MARCH 2022-2023

KARPAGAM
COLLEGE OF ENGINEERING
Rediscover | Refine | Redefine
Accredited by NAAC with 'A+' grade
Autonomous | Affiliated to Anna University
(An ISO 9001:2015 and ISO 14001:2015 Certified Institution)

THE MODERN ART OF ELECTRONICS

Department of Electronics and Communication Engineering

About Our Institution

The Karpagam College of Engineering (KCE), established in the Year 2000, is an Autonomous institution, Approved by AICTE, NewDelhi and Affiliated to Anna University, Chennai. The college offers various Under Graduate and Post Graduate Engineering programmes. The College is accredited by NAAC with 'A' Grade, NBA, TCS and Wipro with 4500 students and 426 teaching and non-teaching staff members, KCE strives to impart quality education and offers an excellent career start to all its students.

The Training and Placement facilities add a feather to its cap ensuring the students get placed on campus. The 10 Centers of Excellence strive to impart practical and experimental exposure to the students and serve as a window to the corporate world.

KCE is situated at Myleripalayam, 15Kms from Coimbatore Central Railway station. The serene location is surrounded by green fields and rich clusters of coconut groves creates a calm atmosphere conducive to learning and growth. Infrastructure with well-equipped laboratories and libraries, well maintained Play grounds, Hostels, Food Court, Gymnasium and an Indoor Stadium.

Vision

To become one of the best institutions at the National and International level by incorporating innovative teaching -learning methods to enable the students to secure a high-value career, motivate to pursue higher education and research to serve the society.

Mission

- To bring out knowledgeable engineers and professionals in their field of specialization by having qualified and trained faculty members and staff besides necessary infrastructure and to create highly conducive teaching and learning environment.
- To work in close association with stakeholders by way of enhanced industry – institute interaction, to take up need-based research and industry specific programmes.
- To organize co-curricular and extracurricular activities for character and personality development to produce highly competent and motivated engineers and professionals to serve and lead the society.

About the Department of Electronics and Communication Engineering

The embryonic formation of the Department of Electronics and Communication Engineering was in the year 2000 with the introduction of an undergraduate program B.E., (ECE). The Department has been accredited by the National Board of Accreditation (NBA). The Department has evolved over the time and grown in multiple domains and provides a nurturing academic environment and presently offers 1 UG and 2 PG programmes.. Apart from four years B.E course, the Department also offers two full time M.E courses (VLSI Design and Communication Systems) and Anna University approved Ph.D Research Centre to expand the scope of research focus of the department

Students pursuing B.E in ECE have a full and flexible undergraduate curriculum. Numerous streams can be tailored to fit every individual's interests, skills and career goals. ECE has gained a reputation for producing top-notch engineers for industry and academia.

Postgraduate study in ECE prepares students for leadership roles in research, development and design positions that require skill and imaginative engineering solutions.

The major areas of faculty expertise of the department include Biomedical Signal Processing, Communication Systems, Computer networks, Control Systems, Digital Signal Processing, Image Processing, Instrumentation, RF and Microwaves, Microstrip Antennas, Optoelectronic and Optical Communication, VLSI Design, Wireless Communication, Embedded Systems and MEMS.

The Department has Centers of Excellence in the field of VLSI Design, Embedded Systems, Communication and Networks and Signal Processing. The Department has signed MoUs with leading industries and organizations for establishing collaborative research, conducting Workshops, Seminars and for organizing International Conferences. Professional associations such as ECE association and IEEE student chapter are developed for professional interaction

Vision

To provide innovative teaching and learning methodologies for excelling in a highvalue career, higher education and research to the students in the field of Electronics and Communication Engineering to meet the needs of the industry and to be a part of the advancing technological revolution.

Mission

- To create engineers of high quality on par with international standards by providing excellent infrastructure and well qualified faculty.
- To enhance the collaborative and multidisciplinary activities to develop human and intellectual qualities.
- To provide technical expertise to carry out research and development.

BATCH: 2020
MOHANASITHARTH M

HERO MOTOCROP

Hero MotoCorp has launched Hero Dirt Biking Challenge (HDBC), the first-of-its-kind pan-India talent-hunt programme by an OEM (original equipment manufacturer). The objective of the national competition is to offer a programme for aspiring riders, enthusiasts, and amateurs who wish to pursue their passion for off-road racing and establish themselves in the In order to identify the best amateur off-road riders in India, Hero reports that the HDBC would visit as many as 45 cities. The prize for the winner and the two runners-up will be the well-known Hero Xpulse 200 4V motorcycle, together with endorsement deals worth Rs 20 lakh from Hero MotoCorp. In November 2022, HDBC will also be streamed on Voot and shown on MTV.

TThe Hero MotoSports squad Rally, the only Indian squad to ever win a stage at the Dakar Rally, will also have the opportunity to teach participants in the HDBC. The top competitors and coach will train with Hero MotoSports Team Rally riders Ross Branch, Joaquim Rodrigues, Sebastian Buhler, and Franco Caimi.

