J.B. INSTITUTE OF ENGINEERING & TECHNOLOGY

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Bhaskar Nagar, Moinabad Mandal, Hyderabad, Telangana – 500075

Date:27/01/2026

DEPARTMENT OF MECHANICAL ENGINEERING

Industrial Visit to Engineering Staff College of India (ESCI)

on

"Electric Vehicle (EV) Battery Sustainability Engineer Programme"

1. Event Title: Workshop **on "Electric Vehicle (EV) Battery Sustainability Engineer Programme"**

2. Event Date: 27th January 2026

3. Event Duration: 10:00 AM to 04:00 PM

4. Event Venue: Engineering Staff College of India (ESCI) Campus
Gachibowli, Hyderabad – 500032

6. About the Organization:

The Engineering Staff College of India (ESCI) is an approved training centre under:

- National Council for Vocational Education and Training (NCVET)
- Ministry of Skill Development & Entrepreneurship
- Certification awarded by The Institution of Engineers (India)

The programme is mapped to:

- NSQF Level 6
- National Credit Framework (NCF)

The visit focused on the Job Role: **Electric Vehicle (EV) Battery Sustainability Engineer**

7. Number of Participants: 45 persons

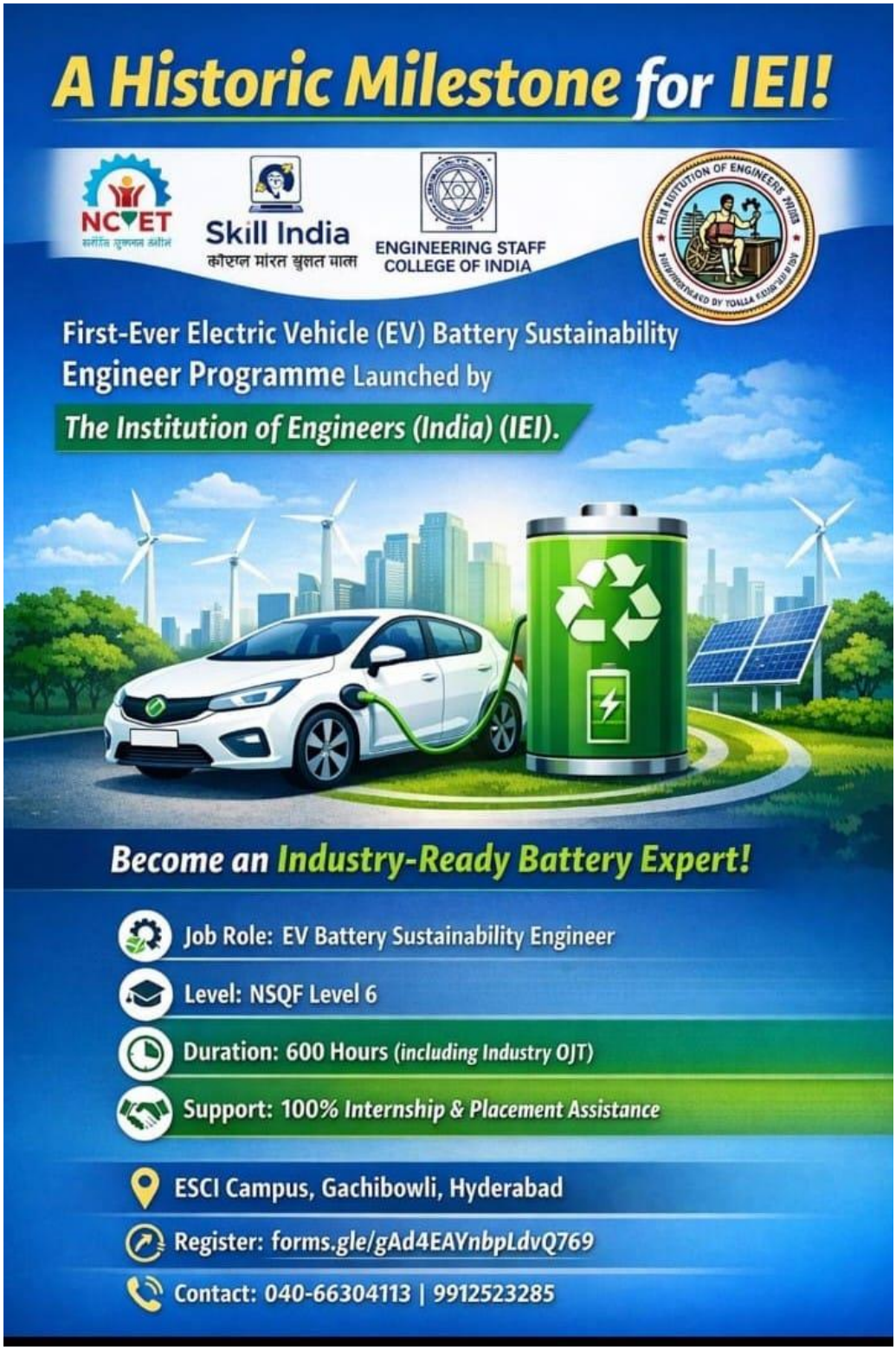
8. Faculty Coordinators:

