PROGRAMME REPORT ON

Value Added Course-Robatics and IOT

Resource Person

Mr.G.Pavan Kalyan, TANCAM, Chennai

Organized by

ECE- PMIST
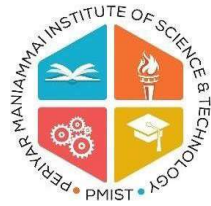
REPORT ON
VALUE ADDED COURSE

ROBOTICS AND IOT

ORGANISED BY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

ENGINEERING & CENTRE FOR EXCELLENCE IN TRAINING AND

RESEARCH IN AUTOMATION TECHNOLOGY (CETAT)

DATE: 4-03-2025 - 8-03-2025

TIME: 09.00 am - 04.00 pm

INDEX

1. OBJECTIVE

➢ Understand the building blocks of robots and its types.

➢ Explore Arduino IDE for programming the basic commands for ESP32.

➢ Assembling the humanoid robot and interfacing it with IoT.

2. POSTER

3. COURSE CONTENT

Sl. No.	Course modules	Hours
1.	Fundamentals of Robotics and IOT	**6**
2.	Hands on experience with Arduino IDE	**6**
3.	Electronic ckt design and sensor integration	**6**
4.	Robot assembling and IoT interfacing	**6**
5.	Algorithm planning and AI implication	**6**

4. SESSION SCHEDULE

Sl. No.	DAY	FN: 09.00 AM to 12.30 PM	AN: 1.30 PM to 4.00 PM
		SESSION 1	SESSION 2
1	Day 1	Introduction to Robotics,& IOT,	Electronics assembling and debugging
2	Day 2	Programming with C++	assembly the robotic kit
3	Day 3	Wireless communication protocols	Artificial Intelligence and Machine Learning in Wireless Networks
4	Day 4	sensor integration	algorithm planning
5	Day 5	Ai and advanced application	Feedback session and validiction

5. LIST OF STUDENTS ENROLLED

S.N0	Register Number	Name
1.	123011025001	AKSHAYA K S
2.	123012025002	ARSATH THAHA M
3.	123012025003	ARUN PRASANTH S
4.	123012025004	ARUNACHALAEESHVARAN M
5.	123011025005	ARUNCHUNAI NIVETHA G
6.	123011025007	ASWITHA K
7.	123011025008	BHUVANESHWARI V
8.	123012025009	GNANAUDHAYAN S
9.	123012025010	HARIHARAN P
10.	123011025011	JANARANJANI A
11.	123012025012	KIRTHIK ESWARAN S
12.	123012025013	MAGESH R J
13.	123012025014	MOHAMED SAMEEN U
14.	123012025015	NIKASH B
15.	123011025016	NITHERSHINI B
16.	123011025017	POONNRAAGA SHRI S
17.	123012025018	PRAGADEESH R
18.	123012025019	PRAKASH B
19.	123012025020	PRAVEENRAJ S
20.	123012025021	PUGAZHVENDHAN A
21.	123012025022	RAAKESH D
22.	123011025024	RUKSHANA BEGUM N
23.	123012025025	SAIRAM B
24.	123012025026	SIYAAM SUNDER S
25.	123011025027	SRIMATHI T
26.	123012025028	SRIRAM K
27.	123011025030	VARSHA G K
28.	123012025031	VEERAIYA M
29.	123012025032	VISWANTH C
30.	123011025033	YOHA LAKSHMI M
31.	123011025034	YOHIDHAA T
32.	124012062442	KATHIRAVAN P
33.	124012062444	SANTHOSH S
34.	124012062445	SIVASAKTHI T
35.	124012062446	SURENDAR M
36.	124012076001	RANJITH S S
37.	1220110131114	B.SRIVITHYA
38.	1220110131117	S.SUVATHI
39.	1220120131074	D.AVANESH
40.	1220120131088	S.JUSTI BENEDICFERNANCE
41.	1220120131105	R.RAJAKAVIVARMAN
42.	1220120131077	S.DINESH
43.	1220120131093	M.KEROS