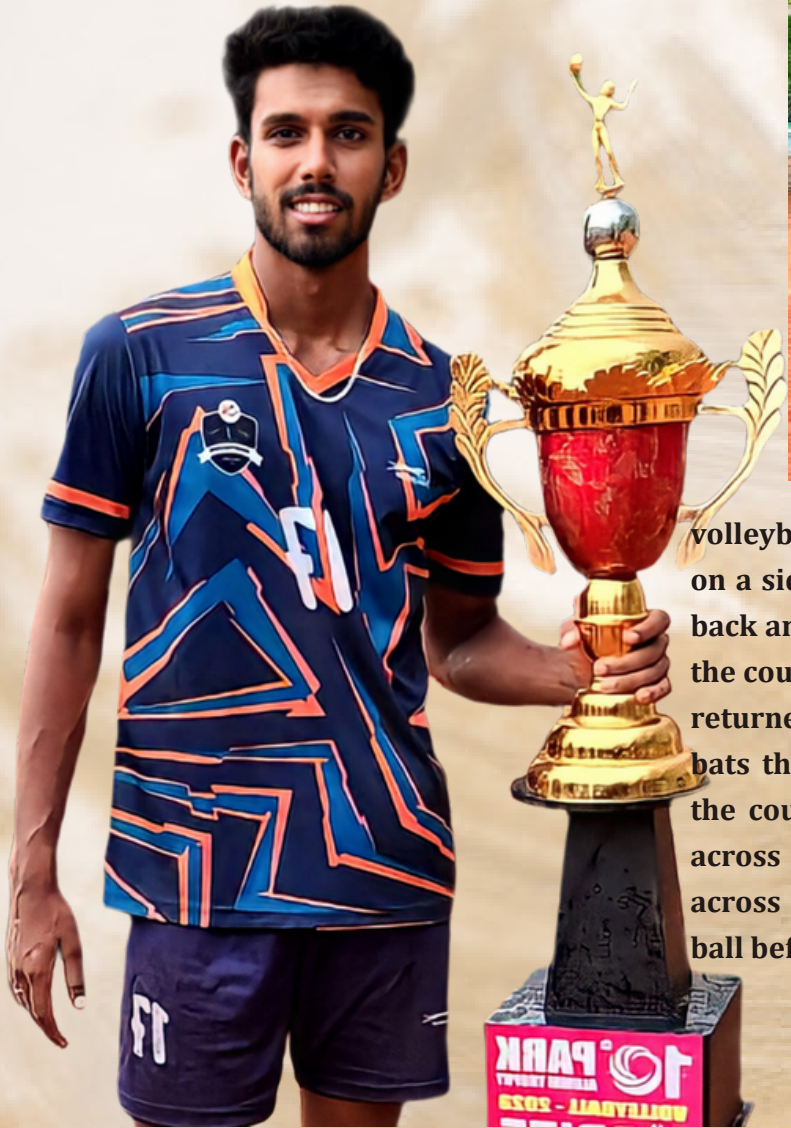
MohanaSitharth M
20L229 ECE-B

BATCH: 2020
SANJAY S

SPORTS

VOLLEYBALL

Volleyball was invented in 1895 by William G. Morgan, physical director of the Young Men's Christian Association (YMCA) in Holyoke, Massachusetts. It was designed as an indoor sport for businessmen who found the new game of basketball too vigorous. Morgan called the sport "mintonette," until a professor from Springfield College in Massachusetts noted the volleying nature of play and proposed the name of "volleyball." The original rules were written by Morgan and printed in the first edition of the Official Handbook of the Athletic League of the Young Men's Christian Associations of North America (1897). The game soon proved to have wide appeal for both sexes in schools, playgrounds, the armed forces, and other organizations in the United States, and it was subsequently introduced to other countries.



volleyball, game played by two teams, usually of six players on a side, in which the players use their hands to bat a ball back and forth over a high net, trying to make the ball touch the court within the opponents' playing area before it can be returned. To prevent this a player on the opposing team bats the ball up and toward a teammate before it touches the court surface—that teammate may then volley it back across the net or bat it to a third teammate who volleys it across the net. A team is allowed only three touches of the ball before it must be returned over the net.

SANJAY S
20L245 ECE-B

SPORTS

BASKETBALL

BATCH: 2020
CHANDRA SEKAR S

Basketball is a team sport in which two teams, most commonly of five players each, opposing one another on a rectangular court, compete with the primary objective of shooting a basketball (approximately 9.4 inches (24 cm) in diameter) through the defender's hoop (a basket 18 inches (46 cm) in diameter mounted 10 feet (3.048 m) high to a backboard at each end of the court), while preventing the opposing team from shooting through their own hoop. A field goal is worth two points, unless made from behind the three-point line, when it is worth three. After a foul, timed play stops and the player fouled or designated to shoot a technical foul is given one, two or three one-point free throws. The team with the most points at the end of the game wins, but if regulation play expires with the score tied, an additional period of play (overtime) is mandated.

The object of the game is to outscore one's opponents by throwing the ball through the opponents' basket from above while preventing the opponents from doing so on their own. An attempt to score in this way is called a shot. A successful shot is worth two points, or three points if it is taken from beyond the three-point arc 6.75 metres (22 ft 2 in) from the basket in international games and 23 feet 9 inches (7.24 m) in NBA games.A one-point shot can be earned when shooting from the foul line after a foul is made. After a team has scored from a field goal or free throw, play is resumed with a throw-in awarded to the non-scoring team taken from a point beyond the endline of the court where the points were scored.

CHANDRA SEKAR S
20L210 ECE-B

SPORTS

CRICKET

BATCH: 2020
BARATH K

CRICKET

cricket, England’s national summer sport, which is now played throughout the world, particularly in Australia, India, Pakistan, the West Indies, and the British Isles.

