31A0223	Y. Trihasha	Y. Trihasha

IQAC COORDINATOR

HOD-EEE

20/8/24

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Name of the Event: Infrastructure of "CHARGING INFRASTRUCTURE" **Date:** 12-01-2026

S.NO	ROLL NUMBER	NAME OF THE STUDENT	STATUS
1.	24A31A0220	B. Reddy	Reddy
2	24A31A0223	B. Anil Kumar	B. Anil
3	24A31A0232	Gr. Vinay Reddy	Gr. Vinay
4.	24A31A0233	J. S. Mouli	J. Mouli
5.	24A31A0251	P. Sanyasi	P. Sanyasi
6.	24A31A0226	B. S. V. S. Vinay	B. Vinay
7.	24A31A0234	J. AVINASH	Avinash
8.	24A31A0230	D. Lokesh	D. Lokesh
9	24A31A0225	B. Sailokesh	B. Sailokesh
10.	23A35A0202	Chandeep	Chandeep
11	24A31A0258	V. Chaitanya	Chaitanya

20/1/26

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