Regulation 2018		Semester	Total Hours			
Category	Course Code	Course Name	Hours / Week			C
			L	T	P	
X	18ECX011T	IoT Applications Development	1	0	0	1

Prerequisite Course (s)

Microprocessor and Microcontroller

Course Objective (s):

The purpose of learning this course is to:

1	To study fundamental concepts of IoT
2	To understand roles of sensors in IoT
3	To Learn different protocols used for IoT design
4	To be familiar with data handling and analytics tools in IoT
5	Understand the role of IoT in various domains of Industry.

Course Outcome (s) (COs):

At the end of this course, learners will be able to:

CO1	Understand the various concepts, terminologies and architecture of IoT systems
CO2	Use sensors and actuators for design of IoT.
CO3	Understand and apply various protocols for design of IoT systems
CO4	Use various techniques of data storage and analytics in IoT
CO5	Understand APIs to connect IoT related technologies

CO-PO Mapping

COs	POs												PSOs	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3		3						1	1		1	2	1
CO2	3		3						1	1		1	2	1
CO3	3		3						1	1		1	2	1
CO4	3		3	2			1	1	1	1		1	2	1
CO5	3		2	2			1	1	1	1		1	2	1
CO (Avg)	3		2.8	2			1	1	1	1		1	2	1

UNIT I	Fundamentals of IoT	3
Introduction, Definition of Internet of Things, the Basics of Sensors & Actuators, Introduction to Cloud Computing		
UNIT II	**IoT Platform**	**3**
The Open-Microcontroller Platform, IOT Programming Basics, Board Layout & Architecture, Reading from Sensors- arduino and raspberry Pi		
UNIT III	**Interface of Sensor modules**	**3**
Interfacing sensors with modules, Programming IOT modules, Reading data from Sensors		
UNIT IV	**Talking to your Android Phone with IOT module**	**3**
Connecting IOT MODULE with Mobile Device, The Android Mobile OS, Using the Bluetooth Module		
UNIT V	**Control Devices using Mobile App for Home Automation**	**3**
Configuring Wi-Fi, Creating Program for Local host Web Server for controlling devices.		

Text Book (s)

1	Hakima Chaouchi, — "The Internet of Things Connecting Objects to the Web" ISBN : 978-1- 84821-140-7, Wiley Publications .
2	Olivier Hersent, David Boswarthick, and Omar Elloumi, — "The Internet of Things: Key Applications and Protocols", Wiley Publications
3	Vijay Madisetti and ArshdeepBahga, — "Internet of Things (A Hands-on-Approach)", 1st Edition, VPT, 2014.

Reference (s)

1	Daniel Minoli, — "Building the Internet of Things with IPv6 and MIPv6: The Evolving World of M2M Communications", ISBN: 978-1-118-47347-4, Willy Publications
2	Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Prss

M.KUMARASAMY COLLEGE OF ENGG. (AUTONOMOUS) APPROVED BY BOARD OF ELECTRONICS & COMMUNICATION ENGG. 26 MAY 2023 KARUR-639 113.