Cricket is one of many games in the "club ball" sphere that basically involve hitting a ball with a hand-held implement; others include baseball (which shares many similarities with cricket, both belonging in the more specific bat-and-ball games category), golf, hockey, tennis, squash, badminton and table tennis. In cricket's case, a key difference is the existence of a solid target structure, the wicket (originally, it is thought, a "wicket gate" through which sheep were herded), that the batter must defend. The cricket historian Harry Altham identified three "groups" of "club ball" games: the "hockey group", in which the ball is driven to and from between two targets (the goals); the "golf group", in which the ball is driven towards an undefended target (the hole); and the "cricket group", in which "the ball is aimed at a mark (the wicket) and driven away from it".

In cricket, the rules of the game are specified in a code called The Laws of Cricket (hereinafter called "the Laws") which has a global remit. There are 42 Laws (always written with a capital "L"). The earliest known version of the code was drafted in 1744 and, since 1788, it has been owned and maintained by its custodian, the Marylebone Cricket Club (MCC) in London.

20L208 BARATH K

SPORTS

BATCH: 2021

KABADDI

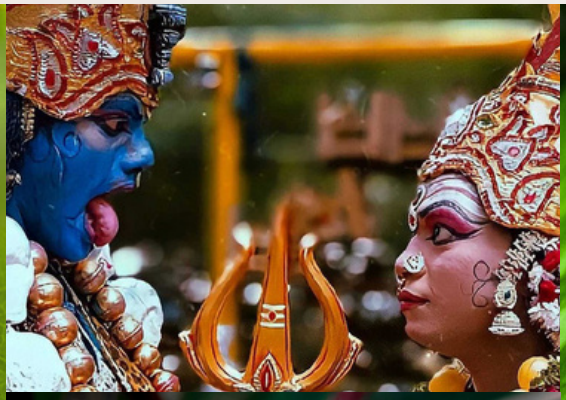
717821L245 SANJAY R

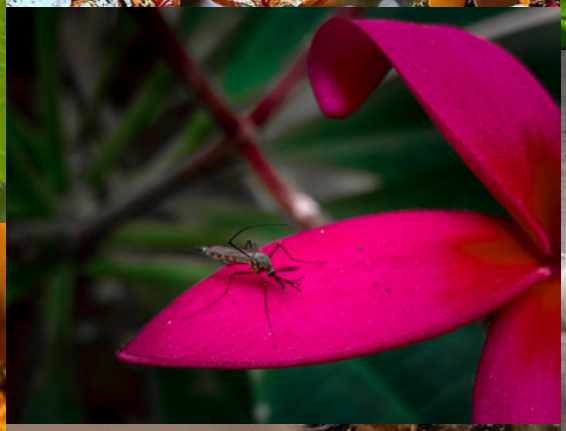
SKILLS

PHOTOGRAPHY

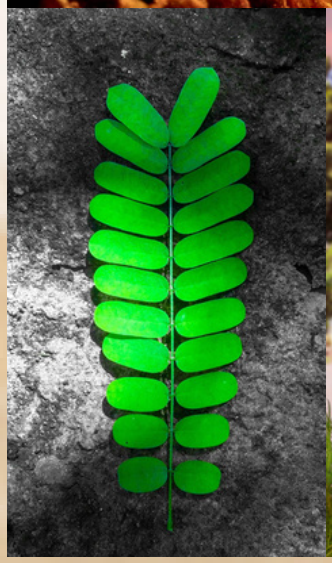
BATCH: 2020

GOPI P







20L214 GOPI P

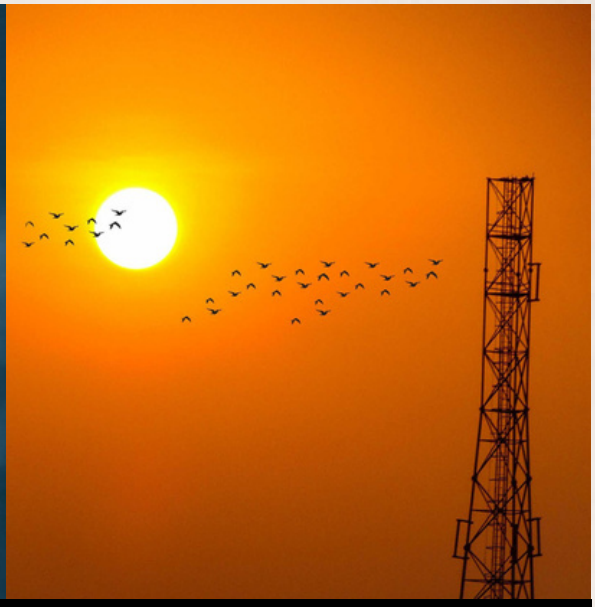
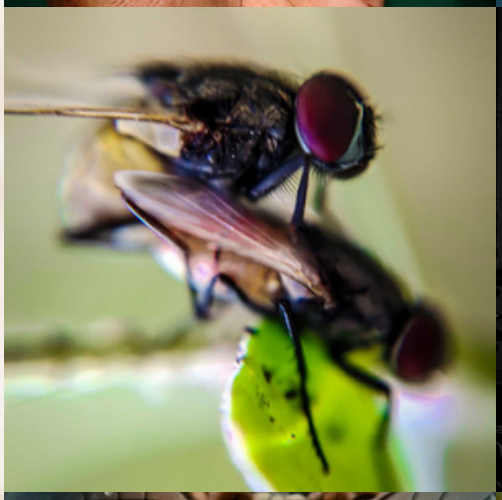
SKILLS