6. ATTENDANCE

S.No	Register Number	Name	04.03.25		05.03.25		06.03.25		07.03.25		08.03.25	
			FN	AN	FN	AN	FN	AN	FN	AN	FN	AN
1.	123011025001	AKSHAYA K S	P		P		P		P		P	
2.	123012025002	ARSATH THAHA M	P		P		P		P		P	
3.	123012025003	ARUN PRASANTH S	P		P		P		P		P	
4.	123012025004	ARUNACHALAEESHVARAN M	P		P		P		P		P	
5.	123011025005	ARUNCHUNAI NIVETHA G	P		P		P		P		P	
6.	123011025007	ASWITHA K	P		P		P		P		P	
7.	123011025008	BHUVANESHWARI V	P		P		P		P		P	
8.	123012025009	GNANAUDHAYAN S	P		P		P		P		P	
9.	123012025010	HARIHARAN P	P		P		P		P		P	
10.	123011025011	JANARANJANI A	P		P		P		P		P	
11.	123012025012	KIRTHIK ESWARAN S	P		P		P		P		P	
12.	123012025013	MAGESH R J	P		P		P		P		P	
13.	123012025014	MOHAMED SAMEEN U	P		P		P		P		P	
14.	123012025015	NIKASH B	P		P		P		P		P	
15.	123011025016	NITHERSHINI B	P		P		P		P		P	
16.	123011025017	POONNRAAGA SHRI S	P		P		P		P		P	
17.	123012025018	PRAGADEESH R	P		P		P		P		P	
18.	123012025019	PRAKASH B	P		P		P		P		P	
19.	123012025020	PRAVEENRAJ S	P		P		P		P		P	
20.	123012025021	PUGAZHVENDHAN A	P		P		P		P		P	
21.	123012025022	RAAKESH D	P		P		P		P		P	
22.	123011025024	RUKSHANA BEGUM N	P		P		P		P		P	
23.	123012025025	SAIRAM B	P		P		P		P		P	
24.	123012025026	SIYAAM SUNDER S	P		P		P		P		P	
25.	123011025027	SRIMATHI T	P		P		P		P		P	
26.	123012025028	SRIRAM K	P		P		P		P		P	
27.	123011025030	VARSHA G K	P		P		P		P		P	
28.	123012025031	VEERAIYA M	P		P		P		P		P	
29.	123012025032	VISWANTH C	P		P		P		P		P	
30.	123011025033	YOHA LAKSHMI M	P		P		P		P		P	
31.	123011025034	YOHIDHAA T	P		P		P		P		P	
32.	124012062442	KATHIRAVAN P	P		P		P		P		P	
33.	124012062444	SANTHOSH S	P		P		P		P		P	

34.	124012062445	SIVASAKTHI T	P	P	P	P	P
35.	124012062446	SURENDAR M	P	P	P	P	P
36.	124012076001	RANJITH S S	P	P	P	P	P
		III year ECE					
37	1220110131114	B.Srivithya	P	P	P	P	P
38	1220110131117	S.Suvathi	P	P	P	P	P
39	1220120131074	D.Avanesh	P	P	P	P	P
40	1220120131088	S.Justi BenedicFernance	P	P	P	P	P
41	1220120131105	R.Rajakavivarman	P	P	P	P	P
42	1220120131077	S.Dinesh	P	P	P	P	P
43	1220120131093	M.Keros	P	P	P	P	P

HOD /ECE
Dr.C.Narmadha
Head of the Department,
Department of Electronics & Communication Engineering
Periyar Maniammai Institute of Science & Technology,
Vallam, Thanjavur - 613 403,

