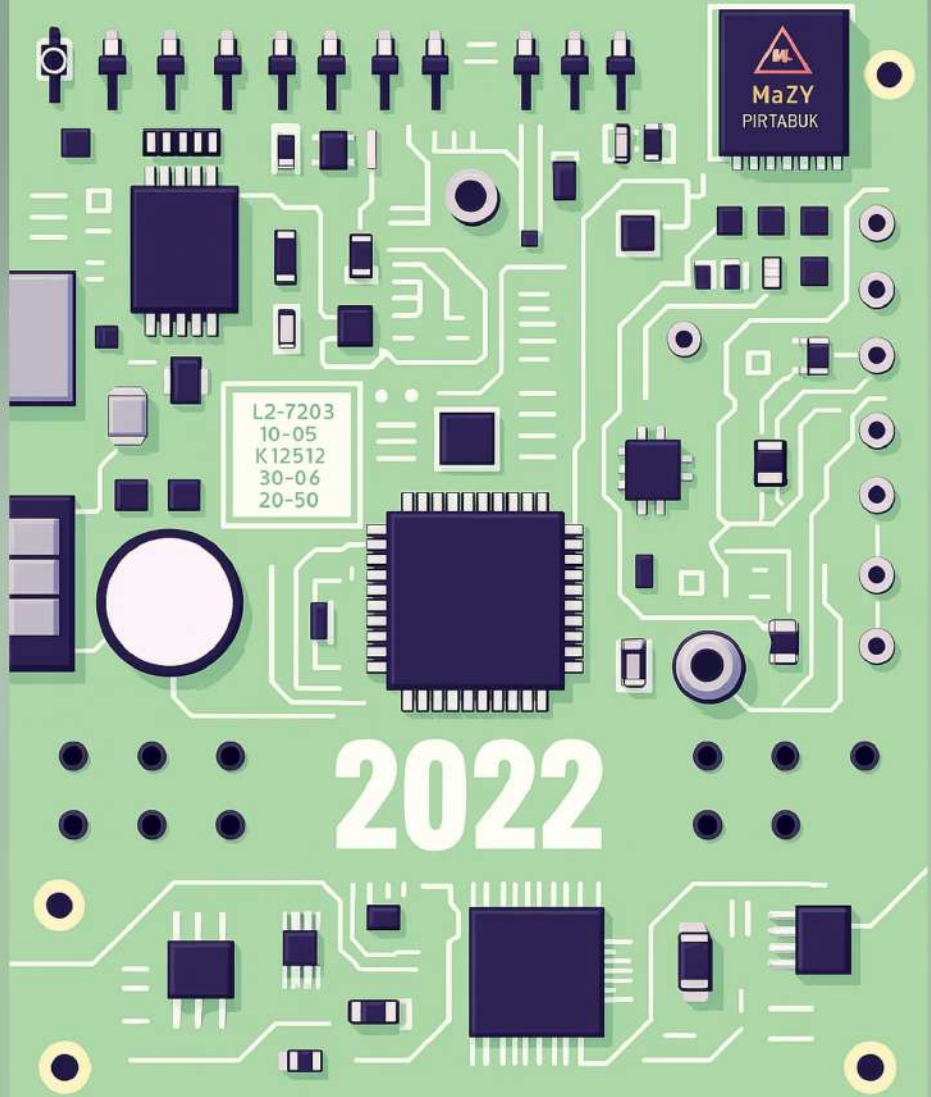


DIGI TALKS



MESSAGE BY HEAD OF THE DEPARTMENT

It gives me immense pleasure to pen a few words for the annual edition of our Department's Technical Magazine. This magazine stands as a testament to the innovation, creativity, and technical acumen of our students and faculty. It reflects our department's commitment to nurturing a culture of continuous learning, exploration, and excellence.



In today's fast-evolving technological landscape, it is crucial that students not only keep up with current trends but also learn to question, analyze, and innovate. This magazine is a platform that celebrates such inquisitiveness and showcases the promising minds that will drive the future of science and technology.

I commend the efforts of all contributors—students, faculty, and the editorial team—who have made this publication possible. I also encourage our readers to actively engage with the content, reflect on the insights shared, and take pride in the knowledge that this collective endeavor represents.

Let us continue to push boundaries, challenge the conventional, and work together in shaping a brighter, more innovative tomorrow.

