technobyte@mangalam.in

Annual Edition

TECHNOBYTE MAGAZINE

2019-2020

DEPT OF ECE

Mangalam College of Engineering

From Students & Staffs

Department of Electronics & Communication Engineering

Vision

To achieve excellent standards in technical education and engage research in the field of Electronics and Communication Engineering creating employable and innovative professionals who can excel in global challenges. .

Mission

To imbibe innovative teaching and learning practices combined in rigorous academic study and innovative projects with social impact in a creative, wise and effective manner.

Program Educational Objectives

PEO 1: Graduates will possess knowledge to understand the concept of core electronics and communication subjects which will facilitate solving problems of society.

PEO 2: Graduates will have self-learning skills and life-long learning attitude and have a successful career in industries and R&D organizations to solve real world problems or obtain admission in institutes of higher learning.

PEO 3: Graduate will be able to effectively communicate their ideas through written or oral medium and be part of multidisciplinary teams and will uphold the ethical values with a sense of responsibility to environment and society.

HOD MESSAGE

It is a matter of pride to pen down the message for the Techno bytes, the Annual Department of ECE magazine. My heart fills with immense pleasure as I perceive the progress being made in Department. Education is not just about the subjects that are learnt and taught in college. It is a lifelong exercise that can be exciting if we jump onto the train of experience and take a trip to every conceivable place on the earth. Creativity and imagination make students grow up to be productive adults.

We have a talented, dedicated, caring team of staff, each of whom works very hard to ensure that the abilities of the students in their care are nurtured well. Our teachers untiringly work as a team to make the college and the department a very special place for the student.

Since the beginning of 2020, we have been facing a crisis of enormous proportions. The Covid-19 pandemic has been wreaking havoc across the globe upsetting our lives and livelihoods.

In the field of education, the pandemic has led to the massive closure of face-to-face activities and students faced a sudden change from on-campus learning to online learning. The smooth transition from physical classes to virtual classes became possible in our institution due to the core philosophy of investing on the human resources. The teacher training being the crucial element in this new era, we have prepared our teachers well in advance, though it is an unexpected crisis. Teachers were attending virtual conferences parallelly while conducting virtual classes.

The Department magazine is a platform for the students to express their creative pursuit which develops in them originality of thought and perception. The contents of the magazine reflect the wonderful creativity of thoughts and imagination of our Mangalam Family. I extend my warm wishes to Editorial team and Students on the publication of Department Magazine and I wish them to continue this journey on the road of excellence.

