

The Electrical and Electronics Engineering Department of MSEC commenced in the year 2003. Under the erudite leadership of **Dr.R.MAYA, Head of the Department** along with the efficient faculty members and excellent students, the department has won laurels to the college.

The department lays emphasis on equipping its students with conceptual knowledge and comprehensive technical training to meet the requirements of the industries. The college gives importance for practical training in latest developments & effective student participation in many activities. The events are planned & organized in a manner to improve the overall personality of the students in various fronts.

The academic year 2024-2025 has seen constructive developments through the faculty-student project coordination. The department's constant motivation to address the imminent crisis like the climate change had always inspired the students to forge ways to build alternate fuel based automobiles. The effort resulted in the design and implementation of an electric cycle by one of the passed-out batch of the department. The whole project was conceived and built by the faculty and the students of the department.

In line with the same, the power generation through alternate energy sources were also taken in cognizance and one such effort resulted in the design of off-shore micro wave energy generator for powering surveillance and navigation. The project was inspired by the idea gathered from the Ocean Technology department of IIT Madras. The first year of the project duration was spent in the design of a linear generator model for harnessing the wave energy and the second year resulted in the design and implementation of power conditioning unit for the generator. The work is consolidated and to be presented to the Professors at IIT Madras for further improvisations.

A thoughtful representation of solar PV array to mitigate the partial shading problem faced by the solar array is addressed through an experiment that was carried out for the past three academic years. The team designed a smart PV drawing inspiration from the FPGA fabric topology to address the partial shading issue. The project has evolved to maximise the optimization expected from a robust design over the three years and is to be patented in this current academic year.

An attempt to modernise the agriculture and to bring an IoT solution to it, has been on a constant rise through out the world. The department has taken strenuous effort in designing a ground bot, drawing inspiration from the EELS in the moons of Saturn, to access the health of the agricultural land.

Another project worth mentioning is the solution focussed by the faculty-student partnership is to address the traffic congestion in a thickly populated city like Chennai. The Department has designed as App based solution to the problem and is in the final stage of completion. There is also an attempt to orient the usage of electric vehicles and the charging infrastructure available in the city. The work is underway and it taking a constructive trajectory to its successful implementation.

This sums up the focus of the department of Electrical and Electronics Engineering that aims at building a strong personality among the young minds to solve problems in the society. The department will continue to strive forward to act as a bridge between the technology and the people.