Department of EEE

2.3.1 Student-centric methods such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences:

Sl no	Detail of participative learning	Count
1	Internship details	54
2	Project Miniproject Live-in Lab	35 31 31
3	Workshop, Seminar attended	42
4	Paper presented	9
5	E-quiz conducted	20
6	Add on courses: Nasscom Futureskills IIT Bombay spoken tutorials	 288 344
7	Others	IEEE xtreme-5 teams Hackathon- 14 teams-Participated; 2 teams- winners

Internship details

INTERNSHIP DETAILS 2021-2022

S.No	Student id	Registration No	Student Name	year	sem	Internship	FROM	TO
1	SEC20EE021	412520105074	R SURYA	II	III	Softrate India	27/03/21	27/09/21
2	SEC20EE068	412520105059	SATHMIKAN I	II	III	Ifortis Worldwide	31/05/2021	16/07/2021
3	SEC20EE023	412520105081	VENKATESHWARAN A	II	III	Ifortis Worldwide	31/05/2021	16/07/2021
4	SEC20EE093	412520105006	AKSHAYA A	II	III	Nanjil Anand Foundation	13/05/2021	13/11/2021
5	SEC20EE024	412520105002	ABINAYA R	II	III	IFORTIS	31/05/21	16/07/2021
6	SEC20EE017	412520105068	SUBIKSA G	II	III	Genik Research Institute	15/5/21	26/6/22
7	SEC20EE046	412520105058	SARVESH G	II	III	Internbug	30/06/2021	15/07/2021
8	SEC20EE023	412520105081	VENKATESHWARAN A	II	III	Internbug	14/06/2021	29/06/2021
9	SEC20EE046	412520105058	SARVESH G	II	III	Aashman Foundation	June 2021	Sep 2021
10	SEC19EE006	412519105088	VASUNDHARA L	III	V	Vecmocon Technologies	15-07-2021	15-12-2021
11	SEC20EE093	412520105006	AKSHAYA A	II	III	Anti Corona Force(NGO)	12/07/2021	12/10/2021
12	SEC19EE038	412519105007	AOUTHITHIYE BARATHWAJ SR Y	III	V	VECMOCON Technologies, Delhi	15/07/2021	15/12/2021
13	SEC19EE080	412519105041	NANDHINI S	III	V	genik	01/07/2021	10/08/2021
14	SEC19EE019	412519105023	HAARIHARAN N C	III	V	VECMOCON Technologies,Chennai	15/07/2021	15/12/2021
15	SEC20EE089	412520105030	KARISH LEELA M	II	III	Genik Research Institute	22/08/21	22/10/21
16	SEC20EE022	412520105060	SELVAPRIYA V	II	III	Genik Research Institute	22/08/21	22/10/21
17	SEC20EE017	412520105068	SUBIKSA G	II	III	Genik Research Institute	22/08/21	22/10/21
18	SEC20EE064	412520105009	ARCHANA R	II	III	Genik Research Institute	01/08/2021	21/01/2022
19	SEC19EE028	412519105015	DEVA SARAVANAN S	III	V	uniq	25/08/2021	07/09/2021
20	SEC19EE033	412519105060	SAISUDHA G	III	V	Southern Railways	17/09/2021	04/10/2021
21	SEC19EE025	412519105057	RISHIKA G	III	V	TechnoColabs	20/08/2021	20/09/2021
22	SEC19EE001	412519105008	ARAVINTHAN K	III	V	TVS Training and Services	24-08-2021	31-08-2021
23	SEC19EE049	412519105048	PRATHISH KUMAR U	III	V	Larsen & Toubro	23-08-2021	17-09-2021
24	SEC19EE027	412519105068	SHRIRAM R	III	V	Genik Research Institute	05-08-2021	18-11-2021
25	SEC19EE025	412519105057	RISHIKA G	III	V	Lets grow more	August,2021	September,2021
26	SEC19EE019	412519105023	HAARIHARAN N C	III	V	ICF,Chenni	15/09/2021	29/09/2021
27	SEC19EE033	412519105060	SAISUDHA G	III	V	Southern Railways	17/09/2021	04/10/2021
28	SEC19EE038	412519105007	AOUTHITHIYE BARATHWAJ SR Y	III	V	ICF,Chenni	15/09/2021	29/09/2021
29	SEC19EE006	412519105088	VASUNDHARA L	III	V	Southern Railway	17-09-2021	04-10-2021
30	SEC19EE019	412519105023	HAARIHARAN N C	III	V	ICF,Chenni	15/09/2021	29/09/2021

31	SEC19EE042	412519105033	KRISHNAKANTH L	III	V	IP Rings Limited Chennai	13/09/2021	11/10/2021
32	SEC19EE026	412519105066	SHANMUGA PRIYA A	III	V	SRF LIMITED, Chennai	15/09/ 2021	30/09/2021
33	SEC19EE064	412519105006	AKASH A	III	V	IP Rings	13-09-2021	11-10-2021
34	SEC19EE076	412519105055	RIKSHITHA E	III	V	Renault Nissan	16-09-2021	17-11-2021
35	SEC19EE008	412519105016	DHEEPTHA D	III	V	codebind technologies	25/10/2021	29/10/2021
37	SEC19EE040	412519105070	SIVAANII D	III	V	Tech with P	20/10/2020	20/01/2021
36	SEC19EE013	412519105034	KRISHNA PRIYA P	III	V	codebind technologies	25/10/2021	29/10/2021
38	SEC19EE031	412519105065	SATHYA PRIYA J	III	V	CodeBind Technologies	25-10-2021	29-10-2021
39	SEC20EE041	412520105007	AMOSE DAVID A	II	III	CyberHakz	10/12/21	17/12/21
40	SECL21EE05	SECL21EE05	S ABHIJAY GOPAL	II	III	SPACE	27/01/2022	10/02/2022
41	E8EE093	412518105002	ABINANDHAN A	IV	VII	CTS Internship	29.01.2022	
42	E8EE093	412518105002	ABINANDHAN A	IV	VII	National Small Industries Corporation Limited	27.07.2021	02.08.2021
43	E8EE013	412518105011	BRINDA P M	IV	VII	CTS Internship		
44	E8EE012	412518105012	DEEPTHI K	IV	VIII	CGI Internship	05.03.2022	
45	E8EE003	412518105023	HARI HARAN N	IV	VII	Guardian Internship		
46	E8EE046	412518105051	RAGAVENDRA R P	IV	VII	Hexaware Internship		
47	E8EE017	412518105052	RAKSHANIVASINI R S	IV	VII	CTS Internship	14.03.2022	
48	E8EE097	412518105071	SRIHARI S	IV	VII	CTS Internship		
49	SECL19EE07	412518105306	SATHISH R	IV	VII	National Small Industries Corporation Limited	27.07.2021	02.08.2021
50	E8EE050	412518105004	AKSHARA M	IV	VII	CTS internship	3 MONTHS	
51	E8EE006	412518105042	NAVIN S K	IV	VII	Zoho Internship	3 MONTHS	
52	E8EE083	412518105045	NIVETHA K	IV	VII	mu-sigma internship	3 MONTHS	
53	E8EE063	412518105058	SANGAVI T	IV	VII	mu-sigma internship	3 MONTHS	
54	E8EE064	412518105085	VIGNESH K	IV	VII	cts internship	3 MONTHS	

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From 28.02.2022 To 29.03.2022

M.Malaiyappan
Director
Pantech e Learning

Dr.Ravi Gujjala
Chief General Manager (Technical)
APSSDC

No. : 16499

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NSIC - TECHNICAL SERVICES CENTRE,

Sector B-24, Guindy Industrial Estate, Ekkaduthangal, Chennai - 600 032

CERTIFICATE

This is to certify that Mr/Ms. **ABINANDHAN A.** S/o/D/o Shri **ARUL** student of III year B.Tech/B.E (EEE) Sri Sairam Engineering College, has undergone **Virtual Internship Training on ELECTRIC VEHICLES** conducted by us for a period of one week from 27.07.2021 to 02.08.2021

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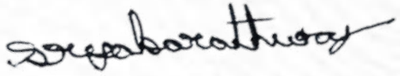
Certificate of Internship

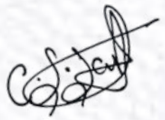
Srinidhi Srinivasan

from Department of EEE, Sri Sairam Engineering College
has successfully completed Project Internship program during
15th May to 26th June 2021 at Genik Research Institute in

Machine Learning



Aouthithiye Barathwaj SR Y
Instructor & Program
Director, MLIP'21



Sai Ganesh CS
Mentor, MLIP'21
Director - AI

GMLIP-M000029 *Verify the certificate at geniktech.com/IP/ML21M*

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Convolutional Neural Networks,
& Recurrent Neural Networks
along with a **Capstone Project**

No. : 16505

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Sector B-24, Guindy Industrial Estate, Ekkaduthangal, Chennai - 600 032

CERTIFICATE

This is to certify that Mr/Ms. **SATHISH R.** S/o/D/o Shri **RANGANATHAN D.** student of IV year B.Tech/B.E (EEE) Sri Sairam Engineering College, has undergone **Virtual Internship Training on ELECTRIC VEHICLES** conducted by us for a period of one week from 27.07.2021 to 02.08.2021

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HEAD OF TRAINING

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SRF-HR
30th Sep 2021

Completion Letter

1.	Name	: Swetha S
2.	Father Name	: P Saravana Kumar
3.	College	: Sri Sairam Engineering College
4.	Course	: EEE
5.	Internship Period	: 15-Sep-2021 – 30-Sep-2021
6.	Department	: Electrical
7.	Conduct and Character	: Good

Yours faithfully
For SRF LIMITED

K. Kalaiselvan
General Manager – HR

SRF LIMITED
Manali Industrial Area
Manali, Chennai 600 068. India
Tel : 91-44-25946000
Fax : 91-44-25943072

Regd. Office:
The Galleria, DLF Mayur Vihar,
Unit No. 236 & 237, Second Floor, Mayur Place
Noida Link Road, Mayur Vihar Phase I Extn.
Delhi - 110 091

CIN No.: L18101DL1970PLC005197
Email ID : info@srf.com
website : www.srf.com

Genik Research Institute Δ
(Managed by Genik Group.)
Kamarajapuram, Chennai,
Tamil Nadu, India, 600073
Industrial AI & Robotics
- Research & Development Organization

Ref. no. RDI36 Date: 18/03/2022

TO WHOM IT MAY CONCERN

This is to certify that **Ms. VARSNI RS** (B.E / EEE / III Year) from Sri Sai Ram Engineering College, Chennai, has successfully completed the R&D Internship at our company and worked on the project "IoT Based Fishing and Security System for Watercraft Vessels" during the period from 1st August 2021 till 21st January 2022.

She has been an industrious and a diligent student who has a great penchant towards acquiring advanced and extensive erudition. She indulged in the assignments given with an optimistic attitude and have always contributed cheerfully in the projects and discussions.

We wish her all the best in her future endeavours.

(FOR GENIK RESEARCH INSTITUTE)

Sai Ganesh CS
Director - AI

Final year Project

Sri Sairam Engineering College

Department of EEE

Project team details- EEE- 2021-2022 academic year

S.No.	Project ID	Student ID	Register Number	Name of the Batch Member	Section	Project Title	Name of the Project Guide
1		E8EE093	412518105002	ABINANDHAN.A	A		
		E8EE028	412518105043	NITHISH KUMAR.D	A		
	SECEE22PJ01	E8EE003	412518105023	HARI HARAN.N	A	Agro Rover	Dr.R Azhagumurugan
2		E8EE030	412518105033	KARTHIKEYAN R	C		
		SECL19EE01	412518105301	Balaji S	B		
	SECEE22PJ02	E8EE080	412518105022	Gokulapriyan K	C	E-CYCLE	Dr.T.Porselvi
3		E8EE048	412518105064	SHIVANI GOPIKA K	C		
		E8EE024	412518105047	OVIYA R	C		
	SECEE22PJ03	E8EE058	412518105009	ATCHAYA R	C	Designing of energy efiicient motor for electric vehicles	Dr.T.PORSELVI
4		E8EE068	412518105019	ENIYAN. S	B		
		E8EE011	412518105025	HARISH. M	B	Automatic Object and Crack Detecting System in railway tracks using Arduino UNO	
	SECEE22PJ04	E8EE096	412518105014	DHANESHH. S	A		DR. B. MEENAKSHI
5		E8EE055	412518105041	Muthulakshmi K	C		
		E8EE036	412518105008	P. Ashwini	A	Demand Response Framework for minimizing power loss by Optimizing DG Parameters	
	SECEE22PJ05	E8EE042	412518105013	Dhanalakshmi K	B		Dr.C.Nayanatara
6		E8EE070	412518105031	Kaleeswari. R	C		
		E8EE063	412518105058	SANGAVI. T	B		
	SECEE22PJ06	E8EE017	412518105052	Rakshanivasini. R S	A	IoT Based Blood Glucose Monitoring System	RAJAKUMAR. P
7		E8EE050	412518105004	Akshara M	B		
		E8EE021	412518105021	Gayathri A	C	Demand side Load Management by Priority based load shifting in the power system distributed network	
	SECEE22PJ07	E8EE083	412518105045	Nivetha K	B		Ms.P.Shanmugapriya
8		E8EE085	412518105048	S.prabhakaran	C		
		E8EE052	412518105035	M.KISHORE	A	Prevent and safety measures of structural damage detection of bridges	
	SECEE22PJ08	E8EE092	412518105003	B.AKASH	C		Dr.A.SANJEEVI GANDHI
9		E8EE006	412518105042	Navin SK	B		
	SECEE22PJ09	E8EE001	412518105059	Saran Sreedhar Vellore	A	Spacenine- NEMO	Dr. Saswati Kumari Behera
10		E8EE059	412518105046	OOVIYA M	C		
		E8EE077	412518105089	MANISHA P	C		
	SECEE22PJ10	E8EE082	412518105015 [2]	DHARANIDARAN L [3]	C	Investigation of battery performance in the electric scooter [1]	ANITHA N
11		E8EE037	412518105074	K. Subramaniya shiva	C		
		E8EE077	412518105077	S Surya Ananth	C		
	SECEE22PJ11	E8EE049	412518105049	Praveen SS	A	Smart System for Electric Vehicle	R. Sivaprasad
12		E8EE013	412518105011	BRINDA P M	A		
		E8EE004	412518105010	BALASNEKA G	B	Design and Display of Battery Management System using Arduino	
	SECEE22PJ12	E8EE021	412518105034	KHUSHI P	A		Dr. C. PRIYA
		E8EE051	412518105030	JEYASHRI R	A		

13		E8EE035	412518105050	PREETHI S	A		
	SECEE22PJ13	E8EE014	412518105075	SUJI S	A	Face Recognition based smart security System	HEMALATHA M
		E8EE009	412518105057	SAI SHARON S	A		
14		E8EE010	412518105061	SETHU SABARI T	A	Performance Anaysis of interior permanent magnet BLDC motor for electric vehicle	
	SECEE22PJ14	E8EE035	412518105066	SHREENATH MR	B		L.Kurinjimalar
		E8EE035	412518105062	SHANKAR RAM R	A		
15		E8EE035	412518105040	MUTHU KRISHNAN M	B		
		E8EE064	412518105085	VIGNESH K	B		
	SECEE22PJ15	E8EE078	412518105086	VIGNESH K G	B	SMART FARMING USING IOT	SHALINI PRIYA J
		E8EE025	412518105036	Kumaresh R K	A		
16		E8EE076	412518105027	Harish Srivathsan J K	B	Smart Home Energy Meter Monitoring System with cloud data base Connectivity	
	SECEE22PJ16	E8EE061	412518105054	Ranjith S	C		Malini V
		E8EE034	412518105026	Harish R	C		
17		E8EE069	412518105039	Mohanasundaram S	C	solar powered agricultural pump using dual output convertor [4]	
	SECEE22PJ17	E8EE072	412518105083	Vasu S	C		Mr.Rajasekaran M
		E8EE029	412518105069	SIVASAKTHI S	C		
18		E8EE026	412518105084 [6]	VEDHASRINIDHI.D [7]	C	Analysis of single phase bi directional Electric drive reconstructed on board fuzzy controlled convertor for electric vehicle.	
	SECEE22PJ18	E8EE067	412518105037 [8]	LOGESH.B [9]	C		Dr B Meenakshi [5]
19		E8EE084	41251805070	Sivasree A	B	EV charging station integrated with wireless power transmission and PV generation	
	SECEE22PJ19	E8EE056	412518105053	Ranjani D	B		Rajkumar k
		E8EE046	412518105051	Ragavendra.R.P	A		
20		E8EE039	412518105056	Sabari krishnan.s	C		
		E8EE023	412518105016	Dharani kumar.P	C		
	SECEE22PJ20	E8EE015	412518105038	MARSHAL A	B	Digital Holographic system based food supply management	Jeeva.c
21		E8EE047	412518105028	Janani R	B		
	SECEE22PJ21	E8EE045	412518105067	Shruthi M	B	Augumented reality based smart resturant	Dr K Prathibanandhi
		E8EE053	412518105032	KARTHIKEYAN B	B		
22		SECL19EE05	412518105302	Chenamuri Venkata Su	A		
	SECEE22PJ22	E8EE091	412518105073	Subash Chandra Bose	C	Industrial environmental monitoring and rectifing system	Ms CHITHRA.V
		E8EE031	412518105029	S.Jawahar	B		
23		E8EE062	412518105079	G Swaminathan	B		
		E8EE095	412518105088	R VISHNU	A		
	SECEE22PJ23	E8EE094	412518105068	SIRIMELLA ESWAR SAI GA	B	PH meter calibration and hydroponics	Arulselvam
		E8EE027	412518105087	Vijay Ramanathan N	C		
24		E8EE043	412518105082	Timothy AV	B	Stator water cooling system control using PLC for high capacity generator	
	SECEE22PJ24	E8EE033	412518105017	Dheepakkaran ES	B		Ms. R.Kothai
		SECL19EE06	412518105307 [10]	SRIRAM L [11]	B		
25		E8EE044	412518105007	ARJUN PRASAD P	B	A smart system for bus pass and health inspection in college bus transportation [12]	
	SECEE22PJ25	E8EE004	412518105072	SUBASH A	C		Dr Suresh
		E8EE060	412518105006	ARIVARASAN N	A		
26		E8EE088	412518105001	ABID MOHAMMED M	A	FREE ENERGY MECHANISM BY PERPUTUAL MOTION USING DYNAMO MOTOR	
	SECEE22PJ26	SECL19EE07	412518105306 [13]	SATHISH R	A		Arulselvam
		E8EE012	412518105012	DEEPTHI K	A		
27		E8EE057	412518105063	SHARULATHA S	C	IoT enabled air Pollution meter with digital dashboard on smart phone	
	SECEE22PJ27	E8EE065	412518105065	SHIVASHANKARI A.M	C		Hemalatha M
		E8EE066	412518105080	SWETHA K	A		

28		E8EE079	412518105024	HARINI T M	A			
	SECEE22PJ28	E8EE074	412518105044	NIVEDHA P	A	Monitoring system for water logged urban roads based on IoT	Mohan S	
		E8EE075	412518105060	SERANGEEVI L	A			
29		E8EE097	412518105071	SRIHARI S	A			
	SECEE22PJ29	E8EE040	412518105081	TARUN R G	A	Challenges in micro grid Integration	L Kurinjimalar	
30	SECEE22PJ30	E8EE038	412518105076	Suraj Kumar KB	B	SMART WEARABLE FOR PULMONARY FIBROSIS PATIENT MONITORING WITH OXYGEN SATURATION PREDICTION	SHALINI PRIYA J	
31		SECL19EE02	412518105305	LEENA V	C	Power factor improvement in modified bridgeless landsman converter Fed EV battery charger	Mr.Rajasekaran M	
	SECEE22PJ31	SECL19EE03	412518105304	Kousika G	C			

Mini Project

Sri Sairam Engineering college
Department of Electrical and Electronics Engineering
EE8611 - Mini Project

Batch No	Name of the students	Registration number				Title of the Project
1	NANDHINI S,JANANI T,VARSNI RS, VISHNU PRIYA K	412519105041	412519105024	412519105087	412519105093	Bogus vote prevention alarm system
2	PRIYANGA A,RISHEKA S ,SRINIDHI SRINIVASAN, Rikshitha E	412519105049	412519105056	412519105075	412519105055	Smart Weather and Battery Monitoring System
3	KRITHIKA B,SIVASANKARI K ,SHREYA R, R.Sindhu priya	412519105035	41251915072	412519105067	412519105069	Simplified reading tool to aid visually impaired
4	Chandhrasekaran G,KHADAR JILANI N, ABISHEK J, Govind	412519105011	412519105030	412519105003	412519105303	Smart Parking Using IOT
5	Aouthithiye Barathwaj SR Y ,Haariharan N C, Krishnakanth L ,Tejas Kanna .G	412519105007	412519105023	412519105033	412519105085	Animal Detection and Predictive Ranging System with AI and IoT
6	Prathish Kumar U ,V Sandeep, PURUSHOTHAMASAI TM,	412519105048	412519105062	412519105050,		Calibration of energy meter
7	B Sai Siddhaarth ,B Sriram,Rajshekhar	412519105059	412519105077	412519105051		Automation and app development for Mushroom cultivation
8	Sathya Priya J,Vasundhara L, Saisudha G,Sandra Antony	412519105065	412519105088	412519105060	412519106063	Smart Wear- An IOT Based home automation and health care wearable watch
9	Dheeptha D,Krishna Priya P Nikariga R	412519105016	412519105034	412519105044		Latching power switch circuit
10	Lavanya.S,Jarls De Brit.A, Karthikji.G,Navin Chakkravarthi.S M	412519105307	412519105305	412519105306	412519105309	Smart Energy meter
11	Rishika G,Kavya S, Tamilselvi.M, M Aarthi	412519105057	412519105029	412519105083	412519105001	Testing of maximum Loadability of the System
12	Sugunesh R,Suwati M G, J R Manasa	412519105079	412519105081	412519105028		IR and WiFi based switches automation
13	Someshwaran B, Vishnu charan K. K,Jayaprakash V,Sriram A	412519105073	412519105092	412519105025	412519105076	Security Drone
14	S. Nithish ,Soundra rajan G Sai Ganesh CS	412519105045	412519105074	412519105058		Self-Charging Autonomous Vehicle using Computer Vision and IOT
15	Swetha S, Shanmuga priya A K, Sivaanii D , Nasreen	412519105082	412519105066	412519105070	412519105042	Smart irrigation
16	Ebinazer.A,Prasanth D, Mohamed samsudeen.A	412519105301	412519105313	412519105308		Motor Trigger pulse generator circuit

17	VIVEK A,JAYENDAR. M, ABISHEK. S	412519105094	412519105026	412519105004		Wireless Charging in Electric Vehicle
18	ARAVINTHAN K,ARAVINTHAN K, Chandru v,Ranjith M.	412519105009	412519105008	412519105013	412519105053	PORTABLE STABILIZED SOUND CONTROL SYSTEM
19	SIVARAM.V, AKASH .A, NITISH RAO .K	412519105071	412519105006	412519105046		Electric Vehicle Fast Charging Technology And Battery Capacity Need In Indiak
20	Surya Prakash M,Gokul P, Jeevanandham S	412519105501	412519105022	412519105027		BLINK TO SPEAK
21	Manikandan S,Natarajan R, Monish Sharma P	412519105038	412519105043	412519105039		Battery voltage level indicator .
22	Gopalakrishanan R,Rajesh G, Kuralamudhan J A, Rajesh k	412519105302	412519105312	412519105036	412519105052	Ignition system based on insertion and verification of driving license using bio metric authentication
23	Divakar S, Dinesh K , Shriram R	412519105019	412519105018	412519105068		Applications of integrated visual augmented system in defence
24	VIGNESH P, GNANAPRAKASH R, DEVADATHAN S, V.Kishore Kumar	412519105089	412519105021	412519105014	412519105032	Hand Gesture Controlled Wheel Chair using Arduino
25	Mullai Krishna M,Mahesh J,Abhishek D P	412519105040	412519105037	412519105002		Design Of A Diagnostic Instrument to Observe Food Eating Project of Humans
26	VIJAYENDRAN V S, SATHEES KUMAR M,VIGNESH R	412519105091	412519105064	412519105090		Auto power trip during Gas leakage
27	Tanusri.A,Elakiya.I Aishwarya K Suruthi B	412519105084	412519105020	412519105005	412519105080	Automatic Wet Grinder
28	CHANDRA SEKARA BHARATHI ,CB RAGU NAATHAN,RETHICK T	412519105012	412519105010	412519105086		Innovative Street Light
29	Kiran S, R Sakthi Vignesh ,Retesh M	412519105031	412519105061	412519105054		IOT Based home automation
30	Srivatson N,Deva Saravanan S,Vairamuthu M	412519105078	412519105015	412519105311		over voltage and over current alert indicator
31	Dhilip kumar R, prasanth ,Gowtham,Nithyanandham	412519105017	412519105047	412519105304	412519105310	Automatic Breaking system
						Project Coordinators
						Dr. Saswathi kumari behera
						Mr.C.Jeeva

Live in Lab Project

LIVE-In LAB 2021-22-EEE

Register Number	Name of the Student	BATCH ID	TITLE	**GUIDE**
412520105013	BOOBALAN M			
412520105015	DARUNKUMAR G			
412520105021	GOKUL M	SEC24EETE318	Wireless Power Transmission	Mr.P.Rajakumar
412520105012	BALASAKTHISHWARAN M			
412520105019	GANDHI S			
412520105022	HARI PRADOSH S M	SEC24EETE319	Mobile phone jammer	Mr.S.Mohan
412520105031	KARTHICK A			
412520105071	SUNDARA NARAYANAN A			
412520105079	THARUNKUMAR P	SEC24EETE320	Artificial Assistant devices for visually impaired person	Mr.D.Arulselvam
412520105029	KAMALAKANNAN B			
412520105035	KRISHNA KUMAR P		Data Transmission Using Li-Fi System	
412520105038	MAHENDRA VARMA SALIYAN J T	SEC24EETE321		Ms.L.Kurinjimalar
412520105034	KAVIPRASAD P			
412520105072	SURIYA M			
412520105085	VISVAK S	SEC24EETE322	accident avoidance with smart helmet	DR.C.NAYANATARA
412520105064	SIDHARTH K.A			
412520105059	SATHMIKAN I			
412520105050	PRADEESH T	SEC24EETE323	HOOTCHFLAPPER	Ms.N.Anitha
412520105009	ARCHANA R			
412520105001	ABHINAYA K		Automatic Room Lights using Arduino and PIR Sensor	
412520105006	AKSHAYA A	SEC24EETE324		Dr C Priya
412520105065	SOUMYA M		LANE DETECTION USING OPEN CV AND IMAGE PROCESSING	
412520105014	DAKSHINA R	SEC24EETE325		Dr.K.Suresh
412520105062	SHRIKANTH.S			
412520105088	YOHARAJ.A			
412520105045	PARTHIBAN.D		power generation through speed breakers by rack and pinion mechanism	
412520105055	Sanjay	SEC24EETE326		Ms.Chithra.V
412520105003	ABINAYA.V.R			
412520105004	AISHWARYA.S			
412520105025	JANANI.J	SEC24EETE327	Pipeline Water Monitoring System	Dr.A.Sanjeevi Gandhi

