



# MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

**Autonomous Institution – UGC, Govt. of India**

**Accredited by NBA & NAAC with 'A' Grade**

NIRF Indian Ranking, Accepted by MHRD, Govt. of India | Band – Excellent, National Ranking by ARIIA  
Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana

**A.Y : 2022-23**

**VOL.2**

Under  
Student Chapter IEEE, IETE & Technical Association Electro Spikes

# TECHNITRONIX

**HALF YEARLY TECHNICAL MAGAZINE**

**DEPARTMENT OF  
ELECTRONICS AND COMMUNICATION ENGINEERING**

**ECE**

**DEPARTMENT VISION**

- Our vision is to develop the department in to a full fledged Centre of learning in various fields of Electronics and Communication Engineering keeping in view the latest developments and to invoke enthusiasm among the Students to continually renew their education in rapidly developing technological scenario.

**Vision****DEPARTMENT MISSION**

- Our mission is to inculcate a spirit of scientific temper and analytical thinking & train the students in contemporary technological trends in electronics and communication to meet the challenging needs of the industry by providing versatile sound knowledge in the field of engineering and technology

**Mission****ABOUT THE DEPARTMENT**

The Department of Electronics and Communication Engineering is accredited by NBA, with an intake of 240 in B.Tech Programme and also offers M.Tech Programme in Embedded Systems. The department has state of the art laboratories with latest softwares like MENTOR GRAPHICS, CADENCE, MATLAB, XILINX, CCSTUDIO, KEIL, RTOS, RT Linux, OSCAD, PSPICE and MULTISIM. The department consists of well equipped Robotics- Centre of Excellence to train the students in specific modules to design and develop innovative projects that extend the state of the art in Robotics. It has well qualified and experienced faculty members. The highly competent and professional faculties, many of them drawn from pre-mise institutions and industry have extensive experience and contribute to the holistic development of academics, research and career building of students. 32 faculty members attained patent rights. The department faculty published 122 papers in SCI/Scopus indexed journals, 254 papers in UGC indexed/International journals and presented 226 papers in various national & international conferences and published 28 textbooks with ISBN. The department established IEEE, IETE & ISTE student chapters under which it organizes Technical Symposia and various co-curricular activities every Academic Year. The department organized National Conference on Signal Processing Communications and System Design (SPCOMSD) in 2014 and is organizing International Conference on Signal Processing Communications and System Design (ICSPCOMSD) every year, from past 7 years. The department also organized Faculty Development Programmes on Analog & Digital Design using CADENCE Tools, Embedded System using 32 bit processor, Programmable System on Chip Mixed Signal Microcontroller, Refresher Courses on Analog and Digital Communications, Digital Signal Processing, VLSI Design using CADENCE Tools and One Week Refresher Course on "VLSI & Embedded Systems". The department organized AICTE Sponsored Two Week Faculty Development Programme on "Speech, Image & Video Processing Techniques, Analysis & Applications", AICTE Sponsored One Week Short Term Training Programme on "Optimization Techniques through Machine Learning for Wireless and IOT", AICTE Sponsored One Week Short Term Training Programme on "Emerging Trends in Wireless Sensor Networks and Applications", AICTE Sponsored One Week Short Term Training Programme on "Deep Learning Techniques for Electronic Health Record Analysis", AICTE Sponsored One Week Short Term Training Programme on "Emerging Trends in Advanced Signal & Image Processing", AICTE Sponsored One Week Short Term Training Programme on "Emerging Trends in VLSI Technology" and the department also received AICTE sanctioned MODROB's on "Advanced VLSI Lab", "Advanced Microwave Engineering Lab" and "Advanced Communication Systems". The department also publishes the Registered Journal "International Journal of Research in Signal Processing, Computing and Communication-System Design (IJRSCSD)" with an ISSN: 2395-3187.

## PO'S

<b>PO1</b>	<b>Engineering knowledge</b>	An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and modeling
<b>PO2</b>	<b>Problem analysis</b>	An ability to design, simulate and conduct experiments, as well as to analyze and interpret data including hardware and software components
<b>PO3</b>	<b>Design / development of solutions</b>	An ability to design a complex electronic system or process to meet desired specifications and needs
<b>PO4</b>	<b>Conduct investigations of complex problems</b>	An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
<b>PO5</b>	<b>Modern tool usage</b>	An ability to use the techniques, skills and modern engineering tools necessary for engineering practice
<b>PO6</b>	<b>The engineer and society</b>	An understanding of professional, health, safety, legal, cultural and social responsibilities
<b>PO7</b>	<b>Environment and sustainability</b>	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and demonstrate the knowledge need for sustainable development.
<b>PO8</b>	<b>Ethics</b>	Apply ethical principles, responsibility and norms of the engineering practice
<b>PO9</b>	<b>Individual and team work</b>	An ability to function on multi-disciplinary teams.
<b>PO10</b>	<b>Communication</b>	An ability to communicate and present effectively
<b>PO11</b>	<b>Project management and finance</b>	An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multi-disciplinary environments
<b>PO12</b>	<b>Life-long learning</b>	A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning

## PSO'S

The graduates of the department will attain:

**PSO1:** The ability to analyze, design and implement application specific electronic system for complex engineering problems for analog, digital domain, communications and signal processing applications by applying the knowledge of basic sciences, engineering mathematics and engineering fundamentals.

**PSO2:** The ability to adapt for rapid changes in tools and technology with an understanding of societal and ecological issues relevant to professional engineering practice through life-long learning

**PSO3:** Excellent adaptability to function in multi-disciplinary work environment, good interpersonal skills as a leader in a team in appreciation of professional ethics and societal responsibilities.

## PEO'S

**PEO1-PROFESSIONAL DEVELOPMENT**

To develop in the students the ability to acquire knowledge of Mathematics, Science & Engineering and apply it professionally within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability with due ethical responsibility.

**PEO2-CORE PROFICIENCY**

To provide ability to identify, formulate and solve engineering problems with hands on experience in various technologies using modern tools necessary for engineering practice to satisfy the needs of society and the industry.

**PEO3- TECHNICAL ACCOMPLISHMENTS**

To equip the students with the ability to design, experiment, analyze and interpret in their core applications through multi disciplinary concepts and contemporary learning to build them into industry ready graduates.

**PEO4- PROFESSIONALISM**

To provide training, exposure and awareness on importance of soft skills for better career and holistic personality development as well as professional attitude towards ethical issues, team work, multidisciplinary approach and capability to relate engineering issues to broader social context.

