

Vidya Jyothi Institute of Technology

Department of Computer Science and Engineering

IV year I sem(Professional Elective)

Internet of Things

LIST OF EXPERIMENTS

Week 1:

1. Introduction to Arduino Uno – Sensors & Actuators
 - a. Temperature & Humidity Sensors
 - b. Air Quality Sensor
 - c. PIR Motion Sensor
 - d. Micro Servo Motor
 - e. Stepper Motor
 - f. 100RPM Motor

Week 2:

2. Introduction to NodeMCU – Sensors & Actuators
 - a. Temperature & Humidity Sensors
 - b. Air Quality Sensor
 - c. PIR Motion Sensor
 - d. Micro Servo Motor
 - e. Stepper Motor
 - f. 100RPM Motor

Week 3:

3. Setting up your Raspberry Pi. Installation of software.
4. Introduction to Raspberry Pi – Sensors & Actuators
 - a. Temperature & Humidity Sensor
 - b. Ultrasonic Sensor
 - c. Micro Servo Motor

Week 4:

5. Introduction to IoT & Sensor control with IFTTT.

Week 5:

6. Build a Web-App: Blinking an LED over Internet.
7. Build a Web-App: Control a motor over Internet when motion is detected.

Week 6:

8. Live Temperature and Humidity monitoring over Internet.

Week 7:

9. Introduction to Open Source Cloud Platforms for IoT: OpenIoT, ThingSpeak.

Week 8:

10. Open Source Cloud Platforms for IoT: thinger.io, Google Cloud Platform.

Week 9 & 10:

11. Introduction to Open Web Services for IoT

12. Experiments with Open Web Services for IoT:

- a. M2M Labs
- b. The Thing Box
- c. The Thing System
- d. Node-RED

Week 11:

13. Home Automation System.

Week 12:

14. Build a Restful web service for IoT Management.

Week 13:

Build a web server for IoT Management