412520105016	DHANYA.K		APPLICATION OF THERMOELECTRIC COOLING AND HEATING	
2021021162	Pooja Mohan Bengeri	SEC24EETE328		P.SHANMUGAPRIYA
412520105026	JANANI S			
412520105053	ROSHINI S		SMART IRRIGATION SYSTEM USING ARDUINO UNO	
412520105044	NISHANTHINI R	SEC24EETE329		Dr.T.Porselvi
412520105042	Nafeeza Begum			
412520205086	Viveka		Eye movement based electronic wheelchair for physically challenged persons	
412520105077	Teena	SEC24EETE330		Mr.K.Rajkumar
412520105080	VAISHNAV M			
412520105081	VENKATESHWARAN A		GSM based power meter billing and load control	
412520105084	VIKAS S	SEC24EETE331		Ms.V.Malini
412520105051	PRIYADARSHAN P			
412520105052	ROHINTH P			
412520105058	SARVESH G	SEC24EETE332	Traffic clearance for emergency vehicle	Mr.M.Rajasekaran
2021021205	S.Karthik Sambath			
2021021209	M.Arun Raja		Cleaning of solar panel using automation system	
2021021199	S.Abhijay Gopal	SEC24EETE333		Mr.R.Sivaprasad
2021021373	M.Dharanish			
412520105010	Arish.V		Fire Alarm detection system USING IOT	
2021021337	N.G.Saiaravinth	SEC24EETE334		Dr.B.Meenakshi
2021021261	S.Sachinkumar			
2021021008	K.Arunkumar		immediate recovery after accident	
2021021283	N.Anushraj	SEC24EETE335		DR.R.Azhagumurugan
412520105030	Karish Leela M			
412520105060	Selvapriya V	SEC24EETE336	D GESTURE CONTROLLED WHEELCI	Dr.K.Prathibanandhi
412520105068	Subiksa G			
412520105017	Dhivyashri M	SEC24EETE337	Solar power bank with wireless charging	Dr C Priya
412520105002	ABINAYA.R			
412520105063	SHRIRANJANI.J	SEC24EETE338	Smart Wearable women Assault Prevention	R Sivaprasad
412520105008	Amsavarthini.R			
412520105028	kalaivani.K			

412520105046	Paulina.J	SEC24EETE339	smart blind stick with image recognition	Dr.K.Suresh
412520105073	N A SURIYAN			
412520105040	MUKESHWARAN			
	MURALIDHARAN	SEC24EETE340	r power air purifier with high voltage gene	Dr.A.Sanjeevi Gandhi
412520105023	JAI SURYA KK			
412520105037	MAGESH V			
412520105020	GOKUL J	SEC24EETE341	LOW COST SMART ENERGY METER	Mr.Rajasekaran
412520105067	srimathi k			
412520105024	janani E			
412520105047	pavithra p	SEC24EETE342	Electricity generation speed breaker	Mr.P.Rajakumar
2021021275	GUNESHWAR M		IOT BASED FISHERMAN SHIP	
412520105089	YOKESWARAN S		LOCATION MONITORING BY USING GPS AND BOARD ALERT	
412520105090	YUVARAJ	SEC24EETE343	SYSTEM	Mr.K RAJKUMAR
412520105033	Kavinesh			
412520105036	Madhavan			
412520105027	Jeeva Prasad R	SEC24EETE344	ECTRIC BASED SHOE ENERGY GENE	Mr.P.Rajakumar
412520105078	D.Tharun			
412520105043	BM Naveen			
412520105074	R Surya	SEC24EETE345	Swift Scrambler	Ms.Chithra.V
412520105056	Santhosh Kumar M			
412520105076	Swaminathan			
-	Mohamed athile. a	SEC24EETE346	PIR Motion capture security system	Ms. V. Malini
412520105032	Karthikeyan M			
412520105018	Evansingh M			
412520105007	Amosedavid A			
412520105039	Mohammed Azeem affan A	SEC24EETE47	Lifi	Dr.Saswathi kumari behera
412520105057	saranraj A.K			
412520105048	Peroli Rikthish B			
412520105049	Prabakaran.M	SEC24EETE348	Industrial Automation using IOT	Dr.T.Porselvi
412520105075	Surya Vigneshwar C			
412520105070	Sudharsan M			

412520105083	Vijay S	SEC24EETE349	Driver drowsiness detector	Hemalatha.M
2021021095	MANIKANDAN S			
2021021097	VAITHEESWARAN M			
2021021092	PADMANABHAN N D	SEC24EETE350	L NAVIGATION FOR VISUALLY IMPA	J SHALINI PRIYA
412520105066	SRI ARI PRIYA A			
412520105054	SANDHIYA V			
412520105005	AJITHA SRI R	SEC24EETE351	Highway Wind Turbines	Kothai R
2021021172	Vishnu s			
2021021319	Rawin Raj			
2021021374	Saran Prakash	SEC24EETE352	automatic rechargeable e-bike	Dr.R.Azhagumurugan

Workshop, Seminar attended

Workshop/ Seminar attended:

S.No	STUDENT NAME	EVENT	AWARDS/PRIZE	VENUE	DATE
1	ABHIJAY GOPAL S	POWER BI	COMPLETION CERTIFICATE	LUDIFU	6.03.2022
2	JANANI.J	IEEE CAS Bangalore Chapter Webinar	Participation Certificate	BIT Bengaluru	31.01.2022
3	VIVEK A	Arduino training - IIT Bombay spoken tutorial	Completion Certificate	ONLINE	30.08.2021
4	ABHIJAY GOPAL S	DEEP LEARNING FOR MULTIMEDIA SIGNAL PROCESSING	COMPLETION CERTIFICATE	IEEE SCET SB	3.03.2022 TO 5.03.2022
5	JANANI.J	CISCO - Introduction To Cybersecurity	Participation Certificate	Cisco Networking Academy	29.06.2021
6	JANANI.J	CISCO - CybersecurityEssentials	Participation Certificate	Cisco Networking Academy	29.06.2021
7	ABHIJAY GOPAL S	NEURAL NETWORKS USING PYTHON	COMPLETION CERTIFICATE	NATIONAL INSTITUTE OF KARNATAKA	28.08.2021 TO 29.08.2021
8	ABHIJAY GOPAL S	COMMITTEE KEYS TO SUCCESS IEEE FELLOW	COMPLETION CERTIFICATE	IEEE	27.03.2022
9	KARTHIKJI	Course Completion	Participation Certificate	ONLINE(ENERGY SWARAJ FOUNDATION)	26.07.2020
10	ABHIJAY GOPAL S	CHARACTER DRAWING COURSE	COMPLETION CERTIFICATE	UDEMY	26.02.2021
11	MAGESH V	Python and machine learning bootcamp	Completion certificate	Online	25.7.2021
12	ABHIJAY GOPAL S	DATA PROTECTION REGULATION FOR EVENTS	COMPLETION CERTIFICATE	IEEE	25.03.2022

S.No	STUDENT NAME	EVENT	AWARDS/PRIZE	VENUE	DATE
13	ABHIJAY GOPAL S	ELECTRIC VEHICLE BATTERY MANAGEMENT SYSTEM	COMPLETION CERTIFICATE	SKILL LYNC	23.01.2022
14	MAGESH V	Introduction to 4.0 technologies	Participation Certificate	Online	22.01.2022
15	AISHWARYA S	Python basic for Data Science(edX)	completion certificate	online	19.7.21
16	ABHIJAY GOPAL S	PHOTOGRAPHY COURSE	COMPLETION CERTIFICATE	CURSA	18.01.2022
17	KARTHICK A	Geospatial Technology for Archaeological Studies	PARTICIPATION	INDIAN INSTITUTE OF REMOTE SENSING	17-05-2021 to 21-05-2021
18	ABHIJAY GOPAL S	VLSI SIGNAL PROCESSING	COMPLETION CERTIFICATE	MEPCO	17.9.21-18.9.2021
19	VIVEK A	Course Completion	Completion Certificate	ONLINE(Courera)	15.05.2021 to 26.06.2021
20	VIVEK A	Course Completion	Completion Certificate	ONLINE (CICCO)	15.04.2021
21	VIVEK A	Course Completion	Completion Certificate	ONLINE (CISCO)	15.04,2021
22	ABHIJAY GOPAL S	HYBRID ELECTRIC VEHICLE	COMPLETION CERTIFICATE	SKYY RIDER	15.02.2022 - 16.02.2022
23	ABHIJAY GOPAL S	ROBOTIC PROCESS AUTOMATION	COMPLETION CERTIFICATE	SKILLUP	15.01.2022
24	AISHWARYA S	Cisco-Introduction to Iot	Participation certificate	Cisco Networking Academy	14.6.21
25	ABHIJAY GOPAL S	Pcb Designing (Value added course)	COMPLETION CERTIFICATE	SRI SAIRAM ENGINEERI	14.12.2021 -

S.No	STUDENT NAME	EVENT	AWARDS/PRIZE	VENUE	DATE
				NG COLLEGE	16.12.2022
26	JANANI.J	Pcb Designing (Value added course)	Participation Certificate	Sri Sairam engineering college	14.12.2021 - 16.12.2021
27	ABHIJAY GOPAL S	NUT AND BOLT ASSEMBLY USING CATIA V5	COMPLETION CERTIFICATE	SKYY RIDER	12.02.2022
28	ABHIJAY GOPAL S	BUILD AI OBJECT DETECTION ENGINE	COMPLETION CERTIFICATE	OPENWEAVER	11.03.2022
29	KARTHICK A	Arduino Training	PARTICIPATION	IIT BOMBAY	10/1/2022
30	AISHWARYA S	Arduino training - IIT Bombay spoken tutorial	completion certificate	online	10.1.22
31	CHANDHRASEKHARA N.G	Microsoft Certification Program	Participation Certificate	Knowledge Solutions India	10.02.2022
32	JANANI.J	IIT Bombay Spoken Tutorial - Arduino Training	Completion Certificate	Online	10.01.2022
33	JANANI E	Arduino Training	Completion certificate	Online	10.01.2022
34	GOKUL J	Arduino Training	Completion certificate	Online	10.01.2022
35	DAKSHINA R	Arduino training	Completion certificate	Online	10.01.2022
36	MAGESH V	Arduino training	Completion certificate	Online	10.01.2022
37	Srimathi k	Arduino Training	Completion certificate	online	10.01.2021
38	ABHIJAY GOPAL S	MATHEMATICAL OPTIMIZATION AND ITS APPLICATION	COMPLETION CERTIFICATE	SKILL LYNC	09.01.2022

S.No	STUDENT NAME	EVENT	AWARDS/PRIZE	VENUE	DATE
39	KARTHICK A	Geo-informatics for Biodiversity Conservation Planning	PARTICIPATION	INDIAN INSTITUTE OF REMOTE SENSING	06-12-2021 to 17-12-2021
40	KARTHICK A	Machine learning to Deep Learning	PARTICIPATION	INDIAN INSTITUTE OF REMOTE SENSING	05-07-2021 to 09-07-2021
41	VIVEK A	Course Completion	Completion Certificate	ONLINE (CICCO)	05.05.2021
42	ABHIJAY GOPAL S	HANDWRITTEN DIGITS RECONGNITION USING ML	COMPLETION CERTIFICATE	IEEE SEC	05.03.2022 - 06.03.2022

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Janani Jayaraj

Student

NASSCOM FutureSkills

Academy Name

India

Location

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Mr.SREEKANTH M.E., (Ph.D)
SBC COUNSELLOR

Dr.JAYARAMA PRADEEP M.E., Ph.D.
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CERTIFICATE OF PARTICIPATION IN ONLINE COURSE

यह प्रमाणपत्र
श्री कार्तिक ए
को " मशीन लर्निंग से डीप लर्निंग तक : सुदूर संवेदन डेटा वर्गीकरण की एक यात्रा "
मे ऑनलाईन पाठ्यक्रम में भाग लेने पर प्रदान किया जाता है।
इस ऑनलाइन पाठ्यक्रम का आयोजन **05 जुलाई, 2021 से 09 जुलाई, 2021 (कुल पाठ्यक्रम की अवधि = 13 घंटे 30 मिनट)** के दौरान किया गया ।
(संबन्धित आई.आई.आर.एस नोडल केंद्र- श्री साईराम इंजीनियरिंग कॉलेज)

THIS CERTIFICATE IS
AWARDED TO
MR. KARTHICK A
ON HAVING PARTICIPATED IN THE ONLINE COURSE ON
"Machine learning to Deep Learning: A journey for remote sensing data classification"
THIS ONLINE COURSE WAS CONDUCTED DURING **05-07-2021 to 09-07-2021** (Total course duration was = 13 hours and 30 minutes).
(Concerned IIRS Nodal Centre- **SRI SAIRAM ENGINEERING COLLEGE)**

Date: 19-07-2021
Place: Dehradun

समन्वयक, विश्वविद्यालय/संस्थान
Coordinator, University/ Institution

निदेशक/ Director
आई.आई.आर.एस, देहरादून/ IIRS, Dehradun

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Joseph Santarcangelo
Data Scientist
IBM

This is to certify that

Aishwarya suresh

successfully completed and received a passing grade in

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Paper Presented During 2021-2022

No	Title of the Paper	Name of Author	Title of journal with ISSN/DOI Volume number/Page Number	Month and Year of publication
1.	PV System Based Induction Motor With Landsman Converter Using IFOC Controller	T. Porselvi ; K Krithika ; CS Sai Ganesh	IEEE Conference, 2021 2nd Global Conference for Advancement in Technology (GCAT), DOI: 10.1109/GCAT52182.2021.9587724	October 2021
2.	Screw Propelled Autonomous Amphibian Waste Collector,	L. Kurinjimalar, N. Anitha, V. Malini, T. N. Hariprasad and S. K. Sundaram, ""	2021 4th International Conference on Computing and Communications Technologies (ICCCT), 2021, pp. 391-395, doi: 10.1109/ICCCT53315.2021.9711886.	Dec 2021
3.	Power Generation using Hybrid Energy System for Domestic Purpos	J.Harinarayanan, Chindrupu Anusha, Mithra Ruba Shree. R, Sheryl .M	Journal of Physics Conference Series,2021, 1979, ,International Conference on Recent Trends in Computing (ICRTCE-2021) 20-22 May 2021,https://iopscience.iop.org/article/10.1088/1742-6596/1979/1/012051.	August 2021
4.	IoT Based Energy System in A Facts of Principle Intrusion on Power Administration	M.Rajasekaran, R SRINITHI , S SANJANA , K V SAADURYA	Journal of Physics: Conference Series 1979 (2021) 012062, International Conference on Recent Trends in Computing (ICRTCE-2021) 20-22 May 2021,https://iopscience.iop.org/article/10.1088/1742-6596/1979/1/012062	August 2021

5.	Walk Assistance for Outwardly Challenged People	K Rajkumar1, K Thejaswini2, S Subarna3, P Yuvashri4	Journal of Physics: Conference Series, Volume 1979, International Conference on Recent Trends in Computing (ICRTCE-2021) 20-22 May 2021, Maharashtra, India,https://iopscience.iop.org/article/10.1088/1742-6596/1979/1/012065	August 2021
6.	Automation of Sustainable Industrial Machine using PLC	K RAJKUMAR , K THEJASWINI , P YUVASHRI	Journal of Physics: Conference Series, Volume 1979, International Conference on Recent Trends in Computing (ICRTCE-2021) 20-22 May 2021, Maharashtra, India,https://iopscience.iop.org/article/10.1088/1742-6596/1979/1/012049/meta	August 2021
7.	PV Based Multilevel Inverter with 15 Levels using POD Control Method	IFOCPorselvi T ; Praveena D ; Shalini Priya J. ; Hemalatha M ; Meenakshi B ; Thennarasu S	2022 International Conference on Communication, Computing and Internet of Things (IC3IoT), 2022, pp. 1-4, doi: 10.1109/IC3IOT53935.2022.9767729.	2022
8.	Designing and commissioning of Heat Pumps for Hybrid Heating and Cleaning of Coaching Equipment using Solar Panels	B.Meenakshi; R. Sivaprasad; T Porselvi ; V Sunandha ; T Janani	2022 International Conference on Communication, Computing and Internet of Things (IC3IoT), 2022, pp. 01-05, doi: 10.1109/IC3IOT53935.2022.9767901.	10-11 March 2023

9.	Smart Sprinkler System Using Raspberry Pi	V. Chithra, K. Prathibanandhi Jayashri R, Dheepashri R, C. Priya	2022 International Conference on Communication, Computing and Internet of Things (IC3IoT), 2022, pp. 1-5, doi: 10.1109/IC3IOT53935.2022.9767981.	10-11 March 2022

Designing and Commisioning of Heat Pumps for Hybrid Heating and Cleaning of Coaching Equipments Using Solar Panels

Publisher: IEEE

B. Meenakshi ; R. Sivaprasad ; T Porselvi ; V Sunandha ; T Janani **All Authors**

Abstract: Coaching and cleaning of axle and bearing is very important for proper functioning of the rails. The coaching and cleaning equipment consumes heavy power from 2000kw to 3... **View more**

Metadata

Abstract:

Coaching and cleaning of axle and bearing is very important for proper functioning of the rails. The coaching and cleaning equipment consumes heavy power from 2000kw to 3000kw which ultimately increase the cost. To avoid this Perambur Carriage and Wagon has planned to design, commission and install heat pumps that are powered by solar panels without going for Power Purchase Agreement (PPA). The aim is to design, commission and install the heat pumps and to efficiently supply power to the heat pumps used in the heavy cleaning machines. The water is currently being heated by conventional heating

Figures
References
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methods, (1) electric heaters (2) using diesel run boilers. This consumes heavy power and ultimately increases the electricity tariff. India has abundance of solar energy which can be used to power the heaters employed in cleaning purpose. This is completely an on-grid installation of the solar panels. Firstly, all the electric heaters and the diesel run boiler must be replaced with equivalent heat pumps. These heat pumps are highly efficient in a way that it not only replaces the electric heaters and the boilers but also replaces the Air conditioners which are used in the nearby rooms thus keeping the room cool at one end and heating the water on the other side. After replacing all the heaters and boilers with the heat pump the heat pump must be provided with a grid tied solar supply. Since it is grid tied the additional generated power is supplied to the grid thus making money. The commissioning of the above process is done and the efficiency of the above system is calculated. Return on savings, carbon footprint of the proposed system is also calculated and the comparison of existing system and the proposed system is made. Area required for installing solar panels is also made.

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Contents

Everyone depend on electrical power to light up the world. Irrespective of the pollution from the conventional energy sources our world consumes electrical energy abundantly. The demand for energy is always high. To meet the demands and to protect the earth consumers from layman to industrialist choose or prefer non- conventional energy. India has the THIRD largest railway network in the world with a total of 68155km(as per2019) and 64% of all the broad gauge is electrified with 250KV and 50Hz (as per 2020) out of which 5081km covers the southern railways. In such a way “Perambur Carriage And Wagon Works” Southern Railways Has Taken Many Initiatives To Go Green. One such new initiatives is “Designing And Commissioning Of Heat Pumps For Hybrid Heating And Cleaning Of Coaching Equipment Using Solar Panels”.

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Power Generation using Hybrid Energy System for Domestic Purpose

Power Generation using Hybrid Energy System for Domestic Purpose

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ABSTRACT: We all are aware that the world is precisely running towards a quest for a substitute energy source. Till today, the maximum power requirement is met with the help of fossil fuels. Anyways the estimates which were made recently have predicted that the usage of the fossil fuels like oil and coal might last only till 2030, and later we will have to switch over to the usage of more efficient sources and emerging technologies. According to current situation the further usage of oil and coal will be replenished and whole world will need to foster for renewable energy source which can satisfy the growing needs of the future generation. For the past few years solar and wind energy have already been trapped and are widely accepted as an alternative source of energy. But in this paper we have planned to concatenate the three outcomes i.e. heat, pressure and sound. Most of the times these three energies are considered as unwanted source of energy and they go unnoticed .With the help of Peltier module, Piezoelectric transducer and sound absorption unit the energies like heat , pressure and noise can be converted into electrical energy respectively. Piezoelectric plate transducer is capable of producing energy using the pressure put on the piezo electric plate. In this paper a footstep piezoelectric plate is used easy to incorporate and even effect cost wise. Peltier module is a thermoelectric device which has the capability of converting the thermal/heat energy into electricity . It primarily works based on the principle of Seeback effect. This device is built using 2 different semiconductor material like p-type and n-type. . As the heat emerges and spreads through the material ,charge carriers begin to cold side from hot side. The resultant voltage is proportional to the difference in temperature between the layers of the device. As long as there is a difference in temperature the material keeps generating the potential difference. The voltage produced by the entire Peltier module is function of time and the temperature difference. The voltage varies with the change in temperature gradient and time .The sound absorption unit uses sound as an input for producing electric energy, because lot of sound is wasted in our surrounding where in it can used as a source of energy. By using these non-conventional type of energy resources , the generation of power can be achieved with a minimal cost and it will also pave a way to the conservation of the conventional energy source for future needs. This energy thus generated is boosted and stabilized using a DC-DC chopper and later utilized to operate a DC load.

1.Introduction

Responsible utilization of energy resources is the need of the hour. It is highly essential to prefer which source of energy should be used. The considerations like efficiency, cost, stability and cleanliness must be taken into account. It is a bitter fact that nowadays most of the industries are utilizing fossil fuel for power generation. Although the usage of fossil fuel is effective but on a long run they turn into disadvantage. So it is necessary to opt for an alternative energy source. We have planned to use the energies like heat, pressure and sound to generate electricity .In the surrounding there are various sources of sound which are not noticed. Maximum of them is the noise that is produced in industries, public area, etc. An alternative energy source has become the need of the hour in order to meet the rapidly increasing power requirement
The renewable sources of energy such as wind energy and solar energy have been tapped and incorporated as a hybrid system and it has been widely implemented as an alternative for fossil fuels. The sound energy is one of the abundant sources of energy. This energy which is ignored can be recycled and converted into electricity source. The heat energy harvested from different heat sources has the capability to generate different amount of voltages. The pressure or the vibration that is applied to the transducer can

be converted into Electricity. The electricity which is generated from these three sources is trapped and is boosted. This stored electricity is used to operate electric loads.

2. Literature Survey

Random sound energy can be changed over into electrical energy utilizing piezoelectric transducer. The created electric energy capacitors is enhanced through circuits like voltage multiplier . Sound energy cane be detected using different sorts of sound sensors. Here we are fundamentally focusing on creating the electric power for our electronic contraptions from sound energy. We have dissected the work done by various authors in this field and added our work to it.**[1]**entitled that a moderately less investigated wellspring of environmentally friendly power energy is suggested . Arbitrary sound which is found around is considered as wellspring. A viable method for delivering usable electric power from accessible irregular sound energy is displayed here. Piezoelectric transducers are utilized for transformation of sound energy to electric energy. Here, the created electrical energy from different piezoelectric transducers is put away in various super capacitors which are later processed and enhanced. The final electric power generated is used to charge a battery-powered DC battery for storing purpose. A little 9 volt DC battery was observed to be completely energized inside thirty minutes from completely released stage utilizing medium sound source through the proposed transformation unit. **[2]** Enumerate the work done on the change systems and philosophies of changing over sound energy to its electrical partner. It centers around the attainability and the ground zero use of the equivalent. The forecast of things to come advancement of these sorts of wellsprings of energy is underscored other than generally referred to ones, for example, sun based energy, biogas, wind energy, etc. So one can suppose we had the option to change over the sound energy to power then we can charge our cell phone just by conversing with our companions on portable itself.

3. Proposed System

There are various sources of sound that are not noticed. Maximum sound is produced from industries, public area ,etc., The piezoelectric transducer converts sound waves created due to noise pollution into energy .Hence it is demonstrated that sound energy can be considered as an alternative energy source. The key element Peltier module has the capability to convert heat energy to electrical energy. The peltier module is constructed using 2 different semiconducting materials like p-type and n-type. It works according to the concept of Seebeck effect , where electricity is generated using the temperature difference around it. Piezoelectric material in general has the capability of producing an electric energy using the pressure applied on it. Whenever a piezoelectric substance is made to experience a mechanical pressure, the electric charges begin to displace which results in voltage generation. Piezoelectric Sensor works based on the piezoelectric effect where all the pressure or mechanical energy that is being applied on it is converted into electric energy signals.

4. Block Diagram

In our proposed system, the power generation from two sources like sound and heat in which in the domestic appliances were planned to operate with the power generated from it. The figure shows the various block in which our proposed system was implemented for energy generation from various sources.

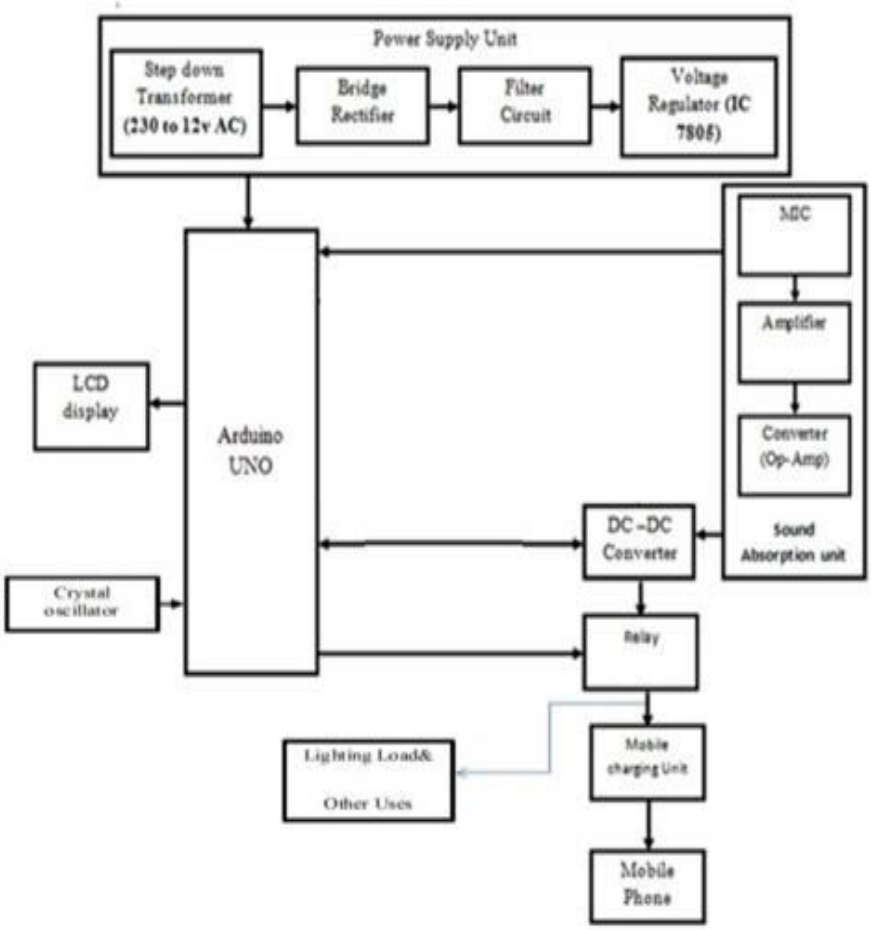

Figure.2 BlockDiagram

4.1 Thermoelectric Transducer :

The thermoelectric peltier generator creates a temperature differential on each side . One side of the module becomes hot and the other side remains cold. This works according to the principle of Seebeck effect . The heat / thermal energy is converted into potential difference. This voltage that is generated drives the electric current and produces useful power at the load. This thermoelectric transducer has many applications in refrigeration, heating , cooling, thermal management , etc..

4.2 Piezoelectric Transducer

The piezoelectric transducer is capable of converting the pressure / force applied on it to electrical energy. Here the source of force can be weight of a person stepping over the foot step piezo plate , or weight of a vehicle. The electric energy developed is not constant. Piezoelectric transducers are always employed in measuring shock , vibrations , touch and flex motions .