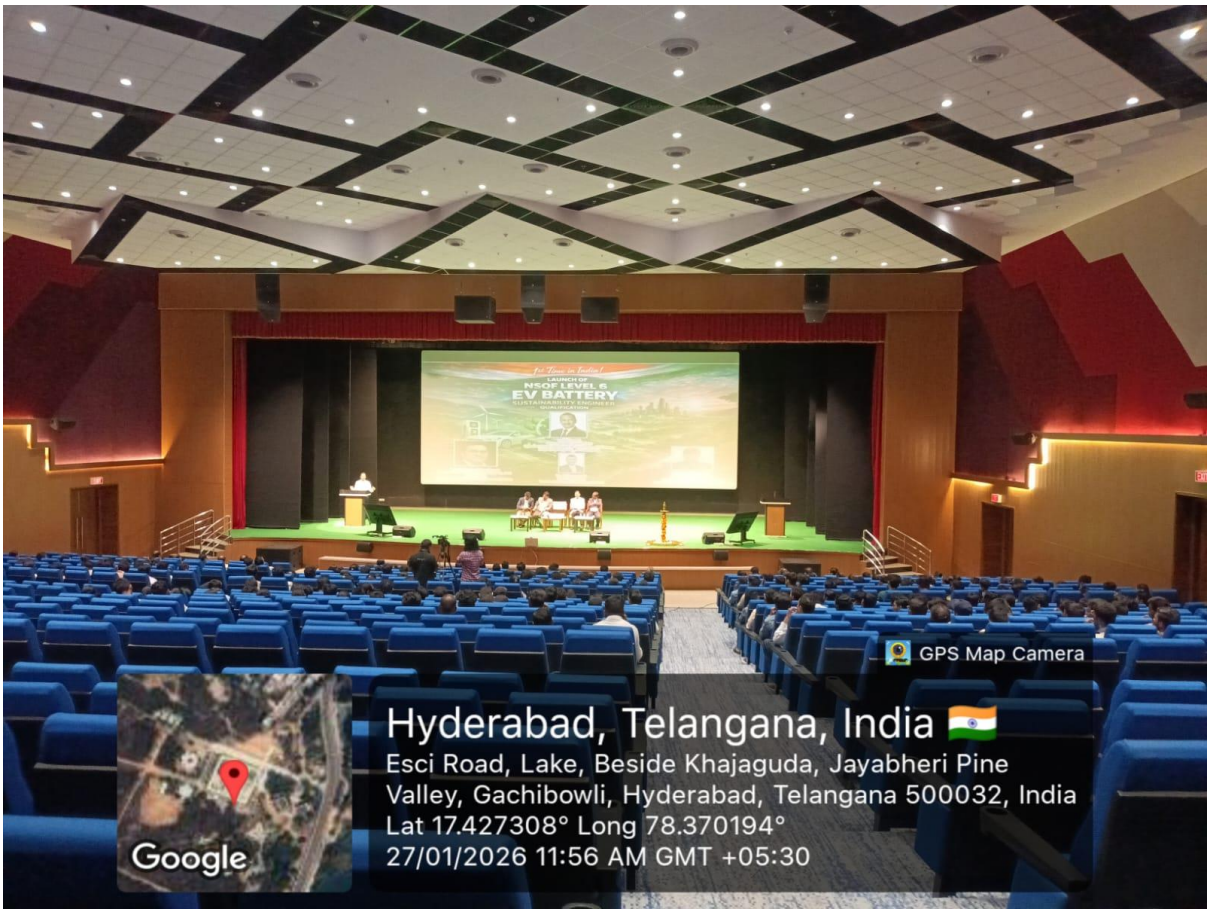
Dr. Anoop Kumar
HOD – Mechanical Engineering, JBIET

