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**VIMAL JYOTHI ENGINEERING COLLEGE**  
&

**DEPARTEMENT OF ELECTRICAL AND  
ELECTRONICS ENGINEERING**

**Report on value added course**

***“Fundamentals in Python  
Programming”***

***for***

***S6 EEE (2020-24 BATCH)***



VIMAL JYOTHI INSTITUTIONS

# VALUE ADDED COURSE ON "FUNDAMENTALS OF PYTHON"

COURSE CODE : ADEE401

COURSE DURATION : 5 DAYS (30 hrs)

IN ASSOCIATION WITH



for S6 EEE

Venue : EEE Software Lab | On 16.02.2023 - 20.02.2023

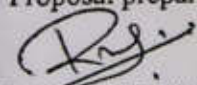
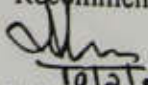
Convener  
Ms. Laly James  
(Associate Professor ,HOD, EEE)

Staff Co-ordinators  
Ms. Ankita Sebastian (AP,EE)  
Mr Rojith K (AP,EE)





EVENT PROPOSAL FORM

1	Event Type and Name	Value added program on "Fundamentals in Python Programming"
2	Date and Time	16 <sup>th</sup> to 20 <sup>th</sup> February 2023, 10.00 AM to 4 PM
3	Participants/Audience	S6 EEE Students
4	Venue/ Platform	S6 EEE classroom
5	Objectives	1. To understand the students how to build algorithm for solving different types of problems. 2. To understand the students how to write python programming for different types of problem. 3. To understands students how to rectify errors in programming by their own.
6	Expected Outcomes	1. Students will be able to get idea of algorithm for solving any problem. 2. Students will able to understand the basic idea of programming 3. Students will able to understand how to rectify errors in programming . 4. Students able to understand the basic concepts and iterating operations about PYTHON 5. Students able to understand and analyze the arithmetic and logic programming operations about the PYTHON 6. Understanding the data types and language fundamentals in PYTHON. 7. Students able to analyze the functions and file actions in PYTHON. 8. Understanding the error corrections and advanced operations in Python with a socially relevant project.
7	Connected PEOs/POs /COs	PO1, PO2, PO3,PO4,PO5,PO6,PO8,PO9,PO10,PO11,PO12,CO1,CO2,CO3,CO4,CO5
	Justification for POs/PSO's	The session will encourage the students to solve complex problems by converting it into algorithms/flow chart and writing in to new trending programming tool python.
8	Resource Requirements	EEE software lab
9	Any other Relevant information	Resource Person: Muhammed Suhail, Deep Flow Technologies Private Ltd
10	Responsible Persons	Proposal prepared by  Mr. Rojith K (AP, EEE)  Recommended By  10/2/23 Prof. Laly James ,HOD EEE

*Handwritten note:*  
10/2/23

## 1. Introduction

This was a five day workshop on python programming organized by the Electrical & Electronics Department of Vimal Jyothi Engineering college from 16th to 20th February 2023 for all 3rd year Electrical & Electronics students. To explore the power and simplicity of python, this workshop was very encouraging by covering all the python basics. The trainer Mr. Muhammad Suhail in his simple words gave us the mix of theory and practical knowledge of python programming.

In the absence of Head of The Department Ms. Laly James, the session was inaugurated by Ms. Tintu George, assistant professor of Electrical and Electronics department, also motivated the students with her speech and explained that these kinds of workshops are beneficial for the upcoming placements and technical knowledge.

### **Day 1 : 16th February**

Introduction to programming and python and the students were taught that python is a simple programming language compared to other programming languages. After that familiarized with 'Scratch', the world's largest coding community and a coding language with a simple visual interface that allows young people to create digital stories, games, and animation with some practical experience.

### **Day 2 : 17th February**

On this day familiarized with Visual Studio Code, a source-code editor made by Microsoft and learned the basics of coding. Python Workshop

### **Day 3 : 18th February**

Earned certificates of kaggle and a coding certificate. This day was quite interesting for completing the given task.

#### **Day 4 : 19th February**

Learned to prepare a notebook on google colab and prepared a python notebook by adding all the basic information about python that we have learned. So got a detailed idea about area covered and the notebook will be helpful for the future references also.

