



**POWER INTERGRATED SOLUTIONS
IN COLLABORATION WITH
NETAJI SUBHAS INSTITUTE OF TECHNOLOGY,
BIHTA**

PYTHON ON RP2040

Join Workshop



24th June to 28th June, 2024

**Organized By
Department of Electrical &
Electronics Engg.**

CONVENOR

DR. J. DALEI, DEAN, ACADEMIC, NSIT

COORDINATORS

MRS. NISHANT KUMAR HOD, EEE, NSIT

MR. AMARJEET KUMAR, NSIT PATNA

MR. DEEPAK KUMAR, NSIT PATNA

RESOURCE PERSON

POWER INTERGRATED SOLUTIONS, TRICHY

REGISTRATION

MODE OF REGISTRATION : SPOT

FOR MORE INFORMATION CONTACT US ON :

9102403271, 7781020349

Director
Netaji Subhas Institute of Technology
Amhara, Bihta, Patna, Bihar
PIN-801106



NETAJI SUBHAS INSTITUTE OF TECHNOLOGY

APPROVED BY AICTE, NEW DELHI AND DEPT OF SCIENCE & TECHNOLOGY, GOVT. OF BIHAR
AFFILIATED TO BIHAR ENGINEERING UNIVERSITY, PATNA
AMHARA, BIHTA, PATNA-801106

Date:-19/06/2024

Notice

All the students of 6th semester B.Tech are here by informed that the department of EEE and IQAC Cell in association with Power Integrated Solutions is organizing a workshop on **Python on RP2040** from 24/06/2024 to 28/06/2024.

Name of the Coordinator:-

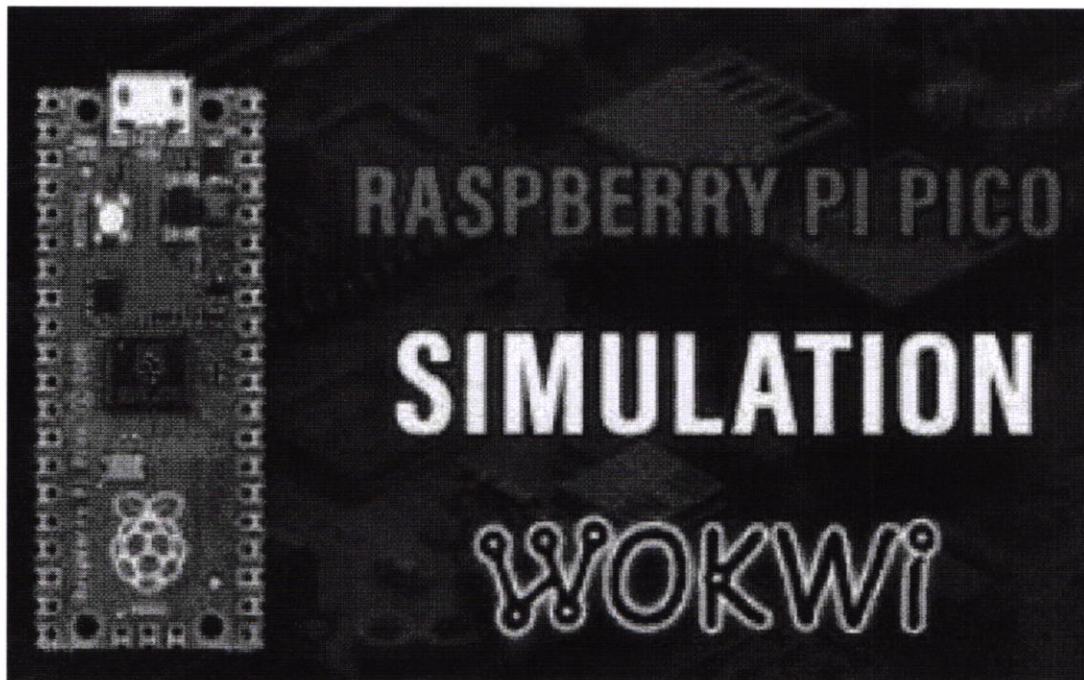
1. Mr. Nishant Kumar, HOD, Dept of EEE.
2. Mr. Amarjeet Kumar, Dept of EEE.
3. Mr. Deepak Kumar, Dept of EEE.



J Dalei
Dean Academics
Dean (Academics)
NSIT, Bihta, Patna
Netaji Subhas Institute of Technology
Amhara, Bihta, Patna.