**PEO5- LEARNING ENVIRONMENT**

To provide students with an academic environment and make them aware of excellence, leadership, written ethical codes and guidelines and the life-long learning to become a successful professional in Electronics and Communication Engineering

## MESSAGES

## Founder Chairman's Message

**Ch. Malla Reddy**

Founder Chairman, MRGI

Hon'ble Minister, Govt. of Telangana

MRECW has made tremendous progress in all areas and now crossing several milestones within a very short span of time and now I feel very happy to know that the students and faculty of the ECE department of MRECW are bringing out the volume-2 of the Technical magazine Technitronix in A.Y 2022-23. As I understand this magazine is intended to bring out the inherent literary talents in the students and the teachers and also to inculcate leadership skills among them. I am confident that this issue will send a positive signal to the staff, students and the persons who are interested in the educational and literary activities

## Principal's Message

I congratulate the department of ECE, MRECW for bringing out the issue of the prestigious half yearly department technical Magazine Technitronix under A.Y: 2022-23, I am sure that the magazine will provide a platform to the students and faculty members to expand their technical knowledge and sharpen their hidden literary talent and will also strengthen the all round development of the students. I am hopeful that this small piece of literary work shall not only develop the taste for reading among students but also develop a sense of belonging to the institution as well. My congratulations to the editorial board who took the responsibility for the arduous task most effectively. I extend best wishes for the success of this endeavor.

**Dr. Y. Madhatee Latha**

Principal

## HOD'S MESSAGE

It is an occasion of great pride and satisfaction for the department of ECE, MRECW to bring out the issue of the half yearly of the Technical magazine Technitronix under A.Y:2022-23, it gives me immense pleasure to note that the response to the magazine has been over whelming. The wide spectrum of articles gives us a sense of pride that our students and faculties possess creative potential and original thinking in ample measures. Each article is entertaining interesting and absorbing.

I applaud the contributors for their stimulated thoughts and varied hues in articles contributed by them.

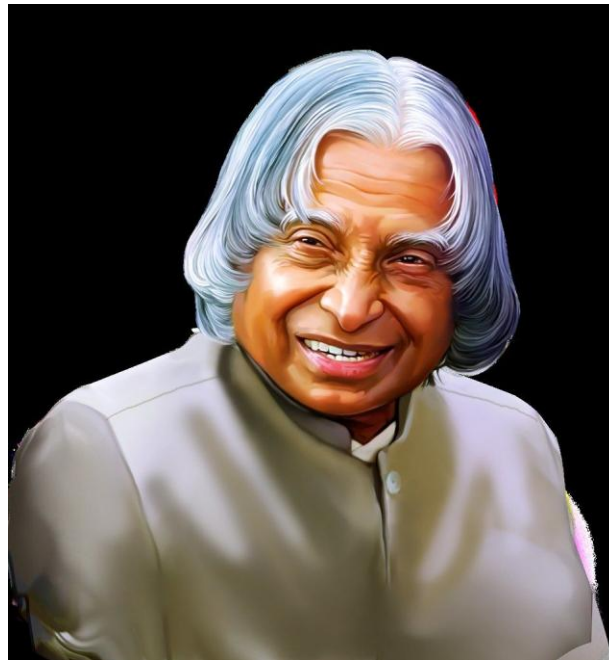
**Dr. K. Sudhakar**

HOD

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**SCIENTIST OF THE HALF YEAR**

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**APJ Abdul Kalam**

Avul Pakir Jainulabdeen Abdul Kalam, born on October 15, 1931 is an Indian scientist who worked as an Aerospace engineer with Defence Research and Development Organisation (DRDO) and Indian Space Research Organisation (ISRO).

Kalam started his career by designing a small helicopter for the Indian Army. Kalam was also part of the INCOSPAR committee working under Vikram Sarabhai, the renowned space scientist. In 1969, Kalam was transferred to the Indian Space Research Organization (ISRO) where he was the project director of India's first indigenous Satellite Launch Vehicle (SLV-III) which successfully deployed the Rohini satellite in near earth's orbit in July 1980.

He also served as the 11th President of India from 2002 to 2007. Kalam advocated plans to develop India into a developed nation by 2020 in his book India 2020. He has received several prestigious awards, including the Bharat Ratna, India's highest civilian honour. Known for his love for children, did you know that Kalam had set a goal of meeting 100,000 students in the 2 years after his resignation from the role of scientific adviser in 1999? May he continue to inspire millions.

## FACULTY ARTICLES

# 5G TECHNOLOGY

5G technology has the potential to change the way we see the online world. 3G and 4G technology transformed how we interacted with mobile devices, enabling faster internet browsing, using data-driven services, and increasing bandwidth for live streaming. 5G aims to revolutionise our virtual interactions by integrating AR and VR technology and better cloud-based gaming experiences. It will also be used in factories and enterprises for monitoring and streamlining operations. 5G also has applications in road safety and rule implementation, smart grid control and smart retail experiences, in the form of live high-definition cameras. Telecom companies around the world are working on creating 5G-ready services and devices. The technology was announced and rolled out in select places in 2020, with a worldwide launch expected in 2022. The launch of 5G has been delayed for a while but is set to quickly reach the world and become a part of every person's life.

**Dr. N. Sreekanth**  
Professor, ECE



## COMPUTING POWER

The digital era has computerised every mobile device and application, firmly establishing computing power in this generation. Data scientists have predicted that the infrastructure used to harness this computing power is only going to evolve in the coming years. Computing power is giving us advanced technology to make our lives better and is also creating more jobs in the tech industry. Fields like data science, data analytics, IT management, robotics, etc have the potential to create the largest percentage of employment in the country. Many international brands and companies hire from India because of the specialised training widely available in the country. The more computing our devices need, the more specialised professionals will be required and the economy will flourish as a result.

**Dr. S. Manthandi Periannasamy**  
Professor, ECE





## DIGITAL TRUST

The world is tangling and being accommodated with technology and mobile devices, leading to the development of high trust towards these technologies. The same trust is also leading the way to a number of innovations. With various data security measures being taken, people believe that technology can help us build a reliable, secure and safe digital world. This also leads to companies inventing and innovating new things without having to worry about data security. Cyber security, ethical hacking, etc are a few specialisations that can be used to enter this field. There is also an array of jobs available nationally and internationally. There are professional certifications and normal courses available for all courses which can lead to a high-paying job role.

**Dr. TS Ghouse Basha**  
Professor, ECE



## DATAFICATION

When we convert parts of our lives into software and devices through data, we are going through datafication. In this process, data-driven technology takes over human chores and tasks. Smartphones, office applications, industrial machines and even AI devices, all use data to interact with us and improve our lifestyles. Data has been a part of our lives for longer than you can even imagine. Storing this data requires security, which has led to an increase in the demand for data security specialisations in our country. IT professionals, data professionals, engineers, managers, technicians, all work in the same field. Careers in the data field require more skill than high-level qualifications. These skills can be acquired by doing some courses that teach you how the world of data works.

