REPORT – ON

ONE WEEK HANDS-ON WORKSHOP

ON

"IoT APPLICATION DESIGN USING ARDUINO UNO, NODEMCU & RASPBERRY PI"
7th October – 12th October 2021

ORGANIZED BY

Department of Electrical and Electrical Engineering,
Department of Electronics and Communication Engineering
Under Centre for Energy Initiated by IQAC-SVEC
Sree Vidyanikethan Engineering College

Organizers:
1. Dr. G. Hari Krishnan, Associate Professor, EEE
2. Dr. I. Kumaraswamy, Associate Professor, EEE and
3. Dr. TVV Satyanarayana, Associate Professor, ECE

Resource Persons:
1. Mr. Abin Satheesan
2. Mr. Praveen Kumar
   Enthu Techonlogies India Pvt Ltd., Coimbatore

WORKSHOP-BROCHURE

PAGE-1

REGISTRATION FORM

A

One Week Hands-on Workshop

on

"IoT Application Design using Arduino Uno, NodeMCU & Raspberry Pi"

7th to 12th October, 2021

1. Full Name: ....

2. Designation: ....

3. Qualification: ....

4. Department: ....

5. Organization: ....

6. Contact No.: ....

7. Email ID: ....

8. Address for Communication

....

....

....

Signature of Applicant

Signature of the Sponsoring Authority with seal

Chief Patrons
Dr. M. Mohan Babu,
Chairman, Padmashri Awardee, SVET
Sri. Vishnu Manchu,
CEO, SVET

Advisors
Prof. L. Venugopal Reddy,
Advisor cum Director, SVET
Dr. P. Giridhara Reddy,
Director (Academics & Research), SVEC
Dr. B. M. Satish,
Principal, SVEC
Dr. T. Nageswara Prasad,
Vice Principal, SVEC
Dr. P. Venkataramana,
Dean-Academics, SVEC

Head of The Departments
Dr. M. S. Sujatha,
Professor & Head, EEE, SVEC
Dr. N. Gireesh,
Professor & Head, ECE, SVEC

Conveners
Dr. G. Hari Krishnan
Associate Professor &
Research Coordinator, EEE
Dr. I. Kumaraswamy
Associate Professor, EEE

Co-Convener
Dr. T. V. V Sathyanarayana
Associate Professor, ECE

For further details contact:
Convener

Department of EEE & ECE, SVEC
Mobile: 9985915365 / 8328409660
e-mail: drharikrishnang@vidyanikethan.edu,
Kumaraswamy.i@vidyanikethan.edu

A

One Week Hands-on Workshop

on

"IoT Application Design using Arduino Uno, NodeMCU & Raspberry Pi"

7th to 12th October, 2021

Under
Centre for Energy

Initiated by IQAC-SVEC

Organized by

Department of
Electrical and Electronics Engineering

&

Electronics and Communication Engineering

Conveners
Dr. G. Hari Krishnan - EEE
& Dr. I. Kumaraswamy - EEE
Co-Convener
Dr. T. V. V Sathyanarayana - ECE

SREE VIDYANIKETHAN ENGINEERING COLLEGE
(Autonomous)
www.vidyanikethan.edu
Sree Sainath Nagar, A. Rangampet – 517 102
Near Tirupati, Chittoor Dist. A.P.
Ph: 0877 - 2236711 (4 lines) Ext. 436

PAGE-2

About The College

Sree Vidyanikethan Engineering College was established in 1996 with an initial intake of 180 students to serve the cause of technical education in the backward region of Rayalaseema. The intake has increased exponentially to 2106 in 2020-21. The College now offers 15 B.Tech programs; 4 M.Tech programs; MCA Program; and 3 Doctoral Programs. AICTE has also accorded permission for 2nd Shift Polytechnic from the academic year 2009-10 and presently 5 Diploma courses are being offered. Today, Sree Vidyanikethan Engineering College is one of the largest, most admired and sought-after Institutions in Andhra Pradesh. The College is located in a sprawling campus of about 30 acres, amidst sylvan surroundings with aesthetically built infrastructure. The College is approved by AICTE and affiliated to JNTU Ananthapuramu. The College has been accorded Autonomous Status by the UGC, New Delhi since 2010-11.

