SARANATHAN COLLEGE OF ENGINEERING
PANJAPPUR , TRICHY

DEPARTMENT OF

ELECTRONICS AND COMMUNICATION ENGINEERING

Accredited by NBA

Proudly Presents

WIZARDZZ-V.14

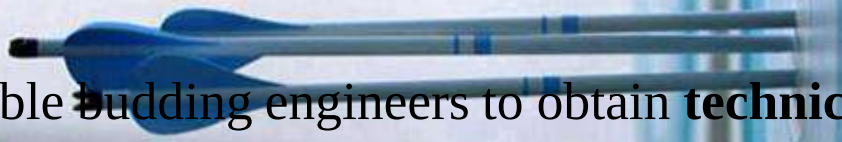
2K19 MARCH


VISION
MISSION

Vision of the Department

- To become a leading department of Higher Learning and a Research Center of Excellence in Research in Electronics and Communication Engineering.

Mission of the Department



1. **M1:** To enable budding engineers to obtain **technical exposure** in various areas of Electronics and Communication Engineering.
2. **M2:** To nurture **career improvement**.
3. **M3:** To initiate and sustain **research activities** in the department in cutting edge areas of Electronics and Communication Engineering.
4. **M4:** To develop **professional and ethical attitude** in the students.

Program Educational Objectives (PEOs)

Graduates of Electronics and Communication Engineering will

- **PEO1:** have a **strong foundation** in the required **sciences** in order to pursue studies in Electronics and Communication Engineering.
- **PEO2:** have a **broad exposure** to the students in various topics related to Electronics and Communication Engineering fields, to enable them to excel in their professional career / higher studies.
- **PEO3:** possess **innovative skills** in order to solve the technical problems which will arise in their professional life.
- **PEO4:** have **professional and ethical** attitude and an ability to visualize the engineering issues in a broader social context.

PROGRAM OUTCOMES (POS)

Engineering Graduates will be able to:

1. **Engineering knowledge**:

   Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2**. 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.

3. **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.

4. **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.

5. **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.

6. **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.

7. **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.

8. **Ethics**:

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and team work**:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. **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.

11. **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.

12. **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 of Electronics and Communication Engineering will be able to:

PSO1: Comprehend and demonstrate the principles and concepts of Semiconductor theory, Signal Processing & Embedded systems in the fields of Consumer Electronics, Medical Electronics and Defense Electronics.

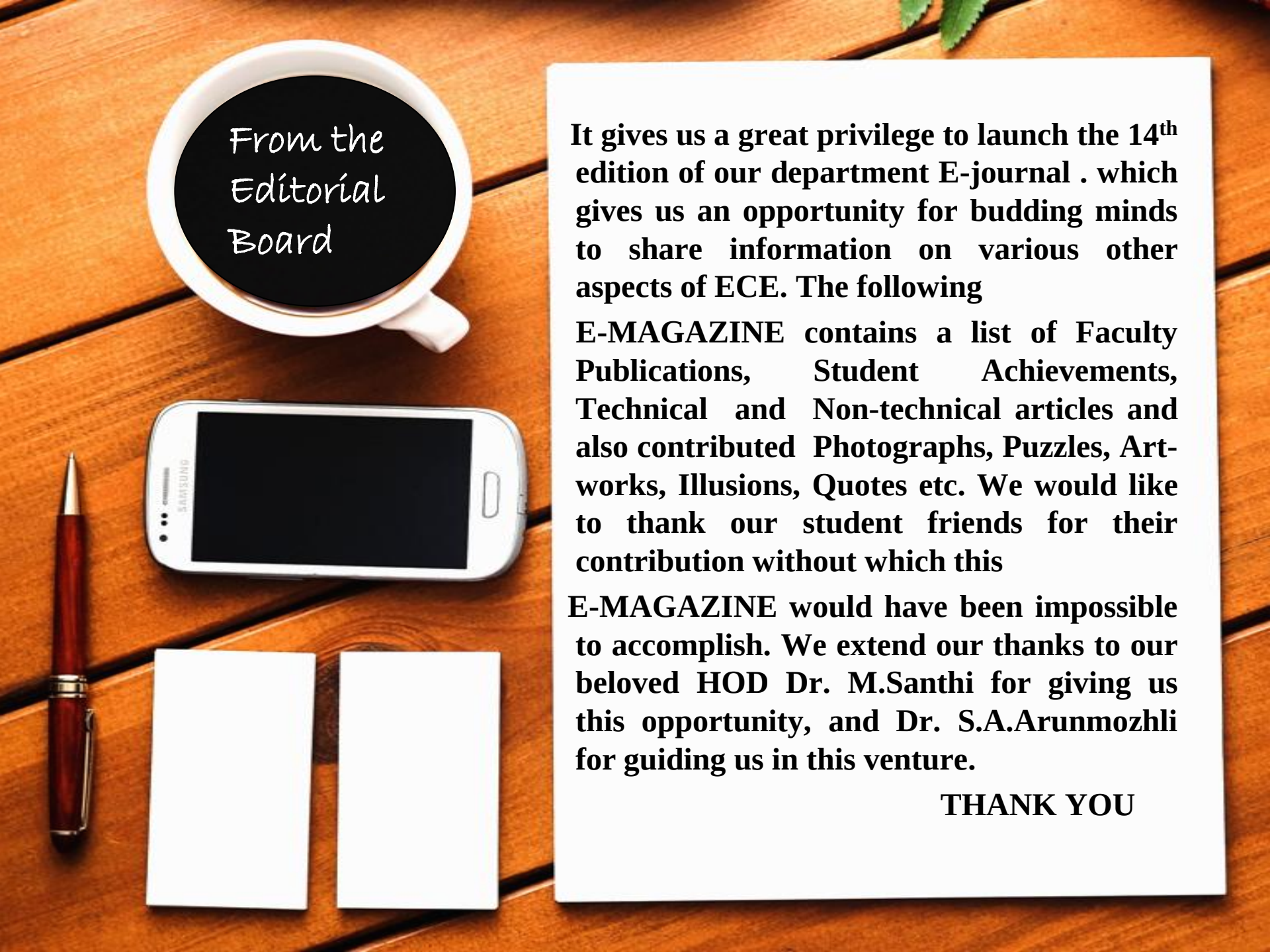
PSO2: Apply emerging Information and Communication Engineering Techniques to solve real time problems.


HOD'S
DESK

FROM THE HOD'S DESK

I am very enchanted that our ECE department is releasing our department e-magazine version. 14 named "WIZARDZZ V.14"for the even semester of 2018-2019. Department of ECE has been releasing e-magazine once per semester since October, 2012.This e-magazine is surely a channel to prove the hidden talents of both our faculty members and our students not only in technical but also in literature. Our ECE Department aims at keeping students abreast of the current technological trends and due consideration is also paid to enhance their skills in communication, fine arts, etc. I hope this e-magazine provides an opportunity to the students and faculty members to lend free expression to their pioneering and imaginative thoughts. This e-magazine plays an active role in gaining latest developments in the field of Engineering and also presents the achievements of the department. This e-magazine would surely help in building our promising Engineers to become expertise in the field of Electronics and Communication Engineering. This e-magazine is the window to our departmental activities . This e-magazine includes a wide range of facts, riddles, quotes , paintings and some informative and inspirational articles apart from technical articles. A flower makes no garland. This magazine is not the outcome of the effort put in by an individual . I extend my sincere thanks to the persons who have contributed to this issue and enhance its perfection and beautification through their articles. I congratulate the entire editorial team for their hard work and dedication that has resulted in the publication of this issue of our department e-magazine WIZARDZZ V.14. I wish them All the Best for all their future accomplishments.


EDITOR'S
DESK



It gives us a great privilege to launch the 14th edition of our department E-journal . which gives us an opportunity for budding minds to share information on various other aspects of ECE. The following

E-MAGAZINE contains a list of Faculty Publications, Student Achievements, Technical and Non-technical articles and also contributed Photographs, Puzzles, Art-works, Illusions, Quotes etc. We would like to thank our student friends for their contribution without which this

E-MAGAZINE would have been impossible to accomplish. We extend our thanks to our beloved HOD Dr. M.Santhi for giving us this opportunity, and Dr. S.A.Arunmozhli for guiding us in this venture.

THANK YOU

FUNDED PROJECTS

Funded Project by TNSCST

- Project proposal titled "Recognition of Ancient Tamil Characters from Epigraphical Inscriptions using OCR Technique" submitted to **TNSCST under Student Project Scheme** by Ms. Merline Magrina.M (2nd year M.E. Communication Systems) under the **guidance of Dr.M.SANTHI** has been selected for the amount of Rs.7500/- on 18-02-2019.
- Project proposal titled "Intelligent Image based Pest Monitoring and Controlling System for Agriculture using IoT" submitted to **TNSCST under RFPS Scheme by Ms.B.Divya (Full Time Research Scholar)** under the **guidance of Dr.M.SANTHI** has been shortlisted and presentation was given in TNSCST, Chennai. Expecting for the result.


Faculty
publications

HOD's Publications

- G.Prathiba, **Dr.M.Santhi**, "Design and Implementation of Reliable Flash ADC for Microwave Applications", **International Journal on Microelectronics Reliability, Elsevier**, 2018 **(SCI Indexed).**
- Poornima.N, **Dr.M.Santhi** , Seetharaman.G, "Design of Crosstalk Prevention Coding scheme based on Quintuplicated Manchester error correction method for Reliable on chip Interconnects", **International Journal of Advances in Electrical and Computer Engineering, vol.18, no.4, 2018, pg.113-120 (SCOPUS Indexed).**
- Divya.B and **Dr.M.Santhi**, "SVM-Based Pest Classification in Agriculture Field", **International journal of recent technology and engineering**, E-ISSN : 2277 - 3878, **(Scopus Indexed).**

- Merline Magrina M, and **Dr.Santhi M** , "Recognizing ancient Tamil characters from Epigraphical Inscriptions using OCR", **IEEE** 3rd International Conference on Communication & Electronic Systems (**ICCES**).
- Merline Magrina M, and **Dr.Santhi M** , "Ensemble Classifier System for Offline Ancient Tamil Character Recognition", 4th International Conference on Current Research in Engineering, Science and Technology (ICREST-2019) on 8th March 2019 .
- **Dr.M.Santhi**, "Ancient Tamil Character Recognition from Epigraphical Inscriptions using Image Processing Techniques" in the National Conference on Cutting Edge Technologies on Communication, Signal Processing and Networking at Saranathan College of Engineering on 15th and 16th March-2019.
- **Dr.M.Santhi,** "Quantum Dot Cellular Automata Based Public Key Cryptography" in the National Conference on Cutting Edge Technologies on Communication, Signal Processing and Networking at Saranathan College of Engineering on 15th and 16th March-2019.

- **Dr.M.Santhi,** "Fall Droid- An Automated Fall Detection Smart Phone Based" in the National Conference on Cutting Edge Technologies on Communication, Signal Processing and Networking at Saranathan College of Engineering on 15th and 16th March-2019.
- **Dr.M.Santhi,** "Automated Diagnosis of Acute Lymphoblastic Leukemia using a Supervised Classifier" in the National Conference on Cutting Edge Technologies on Electrical, Communication and Soft Computing Techniques at Saranathan College of Engineering on 14th March-2019.