With best wishes and regards,

A. PADMAVATHI, M. Tech.,

Head of the Department

Department of Electronics and communication Engineering

Dr. Y. C. James Yen Government Polytechnic, Kuppam.

MEMBERS OF THE DEPARTMENT

Smt. S. Sujatha, M. Tech., (Ph.D.), senior Lecturer

Smt. S. Radha, M. Tech., Lecturer

Smt. J. Anuradha, B. Tech., Lecturer

Sri. V. Praveen Kumar, B. Tech., Lecturer

Smt. D. Sirisha, B. Tech., Lecturer

Smt. U. Shirisha, B. Tech., Lecturer

Elevating Student Knowledge: Technical Magazine

We proudly present a technical magazine designed for diploma students. It serves as a vital platform for learning and growth.

Latest Innovations

Explore cutting-edge trends and advancements in engineering fields.

Practical Skills

Gain insights into real-world applications and problem-solving techniques.

Student Contributions

Showcase original research, projects, and creative technical ideas.

Guest Lecturer on Societal Benefits of the IoT

Date: 06/12/2021

Key Note Speaker: Sri. B K Subramanyam, Asst. Professor, KEC, Kuppam

Topic: Societal Benefits of the IoT

Speaker focused on the following Benefits:

1 Improved efficiency:

The IoT has made it possible to automate processes and connect devices, leading to increased efficiency in industries such as manufacturing, logistics, and healthcare.

2 Enhanced convenience:

IoT has made it possible for people to remotely control devices such as thermostats, lighting, and security systems, making their lives more convenient.

3 Better health outcomes:

IoT has enabled the creation of wearable devices that monitor vital signs and provide real-time data to healthcare professionals, helping them to provide better care.

4 Enhanced safety and security:

IoT can help monitor and respond to emergency situations more quickly and effectively, improving public safety. For example, smart home security systems can provide remote monitoring and control, while smart city technology can detect and respond to natural disasters, traffic congestion, and other emergencies.

5 Environmental benefits:

IoT can help reduce waste and conserve energy by optimizing resource utilization and reducing emissions. For example, smart home technology can reduce energy usage and smart city technology can optimize public transportation, reducing traffic and air pollution.

6 New business opportunities:

IoT has created new business opportunities in areas such as smart homes, wearable technology, and industrial automation, leading to job creation and economic growth.

Benefited Students- II ECE:

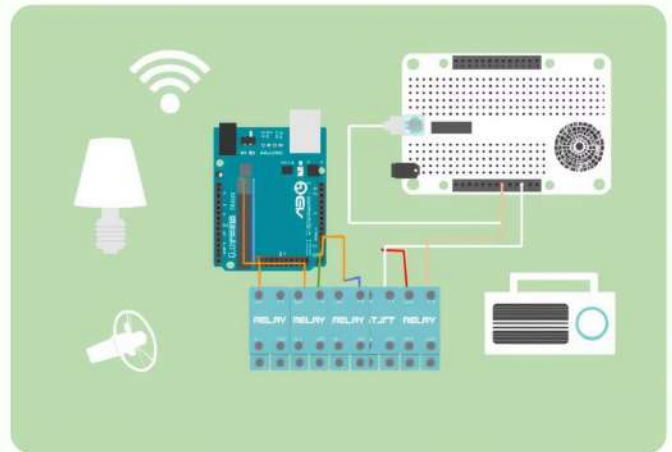
IoT Device Control for Smart Homes

Remote Appliance Control

Control home appliances from anywhere using a smartphone web interface.

Key Components

- Arduino Uno
- ESP8266 Wi-Fi Module
- 4-Channel Relay Module
- 16x2 LCD Display



This system offers a cost-effective, secure, and scalable home automation solution. It utilizes an Arduino, Wi-Fi, and relays for seamless control.



Intelligent Gas Leakage & Liquid Level Detection



Gas Leak Detection

MQ5 sensor detects LPG leaks, triggering alarms and automatically shutting off the gas supply via a solenoid valve.

