INTERNET OF THINGS LABORATORY

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

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														
	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
1- Low					2-Medium							3-High		

Course Content		
I	Digital I/O Interface - Multicolour Led, IR Sensor, PIR, Slot Sensor.	CO1
II	Analog Read and Write - Potentiometer, Temperature Sensor, Led Brightness Control.	CO1
III	Dc Motor Control - Dc Motor Speed and Direction Control.	CO2
IV	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
V	Fabrication and direction control of wheeled robot using Arduino.	CO2
VI	Serial Communication - Device Control.	CO2
VII	Wireless Module Interface - Bluetooth and Wifi.	CO3
VIII	Wireless Control of wheeled Robot using Bluetooth/Wifi.	CO3
IX	Basic Android App Development using MIT App Inventor.	CO4
X	Smart Home Android App Development using App Inventor and Arduino.	CO4
XI	Develop IOT based smart lock system foe Motor cycle/Car	CO4
XII	Develop IOT based smart water flow system	CO4

Learning Resources	
Text Books	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.