4.3 Arduino UNO

It is developed by Arduino.cc . The word ‘’Uno’’ refers to one . This board accommodate with set of digital input and output pins, that will be interface to numerous enlargement board and different circuit. It’s hopped up by external nine potential battery or by USB cable .It is the kind of Arduino Nano. The primary series of Uno board is Arduino Uno.While the Uno communicates the first STK500 protocol, it is completely different from all preceding boards that doesn’t used the FTDI USB to operate on serial driver chip . Meanwhile it use the AT Mega16U2 operated as USB to serial device.

4.4 LCD Display

It is a flat panel display ,in which liquid crystal used in its primary operation.LEDs are used in large number for consumers and businesses, which is commonly found in smart phone, television, computer monitor ,and instrumental panels .The two necessary liquid phases are nematic and smectic . In which the crystal is in nematic phases, the liquid crystals are be like a liquid, their molecule mix past one another and can move around, but they all point in the same path. They are bit like a matchbox, even though you shake them or move them but they always keep pointing the same way .If we cool liquid crystals ,the shift over to smectic phase . All the molecules flow into layer that slide past one another easily. The molecules present in the layers can flow within it, but they are able to move or flow in other layers.

4.5 Peltier module

It is a thermoelectric device which works based on a Seebeck effect, which converts the temperature difference (thermal energy) to electrical energy . The peltier module operates like a heat engine. Thermoelectric material generates electricity directly from the heat by transforming the thermal temperature difference to potential difference. The peltier device has a high electrical conductivity (σ) and low thermal conductivity (κ) .Whenever the thermal conductivity is low , even one side becomes hot , the other side remains cold . Hence large voltage is generated when there exists a temperature gradient.

4.6 DC-DC booster

A DC-DC device is a mechanical device that converts electrical energy from one voltage level to other. It is an electrical power device. Power level varies from very low to an extreme high. DC-DC Converter area unit utilize in transportable electronic device like cellular device, computers and laptop that area unit furnished power from primarily batteries. Some exception embrace, high efficiency, light emitting diode power source , that area unit a sort of Dc-Dc device that regulates the present through the LEDs and straight forward charge pumps that double or triple the output voltage, it maximize the energy for electrical phenomenon and for wind turbines area unit known as power optimizer.

4.7 Sound Absorption Unit

Sound absorption unit is the live the quantity of energy off from the wave because the wave passes through the given thickness of fabric .Sound absorption means to the method by that a cloth, structure absorbs the sound energy once sound wave are unit encountered once. The energy re-worked into heat .Once sound from loud speaker system collides with the wall of a spaces, there’s is a mirrored image of the sound energy , where a portion of it is distributed into the air as pressure differential, the sound energy travels from fabrics. Deformation leads to mechanical losses by the conversion of portion of the sound into heat energy. Size and form determines the sound wave’s behavior when it moves with it’s wave length, which leads to wave phenomenon and optical phenomenon.

4.8 Power Supply

The board which we are using were operated with an external power supply from 6 V to 20 V .If it supplied with an input less than 7V ,then the 5V pin may supply less than 5V, because of which the

board may be incline to unstable and also if using more than 12V, the voltage regulator may get overheated and board may get damaged .Hence the optimal operating range is from 7 volts to 12 volts .

The board which we are using can be operated with an external power supply from 6 Volts to 20 Volts. . If the supply is less than 7 Volts , then 5V pin can supply less than 5V, because of which the board might become unsteady and if it uses more than 12V, it might lead to the overheating of the voltage regulator and damage the board. So the ideal operating distance is from 7V to 12V.

5. EXPERIMENTAL ANALYSIS

This hybrid system converts the three sources such as sound , heat and pressure into electrical energy . The piezoelectric transducer converts the mechanical stress / pressure that is being applied on it into electricity. Using the peltier module the heat energy in the surrounding can be converted into electrical energy. The sound absorption unit generates electricity by absorbing the sound energy from the surrounding. The electricity thus generated is stepped up using a DC-Dc booster. This energy is being stored in the battery for future purpose . This energy is used to power the DC load.

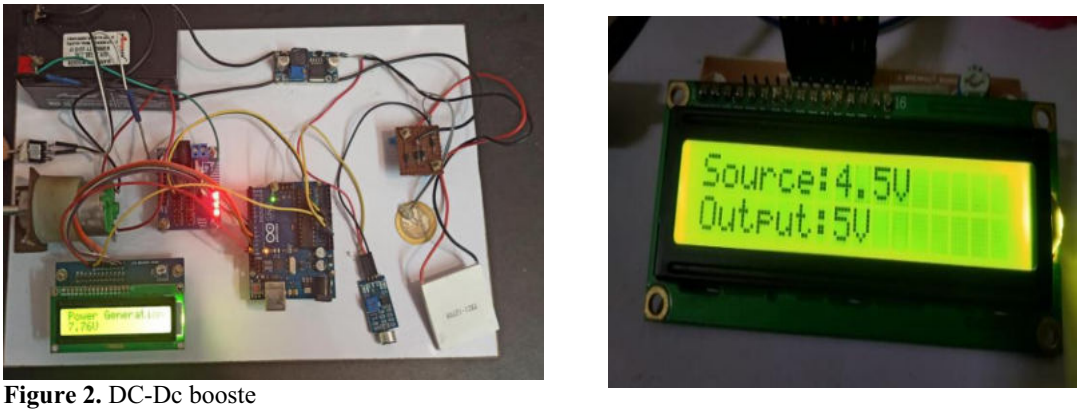

Figure 2. DC-Dc booste

6. FUTURE WORKS

In further to the proposed work of power generation from various hybrid energy sources, the additional power generation from foot step using piezoelectric and other source of generation can be added together and form a Nano grid i.e. power generation using the small sources for house/small applications.

7. CONCLUSION

As this model consists of three sources , even if one of the sources fails there will be a continuous power supply .Does not require any outside power supply. Can store control in a battery. Depending upon the generation it can charge the portable. Waste sound energy , heat and pressure are thus utilized effectively . Hence it is effectively convenient .Low maintenance and low control utilization.

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Screw Propelled Autonomous Amphibian Waste Collector

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***Abstract*— Waste collection has become one of the most challenging tasks in highly populated countries. In places like pond and surrounding's, people gather and put light weight waste regularly. Waste collection in both water and land requires unusual manual effort. However, by using robot with special design it become very easy. In this paper, a novel design of screw propelled amphibian robot is proposed to manage waste collection in both land and water. The robot can work autonomously in wide variety of terrains which includes grass, road, marsh, water, etc. The mechanical design of the robot was developed in computer Aided Design (CAD) and prototype was designed and tested in various working environments. Mobile Application was developed for manual control.**

Keywords—Arduino, Waste Collector, All-Terrain, Autonomous

I. Introduction

Every country tries to protect the planet and ensure that all people live in a hygienic environment and stay healthy. One of the prominent factors that can support this action is by managing the waste that are generated and accumulated in land and water bodies which pose a major threat to the environment. For example, The Great Pacific Garbage Patch where 80 percent of waste come from land-based sources, while the remaining 20 percent coming from boats and other marine sources. These wastes affect the naturally occurring phenomenon such as food chain, water cycle, etc. Manual collection of these waste in such remote places is expensive, repetitive and challenging task. For such monotonous tasks Autonomous Robots has a great advantage of doing it efficiently. Recently, many robots have been developed to collect waste separately in land and water. Our project aims to create an autonomous robot that could collect waste in all terrains. This will reduce the manufacturing cost of two individual robots to one and increase productivity. Therefore, an autonomous all terrain waste collecting robot will solve this problem.

A. Screw Propulsion

A Screw propelled vehicle is used, as it enhances the movement of the robot in both land and water terrains, including a variety of terrains. The screw propulsion depends on the amount of helix angle given for each ben over the body of screw. It increases the propulsion as the curvature of the bend over the body gets enhanced for it to move over and above the respective ground surfaces. The principle of operation is that similar to that of the screw driving through a wall, here the machine drives through a terrain in similar manner. The threaded cylinders are large and hollow to ensure a substantial area of contact and buoyancy.

B. SPAAWC Locomotion

The motion of the SPAAWC robot depends on the rotationof the screw wheels. The SPAAWC robot can move in all direction. It won't sink in terrain as the method of locomotion itself involves the screw being buried in the terrain for more efficient movement. The various directions the robot can move and the corresponding wheel rotation direction is shown in the Table 1.

TABLE I. Direction Of Wheel Rotation

Left wheel / Right wheel	Counter Clockwise Direction	Zero	Clockwise Direction
Counter clockwise direction	Moves Forward Direction	Rotate Counter Clockwise about Right screw axis	Moves Left Direction
Zero	Rotate counter Clockwise about Left screw axis	No Movement	Rotate clockwise About right screw axis
Clockwise Direction	Moves Right Direction	Rotate clockwise about left screw axis	Moves Backward Direction

II. Design Of Spaawc Robot

The proposed design makes use of an Arduino Board, 12Vhigh torque DC motors, a 12V battery, Servo motor for collection mechanism, PVC frame and screw wheels, transmission system. The design features are explained detailly, through conceptual design, mechanical

parameters and for the collection of wastes over the ground surface.

A. Conceptual Design

The frame of the robot is made of PVC hollow bars which makes the robot easy to float as well as providing mechanical strength. The Archimedes screw wheels are also made of PVC pipes. The motors are attached inside the robot body and the motor shaft is connected to the screw shaft through a pulley and belt arrangement. The size of the pulley depends upon the torque requirement of the robot. The choice of the materials is based on the cost and mechanical stability Analysis.

The screws are placed in the sides of the robot. The collection mechanism is made of a shovel type design and is connected to the servo motor placed inside the robot body through arms. The CAD model of the SPAAWC robot in various views is shown in Fig. 1. The block diagram of the SPAAWC robot is shown in Fig. 2.

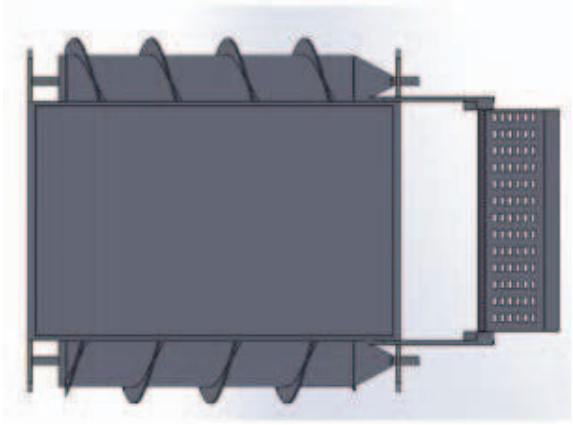

Fig. 1. CAD Model

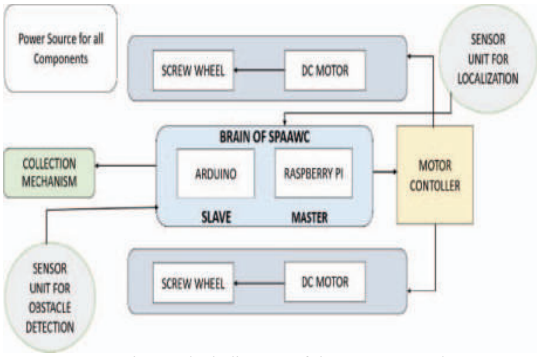

Fig. 2. Block diagram of the SPAAWC robot

The Brain of SPAAWC robot consist of the raspberry pi and Arduino modules as master slave combination. The raspberry pi process all the sensor data and path planning algorithms and gives command to the Arduino board according to the output of the algorithm. The sensors used for localization of the robots are NEO-6M GPS Module and a HMC5883L magnetometer module. The GPS gives the longitude and latitude of the robot and the magnetometer gives the heading of the robot. With this data the robot can know where it is in the field. The Ultrasonic sensor is used for detection of obstacles in the path of the robot and if the robot is very nearer to the obstacle it changes its path for avoiding it.

The Arduino is connected to the DC motors through a L293D motor controller board which controls the speed and direction of the rotation of the wheels. The DC motors are connected to the screws through a pulley and belt arrangement. The movement of the robot can be controlled according to the login provided in table (1). The shovel and arm combination in the front of the robot is controlled using a servo motor which gets command from the Arduino. The waste is then put in the top box of the robot and can be disposed and further processed.

B. Mechanical Parameters of SPAAWC robot

The Body of the SPAAWC robot is 50 cm in length and 50 cm in breadth and 40 cm in height including the wheel of the robot. The SPAAWC robot is shown in the Fig. 3. The body size was considered based on the manufacturing cost, easy maneuverability, transportability of the robot.

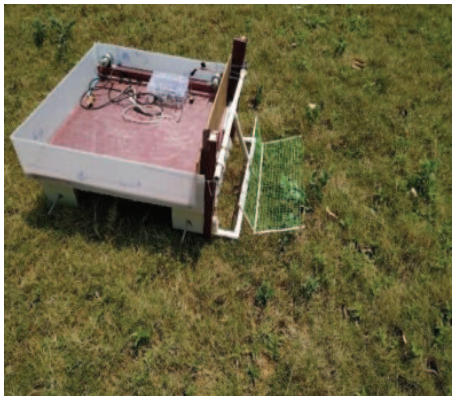

Fig. 3. SPAAWC robot

The design parameter of the screw is formulated based on the literature review of [1]. From the literature review the ratio of drum length to the drum diameter is taken to be 6, and the ratio of blade height to drum diameter is 0.375, blade height and helix angle as 2 cm and 260 respectively.

In the SPAAWC robot the motor is connected to an aluminum pulley of inner diameter of 6 mm and outer diameter of 20 mm. The shaft is connected to a pulley of inner diameter 20 mm and outer diameter of 80 mm. The belts are mated with a V-Belt which transfer the power from the motor to the shaft.

C. Collection Mechanism

The collection mechanism is used for collecting the wastes and transferring the wastes to the Frame bin placed over the PVC frame. The mechanism consists of metal mesh, electrical connection pipes and servo motor for driving purpose.The metal mesh is made in such a way that it is able to collect all the wastes that is available on the path of the robot. The metal mesh is chosen so that the fine sand particles in case of land terrain, water particles in case of aquatic terrain is filtered off before transferring the wastes to the Frame bin. The Collection Mechanism is shown in the Fig. 4.

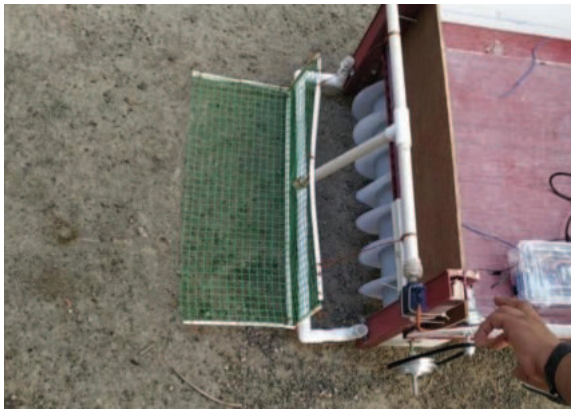

Fig. 2. Collection Mechanism of the SPAAWC robot

III. Modelling Of A SPAAWC Robot

The Kinematic model of the SPAAWC robot is designed. When the wheel is actuated there occurs two components of forces, one is forward force and rolling force. Based on the screw wheel rotation the resulting force will result in the motion of the robot in any desired direction. The direction of motion of the robot motion depends on the wheel rotation direction and the velocity of the robot depend on the screw wheel angular speed and the terrain.

Considering Vx, Vy, Wz as the translational and rotational velocities of the robot. ωL and ωR are the angular velocities of the screws. R is the effective radius of the screw. L is the breadth of the robot. The Kinematic model of the robot is given in Equation 1.

$$\begin{bmatrix} V_x \\ V_y \\ W_z \end{bmatrix} = \frac{R}{2} \begin{bmatrix} 1 & 1 \\ 1 & -1 \\ \frac{-1}{L} & \frac{1}{L} \end{bmatrix} \begin{bmatrix} \omega_L \\ \omega_R \end{bmatrix} \quad (1)$$

The Inverse kinematic model of the robot in matrix form isgiven in Equation 2.

$$\begin{bmatrix} \omega_L \\ \omega_R \end{bmatrix} = \frac{1}{R} \begin{bmatrix} 1 & 1 & -L \\ 1 & -1 & L \end{bmatrix} \begin{bmatrix} V_x \\ V_y \\ W_z \end{bmatrix} \quad (2)$$

From the inverse kinematic model, the angular velocities of the screws can be determined. The go to goal algorithm determines the distance and heading error using the data from the sensor and the goal location and feeds it to a PID controller which generates control signals to be given to the motor controller after determining the wheel speeds with the inverse kinematic model. Since this is an Omni directional robot the goal can be reached in many possible paths. A path can be designed for the robot to follow and it collects the waste with minimum possible error and efficiently. The robot can be powered using a solar power and a charging station can be provided nearby for it to recharge automatically. Multiple SPAAWC robots can be deployed for maximum effectiveness.

IV. Prototyping And Application Developement

The prototype of the robot was fabricated based on the CAD model. The materials that are required for the fabrication of screw wheel are, -polypropene sheet, pipe (3inch), machining tools and bonding agents. The polypropene sheet that is to be used should be rigid and at the same time it should be flexible for cutting process. The materials that are required for the fabrication of body is PVC frames, polypropene sheet, nails and bonding agents. The Driving assembly consists of electronics and mechanical parts. The electronics part consists of Motor, Controllers and connecting links. The mechanical part consists of the pulley and belt. These should be placed on the PVC frames such that it is separated from the working parts. Also, it should be placed such that it is isolated when it is working in aquatic terrains. The driving mechanism of SPAAWC robot is shown in Fig. 5.

Fig. 5. Driving Mechanism of SPAAWC robot

Fig. 6. Mobile Application of SPAAWC robot

The prototype functions in two different manners, one in an automated programmed way wherein pre-defined directions are programmed into the application. And by the selection of the Automated programmed button, the prototype starts its motion accordingly. The other way is the Manual operation wherein the forward, backward, left and right directions are controlled manually by the use of switches. The collection process is also controlled manually by switch control. The Mobile application is shown in Fig. 6.

The Automatic and manual mode of operation is achieved by clicking the separately named buttons on the mobile application controlled by the HC-05 Bluetooth module through Arduino. For the mobile application to work, we need to connect the device to the Bluetooth and then the operation of the prototype in all in our hands.

V. Circuit Diagram

The circuit design and control involve the electronics design as well as Designing the control system which makes up the brain of the robot. In various parts of the robot communicate with each other for the complete operation of the SPAAWC robot. The circuits are split into Dc motor control circuits, Collection Mechanisms control and for the stability control circuits. The control of the robot is entirely dependent on the Table 1. The entire circuit diagram is shown in Fig 7.

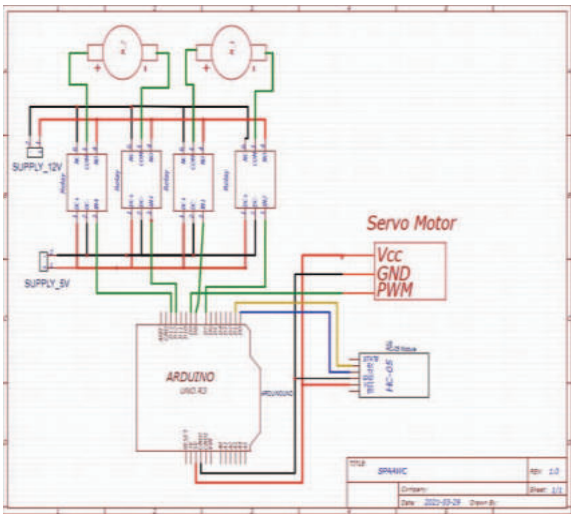

Fig. 7. Circuit diagram of SPAAWC robot

VI. Testing Of SPAAWC Robot

The testing of the SPAAWC robot was done to determine the advantages and disadvantages of the SPAAWC robot. The robotwas let to collect waste in different terrains which include grass,marsh, pavements, and road. The images of the robot working in the above-mentioned environment is shown in the Fig. 8.

VII. Results

SPAAWC robot can work in terrains like marsh, pavements, water, grass etc. The testing of the SPAAWC robot was done to determine the advantages and disadvantages of the SPAAWC robot. The robot was let to collect waste in different terrains which include grass, beach sand, pavement block, rocky areas and Aquatic terrain. It was noted that the robot can efficiently navigate and collect waste in the above-mentioned terrains.

Fig. 8. Testing of SPAAWC robot in different Terrains

The SPAAWC prototype was made with polypropylene sheet of 4 mm thickness so it could easily cut through some surfaces and move. For future stiffness and flexible operation, the polypropene material can be replaced by folding sheet metal from proper machining tools.

Since, the wheels are made of hollow PVC tubing the robot was able to easily float in water and was very efficient. The battery used was a 12V 7.5Ah rating and could power the robot for an hour. The resulting weight of the robot was less than 10 kg so the robot can be driven with less power DC motors. Also, the collection mechanism involved a mesh which had openings for the sand, dust or water to drain out and only collect the waste. This made sure that no water or dust never affected the electronics circuits. The result curves are shown in Fig. 9.

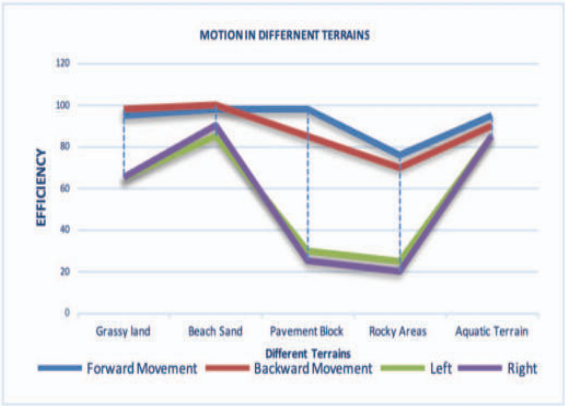

Fig. 9. Result Curves

The Fig. 9 shows the curve which plots the operation in different terrains and its efficiency for omnidirectional movement. We can see that the obtained curves work well for Grassy lands, Aquatic Terrain and Beach sand and the operation in Pavement blocks and Rocky areas are not obtained with greater efficiency, due to the errors developed in the fabrication process and the errors in the actual environment while operation. These errors can be avoided by complete development of prototype in closed loop operation and using sheet metal for wheel fabrication process instead of Polypropylene material.

VIII. Conclusion

The Screw Propelled Autonomous Amphibian Waste Collector Robot with control of wheel rotations provides omnidirectional motion for all-terrains. The type of screw wheel configuration used is double screw composed of two counter rotating screws. The feasibility of this robot is studied and tested. For future work, different screw wheel configurations can be tested. For improving autonomous mobility further addition of sensors is possible. Camera can be attached and image processing can be done and segregation of waste can be done at the time of collection.

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PV Based Multilevel Inverter with 15 Levels using POD Control Method

Porselvi T ; Praveena D ; Shalini Priya J. ; Hemalatha M ; Meenakshi B ; Thennarasu S All Authors

Abstract: An asymmetric cascaded multilevel inverter (MLI) for solar systems is presented in this paper. The asymmetric multilevel inverter is an excellent choice for because it im... **View more**

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Abstract:
An asymmetric cascaded multilevel inverter (MLI) for solar systems is presented in this paper. The asymmetric multilevel inverter is an excellent choice for because it improves power quality and allows for transformer less operation, a PV system is a good choice. Due to harmonics and a lack of fault tolerance, a three-phase system with the use of power semiconductor converters in a high-power drive system causes many of the problems. This paper aims at the design of multilevel inverters with fewer amounts of semiconductor power devices. The proposed system supplies the fifteen levels for power quality improvement and the switching signals for the power devices are obtained with phase opposition and disposition control method. The proposed multilevel inverter is connected to a RL load. The boost converter is utilized to attain high output voltage to energize the MLI. The total harmonic reduction is reduced and results shown are verified with the use of MATLAB/SIMULINK software.

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Contents

The demand for energy in today's globe is very high, but the expense of the fuel necessary to generate it is also rising, with certain constraints in its accessibility. Solar power can be one of the most effective solutions for renewable energy resources, given the growing need for numerous sustainable sources of energy like solar, wind turbines, and so on. The energy can be harnessed in dc form using PV cells. The inverter converts the dc to grid-quality ac, which is then sent into the power system. Inverters are deployed to transform dc to ac voltage, However, in recent days, the multi-level inverter has grown in favor of reducing THD. They have the ability to generate a staircase waveform. The waveforms produced reduced harmonic distortion, low voltage stress, and improved power quality [2]–[4].

PV System Based Induction Motor With Landsman Converter Using IFOC Controller

Publisher: IEEE

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<< Results

T. Porselvi ; K Krithika ; CS Sai Ganesh All Authors

Abstract: This study proposes a robust and inexpensive solar photovoltaic (PV) system using the Landsman converter architecture and an induction motor drive (IMD). Among the numero... **View more**

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Abstract:
This study proposes a robust and inexpensive solar photovoltaic (PV) system using the Landsman converter architecture and an induction motor drive (IMD). Among the numerous DC-DC converters, the Landsman converter satisfies the planned system's performance expectations. A DC-DC Landsman converter's principle role is to improve the energy output of a Photovoltaic panel and to offer safe and soft initiation of an induction motor with proper control. The first stage controls the duty cycle of a landsman converter to collect the greatest energy from the solar PV system. The motor speed is controlled to sustain the DC link voltage. Since motor currents are reduced at higher voltages for the same reactive power, this control assists in the reduction of motor losses. To improve transient system efficiency on an IFOC-based three-phase induction motor (IM) operation, a speed controller is required. The results are verified and examined in MATLAB/Simulink and it shows that motor torque range and speed.

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Contents

For a couple of decades, growing energy issues around the world, as well as degradation of natural ecosystems, have drawn the attention of the engineering and research communities. The understanding of how to convert renewable resources into usable forms is quickly maturing. The advancement of semiconductor technology and the introduction of fast switching power electronic converters have greatly aided energy conversion technologies [1–2]. Sustainable energy use has progressed from transferring the energy of flowing water to immediately transforming solar energy to electrical energy today. Photovoltaic solar (PV), with effectiveness as poor as 5-6 percent and extremely expensive, has previously proved ineffective. But the efficiency of the proposed array is currently between 15 and 16 percent, with increasing experimental demonstration and progress. In addition, prices declined steadily [3–4]. Today, the photovoltaic conversion efficiency is seen as a good alternative to fossil-fuel power generation systems as no hazardous emissions, no emissions of greenhouse gases, no engagement in fuel costs, fewer maintenance expenses, no usage of water, etc. exist. Induction motor starts with home appliances for industries and even for electric cars and cranes and is commonly used in daily lives [5]. 60 percent of electricity usage for electric motor systems is utilized in industrial operations. The IM system is extensively utilized in light of several features, especially with a simple structure, limited volume, ease of operation and flexibility, high efficiency, energy density, large beginning torque, consistent torque ranges, reliable responsiveness to torque under certain operational conditions, and others [6–7]. In conjunction with the growth of industrial activities and the advancement of electric vehicles, total electricity demand for electric drives activities is predicted to increase. Commonly, scalar control and vector control are the kinds of IM drives. A basic structure, low price, convenient to construct, the low-state error is shown in the scalar control [8–9]. Nevertheless, high-performance control over IM was still not achieved using scalar control. The vector control has the advantages of controlling the location of the flow, tension, and current vector in view of maximum control, in comparison to scalar control, resistive control, and phase control, needs a smaller amount of energy usage and greater efficacy [10–11]. FOC can be classified as direct and indirect. To determine the flow rotor, DFOC requires at least two hall sensors on the air gap. Whenever applied to IM, the use and implementations are challenging and inefficient. Thus, in this scenario, IFOC's assessment methodologies have an edge [12–13]. Furthermore, IFOC has a simple interface to be applied to make it popular in automotive purposes. The IM speed must be controlled simply and reliably in broad operating circumstances in order to enhance performance. The PID controller is one of the simplest

and most dependable controllers. An IM is a sophisticated system that takes a greater amount of effort in developing the system of drive and control [14–15]. Today, numerous real-time control systems are in place in and drive electrical machines for manufacturing, education, or research, in step with the growing complexity of systems and project costs. The controller is an additional policy designed to shorten the duration, test models, and validate complicated systems.