**Dr. L. Malliga**  
Professor, ECE



## THE HYPER-CONNECTED, INTELLIGENT WORLD

This trend is the one that actually connects all of the others. The data required to build the metaverse, create digital twins, train intelligent machines, and develop new strategies for enabling digital trust is gathered by the interconnected sensors, devices, and infrastructure network. This is referred to as the Internet of Things (IoT), and in 2023, its influence on our lives will remain significant. More focus will be paid to enabling advanced and more advantageous machine-to-machine interactions. These days, we are used to furnishing both our homes and offices with smart technology. But we commonly encounter problems when gadgets can't interact because of diverse platforms and operating systems. In 2023, research on developing global standards and communication protocols that gadgets can use to connect with one another will continue. As a result, they will operate more effectively and be able to assist us with a larger range of duties. Another focus will be on IoT security, which will incorporate tools with AI-assisted prediction skills, and companies investing in IoT will prioritize improvements.

**Dr. N. Jagadeesan**  
Professor, ECE



## HYPERAUTOMATION

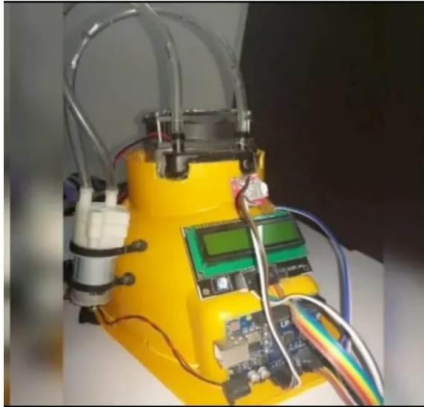
Hyperautomation enables the automatic completion of repetitive activities without manual or human input. It uses Robotic Process Automation (RPA), machine learning, and artificial intelligence (AI) to alter old and new machinery and processes. An organization can thrive in a more competitive environment by utilizing digital transformation to achieve cost and resource efficiency. Organizations must boost production, reduce expenses, and operate more efficiently to succeed in the current market. You can advance with the help of hyperautomation services. To learn more about hyperautomation, see the blog that follows this one. Businesses of all sizes, small, medium-sized, and large, can gain a lot from hyperautomation. It is unquestionably true that many businesses have started deploying hyperautomation technology and enjoying its advantages. According to a Salesforce poll, organizations anticipate having hyperautomation on their technological roadmaps by 2024.

**Dr. Amalorpava Mary Rajee**  
Professor, ECE



## STUDENT ARTICLES

### SMART HELMET



The main perspective of this smart helmet is to avoid road accidents, mining accidents etc.,. The impact when a motorcyclist in a high speed without wearing a helmet may cause an accident. So, the sensor which is inserted inside this helmet helps to detect the temperature of the forehead and allows the cool air inside, by this it decreases their stress level and helps them to travel with peace of mind. In this, IOT technology is used by implementing Arduino Uno IOT cloud which is an application that helps makers build connected objects in a quick, easy and secure way.

This Arduino Uno works by dumping a code in it. This product will work by either batteries or power supply i.e. charging. The GPS will navigate the rider to reach their destination with voice assistance, also if any accident occurs the sensor detects and makes calls or SMS to registered mobile numbers, nearby police station and hospitals. In winter and rainy season, people are suffering with fog and water on their helmet, so we can temporarily change this screen wiper on their helmet.

**D.LIKHITHA(20RH1A0464), E.SHESHWIKA(20RH1A0472), K.NIKHILA(20RH1A04B2)**

### AUTOMATIC TEMPERATURE CONTROL FAN



Temperature monitoring and control is important in industrial environments and also in the human living room. Industrial temperature monitoring is important in many applications and systems as excessive changes in the temperature can lead to detrimental effects and failure of operation. So it is our responsibility to design few reliable systems which can be even efficiently used by them. Automatic Temperature Controlled Fan Speed Controller is one of them.

The developed system provides an environment in which no user needed to control the fan speed. Automatically controls the fan speed by sensing the room temperature. These fascinating efforts to create intelligent systems are to provide human beings a more convenient life. The circuit was designed using electronic components available in local market to keep the cost at a low level.

**G.LEKHANA(20RH1A0497), G.MOUNIKA(20RH1A0476), E.SHARANYA(20RH1A0473)**

## SIGN LANGUAGE DETECTION GLOVES

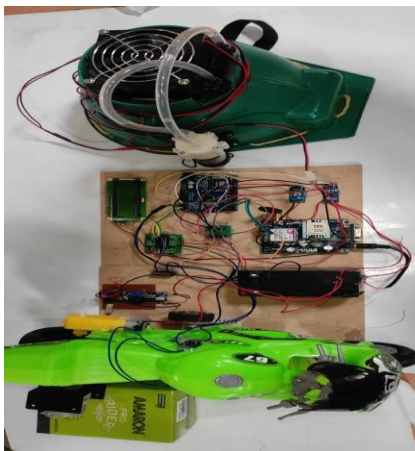


The paper describes an aiding device for the dumb and physically challenged people. Such people are made to wear gloves fitted with flex sensors and tactile switches whose resistance change with each gesture shown by them. This produces a voltage change and given to microcontroller which will send the sign language codes corresponding to each gesture to android app and then sounds the code of sign which is given by hand via speaker.

Dumb people normally communicate by means of sign-language. A gesture in a sign language, is a particular movement of the hands with a specific shape made out of them. Gesture recognition is classified into two main categories, that is vision based and sensor based. The disadvantage of vision based techniques includes complex algorithms for data processing and requirement of more computing power. But glove-based gesture recognition is simple and user-friendly.

**M.SOWMYA(20RH1A04E6), P.SASHI KANTI(20RH1A04G7)**

## REGENERATION OF ENERGY



Nowadays in some places we are using electric bikes. These electric bikes run using the batteries. But these batteries must be charged time to time which is not possible for long distance travelling. So here we came up with an idea where we can generate the electricity while running the bike. We generally know that any moving object produces the mechanical energy and we even know that it can be converted into electrical energy. So while we are running the electric bike the mechanical energy is converted into the electrical energy and this energy can be used to recharge the batteries.

This product can be used in any mechanical energy producing machines so that the energy will not be wasted and can be used for other purposes by converting. Now to save the fuel and decrease the pollution world is using the electric bikes, so to save the electricity we can use this product. Proper utilization of waste energy can mitigate energy crisis and keep cost under control. This project aimed to regenerate the energy from braking load in the vehicle. In this study, a prototype electric regenerative system was designed and tested experimentally to predict its performance. It was observed that the amount of energy stored in battery was increased with the increasing braking load.