The College is known for its quality initiatives which is amply reflected in accreditations by National Board of Accreditation (NBA) for UG & PG programmes National Assessment and Accreditation Council (NAAC) with 'A' Grade and many multinational organizations such as TCS, WIPRO & IBM. The College successfully completed TEQIP-II under Sub-component 1.1: Strengthening Institutions to improve Learning Outcomes and Employability of Graduates, funded by the Ministry of HRD, Govt. of India.

Location:

15 km from the temple town of Tirupati on Tirupati - Madanapalle National Highway No.205.

Courses offered:

The college offers B. Tech Programs in CSE, CSSE, IT, CSE (AI), CSE (DS), CSBS, CSE (CS), CSE (AI & ML), CSD, ECE, CIVIL, Mech, EEE and EIE. The college also offers M. Tech. in VLSI, Computer Science, Electrical Power Systems and Power Electronics and Drives & MCA along with PhD programs in ECE, EEE & CS.

About Hands-on workshop:

The course aims at providing hands-on experience in terms of programming and modeling skills among the teaching faculty and post-graduate students for analysis and design of IoT Based Applications.

Course Contents

This program will focus on Arduino Uno and Raspberry pi board to design basic and IOt Based applications design using NodeMCU. The major topics to be covered are:

- ✓ Introduction to Arduino Uno, Rasbperry Pi and NodeMCU hardware boards.
- ✓ Sensor based I/O Applications
- ✓ IoT Application with NodeMCU and Arduno.
- ✓ IoT Application with Raspberry pi
- ✓ Blynk app etc.,

Course Objectives:

- ✓ As a refreshment program for IoT Lab in Circuits and Computer Branches.
- ✓ Faculty trained to guide students to develop 40% of inhouse hardware projects and faculty R&D.

Resource Persons

The resource persons are from Enthu Technologies Solutions India Pvt. Ltd.,

Eligibility:

Faculty members from AICTE recognized Engineering Colleges of B.Tech. EEE/ ECE/ EIE/ CSE/ CSSE/ IT/ ME/ CE Engineering Disciplines

Registration Fee: Nil

Event Dates:
7th October to 12th October, 2021

Important Information:

- ✓ Interested candidates shall submit the duly filled-in Registration Form via e-mail.
- ✓ TA/DA will not be provided.
- ✓ The applications will be short listed on first come first serve basis and the candidates would be intimated through e-mail only.
- ✓ Certificates will be issued to those faculty who attend all the sessions.

WORKSHOP-INVITATION

SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
Sree Sainath Nagar, A. Rangampet, Tirupati - 517 102.
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
&
ELECTRONICS AND COMMUNICATION ENGINEERING

Cordially invites you
For the Inaugural Function of
One Week Faculty Hands-on workshop

on

IOT Application design using Arduino Uno NodeMCU and raspberry pi

Resource Persons

Mr. Abin Satheesan

Mr. R. Praveen Kumar

Enthu Technology Solutions India Pvt. Ltd., Coimbatore,

Tamil Nadu, India.

Date & Time : 7th to 12th October, 2021 @ 10:00 AM
Venue : EDC Cell

Prof. L.Venugopal Reddy
Advisor cum Director, SVET

Dr. P. Giridhara Reddy
Director (A & R), SVEC

Dr. B. M. Satish
Principal, SVEC

Dr. T. Nageswara Prasad
Vice-Principal, SVEC

Dr. P. V. Ramana
Dean Academics, SVEC

Dr. M. S. Sujatha
Head of the Department, EEE

Dr. N. Gireesh
Head of the Department, ECE

Conveners:
Dr. G. Harikrishnan
Associate Professor, Dept. of EEE
Dr. I. Kumaraswamy
Associate Professor, Dept. of EEE

Co-Convener:
Dr. T.V. V Sathyanarayana
Associate Professor, Dept. of ECE

Introduction:

The course aims at providing hands-on experience in terms of programming and modeling skills among the teaching faculty and post-graduate students for analysis and design of IoT Based Applications.

Course Contents

This program will focus on Arduino Uno and Raspberry pi board to design basic and IoT Based applications design using NodeMCU. The major topics to be covered are:

- ✓ Introduction to Arduino Uno, Rasbperry Pi and NodeMCU hardware boards.
- ✓ Sensor based I/O Applications
- ✓ IoT Application with NodeMCU and Arduno.
- ✓ IoT Application with Raspberry pi
- ✓ Blynk app etc.,

Course Objectives:

- ✓ As a refreshment program for IoT Lab in Circuits and Computer Branches.

