Activity 25: Two Days Workshop on "Internet of Things & Applications" 18th & 19th March 2017

The goal of this workshop was to create awareness IOT among the students and the different applications using python. In IoT Basics Using Raspberry Pi course helps you to understand concept and terminologies of Internet of things, where number of devices are interconnected with using internet. This workshop will explore hands-on training with different practical case scenarios using Raspberry pi kit. This course will provide you with hands on experience with various IoT Technologies and process which enable you in developing different application on your own

Participants: All TY students of different branches, SGGSIE&T, Nanded.

Facilitators: Mr. Sandeep Waikar, Mr. Parikshit Nimodya, and Mr. Pravin Barapatre, Swish Tech, Pune

Saturday: 9 am to 10 am breakfast. First morning session starts at 10:00 am to 1.30 pm. Lunch 1.30 pm to 230 pm and afternoon session starts at 2:30 pm to 6:00 pm

Sunday: 9 am to 10 am breakfast. First morning session starts at 10:00 am to 1.30 pm. Lunch 1.30 pm to 230 pm and afternoon session starts at 2:30 pm to 6:00 pm In this two days course following points are covered

Agenda:

Introduction to Internet of Things, Raspberry Pi Vs Adriano, Linux Concepts, Introduction to Python programming, GPIO, Interfacing Raspberry Pi with different sensors, Interfacing Raspberry Pi with Email and Cloud APIs, Index: Introduction to Internet of Things, IoT Concept and Terminologies. Case Studies. Raspberry Pi, Raspberry Pi Vs Adriano, Raspberry Pi Board, Setup and Installation Network Configuration, Linux Basics, Introduction to Linux Commands, Linux File System, Linux Editors, Python Basics, Basic Operators, Variables Conditional Statements, Loops Functions, Pi Labs, Understand Sensors & GPIOs, Design of basic electronics circuits using Raspberry Pi GPIO interfacing, Interface DHT sensor with RaspPi, Interface Ultrasonic sensor with RaspPi, Interface Rain Sensor with RaspPi, Interface Moisture Sensor with RaspPi, Send Sensor data over email, Build sample app using Sensors and send data over cloud API, IoT Protocols: Bluetooth 4.0, HTTP, MQTT.

The resources required are:

Infrastructure: Computer lab equipped with LAN cables and Projector.

Hardware: Raspberry Pi 3 model, 8 GB micro SD memory card, DHT Sensor, Rain Sensor, Ultrasonic Sensor, Moisture Sensor, Resistors, Breadboards, Connecting wires (Jumpers), USB Cable.

Coordinator: Dr. S. G. Kejgir