Maharaja Surajmal Institute of Technology, New Delhi

Department of Electrical and Electronics Engineering

Industrial Visit Report

The Department of Electrical & Electronics Engineering (EEE), Maharaja Surajmal Institute of Technology (MSIT), in collaboration with the IEEE MSIT Student Branch and IEEE PES-IAS Chapter, organized an industrial visit to the Centre of Excellence for Electric Vehicles & Related Technologies, Delhi Technological University (DTU), on 10th September 2026. A total of 41 students from the 3rd and 5th semesters of EEE participated. The visit was organized under the guidance of Dr. Jyoti Jain (Associate Prof. EEE, MSIT) and Dr. Shilpam Malik (Assistant Prof., EEE, MSIT), with technical mentorship from Prof. Vinod Kumar Yadav and Prof. Uma Nangia, Department of Electrical Engineering, DTU. The visit provided students with valuable exposure to the latest developments in electric vehicle technology, power electronics, energy storage, and renewable energy integration. The experts discussed the evolution of electric vehicles, EV powertrain architectures, ICE-to-EV retrofitting, Permanent Magnet Synchronous Motors (PMSM), Battery Management Systems (BMS), power electronic converters, and solar PV integration. Students observed demonstrations of PMSM drives, inverter switching and control strategies, multi-stage DC-DC converters, gate driver circuits, DC-link capacitor banks, and real-time waveform analysis using Digital Storage Oscilloscopes.





A major highlight was the demonstration of the Chroma Model 17020 Regenerative Battery Pack Test System, through which students learned about automated battery charge/discharge testing, State of Charge (SoC), State of Health (SoH), thermal monitoring, and BMS safety mechanisms. The visit also included discussions on EV charging infrastructure, grid impacts, harmonic management, bidirectional power flow through V2G/G2V, peak demand management, and integration of solar PV and battery storage with EV charging systems. The visit helped students connect their academic knowledge of Electric Drives, Power Electronics, Power Systems, and Energy Storage with practical applications in electric mobility. Overall, the visit enhanced students' understanding of EV powertrain technologies, motor drives, power converters, battery testing, BMS, and smart charging systems, providing them with meaningful practical exposure to emerging electric mobility technologies.