**B.DEVI SREE(20RH1A0428), B.TEJASWINI(20RH1A0429), CH.SAI SHRESHTA**

## SMART GARBAGE SYSTEM



Proper management of waste is getting tougher because of increasing population, urbanization, and industrialization. We need to apply technology-based solutions to handle large amounts of waste for overpopulated urban areas. We have presented a smart IoT-based integrated system. Arduino Uno is used as a microcontroller to synchronize all of the four systems. Sensors are used for identification and measuring the garbage level. The communication system uses a global system for mobile communications (GSM) module that will inform the corresponding authority to collect the waste when the garbage bin is filled up. Gas sensor to detect the bad and toxic gas in the bin and inform to the concerned authorities. Sound sensor to detect the baby sound when someone throws the infant in the bin; also, it can detect the animals' sound like cats, dogs so that they can save a life.

Humidity sensor to detect the wetness in the bin; if the wetness is detected, the lid of the bin gets open and makes the garbage dry. To improve the waste segregation process, we are dividing the waste into dry and waste. By soil moisture sensor and IR sensor, we can balance both the dry and waste inside the bin. To improve the process of sanitization, we are using a water pump outside the bin to connect the bin with sanitizer inside and outside. The proposed waste management system is much more efficient than any other conventional waste management system and most importantly, it is a completely automated system.

**C.NIHARIKA(20RH1A0452), CH.SATHWIKA(20RH1A0454), CH.ARCHANA(20RH1A0451)**

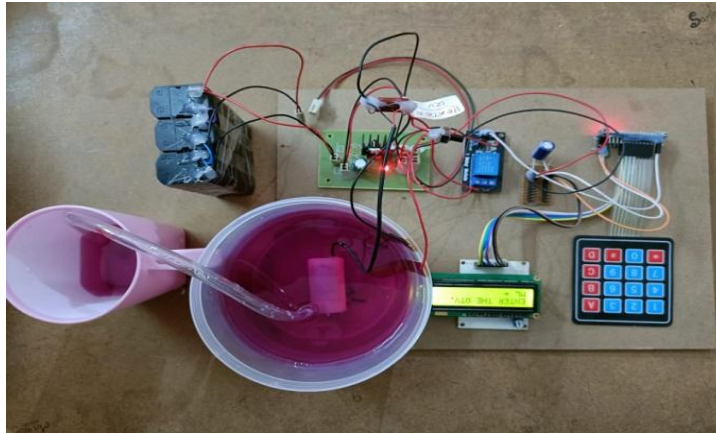
## FLUID MONITORING SYSTEM



This paper emphasizes Intravenous fluid monitoring (IV) using load cell and heart beat sensors. Intravenous fluid monitoring system is a sensor which is used in medical applications for monitoring the glucose level; if the glucose level starts reducing in the liquid, then it gives a warning. The main use of this sensor is to reduce the risk rate of the patients if they are not monitored properly. Intravenous therapy is a typical method of treatment which may be used for better modification of electrolyte imbalances in the body, to deliver medications, for transfusion of blood or fluid injection. The proposed method lowers the chance of heart attack due to air embolism and reduces the difficulties involved in IV therapy. Periodic therapy, especially in the case of chemotherapy, can be effectively carried out.

**N.MEGHANA(20RH1A04G1), P.SANGEETHA(20RH1A04G9), P.KANISHKA SAI(20RH1A04H0)**

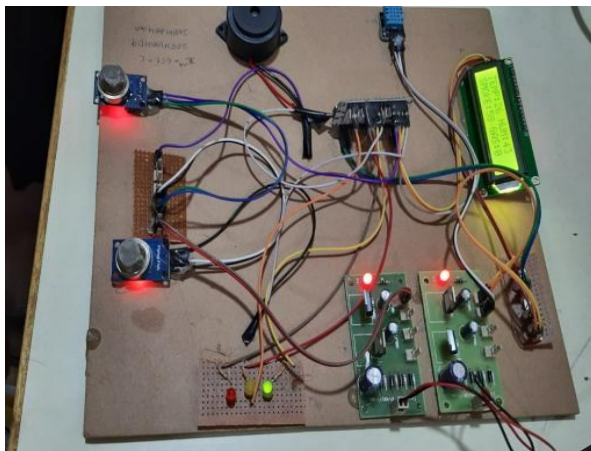
### PORTABLE KASHAYA MAKING MACHINE



As the process of making Kashaya is a cumbersome process, hence there is usual compliance of patient to Kashaya. To overcome this whole strategical idea towards the Kashaya, A machine which can directly produce the Kashaya has been implemented. This project proposes an automated Kashaya system which prepares it with a certain temperature. Microcontroller on Arduino Nano platform is used to appropriate quantity of Kashaya. Relay is used as a switch for the motor for the functioning of outlet. The copper coils heat's up the container. LED is used for entering the specific quantity.

**N.SUCHITHA(21RH5A0417), K.SNEHA(21RH5A0413), P.ANUSHIKA(21RH5A0418)**

### DEEP BREATH

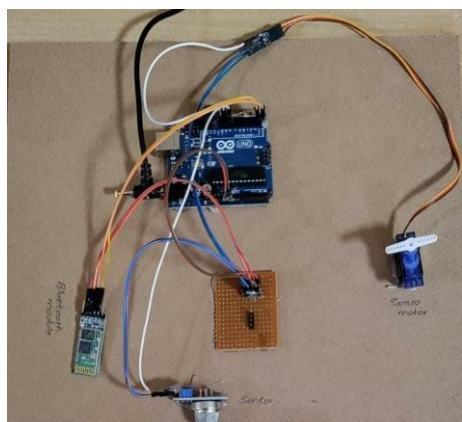


Our product provides gas analyzers for environmental ambient air monitoring and detecting of toxic chemicals in and around your facility. Furthermore, it provides real-time monitoring and reporting of a chemical exposure. Therefore, enables your staff to respond to the situation quickly and accordingly. In addition, we designed to help maintain a safe place environment within your facility and provide a real-time cost-effective solution for monitoring trace toxic chemicals in field applications.

We can apply our idea in Industrial as well as Hospitals, Home, and highly populated cities in order to prevent ourselves from hazardous gases, present in the environment. This can be used in most populated and air-filled cities too. Our idea helps to create awareness among people about the type of environment they are covered with.