- ✓ Faculty trained to guide students to develop 40% of in house hardware projects and faculty R&D.

Programme Schedule

Day 1 – INAUGURATION	
7th Oct 2021 10:00 AM - 10:30 AM	**Venue: ED Cell, SVEC**
Day 1 - Session I	
7th Oct 2021 10:30 AM - 1:00 PM	• Introduction to Arduino (hardware) • Introduction to Arduino sketch (software) • Introduction to programming Arduino Uno • Digital pin examples (related to LED, pushbutton)
Day 1 – Session 2	
7th Oct 2021 02:00 PM - 04:30 PM	• LED 7-Segment and LCD Display interfacing with Arduino • Servo motor interfacing with Arduino
Day 2 – Session 1	
8th Oct 2021 9:30 AM - 1 PM	• Ultrasonic sensor, Flame Sensor, Gas Sensor, Temperature and Humidity Sensor
Day 2 – Session 2	
8th Oct 2021 02:00 PM - 04:30 PM	• Introduction to MQTT protocol. • Introduction to NodeMCU. • Sending sensor data to cloud.
Day 3 – Session 1	
9th Oct 2021 9:30 AM - 1:00 PM	• Introduction to BLYNK App. • Motion detection and fire notification IoT with BLYNK
Day 3 – Session 2	
9th Oct 2021 02:00 PM - 04:30 PM	• Introduction to Things Speak • Basic Healthcare IoT application design.
Day 4 – Session 1	
11th Oct 2021 10:00 AM - 12:00 PM	• Introduction to Python programming • Introduction to Raspberry Pi
Day 4 – Session 2	
11th Oct 2021 02:00 PM - 04:00 PM	• Python programming for Raspberry Pi
Day 5 – Session 1	
12th Oct 2021 10:00 PM - 12:00 PM	• Introduction to interfacing camera with Raspberry pi • Raspberry Pi Home Security System with Camera
Day 5 – Session 2	
12th Oct 2021 02:00 PM - 04:00 PM	• Camera and PIR sensor with email notification. • Uploading Light sensor data to cloud using Raspberry pi.
Day 5 – VALEDICTORY	
12th Oct 2021 02:00 PM - 04:00 PM	**Venue: ED Cell, SVEC**

The course is designed to provide Basic knowledge of Python. Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the Python programming language.

Outcome: Problem-solving and programming capability

Hardware Requirements:
- i3 or above Processor is required
- 4 GB or above RAM is recommended
- Good Internet Connectivity
- OS-Windows 10 is Preferable
- Arduino Uno
- Node MCU
- Raspberry pi
- Camera Module
- Sensor Modules

Group photo of Organizers, Participants and Resource Persons

Welcome address by **Dr. M. S. Sujatha,** Professor and Head, Department of E.E.E

Dr G. Hari Krishnanan, Associate Professor, EEE and Workshop Convener is addressing the participants