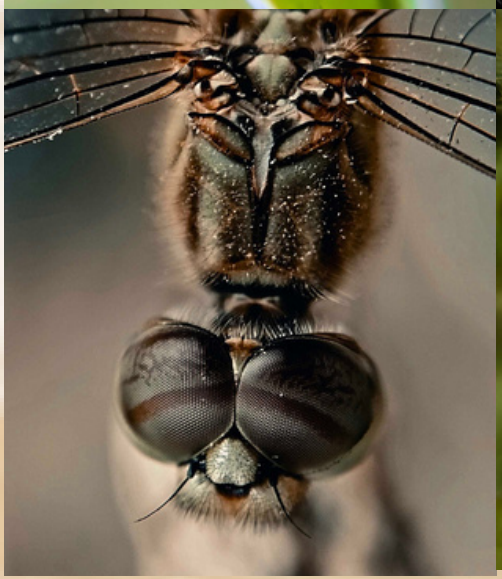
PHOTOGRAPHY

BATCH: 2020

GOPI P



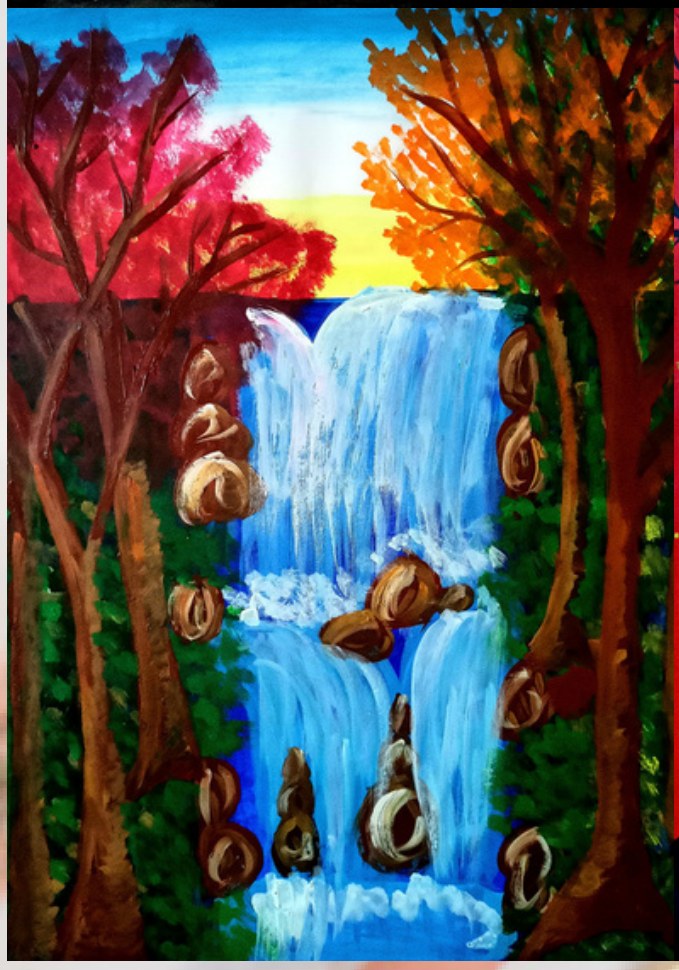



20L214 GOPI P

PAINTINGS

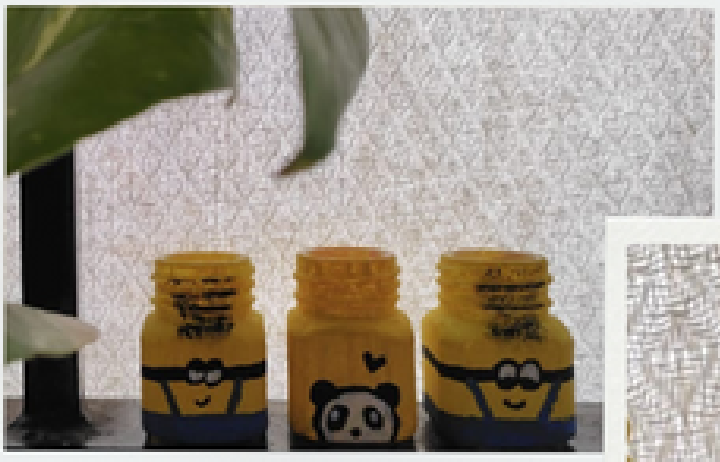
BATCH: 2020
PRIYANKAA R



PAINTINGS

20L239 PRIYANKAA R