**M.SAI SHIVANI(20RH1A04D9), M.PALLAVI(20RH1A04E5), N.SUPRIYA(20RH1A04G0)**

## WHEEL CHAIR WITH ATTACHMENT OF B-TYPE OXYGEN CYLINDER FOR COPD PATIENTS

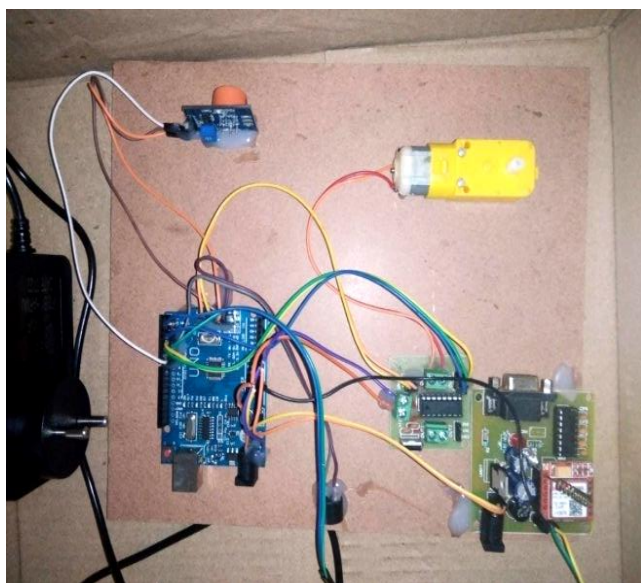


The objective of this project is to provide the movement of the people who are disabled or handicapped and elderly people who are not able to move well. The goal of this system will allow certain people to live a life with less depend on others for movement of a person from one place to another during his/her unhealthy conditions becomes a tedious task. It is required to move the patient within the hospital campus for the and helping staff. The main objective of this wheel chair system project is recommended to control a wheel chair by using speech recognition module.

The system is designed to control a wheel chair using the commands their movement as a daily need. Speech recognition technology is a key technology which will provide a new way of human interaction with machine or tools. Therefore, the problems that they face can be solved by using speech recognition technology for the movement of wheel chair. This can be realized and optimized with use the smart phone device as an intermediary or interface.

**SRIRAMULA VARSHA(20RH1A04M7), T.SARALA DEVI(20RH1A04N7), P.SHRAVYA(21RH5A0419)**

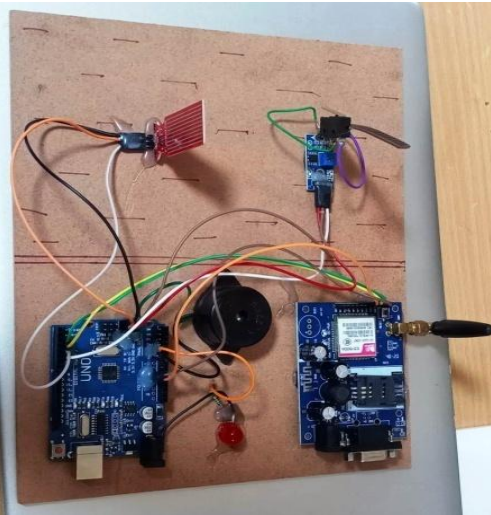
## AUTOMATIC ENGINE LOCKING SYSTEM THROUGH ALCOHOL DETECTION



This project presents the design and implementation of An Alcohol Detection with Engine Locking for cars using The Ultrasonic Sensor and Arduino UNO as the MCU (Master Control Unit). The system will continuously Monitor level of alcohol concentration in alcohol Detection sensor and thus turn off the engine of vehicle If the alcohol concentration is above threshold level. The model will also send the message of whereabouts Of the vehicle through SIM900A. The project provides An efficient solution to control accidents due to drunk Driving.

**S.SOWMYA(20RH1A04K8), U.SAMATHA(21RH5A0421), S.SRAVANI(20RH1A04M1)**

## FLOOD DETECTION ALERTING SYSTEM

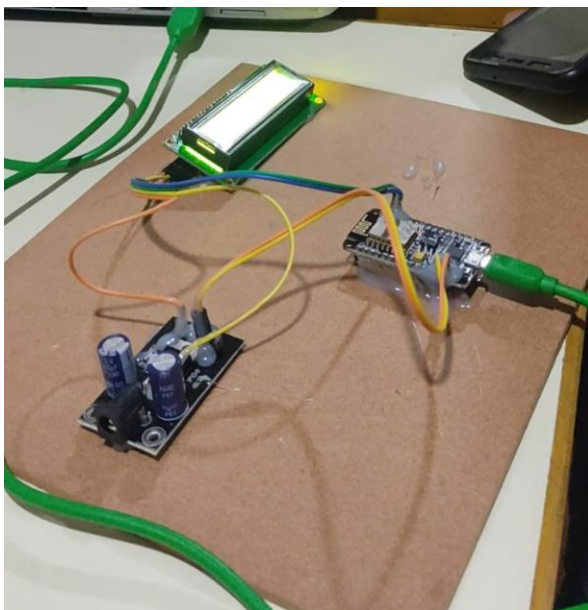


The main challenge being faced in flood forecasting is to accurately forecast the impending flood sufficiently in advance with high level of accuracy. Flood have a great impact on the region in which it occurs. Flood creates many problems. Trees are uprooted; buildings are destroyed. In other words, whole city will be under water. Rescue team finds difficulty in removing the flooded water. They find difficulty in rescuing the people of that flooded area. The only solution to this problem is to detect the occurrence of flood before it hits an area. By using sensors, we can predict the flood in prior. We used water level indicator sensor to measure the water level.

A pressure sensor is used to measure the intensity of the flood by calculating its force. The input is given to Arduino UNO which turns on the alarm and led to alert locals and sends command to GSM MODEM to send messages to rescue teams. We can further implement this to detect drainage overflow which is also a greater issue nowadays.

**CH. SRINIDHI(20RH1A0446) , ARSHNAAZ(20RH1A0407) , A. SREEJA(20RH1A0406)**

## SMART ELECTRONIC NOTICE BOARD

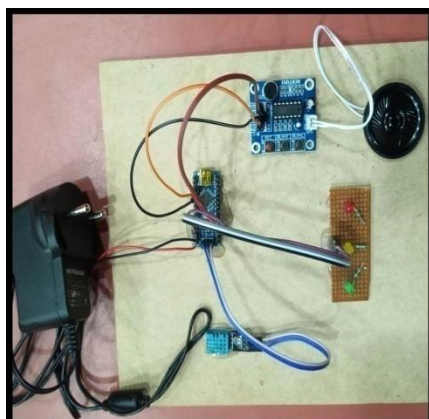


In recent years, the utilization IOT devices in ever where like, Health, Military, Industry, Agriculture, Feet Management etc., whenever there is need for automization, reduce power consumption and minimize human resources with effective utilization, the IOT modules are best solution. In this paper, implement smart electronic notice board scrolling display board is common site today. Advertisement is going digital the use of led scrolling display board at big shops, shopping centers, railway stations, bus stand and educational institutes is becoming an effective mode of communication in providing information to the people