#### **Day 5 : 20 th February**

Introduced with HackerRank, a website which will be helpful for preparing technical interviews. After that , learned some basics of machine learning. The five days of workshop got an end with the conclusion speech of HOD Ms Laly James and students shared their experience on those five days. At the end of workshop students were happy knowing that they were now able to program with a new & simple programming language Python.

## One week in Campus Training - session 2

The in-campus training was conducted from 22<sup>nd</sup> February to 28<sup>th</sup> February. Trainers from Wartens institute Mr. Abdul Rahman and Mr. Vyshak conducted the session at EEE Software Lab from 9am to 4.10pm.

### Day 1- 22.02.2023

The first day started with Delta WPL Soft software. The basics of the software like memory addressing, input-output addressing and some basic instructions in the software were introduced. Timer-counter addressing and operation was also taught. Also did some basic simple problems by drawing the ladder diagram of the logic and simulated them.

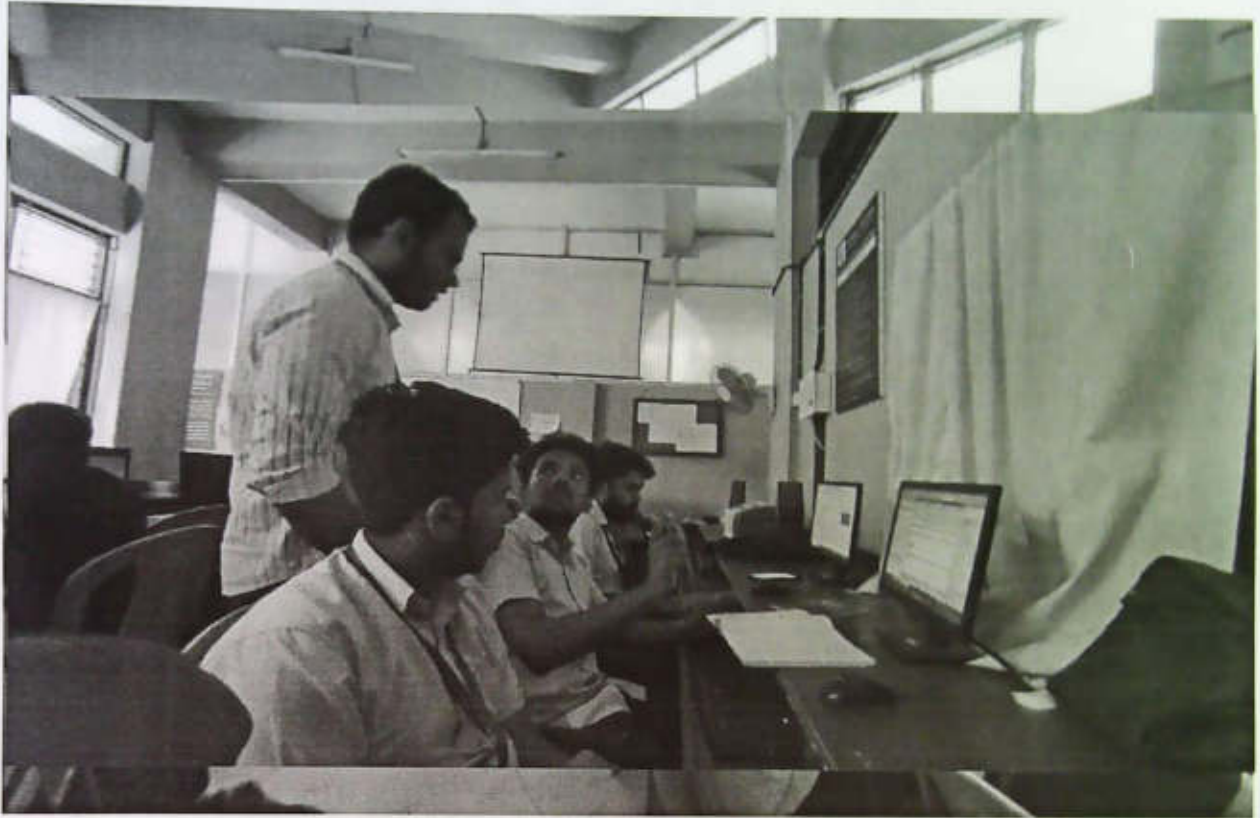
### Day 2- 23.02.2023

In day 2, more problems were given by the trainers which were solved and simulated in software. Functions like comparators and reset were introduced and problems using them were done.