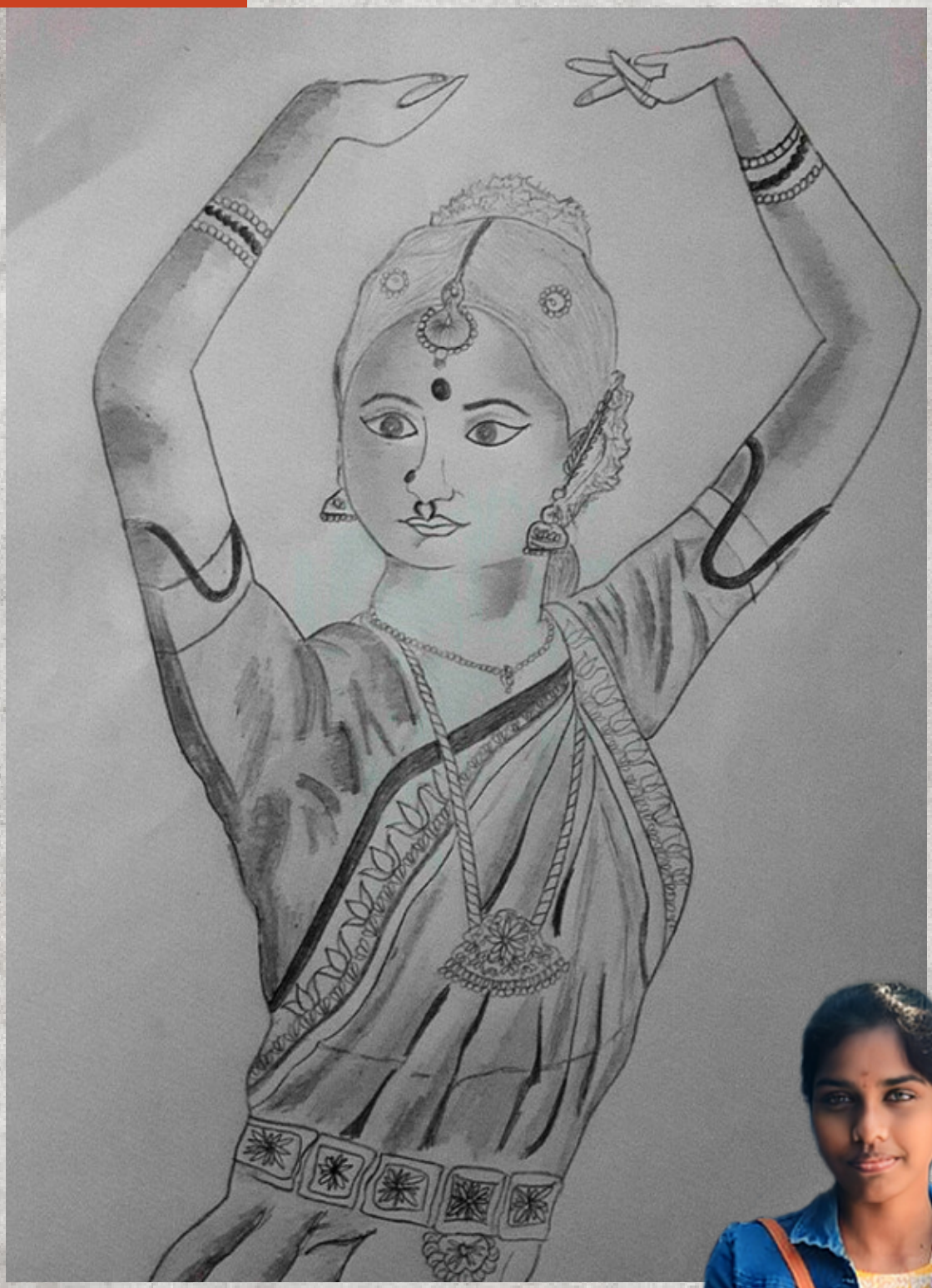
ARTS



20L326 MADHUMITHA A

DRAWINGS

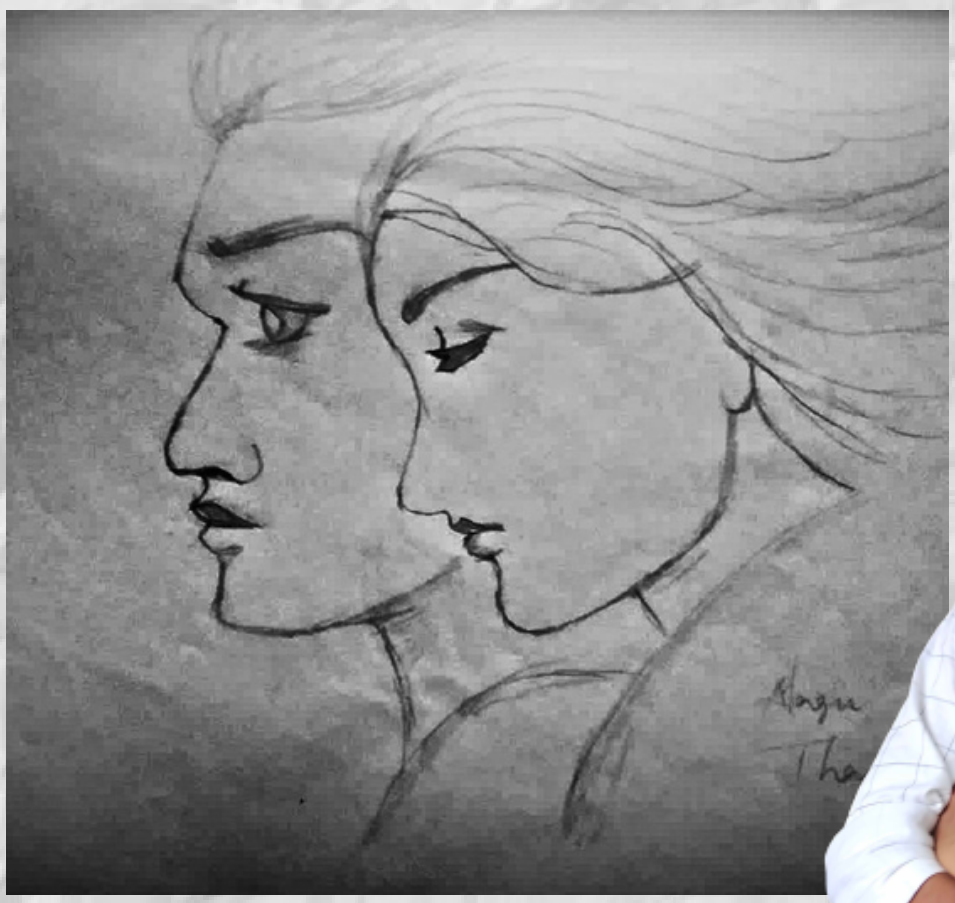
BATCH: 2021



717821L256 SWETHA K

BATCH: 2020
GAYATHRI D

20L314 GAYATHRI D



20L203 ALAGU THANUSH A

20L252 SOUNDARYA S

BATCH: 2021
SUBHASRI V

ISN'T IT?