- Ms.S.Jayanthi,Dr.C.Vennila "Advanced Satellite Image Classification of Various Resolution Image Using a Novel Approach of Deep Neural Network Classifier" Wireless Personal Communications, published online :October 2018. SCI .
- Ms S.Revathy, Dr.C.Vennilla " All in one wireless speedometer with NFC for two wheelers" in XV th International conference on Recent Trends in Engineering Science and Management (ICRTESM'18)-Osmania University for International Program, Hyderabad 20th , November-2018.
- Dr.C.Vennila , "Reliable Radio Environment Map for Efficient Spectrum Sensing In CRN" , National Conference on Cutting Edge Technologies on Communication, Signal Processing and Networking at Saranathan College of Engineering on 15th and 16th March-2019.
- Dr.C.Vennilla, "Speech Recognizing document Writer Using Arduino", National Conference on Cutting Edge Technologies on Communication, Signal Processing and Networking at Saranathan College of Engineering on 15th and 16th March-2019.

- Ms R.Devi & Ms V.Ramya titled "Smart irrigation using Ardinuo and cloud computing" in the National Conference on "Cutting Edge Technologies on Communication,Signal Processing and Networking, held at Saranathan College of Engineering on15th and 16th March 2019.
- Ms V.Ramya & Ms R.Devi "A novel method for the development of skin color based face detection and gender classification"-conference at Sri Venkateswara Engineering College, Chennai on 8th March 2019.
- Ms R.Devi, Ms V.Ramya, " Smart irrigation using Ardinuo and cloud computing ", Two days national conference on cutting edge technologies on communication ,signal processing and networking, held at Saranathan College of Engineering on 15th and 16th March 2019.
- Mr M.Sridharan, Ms R.Devi, Ms Dharshini, Ms Bavadharani "IOT based performance monitoring and control in counter flow double pipe heat exchanger-elsevier IOT, Volume5,March 2019.

2019

SMART INDIA HACKOTHON 2019

Techies team from our college with team leader SRI SWARNA G, and members T.Sakthi, K.Swathi, K.Keerthana and K.Rajalakshmi of II ECE guided by Mr. Sriraman Balaji and Mr. Ganapathiraman won the Smart India Hackathon with the cash prize of Rs.1 Lakh, held at Graphic Era University, Dehradun. Out of 2.2 Lakhs teams applied for SIH 1,100 teams selected for Grand Finale held at 48 centers across India.

SIH 2019 WINNERS


Inplant
Training

INPLANT TRAININGS

1. G.Nithya,R.Jamuna , Second ECE A attended Inplant Training in All India Radio,Trichy from 10.12.18 to 14.12.18.
2. M.Jerald Joel, B.Josheph Brighton and V.S.Harikrishnan,, Third ECE A attended 4 days Inplant Training in BHEL Trichy during the month of December, 2018
3. P.Anusiyaa, R.Hemamalini and M.Claudius Grace,Third ECE A attended Inplant Training in All India Radio,Trichy from 10.12.18 to 14.12.18.
4. A.Keerthana, Third ECE A attended Inplant Training in BSNL,Trichy for 1 week during the month of December, 2018
5. M.Jerald Joel, B.Joseph Brighton ,R.Ganesh and V.S.Harikrishnan, Third ECE A attended 5 days Inplant Training in CodeBind Trichy during the month of December 2018.

ACHIEVEMENTS

- **M. Claudius Grace and P.Anusiyaa** of third ECE A secured **2nd** PLACE in PROJECT PRESENTATION held at Government college of Engineering, Salem.

- **B.Preetha and P.Pavithra** of third ECE B secured **1st** PLACE in PROJECT PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

- **R.Prathiba and R.Varshini** of third ECE B secured **1st** PLACE in PAPER PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

- **VarunBhaaskar,Jyothi, and Shaile** of second ECE B secured **2nd** PLACE in HACKATHON'19 held at Kottayam,Kerala.

❖ **M. Claudius Grace, P.Anushiyaa** of third ECE A secured **1st** PLACE in MARKETING held at Government college of Engineering ,Salem.

❖ **M.Janani** of third ECE A secured **1st** PLACE in PAPER PRESENTATION held at Excel college of Engineering, Kumarapalayam.

❖ **P.Catherine Joyce, V.Karundeva** of third ECE A secured **1st** PLACE in PAPER PRESENTATION held at Kongu college of Engineering,Erode.

❖**V.Pavithra ,G.Mohsina** of third ECE B secured **1st** PLACE in TECHNICAL CONNECTION held at K.S.Rangasamy college of Technology,Tiruchengode.

- **B.Preetha and P.Pavithra** of third ECE B secured **2nd** PLACE in ELECTRO BLITZ held at M.Kumarasamy college of Engineering, Karur.

- **V.Pavithra and G.Mohsina** of third ECE B secured **1st** PLACE in PAPER PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

- **P.Shalini** of third ECE B secured **1st** PLACE in PROJECT PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

- **K.Shivani** of third ECE B secured **3rd** PLACE in PAPER PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

❖**P.Keerthani** of third ECE B secured **1st** PLACE in CIRCUIT DEBUGGING held at NSN college of Engineering ,Karur.

❖ **S.Sandhiya** of third ECE B secured **1st** PLACE in CIRCUIT DEBUGGING held at M.Kumarasamy college of Engineering ,Karur.

❖**P.Sruthi and R.Swarnaa** of third ECE B secured **1st** PLACE in PAPER PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

❖ **S.Lavanya and P.B.Srinithi** of third ECE B secured **1st** PLACE in PAPER PRESENTATION held at Periyarmaniammai college of Engineering,Tanjore.

❖**S.Lavanya and P.B.Srinithi** of third ECE B secured **1st** PLACE in PROJECT PRESENTATION held at Periyarmaniammai college of Engineering,Thanjavur.

❖ **A.Subbha Priya and S.V.Subiksha** of third ECE B secured **1st** PLACE in PROJECT PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

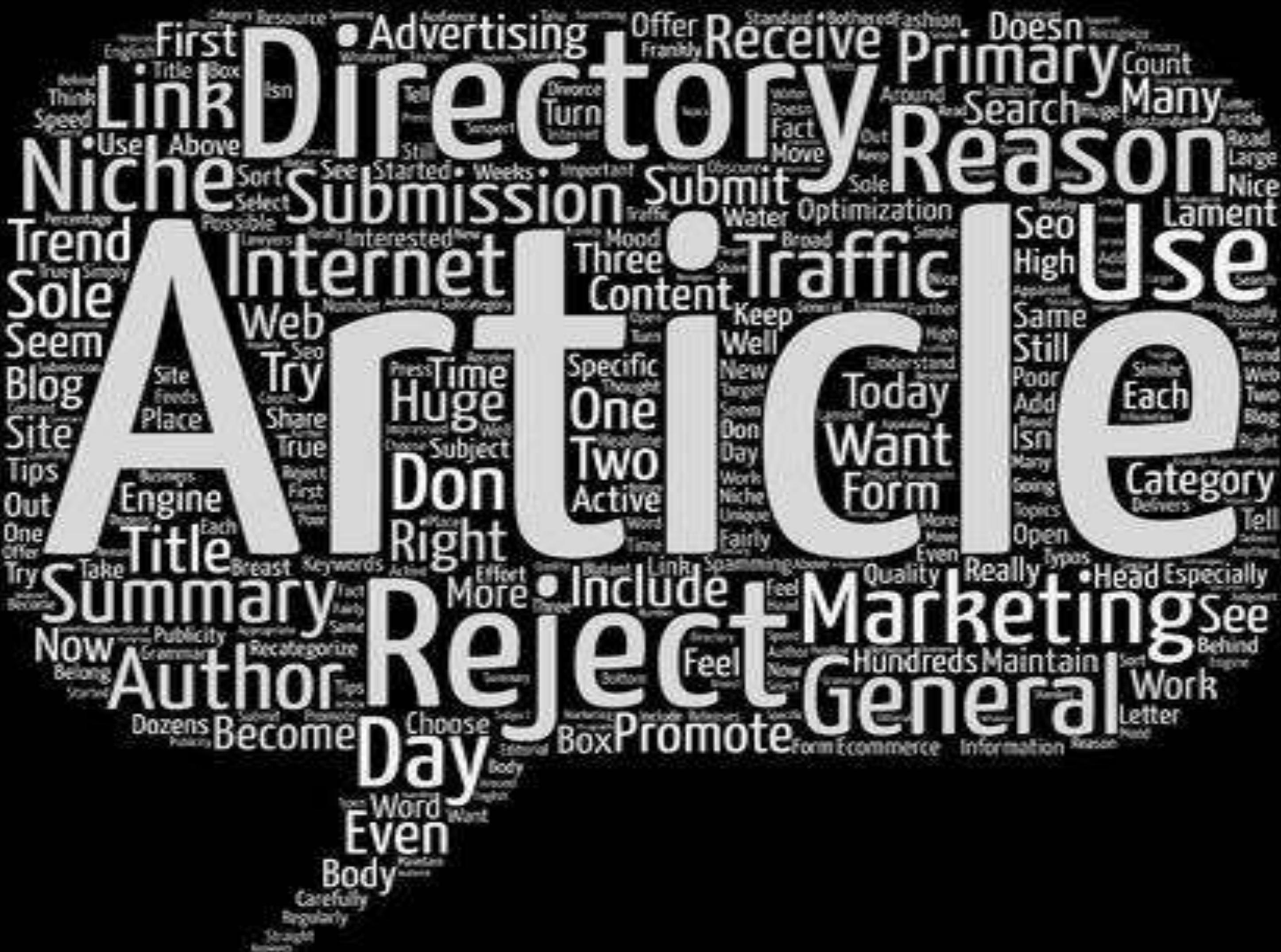
❖**V.Pavithra and G.Mohsina** of third ECE B secured **1st** PLACE in PROJECT PRESENTATION held at M.Kumarasamy college of Engineering, Karur.

❖**S.Kavitha and J.Divya Dharshini** of third ECE A secured **1st** PLACE in PAPER PRESENTATheld at Government college of Engineering ,Salem.


WORKSHOP

Name of the students	Name of workshop	Institution
Varun Baskar V.Jyothi Sivasri Joe Antanie 2nd year ECE	IOT and security	NIT Trichy
Varun Baskar Sowiya K Shaik Ayisha 2nd Year ECE B	Online IOT workshop	Internshala
B.Swathi Priya, K.Swetha, K.PriyaDharshini, S.Rukmani 3rd Year ECE B	Android App Development	NIT Trichy

Name of the students	Name of Workshop	Institution
R.Priyadharshini G.Priyadharshini, S.Sangeetha 3rd ECE B	Embedded System Design	NIT Trichy
P.Anushiya,M.Abinaya, K.Deepika,L.Aarthi, A.Abarna,V.Hebeya, N.Jananie and Kanishka 3rd ECE A	Android App Development	Saranathan College of Engineering
G.Aishwariya Dhevi, L.Navyaa, M.Nivethitha, R.Jayapreetha P.Dhivya Dharshini 2nd ECE A	Ethical Hacking &gaming	Kaasi Infotech Chennai
S.Nivetha,S.Lora Marry, R.S.Navamani, G.Manisha, R.Mahalakshmi, G.Manisha 2nd ECE A	Hackthon	Kaasi Infotech Chennai


Article
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Scandal
Transaction
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Founder
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Testing
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Time
Goal

ORGANIC LED

L.AARTHI
III ECE A

INTRODUCTION:-

OLED, an advanced form of LED, stands for *organic light-emitting diode*. Unlike LED, which uses a backlight to provide light to pixels, OELD relies on an organic material made of hydrocarbon chains to emit light when in contact with electricity.

This is the main reason more and more devices use OLED screens, including Smartphones, wearable devices like smart watches, TVs, tablets, desktop and laptops, monitors and digital cameras. Among those devices and others are two kinds of OLED displays that are controlled in different ways, called *active-matrix* (AMOLED) and *passive-matrix* (PMOLED).