Authors

Figures

References

Keywords

Metrics

IoT Based Energy System in A Facts of Principle Intrusion on Power Administration

IoT Based Energy System in A Facts of Principle Intrusion on Power Administration

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Abstract-The Stimulation to accomplish energy usage at a residential direct Asian country is influenced by political economy, status, and technical reasons. Economically, it offers a discount of state subsidies and electricity bills. The ecological condition facet permits the reduction of CO2 level. we are able to limit the availability to the house by pre-default setting the worth to be consumed so energy will be managed by limiting. the facility administration system comprises of Alphanumeric Power cadences are put in apiece shopper unit and an Electricity e-Billing scheme at the energy supplier aspect. Wireless sensing element network sends its power usage reading exploitation data back to the energy supplier wirelessly. On the facility supplier aspect, they'll amendment the devices' priority once power is distributed within the low vary.
Index Terms- Electricity e-billing, Wireless sensing element network, pre-default setting, Digital Power meters.

1.Introduction

Anthropological machinist promoting is liable to interpreting miscalculation as sometimes the house electrical supremacy meter is placed in an advert which is not effortlessly reachable. The notion of zestful mission of primacies to intrudes is discoursed, which diminishes the interval of interruption for a low primacy job, which becomes a high primacy job. Carving for intrude skills is also discoursed, which can be used to develop the staging.

The uppermost precedence chore is ladled out for supplementary number of times and with a lesser epoch. Hence it is not prerequisite time lag for the tab time of former hitherto high primacy intrudes. If power is fewer in the grid, automatically, it will accomplish energy. Our projected system with low power cohort automatically goes to power management. All the devices controlled depend upon the

priority-based and timing-based control of the apparatus with low power cohort. In the Prevailing System, meter reading was taken physically. Errors occurred due to less concentration. Meter reading is not precise, Enormous Manpower needed. Delayed work due to external conditions Power cut manually due to lack of payment. In the anticipated system, the Measure reading is taken robotically using GSM technology.

Power expurgated achieved from EB administrative centre concluded wireless work happen at any time and peripheral conditions less manpower, high truthful measure interpretation, customer service and well power super vision. PIR sensor is used to find the person entered into the room.

2.Methodology

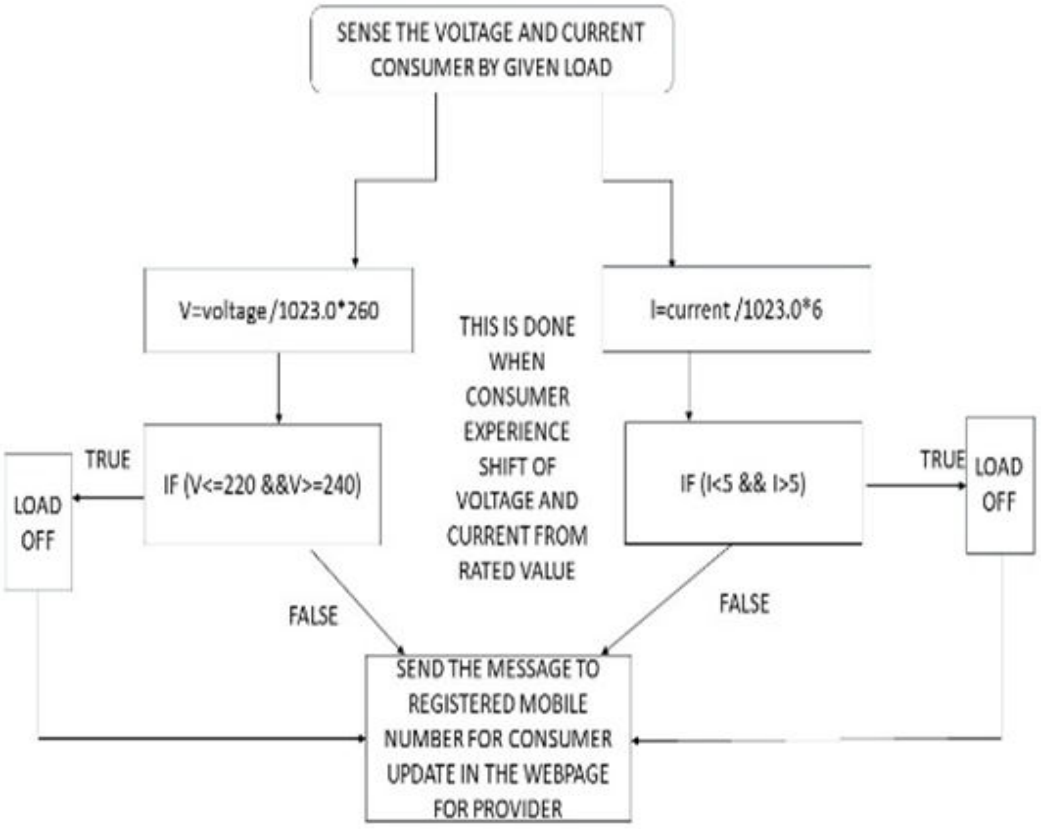
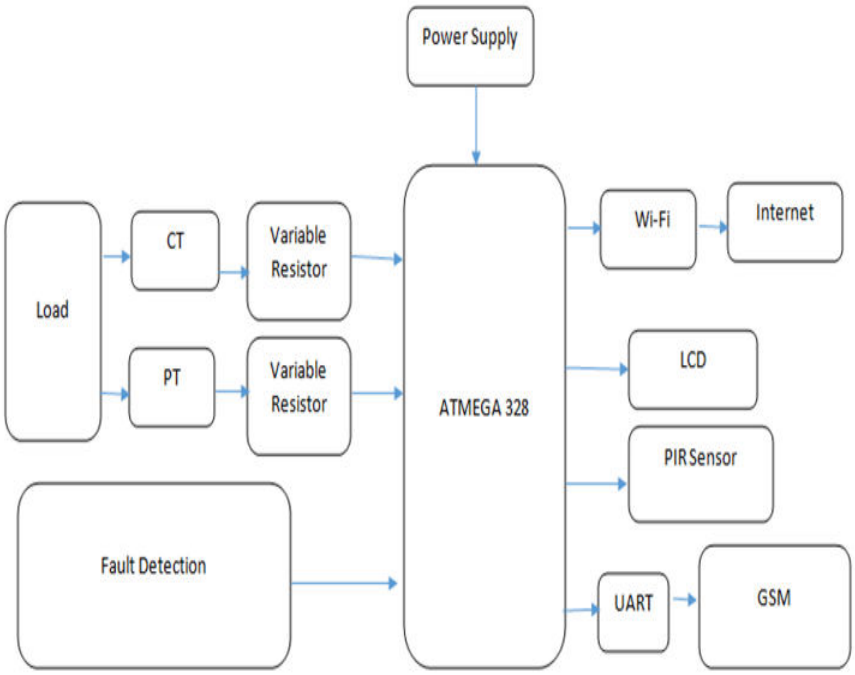


Figure.1. For Voltage and Current Calculation from The Load.
Figure.2. For Fault Occurrences in The Street

3.Design of Experiment



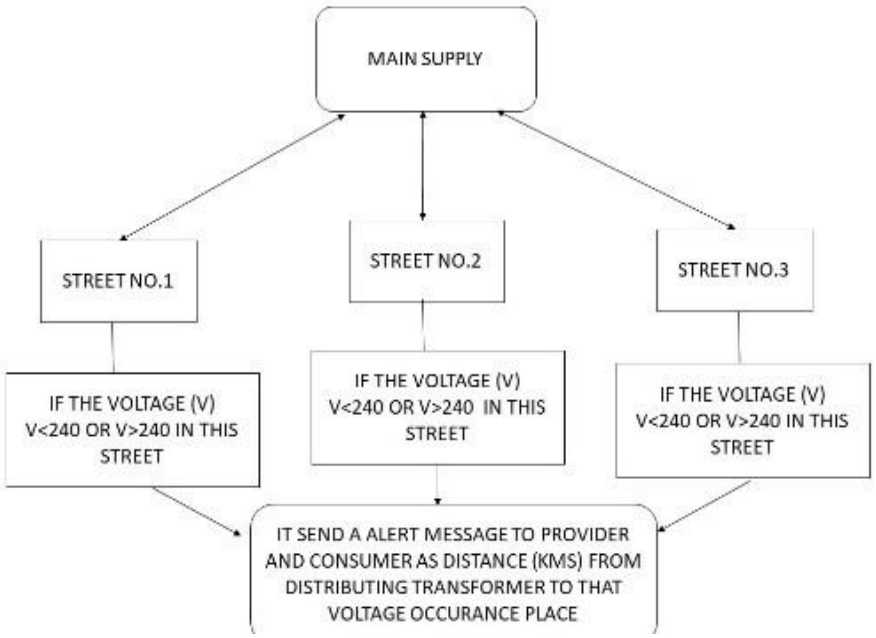
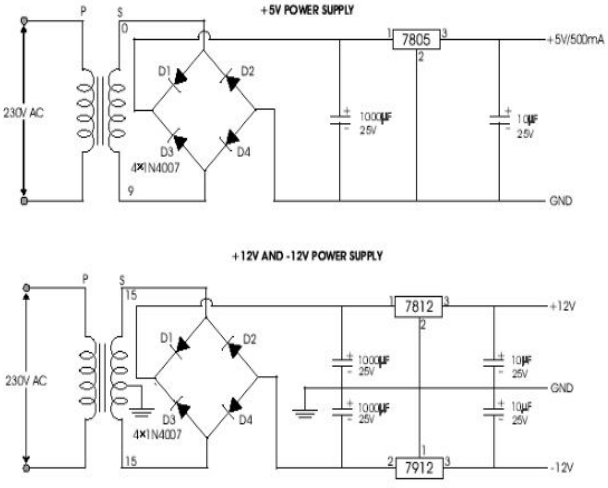


Figure.3. Block Diagram of the Project

CT sensor measures current. PT sensor measures voltage. Both CT and PT are connected to the controller. The value of CT and PT are sensed and displayed in LCD. GSM is interfaced with the regulator when it crosses the ultimate voltage, the GSM building block sends squat communication facility to the enumerated itinerant digits.

PIR sensor is interfaced with the microcontroller, and it is intimated through the GSM. Firstly, a threshold value is set for CT and PT. If the current value or the voltage value exceeds the threshold value, usually the fuse will be blown in the existing system. Whereas in the proposed method, directly, the load will get switched off. The present value of the current and voltage will be detected, and the value sensed will be sent to the registered mobile number. The distribution transformers present in the fault detection system plays a vital role in this energy management system.

If the voltage sent to these transformers is lesser or greater than the fixed threshold value, it will lead to tripping of the circuit, the voltage value and the distance between the transformers will be sensed, and the detected value will be sent to the registered mobile number. This value is also uploaded to the webpage using HTML scripting language.



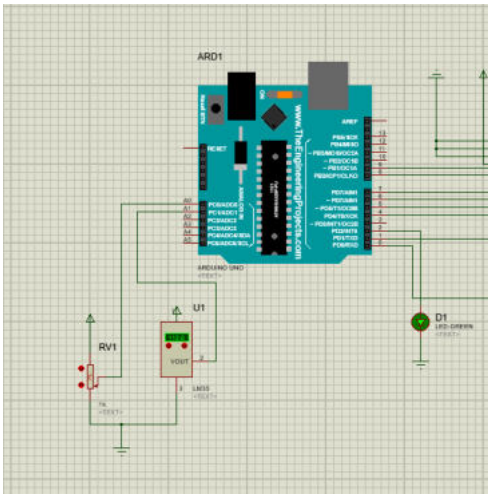


Figure.4. Main Circuit Diagram of the Project

Figure.5. Power Supply Circuit Diagram of the Project

4.Devices

4.1 Transformer:
In the project, it uses a step-down transformer of core type. The power supply of the transformer is a 230V 50Hz AC supply. The rating of the device is 230/12 V 1A.

4.2 Bridge Rectifier:
Other devices require DC supply in the project. For conversion of AC to DC supply, we use bridge rectifiers. For filtering the output of the rectifier, we use a 1000uf capacitor.

4.3 Voltage Regulator:
For the power supply of 5V, we use an LM7805 voltage regulator for regulating the supply separately for 5v power supply devices.

4.4 Trim pot (pre-set potentiometer of 10k ohm):
A visual form of the real-time problem needs to show the frequent change in the voltage and current for the load. So, we use pre-set potentiometer of 10k ohm for variable change in voltage and current, with power supply of both 5V and 12V DC.

4.5 Current Sensor:
With the supply power of 5V DC, we use ACS712 current sensor to sense the change in the present value which flows into the load.

4.6 Voltage Sensor:
With the supply power of 5V DC, we use voltage sensor whose V_{cc}<25V, to sense the change in the present value which is across the load.

4.7 Relay:

With the supply power of 12V DC, HL JQC-3FC, we use this relay which control the load by switching off it when the load receives a change in value of voltage and current in reference with the threshold value.

4.8 Arduino UNO Board:

The main program of this project is encrypted into this board for the progress of the output.

4.9 Ethernet Board:

Using LAN connection, the calculated value is updated in the webpage in a particular IP address for the provider side.

4.10 *GSM Module:*

With a direct connection from the main for the power supply of the GSM Module which is used in our project, through which the calculated value is send to registered mobile number.

*4.11 16*2 LCD Display:*

Liquid Crystal Display of 16*2 is used in the project for the displaying the value sensed and gets the value from the interfacing it with Arduino UNO.

4.12 Jumper wire:

Female Pin and Male Pin Jumper wire is used in this to communicate with all other devices from Arduino UNO.

5.OUTPUT

Figure.6. Amount produced Voltage

Figure.7. Amount produced Current

Figure.8. Amount produced Voltage of Street1

Figure.9. Yield Voltage of Street2

Figure.10. Yield Voltage of Street3

Figure.11. Output Graph for Current sensor

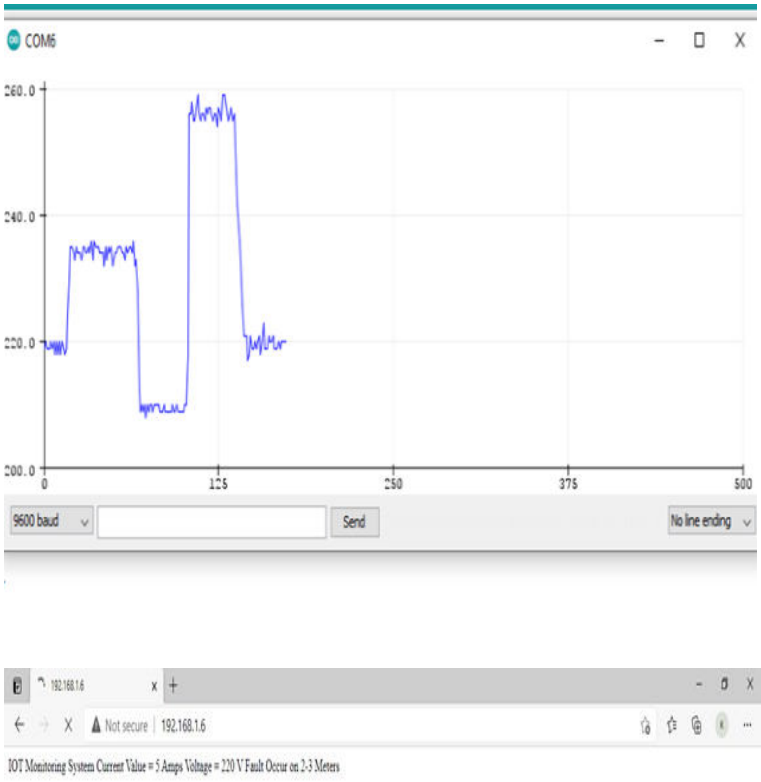


Figure.12. Output Graph of Voltage Sensor

Figure.11. Update in Webpage to Provider Side

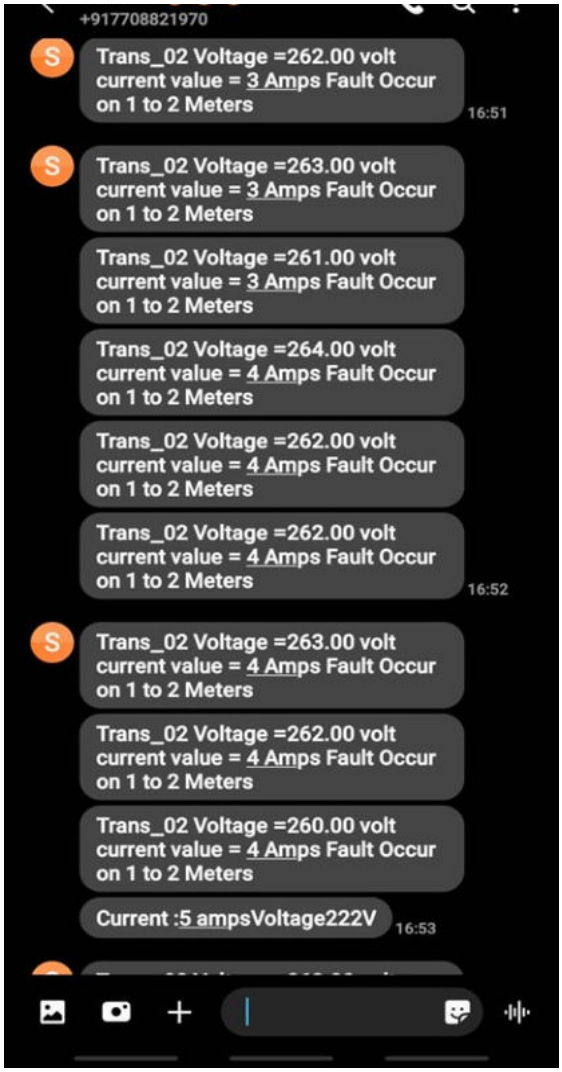


Figure.12. Message Received by The Consumer.

6.CONCLUSION

The voltage value and the current value at the present situation is detected. The distance between the distribution transformers during fault occurrence is sensed and uploaded to the website, then to the registered mobile number.

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Automation of Sustainable Industrial Machine using PLC

Automation of Sustainable Industrial Machine using PLC

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Abstract. At present, the machine gets operated manually and also by command raised by computer artificially, but mostly conventional machines operation done by humans. This leads to seeking attention keenly by humans for the operation which also increases time consumption to drill or milling of certain objects. Our project completely weeds out the physically cabled connection present in conventional BFP160 machine by introducing the PLC control technique. This design implements machine operation using the PLC control technique for trouble-free changes and error rectification in the system by reducing the number of contractors held by relays. The physically complicated control wiring using relay logic was replaced by a swift, compact Programmable Logic Controller (PLC). The entire logic and interlocks were incorporated into PLC. This wipes out the breakdown to the lesser time thus increasing the operating speed and overall equipment efficiency (OEE) of the machine. An existing conventional machine gets automated using PLC which gets programmed using the ladder logic programming with the processor for increased automation to peak level. Here the machine availability gets increased as the breakdown time gets reduced and efficiency of the certain machines is particularly improved thus initiated to greater production in set out manner. All additional considerations employed by Variable frequency drive (VFD) for speed control of feed motor by eliminating electromagnetic clutches along with telescopic brushes responsible for the movement of axes to drill or milling of the certain workpiece by the conventional machine. Our design proposes for the instant signal whether any part which gets interrupted while operation. Here this logic gets programmed and simulated using PLC software which is available based on a number of inputs and outputs.
Index Terms– PLC, OEE, Conventional , VFD, BFP160,Relay Logic.

1. Introduction

With the onset of new technologies, the functionality of the conventional BFP160 machine can be amplified by restoring the complete reduction of the cabled interrelation by the intrusion of the PLC control technique. This actually weeds out the operation of breakdown to be less and reduces the work of man force by enabling the time reduction. Enhancing this technique also saves the installation cost and also magnifies the speed of the machine which successively ignites the efficiency of the machine to a higher level. This design is incorporated by the interfacing of various electrical and mechanical components with PLC. This also implements the complex buttons by implementing the control principles like ON/OFF or switching control via PLC. This completely eliminates the manual seeking of controlling the position of the work piece which in turn said here as the automation of the conventional machine. This said to be the step response for the evolution with

upcoming onset technologies.This design works out to be the best one for a conventional to automated workout . This serves to be the endeavour for the upcoming technological outcome for this present on set of automation. Our project simulation control design adduced with the entire automation of the conventional machine and thereby increasing the efiiciency and also the breakdown time to be lesser and also the entire maintanence becoming reduction oftime.

2. Existing System

The existing systems comprise of high burden content of relay logic which is enrolled for any machine operation in a certain manner. The difficulties in identifying and commemorating further operations after the occurrence and rectification of the faults take quite a longer duration in manual operation. The time required for hold on to a certain machine is quite large time which also wastes time and also the efficiency of a machine reduced and also the manpower which also getting increased and which collapses the entire production in delay. If any fault persists in the machine it is typically difficult for us to identify and what makes fault is unable to sense as it involves a complex wiring, relay, and several contactor arrangements. This involves quite a long time for fault detection and then rectification. In this meantime, the corresponding machine is to be halted for maintenance & repair work and so the machine's efficiency gets faded down and which incorporates manual interventional losses with the entire production in delay which affects the entire economy designed for a certain machine.

3. Block diagram

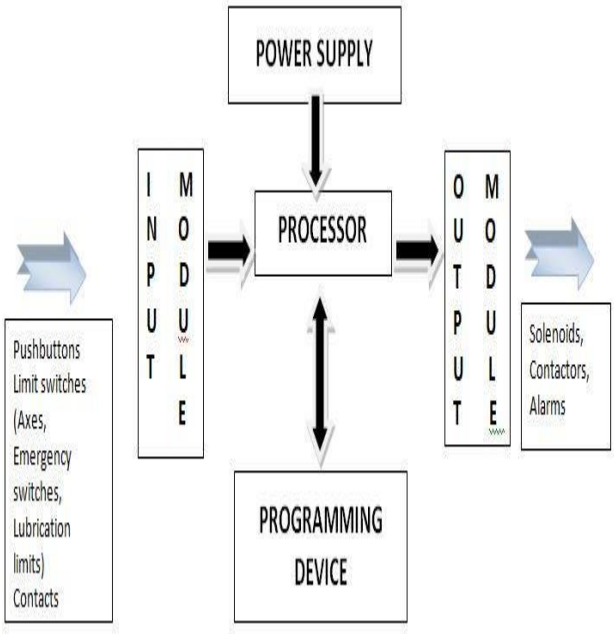

Figure 1. Block Diagram Representation.

4. Description

4.1 Power Supply :

A power supply intiates the direct current to the central processing unit (CPU) and other modules in the rack present.They are accessible in various power ratings and sizes incumbent on the PLC itself. However, most PLCs are premediated with a backup battery to furnish energy to the CPU for a specific duration in circumstances like power outage or supply failure.

4.2 Input/output Modules :

These modules accepts the processor to associate to the field devices. They build a connection between PLC and field devices namely control valves, pressure transmitters, flow transmitters, and analyzers. The control over these entered to input and output modules respectively Emergency control switches, Lubrication limits, axis control , starter controls, coolant tor control, operations like cutting, inching either in forward or reverse direction for the job piece to be produced accordingly in X-axis or Y-axis or Z-axis or along spindle axis for an appropriate selection switches to be selected in PLC and to be programmed earlier in specified manner and can be loaded either through online mode or USB or Ethernet cable can be used along the PC as a transmitting media which when aligned as an operating panel which executes the portrayed logic as a control of entire machine as an automated one.

4.3 Processor:

Here a programmable logic controller (PLC) is the hardware that is accustomed to sway the manufacturing processes or any pursuit that needs logic, counting, timing, and network communications works as a processor. Here DELTA DVP-SE Series is incorporated along with fast logic operation, lavish instructions and numerous function cards, the cost-effective DVP-PLC also bear various communication protocols, connecting Delta's AC motor drive, servo, human machine interface and temperature controller through the industrial network in to a complete "Delta Solution" for each and every every users.

4.4 Programming Device:

A personal computer (PC) or Laptop with the suitable software allows users to create, edit, store, and troubleshoot various programs. The PC integrates with the PLC processor via a parallel or serial data communication link. Periodically miniature devices are also used to program small PLCs. Here programmed can be done earlier in specified manner and can be loaded either through online mode or USB or Ethernet cable can be used along the PC as a transmitting media which when aligned as an operating panel which executes the portrayed logic as a control of entire machine as an automated one.

5.Proposed System:

Our proposed system is initiated with advanced automation through an understandable and clear vision of programming language which is via Programmable logic controller PLC. According to the present onset of various technologies in industries, automation took a predominant role in this upgraded technology. This initializes the interfacing for inputs and outputs already inside the controller which in turn weeds out the breakdown time to be lesser and also eliminates the burden of wiring arrangement which also finds difficulty in fault clearance and also the annual intervention. This incorporates all rugged and designed construction to withstand the vibrations, temperature, humidity, etc.

Figure.2. Proposed System

Enhancing this technique also saves the installation cost and also magnifies the speed of the machine which successively ignites the efficiency of the machine to a higher level. Here this logic gets programmed and simulated using PLC software which is available based on a number of inputs and outputs. This design work is done for Programmable Logic Controller (PLC) serves to be a "Workhorse" of industrial automation. This focused on weeding out the relay control logic to automation which is a machine control logic. The outgrowth is operated by physical or a standard ones which abdicate lesser productivity and may not be energy efficient but such practices were inevitable till the advent of the concept of automation. Automation brought the revolution in every field of application to a greater extent incorporating technologies and machines to do activities in an efficient manner by reducing human intervention.

6. Flowchart:

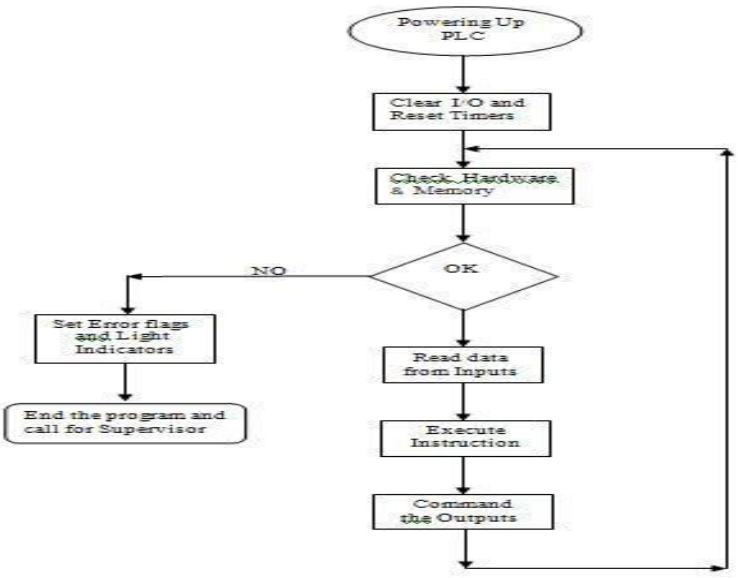

Figure 3. Working Flow of PLC Logic

7. Experimental Results:

Our paper adduces a design through a PLC logic inorder to convert an conventional milling machine which intricates with the relays , contactors and certain wiring arrangements to automated machine design. This paper proposes a upgraded automation technology inorder to overcome several drawbacks which are loss in efficiency of a machine which happens because of a breakdown (failure of contactors, relay arrangement ,wiring discharge).

To line up this or to avoid this criteria this paper adopts this automation technique. Our paper adduces actually weeds out the operation of breakdown to be less and reduces the work of man force by enabling the time reduction .Enhancing this techniques also saves the installation cost and also magnifies the speed of the machine which successively ignites the efficiency of the machine to higher level. This design is incorporated by interfacing of various electrical and mechanical components with PLC. This also implements the complex buttons by implementing the control principles like ON/OFF or switching control via PLC .This completely eliminates the manual seeking of the controlling the position of the work piece which in turn said here as the automation the conventional machine. Here adopting DVP-SE Series for PLC design logic which controls the machine operations which enrolls Emergency switches for an emergency operation of machine while automatically operated , Lubrication level limits to limit friction which causes overheating in the motors and leads to winding damage , Axes controls for the workpiece to be positioned for an accurant output piece to be delivered and also also gets initially checked in the depicted simulations through DELTA PLC software.

Here DELTA PLC preferred as DVP-SE series is enrolled for the efficient automation of the machine control and the installation of this PLC is inculpated for the machine in mentioned arrangements. This series is preferred as it offers high reliability, high speed for efficient way of machine operation. The main panel descriptions for a conventional machine includes Starters, Axis selection switches, Coolant motor control , Main motor control and the entire operation is initially presented in the PLC DVP-SE series which overall contains 12 inputs which intrudes 8 outputs in which logic –Emergency control switches, Lubrication limits, axis control , starter controls, coolant tor control, operations like cutting, inching either in forward or reverse direction for the job piece to be produced accordingly in X-axis or Y-axis or Z-axis or along spindle axis for an appropriate selection switches to be selected in PLC and to be programmed earlier in specified manner and can be loaded either through online mode or USB or Ethernet cable can be used along the PC as a transmitting media which when aligned as an operating panel which executes the portrayed logic as a control of entire machine as an automated one. Our design initiates the wiping out the workforce and reducing the number of contactors , wiring arrangements which saves definite time intervals and energy and also weeds out the breakdown time to be less which hikes the efficiency of the machine by smooth operation of machine from conventional to automation. All controlling and monitoring of other important requisites of certain processor are done at same instant. This said to be the step response for the evolution with upcoming onset upgraded technologies. This design enrolls the simulation under ladder logic as it results in easier understanding and also simpler.For instance for carrying out the inching process in forward or reverse which resembles like below in DELTA software with DVP-SE Series.

7.1. Simulating in DELTA DVP-SE:

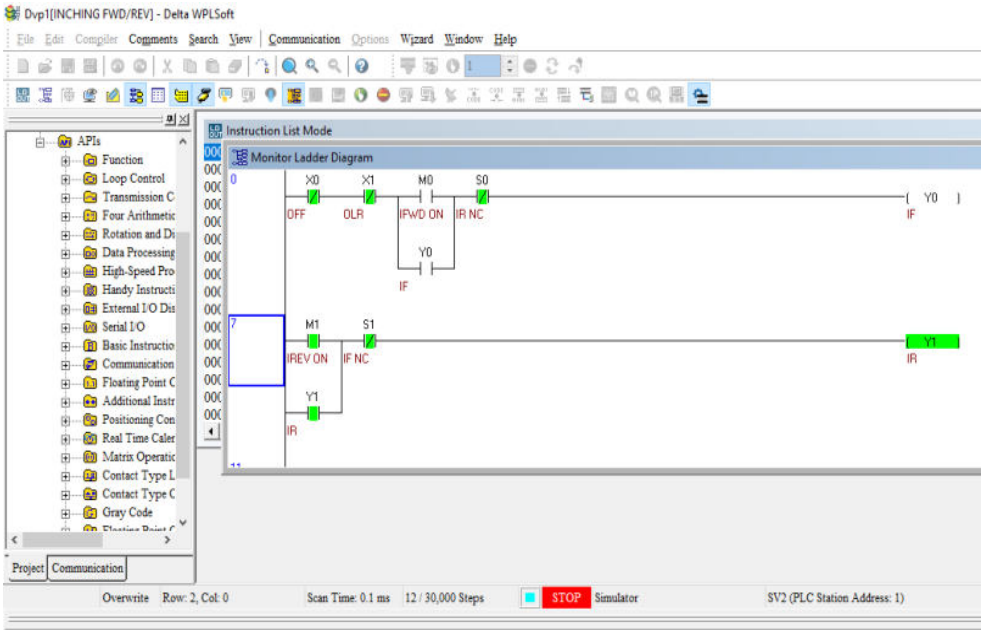

Figure 4. PLC LOGIC FOR INCHING (MILLING)

8. Conclusion:

PLC programming will change, and now that smaller micro and mini USB connections are available, you can expect to see this feature on more small PLCs. PLCs will continue to develop in the future as networking, hardware, and device infrastructure improves.New industrial automation equipment is propelling businesses forward. We have seen a significant shift in technical advances transform the industrial automation landscape from inception to the advent of collaborative robotics. This emerging automation technology will form the market in the coming year.The global automation industry, on the other hand, has been improving and expanding its capabilities. The threat of security has disturbed curiosity in open-source software, which is maintained by a vibrant group willing to patch bugs.

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Walk Assistance For Outwardly Challenged People

Walk Assistance For Outwardly Challenged People

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Abstract. The blind's competency is to navigate to a particular place and to commence their daily activities is of decisive importance for their prosperity. It is estimated about one billion people are blind out of 285 million people visually impaired of all ages , according to the statistics of World Health Organization. This work includes an affordable and more efficient navigation aid for the blind which provides artificial vision by providing knowledge about an environmental scenario of static and dynamic characteristics of objects around them. This system induces a smart cane with ultrasonic sensors placed to intimate the intermediaries to their acknowledgment through Bluetooth. ZIGBEE used in this project so as to met the sensor and control device communication standards for navigation for the blind with the smart cane via Google maps their destination.

Keywords: Ultrasonic sensor, Arduino microcontroller, Navigation aid, Zigbee receiver, Smart cane

1. Introduction

A person who believes that it is difficult to discern the smallest particles with strong eyes is a visually challenged person. These people are viewed as outwardly disabled. An examination by World Health Organization worldwide the amount of people of all ages ostensibly blocked is evaluated to be 285 million, of whom 39 are outwardly disabled. The rule issue with ostensibly weakened people is the best approach to cross their way to deal with any spot they need to go. Such people need assistance from others with extraordinary visual insight. This assessment proposes a method to set up a clever stick to help visually challenged people. The standard course helps for individuals with visual weaknesses are the walking stick and guide canine which request various defects. Passing most essential sickness of these aides include principal capacities and getting ready stage, the extent of development, and outstandingly unimportant correspondence. Our increment adjusted this stick for certain devices sections like sensors and some electronic devices. The ultrasonic sensors, water sensors, and ZIGBEE record information about the presence of obstructions in transit. Clamminess drops water significance distinguishing proof sensor which encounters if there is water in the method of the customer. Most outwardly impeded bearing structures use ultrasound since it is protected from

the natural noise. With the speedy advances of current development both in gear and programming, it has gotten safe to cross through the customers. Development both in gear and programming it has gotten safe to cross through the customers.

2. Literature Survey

Nowadays, wearable technologies are evolving but it cannot be adopted by all people in an efficient manner especially by the visually impaired people. Few systems adopted by us it discussed below. The wearable and affordable smart cane system guides the people and detects static and dynamic objects around them via sensors like infrared for scanning the predetermined area around them by emitting the reflecting waves. These waves indicate the direction and distance from distant objects around them. The central theme of this paper is to provide traverse aid and detection of mediators to make them wearable with upgraded technology. The purpose of this arrangement is to establish an application that enables visually impaired individuals to identify many static and dynamic obstacles in an unexpected way, identifying pits on the ground to allow walking. The various sensors' features are to perceive the obstacle for sway avoiding and to recognize a lot all things toward every way. To perceive pits on the ground, the position sensor is placed close to the bottom tip of the walking stick. The detection of these perceived pits is the headset microphone and chip are playing. The hardware components used in the design are the ZIGBEE receiver, sensors, power supply unit, voice record, playback device, Bluetooth speaker. It is an affordable, configurable, Intelligent guidance system that is reliable and easy to manage. In order to get recharged, it would be more beneficial beforehand.

3. Proposed System

The Ultrasonic sensor, infrared sensor, and dampness sensor connected to the microcontroller codes with the Arduino, and the actual sensor was connected to the microcontroller. Our proposed device consists of an Ultrasonic sensor. It has 14 advanced yield and information pins, 6 of which can be used as PMW yields, 6 basic data sources, a 16 MHz quartz gem, a USB association, a force jack, a reset button for an ICSP. The humidity sensor consists of two wire tests that rely on water interference to detect its consistency when a touch occurs. The ZIGBEE transmitter was attached to the microcontroller as Arduino sketch codes were composed and the microcontroller was awarded the ZIGBEE.Physical and MAC layers claim it, while this convention finished by aggregating the own organization and application layers of Zig bee.

The framework can show obstructions that exist on the ground during strolls indoor and open-air crossing. The shrewd stick is basically an installed system integrating the accompanying: pair of ultrasonic sensors to detect leaps from ground level tallness to head level stature in the region of 400 cm per head before the visually impaired. Continuous information is taken and sent to the microcontroller by ultrasonic sensors and water sensors. After handling this information, the microcontroller incites the signal. Water on the ground complicated by the water sensor and the battery used to power the circuits. The savvy stick is just an inserted framework that integrates the corresponding pair of ultrasonic sensors to detect deterrents in the range of 400 cm per head level tallness before the visually impaired from ground level stature to head level tallness. Continuous information is taken and sent to the microcontroller by ultrasonic sensors and water sensors. After preparing microcontroller actuates the bell. On the field, the water sensor detects water, and the battery is used to power the circuits. As Arduino sketch codes were developed, the ZIGBEE transmitter was interfaced with the microcontroller and the ZIGBEE was related to the microcontroller. The structure will ready the careless to uninhibitedly investigate to their optimal goal. It is moreover straightforward and more direct. It is convincing and traditionalist and subsequently can be mass conveyed for use of the apparently tried people. The system can recognize blocks that exist on the ground during walks indoor and outside intersection. The splendid stick is feasibly an introduced structure consolidating the going with pair of ultrasonic sensors to versatile obstacles before the outwardly impeded from ground level height to head level stature in the extent of 400 cm a head. Ultrasonic sensors and water sensors

take steady data and send it to the microcontroller. The microcontroller starts the signal after setting up this data. From 400 cm ahead. Continuous data are taken and sent to the microcontroller by ultrasonic sensors and water sensors. In the wake of getting ready, the sign affects the microcontroller.

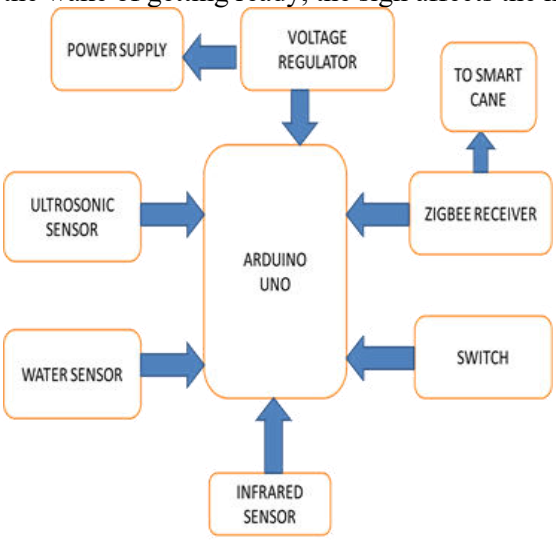
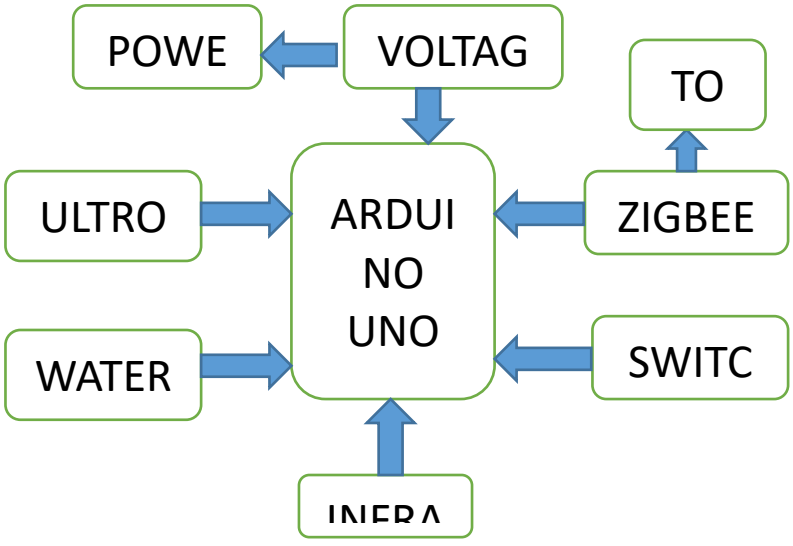


Fig.1. Block diagram

A.Block diagram operation

- In this block diagram figure.1 shown portrays regarding various sensors and receiver signal which is interfaced microcontroller.
- Here the various sensors which demand various signals through Zig-Bee receiver which interfaced with Arduino UNO.
- The ultrasonic, Infrared, and Moisture depth water sensor whose code is dumped in Arduino and gets executes the code accordingly in which Ultrasonic sensors which intimate the user about intermediate objects around them and also water pits or water logs, the darkness of the light by moisture depth water sensor and infrared sensor respectively.
- This gets operated by cane through the switch provided and all other signals like the tracking part are internally linked via Zig-bee a layer which also communicates the signals which are also interfaced by code in ARDUINO sketch.
- Here the power supply is through a battery which is regulated by Voltage Regulator.
- This gets operated manually by switch which is attached to smart cane.



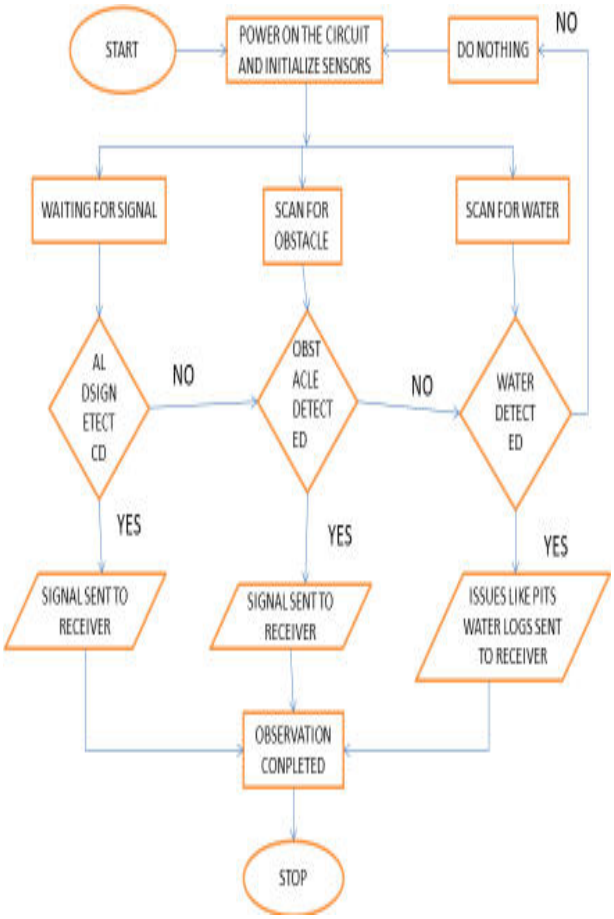


Fig. 2. Flow chart

B. Flow chart operation

- Here this flowchart gets operated when the power of the circuit gets initialized.
- This starts the process by scanning the obstacles if it is detected intimates the signal sent to the receiver and also same done by the infrared sensor detection and the same gets indicated and intimates the signal which is sent to the receiver.
- Finally, the waterlogs or pits that are recognized also get intricate, and these signals get sent to the receiver which is interfaced by the microcontroller, and these operations get completed.
- This operation gets executed manually by switch operation located in the smart cane.

C. Circuit diagram Operation

The smart cane recognizes the voice through voice recognizer and the signal which gets transmitted to Zig-bee receiver which in turn sends a signal to Bluetooth interfaced by the application layer of Zig-bee receiver where physical layer contacts the smart cane. The sensors used here are the Ultrasonic, Moisture depth water sensor, and infrared sensor in order to intricate the mediatory objects. In order to verify their efficiency and know if they function according to the specification, testing of each part of the smart cane performed.

Ultrasonic Sensor: the ultrasonic sensor was tried, and the framework worked by determining a good way off not very a long way from the client. The bell was demanding the obstructions in transit of the user. Water Detection Sensor: In the water holder, the dampness sensor was drenched, and a blaring sound was heard that was not the same as the signal seen from the recognition of obstacles. The yield for water recognition keeps the client from initiating into static water in the climate. At

whatever point the stick is embedded inside any profound water, the semiconductors will make the caution framework aware of switch ON. The aftereffect of our test with dampness is portrayed.

As ultrasonic sensors deal with the standard of resonation, research its appearance on changed obstacles is fundamental. The assessment cycle begins with the microcontroller sending the high-level heartbeat to the sensor trigger pin to start going, then the sensor awards ultrasonic sign with 40 kHz and 450µs and thereafter clutch address the rising edge yield by resonation port from 150µs to 25ms, dependent upon assessed stretch If an occurrence with no deterrent (no indication reflected) should occur, it holds it together for a few milliseconds until restarting transmission. To detect an obstacle, the ultrasonic distance sensor uses duration of the flight (TOF) - the yield is a modernized beat that takes the amount of time for the sound to arrive at the quarry and return before they hear the sign. By demanding impediments of up to 50 m, the contraction was constant. The moistness significance water pointer began with two wires what when interfaced with water would flag. They should contact the water before they can recognize the water, which is the explanation they were set under the stick. The Zig-Bee helps as the battery power is checked as it's worked in different modes. Data speed of 250kbps proper for irregular similarly as center two-course transmissions of data. Energy usage even at lower bandwidth. It covers 10 to 100 meters inside a scope as Bluetooth and Wi-Fi.

Fig.3. Hardware walk assistance stick

Table 1: Ultrasonic Sensor Test Result

S/No	Distance (Meters)	Alarm
1	0.5055	ON
2	0.6036	ON
3	1.1780	ON
4	1.5732	ON
5	1.8288	ON
6	1.9700	ON
7	2.0076	ON
8	2.8850	ON
9	3.0550	OFF
10	3.7400	OFF

Table 2: Water Detection Test Result

Probes	No Water Detected	Water Detected
Probe 1	0v, the buzzer is inactive. The transistor is off.	5v, the buzzer came ON. The transistor is forward bias.
Probe 2	0v, the buzzer is inactive. The transistor is off.	5v, the buzzer came ON. The transistor is forward bias.

4. Experiment Result

Ultrasonic sensors act on the reverberation law, focusing their presence on a modified deterrent is very necessary. The estimation cycle starts as soon as the microcontroller communicates. The 10µs increased heart beat level given as a input to the trigger pin of the sensor to start running (T1), at that point, the sensor illustrate 40 kHz and 450µs (T2) ultrasonic signals and then hold back to capture the reverberation port (T3) rising edge yield of 150µs.:25ms, depending on the estimated distance as shown in Figure 3. If no impediment (no sign reflected) occurs, it holds up to 38ms before it restarts transmission. To recognize snag, the ultrasonic distance sensor uses the season of flight (TOF) - the yield is a computerized beat that takes the amount of time for the sound to hit the target and return before the signal is heard. With deterrent identification of up to 2 m, the gadget was accurate. The water identifier, which consists of two wires that would signal when interacting with water. Before they can recognize the water, they must contact the water, which is the reason they have been placed under the stick. Invisible people use the Google map to advance by voice command to select the destination, so without the assistance of others, the path they take is much easier.

5. Conclusion

It is useful and complex now that this review finds that the arrangement and execution of a sharp walking stick has been accomplished for the apparently tried individuals. The Brilliant stick is likely to be a fundamental assertion for the refreshing age of extra supporting contraptions to help outwardly challenged individuals to explore both inside and away safely. This structure is convincing and desirable. This system offers a simple, strong, flexible, low power usage and enthusiastic response for exploring with the obvious short response time. Regardless of the way that the structure is hard-set up with sensors and various parts, it's more modest. Through distant accessibility between the structure components, the farther angle of this system can be redesigned, thus extending the scope of the ultrasonic sensor and executing a development to deal with the speed of prevention proceedings. Apparently weakened and ostensibly tried individuals were on top of our needs in all developing countries while upgrading a particularly empowering course of action. In this work, the constructed device is simply fit for perceiving impediments and moisture. Thusly, using ultrasonic sensors, Arduino Uno, and various devices, a dominant contraption can be manufactured. For ease of use and solace, a vibrator may also be added. In the upgrade, further changes will be added to improve the system's implementation. The power source can be given from sun situated energy through battery-fueled batteries. These include an overall arrangement procedure to find the customer's territory using the GPS and GSM modules to link the region to a relative or gatekeeper using Google map methods. It should moreover help wide fluctuating holds for adaptable usage. The system with sensors and different portions is hard-set up, it's more modest. Farther pieces of this structure can be begun through distant organization between the system portions, likewise, Extend the scope of the ultrasonic sensor and complete progress in choosing the speed at which obstacles are pushed. While developing a particularly empowering game plan, in all horticultural countries, apparently impaired and ostensibly tried individuals were on top of our needs. In this work, the device created is simply fit for perceiving obstructions and sogginess. Thus, using ultrasonic sensors, Arduino Uno, and different devices, an unparalleled device can be assembled. For ease of use and comfort, a vibrator may similarly be added. Later, further improvements will be added to enhance the system's display

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Smart Sprinkler System Using Raspberry Pi

Publisher: IEEE

V. Chithra ; Jeyashri. R ; Deepashri. R ; K. Prathibanandhi ; C. Priya All Authors

Abstract: Nowadays the agricultural sector, which is considered as the backbone of the Indian Economy, that contributes to 25% of the country's GDP, has been declining due to deple... **View more**

Metadata

Abstract:

Nowadays the agricultural sector, which is considered as the backbone of the Indian Economy, that contributes to 25% of the country's GDP, has been declining due to depletion of water and natural fertilizers, inadequate use of technology in agriculture fields, unreliable and varying weather patterns. The proposed smart sprinkler system consists of a combination of Raspberry Pi and wireless sensors which are interconnected by webpage. Once the information is collected by sensor, it is then processed by the Raspberry Pi module, further mediated to the farmer through a webpage. With the help of this smart system, farmer will be able to know about the field conditions such as moisture content of the soil, presence of fertilizer in the soil, pH of the soil, nitrogen content in the soil, etc. for the efficient growth of crops. This paper mainly focuses on the real time monitoring and observation of field conditions with the help of efficient and economical sprinkler system. Every atmospheric change in the agricultural land can be sensed and intimated to the farmer, so that he can automate necessary changes in the irrigation pattern. Even the landowner, who employs poor

More Like This

farmers to grow the crops in his land, can get to know about the status even when he is residing anywhere in the world with the help of the internet.

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Conference Location: Chennai, India

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Contents

Authors

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References

Keywords

Sample E-quiz conducted

Formative Assessment for Gap Analysis

Name : Unit iv M&I
Description : Unit iv CRO DSO
Date : 18/May/2022
Sent to : 49 students
Duration : 46 min

Dr B. Meenakshi
Professor
EEE

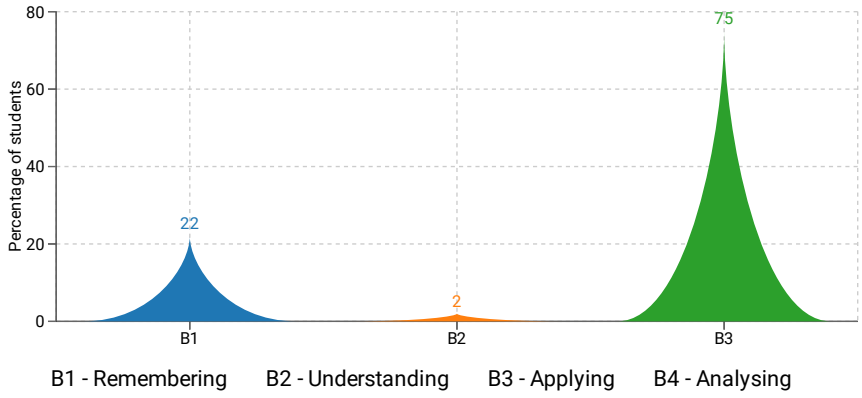
Topic wise analytics

Topic Name	No of Questions	Performance of Students
Digital CRO	5	53%
Analog and digital storage oscilloscope	10	62.5%

Section wise analytics

Section Name	Marks	No of Questions	Average Percentage	Average Time Spent (sec)
B section	1	15	59%	248

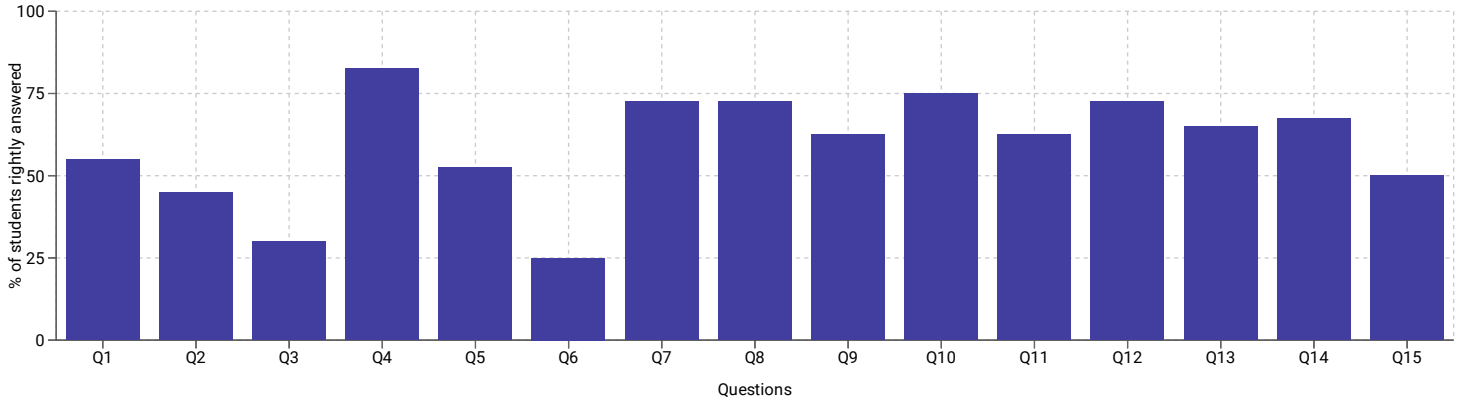
Blooms Analysis



Top 5 Performers

Roll No	Name	Blooms Level	% Rightly Answered
SEC20EE017	SUBIKSA G	K3	100
SEC20EE081	DHIVYASHRI M	K3	100
SEC20EE089	KARISH LEELA M	K3	100
SEC20EE090	SANDHIYA V	K3	93
SEC20EE037	PRABAKARAN M	K3	87

Question wise Analysis



Student Results

Student	B section			Total Time Taken	Total Marks	Percentage %
	Percentage %	Marks	Time			
SURIYAN N A SEC20EE007	67	10	05m 07s	05m 07s	10	67

GOKUL J SEC20EE008	67	10	02m 24s	02m 24s	10	67
KARTHIKEYAN M SEC20EE011	80	12	02m 02s	02m 02s	12	80
SRI ARI PRIYA A SEC20EE012	47	7	02m 17s	02m 17s	7	47
YUVARAJ N SEC20EE016	40	6	01m 18s	01m 18s	6	40
SUBIKSA G SEC20EE017	100	15	02m 08s	02m 08s	15	100
R SURYA SEC20EE021	67	10	02m 28s	02m 28s	10	67
SELVAPRIYA V SEC20EE022	47	7	02m 11s	02m 11s	7	47
PRABAKARAN M SEC20EE037	87	13	01m 03s	01m 03s	13	87
MAGESH V SEC20EE039	87	13	06m 33s	06m 33s	13	87
AMOSE DAVID A SEC20EE041	80	12	49s	49s	12	80
SHRIRANJANI J SEC20EE042	53	8	02m 01s	02m 01s	8	53
SWAMINATHAN R SEC20EE043	47	7	52s	52s	7	47
PAULINA J SEC20EE044	33	5	01m 45s	01m 45s	5	33
SARANRAJ A K SEC20EE052	80	12	01m 07s	01m 07s	12	80
SANTHOSH KUMAR M SEC20EE053	73	11	04m 28s	04m 28s	11	73
JANANI E SEC20EE055	67	10	06m 42s	06m 42s	10	67
JEEVA PRASAD R SEC20EE057	80	12	09m 13s	09m 13s	12	80
AJITHASRI R SEC20EE059	80	12	53s	53s	12	80
PAVITHRA P SEC20EE062	20	3	06m 38s	06m 38s	3	20
MOHAMED AZEEM AFFAN A SEC20EE063	33	5	28s	28s	5	33
SUDHARSAN M SEC20EE066	73	11	07m 47s	07m 47s	11	73
EVANSINGH M SEC20EE067	80	12	03m 27s	03m 27s	12	80
YOKESWARAN S SEC20EE072	73	11	08m 53s	08m 53s	11	73
MADHAVAN P D	33	5	46s	46s	5	

SEC20EE074						33
MUKESHWARAN A SEC20EE075	67	10	25m 31s	25m 31s	10	67
MURALIDHARAN P SEC20EE078	20	3	05m 17s	05m 17s	3	20
DHIVYASHRI M SEC20EE081	100	15	01m 36s	01m 36s	15	100
SRIMATHI K SEC20EE083	80	12	50s	50s	12	80
VIJAY S SEC20EE085	60	9	08m 31s	08m 31s	9	60
AMSAVARTHINI R SEC20EE086	33	5	10m 51s	10m 51s	5	33
KAVINESH K SEC20EE087	80	12	18m 13s	18m 13s	12	80
PEROLI RIKTHISH B SEC20EE088	40	6	01m 55s	01m 55s	6	40
KARISH LEELA M SEC20EE089	100	15	01m 12s	01m 12s	15	100
SANDHIYA V SEC20EE090	93	14	01m 05s	01m 05s	14	93
MANIKANDAN S SECL21EE01	27	4	30s	30s	4	27
RAWINRAJ K SECL21EE09	7	1	31s	31s	1	7
SARAN PRAKASH S P SECL21EE11	27	4	02m 14s	02m 14s	4	27
GUNESHWAR M SECL21EE16	20	3	32s	32s	3	20
PADMANABHAN N D SECL21EE18	27	4	03m 36s	03m 36s	4	27

Answers

B section

Q1. Which of the following measurements can be made using Lissajous figures ?
1. Frequency
2. Phase difference
3. Time interval between pulses.
4. Pulse width
5. Fundamental and higher harmonic components.

Select the correct answer using the code given below:

Level - Understand

1 and 2

55%

2 and 3

12%

3 and 4

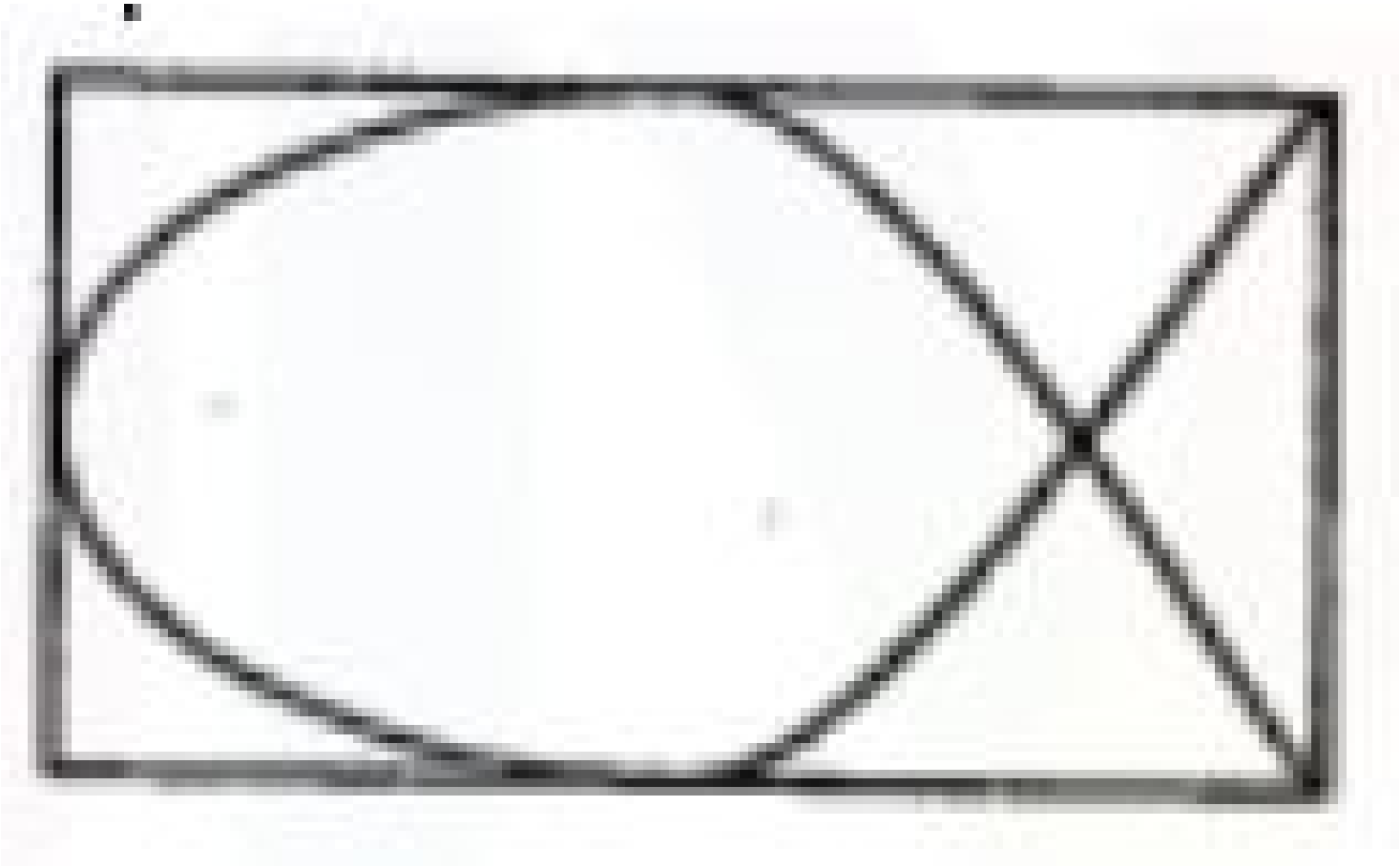
12%

4 and 5

18%

Q2. A Lissajous pattern, as shown in the figure, is observed on the screen of a CRO when voltages of frequencies are applied to the X and Y plates respectively. $f_x : f_y$, is then equal to

Level - Apply



3:2

22%

1:2

45%

2:3

22%

2:1

8%

Q3. The two inputs of a CRO are fed with two stationary periodic signals. In the X-Y mode, the screen shows a figure which changes from ellipse to circle and back to ellipse with its major axis changing orientation slowly and repeatedly. The following inference can be made from this.

Level - Understand

The signals are not sinusoidal.

45%

The amplitudes of the signals are very close but not equal.

8%

The signals are sinusoidal with their frequencies very close but not equal.

30%

There is a constant but small phase difference between the signals.

15%

Q4. In dc coupling mode, CRO can measure

Level - Remember

ac voltage only.

8%

dc voltage only.

8%

both ac and dc voltages.

82%

Q5. A compensated probe of a CRO contains which of the following?

1. An amplifier
2. R-C network
3. Only resistive network
4. Only capacitive network

Select the correct answer using the code given below:

Level - Understand

1 and 2 only.

22%

2 only.

10%

3 only.

10%

4 only.

52%

Q6. _____ oscilloscopes were used when it was necessary to store waveforms for visualisation later.

Level - Understand

Analog storage

25%

digital storage

35%

both analog and digital storage

30%

sampling

5%

Q7. In analogue storage oscilloscopes, cathode ray tubes contain one or more secondary electron guns called _____.

Level - Understand

emission guns

10%

absorption guns

10%

flood guns

72%

None of the mentioned

5%

Q8. analogue storage oscilloscopes are applicable for_____.

Level - Understand

Long period waveforms

12%

Displaying single shot waveforms

0%

storage facility on the scope where it can display the trace for longer

12%

all of the mentioned

72%

Q9. The function used to display a stable waveform on DSO screen is_____.

Level - Apply

Triggering function

25%

Saving a setup function

5%

Auto set function

62%

Recalling a setup function

5%

Q10. Sampling of the highest and lowest values of the input signal in DSO is done due to_____(in acquisition mode).

Level - Apply

Peak detect mode

75%

Average mode

12%

Sample mode

8%

Auto mode

2%

Q11. The overall operation of DSO is controlled by using_____.

Level - Apply

diodes and transistors

20%

discrete components

5%

ICs and transistors

10%

microprocessors

62%

Q12. In DSO,Which of the following is obtained by the sample / Hold circuit along with the ADC?

Level - Apply

upload to computer

2%

data acquasition

72%

storage

8%

data display

12%

Q13. Pick up the advantage of the DSO from the following?

Level - Understand

Stores digital data for later viewing

65%

Make measurement of digital data

8%

Electron beam moves across the screen

12%

Process signals in analog format

10%

Q14. In DSO, the processed data of input signal voltage be stored in_____.

Level - Apply

Screen display

5%

Digital to analog converter

10%

Analog to digital converter

12%

Memory

68%

Q15. To convert the input sample voltage into digital information in DSO,Which one is helpful ?

Level - Understand

Inverter circuit

20%

Rectifier circuit

8%

Analog to Digital converter circuit

50%

Digital to Analog converter circuit

18%

Formative Assessment for Gap Analysis

Name : Unit 1 test
Description : Unit 1, characteristics of measuring instruments-retest
Date : 26/Mar/2022
Sent to : 49 students
Duration : 46 min

Dr B. Meenakshi
Professor
EEE

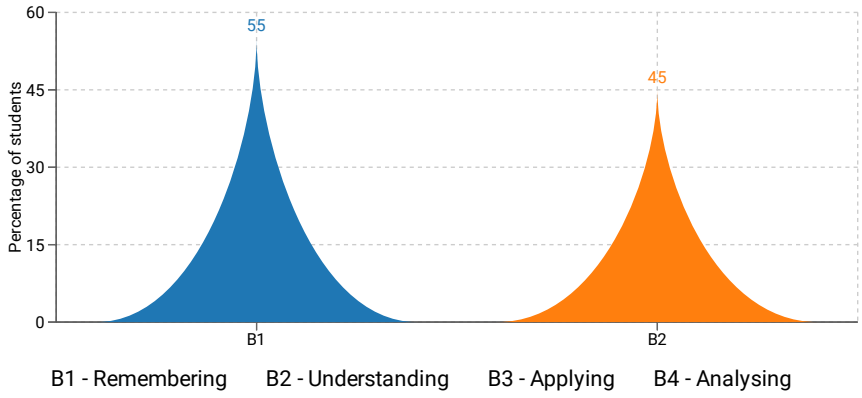
Topic wise analytics

Topic Name	No of Questions	Performance of Students
Static and dynamic characteristics	15	57.47%

Section wise analytics

Section Name	Marks	No of Questions	Average Percentage	Average Time Spent (sec)
B section	1	15	57%	447

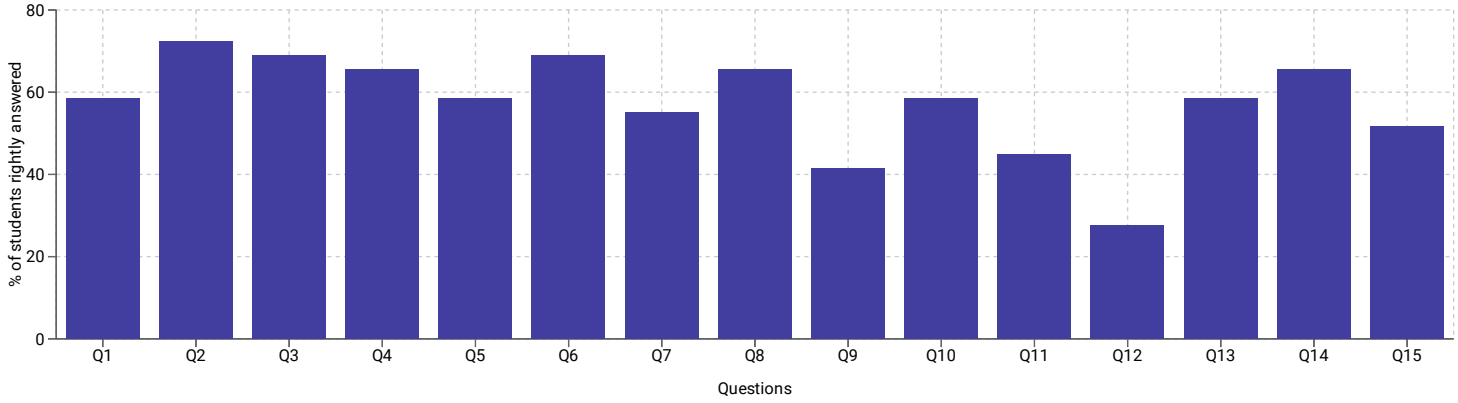
Blooms Analysis



Top 5 Performers

Roll No	Name	Blooms Level	% Rightly Answered
SEC20EE017	SUBIKSA G	K2	100
SEC20EE022	SELVAPRIYA V	K2	100
SEC20EE081	DHIVYASHRI M	K2	100
SEC20EE086	AMSAVARTHINI R	K2	100
SEC20EE089	KARISH LEELA M	K2	100

Question wise Analysis



Student Results

Student	B section			Total Time Taken (sec)	Total Marks	percentage %
	Percentage %	Marks	Time (sec)			
SURIYAN N A SEC20EE007	40	6	201	201	6	40
GOKUL J SEC20EE008	13	2	251	251	2	13

KARTHIKEYAN M SEC20EE011	93	14	414	414	14	93
YUVARAJ N SEC20EE016	40	6	71	71	6	40
SUBIKSA G SEC20EE017	100	15	179	179	15	100
SELVAPRIYA V SEC20EE022	100	15	165	165	15	100
ABINAYA R SEC20EE024	67	10	1572	1572	10	67
KALAIVANI K SEC20EE028	53	8	827	827	8	53
PRABAKARAN M SEC20EE037	87	13	186	186	13	87
MAGESH V SEC20EE039	87	13	738	738	13	87
SHRIRANJANI J SEC20EE042	67	10	1527	1527	10	67
PAULINA J SEC20EE044	27	4	525	525	4	27
SARANRAJ A K SEC20EE052	67	10	602	602	10	67
JANANI E SEC20EE055	60	9	857	857	9	60
JEEVA PRASAD R SEC20EE057	93	14	769	769	14	93
AJITHASRI R SEC20EE059	20	3	58	58	3	20
MOHAMED AZEEM AFFAN A SEC20EE063	20	3	31	31	3	20
EVANSINGH M SEC20EE067	93	14	425	425	14	93
MUKESHWARAN A SEC20EE075	73	11	1215	1215	11	73
MURALIDHARAN P SEC20EE078	53	8	508	508	8	53
DHIVYASHRI M SEC20EE081	100	15	148	148	15	100
SRIMATHI K SEC20EE083	20	3	648	648	3	20
AMSAVARTHINI R SEC20EE086	100	15	284	284	15	100
PEROLI RIKTHISH B SEC20EE088	7	1	45	45	1	7
KARISH LEELA M SEC20EE089	100	15	109	109	15	100

SANDHIYA V SEC20EE090	0	0	30	30	0	0
MANIKANDAN S SECL21EE01	33	5	125	125	5	33
VISHNU S SECL21EE15	27	4	364	364	4	27
PADMANABHAN N D SECL21EE18	27	4	101	101	4	27

Answers

B section

Q1. The set of criteria defined for the instruments, which are changes rapidly with time, is called as _____

Level - Remember

Static characteristics

10%

Dynamic characteristics

59%

Both static and dynamic characteristics

17%

None of the mentioned

10%

Q2. The quickness with which a measurement system responds to changes in the measured quantity is defined as a _____

Level - Remember

Speed of response

72%

Measuring lag

10%

Fidelity

0%

Dynamic error

10%

Q3. In _____ the response of the measurement system begins after a dead time after the application of the input

Level - Remember

Retardation type

7%

Time delay lag

69%

Fidelity

3%

Dynamic error

17%

Q4. Dynamic error is defined as the difference between the _____

Level - Remember

True value of the quantity changing with time

7%

Value indicated by the measurement system if no static error is assumed

3%

Measurand quantity

10%

Both True value of the quantity changing with time and Value indicated by the measurement system if no static error is assumed

66%

All of the mentioned

7%

Q5. The smallest change in measured variable to which an instrument will respond is called

Level - Remember

accuracy

14%

resolution

59%

precision

3%

sensitivity

17%

Q6. Hystersis in an instrument means

Level - Remember

the change in the same reading when input is increased and then decreased

69%

the reliability of the instrument

21%

the repeatability of the instrument

0%

the inaccuracy due to change in temperature

3%

Q7. The fact as to how closely the instrument reading follows the measured variables is called the

Level - Remember

accuracy

14%

precision

21%

fidelity

55%

sensitivity

3%

Q8. An higher scale ammeter is used to measure too low current.The measurement would have low

Level - Understand

precision

14%

accuracy

3%

resolution

14%

all of the mentioned

66%

Q9. The realiability of measuring instrument means

Level - Remember

the life of the instrument

10%

the extent over which the characteristics remain linear

41%

degree to which repeatability continues to remain within specified limits

24%

all of the mentioned

17%

Q10. Undesirable charcteristics of measurement system are

Level - Remember

accuracy and repeatability

7%

static error

14%

drift and dead zone

14%

both static error and drift and dead zone

59%

Q11. The static error band of an instrument doesn't include

Level - Understand

Non-linearity

17%

electrical drift

45%

hystersis in the instrumnet

24%

none of the mentioned

7%

Q12. Dead Zone of the instrument is

Level - Remember

The time required by an instrument to begin to respond to a change in the measurand

28%

The time required by an instrument to warm up initially

7%

The largest change of input qunatity for which there is no output of the instrument

48%

none of the mentioned

10%

Q13. Which of the following statments is true for a measuring instrument?

Level - Understand

If it is precise,it is accurate

17%

If it is linaer,it is sensitive

0%

If it has a digital display,it is accurate

17%

If it uses null balance technique,it has high input impedanace

59%

Q14. Resolution of an instrument is

Level - Remember

The minimum of quantity it can measure

66%

The maximum of quantity it can measure

7%

The maximum non-linearity

10%

ability to distinguish polarity

14%

Q15. A set of observations has a wide range so it has

Level - Understand

low accuracy

24%

low precision

52%

high accuracy but low precision

7%

high precision but low accuracy

10%

Formative Assessment for Gap Analysis

Name : Wattmeter
Description : Wattmeter
Date : 08/Apr/2022
Sent to : 49 students
Duration : 31 min

Dr B. Meenakshi
Professor
EEE

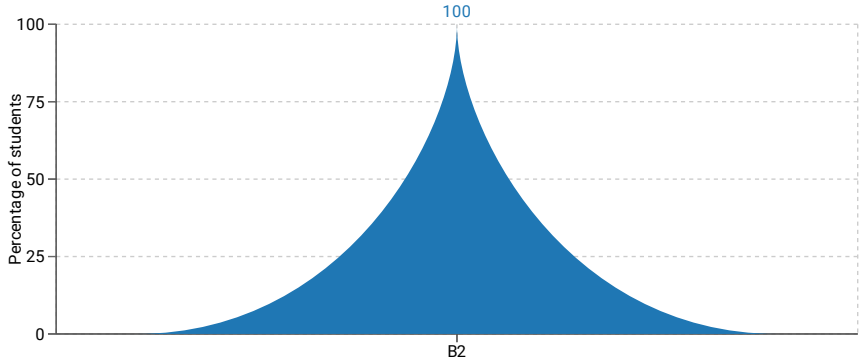
Topic wise analytics

Topic Name	No of Questions	Performance of Students
Construction and Operation of dynamometer wattmeter	6	100%
Single-phase dynamometer wattmeter	1	100%
Errors in dynamometer wattmeter	1	100%
Induction wattmeters	2	50%

Section wise analytics

Section Name	Marks	No of Questions	Average Percentage	Average Time Spent (sec)
B	1	10	90%	546

Blooms Analysis

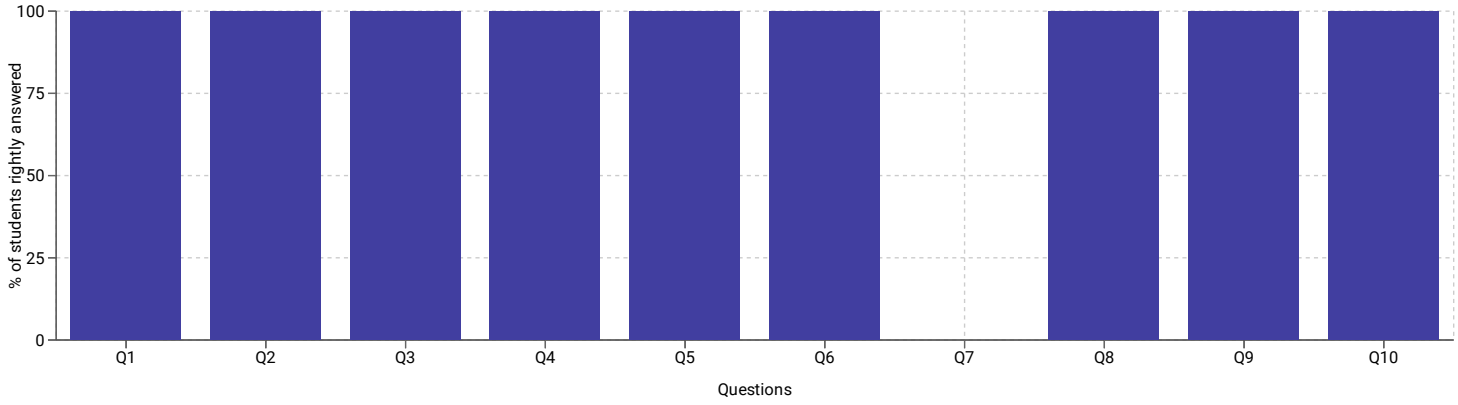


B1 - Remembering B2 - Understanding B3 - Applying B4 - Analysing

Top 5 Performers

Roll No	Name	Blooms Level	% Rightly Answered
SEC20EE017	SUBIKSA G	K2	90
SEC20EE022	SELVAPRIYA V	K2	90
SEC20EE081	DHIVYASHRI M	K2	90
SEC20EE089	KARISH LEELA M	K2	90

Question wise Analysis



Student Results

Student	B			Total Time Taken	Total Marks	Percentage %
	Percentage %	Marks	Time			

SUBIKSA G SEC20EE017	90	9	09m 49s	09m 49s	9	90
SELVAPRIYA V SEC20EE022	90	9	01m 25s	01m 25s	9	90
DHIVYASHRI M SEC20EE081	90	9	14m 11s	14m 11s	9	90
KARISH LEELA M SEC20EE089	90	9	11m 02s	11m 02s	9	90

Answers

B

Q1. How many coils are there in a wattmeter?

Level - Remember

2

3

4

1

Q2. In an electrodynamometer type wattmeter

Level - Remember

The current coil is made fixed

The pressure coil is fixed

Both the coil are fixed

Both the coils are movable

Q3. The pressure coil of a wattmeter consists of

Level - Remember

More number of turns of fine wire

Less number of turns of fine wire

0%

Less number of turns of thick wire

0%

More number of turns of thick wire

0%

Q4. Wattmeter is an instrument which measures

Level - Remember

Instantaneous power

0%

Average power

100%

Apparent power

0%

Reactive power

0%

Q5. The pressure coil of a dynamometer type wattmeter is

Level - Remember

Highly inductive

0%

Highly resistive

100%

Purely resistive

0%

Purely inductive

0%

Q6. The pressure coil of a wattmeter should be on the supply side of the current coil when

Level - Understand

supply voltage is low

0%

supply voltage is high

0%

load impedance is low

0%

load impedance is high

100%

Q7. Which type of wattmeter can not be used for both A.C& D.C.?

Level - Remember

Dynamometer type

0%

Electrostatic type

0%

Induction type

0%

None of the mentioned

100%

Q8. The type of wattmeter commonly used for measurement of power in AC circuits is

Level - Remember

Moving iron type

0%

Thermocouple type

0%

Rectifier type

0%

Dynamometer type

100%

Q9. In dynamometer type of wattmeter, which of the coil is split up into two parts?

Level - Remember

pressure coil

0%

current coil

100%

both the pressure coil and current coil

0%

None of the mentioned

0%

Q10. In Induction wattmeters, the instantaneous value of deflecting torque is _____ voltage under measurement

Level - Understand

directly proportional to

0%

inversely proportional to

0%

directly proportional to the square of

100%

inversely proportional to the square of

0%

Nasscom Futureskills

IIT Bombay spoken tutorials

Electrical And Electronics engineering

Sl. No	First Name	Last Name	Course Name	Certificate	Date of completion
1	ABHINAYA	KUMAR	Arduino	87.5% - Certificate	10.01.2022
2	ABINAYA	VARADHARAJAI	Arduino	85.0% - Certificate	10.01.2022
3	AISHWARYA	SURESH	Arduino	90.0% - Certificate	10.01.2022
4	ARCHANA	RAVICHANDRAI	Arduino	92.5% - Certificate	10.01.2022
5	arish	v	Arduino	82.5% - Certificate	10.01.2022
6	BALASAKTHISHWARAN	MURUGESAN	Arduino	82.5% - Certificate	10.01.2022
7	BOOBALAN	MANOHARAN	Arduino	85.0% - Certificate	10.01.2022
8	DAKSHINA	RAJU	Arduino	100.0% - Certificate	10.01.2022
9	DARUNKUMAR	GOPALAKRISHI	Arduino	80.0% - Certificate	10.01.2022
10	DHANYA	KRISHNAMACH	Arduino	100.0% - Certificate	10.01.2022
11	GANDHI	SIVAKUMAR	Arduino	75.0% - Certificate	10.01.2022
12	GOKUL	MUTHUVEL	Arduino	90.0% - Certificate	10.01.2022
13	HARI PRADOSH	SUNDARARAJA	Arduino	87.5% - Certificate	10.01.2022
14	JANANI	JAYARAJ	Arduino	95.0% - Certificate	10.01.2022
15	JANANI	SENTHIL KUAM	Arduino	75.0% - Certificate	10.01.2022
16	KAMALAKANNAN	BAKTHAVATCHA	Arduino	95.0% - Certificate	10.01.2022
17	KARTHICK	ANANDHAN	Arduino	82.5% - Certificate	10.01.2022
18	KAVIPRASAD	PANDURANGAI	Arduino	90.0% - Certificate	10.01.2022
19	KRISHNA KUMAR	PONNAMBALAI	Arduino	87.5% - Certificate	10.01.2022
20	MAHENDRA VARMA SALIYAN	THIRUMAL	Arduino	77.5% - Certificate	10.01.2022
21	NAFEEZA BEGUM	AJEES BASHA	Arduino	77.5% - Certificate	10.01.2022
22	NISHANTHINI	RAJENDRAN	Arduino	92.5% - Certificate	10.01.2022
23	PARTHIBAN	DHAMOTHARAI	Arduino	75.0% - Certificate	10.01.2022
24	PRADEESH	THIRUGNANAM	Arduino	92.5% - Certificate	10.01.2022
25	PRIYADARSHAN	PRAKASH	Arduino	80.0% - Certificate	10.01.2022
26	ROHINTH	PALANIYAPPAN	Arduino	92.5% - Certificate	10.01.2022
27	ROSHINI	SARAVANAN	Arduino	82.5% - Certificate	10.01.2022
28	SANJAY	RAVINDRAN	Arduino	82.5% - Certificate	10.01.2022

29	SARVESH	GOVINDARAJ	Arduino	77.5% - Certificate	10.01.2022
30	SATHMIKAN	ILANGO	Arduino	87.5% - Certificate	10.01.2022
31	SHRIKANTH	SIVAKUMAR	Arduino	85.0% - Certificate	10.01.2022
32	SIDHARTH	ANANDHAKUM	Arduino	95.0% - Certificate	10.01.2022
33	SOUMYA	M	Arduino	100.0% - Certificate	10.01.2022
34	SUNDARA NARAYANAN	ARUL	Arduino	85.0% - Certificate	10.01.2022
35	SURIYA	MURUGANANT	Arduino	77.5% - Certificate	10.01.2022
36	TEENA	KUMAR	Arduino	82.5% - Certificate	10.01.2022
37	THARUNKUMAR	PANNEER SELV	Arduino	72.5% - Certificate	10.01.2022
38	VAISHNAV	MURRUGHADA	Arduino	80.0% - Certificate	10.01.2022
39	VENKATESHWARAN	ANNADURAI	Arduino	95.0% - Certificate	10.01.2022
40	VIKAS	SENTHIL KUMA	Arduino	77.5% - Certificate	10.01.2022
41	VISVAK	SAKTHIVEL	Arduino	90.0% - Certificate	10.01.2022
42	VIVEKA	UGANANTHAN	Arduino	82.5% - Certificate	10.01.2022
43	YOHARAJ A	ANBALAGAN	Arduino	77.5% - Certificate	10.01.2022
44	ABINAYA	RAVI	Arduino	77.5% - Certificate	10.01.2022
45	AJITHASRI	RAJENDRAN	Arduino	92.5% - Certificate	10.01.2022
46	AMOSE DAVID	ARUN DAVID	Arduino	80.0% - Certificate	10.01.2022
47	AMSAVARTHINI	RAMAMOORTH	Arduino	90.0% - Certificate	10.01.2022
48	DHIVYASHRI	MUTHUKUMAR	Arduino	92.5% - Certificate	10.01.2022
49	EVANSINGH	MARIAARULRA	Arduino	92.5% - Certificate	10.01.2022
50	GOKUL	JANAKIRAMAN	Arduino	95.0% - Certificate	10.01.2022
51	JAI SURIYA	KARTHIKEYAN	Arduino	92.5% - Certificate	10.01.2022
52	JANANI E	ELANCHEZHIYA	Arduino	100.0% - Certificate	10.01.2022
53	JEEVA PRASAD	RAVI	Arduino	95.0% - Certificate	10.01.2022
54	KALAIVANI	KUMAR	Arduino	90.0% - Certificate	10.01.2022
55	KARISH LEELA	MANIVANAN	Arduino	77.5% - Certificate	10.01.2022
56	KARTHIKEYAN	MURUGESAN	Arduino	92.5% - Certificate	10.01.2022
57	KAVINESH	KUMAR	Arduino	67.5% - Certificate	10.01.2022
58	LEENA	VENKATACHAL	Arduino	100.0% - Certificate	10.01.2022
59	MAGESH	VENKATESAN	Arduino	87.5% - Certificate	10.01.2022

60	MOHAMED AZEEM AFFAN	AZEES RAHMAN	Arduino	85.0% - Certificate	10.01.2022
61	MUKESHWARAN	ARUN	Arduino	95.0% - Certificate	10.01.2022
62	MURALIDHARAN	PUSHPARAJ	Arduino	82.5% - Certificate	10.01.2022
63	NAVEEN	MURALIMOHAN	Arduino	65.0% - Certificate	10.01.2022
64	PAULINA	J	Arduino	95.0% - Certificate	10.01.2022
65	PAVITHRA	POONGAVANAM	Arduino	77.5% - Certificate	10.01.2022
66	PEROLI RIKTHISH	BALASUNDARA	Arduino	82.5% - Certificate	10.01.2022
67	PRABAKARAN	MOHAN	Arduino	82.5% - Certificate	10.01.2022
68	SANDHIYA	VIJAYAKUMAR	Arduino	90.0% - Certificate	10.01.2022
69	SANTHOSH KUMAR	MAYAVELU	Arduino	82.5% - Certificate	10.01.2022
70	SARANRAJ	KUMAR	Arduino	72.5% - Certificate	10.01.2022
71	SELVAPRIYA	VELMURUGAN	Arduino	92.5% - Certificate	10.01.2022
72	SHRIRANJANI	JAYANTHAN	Arduino	95.0% - Certificate	10.01.2022
73	SRI ARI PRIYA	ARI BASKER RA	Arduino	87.5% - Certificate	10.01.2022
74	SRIMATHI	KUMASTHA	Arduino	75.0% - Certificate	10.01.2022
75	SUBIKSA	GNANADURAI	Arduino	82.5% - Certificate	10.01.2022
76	SUDHARSAN	MAHESWARAN	Arduino	95.0% - Certificate	10.01.2022
77	SURIYAN	NARAYANAN	Arduino	85.0% - Certificate	10.01.2022
78	surya	ramesh	Arduino	75.0% - Certificate	10.01.2022
79	SURYA VIGNESHWAR	CHANDRASEKA	Arduino	95.0% - Certificate	10.01.2022
80	SWAMINATHAN	RANGARAJAN	Arduino	72.5% - Certificate	10.01.2022
81	THARUN	DHINAKARAN	Arduino	97.5% - Certificate	10.01.2022
82	VIJAY	SEKAR	Arduino	92.5% - Certificate	10.01.2022
83	YOKESWARAN	SIVAKUMAR	Arduino	95.0% - Certificate	10.01.2022
84	YUVARAJ	NANDAKUMAR	Arduino	77.5% - Certificate	10.01.2022
85	ABHISHEK	PATHMANABAN	Arduino	95.0% - Certificate	10.01.2022
86	ABISHEK	SEKAR	Arduino	90.0% - Certificate	10.01.2022
87	DEVADATHAN	SREEKUMAR	Arduino	87.5% - Certificate	10.01.2022
88	DEVA SARAVANAN	SUGUMAR	Arduino	87.5% - Certificate	10.01.2022
89	DHEEPTHA	DURAIRAJ	Arduino	87.5% - Certificate	10.01.2022
90	ELAKIYA	I	Arduino	85.0% - Certificate	10.01.2022

91	GNANAPRAKASH	RAJASEKARAN	Arduino	95.0% - Certificate	10.01.2022
92	JANANI	THIRUMALAI	Arduino	92.5% - Certificate	10.01.2022
93	JAYAPRAKASH	VENKATESAN	Arduino	90.0% - Certificate	10.01.2022
94	JAYENDAR	MANIVEL	Arduino	92.5% - Certificate	10.01.2022
95	KIRAN	SHANMUGAM	Arduino	100.0% - Certificate	10.01.2022
96	KRISHNA PRIYA	HARIDAS	Arduino	72.5% - Certificate	10.01.2022
97	MAHESH	JEEVANANDAM	Arduino	100.0% - Certificate	10.01.2022
98	MULLAI KRISHNA	MURUGESAN	Arduino	92.5% - Certificate	10.01.2022
99	NANDHINI	SEKAR	Arduino	95.0% - Certificate	10.01.2022
100	NIKARIGA	RAVICHANDRAN	Arduino	60.0% - Certificate	10.01.2022
101	NITHISH	SUBRAMANI	Arduino	100.0% - Certificate	10.01.2022
102	RETESH	MURALI	Arduino	100.0% - Certificate	10.01.2022
103	SAIGANESH	SIVASHANKAR	Arduino	95.0% - Certificate	10.01.2022
104	SAISUDHA	G	Arduino	95.0% - Certificate	10.01.2022
105	SAKTHI VIGNESH	RAVICHANDRAN	Arduino	95.0% - Certificate	10.01.2022
106	SOMESHWARAN	BOOVARAGAVA	Arduino	82.5% - Certificate	10.01.2022
107	SOUNDRA RAJAN	GOPALA KRISH	Arduino	90.0% - Certificate	10.01.2022
108	SRINIDHI SRINIVASAN	SRINIVASAN M	Arduino	95.0% - Certificate	10.01.2022
109	SRIVATSON	NITHYANANDAN	Arduino	85.0% - Certificate	10.01.2022
110	SWETHA	S	Arduino	92.5% - Certificate	10.01.2022
111	RETHICK	THIRUMALAI	Arduino	90.0% - Certificate	10.01.2022
112	VARSNI	SETHURAMAN	Arduino	90.0% - Certificate	10.01.2022
113	VIGNESH	PREMKUMAR	Arduino	85.0% - Certificate	10.01.2022
114	VISHNU CHARAN	KANNADASAN	Arduino	87.5% - Certificate	10.01.2022
115	VIVEK	A	Arduino	92.5% - Certificate	10.01.2022
116	JARLS DE BRIT	ARULARASAN	Arduino	87.5% - Certificate	10.01.2022
117	LAVANYA	SELVAM	Arduino	75.0% - Certificate	10.01.2022
118	PRASANTH	DASARATHAN	Arduino	92.5% - Certificate	10.01.2022
119	VAIRAMUTHU	MURUGAN	Arduino	47.5% - Certificate	10.01.2022
120	AARTHI	MURUGAN	Arduino	92.5% - Certificate	10.01.2022
121	ABISHEK	J	Arduino	67.5% - Certificate	10.01.2022

122	Aouthithiye Barathwaj	SR Y	Arduino	92.5% - Certificate	10.01.2022
123	CHANDHRASEKARAN	GANAPATHY	Arduino	62.5% - Certificate	10.01.2022
124	GOKUL	PADMANABAN	Arduino	95.0% - Certificate	10.01.2022
125	HAARIHARAN	N C	Arduino	95.0% - Certificate	10.01.2022
126	JEEVANANDHAM	S	Arduino	80.0% - Certificate	10.01.2022
127	KAVYA	S	Arduino	95.0% - Certificate	10.01.2022
128	KRISHNAKANTH	L	Arduino	90.0% - Certificate	10.01.2022
129	KRITHIKA	BALASUBRAMA	Arduino	95.0% - Certificate	10.01.2022
130	MANIKANDAN	SIVAKUMAR	Arduino	62.5% - Certificate	10.01.2022
131	NASREEN	JALALUDEEN	Arduino	92.5% - Certificate	10.01.2022
132	NATARAJAN	RAMACHANDRA	Arduino	97.5% - Certificate	10.01.2022
133	RAJASEKHAR	SARAVANAKUM	Arduino	60.0% - Certificate	10.01.2022
134	RISHIKA	GANESHKANNA	Arduino	62.5% - Certificate	10.01.2022
135	SAI SIDDHAARTH	BALAJI	Arduino	92.5% - Certificate	10.01.2022
136	SIVASAKTHI	SADHANANDH	Arduino	55.0% - Certificate	10.01.2022
137	SATHEES KUMAR	MUNUSAMY	Arduino	92.5% - Certificate	10.01.2022
138	SHANMUGA PRIYA	AK	Arduino	95.0% - Certificate	10.01.2022
139	SIVAANII	DURAIRAJ	Arduino	87.5% - Certificate	10.01.2022
140	SIVASANKARI	KARTHIKEYAN	Arduino	95.0% - Certificate	10.01.2022
141	SRIRAM	B	Arduino	95.0% - Certificate	10.01.2022
142	SUGUNESH	RETHENA KUMA	Arduino	92.5% - Certificate	10.01.2022
143	TAMILSELVI	MURUGAN	Arduino	57.5% - Certificate	10.01.2022
144	TANUSRI	A	Arduino	92.5% - Certificate	10.01.2022
145	TEJAS KANNA	GOPALAKRISHN	Arduino	65.0% - Certificate	10.01.2022
146	VIGNESH	RAMU	Arduino	90.0% - Certificate	10.01.2022
147	VIJAYENDRAN	VEL MURUGAN	Arduino	70.0% - Certificate	10.01.2022
148	VISHNUPRIYA	KUMAR	Arduino	85.0% - Certificate	10.01.2022
149	GOVIND KUMAR	VERMA	Arduino	62.5% - Certificate	10.01.2022
150	KARTHIKJI	GOVINDAN	Arduino	95.0% - Certificate	10.01.2022
151	MOHAMED SAMSUDEEN	AMANULLAH	Arduino	97.5% - Certificate	10.01.2022
152	NAVIN CHAKKRAVARTHI	MUTHU	Arduino	95.0% - Certificate	10.01.2022

153	SURYAPRAKASH	MANI KANDAN	Arduino	100.0% - Certificate	10.01.2022
154	AISHWARYA	K	Arduino	100.0% - Certificate	10.01.2022
155	AKASH	ANAND	Arduino	50.0% - Certificate	10.01.2022
156	ARAVINTHAN	KOUSIKAMANI	Arduino	55.0% - Certificate	10.01.2022
157	ARAVINTHAN	KATHIRAVAN	Arduino	95.0% - Certificate	10.01.2022
158	RAGU NAATHAN	C.B.	Arduino	82.5% - Certificate	10.01.2022
159	CHANDRA SEKARA BHARATH	HARIHARAN	Arduino	97.5% - Certificate	10.01.2022
160	CHANDRU	VADIVELAN	Arduino	80.0% - Certificate	10.01.2022
161	DHILIP KUMAR	S	Arduino	92.5% - Certificate	10.01.2022
162	DINESH	KRISHNAN	Arduino	65.0% - Certificate	10.01.2022
163	DIVAKAR	ERA SETHUPAT	Arduino	100.0% - Certificate	10.01.2022
164	J R	Manasa	Arduino	97.5% - Certificate	10.01.2022
165	Kishore	Varadarajan	Arduino	95.0% - Certificate	10.01.2022
166	KURAL AMUDHAN	JAYAGURUNATH	Arduino	80.0% - Certificate	10.01.2022
167	NITISH RAO	KRISHNA RAO	Arduino	95.0% - Certificate	10.01.2022
168	KOUSIKA	GANESAN	Arduino	95.0% - Certificate	10.01.2022
169	PRATHISH KUMAR	U	Arduino	95.0% - Certificate	10.01.2022
170	PRIYANGA	AYYAPPAN	Arduino	92.5% - Certificate	10.01.2022
171	PURUSHOTHAMASAI	MANI	Arduino	100.0% - Certificate	10.01.2022
172	RAJESH	KUMAR	Arduino	97.5% - Certificate	10.01.2022
173	ranjith	M	Arduino	85.0% - Certificate	10.01.2022
174	RIKSHITHA	ELANGOVAN	Arduino	95.0% - Certificate	10.01.2022
175	RISHEKA	SAJITH	Arduino	72.5% - Certificate	10.01.2022
176	SATHYA PRIYA	J	Arduino	90.0% - Certificate	10.01.2022
177	SHREYA	R	Arduino	95.0% - Certificate	10.01.2022
178	SHRIRAM	RAGHUPATHY	Arduino	95.0% - Certificate	10.01.2022
179	SINDHUPRIYAA	GURUMOORTH	Arduino	60.0% - Certificate	10.01.2022
180	SIVARAMAN	V	Arduino	92.5% - Certificate	10.01.2022
181	Manisha	P	Arduino	80.0% - Certificate	10.01.2022
182	SURUTHI	BALASUBRAMA	Arduino	100.0% - Certificate	10.01.2022
183	SUWATHI	MANOHARAN	Arduino	92.5% - Certificate	10.01.2022

184	VASUNDHARA	L	Arduino	85.0% - Certificate	10.01.2022
185	SUBRAMANIYA SHIVA	KRISHNAMOOR	Arduino	95.0% - Certificate	10.01.2022
186	GOPALAKRISHNAN	RAMAKRISHNA	Arduino	95.0% - Certificate	10.01.2022
187	K. P. GOWTHAM	ROSHAN	Arduino	95.0% - Certificate	10.01.2022
188	NITHYANANDHAM	VENUGOPAL	Arduino	95.0% - Certificate	10.01.2022
189	RAJESH	G	Arduino	90.0% - Certificate	10.01.2022
190	ABID MOHAMED	MOHAMED ARI	Arduino	95.0% - Certificate	10.01.2022
191	ABINANDHAN	ARUL	Arduino	85.0% - Certificate	10.01.2022
192	ARIVARASAN	NATARAJAN	Arduino	95.0% - Certificate	10.01.2022
193	ASHWINI	PALANI	Arduino	85.0% - Certificate	10.01.2022
194	BRINDA	MURUGAN	Arduino	57.5% - Certificate	10.01.2022
195	DEEPTHI	KATHIRESAN	Arduino	92.5% - Certificate	10.01.2022
196	DHANESHH	SUDHARSANAN	Arduino	85.0% - Certificate	10.01.2022
197	HARI HARAN	NITHYANANDAM	Arduino	100.0% - Certificate	10.01.2022
198	HARINI	MAYILVAGANAN	Arduino	92.5% - Certificate	10.01.2022
199	JEYASHRI	RATHINASABAP	Arduino	95.0% - Certificate	10.01.2022
200	KHUSHI	PURUSHOTHAM	Arduino	95.0% - Certificate	10.01.2022
201	KISHORE	MOHANDASS	Arduino	82.5% - Certificate	10.01.2022
202	KUMARESH	RAJKUMAR	Arduino	87.5% - Certificate	10.01.2022
203	NITHISHKUMAR	DURAI	Arduino	92.5% - Certificate	10.01.2022
204	NIVEDHA	PERUMAL	Arduino	95.0% - Certificate	10.01.2022
205	PRAVEEN	SURESH BABU	Arduino	100.0% - Certificate	10.01.2022
206	PREETHI	SELVARAJ	Arduino	80.0% - Certificate	10.01.2022
207	RAGAVENDRA	PATTURAJA	Arduino	92.5% - Certificate	10.01.2022
208	RAKSHANIVASINI	SIVANESAN	Arduino	100.0% - Certificate	10.01.2022
209	SAI SHARON	SELVAKUMAR	Arduino	80.0% - Certificate	10.01.2022
210	SARAN SREEDHAR VELLURE	SREEDHAR PRA	Arduino	95.0% - Certificate	10.01.2022
211	SERANGEEVI	LOGANATHAN	Arduino	95.0% - Certificate	10.01.2022
212	SETHU SABARI	THIRUMALAI	Arduino	92.5% - Certificate	10.01.2022
213	SHANKAR RAM	RAMALINGAM	Arduino	97.5% - Certificate	10.01.2022
214	SRIHARI	SRIDHARAN	Arduino	87.5% - Certificate	10.01.2022

215	SUJI	SUBRAMANIYAI	Arduino	92.5% - Certificate	10.01.2022
216	SWETHA	KRISHNAMOOR	Arduino	90.0% - Certificate	10.01.2022
217	TARUN	GIRIRAJ	Arduino	80.0% - Certificate	10.01.2022
218	VISHNU	RAMESH	Arduino	87.5% - Certificate	10.01.2022
219	VENKATA SUMAN BABU CHE	SURESH	Arduino	95.0% - Certificate	10.01.2022
220	SATHISH	RANGANATHAN	Arduino	95.0% - Certificate	10.01.2022
221	AKSHARA	MURUGESAN	Arduino	95.0% - Certificate	10.01.2022
222	ARJUN PRASAD	PALANI	Arduino	47.5% - Certificate	10.01.2022
223	BALASNEKA	GANGADHARAN	Arduino	95.0% - Certificate	10.01.2022
224	DHANALAKSHMI	KATHIRESAN	Arduino	95.0% - Certificate	10.01.2022
225	DHEEPAK KARAN	ELUMALAI	Arduino	87.5% - Certificate	10.01.2022
226	ENIYAN	SUNDAR	Arduino	90.0% - Certificate	10.01.2022
227	HARISH	MANOHARAN	Arduino	90.0% - Certificate	10.01.2022
228	HARISH SRIVATHSAN	J K	Arduino	100.0% - Certificate	10.01.2022
229	JANANI	RAMADASS	Arduino	97.5% - Certificate	10.01.2022
230	JAWAHAR	SURESH	Arduino	77.5% - Certificate	10.01.2022
231	KARTHIKEYAN	BABU	Arduino	95.0% - Certificate	10.01.2022
232	MARSHAL	AMIRTHALINGA	Arduino	52.5% - Certificate	10.01.2022
233	MUTHU KRISHNAN	MURUGAN	Arduino	97.5% - Certificate	10.01.2022
234	NAVIN	SELVA KUMAR	Arduino	92.5% - Certificate	10.01.2022
235	NIVETHA	KUPPAN	Arduino	85.0% - Certificate	10.01.2022
236	RANJANI	DEVENDIRAN	Arduino	100.0% - Certificate	10.01.2022
237	SANGAVI	TAMILSELVAN	Arduino	95.0% - Certificate	10.01.2022
238	SHREENATH	RAJ KUMAR	Arduino	42.5% - Certificate	10.01.2022
239	SHRUTHI	M	Arduino	100.0% - Certificate	10.01.2022
240	SIRIMELLA ESWAR SAI GANE	SIRIMELLA MAL	Arduino	85.0% - Certificate	10.01.2022
241	SIVASREE	ANNADURAI	Arduino	100.0% - Certificate	10.01.2022
242	SURAJ KUMAR	BALAJI	Arduino	95.0% - Certificate	10.01.2022
243	SWAMINATHAN	GOPALAKRISHN	Arduino	85.0% - Certificate	10.01.2022
244	VASU	SIVA	Arduino	90.0% - Certificate	10.01.2022
245	VIGNESH	KARIKALAN	Arduino	87.5% - Certificate	10.01.2022

246	VIGNESH	GANAPATHI	Arduino	80.0% - Certificate	10.01.2022
247	BALAJI	SELVARAJ	Arduino	70.0% - Certificate	10.01.2022
248	VEDHASRINIDHI	DHAMODHARAI	Arduino	75.0% - Certificate	10.01.2022
249	AKASH	BALAMURUGAN	Arduino	95.0% - Certificate	10.01.2022
250	ATCHAYA	RADHAKRISHNA	Arduino	100.0% - Certificate	10.01.2022
251	DHARANIDARAN	LAKSHMANAN	Arduino	82.5% - Certificate	10.01.2022
252	DHARANI KUMAR	PUGALENDHI	Arduino	92.5% - Certificate	10.01.2022
253	GAYATHRI	ANBUSELVAN	Arduino	80.0% - Certificate	10.01.2022
254	GOKULAPRIYAN	KRISHNAN	Arduino	85.0% - Certificate	10.01.2022
255	HARISH	RAGHUNATHAN	Arduino	95.0% - Certificate	10.01.2022
256	KALEESWARI	RAJKUMAR	Arduino	87.5% - Certificate	10.01.2022
257	KARTHIKEYAN	RAMU	Arduino	100.0% - Certificate	10.01.2022
258	LOGESH	BALAKRISHANA	Arduino	87.5% - Certificate	10.01.2022
259	MOHANASUNDARAM	SANKAR	Arduino	97.5% - Certificate	10.01.2022
260	MUTHULAKSHMI	KAMARAJ	Arduino	90.0% - Certificate	10.01.2022
261	OOVIYA	MURALI	Arduino	85.0% - Certificate	10.01.2022
262	OVIYA	RAJASEKARAN	Arduino	95.0% - Certificate	10.01.2022
263	PRABHAKARAN	SOMU	Arduino	95.0% - Certificate	10.01.2022
264	RANJITH	SIVAKUMAR	Arduino	100.0% - Certificate	10.01.2022
265	SABARI KRISHNAN	SRINIVASAN	Arduino	90.0% - Certificate	10.01.2022
266	VIJAY RAMANATHAN	NARAYANAN	Arduino	67.5% - Certificate	10.01.2022
267	SHIVANI GOPIKA	KALUSALINGAM	Arduino	97.5% - Certificate	10.01.2022
268	SHIVASHANKARI	MADURAI	Arduino	87.5% - Certificate	10.01.2022
269	Sandeep	Vijayakumar	Arduino	67.5% - Certificate	05.03.2022
270	Subash Chandra Bose	Sekar	Arduino	85.0% - Certificate	05.03.2022

COURSE NAME : LATEX

S.No	First Name	Last Name	Score
1	AISHWARYA	SURESH	58.3% - Certificate
2	AKSHAYA	ANTONY MICHA	43.3% - Certificate
3	ARCHANA	R	43.3% - Certificate

4	BALASAKTHISHWARAN	MURUGESAN	60.0% - Certificate
5	GUNESHWAR	MADHAN	61.1% - Certificate
6	DARUNKUMAR	GOPALAKRISHN	48.3% - Certificate
7	DHANYA	KRISHNAMACH	65.0% - Certificate
8	GOKUL	MUTHUVEL	52.8% - Certificate
9	HARI PRADOSH	SUNDARARAJA	53.9% - Certificate
10	Janani	Jayaraj	60.0% - Certificate
11	KRISHNA KUMAR	PONNAMBALAM	60.0% - Certificate
12	MAHENDRA VARMA SALIYAN	THIRUMAL	48.3% - Certificate
13	NAFEEZA BEGUM	A	85.0% - Certificate
14	PRIYADARSHAN	PRAKASH	58.3% - Certificate
15	ROSHINI	SARAVANAN	73.3% - Certificate
16	SANJAY	RAVINDRAN	56.7% - Certificate
17	SARVESH	GOVINDARAJ	50.0% - Certificate
18	SATHMIKAN	ILANGO	67.8% - Certificate
19	SIDHARTH	ANANDHAKUMA	71.7% - Certificate
20	SOUMYA	M	46.7% - Certificate
21	VAISHNAV	MURRUGHADAS	57.8% - Certificate
22	VENKATESHWARAN	A	83.9% - Certificate
23	VIKAS	SENTHIL KUMA	60.0% - Certificate
24	VIVEKA	UGANANTHAN	66.1% - Certificate
25	ABINAYA	RAVI	50.0% - Certificate
26	AJITHASRI	RAJENDRAN	58.9% - Certificate
27	AMOSE DAVID	ARUN DAVID	55.0% - Certificate
28	AMSAVARTHINI	RAMAMOORTH	63.3% - Certificate
29	DHIVYASHRI	MUTHUKUMAR	81.7% - Certificate
30	EVANSINGH	MARIAARULRA	61.7% - Certificate
31	JEEVA PRASAD	RAVI	68.3% - Certificate
32	KALAIVANI	KUMAR	78.3% - Certificate
33	KARISH LEELA	MANIVANAN	55.6% - Certificate
34	KARTHIKEYAN	MURUGESAN	75.0% - Certificate

35	MAGESH	VENKATESAN	63.3% - Certificate
36	MURALI Dharan	P	63.3% - Certificate
37	PAULINA	J	70.6% - Certificate
38	PEROLI RIKTHISH	BALASUNDARA	41.7% - Certificate
39	PRABAKARAN	MOHAN	41.7% - Certificate
40	SARANRAJ	A K	71.1% - Certificate
41	SHRIRANJANI	JAYANTHAN	81.7% - Certificate
42	SRI ARI PRIYA	A	67.2% - Certificate
43	SRIMATHI	KUMASTHA	56.7% - Certificate
44	SUBIKSA	GNANADURAI	70.0% - Certificate
45	SUDHARSAN	MAHESWARAN	66.7% - Certificate
46	SURIYAN	NARAYANAN	66.7% - Certificate
47	VIJAY	SEKAR	65.6% - Certificate
48	YOKESWARAN	SIVAKUMAR	62.8% - Certificate
49	JANANI	THIRUMALAI	50.0% - Certificate
50	SRINIDHI SRINIVASAN	SRINIVASAN M	66.7% - Certificate
51	VARSNI	SETHURAMAN	46.7% - Certificate
52	ABHIJAY GOPAL	S	62.2% - Certificate

COURSE NAME : R-programming

S.No	First Name	Last Name	Score
1	AISHWARYA	SURESH	47.5% - Certificate
2	DAKSHINA	RAJU	50.0% - Certificate
3	DHANYA	KRISHNAMACH	45.0% - Certificate
4	KAVIPRASAD	PANDURANGAN	45.0% - Certificate
5	NISHANTHINI	RAJENDRAN	52.5% - Certificate
6	ROHINTH	PALANIYAPPAN	40.0% - Certificate
7	ROSHINI	SARAVANAN	40.0% - Certificate

8	SANJAY	RAVINDRAN	40.0% - Certificate
9	SIDHARTH	ANANDHAKUMA	55.0% - Certificate
10	ABINAYA	RAVI	60.0% - Certificate
11	DHIVYASHRI	MUTHUKUMAR	42.5% - Certificate
12	EVANSINGH	MARIAARULRA	47.5% - Certificate
13	KALAIVANI	KUMAR	47.5% - Certificate
14	KARISH LEELA	MANIVANAN	45.0% - Certificate
15	KARTHIKEYAN	MURUGESAN	47.5% - Certificate
16	MAGESH	VENKATESAN	42.5% - Certificate
17	SARANRAJ	A K	40.0% - Certificate
18	SELVAPRIYA	VELMURUGAN	55.0% - Certificate
19	SRINIDHI SRINIVASAN	SRINIVASAN M	47.5% - Certificate
20	ABHIJAY GOPAL	S	62.5% - Certificate
21	KUMARESH	R K	42.5% - Certificate
22	PREETHI	S	42.5% - Certificate

IEEE xtreme

IEEE Xtreme 15.0 Student Participation list

Team name: **Electrotech**

College Rank : 12 / National rank: 315 / World rank: 1363



S. ABHIJAY GOPAL; S. KARTHIK SMABATH; M. ARUN RAJA

Team name: **POSITIVE VOLTAGERS**

College Rank : 9 / NATIONAL RANK – 43 / INTERNATIONAL RANK – 393



SIDHARTH K. ; SATHMIKAN I; ARCHANA R

Team name: **BRAINPOWERTROOPERS**

National Rank-39 / International Rank-389



Pradeesh.T; S Priyadharasan.P; Abhinaya.k

Team name: **VIRTUAL VELOCITY**

National rank: 50 / International rank: 400



Visvak.S; Gokul.J; Sri Ari Priya

Team name: **TROJEN HEX**

National Rank – 163 / International Rank – 814

Dhanya K

SRI SAI RAM ENGINEERING COLLEGE

DEPARTMENTOF ELECTRICAL AND ELECTRONICS ENGINEERING

INTERNAL HACKATHON FEB 2022 – PARTICIPATED LIST OF STUDENTS

S.NO	TEAM NAME	TEAM LEADER NAME/TEAM MEMBERS	COLLEGE ID	DEPT/YEAR/SEC	CATEGORY	MINSTRY/ORGANISATION	PROBLEM STATEMENT	MENTOR NAME/mobile no
1.	SWACHENTHRA	M KHARTHICK RHAM	SEC19CE038	CIVIL/III/A	HARDWARE	SWACHH BHARAT MISSION (GRAMEEN), DEPARTMENT OF DRINKING WATER AND SANITATION, MINISTRY OF JAL SAKTHI	WASTE MANAGEMENT SYSTEM	Dr. M Nithya
		Reshmaja K Ramesh	SEC19EC077	ECE/III/A				
		H Ashwin	SEC19ME055	MECH/III/A				
		Janani T	**SEC10EE094**	**EEE/III/A**				
		S YOGESHWARAN	SEC19CS105	CSE/III/B				
		K L NITHISH RAJA	SEC19CS088	CSE//III/A				
2	HAXASQUAD	CHANDHRASEKARAN G	SEC19EE068	EEE/III/B	HARDWARE	STUDENT INNOVATION	AGRIBOT	Chithra V
		VIGNESH P	SEC19EE039	EEE/III/A				
		DHILIP KUMAR S	SEC19EE016	EEE/III/C				
		HARINI S	SEC20IC016	ICE/II/A				
		SHANMUGA PRIYA AK	SEC19EE026	EEE/III/B				
		NITHYANANDHAN V	SECL20EE02	EEE/III/C				
3	HAXASQUAD	CHANDHRASEKARAN G	SEC19EE068	EEE/III/B	HARDWARE	DOST MINISTRY OF SCIENCE ND TECHNOLOGY	SOLAR PANEL WITH SOLAR TRACKING DEVICE WITHOUT POWER CONSUMTION	Chithra V
		VIGNESH P	SEC19EE039	EEE/III/A				
		DHILIP KUMAR S	SEC19EE016	EEE/III/C				
		HARINI S	SEC20IC016	ICE/II/A				
		SHANMUGA PRIYA AK	SEC19EE026	EEE/III/B				
		NITHYANANDHAN V	SECL20EE02	EEE/III/C				
4	HAXASQUAD	CHANDHRASEKARAN G	SEC19EE068	EEE/III/B	HARDWARE	GOVERNMENT OF UTTARKAND	AUTOMATIC IRRIGATION	Chithra V
		VIGNESH P	SEC19EE039	EEE/III/A				
		DHILIP KUMAR S	SEC19EE016	EEE/III/C				
		HARINI S	SEC20IC016	ICE/II/A				

		SHANMUGA PRIYA AK	SEC19EE026	EEE/III/B				
		NITHYANANDHAN V	SECL20EE02	EEE/III/C				
5	The InnovationBrains	Pooja Mohan Bengeri	secl21ee04	EEE 2nd year A	HARDWARE	Student Innovation	To obtain application of thermoelectric couple (cooling and heating) in same module using clean energy to meet modern time goals	P.Shanmugapriya
		K.Dhanya	sec20ee004	EEE 2nd year A				
		M.Soumya	sec20ee009	EEE 2nd year A				
		A.Sahana	secl21ee063	EEE 1st year A				
		Chandravelan M P	sec21ee035	EEE 1st year A				
		Shruti Sanjay Kulkarni	secl20me16	MECH 3rd year A				
6	TECHYY INNOVATORS	SUGUNESH R	SEC19EE047	EEE 3RD YEAR B	HARDWARE	VOLVO	Fault tracing in wire harnessing	P. Shanmuga priya
		Suba shree M	SEC19EC022	ECE 3RD YEAR E				
		Rethick T	SEC19EE034	EEE 3RD YEAR A				
		Manasa J R	SEC19EE056	EEE 3RD YEAR C				
		Rikshitha E	SEC19EE076	EEE 3RD YEAR C				
		Krishnakanth U	SEC19EE008	ICE 3RD YEAR				
7	TECHYY INNOVATORS	SUGUNESH R	SEC19EE047	EEE 3RD YEAR B	HARDWARE	AICTE, Student innovation	Smart vehicle	P. Shanmuga priya
		Suba shree M	SEC19EC022	ECE 3RD YEAR E				
		Rethick T	SEC19EE034	EEE 3RD YEAR A				
		Manasa J R	SEC19EE056	EEE 3RD YEAR C				
		Rikshitha E	SEC19EE076	EEE 3RD YEAR C				
		Krishnakanth U	SEC19EE008	ICE 3RD YEAR				

8	TECHYY INNOVATORS	SUGUNESH R	SEC19EE047	EEE 3RD YEAR B	HARDWARE	NIFTEM Thanjavur ,Ministry of Food Processing Industries (MoFPI)	IOT enabeled risk monitoring system in cold supply chain	P. Shanmuga priya
		Suba shree M	SEC19EC022	ECE 3RD YEAR E				
		Rethick T	SEC19EE034	EEE 3RD YEAR A				
		Manasa J R	SEC19EE056	EEE 3RD YEAR C				
		Rikshitha E	SEC19EE076	EEE 3RD YEAR C				
		Krishnakanth U	SEC19EE008	ICE 3RD YEAR				
9	ALMS CORP	PRATHISH KUMAR U	SEC19EE049	EEE/III/C	HARDWARE	Department of Science and technology (DOST), Ministry of Science and Technolog	Wheel Chair with attachment for B-Type oxygen cylinder for COPD patients.	Mr. K. MOHANRAJ/ 9884467029
		SANDEEP V	SEC19EE065	EEE/III/B				
		SINDHU PRIYAA G	SEC19EE012	EEE/III/C				
		PRIYA A	SEC20IC010	ICE/II/A				
		SARAVANAN A	SEC20ME112	MECH/II/C				
		SIDHARTH	SEC20EE010	EEE/II/A				
10	WEBAHOLICS	HEMAA C (TL)	SEC21CS129	CSE/I/B	SOFTWARE	DRDO, MINISTRY OF DEFENCE	NLP BASED APP FOR EDUCATION IN VERNACULAR LANGUAGE	Dr. B. PRIYA
		VAISHNAVI MAHADEVAN	SEC21CS037	CSE/I/B				
		DEEPTHI J	SEC21CS026	CSE/I/B				
		KAVINA R	SEC21EI027	EIE/I/A				
		VEDAPRIYA N	SEC21AD108	AI&DS/I/B				
		Shanmuga Priya M	**SEC21EE074**	**EEE/I/A**				
11	Leccy	Karthik B	SEC19IT126	IT/III/C	SOFTWARE	AICTE	Energy Conservation with modern technology	Sheeba Rachel S
		Tharunkumar K	SEC19IT047	IT/III/C				
		Janani Priyadharshini S	SEC19EC080	ECE/III/A				
		Krithika B	**SEC19EE070**	**EEE/III/B**				
		Jayavarshini G	SEC19EC032	ECE/III/A				
		Gowrishankar K	SEC19EC072	ECE/III/A				

12	CONTROL C	HARINI N	SEC19IT074	IT/3/B	SOFTWARE	NARCOTICS CONTROL BUREAU	development of an app where public can report information	J.RANJANI/9865002201
		KARTHIK K	SEC19IT037	IT/3/B				
		KARTHIK SRI SAKTHI DEGALA	SEC19IT010	IT/3/B				
		ANUPRIYA V	SEC19IT159	IT/3/B				
		SAI SIDDHAARTH B	**SEC19EE003**	**EEE/3/B**				
		SUDHARSAN B	SEC19EC018	ECE/3/A				
13	TINY FIXERS	RISHIKA G	SEC19EE025	EEE / III / B	HARDWARE	GOVERNMENT OF RAJASTAN	TO BUILT ROBOTS FOR ALL DEDICATES TASKS SUCH AS CLEANING SHOES, PLANTING CROPS, CLEANING WINDOWS ETC.	Dr. Nayanathara / EEE
		KAVYA S	SEC19EE014	EEE / III / B				
		TAMILSELVI M	SEC19EE089	EEE / III / B				
		LINGESON P	SEC19ME067	MECH/III A				
		SHOAIB D R	SEC19ME089	MECH/III B				
		ROHITH JONES	SEC19EC045	ECE /III A				
14	VISUAL SPECTACLE	R.JEYASHRI	SEC18EEO56	EEE/IV A	SOFTWARE		TRAFFIC LIGHT NEGOTIATION AND PERCEPTION BASED DECTUECTION	DR.G.PUTHILIBAI
		DEEPTHI SHEERY	SEC19CS086	CSE/III B				
		AISHEARAYA.S.P	SEC19EC045	ECE/III A				
		DEEPAK.N	SEC19EC034	ECE/III A				
		ARAVIND ADITHYA	SEC19CS023	CSE/III C				
		ANUUREGA.T.R	SEC19EC067	ECE/III A				

SRI SAI RAM ENGINEERING COLLEGE

DEPARTMENTOF ELECTRICAL AND ELECTRONICS ENGINEERING

INTERNAL HACKATHON –FINAL LIST-WINNERS

S.NO	TEAM NAME	TEAM LEADER NAME/TEAM MEMBERS	COLLEGE ID	DEPT/YEAR/SEC	CATEGORY	MINSTRY/ORGANISATION	PROBLEM STATEMENT	MENTOR NAME/mobile no
1	ALMS CORP	**PRATHISH KUMAR U**	**SEC19EE049**	**EEE/III/C**	HARDWARE	Department of Science and technology (DOST), Ministry of Science and Technolog	Wheel Chair with attachment for B-Type oxygen cylinder for COPD patients.	Mr. K. MOHANRAJ/ 9884467029
		SANDEEP V	**SEC19EE065**	**EEE/III/B**				
		SINDHU PRIYAA G	**SEC19EE012**	**EEE/III/C**				
		PRIYA A	SEC20IC010	ICE/II/A				
		SARAVANAN A	SEC20ME112	MECH/II/C				
		SIDHARTH	SEC20EE010	EEE/II/A				
2	TECHYY INNOVATORS	**SUGUNESH R**	**SEC19EE047**	**EEE 3RD YEAR B**	HARDWARE	AICTE, Student innovation	Smart vehicle	P. Shanmuga priya
		Suba shree M	**SEC19EC022**	**ECE 3RD YEAR E**				
		Rethick T	**SEC19EE034**	**EEE 3RD YEAR A**				
		Manasa J R	**SEC19EE056**	**EEE 3RD YEAR C**				
		Rikshitha E	**SEC19EE076**	**EEE 3RD YEAR C**				
		Krishnakanth U	SEC19EE008	ICE 3RD YEAR				
3	Leccy	Karthik B	SEC19IT126	IT/III/C	SOFTWARE	AICTE	Energy Conservation with modern technology	Sheeba Rachel S
		Tharunkumar K	SEC19IT047	IT/III/C				
		Janani Priyadharshini S	SEC19EC080	ECE/III/A				
		Krithika B	**SEC19EE070**	**EEE/III/B**				
		Jayavarshini G	SEC19EC032	ECE/III/A				
		Gowrishankar K	SEC19EC072	ECE/III/A				

4	TINY FIXERS	**RISHIKA G**	**SEC19EE025**	**EEE / III / B**	HARDWARE	GOVERNMENT OF RAJASTAN	TO BUILT ROBOTS FOR ALL DEDICATES TASKS SUCH AS CLEANING SHOES, PLANTING CROPS, CLEANING WINDOWS ETC.	Dr. Nayanathara / EEE
		KAVYA S	**SEC19EE014**	**EEE / III / B**				
		TAMILSELVI M	**SEC19EE089**	**EEE / III / B**				
		LINGESON P	SEC19ME067	MECH/III A				
		SHOAIB D R	SEC19ME089	MECH/III B				
		ROHITH JONES	SEC19EC045	ECE /III A				
5	VISUAL SPECTACLE	**R.JEYASHRI**	**SEC18EEO56**	**EEE/IV A**	SOFTWARE	AICTE	TRAFFIC LIGHT NEGOTIATION AND PERCEPTION BASED DECTUECTION	DR.G.PUTHILIBAI
		DEEPTHI SHEERY	SEC19CS086	CSE/III B				
		AISHEARAYA.S.P	SEC19EC045	ECE/III A				
		DEEPAK.N	SEC19EC034	ECE/III A				
		ARAVIND ADITHYA	SEC19CS023	CSE/III C				
		ANUUREGA.T.R	SEC19EC067	ECE/III A				
6	CONTROL C	HARINI N	SEC19IT074	IT/3/B	SOFTWARE	NARCOTICS CONTROL BUREAU	development of an app where public can report information	J.RANJANI/9865002201
		KARTHIK K	SEC19IT037	IT/3/B				
		KARTHIK SRI SAKTHI DEGALA	SEC19IT010	IT/3/B				
		ANUPRIYA V	SEC19IT159	IT/3/B				
		SAI SIDDHAARTH B	**SEC19EE003**	**EEE/3/B**				
		SUDHARSAN B	SEC19EC018	ECE/3/A				

SRI SAI RAM ENGINEERING COLLEGE

DEPARTMENTOF ELECTRICAL AND ELECTRONICS ENGINEERING

SIH 2022 -PARTICIPATED LIST OF STUDENTS

S.NO	TEAM NAME	TEAM LEADER NAME/TEAM MEMBERS	COLLEGE ID	DEPT/YEAR/SEC	CATEGORY	MINSTRY/ORGANISATION	PROBLEM STATEMENT	MENTOR NAME/mobile no
1	ALMS CORP	**PRATHISH KUMAR U**	**SEC19EE049**	**EEE/III/C**	HARDWARE	Department of Science and technology (DOST), Ministry of Science and Technolog	Wheel Chair with attachment for B-Type oxygen cylinder for COPD patients.	Mr. K. MOHANRAJ/ 9884467029
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		SINDHU PRIYAA G	**SEC19EE012**	**EEE/III/C**				
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		SARAVANAN A	SEC20ME112	MECH/II/C				
		SIDHARTH	SEC20EE010	EEE/II/A				
3	Leccy	Karthik B	SEC19IT126	IT/III/C	SOFTWARE	AICTE	Energy Conservation with modern technology	Sheeba Rachel S
		Tharunkumar K	SEC19IT047	IT/III/C				
		Janani Priyadharshini S	SEC19EC080	ECE/III/A				
		Krithika B	**SEC19EE070**	**EEE/III/B**				
		Jayavarshini G	SEC19EC032	ECE/III/A				
		Gowrishankar K	SEC19EC072	ECE/III/A				
5	VISUAL SPECTACLE	**R.JEYASHRI**	**SEC18EEO56**	**EEE/IV A**	SOFTWARE	AICTE	TRAFFIC LIGHT NEGOTIATION AND PERCEPTION BASED DECTUECTION	DR.G.PUTHILIBAI
		DEEPTHI SHEERY	SEC19CS086	CSE/III B				
		AISHEARAYA.S.P	SEC19EC045	ECE/III A				
		DEEPAK.N	SEC19EC034	ECE/III A				
		ARAVIND ADITHYA	SEC19CS023	CSE/III C				
		ANUUREGA.T.R	SEC19EC067	ECE/III A				

6	CONTROL C	HARINI N	SEC19IT074	IT/3/B	SOFTWARE	NARCOTICS CONTROL BUREAU	development of an app where public can report information	J.RANJANI/9865002201
		KARTHIK K	SEC19IT037	IT/3/B				
		KARTHIK SRI SAKTHI DEGALA	SEC19IT010	IT/3/B				
		ANUPRIYA V	SEC19IT159	IT/3/B				
		SAI SIDDHAARTH B	**SEC19EE003**	**EEE/3/B**				
		SUDHARSAN B	SEC19EC018	ECE/3/A				

SRI SAI RAM ENGINEERING COLLEGE

DEPARTMENTOF ELECTRICAL AND ELECTRONICS ENGINEERING

SIH 2022 -WINNERS

S.NO	TEAM NAME	TEAM LEADER NAME/TEAM MEMBERS	COLLEGE ID	DEPT/YEAR/SEC	CATEGORY	MINSTRY/ORGANISATION	PROBLEM STATEMENT	MENTOR NAME/mobile no
3	Leccy	Karthik B	SEC19IT126	IT/III/C	SOFTWARE	AICTE	Energy Conservation with modern technology	Sheeba Rachel S
		Tharunkumar K	SEC19IT047	IT/III/C				
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		ANUUREGA.T.R	SEC19EC067	ECE/III A				

INTERNAL HACKATHON –HACKFEST 2022 PHOTOS


Hackathon
for SIH 2023

Sri Sairam Engineering College Aicte Mhrd Initiated Smart India Internal Hackathon Saihackfest2022

Chennai, Mar 14, Tambaram, Sri Sairam Engineering College conducted a 7 – hour continuous Internal Hackathon, SaiHackFest2022 on 8th March 2022 at College Premises. This event was a

preliminary event conducted by the College as per the instructions given by MHRD Institution Innovation Council (IIC) and AICTE. Smart India Hackathon is the world's largest Open innovation model contest which has been conducted by the Government of India since 2017. The event was inaugurated by Mr. Sai Prakash Leo Muthu, CEO, Sairam Institutions,, Principal Dr. K. Porkumaran, Sri Sairam Engineering College, Dr. A. Rajendra Prasad, Dean - Student Affaris, and external jury members, Dean - Academic, Dean- Innovation, ,Head of the departments, Dr. M. Ananthi, SIH Coordinator and SIH Department Coordinators.

The event lasting from 10 AM to 5 PM, was organized on 8th March 2022. Around 528 students from interdisciplinary departments comprising 42 software teams and 46 hardware teams, in a total 88 teams proposed unique and innovative ideas for the specified problems. Students came up with solutions in fields such as Healthcare, Smart Automation, Robotics and Drones, Transport and Logistics,

Renewable/Sustainable energy, Bio-Medical Devices, Smart Vehicles, Agriculture and others. An expert panel of judges including Mr. Prabhakaran Kuthalingam, Program Manager, Business Development AI, Infosys Ltd., Dr. R. Kanagavel, Director & Head, Skill Development & Training Division, National Institute of Wind Energy, Mr. J. Vishnuwardhan, Vice President, Crion Technologies, Mr. A J Joel, Associate Manager, RR Donnelley. Sairam Techno Incubator Foundation experts Mr. Balamurugan, Mr. Sam Austin, Mr. Jayandan, Mr. Lelin Stephen, Mr. Samshudheen and others from the institution judge the hardware and software solutions. Problems given by Private and Government organizations were eagerly welcomed by the student teams. Students gained knowledge and this forum helped them to improve their skills. The best 15 ideas were selected and submitted in the SIH website under college SPOC login. Teams will work continuously within the stipulated time, to implement the solution and win cash awards for each problem statement.

Dr. M. Ananthi, Asso. Prof & Head Department of Computer Science & Business Systems, sri Sairam Engineering College, SIH - College SPOC

Ministry of Education Government of India | Azadi Ka Amrit Mahotsav | AICTE | MoE's INNOVATION CELL (GOVERNMENT OF INDIA) | Persistent | i4C

SMART INDIA HACKATHON 2022

SKILL DEVELOPMENT CLUB

Conducting Internal

Hackathon for SIH 2022

Sri SAIRAM ENGINEERING COLLEGE

An Autonomous Institution

West Tambaram, Chennai - 44

www.sairam.edu.in

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Sai Leo Nagar, West Tambaram, Chennai - 600 044. www.sairam.edu.in

SMART INDIA HACKATHON 2022

SKILL DEVELOPMENT CLUB

extends a hearty welcome to the Inaugural function of

Conducting Internal

Hackathon

for SIH 2022

on Tuesday, 8th March 2022 at 9.30 a.m.

Venue: SSR Hall

Mr. Prabhakaran Kuthalingam

Program Manager - Business Development AI
Infosys Ltd,

has kindly consented to be the Chief Guest and will deliver the inaugural address

Dr. M. Ananthi
HOD – CSBS & SIH Coordinator

Dr. K. Porkumaran
Principal / SEC

Sai Prakash LeoMuthu
Chairman & CEO Sairam Institutions

Saihack Fest 2022

JURY MEMBERS

EXTERNAL MEMBERS

1. **Dr. P. Kanagavel**
   Director & Head, Skill Development and Training (SDT) Division
   National Institute of Wind Energy (NIWE)
2. **Mr. J. Vishnuvardhan**
   Vice President, Crion Technologies
3. **Mr. Joel A J**
   Associate Manager- RR Donnelley
4. **Mr. U. Balamurugan**
   Sairam Techno Incubator Foundation
5. **Mr. J. Sam Austin**
   Sairam Techno Incubator Foundation
6. **Mr. S.A. Jayandan**
   Sairam Techno Incubator Foundation
7. **Mr. S. Lelin Stephen**
   Sairam Techno Incubator Foundation
8. **Mr. M. Samshudeen**
   Sairam Techno Incubator Foundation

INTERNAL MEMBERS

1. **Dr. J. Raja,**
   Dean – Academics, Sri Sairam Engineering College, Chennai
2. **Dr. C R Rene Robin,**
   Dean – Innovation, Sairam Group of Institutions
3. **Dr. S. Vaidhyanathan,**
   Professor, Department of Mechanical Engineering,
   Sri Sairam Engineering College, Chennai
4. **Dr. K. Renganathan,**
   Professor & Head,
   Department of Electronics and Instrumentation Engineering,
   Sri Sairam Engineering College, Chennai
5. **Dr. G. Adiline Macriga**
   Professor, Department of Information Technology,
   Sri Sairam Engineering College, Chennai
6. **Dr. S. Sumathy,**
   Professor, Department of Electronics and Communication Engineering,
   Sri Sairam Engineering College, Chennai
7. **Dr. M. Suresh Anand**
   Professor, Department of Computer Science and Engineering,
   Sri Sairam Engineering College, Chennai

Sri

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Campus: Sai Leo Nagar, West Tambaram,
Chennai - 600 044. **www.sairam.edu.in**

Administrative Office: "Sai Bhavan",
31B, Madley Road, T.Nagar,
Chennai - 17. Ph: 044-4226 7777.
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Congratulations

to our Prize winning Students & Mentors

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SMART INDIA HACKATHON 2022

AT GIET UNIVERSITY
ODISHA, GUNUPUR

Sri Sairam Engineering College has won the **FIRST PRIZE** in the All India Level with a Cash Prize of

Rs. 1,00,000/-

LECCY

DR704 - Energy Conservation with Modern Technology

Team Leader

KARTHIK B

Team Members

THARUNKUMAR K

JANANI PRIYADHARSHINI S

KRITHIKA B

JAYAVARSHINI G

GOWRISHANKAR K

Mentors: Ms. SHEEBA RACHEL S / Mr. JOHN PRATAP SINGH J

Sairam INSTITUTIONS

Dr. K. Porkumaran
Principal

Shri. Sai Prakash LeoMuthu
Chairman & CEO

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Congratulations

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SMART INDIA HACKATHON 2022

AT PRESIDENCY UNIVERSITY
BENGALURU, KARNATAKA

Sri Sairam Engineering College has won the **FIRST PRIZE** in the All India Level with a Cash Prize of

Rs. 1,00,000/-

VISUAL SPECTACLE

AG676 - Traffic Light Negotiation and Perception - Based Detection

Team Leader

JEYASHRI R

Team Members

DEEPTHI SHERLY J

AISHWARYAA S P

DEEPAK N

ARVIND ADITHYA N

ANUREGA T R

Mentor : Dr. G. PUTHILIBAI

Sairam INSTITUTIONS

Dr. K. Porkumaran
Principal

Shri. Sai Prakash LeoMuthu
Chairman & CEO


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