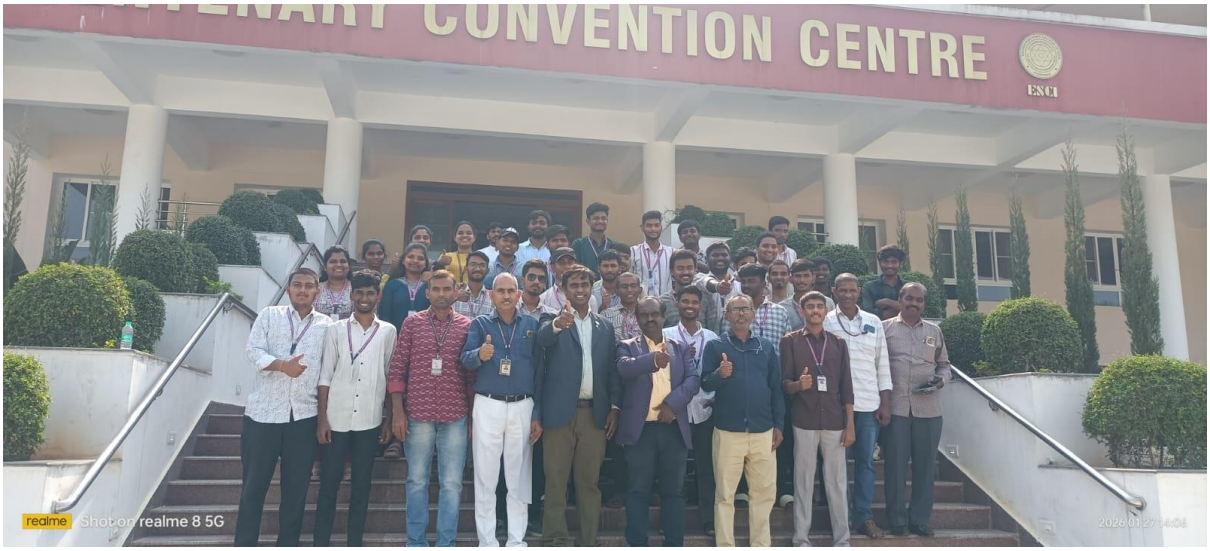
Mr. J. Nagaraju – Assistant Professor

9. Event Photos:

Banner:







10. Overall Summary:

The Department of Mechanical Engineering organized an Industrial Visit to Engineering Staff College of India (ESCI) to provide students with real-time exposure to the rapidly growing EV battery sustainability and recycling sector.The visit aimed to enhance students' understanding of sustainable engineering practices in the electric vehicle ecosystem.

Objectives of the Industrial Visit:

1. To provide industry exposure in EV battery recycling and sustainability practices.
2. To understand circular economy concepts in green mobility.
3. To learn battery safety and hazardous material handling procedures.
4. To explore career opportunities in EV and sustainability engineering fields.
5. To bridge the gap between classroom learning and industrial practices.

Programme Overview Observed:

The students were briefed about the structured 600-hour training programme consisting of:

- 150 Hours Theory
- 330 Hours Practical
- 120 Hours Industry On-the-Job Training (OJT)
- 20 Credits under National Credit Framework

The programme emphasizes hands-on practical training aligned with industry requirements.

Key Learning Areas Covered During the Visit:

1. Battery Types & Technologies:

- Lithium-ion battery design and structure
- Battery chemistry (LFP, NMC, etc.)
- Battery Management Systems (BMS)

2. EV Battery Recycling Fundamentals:

- Battery life cycle stages
- Collection and segregation
- Mechanical and chemical recycling methods

3. Battery Safety & Environmental Practices:

- Thermal runaway prevention
- Safe battery dismantling
- Environmental compliance regulations

4. Hazardous Materials Handling & Disposal:

- Waste classification
- Safe disposal techniques
- Pollution control measures

5. Post-Recycling Quality Check & Carbon Credit Calculation:

- Testing of recovered materials
- Sustainability metrics
- Carbon footprint assessment

11. Practical Exposure:

During the visit, students observed:

- Battery dismantling units
- Recycling process flow
- Laboratory testing equipment
- Personal protective equipment (PPE) usage
- Industry safety protocols

The experts demonstrated real-time process flow and explained safety norms followed in battery recycling industries.

12. Career Opportunities Explained:

The experts highlighted that EV battery sustainability is a high-demand job role due to:

- Growth in electric vehicle manufacturing
- Government initiatives for green mobility
- Need for sustainable battery disposal

Potential job roles include:

- EV Battery Sustainability Engineer
- Battery Recycling Engineer
- Environmental Compliance Officer
- Quality Control Engineer
- Green Mobility Specialist

The students were informed about internship and placement assistance provided after successful completion of the training programme.

13. Outcome of the Industrial Visit:

The industrial visit was highly informative and beneficial. The key outcomes include:

1. Students gained knowledge about EV battery recycling processes.
2. Awareness about sustainability and environmental engineering increased.
3. Students understood industrial safety standards.
4. Career opportunities in EV and green mobility sectors were explored.
5. Practical exposure enhanced students' technical understanding beyond textbooks.

14. Conclusion:

The Industrial Visit to Engineering Staff College of India (ESCI), Gachibowli, Hyderabad provided valuable industrial exposure to students in the field of Electric Vehicle Battery Sustainability and Recycling. The visit successfully enhanced awareness about sustainable engineering practices, circular economy concepts, hazardous waste management, and emerging career opportunities in the EV sector. Overall, the industrial visit was interactive, educational, and aligned with industry requirements, greatly benefiting Mechanical Engineering students.