INTERNET OF THINGS LABORATORY

Course Code	19ES1552	**Year**	III	**Semester**	I
Course Category	Engineering Science	**Branch**	ME	**Course Type**	Practical
Credits	1	**L-T-P**	0 – 0 – 2	**Prerequisites**	Nil
Continuous Internal Evaluation	25	**Semester End Evaluation**	50	**Total Marks**	75

Course Outcomes		**Levels**
Upon successful completion of the course, the student will be able to:		
CO1	**Develop** various sensor interfacing using Visual Programming Language.	L6
CO2	**Analyze** various Physical Computing Techniques.	L4
CO3	**Evaluate** Wireless Control of Remote Devices.	L5
CO4	**Design and develop** Mobile Application which can interact with Sensors and Actuators.	L6

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (H-High3, M-Medium-2, L- Low-1)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	2	3	3	2	3	3	3	3	3	3
CO2	3	3	3	3	2	3	3	2	3	3	3	3	3	3
CO3	3	3	3	3	2	3	3	2	3	3	3	3	3	3
CO4	3	3	3	3	2	3	3	2	3	3	3	3	3	3

Syllabus

Expt. No	**Content**	**Mapped COs**
1.	Digital I/O Interface - Multicolour Led, IR Sensor, PIR, Slot Sensor.	CO1
2.	Analog Read and Write - Potentiometer, Temperature Sensor, Led Brightness Control.	CO1
3.	Dc Motor Control - Dc Motor Speed and Direction Control.	CO2
4.	Read data from sensor and send it to a requesting client. (using socket communication) Note: The client and server should be connected to same local area network.	CO2
5.	Fabrication and direction control of wheeled robot using Arduino.	CO2
6.	Serial Communication - Device Control.	CO2
7.	Wireless Module Interface - Bluetooth and Wifi.	CO3
8.	Wireless Control of wheeled Robot using Bluetooth/Wifi.	CO3
9.	Basic Android App Development using MIT App Inventor.	CO4
10.	Smart Home Android App Development using App Inventor and Arduino.	CO4
11.	Develop IOT based smart lock system for Motor cycle/Car	CO4
12.	Develop IOT based smart water flow system	CO4

Learning Recourse(s)

Text Book:

1. Sylvia Libow Martinez, Gary S Stager, "Invent To Learn: Making, Tinkering, and Engineering in the Classroom", Constructing Modern Knowledge Press, 2016.

Reference Books:

1. Michael Margolis, "Arduino Cookbook", Oreilly, 2011