### Day 3- 24.02.2023



A new software called Omron Cx-programmer was introduced. The input, output, memory, timer and counter addressing of the new software were taught. We did some basic programs using this logic. Further in the afternoon session comparator function was introduced and problems related to them were solved and simulated.



#### **Day 4- 25.02.2023**

On the fourth day of the program instructions like jump, conditional jump and calling of subroutines were introduced. Problems using their logic were solved and simulated. During the afternoon session another software which is Siemens TIA Portal was introduced. A brief introduction on Siemens TIA Portal was given.

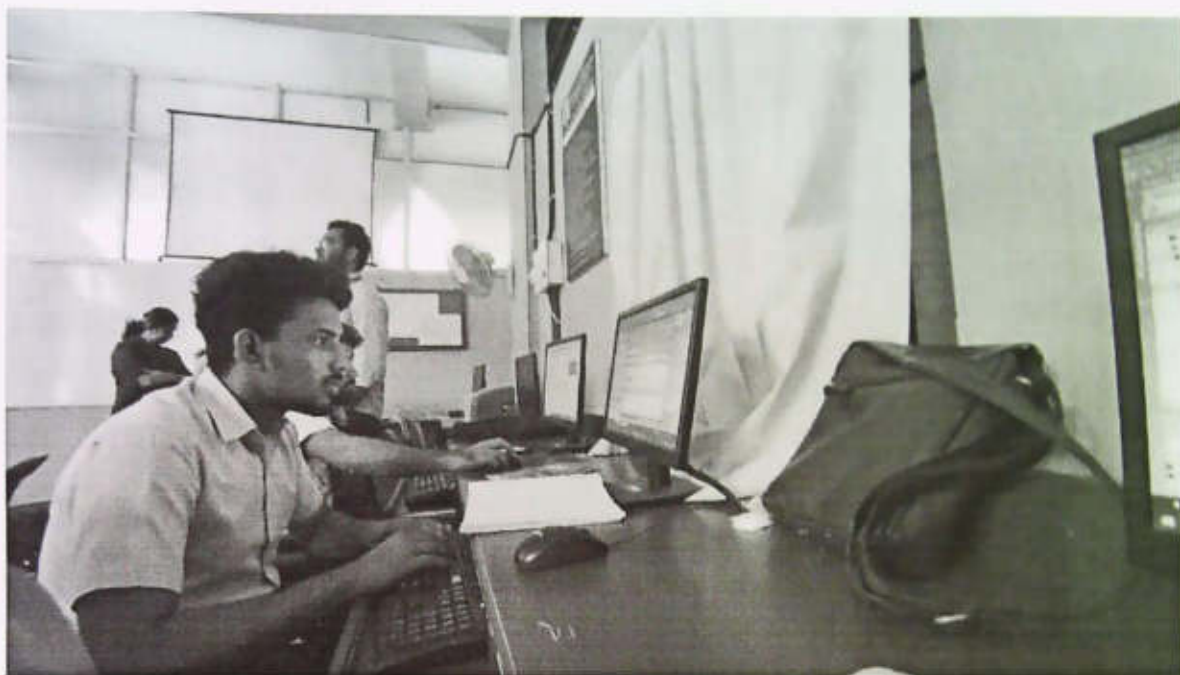
#### **Day 5- 27.02.2023**

On the fifth day timers in TIA portal were introduced. We learned about Simatic timers and their types which are Block type and Coil type timers and IEC timers. Also learned about counters. The concept of memory mapping was introduced. Operations like bit logic operations and comparator operations were taught and problems relating to all these were done.



## Day 6- 28.02.2023

It was the last day of on-campus training. Conversion operations, jump instruction, shift & rotate instruction, modulus instruction was introduced. Also, a detailed idea on function blocks were given. More problems consisting of all the instruction studied so far were solved and simulated in the TIA portal.