Dr. B. M. Satish, Principal, Sree Vidyanikethan Engineering College is addressing the participants
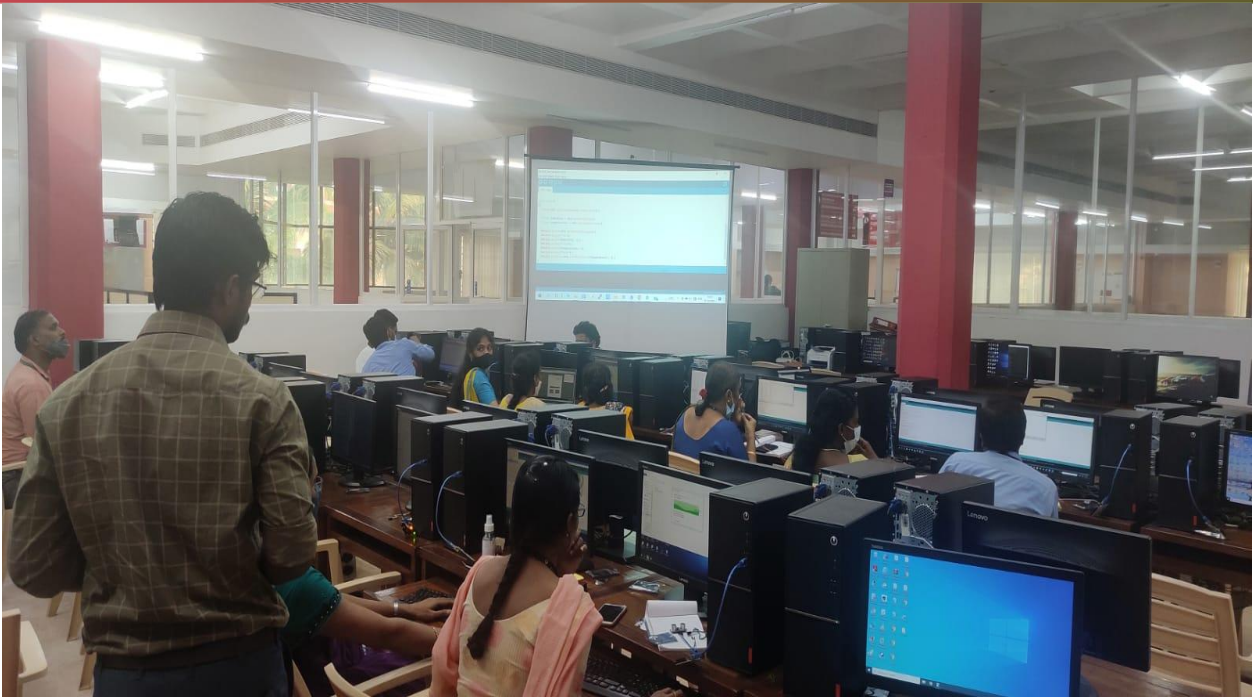

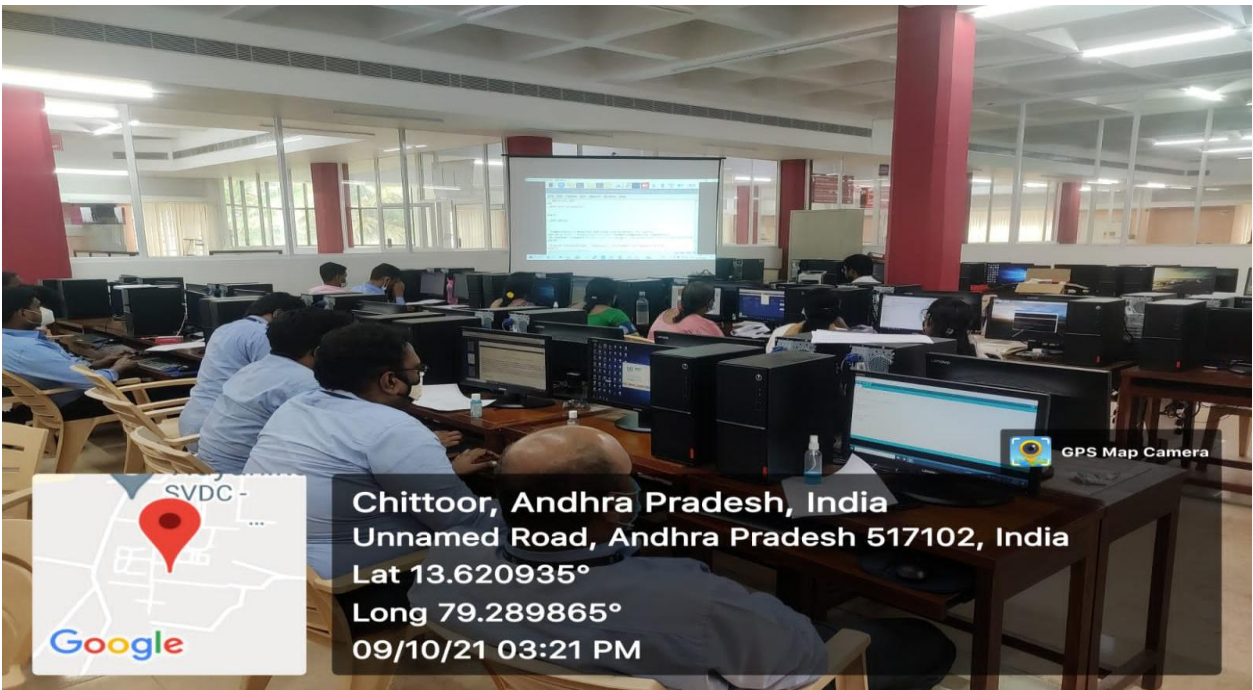Resource person from Enthu Technologies, Coimbatore is briefing about his company to the participants