**A. ASHWINI (20RH1A0407), A. NANDANA(20RH1A0416), A. BHARGAVI(20RH1A0413)**



## COLOUR CODED THERMOMETER WITH VOICE ASSISTANCE

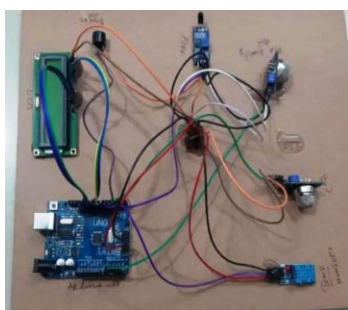


Electronic devices are becoming compact, flexible and cheap that are capable of doing more function as compared to their predecessors that happened with the ability to perform fewer functions. Experts always strive to introduce innovation in automation that requires minimum effort and gives maximum output. It is an idea to have colour coding scheme in thermometer to indicate fever level for uneducated people and also a speaker that can read out temperature through a voice message for those who are visually challenged people. This makes the task of knowing their body temperature easy and understandable for everyone.

The backlight is activated upon a command from the processor and the processor determines whether a decrease in the temperature readings exceeds or is equal to a predetermined threshold in order to activate the backlight. The method embodiment can include the steps of using the processor to monitor a temperature change indicated by a temperature sensing element. The processor then detects a temperature decrease and activates a first colour light emitting element to backlight a display if the temperature decrease exceeds or equals a predetermined threshold. In this present work, voice controlled concept is added to the medical field. The device designed is handy and it can be used over a considerable distance

**T. SUSHMITHA(20RH1A04N2), SK. NASREEN(20RH1A04L2), V. MEGHANA(20RH1A04P3)**

## SAFETY MANAGEMENT SYSTEM IN COAL MINING

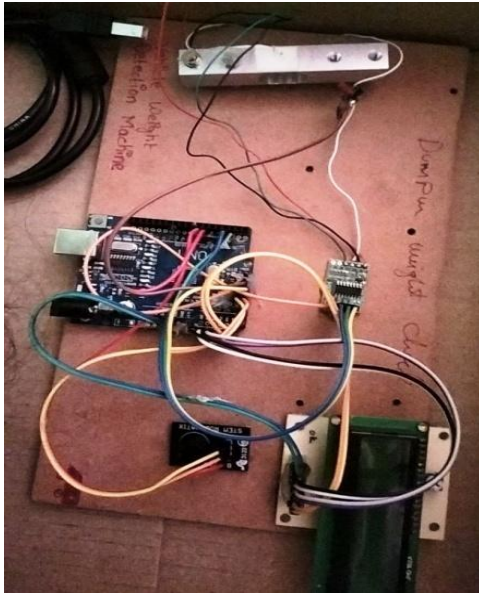


Engineer is the person who is always keen interested in providing best alternative solution to any social problem to meet the scarcity. By identifying this problem, this paper suggests a wearable smart jacket design for securing the life of coal miners in Pakistan. This Prototype senses the various health related parameters i.e., the presence of hazardous gas, pulse rate of miner, updated temperature/humidity, exact depth location & global positioning of miner.

This proposed wearable embedded system will not only send the last GPS location to a specific IP but will also send continuous update of pulse rate of miner which is sensed by pulse sensor; to base camp hence if someone dig the coal mine in case of disaster, they may, set the priority to retain maximum life back from a coal mine

**K.VARSHINI(20RH1A04B0), G.HRUSHITHA(20RH1A0494), K.KEERTHANA(20RH1A04A7)**

## VEHICLE WEIGHT DETECTION MACHINE



Now a days we might hear the many cases of vehicles overloading. Due to the over weight of load in the vehicle, the vehicle might lose its control while driving. Due to these many accidents had been occurred on road way transportation. We might see many of lorries, load carrying Dumpers carries a large load while transporting the load from one place to another. Due to that many problems will occur. Few of them are :-

- Due to the heavy load the road gets damaged.
- If the vehicle loose its control, the load might fall down and causes harms to some other who is travelling on the same road. To overcome this we have came up with a new idea called Vehicle Weight Detector Machine.

**A.SHRAVIKA(20RH1A0414) ,A. MOUNA SRI(20RH1A0417) ,B.W.ZODISANTILLO(20RH1A0421)**

## WATER AVAILABILITY BASED CROP SPECIFICATION SOLUTION - IOT BASED IRRIGATION

This project proposes an automated irrigation system which monitors and maintains desired soil moisture content via automatic watering. It uses soil moisture sensor which measures exact moisture level in soil. It also uses a rain sensor which is a switching device used to detect rainfall and control water flow from the pump. Microcontroller on Arduino mega platform is used to implement control unit. This enables the system to use appropriate quantity of water which avoids over/under irrigation.

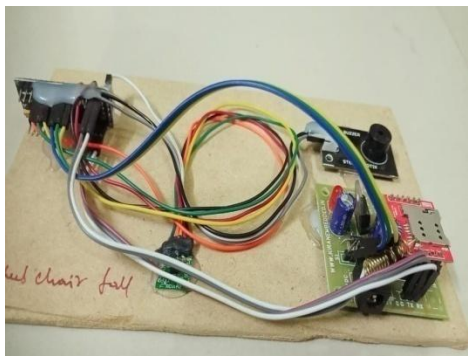


Soil moisture sensors measure or estimate the amount of water in the soil. Rain sensor is a water conservation device connected to an automatic irrigation system that causes the system to shut down in the event of rainfall. Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino boards can read inputs of soil sensors and rain sensors and turn it into an output-on 1LED display. Potentiometer is used to set a particular level.

**M.JYOTHSNA SUJANA(20RH1A04F5), P.CHATHURYA(20RH1A04H7), P.SNEHA(20RH1A04J0)**



## SMART WHEEL CHAIR FALL DETECTION



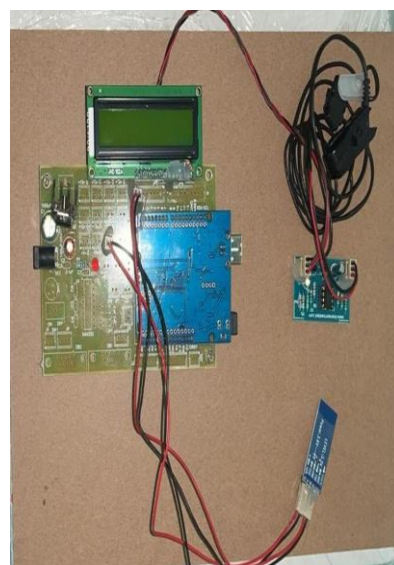
Falling is among the major causes of medical problem that are faced by the elderly people and movement disability person. These people tend to injure themselves from falling when they are alone. When a falling event occurred, medical attention needs to provide immediately in order to reduce the risk of fallen from getting severe injuries which may lead to death. Several technologies have been developed which some utilized webcams to monitor their activities. However, the cost of operation and installation is expensive and only applicable for indoor environment.