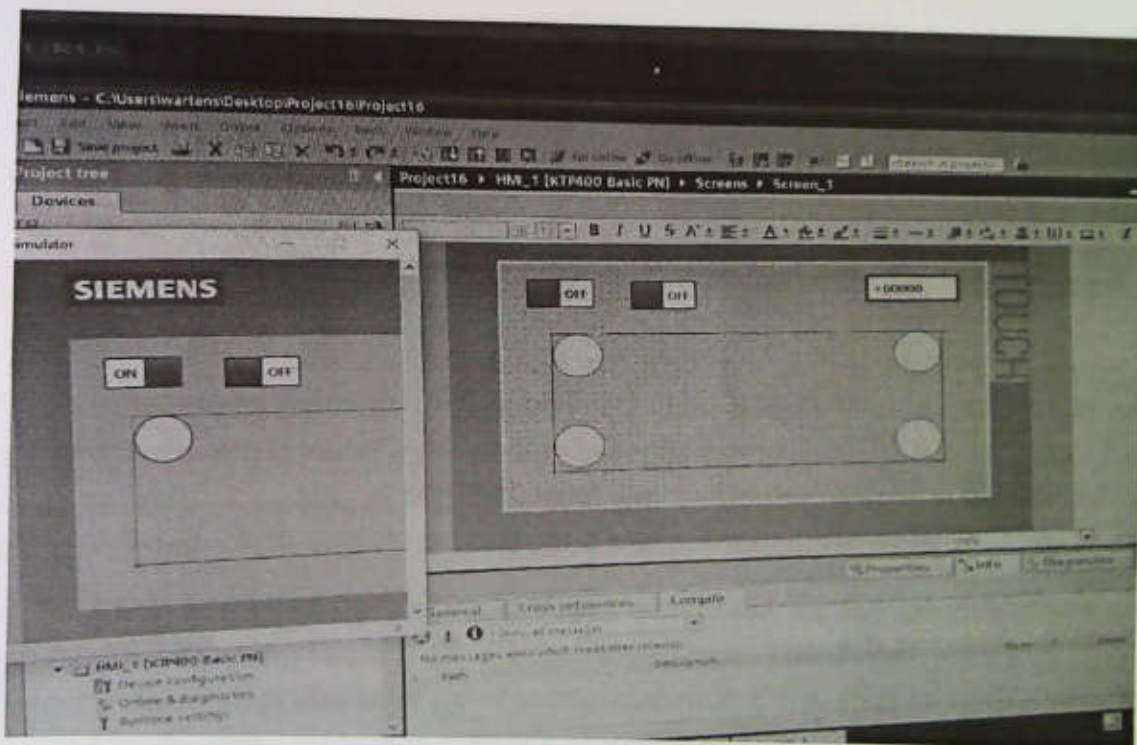
## Off Campus Training

The off-campus training was conducted from Wartens Institute Bangalore for 2 weeks. It was conducted from 6<sup>th</sup> March to 17<sup>th</sup> March. The students were divided into 2 batches during the class- morning batch and afternoon batch. The morning batch had classes from 9am to 1pm and the afternoon batch students had class from 2pm to 6pm.

### Day 1- 06.03.2023

On the first day of off-campus training a general and brief revision was done first. Then a basic introduction was given to Human Machine Interface (HMI) and Supervisory Control and Data Acquisition (SCADA) System. Then HMI was taught in detail. The types of HMI, Features of HMI and Advantages of HMI were discussed. Once the theory class was done, we were introduced to HMI in the Siemens TIA Portal and did some basic simple problems in HMI.