Prof. Ajit Joseph

HoD -ECE

MEET THE TEAM

DESIGN TEAM

SHALU ABRAHAM
S6 ECE

AKHILU U
S4 ECE

JOBIN GEORGE
S2 ECE

CONTENT TEAM

AISHWARYA P
S8 ECE

ROLINA FELIX

S6 ECE

AJAY PRAKASH
S4 ECE

PHOTOGRAPHY TEAM

RIYAS NAZAR
S6 ECE

SHILPA SASI
S6 ECE

Contents

ELECTRONICS & COMMUNICATION DEPARTMENT

Prof. AJIT JOSEPH, HOD

Ms. Jyothisree K R

Mr. Reneesh C. Zachariah

Mr. Rakesh S

Mr.Akhil Kumar S

Ms.Resma Chandran

Ms. Krishnapriya C V

Ms. Neethan Abraham

Ms. Simi P Thomas

Ms.Aparna Jose

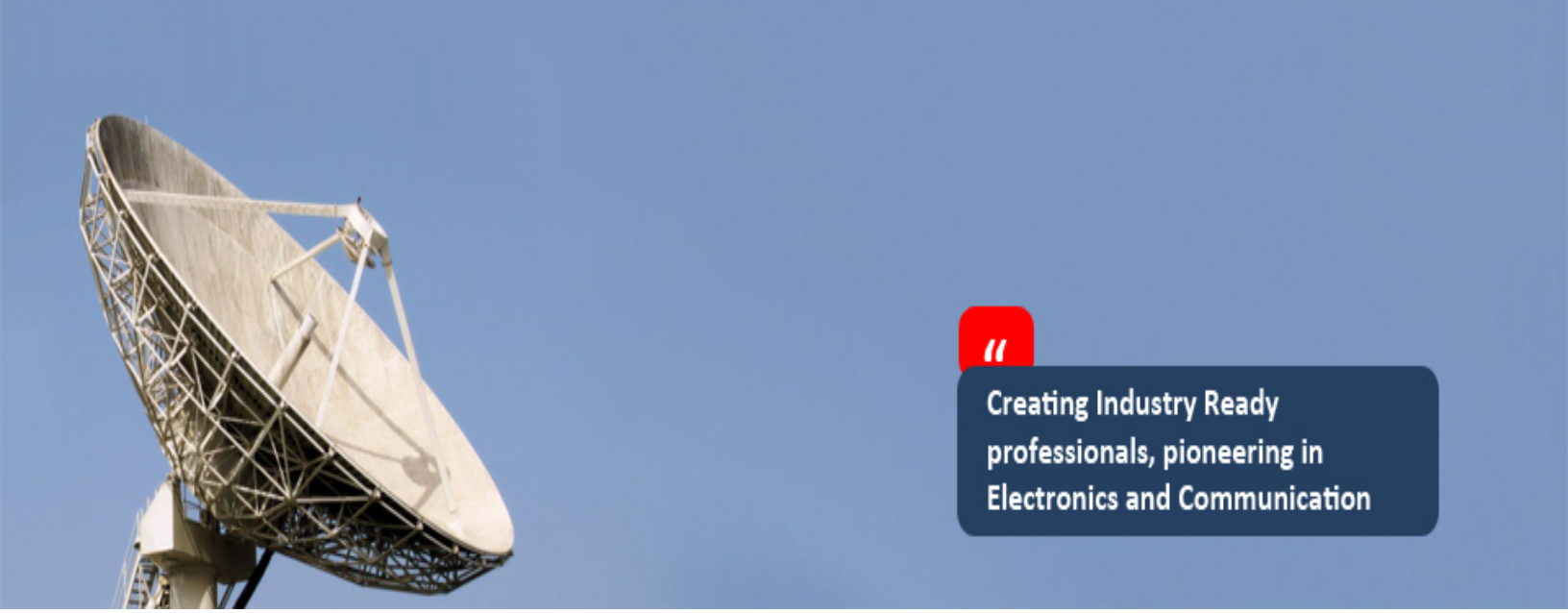
Ms.Meeva P A

Ms.Jibi K Kurian

Ms.Jyothis Kurian

Ms.Mariya Stephen

Ms.Riya Sara Joy



Electronics and Communication Engineering

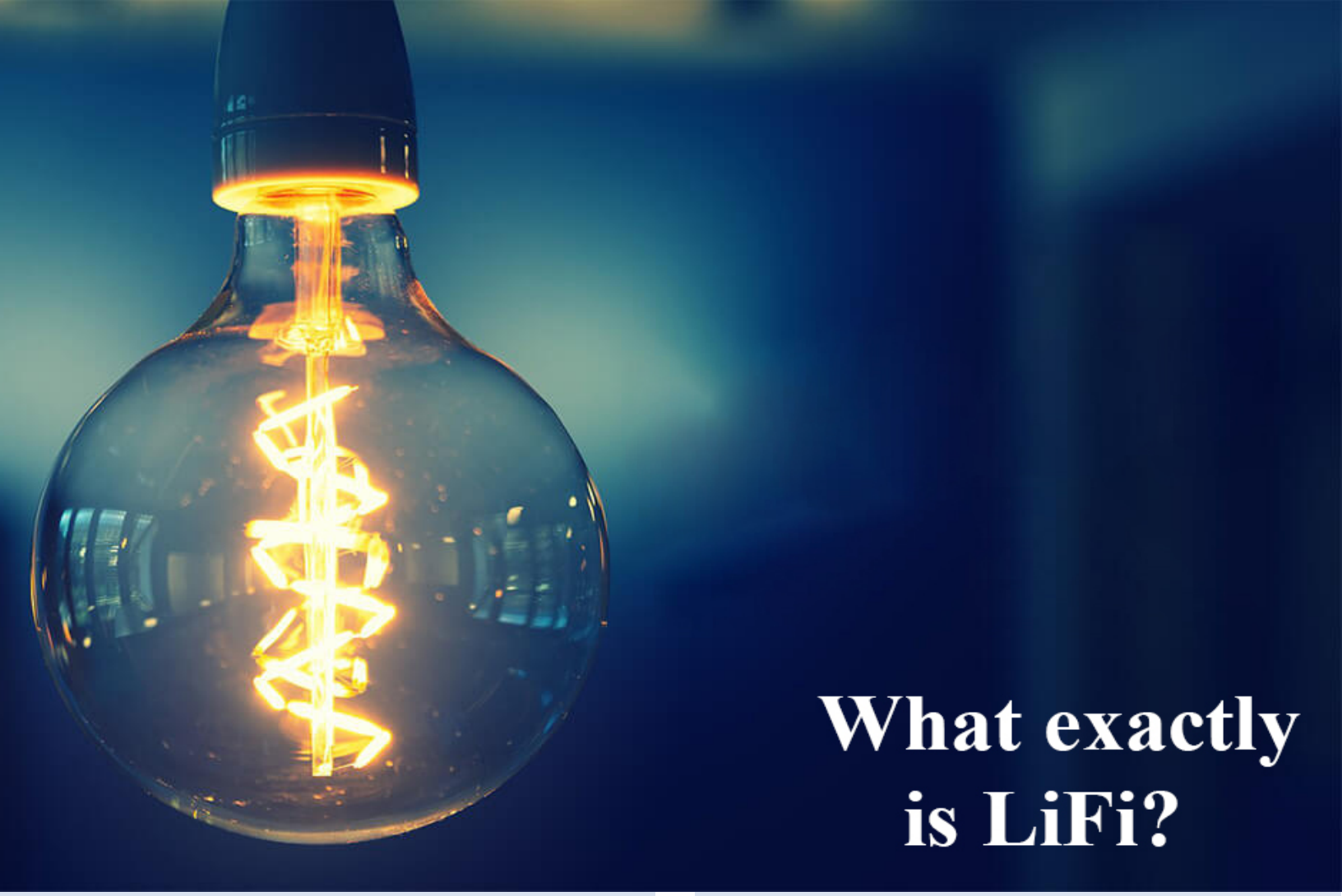
"Electronics and Communication Engineering is a swiftly advancing field, with new ideas emerging in every second. From mobile phones to fiber optics and remote sensing, there are exciting avenues to explore and create."
The department of Electronics and Communication Engineering(ECE) was established in 2002 with the approval of All India Council Of Technical Education and it is now affiliated by APJ Abdul Kalam Technological University. It has an intake capacity of 60 students. In 2004 it is expanded to 90 students and due to ever increasing demand the seats of the department increased to 120 by 2008. The Department also conducts post-graduate programs in VLSI & Embedded Systems from the year 2011 and Communication Engineering from the year 2013.

Since it's commencement, the primary objective of our department has been to impart quality education, training and research at the under graduate level in various areas of Electronics and Communication Engineering in order to produce engineers of highest caliber. The curriculum offers broad coverage to all areas of Electronics and Communication Engineering to give a strong foundation on various areas such as Digital System Design, Electromagnetic Theory , Digital Signal Processing, Microprocessors and Micro Controllers, Electronic Circuits, VLSI Design, Embedded Systems , Communication Engineering and Microwave Engineering. The students are also provided with an opportunity to choose specialization electives to focus on their identified areas of interest such as Robotics, Real Time Operating Systems, Biomedical Engineering, MEMS, Soft Computing, VLSI Fabrication Technology, Digital Image Processing, Speech and Audio Processing, Pattern Recognition and Optical Communication.

