Late Purushottam Hari (Ganesh) Patil Shikshan Sanstha's

Mauli Group of Institution's, College of Engineering and Technology, Shegaon

Department of Electronics and Telecommunication Engineering

A.Y.: 2024-2025

Report on "Workshop on Internet of Things"

Programme Venue	Room No. 122
Programme Schedule	14th Jan – 18th Jan 2025
Programme Mode	Offline
Details of Resource Person	Mr. Akhilesh Deo and Mr. Shubham Pandit, Edutech Labs, Pune
Total Number of Students Participated in the Programme	25
Total Number of Faculty Participated in the Programme	02
Programme Coordinator/s	Prof. A. R. Patil

Objective of the Workshop:

To provide participants with foundational knowledge and hands-on experience in IoT technologies, enabling them to design, develop and deploy smart connected systems for real-world applications.

Outcome of the Workshop:

Participants gained hands-on experience with IoT technologies, including sensors, microcontrollers and cloud integration. They learned how to design and develop IoT-based projects, understand real-world applications and build smart systems. The workshop enhanced technical skills, encouraged innovation and provided practical insights into the growing field of IoT.

Brochure:

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Department of Electronics & Telecommunication Engineering

NOTICE

Date: 12/12/2024

All the final year Students of Electronics and Telecommunication Engineering department are hereby informed that one week **workshop on Internet of Things** is scheduled for the registered students. Attendance is mandatory for registered students. The details of workshop are as given:

Resource person: Mr. Akhiesh Deo

Edutech Labs, Pune

Dates: 20th Dec - 24th Dec 2024

Venue: OS Lab

Time: 10AM to 5PM

List of Registered Students:

Sr. No	Name of Student	Sr. No	Name of Student
1	Anushka Rajendra Warade	14	Rutuja Satish Hage
2	Anushka Sunil Burade	15	Sakshi Mahadev Ghatol
3	Apoova Santosh Darmode	16	Sakshi Ramesh Kokate
4	Bhagyashri Pramod Wahile	17	Samiksha Sonaji Dhage
5	Gayatri Omprakash Wankhade	18	Shrutika Ashok Rahane
6	Harsha Pramod Kathole	19	Tapasya Ajay Gawai
7	Komal Gopal Uchade	20	Vaishnavi Dnyaneshwar Dikkar
8	Mohini Ulhas Mirge	21	Vaishnavi Padmakar Narkhede
9	Pranjali Mohan Dhanokar	22	Vaishnavi Pandurang Sontakke
10	Pratiksha Gopalappa Sapate	23	Vaishnavi Pramod Kherde
11	Priti Dnyaneshwar Thakare	24	Vaishnavi Ramdas Wankhade
12	Radha Shantaram Ghumare	25	Vaishnavi Sunil Wagh
13	Rushikesh Vijay Takwale		

Prof. A. R. Patil
Faculty Coordinator

Prof. S. S. Mhaske
HOD-ENTC

Head of Department
Electronics & Telecommunication Engineering
Mauli Group of Institutions

Dr. C. M. Jadhao
Principal

PRINCIPAL
Mauli Group of Institutions

Late Purushottam Hari (Ganesh) Patil Shikshan Sanstha's
Mauli Group of Institution's,
College of Engineering and Technology, Shegaon
AICTE Approved Affiliated to Sant Gadge Baba Amravati University, Amravati ISO 9001:2015 Certified

WORK ORDER

To, Automate Engineering, A-101, Malhar Pride, Shree Control Chowk, Narhe, Pune 41. Maharashtra. India. (Contact No.: 9371063103)	**Order No.:** MGI-COET /ENTC/2024-25/01/Workshop on Embedded System & Internet of Things **Date of Issue:** 10/09/2024
	Ref. Your Quotation No. EL/24-2025/11/01 **Dated:** 09/09/2024
	Sub: Workshop on Internet of Things

Dear Sir,

Please conduct offline **Workshop on Embedded System & Internet of Things** for Electronics and Telecommunication Engineering students of **Mauli Group of Institution's College of Engineering & Technology, Shegaon** from **18/09/2024 to 22/09/2024** as per special terms and conditions mentioned below:-

Sr. No.	Topic	Qty.	Per Student Fees (INR)	Total Amount (INR)
1)	Workshop on Embedded IoT	25 Students	1200/-	30000/-
2)	ESP Development Kit	5	2500/- per kit	12500/-
			Total Amount	42500/-
Total Amount in Words: Forty Two Thousand Five Hundred Rupees only.				