### Day 2- 07.03.2023

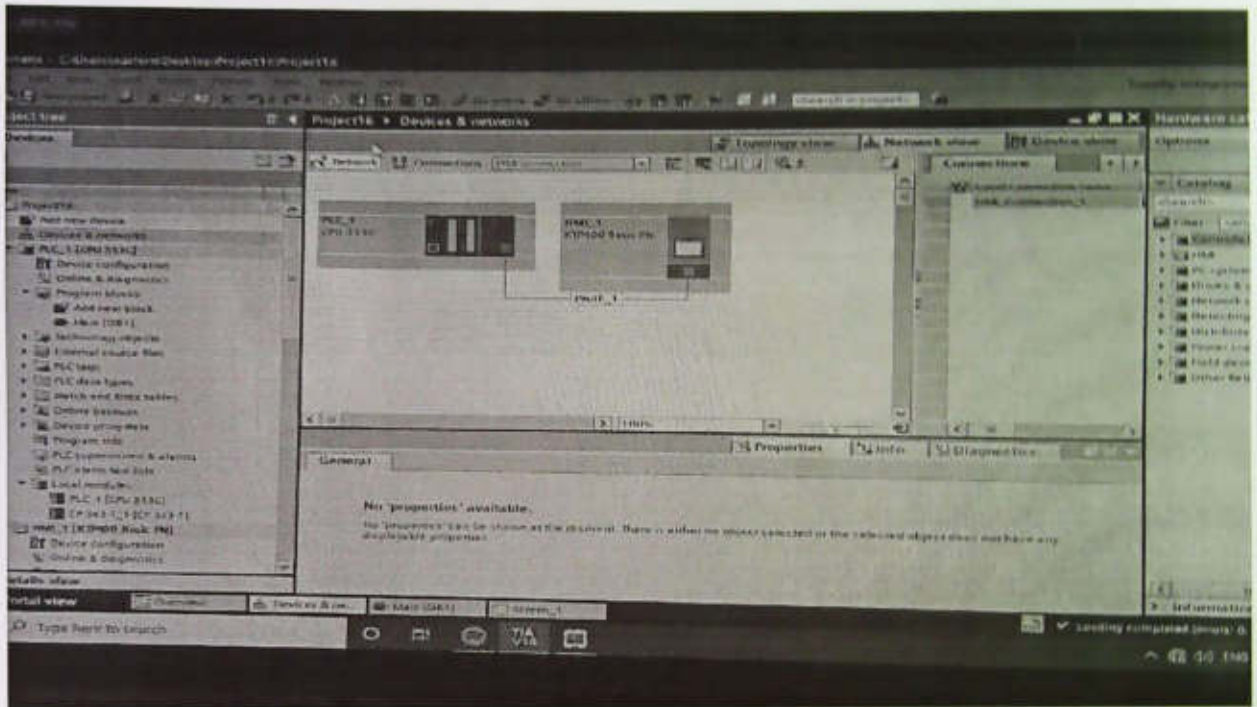


On the second day concept of graphic display and creation of alarms was introduced and we tried doing them on our own.

## Day 3- 08.03.2023

Problems on PLC and HMI were done. Problems were given, the ladder diagram of logic was drawn in PLC and display was done using HMI. Few problems were done using the interfacing of PLC and HMI.