The academic program is designed to enable growth and learning in a highly focused and application based environment and is achieved through a combination of formal lectures and hands on experience in well-equipped labs. The Department has highly qualified and motivated academic faculty having extensive teaching / research experience and have several International / National Journal and Conference Publications to their credit. The faculties having expertised in following areas: VLSI and Embedded Systems, Semiconductor Electronics and Circuit Design, Communication and Signal Processing, Power Electronics, Control and Automation. The Department has well-furnished, air conditioned laboratories equipped with the necessary measuring instrument systems and softwares for design, simulation and testing. The department has number of labs some of which are Basic Electronic Workshop, Power Electronics and Control Systems, Electronic Devices and Circuit Design, Digital Systems and Instrumentation, Communication Systems, Microprocessor and MicroController Lab, Signal Processing and Advanced Communication Systems Lab.

Apart from this the department organizes technical fest named MEGATRON. Every year, the department organizes National level Technical Symposium / National Conference/ Workshop to promote closer interaction between academic and research scholars. As part of our academic enrichment, we have conducted bridge courses for third, fifth & seventh semester students during their semester break. We also conducted personality development programs, aptitude training and social service activities for our students.

The qualities inculcated in students make them not only good engineers but also good human beings. The department takes pride in placing students in well reputed companies globally.



What exactly is LiFi?

Li-Fi (short for light fidelity) is wireless communication technology which utilizes light to transmit data and position between devices. The term was first introduced by Harald Haas during a 2011 TEDGlobal talk in Edinburgh.

In technical terms, Li-Fi is a light communication system that is capable of transmitting data at high speeds over the visible light, ultraviolet, and infrared spectrums. In its present state, only LED lamps can be used for the transmission of visible light.

In terms of its end use, the technology is similar to Wi-Fi -- the key technical difference being that Wi-Fi uses radio frequency to induce a voltage in an antenna to transmit data. Whereas Li-Fi uses the modulation of light intensity to transmit data. Li-Fi can theoretically transmit at speeds of up to 100 Gbit/s. Li-Fi's ability to safely function in areas otherwise susceptible to electromagnetic interference is an advantage. The technology is being developed by several organizations across the globe.

LiFi provides a completely new layer of wireless connectivity within existing heterogeneous radio frequency (RF) wireless networks. LiFi supports multiuser access and enables roaming. It is, therefore, a truly mobile system. Multisuer access and mobility support in LiFi require unique building blocks. Techniques developed for RF systems cannot be applied direct as the signal propagation and information encoding techniques are different. However, the differences diminish as higher frequencies in RF are used such as mm wave bands.

LiFi Sustainability

The speed of LiFi technology not only lies on its speed. It will save costs in homes and workplaces because it could do without electronic devices such as routers, modems, signal repeaters, wave ampLiFiers, and antennas. Currently, these devices are connected to power 24/7. Since LiFi is connected to LED bulbs, using the technology would not be an extra cost. Also in the near future, it has been estimated that we will be able to transmit data through solar energy. That means the people without internet access or with limited electricity resources will now be able to connect to the web wirelessly.

Speed

LiFi could transmit up to 100 Gbps and possibly higher, but this would require a change in lighting technology. Recent news report that LiFi is 100 times faster than WiFi. The assumption was that the average WiFi speeds are 10 Mbps, and that LiFi can be as fast as 1 Gbps. It is important to highlight that 1 Gbps transmission speeds from an off-the-shelf commercial LED light bulb have not been demonstrated, yet.

Higher speeds than Wi-Fi

10000 times the frequency spectrum of radio.

