

Internet of Things Lab

Course Code	19ES1552	Year	III	Semester	I
Course Category	ES	Branch	All	Course Type	Practical
Credits	1	L-T-P	0-0-2	Prerequisites	Problem Solving and Programming Lab
Continuous Internal Evaluation :	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes

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 (3:Substantial, 2: Moderate, 1:Slight)

	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	2	2
CO2	3	3	3	3	2	3	3	2	3	3	3	3	2	2
CO3	3	3	3	3	2	3	3	2	3	3	3	3	2	2
CO4	3	3	3	3	2	3	3	2	3	3	3	3	2	2

Syllabus

EXP No.	Contents	Mapped CO
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
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.		
References		
1. Michael Margolis, "Arduino Cookbook", Oreilly, 2011.		