◥╕ Life is once, Live at all you need
The sky you is not the limit
Touch the Stars and moon
Life near the marine gives A hope and dream
a meaning to life when you choose to be yourself
the elder you are, the clearer you See
And my mind is all set free
A precious and a wildlife
Does it all end so soon?
it was breathing a little and calling it a life
But when I took the baby step to see
the world on my own
I mattered every little thing gives happiness
Life is beautifull, isn't it? ╒◤

717821L255-SUBHASRI V

COLLEGE

In halls of learning, minds unite,
College days so full of light.
Knowledge blooms with every class,
A journey bold, we're made to surpass.

Friends and laughter fill the air,
Chasing dreams without a care.
Lectures, books, and endless debates,
Shaping futures, unlocking gates.

Late-night studies, caffeine's embrace,
Exams and deadlines we fear to face.
Yet through the challenges we grow,
With determination, we'll always glow.

Professors' wisdom, a guiding ray,
Nurturing minds in every way.
Campus bustling, a vibrant scene,
Where aspirations dance, evergreen.

Oh, college life, a fleeting bliss,
A chapter of memories we'll never dismiss.
From struggles to triumphs, we're made whole,
In the story of our journey, heart and soul.

KOUSICSRIKARAN C
IV ECE C

கவிதை

இயற்கை

உலகத்தின் அழகை உயரத்தில் இருந்து ரசித்து
எழில்களின் அழகை எறும்பு போல் கண்டு
கார்மேகத்தை தொட்டு அணைத்து
அதில் நித்தம் மறைந்திட வேண்டும்

கல்லூரி

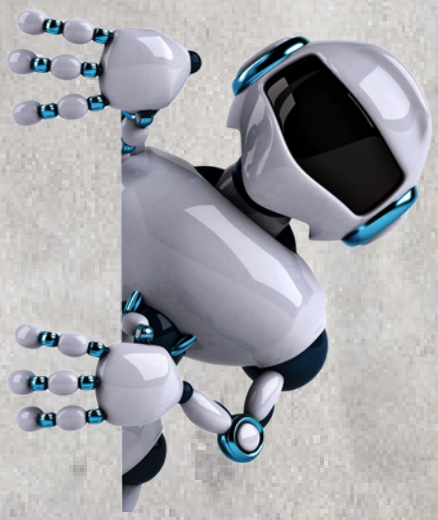
புன்னகை கொண்ட நாட்கள்
கண்ணைக் கட்டி விட்டது போல்
பயத்துடன் அமர்ந்த நாட்கள்
பிரிவினை இன்றி வாழ்ந்த நாட்கள்
முதல் நட்பு தோன்றிய நாட்கள்
முதல் காதலும் வந்த நாட்கள்
சண்டையில் இணைந்த நாட்கள்
உறங்காமல் விளையாடிய நாட்கள்
கண்ணீருடன் மலரும் நாட்கள்
அன்று அவனுடன் வாழ்ந்த நாட்கள்

KARTHIK A
III ECE A

WRITTINGS

ROBOTS

-MILESTONES IN HUMAN HISTORY



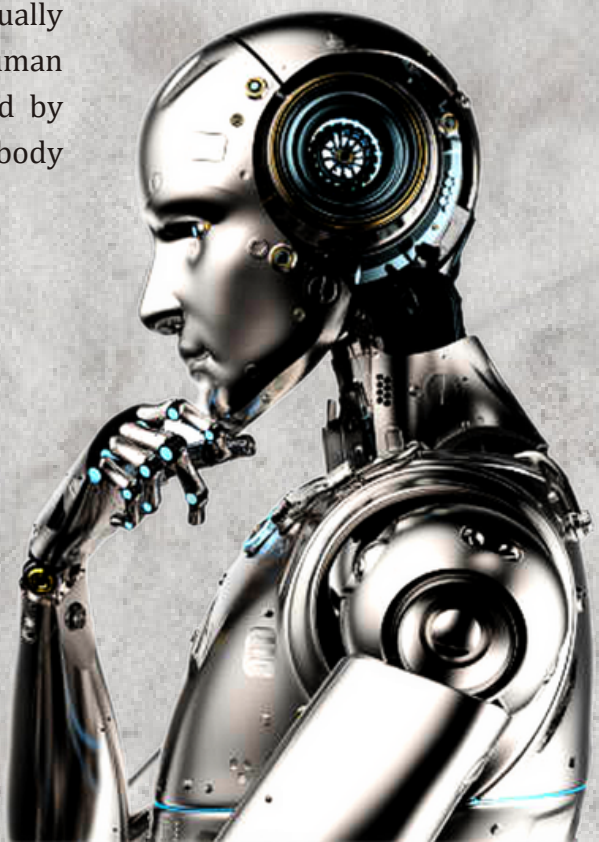
With speech and facial expressions abilities, the ability to read, recognize and respond to human emotions, robots have started interacting with us and have thus become very human friendly. This article traces how they evolved from the ancient "The flying Pigeon" to "The Kirobo".

