



Certificate Course in Electric Vehicle Service & Maintenance



**IIT Palakkad
Technology IHub Foundation**
Driving automation for energy and safety

Programme Overview

The electric vehicle (EV) revolution is reshaping the automotive industry, creating an urgent need for skilled technicians to support this fast-growing sector. With EVs becoming the cornerstone of sustainable transportation, professionals trained in diagnostics, maintenance, and safety practices are in high demand.

To address this need, **IIT Palakkad Technology IHub Foundation (IPTIF)**, in collaboration with **Devise Electronics Pvt. Ltd., Pune**, and **Little Flower Engineering Institute (LFEI), Kochi**, offers an intensive, hands-on Career Training Programme in Electric Vehicle (EV) Service & Maintenance preparing the next generation of EV technicians.

This **360-hour, offline, hands-on training programme** is carefully designed to prepare aspiring professionals for a rewarding career as EV technicians. The curriculum combines a strong theoretical foundation with extensive practical exposure, covering key areas such as EV architecture, diagnostics, troubleshooting, high-voltage safety, and battery management.

By the end of the training, participants will not only acquire industry-relevant skills but also earn **dual certification (NSDC + IPTIF)** ensuring both national recognition and industry validation of their expertise. With this certification, learners gain an entry point into one of India's fastest-growing industries, along with the stability and long-term growth opportunities it offers.

What You Will Learn

- ▶ Build a strong foundation in EV architecture and components.
- ▶ Follow high-voltage safety standards in workshop environments.
- ▶ Develop hands-on skills in diagnostic tools and troubleshooting.
- ▶ Acquire proficiency in EV wiring and battery handling practices.
- ▶ Apply problem-solving skills aligned with industry requirements.
- ▶ Improve employability in EV service and maintenance roles.

Course Details

Mode: Offline (Hands-On Practical + Theory)

Duration: 3 Months

Eligibility: 10th (SSC)/12th (HSC)/Vocational Higher Secondary/ITI/Diploma / B.Tech / B.E /Any Graduate passionate about starting a career in EV service

Key Modules

This 360-hour programme blends theory and hands-on practical training, covering everything from automobile basics to advanced EV systems. Learners will progress step by step into the EV domain through the following modules:



Automotive Basics

Build strong fundamentals by understanding vehicle history, types, internal combustion engines, transmission, suspension, steering, and braking systems.



Automotive Electrical Systems

Learn about batteries, ignition, charging, lighting, wiring, connectors, and sensors to ensure safe and reliable operations.



Electronics & Components

Gain knowledge of resistors, capacitors, diodes, transistors, digital/analog electronics, and PCB design basics for automotive applications.



Automotive Electronics Integration

Understand the role of Electronic Control Units (ECUs), CAN protocols, and communication systems in modern vehicles.



Hybrid & EV Fundamentals

Explore EV and hybrid architectures, powertrains, regenerative braking, charging systems, and thermal management.



High Voltage Safety & Battery Pack Handling

Master safety practices, battery dismantling/refitting, cooling systems, and compliance with EV safety standards.



Battery Management System (BMS) & Motor Systems

Dive deep into BMS functions, sensing, monitoring, balancing, and learn diagnostics and handling of EV motors.



Controller Modules & Diagnostics

Study motor controllers, vehicle control units, onboard diagnostics (OBD-II), and practice real-world EV fault simulations.

Perks of the Programme

Career Guidance

- One-on-one mentoring on career pathways in the EV service and maintenance sector.
- Resume building and interview preparation sessions.

Industry Exposure

- Learn From Industry Experts with 10 Years of experience
- Direct exposure to a wide EV Ecosystem

Placement Assistance

- Support in securing placements with leading automotive companies.

Certification

- Certificate issued by the National Skill Development Corporation (NSDC)
- Co-Certification from IIT Palakkad Technology IHub Foundation (IPTIF) and Training Partners

About IPTIF

IIT Palakkad Technology IHub Foundation (IPTIF): Technology Innovation Hub (TIH) of IIT Palakkad, focusing on research, development, and innovation for development of new technology products in the Cyber-Physical Systems (CPS) domain.

IPTIF promotes innovation in emerging technologies and provides an ecosystem for technology product development, skilled human resource development, and tech-led entrepreneurship development.

Training Partners

Devise Electronics Pvt. Ltd., Pune – a technology-driven company engaged in the research, design, and development of advanced electronic systems and solutions, with a strong focus on the Electric Vehicle (EV) ecosystem and industrial automation.

Little Flower Engineering Institute (LFEI), a premier technical training institution with specialized facilities for skill development and hands-on learning in Kalamassery, Kochi.



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