Working

LiFi is a Visible Light Communications system transmitting wireless internet communications at very high speeds. The technology makes a LED light bulb emit pulses of light that are undetectable to the human eye and within those emitted pulses, data can travel to and from receivers. Then, the receivers collect information and interpret the transmitted data. This is conceptually similar to decoding Morse code but in a much faster rate – millions times a second. LiFi transmission speeds can go over 100 Gbps, 14 times faster than WiGig, also known as the world's fastest WiFi.
Whereas WiFi technology effects data transfer on radio waves, LiFi takes the next revolutionary step in wireless evolution and embeds and transfers data in visible light beams, thereby allowing LiFi to take full advantage of the vastly greater light spectrum bandwidth capacity that is provided by the light spectrum.

Security

PureLiFi is developing the security components and technologies that enable security specialists to deliver more secure wireless communications. LiFi is significantly more secure than other wireless technologies because light can be contained in a physical space. Our doors and windows can be shut, and physical barriers and adjustments can be implemented to contain and protect the light. We can create the conditions that allow us to shut the door on our wireless data.It should be understood that the existing security protocols for encryption and authentication can be leveraged in LiFi systems to provide even more secure wireless systems

Conclusion

LED light sources have become an avenue where lighting can move from analog to digital to make life better and easier—through the benefits of an information technology connection to the IoT. Li-Fi offers the potential for CLSs to both provide light and transfer data. With these capabilities, lighting systems could offer an alternative to the ever-shrinking Wi-Fi spectrum to make lighting the hub in smart infrastructure. Connected lighting innovation promises a future that is even brighter than the world we live in today. But as with many future innovations, seeing is believing.

Neethu M.R
S6 ECE

INDIA'S BRAHMASTRA

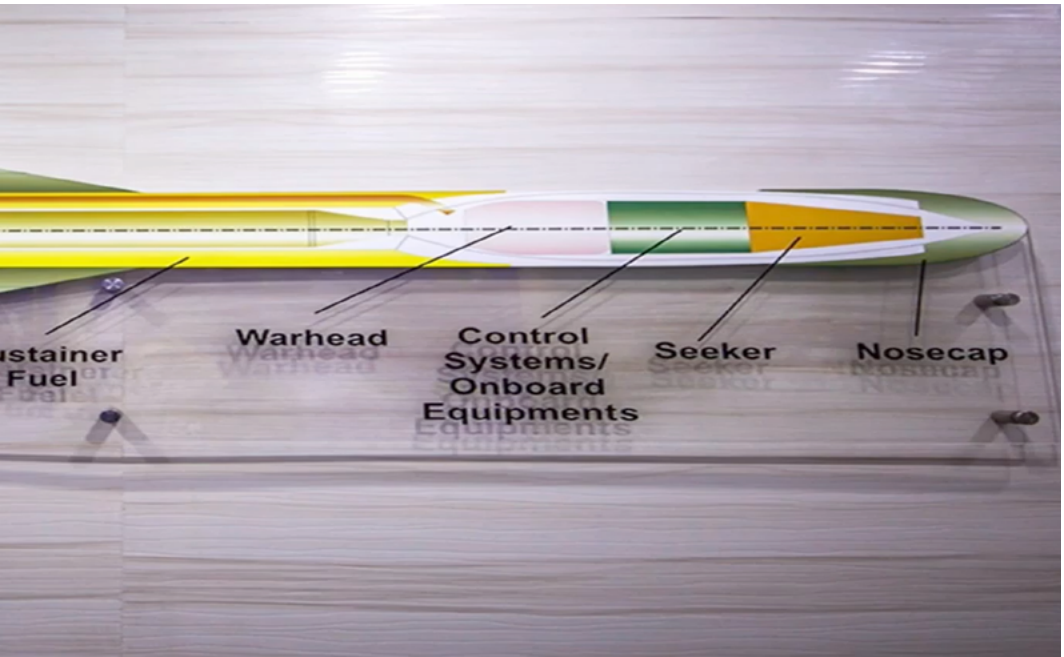
The BrahMos (designated PJ-10) is a medium-range ramjet supersonic cruise missile that can be launched from submarine, ships, aircraft, or land. It is the fastest supersonic cruise missile in the world. It is a joint venture between the Russian Federation's NPO Mashinostroyeniya and India's Defence Research and Development Organisation (DRDO), who together have formed BrahMos Aerospace.It is based on the Russian P-800 Oniks cruise missile and other similar sea-skimming Russian cruise missile technology. The name BrahMos is a portmanteau formed from the names of two rivers, the Brahmaputra of India and the Moskva of Russia.

