MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

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Department of Computer Science and Engineering

Report of One Week Faculty Development Programme (FDP) on "IoT with Raspberry Pi"

Day 1 **24.06.2019**	First day of FDP started with introduction to IoT and participants were made aware of history of IoT, various phases of IoT lifecycle, how IoT works and also its applications. Afternoon session dealt with the introduction to Node MCU and other interfaces, followed by how to install arduino and ThingSpeak were discussed. Participants installed that software and created their personal accounts on ThingSpeak.
Day 2 **25.06.2019**	Morning session started with Arduino UNO and Arduino Mega concepts. Trainer brought those hardware devices and explained in detail. Then participants tried their hands on IoT based simulation programming. Program to blink LED bulbs and to rotate motor using switch were implemented. Day was concluded after clearing the doubts of participants.
Day 3 **26.06.2019**	On day 3, participants learnt how to install libraries for Arduino. Programs to detect soil moisture and water level using sensors were implemented and tested using Arduino UNO. In afternoon session also programs were practiced. Program to find temperature at a place was implemented. Participants learnt to create an ESP8266 Wi-Fi client class to connect to the MQTT Server.
Day 4 **27.06.2019**	On day 4, participants mainly learnt about Adafruit IO. Different library files were downloaded into Arduino and using it we created image recognition project. In afternoon session dealt with installation and flash OS images to SD cards and USB drivers. Then programs were practiced for load controller using Raspberry Pi.
Day 5 **28.06.2019**	On day 5, discussed regarding various Raspberry Pi applications. Participants learnt how to make 8 loads work simultaneously using relays. Various Raspberry Pi applications like facial expression detection and Google assistant based voice control home automation controller were discussed.
Day 6 **29.06.2019**	Day 6 was the concluding day of one week FDP on IoT with Raspberry Pi. An overview on different IoT projects was given. We discussed ESP866 circuit diagram, its components and schematics. Later doubts of the participants were rectified. Lastly, program concluded with valedictory function.