TITLE OF ACTIVITY: Self Driving Car (Autonomous Vehicle)

SDG Description: 4,9,11   **(Logo)**

Venue: Electrical Engineering Department NUTECH

Mode: Physical

Date: During year 2024

Duration: <u>One Year</u>

Brief Explanation of the Activity:

Self-driving cars, also known as autonomous vehicles (AVs), represent a transformative technology in the field of transportation. These vehicles are equipped with advanced sensors, artificial intelligence (AI), machine learning algorithms, and navigation systems that enable them to operate with minimal or no human intervention. The key components of an autonomous vehicle include LiDAR (Light Detection and Ranging), radar, cameras, and GPS, which allow it to perceive the environment, detect obstacles, navigate traffic, and make real-time decisions. Autonomous vehicles are classified into six levels of automation, from Level 0 (no automation) to Level 5 (full automation), as defined by the Society of Automotive Engineers (SAE). Current AV development is largely focused on Level 4, where vehicles can perform all driving functions under certain conditions without human input. In conclusion, while significant progress has been made, widespread adoption of fully autonomous vehicles will require overcoming technical, legal, and ethical challenges, but the potential benefits for society are vast and transformative.

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Pictorial Evidence: