

A Two Days workshop on **IoT Empowered platform** (NodeMCU and Raspberry Pi) along with its application was conducted by the Department of E&C Engineering for the students of 3rd and 5th semester on 1st to 2nd September 2020. This workshop intended to familiarize the students with the NodeMCU and Raspberry Pi as processors and their applications.

The NodeMCU and Raspberry Pi is a credit-card sized computer designed for various applications to experiment with and learn to program and learn about embedded Linux systems to develop different Application like remote sensing, robotics, intelligent applications like industry and home automation and more.

On the first day, 1st september the session was started by inaugural speech of Dr. Hitesh Shah, Head ECED. The speech was following by the introduction to IoT along with various technical background, application of different development boards like Arduino, Raspberry Pi, NodeMCU for IoT design and many others were conducted by Dr. Falgun Thakkar.

Hands-on session for IoT platform was also conducted by Dr. Falgun Thakkar. The session were including configure NodeMCU, Coding and connectivity of different sensors. In addition to that the sensor data communication was also established with internet via cloud of Thing Speak Platform.

On the 2nd September, Introduction to Raspberry pi and its application in image processing was carried out. For an Installation of operating system (OS) on the Raspberry pi, a disk image is required. There are multiple images available (<http://raspberrypidiskimages.com/>), but the most common ones are based on optimized versions of the Debian Linux (Raspbian).

The resource persons for the Raspberry Pi session were Prof. Ashish Christian and Dr. Falgun Thakkar. During this session, the students were given an insight into Introduction to R-Pi, Python basics, Software

installation, Introduction to IoT, Interfacing of I/O devices, LEDs, Switch, Buzzer and camera interfacing.

In the afternoon session, Dr. Falgun Thakkar has taken the application of Raspberry pi for realtime image processing. During this session variety of image processing command have been executed like capture live image and video, visualisation and its visualisation using python with Thonny Platform.