

IoT – Project based Learning

(Batch 28 & BA02 AY 2023 - 2024)

The term IoT, or Internet of Things, refers to the collective network of connected devices and the technology that facilitates communication between devices and the cloud, as well as between the devices themselves.

At XIME, we have an IoT Lab Sponsored under the AICTE MODROBS Scheme. The Internet of Things (IoT) refers to the network of interconnected devices that communicate and exchange data over the internet. In the IoT Lab, We do have experiments, including environmental monitoring, smart home systems, AI Parking system and industrial automation. The Lab focuses on utilizing IoT sensors to monitor environmental conditions such as temperature and humidity. These practical experiments were demonstrated to the students and students also did practical implementation of IoT technology to understand its potential benefits in monitoring and managing environmental parameters.

IoT – Project Demo

The students also demonstrated various IoT Projects like Temperature monitoring system, Activating lights using motion sensor, Humidity Monitoring system, Activate bulbs using a remote mobile device. The students were able to learn the following by completing the project.

- GPIO Configuration, Configure GPIO to blink LEDs & GPIO interrupts configure button
- MQTT Protocol Basic elements of MQTT protocol, Configure IoT bundle as publisher and subscriber MQTT Protocol
- Introduction to TI ESP8266 • Lab: Temperature sensor Network based on ESP8266

- Timers & its configuration to generate PWM signal • Lab: Generate PWM signals using Timer