WORKING OF OLED:-

An OLED screen includes a number of components. Within the structure, called the *substrate*, is a cathode that provides electrons, an anode that "pulls" the electrons, and a middle portion (the organic layer) that separates them.

Inside the middle layer are two additional layers, one of which is responsible for producing the light and the other for catching the light.

The colour of the light that's seen on the OLED display is affected by red, green, and blue layers attached to the substrate. When colour is to be black, the pixel can be turned off to ensure that no light is generated for that pixel.

This method to create black is very different than the one used with LED. When a to-be black pixel is set to black on an LED screen, the pixel shutter is closed but the backlight is still emitting light, meaning it never quite goes all the way dark.

OLED Pros:

The refresh rate is much faster since pixel shutters aren't used.

With fewer components, the display, and thus the whole device can remain thin and lightweight.

Black colour is truly black since those pixels can be shut off completely and there isn't nearby lighting from behind that provides a faint glow in that area. This allows for a really high contrast ratio (i.e. the brightest whites over the darkest blacks).

Supports a wide viewing angle without as much colour loss as LED.

The absence of any excess layers allows for curved and bendable displays.

OLED Cons:

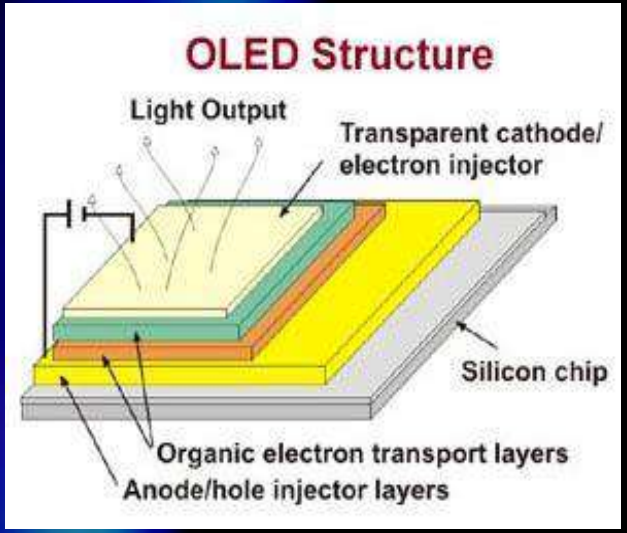
Since part of the display is organic, OLEDs show colour degradation over time, which affects the overall screen brightness and colour balance. This gets worse with time since the material required for making blues decays at a quicker rate than reds and greens.

OLED screens are expensive to make, at least compared to older technology.

Both OLED and LED displays experience screen burn-in if particular pixels are used for too long over a long period of time, but the effect is greater on OLEDs. However, this effect is in part determined by the number of pixels per inch.

More about OLED:

Not all OLED screens are the same; some devices use a specific kind of OLED panel because they have a specific use. Also, because these displays use a thin-film transistor to switch the pixels on/off to display colour, they can even be transparent and flexible, called *flexible OLEDs* (or FOLED).On the other hand, a calculator that usually displays the same information on the screen for longer periods than a phone, and that refreshes less often, can utilize a technology that provides power to specific areas of the film until it's refreshed, like PMOLED, where each row of the display is controlled instead of each pixel. Even some car radios and lamps use OLED technology. QLED is a similar term that Samsung uses to describe a panel where LEDs collide with a layer of quantum dots to have the screen light up in various colors. It stands for *quantum-dot light-emitting diode*.



IOT BASED CAMERA READING FOR BLIND PEOPLE

Ms R.DEVI,
Assistant Professor
Department of ECE

AN OVERVIEW:-

As per the record of World Health organization (WHO), 285 million people are estimated to be visually impaired worldwide among which 90% live in developing countries. Though there are many existing solutions to the problem of assisting individuals who are blind to read, however none of them provide a reading experience that in anyway parallel that of the sighted population. In particular, there is a need for a portable text reader that is affordable and readily available to the blind community. Inclusion of the specially enabled in the IT revolution is both a social obligation as well as a computational challenge in the rapidly advancing digital world today. This work proposes a smart reader for visually challenged people using smart phone app and Bluetooth connectivity. This paper addresses the integration of a complete Text to Speech conversion.

INTRODUCTION:

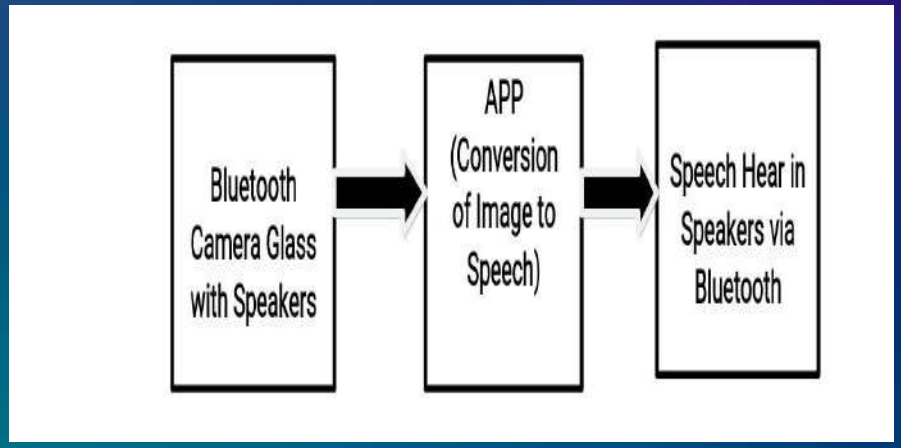
Visually impaired people report numerous difficulties with accessing printed text using existing technology, including problems with alignment, focus, accuracy, mobility and efficiency. We present a smart device that assists the visually impaired which effectively and efficiently reads paper-printed text. A portable device which can be made of camera, smart phone app and Bluetooth connectivity.

OBJECTIVE:

Blindness makes life rather difficult for people who suffer from this vision problem, but the use of technology can help them in some day-to-day tasks. In this context, the present work focuses the development of a photo-to-speech application for the blind. The project is called "Camera Reading for Blind People", and its ultimate purpose is the development of a mobile application that allows a blind user to read text (a sheet of paper , etc.). To achieve that, a set of frameworks of Optical Character Recognition (OCR) and Text to Speech Synthesis (TTS) are integrated, which enables the user, using a smart phone, to take a picture and hear the text that exists in the picture. Compared to recently made speaking system this is portable for the visually challenged people. It is easy to use and good clarity of speech can be achieved.

METHODOLOGY:

The device consists of specs with Bluetooth connectivity, a camera, a smart phone and an app to convert text into speech. Specs is embedded with camera and it already consist of Bluetooth connection. Our camera is used to capture the image of the text. The app which we are going to develop, will convert our captured text into speech. The converted speech is send via the Bluetooth to the specs and speaker in the specs. We use Extreme Programming XP Methods. Here We Use Programming Skills that emphasize on continuous process and programmer welfare. The Device actually works for Blind People as they can read the normal printed books without Braille Method..Here we can see the Equipments required for this device. The block diagram given below.



FUNCTION OF DEVICE:

The Device actually consist of a Bluetooth Glass with Speakers, Camera Embedded into the Specs and an App in smart phone.

First the User should wear the specs, then the Book is Taken and brought into Focus of Camera.

Press the switch of the camera to take the picture of the book, captured image is sent to the Phone via Bluetooth.

The Image Received by the phone is accessed by the Application for Conversion.

The APP is Created using Android Studio and using Python Language, it convert the received text Image into Speech Words.

As the Specs have Speakers and Bluetooth Connectivity, the user can receive the entire information in the image as speech.

This Conversion of Image into Words and from Words to a full Speech is done inside the APP.

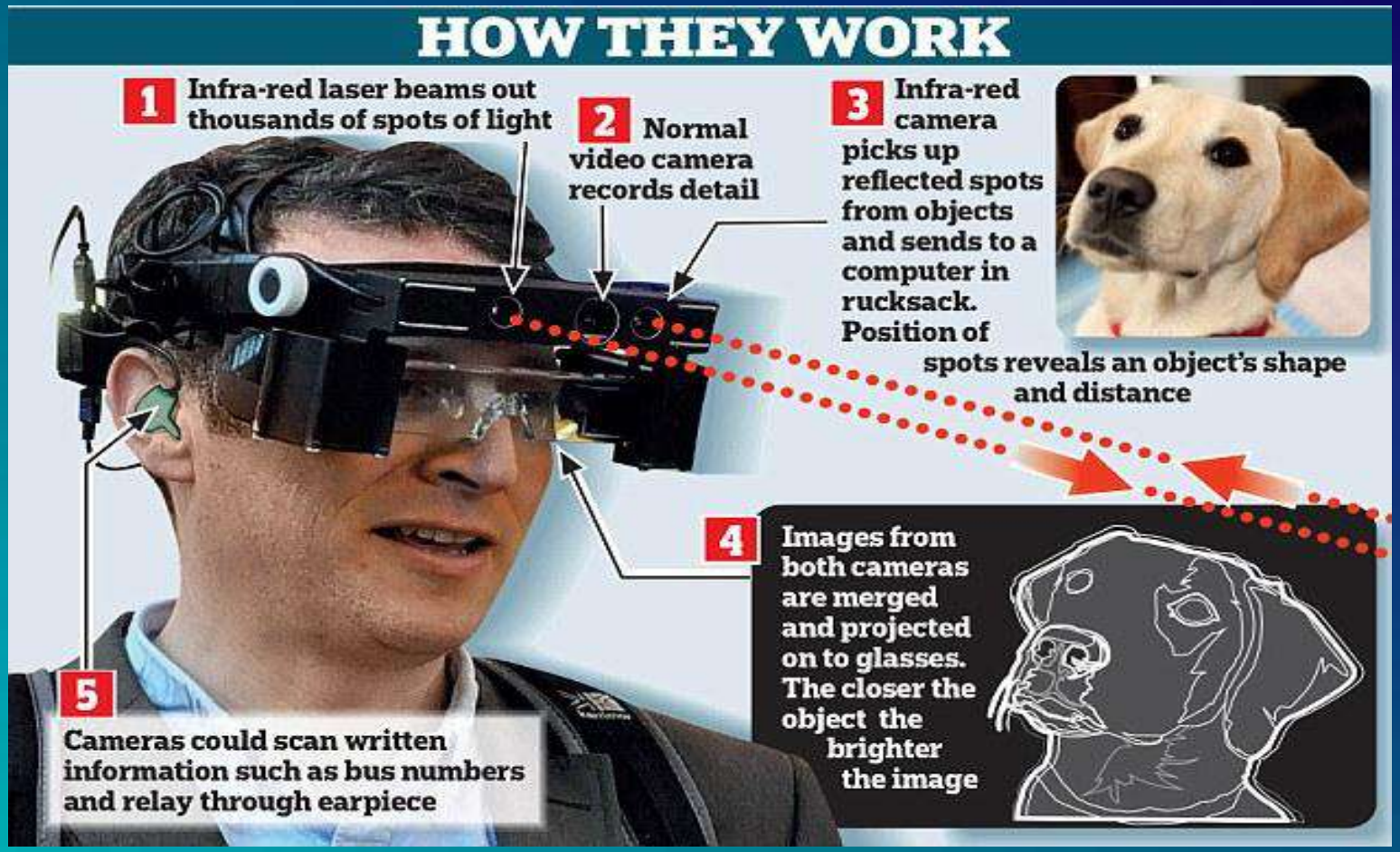
From the APP, the Speech is sent to the Glass Speakers via Bluetooth.