Special Terms & Conditions:
1) The total duration of Workshop is 30 Hours.
2) Hands on training will be given to the students on IoT as per the given syllabus.
3) Certificates should be given to the Participants after successful completion of the workshop. Daily attendance should be taken & provided at the end of training to us.

Prof. A. R. Patil
Faculty Coordinator

Prof. S. S. Mhaske
HOD
Head of Department

Dr. C. M. Jadhao
Principal
PRINCIPAL

Schedule and contents of Workshop on Internet of Things

Duration: 05 Days

Dates: 14/01/2025 to 18/01/2025

Time: 10AM to 5PM

Day 1: Introduction and Basic Setup (6 hours)

1. Introduction to IoT and NodeMCU ESP8266

o Overview of IoT and its applications

o Introduction to NodeMCU ESP8266: features, architecture, and development environment (Arduino IDE)

2. Getting Started with NodeMCU

o Installing Arduino IDE and configuring it for NodeMCU

o Basic GPIO operations: LED blinking, push buttons, etc.

o Hands-on: Write and upload simple LED blink code to NodeMCU

3. Introduction to Blynk Platform

o Overview of Blynk app and dashboard

o Creating a new Blynk project and understanding Blynk widgets (buttons, sliders, etc.)

4. Project 1: LED Control via Blynk

o Connecting NodeMCU to Blynk via Wi-Fi

o Hands-on: Controlling an LED using the Blynk app

o Experiment: Use different widgets (like buttons or sliders) to control brightness or create patterns

Day 2: Sensors and Data Monitoring (6 hours)

1. Working with Sensors

o Introduction to analog and digital sensors

o Overview of common IoT sensors: DHT11/22 (Temperature & Humidity), LDR (Light Sensor),

etc.

2. Project 2: Real-time Sensor Data Monitoring

o Interfacing NodeMCU with DHT11 sensor

o Programming NodeMCU to send sensor data to Blynk

o Hands-on: Monitor temperature and humidity data on the Blynk dashboard

3. Data Visualization and Alerts

o Using Blynk widgets (Graph, Gauge, etc.) to visualize sensor data

o Setting up notifications and alerts on the Blynk app

4. Experiment: Create Your Own Sensor Dashboard

o Choose another sensor (like LDR or soil moisture sensor) and build a similar monitoring dashboard

Day 3: Actuators and Control Systems (6 hours)

1. Introduction to Actuators

o Understanding relays, servo motors, and DC motors

o Interfacing NodeMCU with relays and motors

2. Project 3: Smart Home Automation

o Controlling home appliances (e.g., lights or fans) using relays and the Blynk app

o Hands-on: Build a simple smart light/fan control system using relays

3. Advanced Actuation with Servo Motors

o Interfacing and controlling servo motors using NodeMCU and Blynk

o Hands-on: Design a servo-controlled door lock system

4. Experiment: Expand Smart Home System

o Add features like scheduling, real-time monitoring, or integration with additional sensors

Day 4: Advanced IoT Projects (6 hours)

1. Working with Multiple Devices and Cloud Integration

o Configuring multiple NodeMCUs in a single Blynk project

o Understanding cloud integration and webhooks

2. Project 4: Smart Garden System

o Interfacing multiple sensors (like soil moisture, temperature, and light) to create a smart garden monitoring system

o Automating watering using relays or pumps controlled by NodeMCU

3. Experiment: Create Your Own IoT Application

o Design a unique IoT project using the concepts learned (e.g., smart pet feeder, security system, etc.)