[Signature]
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PYTHON TRAINING ON RP2040 PROGRAM SYLLABUS



Introduction to embedded systems

- Learning of PYTHON.
- Introduction to RP2040
- Architecture of RP2040

Hardware & Software

- ROM and RAM memory
- CPU
- Peripherals
- Software's and types
- IDE and ISP
- General purpose I/O
- Led's/Switches
- ADC/DAC


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-
- Interrupt
 - Timer/Counter
 - UART
 - DC motor
 - Liquid Crystal Display

Sensor Interfacing

- Temperature Sensor.
- Ultrasonic Sensor.
- OLED Sensor.
- Wireless Protocol Interface.
- Keypad and Joystick Protocol.

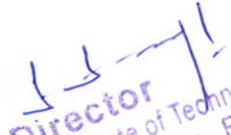
SCHEDULE:

Day 1:

1. Introduction to Raspberry PI (RP2040).
2. Architecture of RP2040.
3. PIN Configuration of RP2040.
4. Comparison Analysis of Various Controllers in RP2040.
5. LED (SINGLE LOOP, FOR LOOP) With RP2040.
6. MULTI Interfaced LED Concept.
7. Real time Traffic Signal Detection.
8. LED with DIP Switch Control Interfaces.

Day 2:

1. Study of Relay control interface With RP2040.


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2. Study of Active Buzzer interface with RP2040.
 3. Study of Multi Buzzer and Relay control interface with RP2040.
 4. Study of Ultrasonic Sensor Interface with RP2040.

Day 3:


1. ADC interface with RP2040.
2. LM35 Temperature Sensor interface with RP2040.
3. LCD Interface with RP2040.

Day 4:

1. Servo Motor Control using a Potentiometer.
2. LCD Interfacing with Ultrasonic Sensor.
3. Burglar Alarm Product.
4. Temperature Sensor with Segment Display.

Day 5: (SIMULATION)

1. OLED interface with RP2040.
2. JOYSTICK BUTTON interfaced with RP2040.
3. KEYPAD interfaced with RP2040.
4. FALL DETECTION by ACCLEROMETER SENSOR.
5. Variable RGB LED by Potentiometer.


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(Simulation is carried in WOKWI Simulator and Hardware will be experimented).


HARDWARE PROJECTS: (10 PROJECTS)

- **TRAFFIC LIGHT DETECTION SYSTEM.**
- **SANITIZER DISPENSER SYSTEM.**
- **STREETLIGHT MANAGEMENT SYSTEM.**
- **COLOUR MONITORING SYSTEM.**
- **SENSOR-BASED AGRICULTURE MONITORING SYSTEM.**
- **SOLAR POWER MONITORING SYSTEM.**
- **DUSTBIN MONITORING ALERT SYSTEM.**
- **FOREST FIRE SAFETY SYSTEM.**
- **TOXIC GAS DETECTION SYSTEM.**
- **LOCATION TRACKING SYSTEM.**

QUOTATION:

TRAINING CHARGES FOR 5 DAYS: 1000/- (PER Student).

HARDWARE CHARGES: 1750/- (PER BATCH).