The Glass also has Special Advantage of Answering of Phone Calls via Bluetooth and also to Listen Music.

So it is easy to transfer the Speech into Speakers via Bluetooth.

So the Blind People can now read Normal Books on their Own, without anyone’s Help.

This Device is Portable, so it is easy for them to read in Public Places also.



ARMY BAND

P.Catherine Joyce
III ECE B

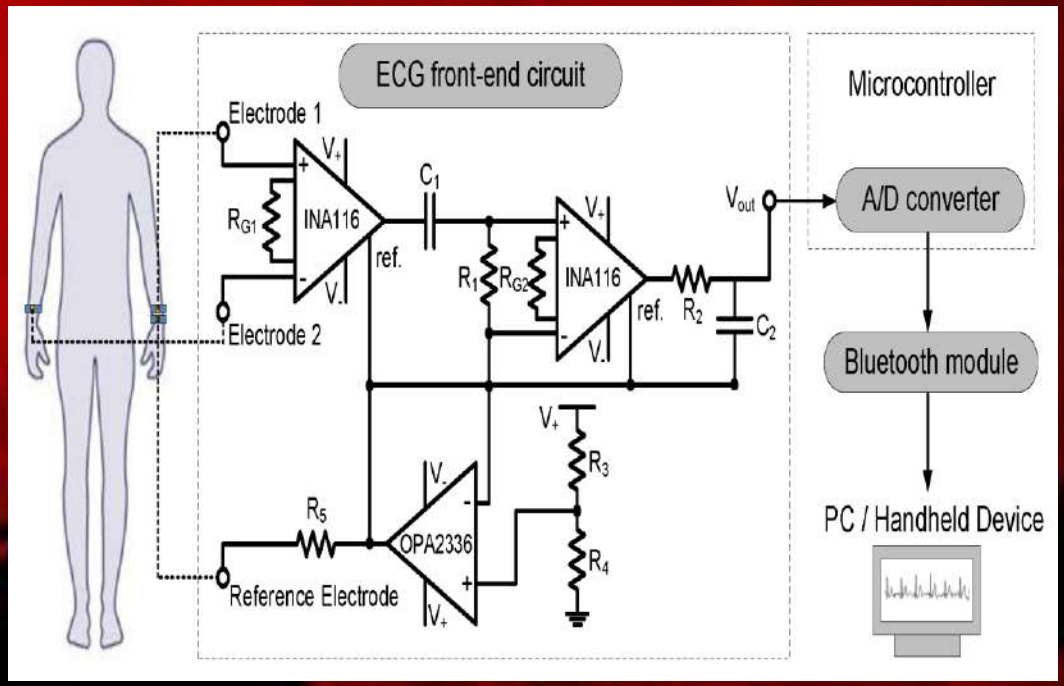
INTRODUCTION:

Military is one of the most important fields in any country. The soldiers are considered to be the real heros of the nation as they sacrifice their lives for our welfare and a very important and vital role is played by them. Technologies have improved to a great extent in the last few years which opens a new pathway to find solutions for some of the major issue of soldiers. The most important problem they face is their health condition which requires constant monitoring. The other problem is keeping in track of their position where they are present and to check it with the country's boundaries. Here we present our idea to solve these problems using IoT and the GPS and GSM technology. By using the location sent by the GPS modem, the base station can understand the position of the soldier which not only checks the safety of the soldiers but also enables the war personnel to plan the war strategies.

DESCRIPTION:-

Here the name of the device that we are planning to design is "ARMY BAND" which contains the small device that can be worn by the soldier. This device consists of the biomedical sensors such as the temperature sensor, pulse rate sensor which will measure the values and store it in the microcontroller memory. The GPS is used here to log the longitude and latitude of the soldier. The GSM unit sends the SMS to the army base camp containing the health parameters and location of the soldiers. In this way all the soldiers can be kept in track. This device also consists extra feature with the help of that soldier can ask for help by typing and sending a 4 digit predefined code from the keypad that is in the device. The battery life for this is also extensive and when the battery is low and needs recharging .It also sends an alert when the battery is low.

This device also consists extra feature with the help of that soldier can ask for help by typing and sending a 4 digit predefined code from the keypad that is in the device. The battery life for this is also extensive and when the battery is low and needs recharging .It also sends an alert when the battery is low. Thus this device is made user friendly and at the same time made economical and easily implementable. The future of this project involves entering the positions of all the soldiers in a map and in the control room the map shows the position of soldiers by indicating them with various colour spots in the map. When this device is completed and brought into use this will serve as an efficient device and create a breakthrough in the field of military and life of soldiers!



ILL EFFECTS OF USING PHONE

Gayathiri
III ECE B

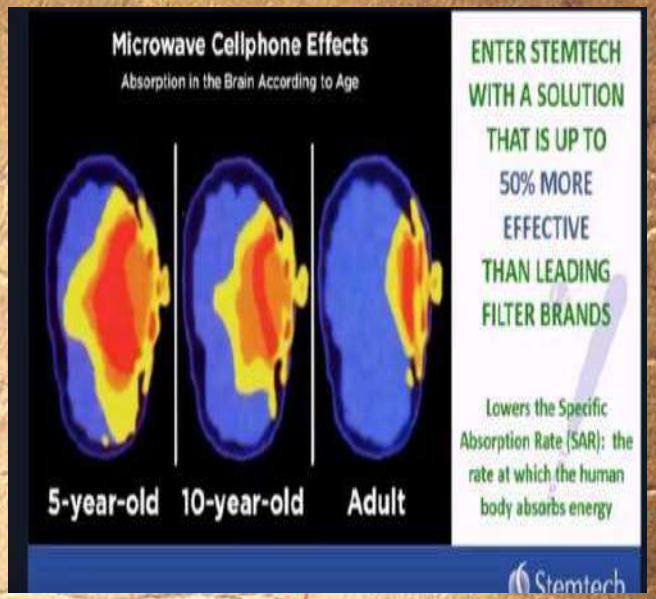
In today's ,fast moving and globalized world it is impossible to imagine our day without cell phones .It was a successful invention of 20th century .It is a convenient means of communication. According to UN telecom agency, about 6 million people use mobile phones, there are 86 gadgets out of 100 people. It is needed both in personal and professional life. It substitutes for music player, camera etc.

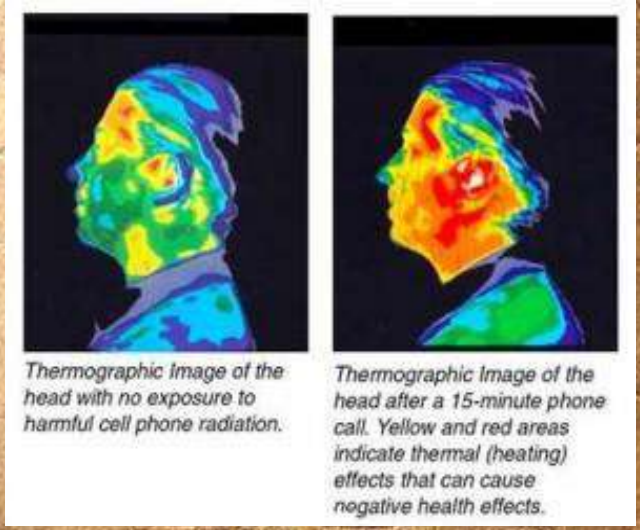
The most menacing problem is the connection between Mobiles and cancer . The people who speak several hours a day on phone are 50% more likely to develop brain cancer. The reason is the radio waves produced by the phones. It is calculated that every minute we receive about 220 electromagnetic pulses which is not harmful in short duration but in long duration it affects the brain. It causes two types of cancer – glaucoma and acoustic neuroma. It also affects the nervous system.

In teenage people, it causes Teen Tendonitis(TTT). It causes pain the hands, back & neck due to poor posture. It can also lead to impaired vision and even arthritis down the line. It increases stress and also results in sleepless nights. Use of mobiles results in headaches, decreased attention, shortness of temper and depression. They lack human contact and want to compensate with mobile communication, which is not adequate substitute for personal interrogation.

Adolescence is not a easy period for young people, it is a vulnerable period. There is a possibility of addiction to mobiles. For them, the real world seems to fade in comparison to long hours of chat and hundreds of messages. These aspects cause psychological problem, as people start to feel uncomfortable in face to face communication. It also leads to fatigue.

There is a certain risk for pregnant women and baby , if they use mobile phones. We should not keep the mobile phone in the pant pockets , it affects the reproductive system. It also leads to cyber-bullying.





Thermographic Image of the head with no exposure to harmful cell phone radiation.

Thermographic Image of the head after a 15-minute phone call. Yellow and red areas indicate thermal (heating) effects that can cause nogative health effects.

HAPIfork

The HAPIfork is an electronic fork that helps you monitor and track your eating habits. It also alerts you with the help of indicator lights and gentle vibrations when you are eating too fast.

V.Dinesh
Assistant Professor
ECE Department

• Why is it important to eat slowly?

- Originally developed by Slow Control for clinical or medical use, medical use, HAPIfork has today the potential to become a must-have utensil for everyone, available in every kitchen
- Since 2002, a series of scientific studies highlighted the negative effects related to eating meals too quickly:
- **Weight gain**: as during the meal, satiety is felt after about 20 minutes. The faster you eat, the more you eat.
- **Digestive problems**: food that is eaten too quickly is often poorly chewed. The work of the digestive tract is made more difficult.
- **Gastric reflux**: several studies have shown that the faster one eats, the more likely the possibility of gastric reflux.
- **Postoperative complications**: eating more slowly lessens the stress on weakened tissues

HAPIfork: Eat slowly, lose weight, feel great!

Eating too fast leads to poor digestion and poor weight control. The HAPIfork, powered by **Slow Control,** is an electronic fork that helps you monitor and track your eating habits. It also alerts you with the help of indicator lights and gentle vibrations when you are eating too fast. Every time you bring food from your plate to your mouth with your fork, this action is called: a "**fork serving**".

The HAPIfork also measures:

* How long it took to eat your meal.

