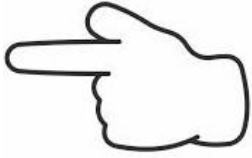


**Inviting Students, Faculties, Researchers, Professionals, Entrepreneurs, Engineers**



[shorturl.at/bJN04](http://shorturl.at/bJN04)



**Register Here**

### Registration Fee

MITS Student/Staff @ INR 400 /-

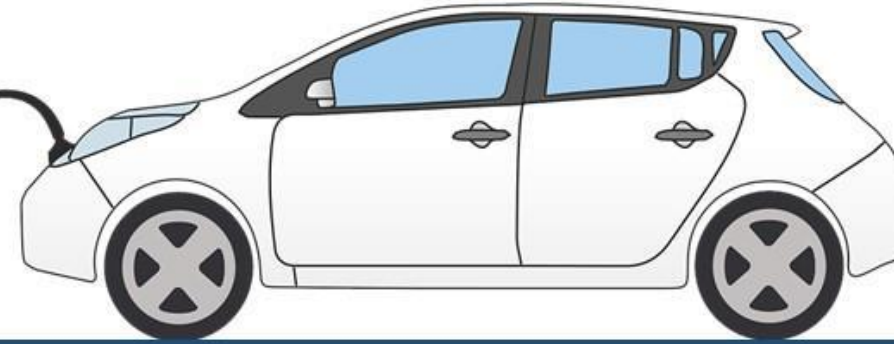
### Outsider

- Student @ INR 800 /-
- Faculty/Researcher/Professional/Entrepreneur/Engineer @ INR 1,000 /-



**3<sup>rd</sup> to 5<sup>th</sup> Nov 2022  
10 AM to 5 PM IST**

\*Certificates will be provided.



**Organized by Department of EEE in association with ISTE Student Chapter**

Coordinator

**Dr. P R Mohanty**  
Assoc. Prof.

Convener

**Dr. A V Pavan Kumar**  
Prof. & HoD

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# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE

(UGC-AUTONOMOUS INSTITUTION)



ESTD: 1998

[www.mits.ac.in](http://www.mits.ac.in)

Madanapalle-517325, Annamaya Dist., Andhra Pradesh



**Contacts Details**



9438526974, 9100904908



[pratapranjanm@mits.ac.in](mailto:pratapranjanm@mits.ac.in)



# MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE (UGC-AUTONOMOUS)

## Three-Day On-Campus Skill Development Program (Hands-on)

# on Conventional Bike Retrofitting

3<sup>rd</sup> – 5<sup>th</sup> Nov 2022

Organized by the Department of EEE in association with ISTE Student Chapter



### Outcomes

- Understand Current Automobile Sector
- Understand Current E-Mobility Scenario in India
- Be capable of confidently applying concepts related to Electric Vehicle Design
- Be capable of confidently applying concepts related to Electric Vehicle Development
- Understand Industrial practical approach for Electrical Vehicle Retrofitting

### UNIT – 1: Introduction to Automobiles & Electric Vehicles

- Transportation Industry Overview
- Challenges for Mobility Sector & Future of Mobility in India
- National Electric Mobility Mission Plan & FAME Program
- E-Mobility Evolution
- EVs & HEVs
- Electrification of Mobility: Technological Approach
- Global EV Market & Indian EV Market Segmentation
- Key Market Players of Indian EV Industry
- Key driving factors for EVs
- Supply Chain for EV Industry
- EV Ecosystem & EV Business Propositions

### Syllabus

### UNIT – 2: Motor, Battery & Controller

- Motor- Definition, Types, Power, Torque, Selection Procedure
- Battery- Types, Chemistries, Power, Selection Procedure
- Controller- Significance & Selection Procedure
- Battery Charger and Battery System
- Battery Management System
- Motor-Battery-Controller Wiring

### UNIT – 3: Electrification of Mobility

- New EVs
- Retrofitting
- Charging Technologies
- Innovations in EV
- Testing of an EV
- Safety Measures



Date	Session-1 10 AM – 1 PM		Session- 5 03 PM – 05 PM	
	Topic	Lecture Type	Topic	Lecture Type
03.11.22 Thursday	<ul style="list-style-type: none"> <li>Present Automobile Industry,</li> <li>Transportation Industry Overview,</li> <li>Challenges for Mobility Sector,</li> <li>Future of Mobility in India,</li> <li>E-Mobility Evolution,</li> <li>EVs &amp; HEVs,</li> <li>New EV vs Retrofitting</li> </ul>	Concept Learning + Video Demonstration + Activity	<ul style="list-style-type: none"> <li>Demonstration of ICE Vehicle,</li> <li>Exploration of ICE Power Train of Bike,</li> <li>Framing Retrofitting Action Plan,</li> <li>Sketching Electrical System Layout,</li> <li>Removal of Engine</li> </ul>	Activity + Hands on Learning
04.11.22 Friday	<ul style="list-style-type: none"> <li>Global EV Market,</li> <li>EV Ecosystem,</li> <li>EV Business Propositions</li> <li>EV Power Train,</li> <li>Motor- Definition, Principle, Construction, Calculation &amp; Selection,</li> <li>Motor Parameters (Power, RPM, Torque),</li> <li>AC &amp; DC Motors for EVs,</li> <li>Controllers for Electric Vehicles</li> </ul>	Concept Learning + Video Demonstration + Activity	<ul style="list-style-type: none"> <li>Measurement of Alignments</li> <li>Tuning Driver Ergonomics</li> <li>Tuning Seating Arrangements</li> <li>Removal of Fuel Tank, Pump &amp;&amp; Lines</li> <li>Figuring out Mounting Points</li> <li>Fabrication of Mountings</li> </ul>	Activity + Hands on Learning
05.11.22 Saturday	<ul style="list-style-type: none"> <li>Converters for EVs</li> <li>Battery- Types, Chemistries, Power, Selection Procedure</li> <li>Battery Charger and Battery System</li> <li>Battery Management System</li> <li>Charging Stations</li> <li>Innovations</li> <li>Safety measures</li> </ul>	Concept Learning + Video Demonstration + Activity	<ul style="list-style-type: none"> <li>Electrical Wiring</li> <li>Testing of Motor, Battery &amp; Controller</li> <li>Mounting of Battery, Motor &amp; Controller</li> <li>Connection for Auxiliary System</li> <li>Testing of Retrofitting EV</li> <li>Feedback &amp; Assessment</li> </ul>	Activity + Hands on Learning



9438526974, 9100904908



pratapranjanm@mits.ac.in

**Contacts Details**

[www.mits.ac.in](http://www.mits.ac.in)



Madanapalle Institute of Technology & Science  
(UGC Autonomous),  
Angallu, Madanapalle, Chittor, AP, INDIA-517325