Today we live in a society where 'Automation' is fast becoming the norm of the day. Whether we like it or not, very soon we are going to be driven to work by a driverless car, received and greeted by a robot receptionist at a hotel, welcomed aboard a flight by a robot crew member and finally taken care by a robotic nurse in a hospital. All these robots are going to look, feel and react like a real human being and these most advanced, self-thinking machines are called 'Humanoid Robotics'. Most importantly, with speech and facial expression abilities, and with the ability to read, recognize and respond to human emotions, these robots will interact with us become very human-friendly.

In 1921, Karnel Capek wrote the play 'Rossum's Universal Robots (RUR), and introduced the concept of 'Robotics' to the public. Followed by Capek, Issac Asimov popularized robotics with his short story collections that were published between 1938 and 1942. But, Asimov's work lead to the entry of robots into the literary and cinematic fictions as man's friend(in the most popular 'Star Wars Series')and unfortunately, frequently as men's enemy too(as in 'Terminator').

Robots can be classified based on their form or design, motion and application. For convenience, robots are categorized based on their application here.

It was in the mid of 1980's, the field of medicine actually took off with surgical robots which were used in human brain surgery and prosthetics/exoskeletons, supported by powered components which allowed for powerful body movements.



Certain robot companies serve as a social partner to patients with mental health issues and are designed to alleviate loneliness or treat mental illness. 'Pepper' is a social-intelligent four foot humanoid robot, designed and developed by Aldebaran Robotics(France) and Softbank(Japan), and respond to human emotions. This is popular piece among companion robots.

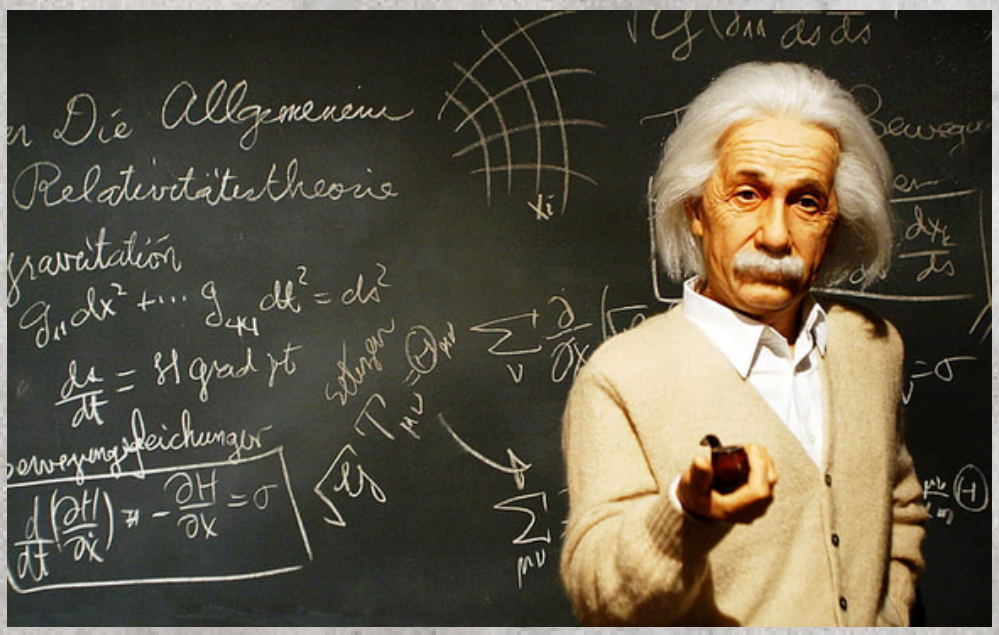
Humanoid robots are now capable of processing millions of Gigabytes of information. The “Ultra-humanoid robots” are particular expertise of a group of engineers in Japan. As robots take care of our more intimate needs, such as personal care giving, human to robot and robot to human interactions will become the central focus of study and philosophical discussion. Much is unknown regarding the ultimate acceptability of robots in intimate settings at work. Comfort and trust are at the core of the use of autonomous robots in healthcare, and safety must be proved. Once the qualifications of optimal design, answered needs, safety, and trust are met, then “Sky is the limit” for robots and robotics.

NARMADHA M
20L333 IV ECE - C

Albert Einstein

He wasn't able to speak until he was almost 4 years old and his teachers said he would never amount too much. He won the Noble Prize in Physics. He developed the Theory of Relativity, one of the two pillars of modern physics.

"In the middle of difficulty, lies opportunity"



Michael Jordon

After being rejected from his High School Basketball team, he went home locked himself in his room and cried for hours. Now, he owns 6 NBA championships and 14 'Most valuable player' awards in Basketball.

"In the middle of difficulty, lies opportunity"

Rowan Atkinson

He was bullied for looking weird. He was rejected many times because of his stuttering disorder. Now, he is the co-creator and actor of the character Mr.Bean.

"To be successful, you don't need a beautiful face and heroic body. What you need is a skillful mind and the ability to perform"

Oprah Winfrey

She lived in extreme poverty and was abused at an early age. She was demoted from her job as a news anchor, because she wasn't fit for television, she became the host of Multi-award winning talk show and now she is one of the most influential women in the world.