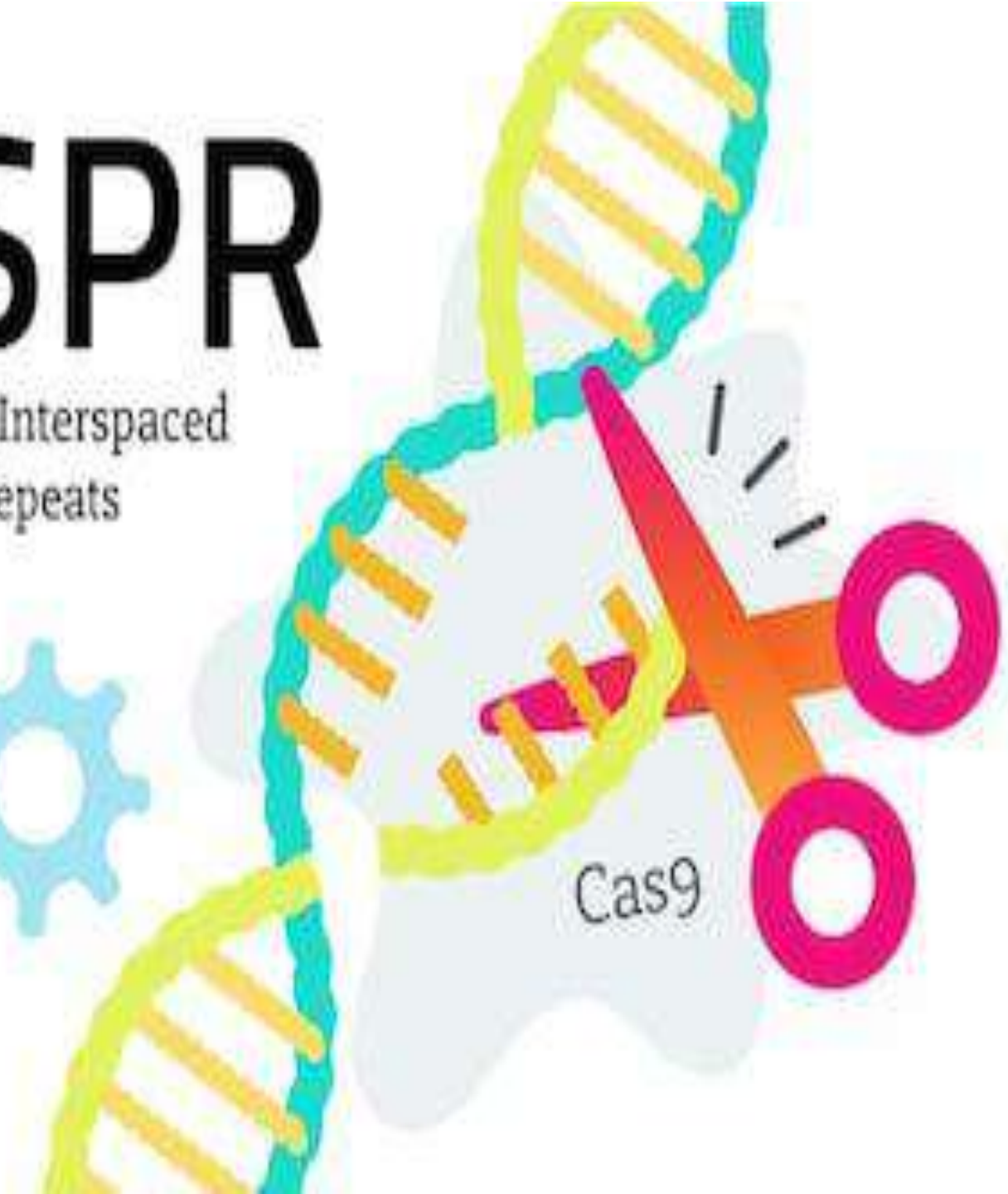
* The amount of "fork servings" taken per minute.

* Intervals between "fork servings".

This information is then uploaded via USB or Bluetooth to your Online Dashboard on HAPI.com to track your progress. The HAPIfork also comes with the HAPIfork and HAPI.com apps plus a coaching program to help improve your eating behavior.

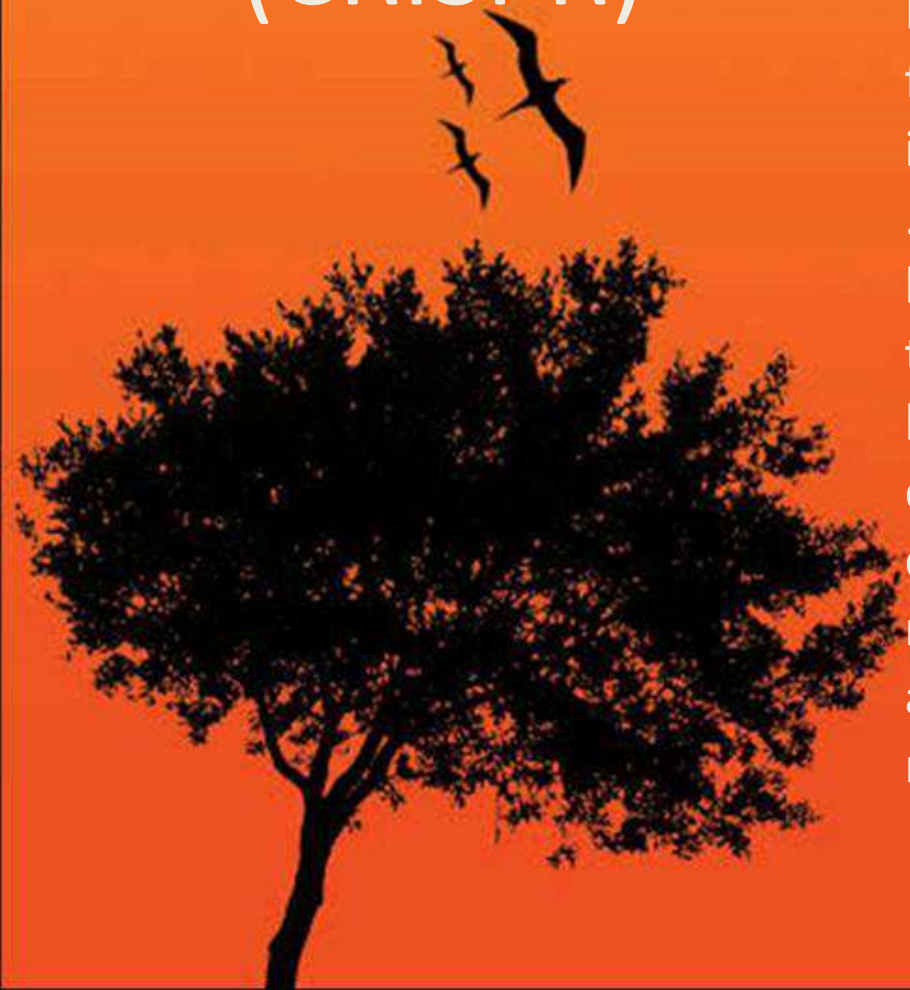
CRISPR

Clustered Regularly Interspaced
Short Palindromic Repeats



K.Deepika
III ECE A

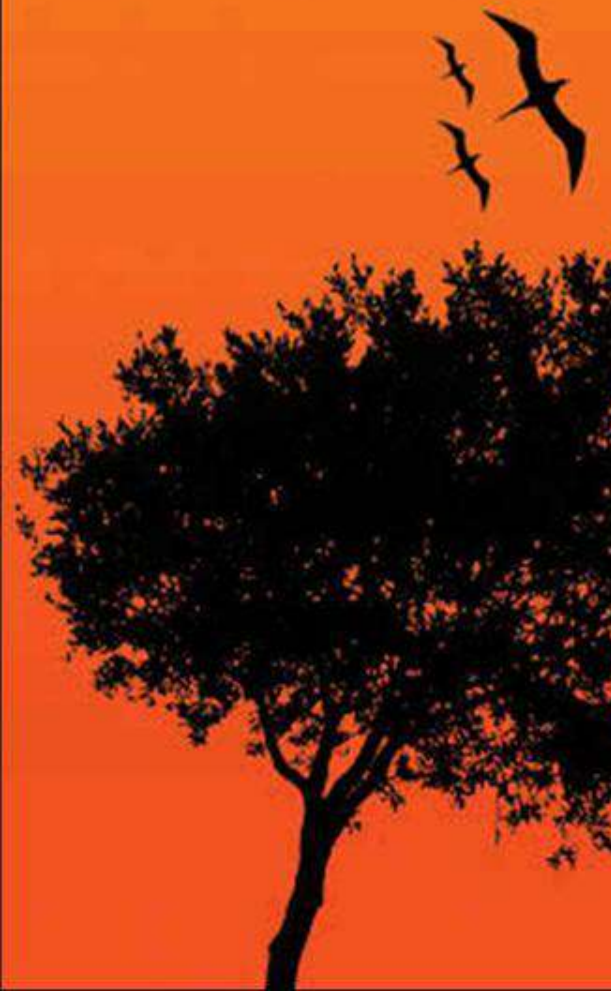
GENOME EDITING (CRISPR)



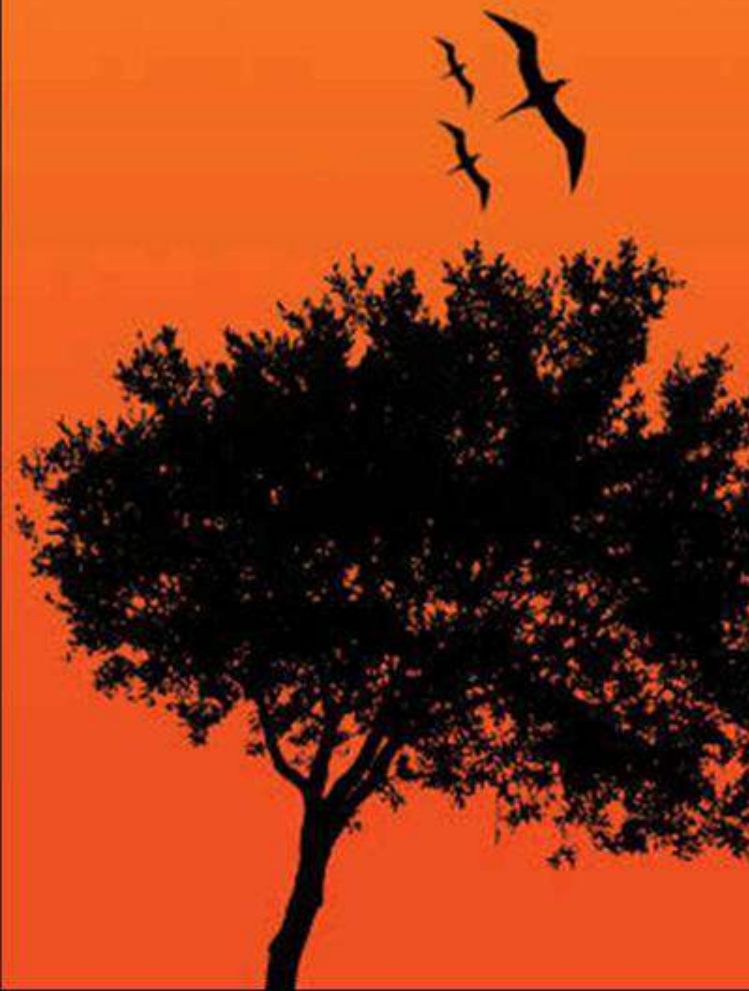
Researchers in China created a pair of monkey in specific genetic mutation .The scientist used a new method of DNA engineering known as CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats).CRISPR allow scientist to modify fertilized eggs .This innovation has great implications in the field of biomedicine .The ability to alter the DNA at specific locations on chromosomes makes it easier to study diseases .Researchers at MIT have expressed interest in studying brain disorders like autism and Alzheimer's disease. CRISPR has the potential to aid researchers studying such ailments allowing them to identify what genetic mutations actually cause the disorders.

CRISPR gene editing ready for testing in humans

Biotech companies plan to use the technique to treat blood diseases and blindness



Ever since scientists began decoding the human genome in 1990, doctors have dreamt of a new era of medicine where illness could be treated or even cured by fixing flaws in a person's DNA. Rather than using medicine to fight disease, they would be able to hack biology to combat sickness at its source. The dream started to become a reality in 2013, when researchers demonstrated how a gene editing technique, known as Crispr-Cas9, could be used to edit living human cells, raising the possibility that a person's DNA could be altered much as text is changed by a word-processor. Now, two biotech companies say they plan to start testing the technology in humans as early as this year . Crispr Therapeutics has already applied for permission from European regulators to test its most advanced product, code-named CTX001, in patients suffering from beta-thalassaemia , an inherited blood disease where the body does not produce enough healthy red blood cells. Patients with the most severe form of the illness would die without frequent transfusions.