- Arduino Uno
- MQ5 Gas Sensor
- ESP8266 Wi-Fi
- Solenoid Valve

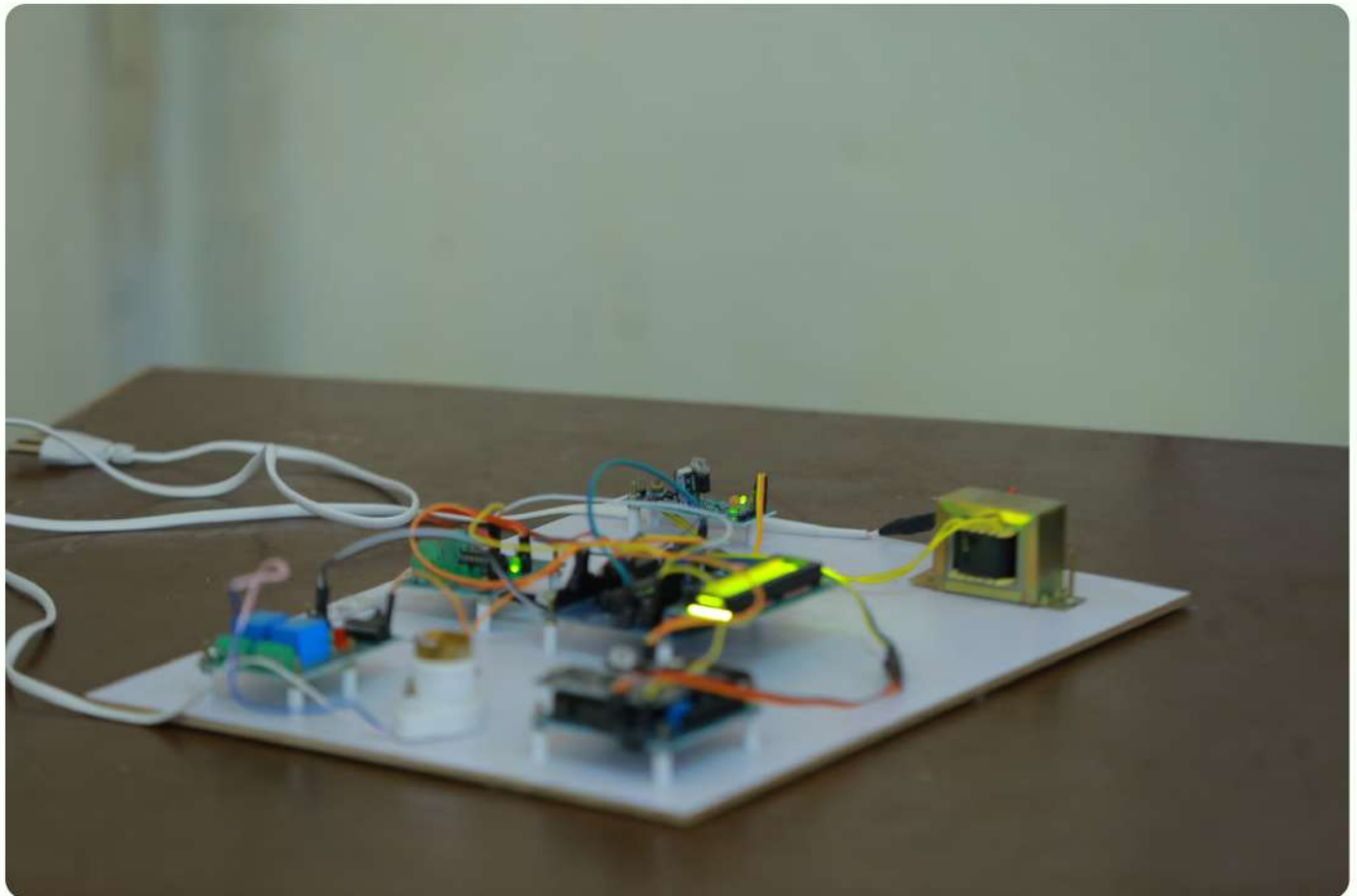


Liquid Level Monitoring

Ultrasonic sensors monitor liquid levels, preventing overflows and optimizing water usage with web interface notifications.

- AVR Microcontroller
- Ultrasonic Sensors
- ESP8266 Wi-Fi
- 16x2 LCD Display

These systems enhance safety and resource management in residential, commercial, and industrial settings.



IoT Streetlight Control System



Automated Lighting

Adjusts streetlight brightness based on ambient light conditions for energy efficiency.

Fault Detection

Identifies faulty lights and logs power consumption for streamlined maintenance.

Key Components

- ATmega328 Microcontroller
- Light Sensor (LDR)
- Wi-Fi Module

This system revolutionizes urban lighting, making cities smarter, safer, and more sustainable through advanced automation.



Engineers Day

Date: 15.09.2022

Organized by ECE club ELITES (Elegant leaders and Inspirational Talents of Electronics Engineers)

Engineers day is observed to commemorate the great work of engineers and to encourage them to improve and innovate. The staff and students paid homage to the most outstanding engineer of all times, Bharatratna Sir.M Visvesvaraya on his birth anniversary.

Different events were conducted on the eve of engineers day and appreciated the participants

Organized by ECE club ELITES (Elegant leaders and Inspirational Talents of Electronics Engineers)



National Level Project Expo

Date:05/11/2022

Venue: PSV Polytechnic, Krishnagiri

Project Title: AUTOMATED MEDICAL DISPATCHER WITH DYNAMIC TELE MONITORING SYSTEM USING IOT IN RURAL ZONES



College Level Techfest

Date: 05/11/2022

Venue: Dr.Y.C.James Yen Govt. Polytechnic, Kuppam



Regional Level Techfest

Date:16/11/2022

Venue: Government Polytechnic, Kalikiri



State level Techfest

Date:24/11/2022

Venue: SBTET AP, Vijayawada at SS Convention Hall

Project Title: AUTOMATED MEDICAL DISPATCHER WITH DYNAMIC TELE MONITORING SYSTEM USING IOT IN RURAL ZONES

In the EXISTING system, the dramatically increasing deployment of the Internet of Things (IoT), remote monitoring of health data to achieve intelligent healthcare has received great attention recently. In the PROPOSED system, Healthchain, a large-scale health data privacy preserving scheme based on blockchain technology, where health data are encrypted to conduct fine-grained access control. In the modification, MODIFICATION part is our implementation. We deploy the Anytime Medical Counter in all the rural areas where people cannot get good / best doctor on track. We install Heart Beat, Temperature sensor; Ultrasonic sensor, load cell, Camera and Head phone are also connected to the Medical machine. Medical counter user and is monitor from the remote area. Application is installed in both the ends for voice communication & chatting with doctor. Doctor examines the Patient and prescribes the medicines and the Medicine Dispatcher will Dispatch the Medicines from the AMM machine to the user. User can send the request to the server to get the tablets intake timings.



Industrial Visit

Date: 23/12/2022

Industry: Aviza Electronics, Bangalore

Students: III ECE



Industrial Visit

Date: 23/12/2022

Industry: Kaynes Technologies, Mysore

Students: III ECE



Industrial Visit

Date: 23/12/2022

Industry: Aviza Electronics, Bangalore

Students: III ECE



Industrial Visit

Date: 11/02/2023

Industry: Kaynes Technologies, Mysore Students: III ECE

This Kaynes Technologies explores the key aspects and challenges associated with PCB manufacturing and presents innovative solutions to enhance efficiency, reduce costs, and improve overall quality. The focus is on streamlining various stages of the PCB manufacturing workflow, including design, fabrication, assembly, and testing.

The abstract starts by highlighting the significance of PCB design and the role of advanced computer-aided design (CAD) software in creating intricate circuit layouts. It emphasizes the importance of optimized design for manufacturing (DFM) principles, which enable the early detection and resolution of potential issues, ensuring smooth and error-free fabrication.

Next, the Kaynes Technologies delves into the fabrication process, highlighting emerging manufacturing techniques and materials that contribute to higher precision, increased density, and improved signal integrity. Advanced equipment, such as automated optical inspection (AOI) systems and laser drilling machines, are discussed as critical components for achieving superior manufacturing quality.

Furthermore, the Kaynes Technologies explores the assembly stage, addressing challenges associated with component placement, soldering, and inspection. It introduces robotic assembly systems and automated soldering techniques as solutions to streamline the assembly process, reduce human errors, and enhance overall productivity.



National Level Paper Presentation

Topic: e-Vehicles

Date:10/03/2023

Venue: PSV Polytechnic, Krishnagiri, Tamilnadu.

Participants : A.Chandana priya and M.S.Monisha II year DECE



Industrial Visit

Date: 03/04/2023

Industry: Southern Chips & Circuits Pvt. Ltd., Bangalore

Students: III ECE