Some users also worried about their privacy issues. Current commercialized device is by wearing wearable wireless emergency transmitter which restrict movement of user and produce high false alarm. This research proposed a wheel chair person fall detection system with IOT which is cost effective and reliable to detect fall and alert surrounding to call for help. For fall detection, gyroscope, GSM module and micro-controller are implemented into the system.

**V.CHITHRIKA(20RH1A04P4), S.NITHYA SREE(20RH1A04M4), V.RAMYA(21RH5A0422)**

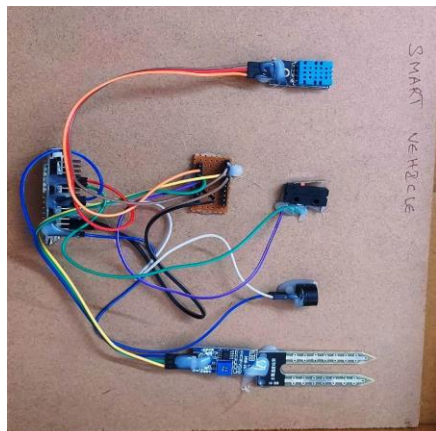
## NON INVASIVE GLUCOMETER

Diabetes is a common chronic disease in mostly all countries worldwide. The most used method to measure glucose level in blood is an invasive method which is painful, expensive and danger in spreading infectious diseases. Over a long term, the invasive method results in damage of finger tissues. As an alternative, the non-invasive method can be used which facilitates frequent testing, relieves pain and discomfort caused by frequent finger pricks. A non-invasive method of glucose level measurement is proposed in this paper. The variation in the intensity of NIR light received from the photo detector after passing through the finger is used to determine the glucose level of blood. The measured glucose level is displayed in LCD display and transmitted to the android application which is created in the mobile phone to display and store data via Bluetooth.



**SHREEYA P(20RH1A04L8), Y.PRAGNYA(20RH1A04P9), P.SOWMYA SRI(20RH1A04J7)**

## SMART VEHICLE MAINTANCE SYSTEM USING IOT



Vehicles play vital role in humans life, It helps humans to travel long distance with ease and comfort. Maintenance of the vehicle is inevitable from the start of transportation history, it evolves with the technology periods from their on age to information age .Now, we are heading towards automation age, which the vehicle maintenance needs technology upgradation. Imagine that if you can predict faults and failure of parts in your vehicle before it even happens, sending real-time data of your vehicle? health to your service centre, having information of your vehicle on your palm.

In this project we are monitoring vehicle parameters like engine cool an temperature, vibration level, engine oil level etc. these data are read by micro controller named NODEMCU then the same data is sent to IOT server so that the user can see the vehicle owner can see the exact of the vehicle.

**B,MOUNIKA(20RH1A0431) CH.LAKSHMIPRASANA(20RH1A0443), B.NEELIMA (20RH1A0426)**

## LOCKER GUARD SAFETY SYSTEM

Protect your Locker or Briefcase from theft using this pocket sized gadget. It Gives a loud police siren to catch attention. The circuit uses a single IC and a few discrete components. It works on the Principle of light detection by LDR. When the unit is in dark, LDR cease to Conduct and the alarm generator does not get power supply and it remains idle. When someone tries open the door of the locker, C1 charges via LDR. When the Voltage in C1 raises to 3.1 volts, Zener conducts and gives power to IC UM 3561. It is a ROM IC that can generate different tones based on its pin Connections. Here a police siren is selected by keeping pin6 floating. R1 Determines the oscillation of IC. 220K (R1) is a must to give correct tone.C1 Provides a lag of two minutes, so that the user gets sufficient time to disarm the Unit.



**S.SREEHITHA(20RH1A04M6)**

MEMORABLE EVENTS

**ONE WEEK FACULTY DEVELOPMENT PROGRAMME ON  
SIGNAL PROCESSING AND COMMUNICATION SYSTEMS USING MACHINE LEARNING TECHNIQUES  
during 6<sup>th</sup> to 10<sup>th</sup> Feb, 2023**



**PARENT TEACHER MEET**



**DEPARTMENT OF ECE ACCREDITED BY NBA - 3<sup>rd</sup> TERM**

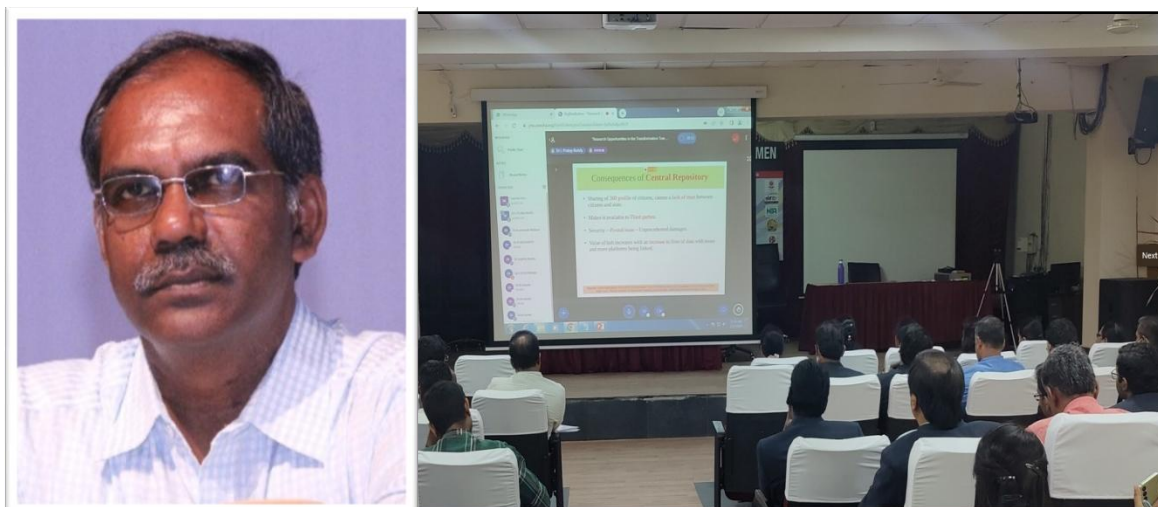
DEPARTMENTS OF  
**CSE | ECE | IT | EEE**  
for Accredited by



### E-SUMMIT 2K23



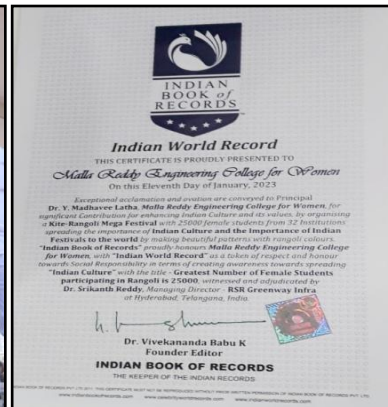
### EXPERT LECTURE ON RESEARCH OPPORTUNITIES IN THE TRANSFORMATION TOWARDS DIGITAL ECO SYSTEMS by **Dr.L. Pratap Reddy**, Professor(ECE), JNTUH





INDIAN WORLD RECORD

Exceptional acclamation and ovation are conveyed to Principal Dr. Y. Madhatee Latha, Malla Reddy Engineering College for Women for significant contribution for enhancing Indian Culture and its values, by organising a Kite-Rangoli Mega Festival with 25000 female students from 32 Institutions spreading the Importance of Indian Culture and Indian Festivals to the World.