The Switzerland-based company says it also plans to seek a greenlight from the US Food and Drug Administration this year so it can trial CTX001 in people with sickle cell disease, another inherited blood disorder. Editas Medicine, Crispr's US-based rival, says it plans to apply for permission from the FDA in the middle of the year so it can test one of its one of its own Crispr gene-editing products in patients with a rare form of congenital blindness that causes severe vision loss at birth. If the FDA agrees, it should be able to commence trials within 30 days of the application. If those trials are successful, Crispr, Editas and a third company, Intellia Therapeutics, say they plan to study the technique in humans with a range of diseases including cancer, cystic fibrosis, haemophilia and Duchenne musculardystrophy.

By
M.CLAUDIUS GRACE
III ECE A

5G – Replacement of Existing Technology

•“ADVANCEMENT IN TECHNOLOGY LEADS TO REPLACEMENT OF EXISTING TECHNOLOGY”. The human race has witnessed a wide range of development in the communication field. In recent days 1G, 2G, 3G and even 4G has been outdated and all these will be replaced by the new emerging technology 5G. Unlike 2G, 3G and 4G mobile networks 5G is digital cellular network, in which the area is divided into small geographical areas called cell. The speech and other signals are generally analog and these are converted to digital by ADC and transmitted as stream of bits to the local antenna array. The frequency channels assigned can be reused in different geographical areas. This concept is same as that of Frequency Modulation. The local antennas are connected with telephone network and the internet by high bandwidth optical fiber, like in 2G, 3G and 4G, when the user crosses from one geographical area to another, the signal is handled by the corresponding antenna.

- The advantage is that it achieved higher data rates up to 10 Gbps. It also has lower network latency below 1ms which makes it to work as general home and office networking provider. This is made possible by using higher frequency radio waves in the millimeter waveband around 28 and 39 GHz. Another technique used is MIMO.The cell has multiple antennas communicating with wireless devices, each over a separate frequency channel received by multiple antennas in the device. Thus 5G network proves to be the productive emerging technology in the network field , first release will be in April 2019.Though it has wide application ,it is sad to notice that it has other harmful effects on living organisms.

S.V.SUBIKSHA
III ECE B

Boldly go in the direction of your dreams. Stand tall and show the world what you are made of. When the world beats you down, find a reason to get back up again. Never give up on success.
Try, try, try and try again. Feed your mind ideas of success, not failure.

Remember, the only way you can fail is if you give up. Every time you fail, you come one step closer to success.

You are not scared; you are courageous.
You are not weak; you are powerful.
You are not ordinary, you are remarkable.
Do not back down, do not give up.

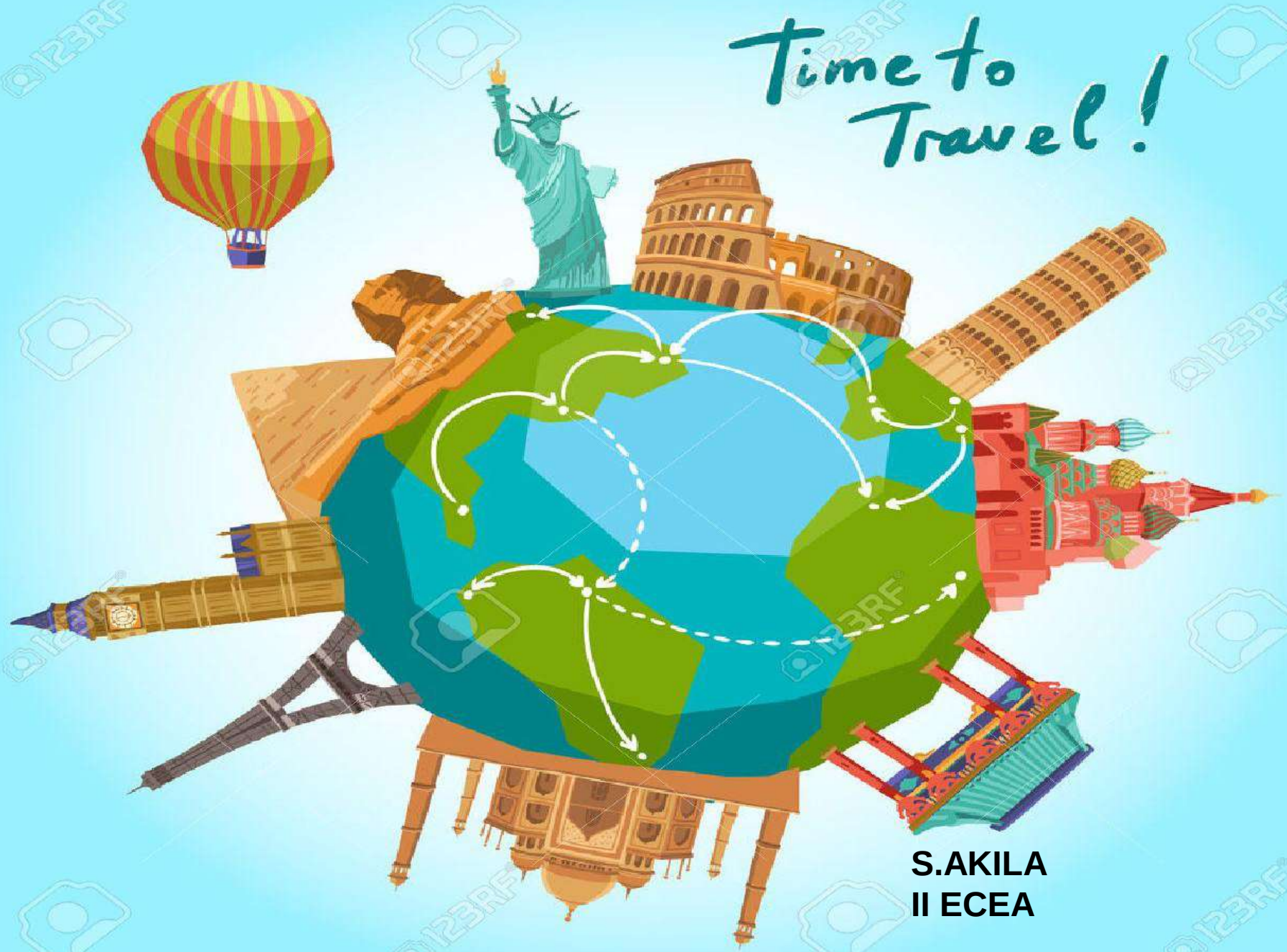
When you look back on your life, don't have regrets. Believe in yourself, believe in your future, you will find your way.
There is a fire burning inside you that is very powerful; it is waiting to burn bright.
You are meant to do great things.
Following your dreams can be both terrifying and exciting. Courage is facing fear.

Fear of failure holds most people back. You are not most people.

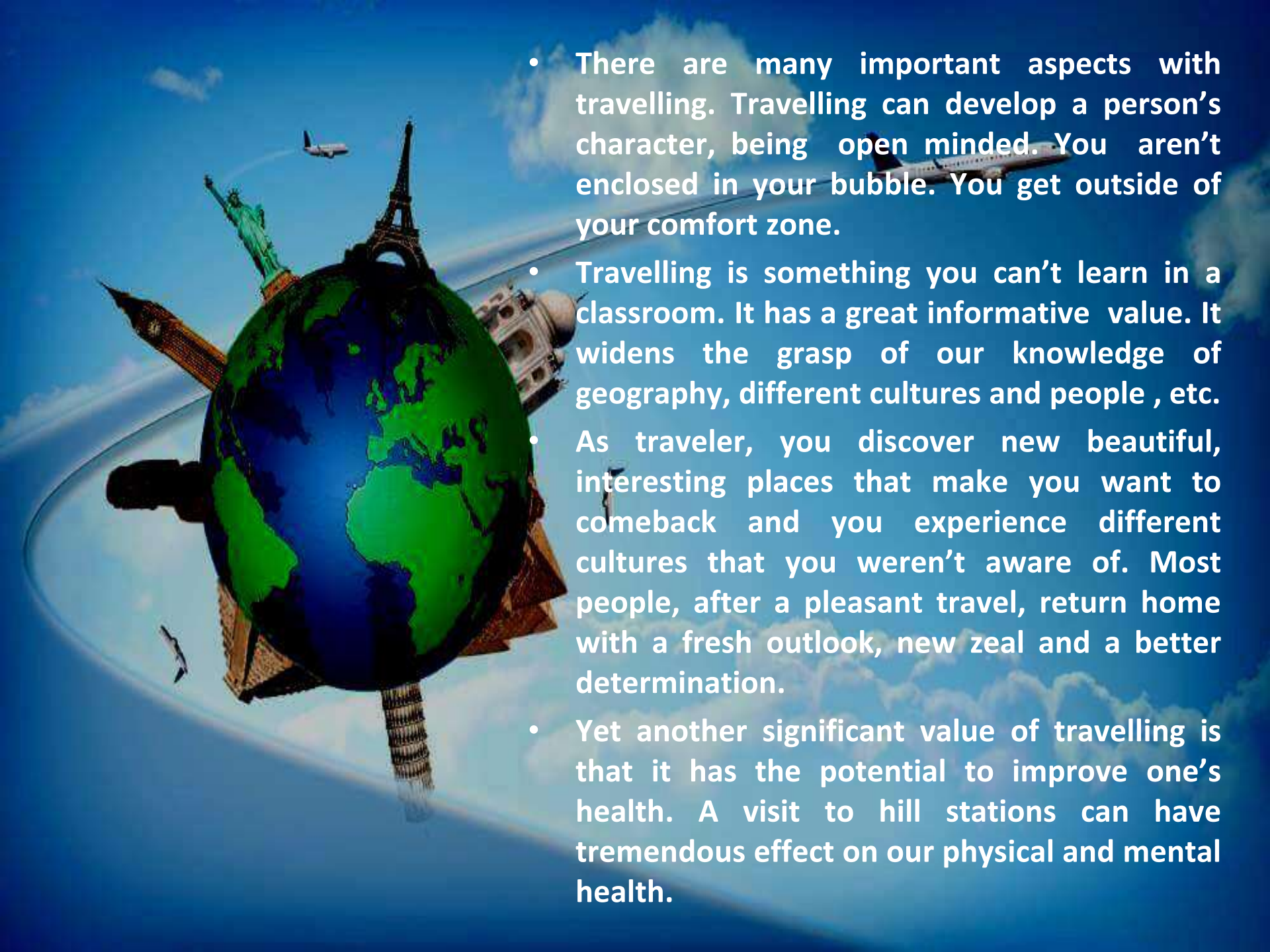
Persist and persuade others about your plans, as they are real.
Nobody can do this but you. Nobody will get in the way of our dreams.

Most people master the obvious; you are creating something that wasn't there before. It's bold, it's beautiful, and it's you. Give it your best, and your dreams will come to life.

Success is yours.
Go for your dreams; it is your turn.



S.AKILA
II ECEA



- There are many important aspects with travelling. Travelling can develop a person's character, being open minded. You aren't enclosed in your bubble. You get outside of your comfort zone.
- Travelling is something you can't learn in a classroom. It has a great informative value. It widens the grasp of our knowledge of geography, different cultures and people , etc.
- As traveler, you discover new beautiful, interesting places that make you want to comeback and you experience different cultures that you weren't aware of. Most people, after a pleasant travel, return home with a fresh outlook, new zeal and a better determination.
- Yet another significant value of travelling is that it has the potential to improve one's health. A visit to hill stations can have tremendous effect on our physical and mental health.

FRIENDSHIP

T.ROSHINI
III ECE B

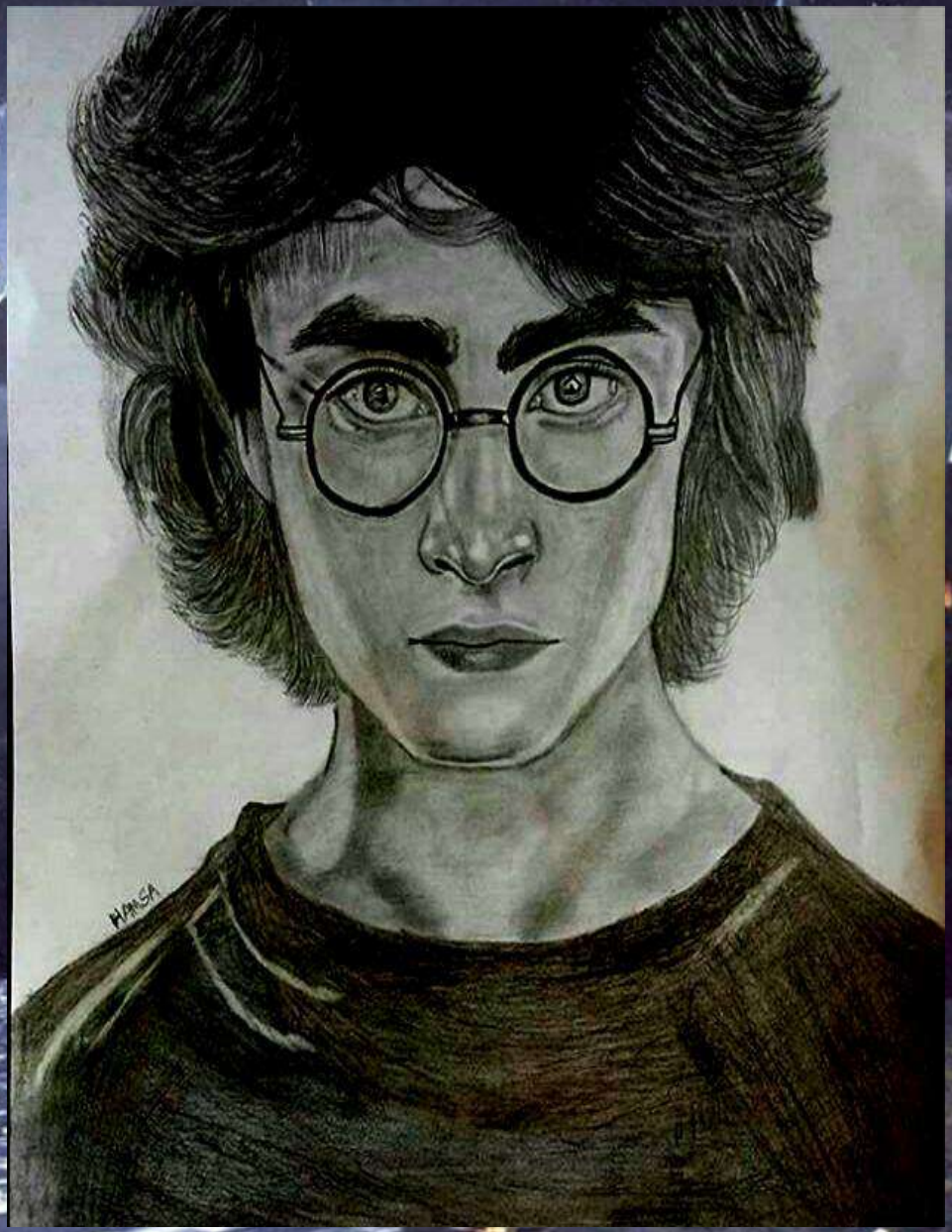
The more you feel happy, the more you feel comfort might be the best time when you used to spend your valuable time with your friends. A real friend is one who walks in when the rest of the world walks out . According to the world English Dictionary “Friendship” is defined as “a person known well to another and regarded with affection and loyalty ” The better part of ones life is the best friendship.

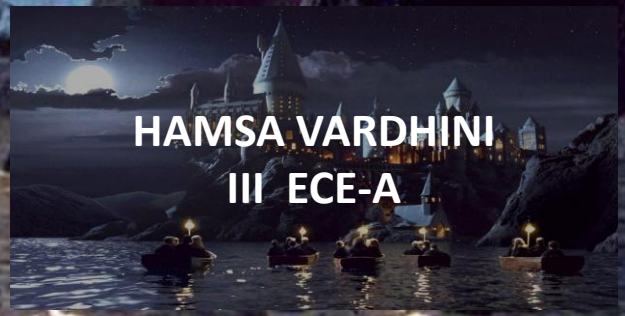
A good friend is someone we can count on , share all of healthy feelings and so much more. He or she might be the one with whom you can relax and just hang out, have fun. Frienship is the hardest thing to explain. It’s not something that you learn in school or college. Friends are those who are weird and very cheerful like a sunny day spreading happiness and brightness all over the world.


ART
splash

ABARNA.B III
ECE-A

SUJITHA.B
III ECE-B





HAMSA VARDHINI

III ECE-A

B.SARAVANA KUMARAN
III ECE -B

P.PAVITHRA
III ECE B

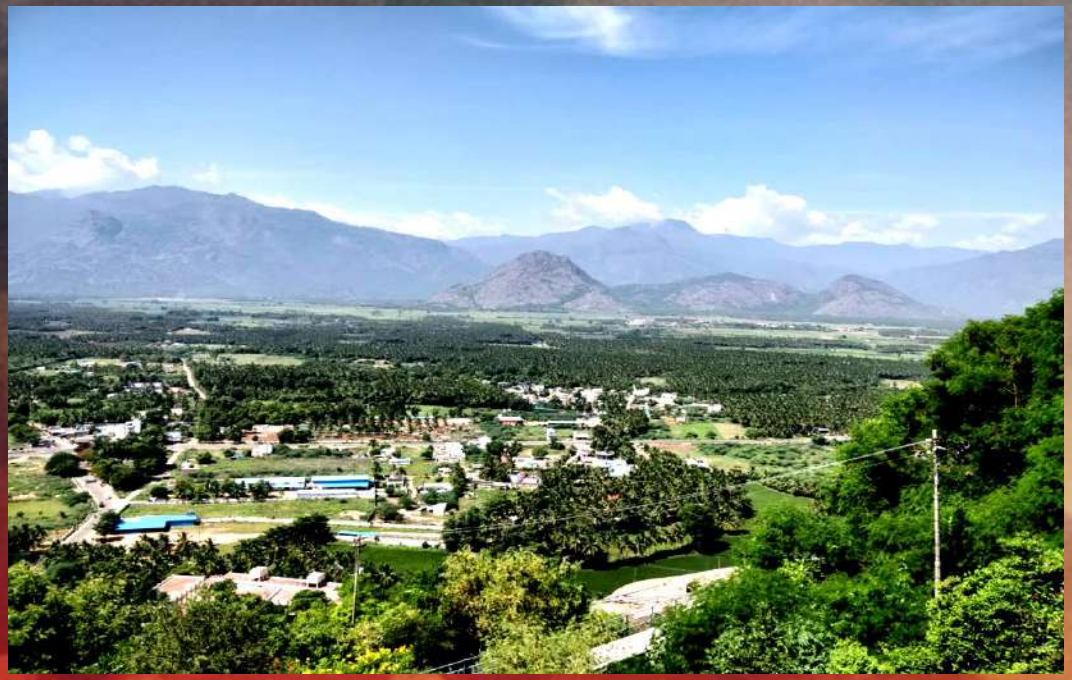

Photography

GANESH
III ECE A

T.MAHESH
III ECE B

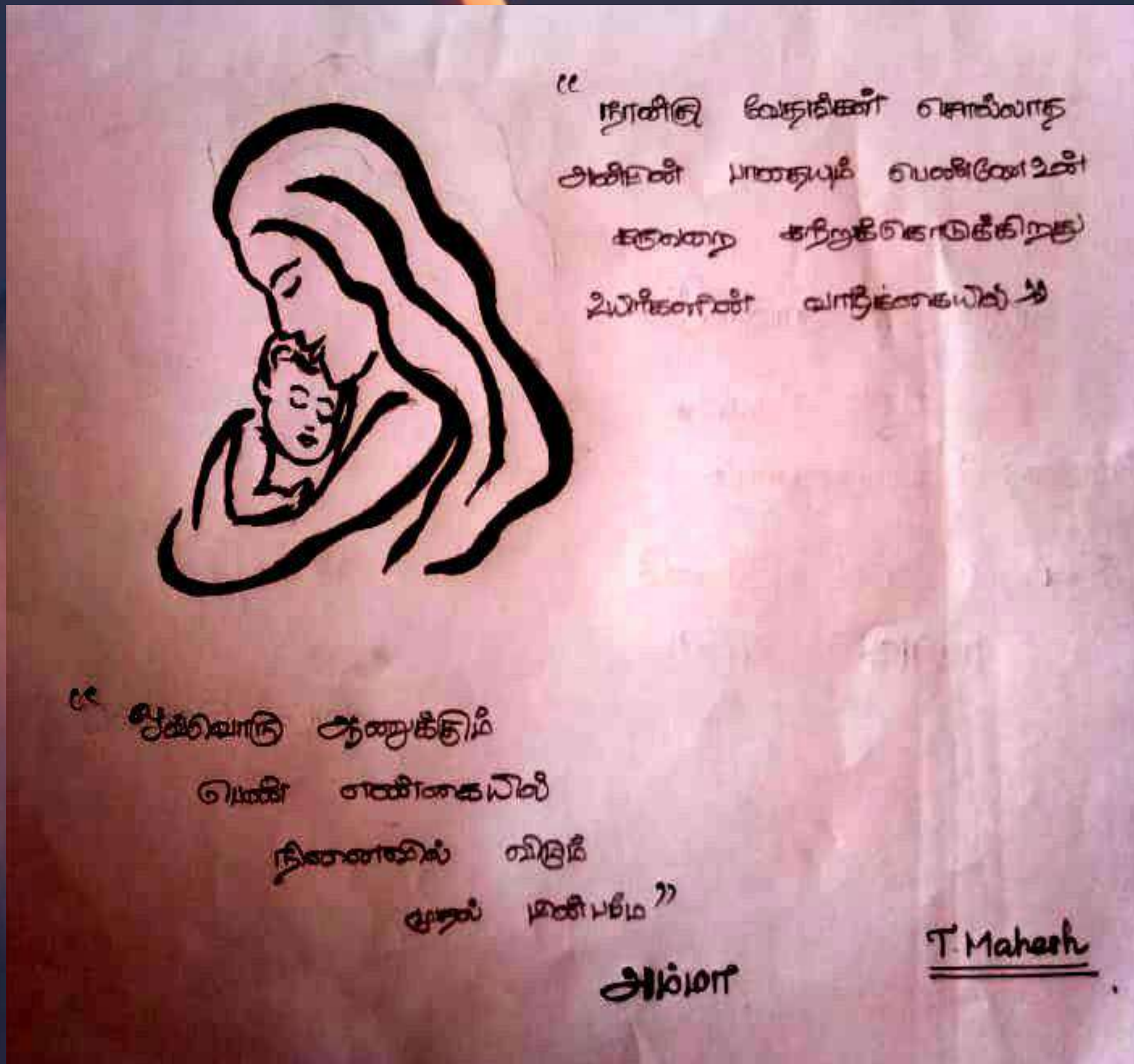
P.SARANYA

III ECE B



B.SARAVANA KUMARAN
III ECE B

தமிழ் கவிதைகள்



T.MAHESH
III ECE B

அன்பென்ற ஒன்றை மொழியறியும் முன்னே கற்பித்தாய்
ஆராரோ நீபாடி உன் தமிழ் மறந்திந்நாள் தூங்கவைத்தாய்
இருள் கண்டு நாள் அழுதால் எனை இழுத்தி புது வழு கொடுத்தாய்
எ நுயிராய் எள்ளும் என்தென்னும் என் உள் இருந்தாய்
உண்மை மட்டும் பேச பாடம் உரைத்தாய்
ஊனாக இருந்தே நினம் உழைக்க வைத்தாய்
எந்நாளும் அந்தாத அகம் கொடுத்தாய்
ஏற்ற இறக்கம் கண்டு கலங்காத மனம் கொடுத்தாய்
ஐயங்கள் எல்லாம் தீர வைத்தாய்
ஒற்றுமையை என் மாதில் நி விதைத்தாய்
ஓய்வின்றி எனை நீ பாதுகாத்தாய்
ஔடதமாய் ரன் காயந்தை குறைத்தாய்

உயிரே நீயே என் தாய்!

A.MOHAMMED JAVITH
III ECE B

BRAIN TEASERS

By
B.SARAVANA KUMARAN
III ECE B

1. **A cow is tied to a 4 meter long rope. There is food, 20 meters away from the cow. However, the cow manages to go to the food and eat it. How come?**

ANSWER:The rope is not tied to anything but the cow, so the cow is free to go to the food.

2 . **When I’ m first said,**
I’ m quite mysterious,
But when I’m explained,
I’m nothing serious.
What am I ?

ANSWER : RIDDLE

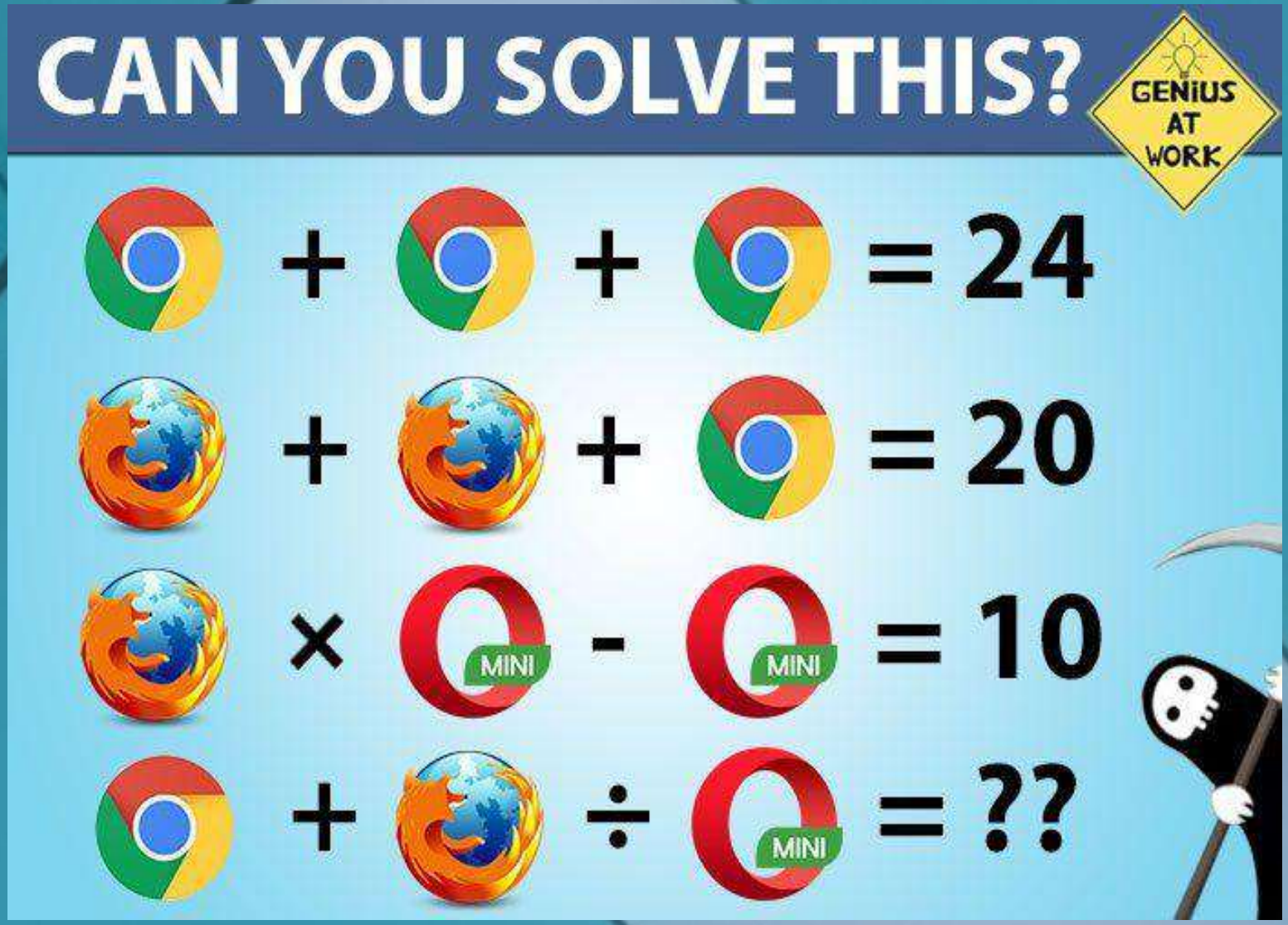
3. **You throw away the outside and cook the inside. Then you eat the outside and throw away the inside. What do you eat?**

ANSWER: CORN

MATHS RIDDLE

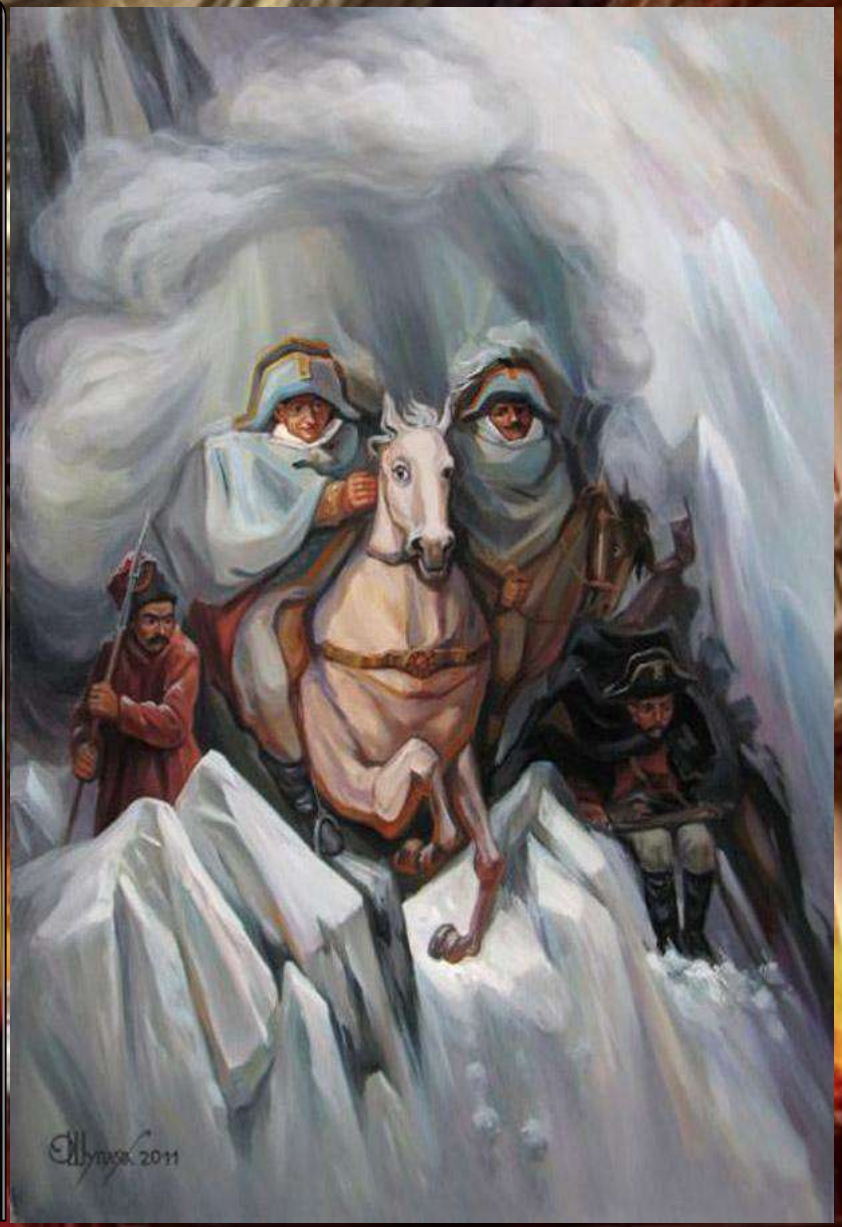
- 6 + 4 = 210
- 9 + 2 = 711
- 8 + 5 = 313
- 5 + 2 = 37
- 7 + 6 = 113
- 9 + 8 = 117
- 10 + 6 = 416
- 15 + 3 = 1218
- ?? + ?? = 123

ANSWER:
12+11=123



ANSWER: 11

ILLUSIONS

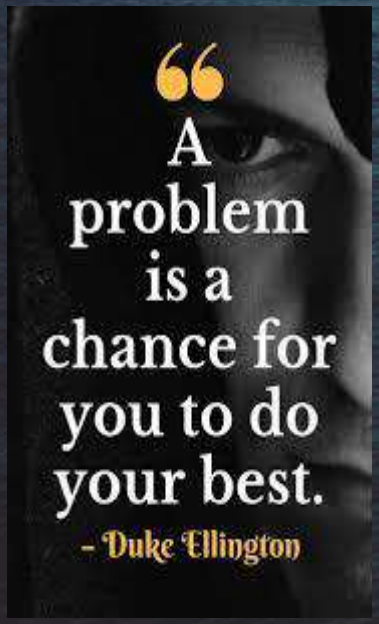


CROSS WORD SEARCH

P	R	O	M	I	S	E	B	E	H	O	W	L	O
G	R	K	I	K	O	Y	N	O	P	A	W	S	T
A	B	A	B	U	Y	R	D	A	E	E	E	L	U
K	S	O	P	H	I	E	A	H	D	G	E	O	R
I	B	R	N	F	B	A	A	D	N	S	D	V	N
S	R	D	S	R	C	K	I	I	O	M	S	E	I
S	I	M	M	I	U	N	C	G	R	O	O	M	P
R	D	D	S	E	G	N	S	I	K	U	E	A	H
P	E	U	O	N	A	G	S	S	O	R	O	M	E
Y	A	S	R	D	R	S	E	N	D	L	K	N	A
N	N	Y	D	S	S	N	R	A	D	S	I	N	D
D	G	R	E	I	N	F	D	S	E	N	E	D	G
T	K	D	K	E	K	I	K	I	D	P	D	A	I
R	I	K	O	D	A	M	A	G	D	I	I	I	H

LOVE
YUBABA
DANCING
PROMISE
GROOM
FRIENDS
MORO
DRESS
NAUSICAA
SAN
KODAMA
PONYO
BRIDE
KIKI
KISS
TURNIPHEAD
WEDDING
HOWL
SOPHIE
HAKU

DON'T
STOP
UNTIL
YOU'RE
PROUD



Positive
Vibes
Only

EDITORIAL TEAM


thank
you