## Day 4- 09.03.2023



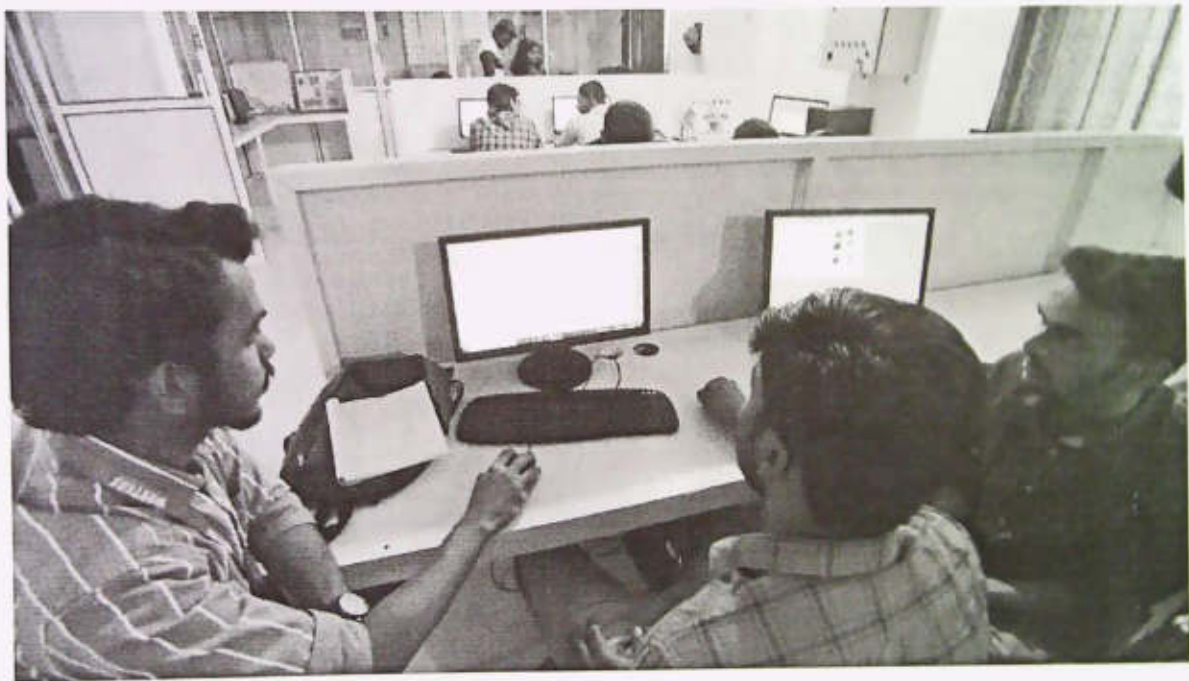
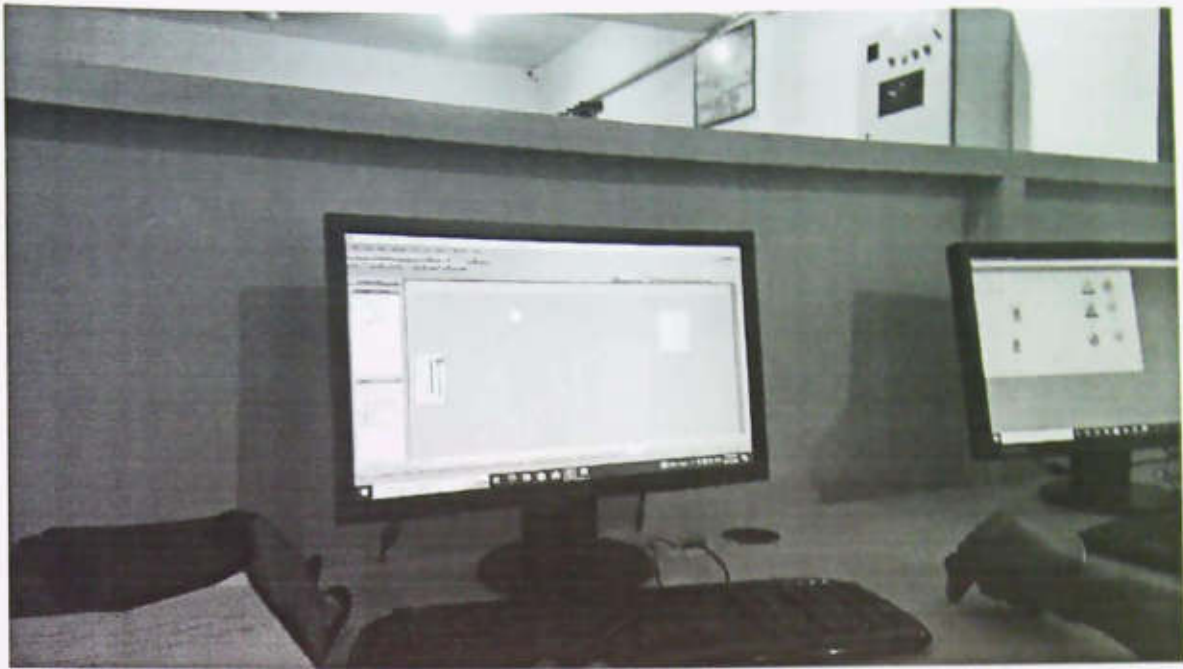
Introduction to Supervisory Control and Data Acquisition (SCADA) System was given. New software Intouch by Wonderware was introduced by the trainers. The basic logic gates were designed in the software and simulated using wizards and also by scripting. Also problem of moving balls in a surface was done using both the methods.

Another session on placements was conducted for the afternoon batch at 2pm to 3pm and for morning batch from 3.30pm to 4.30pm. The trainer gave brief idea about interview process, importance of good communication skills and also about how to make an impressive resume.



### **Day 5- 10.03.2023**

More problems were done in InTouch Software like tank filling, traffic light, etc. The concept of trends and alarms were introduced and problems related to them were done.