Group photo of Chief guests, Organizers, Participants and Resource Persons during Inauguration
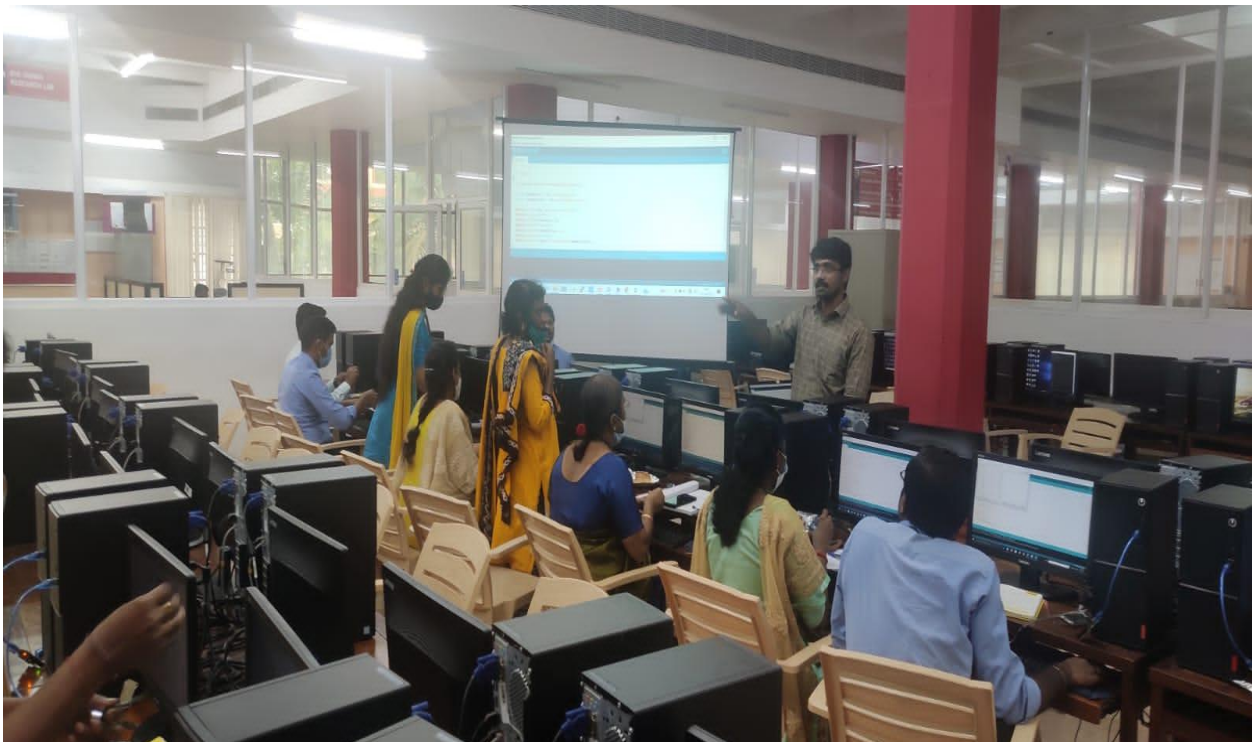
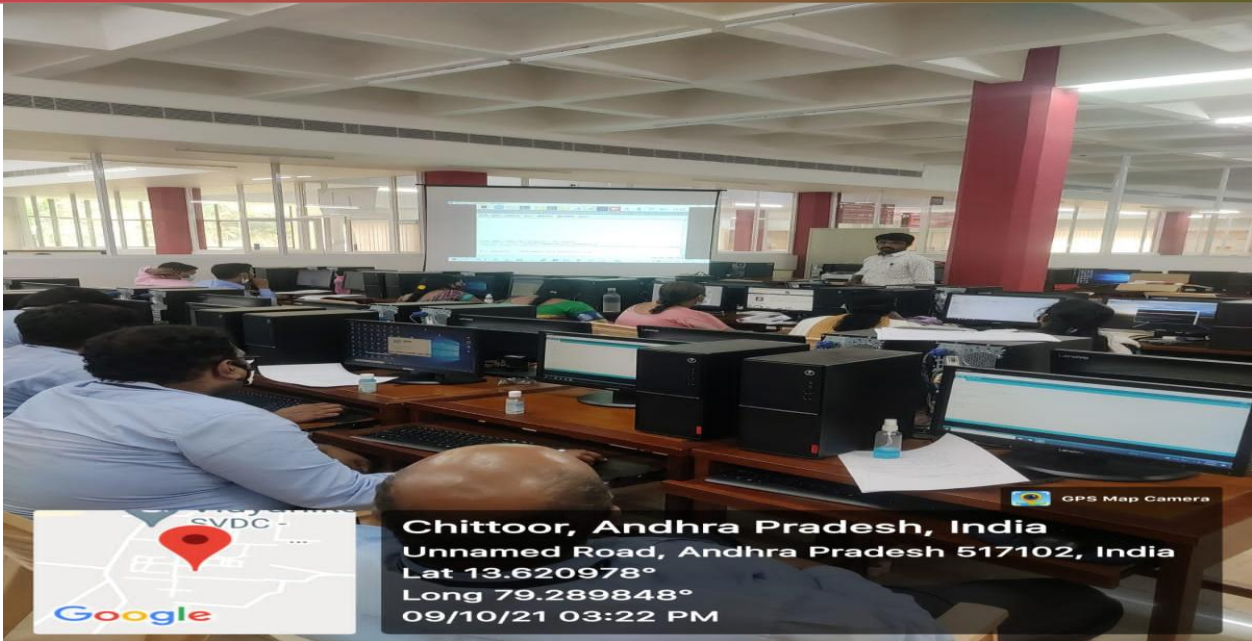Resource person was demonstrating the arduino board