Coordinator
AP /ECE
Mr.U.Saravanakumar

01_Objective

7. SUMMARY

The Department of Electronics and Communication Engineering in joint hands with Centre for Excellence in training and research in Automation Technology organized Value-Added Program on "Robotics and IoT". The trainer Mr. Bhavan Kalyan is from Tamilnadu Centre of Excellence in Advance Manufacturing (TANCAM). The TANCAM offer the certificate for the trained student with M/s Dassault Systems Students able to understand the evolution of robots, the basic building blocks of robots starting from sensors, controllers and actuators. They also learnt how to write C code in Arduino IDE environment.
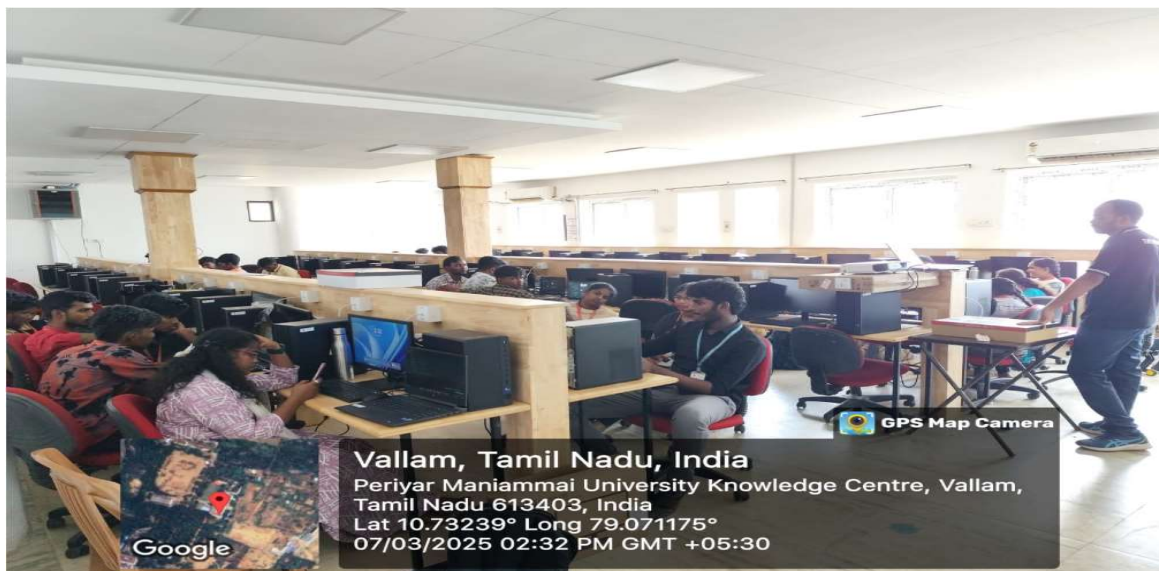
The Resource Person Mr. Bhavan Kalyan, Robotics Engineer from TANCAM The objective of this value added course cover the following

1. To introduce students to the fundamentals of robotics, IoT, and their real-world applications.
2. To provide hands-on experience in assembling, debugging, and programming robotic systems.
3. To develop proficiency in integrating sensors, actuators, and microcontrollers for intelligent robotic applications.
4. To familiarize students with wireless communication protocols and IoT-based robotic control.
5. To introduce AI concepts in robotics and explore advanced applications like autonomous navigation and machine learning.
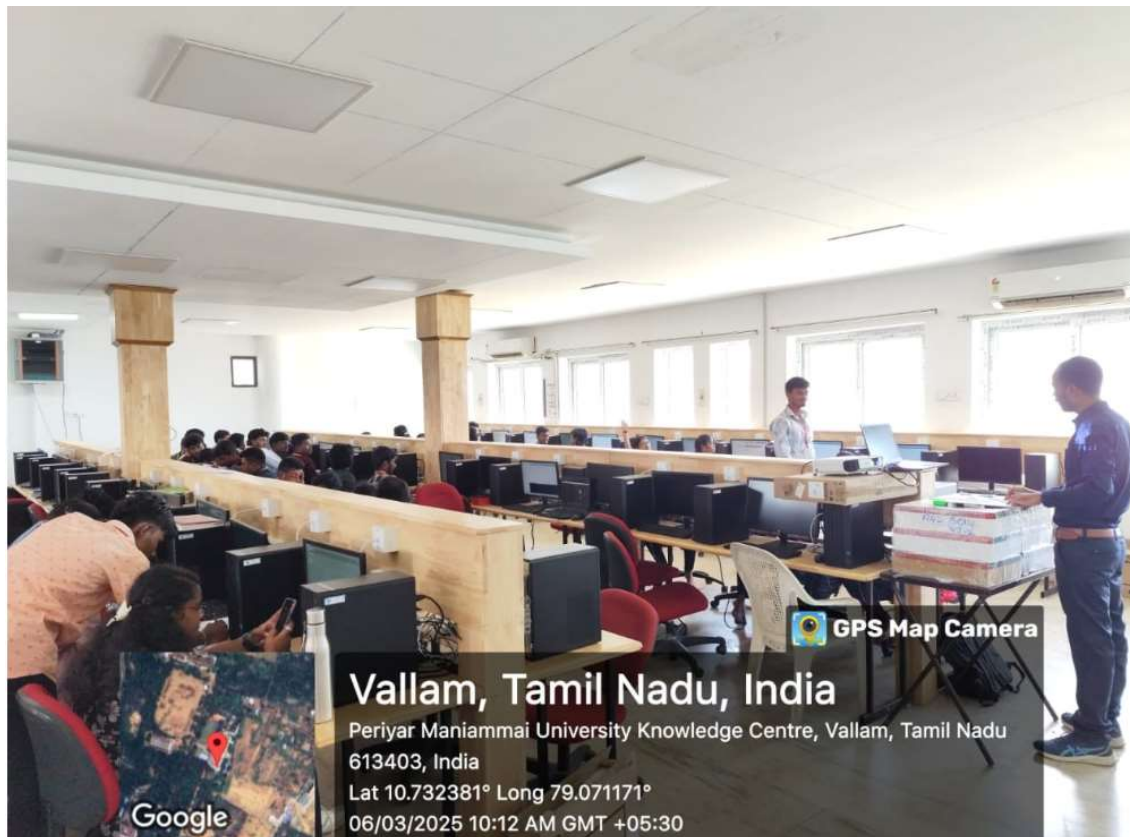
Inauguration welcome address by Dr. Rakesh, Director CETAT

