

**TITLE OF ACTIVITY: Wireless power transfer - Wireless Charging for Electric Vehicles**

**SDG Description:** 7,9,12

**Venue:** Electrical Engineering Department NUTECH

**Mode:** Physical

**Date:** During year 2024

**Duration:** One Year

**(Logo)**



**Brief Explanation of the Activity:**

Wireless Power Transfer (WPT) technology has emerged as a promising solution for electric vehicle (EV) charging, providing convenience, safety, and efficiency. This study investigates the development of WPT systems for EVs, with a focus on inductive and resonant WPT technologies. It delves into the design and simulation of WPT coils, core structures, and resonant configurations, along with power supply systems for WPT. The aim is to create and enhance a WPT system for effective and dependable EV charging, removing the necessity for cables and improving the user experience.

The investigation commences with an overview of EVs, battery chargers, and WPT technology, emphasizing the demand for effective and hassle-free charging solutions. The methodology encompasses a thorough examination of electromagnetic principles, coil characteristics, and compensation methods. The research scrutinizes the layout and enhancement of WPT coils, encompassing coil shape, winding arrangements, and core materials. Furthermore, it explores resonant configurations, such as series and parallel compensation, and their influence on system effectiveness and steadiness.

**Pictorial Evidence:**