"Don't worry about being successful, but work toward being significant and then success will naturally follow"

NISHA M
20L214 ECE B

CRASH DETECTION SYSTEM

INTRODUCTION

Car crash detection is a safety feature that's available on a safety app or can also be built into the car to help protect the loved ones. It's able to sense when a car met with an accident, either as a driver or passenger, and will quickly notify the insurance company, and could also alert the family members or emergency services. They use smartphone location and motion sensor data to detect car crashes in real time when your customers need help. It has been tested in the field, giving the confidence, need to act quickly. These detection system helps in getting a detailed crash report to help reconstruct the crash timeline and accelerate the claim resolution process.

Being one the most successful and trillion-dollar companies, Apple introducing this feature was most welcomed.

IPHONES INTRODUCING THIS FEATURE

The latest generations of Apple Watches and iPhones are here, have these new features. Crash Detection can be called as an advanced version of fall detection. In this, Apple Watch or iPhone detects a car crash and opens an option to use Emergency SOS oniPhone or Apple Watch. When activated, device will share locations and notify emergency contacts and services. This invention took a lot of studying on front, side, rear, and rollover collisions for years to develop an advanced sensor-fusion algorithm in their test labs.To use the feature, Apple Watch uses the help of the data from the built-in gyroscope, motion sensors, accelerometer, microphone, GPS, and barometer readings. Meanwhile, the iPhone also uses its built-in gyroscope, dual-core accelerometer, and data from the supported Apple Watch if connected. And for the customer's privacy concerns, the data won't be leaked anywhere outside but will be stored inside your device, which is also encrypted.

WHAT DOES CAR CRASH DETECTION DO?

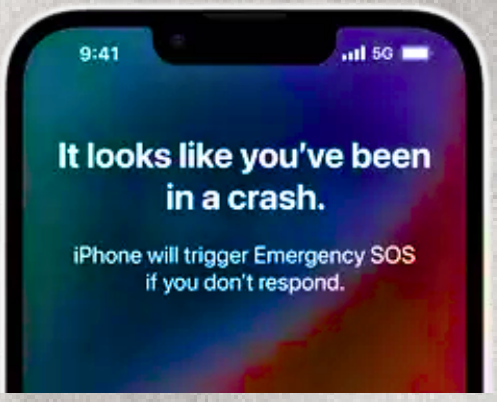
The functionality of car crash detection depends on what type of sensor installed-either as a safety app on Android or iPhone or built into the car itself. Each application and service have different functionality, but they all work to help after a car accident. Crash detection systems enable a dispatcher to talk to directly to determine if they should send out emergency services. Or have a dispatcher contact through a phone call, or via a text. If fails to respond then, they'll initiate an emergency response to precise location.

These systems detect road accidents, using data from accelerometers, gyroscopes, and GPS transmitters installed in insured's car. These sensors are part of the equipment of all tele devices. The system monitors beacons, 12V, OBD, and smartphones. The data can also come directly from devices fitted on the production line by car manufacturers.

The device connects to the smartphone app via Bluetooth. If it detects G-force that may indicate an accident or a collision, it alerts a dedicated insurer's unit within seconds. The alert includes the location of the vehicle, based on the GPS data.

EFNOL (ELECTRONIC FIRST NOTICE OF LOSS)

Immediately after the crash, long before the policyholder files an official claim, the insurer receives the first information about the potential accident. This immediate, automatic notification allows to record participation in a traffic incident and takes it into account in the risk scoring for future premiums, even if the policyholder settles the claim privately, without informing the insurer.



CONCLUSION

In these recent days, technology has always been the backbone of human evolution. More than the lifestyle they enhance our way of living. Engineering Innovations in medical science is the most welcomed things in these days. In that line of order, there is this new system called crash detection. A system that fails to detect a crash would be a disaster, just imagine an airbag failing to deploy when needed! For a driver, a crash is a rare event that must be handled precisely, and these accidents can have life-threatening implications and ultimately make a difference in human life. Bringing these into usage will reduce fatal accidents and improvement in mankind.

BLOG SUBMMITED BY

SRUTI P
717821L153, III ECE A

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

•**PEO1:** Graduates will be able to comprehend Mathematics, Science, Engineering fundamentals, laboratory and work based experience to formulate and solve problems related to the domain and shall develop proficiency in computer based engineering and the use of computational tools.

•**PEO2:** Graduates will be prepared to communicate and work team based on the multidisciplinary projects practicing the ethics of their profession with a great sense of social responsibility.

•**PEO3**: Graduates will recognize the importance of lifelong learning to shine as experts either as entrepreneurs or as employees and thereby broadening their professional knowledge.

PROGRAMME OUTCOMES (POS)

GRADUATES WILL HAVE

•**PO1:** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems

•**PO2:** Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

•**PO3:** Design/ Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

•**PO4:** Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

•**PO5:** Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

•**PO6:** The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

•**PO7:** Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

•**PO8:** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

•**PO9:** Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

•**PO10:** Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

•**PO11:** Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

•**PO12:** Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOS)

GRADUATES WILL HAVE

•**PSO1:** Good knowledge and hands-on competence to solve emerging real-world problems related to Electronic Devices and Circuits, Communication Systems, Digital Systems, and Electro-magnetics.

•**PSO2**: Demonstrate proficiency in specialized software packages and computer programming useful for the analysis/design of electronic engineering systems and profession.

KARPAGAM
COLLEGE OF ENGINEERING
Rediscover | Refine | Redefine
Accredited by NAAC with 'A+' grade
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