KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Academic Year 2024-2025 Odd semester

INDUSTRY CERTIFIED

VALUE ADDED COURSE

On

IOT AND ITS APPLICATIONS

2022-2026 Batch Students

III EEE

Number of Participants: 32

COURSE COORDINATORS

Er.T.Hari Prasath, AP / EEE

HOD /EEE

Dr. D. Prince Winston Prof / EEE

Verified
21/8/2024
S. Whitaker
VAC Incharge.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Academic Year 2024-2025 Odd semester

Guidelines for Value Added Courses:

1	Academic Year	:2024-2025
2	Regulations	:R2021
3	Department Name	: Electrical and Electronics Engineering
4	Name of the Value - Added Course	: IoT and its Applications
5	Number of Credits	: 2
6	Category	~~Theory/Lab~~/Hands- on/~~Skill based etc.~~
7	Name and Details of the Joint – Organization (Industry/NGO etc) if any	Quantanics Techserv Private Limited, Madurai
8	Resource Person Details:	Er. Sujitha, Trainer Quantanics Techserv Pvt.Ltf
9	VAC Coordinator Details	Dr.A. Rajavel AP/EEE
10	Course Coordinator Details	Er. T. Hari Prasath AP/EEE
11	Duration (30H Mandatory)	48 Hours
12	Period(From- To)	08-07-2024 to 13-07-2024 (6 Days)
13	Venue	Power System Simulation Laboratory

Course Coordinator
(T.HARI PRASATH)

HOD - EEE
D. Prince Winston

DEAN Academics
24/07/24

IoT Introduction

IoT Introduction - Basics of ATMEL328p C Programming - Basic Electronics Setting up Arduino IDE - LED Blinking Traffic Light System Diving deep into ATMEL328p C programming (functions) LED control using push button – Motor switching on using relay C pointers - arrays and memory allocation.

Sensors and Types of ATMEL Controller

Temperature sensor to display temperature - ESP 32/ ESP8266 architecture- LED and Switch Control basics using push buttons, interfacing soil moisture sensor to check soil moisture. Interfacing Turbidity sensor for checking water turbidity.

Embedded Platform Introduction and dive in

Arduino IDE introduction - Boards types - Basic Electronics, Tools and Sensors - Setting up Arduino IDE - LED Blinking - Diving deep into C programming (functions) LED control using push button

Sensors and Types of Arduino Controller

Temperature sensor to display temperature - ESP 32/ ESP8266 architecture- LED and Switch Control basics using ESP Display Interfacing - 7 segment - LCD display - Keypad – Arduino IOT Could Mobile App introduction with example- Arduino Cloud Introduction with example

IoT Protocols and Applications

ADC Conversion - keypad relay control - USART - USART Communication Timer – Counter Clock - PWM - PWM Example - Project GSM - GPS GSM - GPS data - Microcontroller EEPROM - Storing Wifi Credentials in EEPROM -I2C - RTC time from RTC - NTP - NODEMCU IOT –Raspberry pi, NVIDIA Jetson Nano - Temperature & Humidity - PIR CLOUD – MQTT - Home automation - Robot control

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Department of Electrical and Electronics Engineering

Title of the Program : Value Added Course on "IoT and its applications **Date: 08.07.2024 to 13.07.2024 (6Days)**

Participants : III year (2022 – 2026 Batch) **Academic Year: 2024 – 2025 ODD**

Conducted by : Quantanics Techserv, Madurai. **Venue : Power System Simulation Lab**

Course Outcomes

Students will be able to

Course Outcomes		Details
CO1	:	Gain a solid understanding of IoT fundamentals and microcontroller programming.
CO2	:	Develop practical skills in interfacing various sensors and actuators.
CO3	:	Master advanced C programming techniques specific to IoT applications.
CO4	:	Be proficient in using Arduino IDE and integrating IoT devices with cloud services.
CO5	:	Be capable of designing and developing complete IoT products and systems.

Coordinators

HoD/EEE