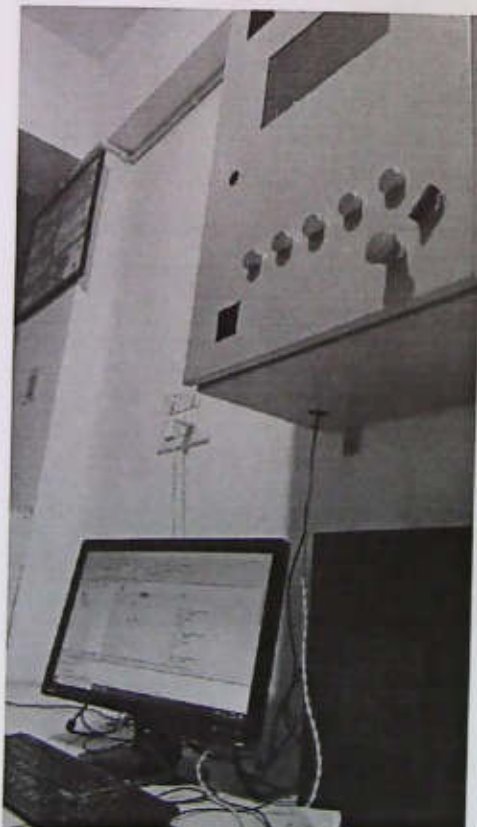
## **Day 6- 13.03.2023**

The concept of Interfacing was introduced during this session. The interfacing of PLC and SCADA was taught and did a problem on interfacing on our own by interfacing delta with SCADA system using KEP Server Platform.



## Day 7- 14.03.2023

Omron interfacing was done and problem on traffic light simulation was given to solve which was solved and simulated by interfacing.



## Day 10- 17.03.2023

It was the last day of training program. Morning session was given for completing pending works and a written exam based on our course was given in the afternoon session. The exam was for 100 marks and consisted of theory as well and practical questions like drawing of the ladder diagram for the given question.



# Placement Training Attendance Status

6th - 17th March 2023

University register number	Name of student	6	7	8	9	10	11	12	13	14	15	16	17
1	Abhilash Joseph	P	P	P	P	P			P	P	P	P	P
2	Abhinav V	P	P	P	P	P			P	P	P	P	P
3	Ajin Mathew Joseph	P	P	P	P	P			P	P	P	P	P
4	Ajith Saji	P	P	P	P	P			P	P	P	P	P
5	Akhil George	P	P	P	P	P			P	P	P	P	P
6	Albin Saji	P	P	P	P	P			P	P	P	P	P
7	Aleena Jaison	P	P	P	P	P			P	P	P	P	P
8	Alen Varghese	P	P	P	P	P			P	P	P	P	P
9	Amritha P	P	P	P	P	P			P	P	P	P	P
10	Ashlyn Wilson Sasthampadavil	P	P	P	P	P			P	P	P	P	P
11	Aswanth Rameshan	P	P	P	P	P			P	P	P	P	P
12	Aswin K	P	P	P	P	P			P	P	P	P	P
13	Aswin Suresh M S	P	P	P	P	P			P	P	P	P	P
14	Dilna Maria Shibu	P	P	P	P	P			P	P	P	P	P
15	Dwathi Shivakumar	P	P	P	P	P			P	P	P	P	P
16	Elttin Joy	P	P	P	P	P			P	P	P	P	P
17	Gokul Ariyil	P	P	P	P	P			P	P	P	P	P
18	Hrithwik Sreejith	P	P	P	P	P			P	P	P	P	P
19	Joel M Jacob	P	P	P	P	P			P	P	P	P	P
20	John Tomy	P	P	P	P	P			P	P	P	P	P
21	Kiran Joseph	P	P	P	P	P			P	P	P	P	P
22	Muhammed Hanan Fazal Nadulayil	P	P	P	P	P			P	P	P	P	P
23	Nakul Ganesh	P	P	P	P	P			P	P	P	P	P







**VIMAL JYOTHI**  
ENGINEERING COLLEGE

VALUE ADDED COURSE ON

“FUNDAMENTALS OF PYTHON”

# Certificate of Participation

THIS IS TO CERTIFY THAT

**VARADA ANIL**

HAS PARTICIPATED VALUE ADDED COURSE PROGRAMME ON  
“FUNDAMENTALS IN PYTHON PROGRAMMING” ORGANISED BY THE DEPARTMENT OF ELECTRICAL AND  
ELECTRONICS ENGINEERING, VIMAL JYOTHI ENGINEERING COLLEGE IN ASSOCIATION WITH IEEE AND  
DEEP- FLOW TECHNOLOGIES FROM 16th February 2023 to 20th February 2023

Convenor  
Prof. Laly James  
H.O.D. EEE

Robotic Engineer  
Mr. Muhammed Suhail  
Deep Flow Technologies

Principal  
Dr. Benny Joseph