Day 5: Integration, Troubleshooting, and Presentation (6 hours)

1. Advanced Troubleshooting Techniques

o Common issues with NodeMCU and Blynk integration

o Debugging and error resolution techniques

2. Project 5: Final Group Project Development

o Divide participants into groups and assign final projects

o Examples: Mobile App-operated home automation, remote weather station, smart pet feeder, security system

o Hands-on: Build, test, and debug the final project

3. Presentation and Demonstration

o Groups present their final projects, explaining the design, challenges, and solutions

o Demonstrate the projects live

4. Mock Interview Session

o Conduct a mock interview session focused on IoT, embedded systems, and the Blynk platform

o Interview questions covering fundamentals, project experience, troubleshooting, and realworld applications

o Provide feedback on participants' responses, resume tips, and improvement areas

5. Wrap-Up and Q&A Session

o Discuss real-world applications and future learning paths

o Q&A session for doubts and additional resources

Kit Includes the Following: -

o ESP8266 Node-MCU Controller

o Micro USB Programming Cable

o Breadboard

o Zero PCB

o Sensorso DHT11 Sensor, MQ3 Sensor, LDR, Soil Moisture Sensor, Ultrasonic, PIR / IR Sensor etc.

o Motors / Actuatorso Relay 1 channel / 2 channels, Servo Motor, DC Motor, Water Pump etc.

o Jumper Wires for connection

Patil

Faculty Coordinator

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Department of Electronics and Telecommunication Engineering

Attendance Sheet

Workshop on Internet of Things

Trainer Name: - Mr. Akhilesh Deo, Pune

Sr No.	Student Name	Student Signature				
		14/01/25	15/01/25	16/01/25	17/01/25	18/01/25
1	Pratha J. Gore					
2	Anushka Sunil Burade					
3	Apoova Santosh Darmode					
4	Bhagyashri Pramod Wahile					
5	Sheeyas Arvind paturde					
6	Harsha Pramod Kathole					
7	Komal Gopal Uchade					
8	Mohini Ulhas Mirge					
9	Pranjali Mohan Dhanokar					
10	Pratiksha Gopalappa Sapate					
11	Priti Dnyaneshwar Thakare					
12	Radha Shantaram Ghumare					
13	Rushikesh Vijay Takwale					
14	Rutuja Satish Hage					
15	Sakshi Mahadev Ghatol					
16	Sakshi Ramesh Kokate					
17	Samiksha Sonaji Dhage					
18	Shrutika Ashok Rahane					
19	Tapasya Ajay Gawai					
20	Vaishnavi Dnyaneshwar Dikkar					
21	Vaishnavi Padmakar Narkhede					
22	Vaishnavi Pandurang Sontakke					
23	Shankar Thakur					
24	Vaishnavi Ramdas Wankhade					
25	Vaishnavi Sunil Wagh					

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HOD - ENTC

Head of Department
Electronics & Telecommunication Engineering
Mauli Group of Institutions
College of Engineering & Technology
Shegaon-444 203 (M.S.) Buldana


Geo Tagged photos of Workshop
GPS Map Ca
Shegaon, Maharashtra, India
QM72+76X, Khamgaon Rd, Shegaon, Sawarna, Maharashtra 444203,
Lat 20.762686°
Long 76.649511°
15/01/25 10:46 AM GMT +05:30


GPS Ma
Shegaon, Maharashtra, India
QM72+76X, Khamgaon Rd, Shegaon, Sawarna, Maharashtra 444
Lat 20.762686°
Long 76.649511°
15/01/25 10:47 AM GMT +05:30


Mauli Group of Institution's
Electronics Students Association
GPS Map Camera
Lasura Bk., Maharashtra, India
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Lat 20.765439°

Model Certificates:

AUTOMATE ENGINEERING

Office Address 1st Floor, Malhar Pride, Shree Control Chowk, Narhe Industrial Area, Pune 43
Phone No: +91 7768999659
E-mail: connect.automate@gmail.com
Website: www.aeiot.in

IoT Training Workshop Certificate

Name – Anushka Sunil Burade

Domain – PCB design and IoT

Date – -14-01-2025 to 18-01-2025

Modules executed-
1. PCB designing
2. Soldering a 5V power supply on PCB
3. Working with Sensors and ESP8266
4. Programming in Arduino IDE
5. IOT projects using Blynk Cloud

During the period of Project Training Program at AUTOMATE ENGINEERING, the Candidate was found punctual, hardworking and inquisitive.

We wish him/her every success in life.

For AUTOMATE ENGINEERING

Authorized Signature

Prof. A. R. Patil
ESA Coordinator
ENTC Department

Prof. S. S. Mhaske
HOD-ENTC
MGI-COET, Shegaon