Mr. Bhavan Kalyan Resource person gave lecture on Robotics

Students working as a team and interacting with the resource person

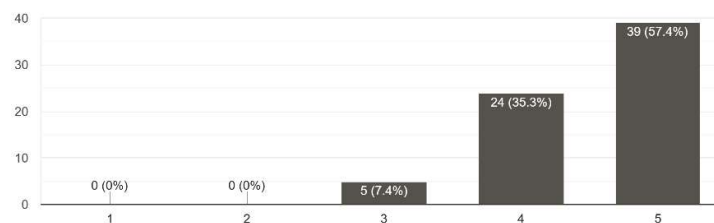Students working as a team

Students assembling the Robot kit

Students assembling the Robot kit
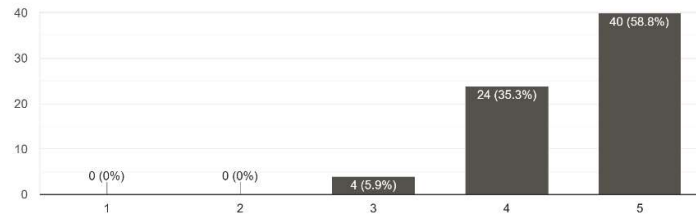
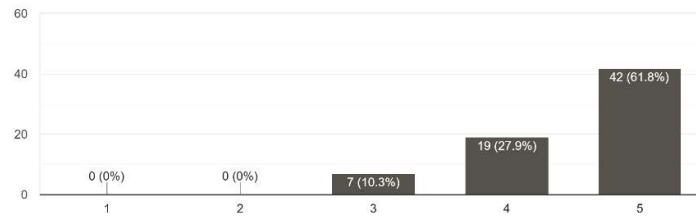## 8. SAMPLE CERTIFICATES

FEEDBACK

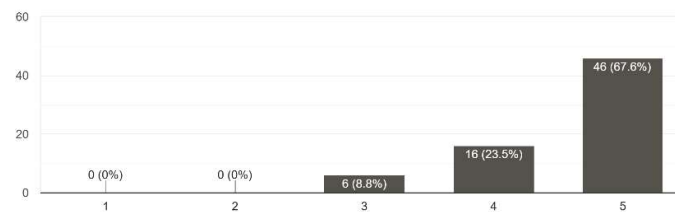Information shared met with your expectation.
68 responses

The content of the session was informative and beneficial.
68 responses

How satisfied were you with the overall course.
68 responses

How would you rate the communication and interaction by the speaker?
68 responses

9. OUTCOME

After completion of the Value-Added Course, the students are able to

1. Demonstrate a fundamental understanding of robotics, IoT, and their role in automation and smart systems.
2. Successfully assemble, troubleshoot, and debug circuits for robotic applications using microcontrollers and developer modules.
3. Write and implement programming codes for robotic movement, motor control, and sensor integration.

01_Objective

4. Establish wireless communication and cloud connectivity to enhance robotic functionality using IoT protocols.
5. Apply AI concepts and machine learning techniques to develop autonomous robotic systems for real-world applications.

10. IMPACT

3 teams from Second year (total 9 students) who participated this value added course have applied for TNWISE woman's hackathon program which is to be conducted on 14th March at Sona college of Engineering, Salem. This program TNWISE is also organized by TANCAM.