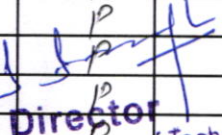

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NETAJI SUBHAS INSTITUTE OF TECHNOLOGY, BIHTA

Session 2023-24

Workshop on PYTHON ON RP2040

S.No	Name of Student	Reg. Number	24th June	25th June	26th June	27th June	28th June
1	NIKHIL RAJ MISHRA	21105103001	P	P	P	P	P
2	SHIVAM KUMAR	21105103002	P	P	P	P	P
3	NIKHIL KUMAR	21105103003	P	P	P	P	P
4	DHANRAJ KUMAR BHAGAT	21105103004	P	P	P	P	P
5	ADITYA RAJ	21105103005	P	P	P	P	P
6	SHIVAM KUMAR	21105103007	P	P	P	P	P
7	ANAND KUMAR	21105103008	P	P	P	P	P
8	PRANAV AYUSH	21105103013	P	P	P	P	P
9	VISHAL RANJAN	21105103015	P	P	P	P	P
10	HARISH VISHWAKARMA	21105103017	P	P	P	P	P
11	ADITYA RAJ	21105103018	P	P	P	P	P
12	AYUSHI SINGH	21105103028	P	P	P	P	P
13	SURBHI SRIVASTAVA	21105103030	P	P	P	P	P
14	RISHAV BHAKTESH	21105103031	A	P	P	P	P
15	HARIOM KUMAR	21105103039	P	P	P	P	P
16	ALOK KUMAR	21105103040	P	P	P	P	P
17	VISHAL KUMAR	21105103041	P	P	P	P	P
18	NAVIN KUMAR	21105103042	P	P	P	P	P
19	RICHA KUMARI	22105103902	P	A	P	P	P
20	KARMJEET SINGH	22105103903	P	P	P	P	P
21	AJEET KUMAR	22105103904	P	P	A	P	P
22	AMIT KUMAR	21101103001	P	P	P	P	P
23	ALOK KUMAR SINGH	21101103002	P	P	P	P	P
24	AMIT KUMAR RAI	21101103003	P	P	P	P	P
25	VISHAL KUMAR	21101103011	P	P	P	P	P
26	SHIVAM KUMAR	21101103012	P	P	P	P	P
27	RAHUL KUMAR	21101103013	P	P	P	P	P
28	SUMIT KUMAR	21101103024	P	P	P	P	P
29	OMKAR CHAUBEY	21101103025	P	P	P	P	P
30	SWETA	22101103004	P	P	P	P	P
31	JYOTI NAINA	22101103005	P	P	P	P	P
32	ABHISHEK	22101103901	P	P	P	P	P
33	UTKARSH KUMAR	22101103902	P	P	P	P	P
34	AMAN KUMAR	22101103903	P	P	P	A	P
35	GYAN PRAKASH	22101103904	P	P	P	P	P
36	PRATIK PRAKASH	22101103905	P	P	P	P	P
37	ASHWINI KUMAR	22101103906	P	P	P	P	P
38	ROHAN ANAND	22101103907	P	P	P	P	P
39	AMIT KUMAR	22101103908	P	P	P	P	P
40	ANAND KUMAR	21102103001	P	P	P	P	P
41	ANIKET KUMAR	21102103004	P	P	P	P	P
42	NAINA KUMARI	21102103005	P	P	P	P	P
43	SAURAV KUMAR	21110103001	P	P	P	P	P
44	ABHISHEK RAJAN	21110103002	A	P	P	P	P
45	ANAND RAJ BHARTI	21110103003	P	P	P	P	P
46	RASHID MAHBOOB	21110103004	P	P	P	P	P
47	SONU KUMAR	21110103006	P	A	P	P	P
48	SURYA KANT	21110103007	P	P	P	P	P


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49	SOHANI SHARAN	21110103008	P	P	P	P	P
50	SHUBHAM MISHRA	22110103901	P	P	P	P	P
51	RISHABH KUMAR	21104103002	P	P	P	P	P
52	AMISHA BHARTI	21104103003	P	P	P	P	P
53	RITIKA JHA	21104103004	P	P	P	P	P
54	DIVAKAR KUMAR	21104103005	P	P	A	P	P
55	PRINCE KUMAR	22104103901	P	P	P	P	A
56	TANYA KUMARI	22104103903	P	P	P	P	P
57	ANJALI KUMARI	22104103904	P	P	P	P	P
58	RAUNAK KUMAR	22104103905	P	P	P	P	P


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Certificate of Participation



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powerintegratedsolutions@gmail.com



This is to certify that **Mr/Ms. SOHANI SHARAN** Reg No. **21110103008**

Has Successfully completed the workshop program on “ **Python on RP2040** ”
from **24.06.2024** to **28.06.2024** conducted by IQAC and the Department of
Electrical and Electronics Engineering at **Netaji Subhas Institute of Technology, Bihata,**
Patna in association with **Power Integrated Solutions, Trichy.**



MANAGING DIRECTOR
Power Integrated Solutions

Abhavit Kumar

Head of Department
Department of Electrical and Electronics Engineering
Netaji Subhas Institute of Technology

JD Ajei

DIRECTOR
IQAC
Netaji Subhas Institute of Technology
Bihata, Patna, Bihar
PIN-901406

Certificate of Participation



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Sastri Road, Thennur, Trichy-17.
powerintegratedsolutions@gmail.com



Since: 2008

This is to certify that Mr/Ms. RASHID MAH GOOZ.....Reg No. 2.111 01 0 3004
Has Successfully completed the workshop program on “ **Python on RP2040** ”
from **24.06.2024** to **28.06.2024** conducted by IQAC and the Department of
Electrical and Electronics Engineering at **Netaji Subhas Institute of Technology, Bihata,**
Patna in association with **Power Integrated Solutions, Trichy.**



MANAGING DIRECTOR
Power Integrated Solutions

Alshauk Kumar

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Department of Electrical & Electronics Engineering
NETAJI SUBHAS INSTITUTE OF TECHNOLOGY

J D Deka

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