THE ANNUAL RECOGNITION OF 'TOP WOMEN'S COLLEGE IN INDIA - 2022 BY WOMEN ENTREPRENEUR INDIA MAGAZINE



DR. Y. MADHAVEE LATHA

Principal, Malla Reddy Engineering College for Women  
**A GUIDING LIGHT FOR AMBITIOUS YOUNG GIRLS OF THE NATION**

“ Apart from the technical skill development, we also focus on the students' life skills, here, we are into developing their all-round personality that includes their softskills, leadership abilities, attitude and communication abilities because we have several students coming in from rural areas as our college is known for the security and safety and at the same time great skill development and settlement for students

There are people who say, and then there are people who do. The harsh reality being when it comes to women empowerment, the former outnumbers the latter. Yet there are visionaries, who know what to do and how to do it. Education indeed has the power to change it all to make the society realize that a woman is equal to a man in each and every aspect of life. Be it education, be it professional life or be it family. This comes a dose need for educational institutions that support the Beti Padhao Beti Bachao (Educate a girl child Save a girl child) movement launched by the central government and is determined to change the poor of view of the patriarchal Indian society. Founded in 2008, Malla Reddy Engineering College for Women (MRECW) does not only stand testimony to the rising status of women in the country, but also helps them realize their true worth and the successful future they can have with the right opportunity. Women Entrepreneur India engages in a conversation with Dr. Y. Madhatee Latha, Principal, MRECW in order to know more about

the institute and the core philosophies it is governed by.

how the institution has grown over the years. Institution was established in 2008 with intake strength of 300 and right now we have an intake of 3000. We have established the institution with a great vision visualizing a great future for the intelligentsia by imparting state of the art technologies in the field of engineering and technology for the bright future and prosperity of the students and specially in other world class training to the promising engineers and in this regard basically, we are emphasizing in offering technical expertise to students through various certification courses apart from their regular academic course. We also have established several technical clubs in our college related to all the trending technology areas wherein the students have hands on experience from experts in that particular technology, they can develop their own products as well and able to participate and perform good in Hackathons not just in India but worldwide.

Malla Reddy Engineering College for Women (MRECW, Autonomous Institute) The Women Empowerment world does not only stand testimony to the rising status of women in the country, but also helps them realize their true worth and the successful future they can have with the right opportunity.

## INAUGURATION OF G-CELL



## EFFECTIVE TEACHING STRATEGIES & METHODS



## TECH TALK BY HITACHI



### ALUMNI MEET – 2K23



### NATIONAL LEVEL HACKATHON – 2K23



### VILLAGE SURVEY UNDER NSS UNIT I & II



### MUSICAL SHOW BY

Arun Kaudinya – Sathyabhama Swathi

Saketh & Team



### INNOVATIVE PROJECT EXPO



### SANKRANTHI CELEBRATIONS



### GUEST LECTURE ON WOMEN ENTREPRENEURSHIP



### TECH TROPHY – 2K23



## ALUMNI TALK



Ms. V. Akarsha

Senior Business Value Strategist

SERVICENOW - USA

2015 Passed out

**College Infrastructure:** Good college with nice infrastructure and an excellent architecture design. All the security measures were taken by the college management for the women safety. Beautiful greenery garden is maintained all over the campus. Classrooms with smart boards, projector and internet is available.

**Academics** Good academic area with experienced faculty. Faculty and other staff members are available to the students. And also the availability of good laboratories with experienced technicians with up to date maintainance. Awareness programs were conducted on workshops and we're are also subjected to gain knowledge and better skill development.

**Placements** I'm proud to say that our college management is showing special interest towards students placements in campus drives. And the proper guidance is given by the experienced professors to the students to crack the interview. Almost 100% of students in every year is being placed in good companies with expected annual packages.

**Campus Life** Secured measures for women safety is taken. Pleasant atmosphere to study. All the basic facilities availability.

**Others** Safe and secure with bright future



Ms. Ranga Santhoshi

Senior Software Engineer

CAPGEMINI

2020 Passed out

**Good infrastructure and facilities. Good placement.**

**Placements:** The highest package is 20 Lacs per annum and the lowest is 4 Lacs. Top companies will recruit from our course and there is maximum placement from our course.

**Infrastructure:** The infrastructure in our college is great and the facilities are also good. The classrooms are digital and sports activities are conducted every week to choose the best player, and the canteen environment is also good. Wi-Fi and the labs are great and the library is also good.

**Faculty:** The exams are conducted seriously and strictly. The students have an industrial visit once a month and they can interact with specialists. The teachers are really helpful

## IMPORTANT WEBSITES

[www.ieee.org/india](http://www.ieee.org/india)  
[www.engineering.careers360](http://www.engineering.careers360)  
[www.technologyreview.com](http://www.technologyreview.com)  
[www.mathworks.in/products/matlab/](http://www.mathworks.in/products/matlab/)  
[www.microwaves101.com/](http://www.microwaves101.com/)  
[www.ece.utoronto.ca/student-life-links](http://www.ece.utoronto.ca/student-life-links)  
<https://www.ece.org/>  
Science Commons.org  
MathGV.com:  
<http://www.engineeringchallenges.org/>  
<http://engineering.stanford.edu/announcement/stanford-announces-16-online-courses-fall-quart>  
<http://www.tryengineering.org/>  
<http://www.engineergirl.org/>  
<http://www.discoverengineering.org/>  
<http://www.eng-tips.com/>  
<http://efymag.com>  
<http://efymagonline.com/>  
<http://electronicsforu.com>  
[www.dspguide.com](http://www.dspguide.com)  
[www.howstuffworks.com](http://www.howstuffworks.com)  
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<http://www.opencircuitdesign.com/>  
<http://www.futuresinengineering.com/>

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# TECHNITRONIX



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