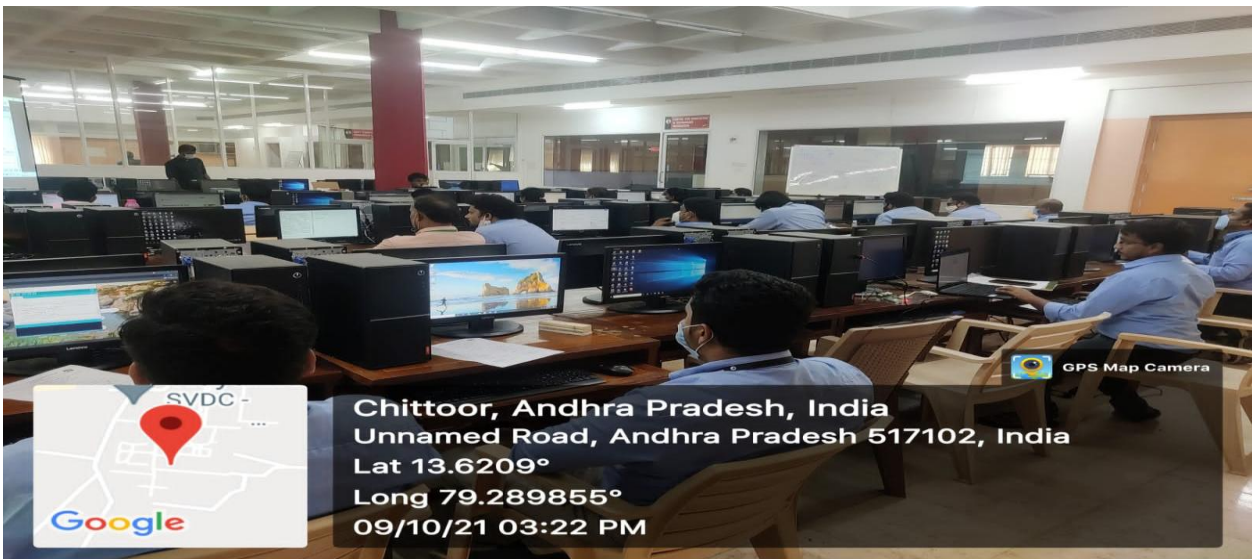Resource person was addressing queries raised by the participants

Participants practicing the programs using arduino board

Resource person was explaining about Raspberry pi

Resource person was explaining about IoT using Node MCU

HOD-EEE   **CO-ORDINATOR**