It is the world's fastest anti-ship cruise missile in operation.The land-launched and ship-launched versions are already in service. An air-launched variant of BrahMos appeared in 2012 and entered service in 2019. A hypersonic version of the missile, BrahMos-II, is also presently under development with a speed of Mach 7-8 to boost aerial fast strike capability. It is expected to be ready for testing by 2020.India wanted the BrahMos to be based on a mid range cruise missile like the P-700 Granit. Its propulsion is based on the Russian missile, and missile guidance has been developed by BrahMos Aerospace. The missile is expected to reach a total order of US$13 billion.

Fastest in the world
Speed of Brahmos is mach 2.8-mach 3 Supersonic cruise missile that can be launched from submarine, ships, aircraft, or land

ORGIN

The BrahMos has been developed as a joint venture between the Defence Research and Development Organisation (DRDO) of India and the Federal State Unitary Enterprise NPO Mashinostroyenia (NPOM) of Russia as BrahMos Aerospace via an inter-government agreement



India and Russia intend to make 2,000 BrahMos super-sonic cruise missiles over the next ten years through their joint venture company, and nearly 50% of them are expected to be exported to friendly countries

TARGETS BEHIND OBSTACLES

The missile has advanced guidance and upgraded software, incorporating high manoeuvres at multiple points and steep dive from high altitude. The steep dive capability of the Block III enables it to hit targets hidden behind a mountain range. It will be deployed in Arunachal Pradesh. It can engage ground targets from an altitude as low as 10 meters for surgical strikes without any collateral damage. It is capable of being launched from multiple platforms like submarines, ships, aircraft and land based Mobile Autonomous Launchers

The new navigation system uses an Indian chip called G3OM (GPS, GLONASS, GAGAN on a Module). The system weighs around 17 grams, and gives accuracy below five meters using Indian, US and Russian navigation satellites.

The system can be used in tandem with and Inertial Navigation System (INS) to provide high-accuracy targeting without using any seeker.

UCAV variant

The former President of India, A. P. J. Abdul Kalam asked BrahMos Aerospace to develop an advanced version of the BrahMos cruise missile to maintain India's lead in the field. He stated that a hypersonic version of BrahMos would be needed that could deliver its payload and return to base.

Currently cruise missiles are among the most expensive of single-use weapons, up to several million dollars apiece. However, they are cheaper than human pilots when total training and infrastructure costs are taken into account.

Manu R K
S6 ECE

SILENT SOUND TECHNOLOGY

Everybody has the experience of talking aloud in the cell phone in the midst of the disturbance while travelling in trains or buses. Silence is the best answer for all the situations even your mobile understands

The word Cell Phone has become greatest buzz word in Cellular Communication industry.

There are lots and lots of technology that tries to reduce the Noise pollution and make the environment a better place to live in.

I will tell about a new technology known as Silent Sound Technology that will put an end to Noise pollution.

There is no need of shouting anymore for this purpose. 'Silent sound technology' is the answer for this problem.

The Silent sound technology is an amazing solution for those who had lost their voice but wish to speak over phone. It is developed at the Karlsruhe Institute of Technology and you can expect to see it in the near future. When demonstrated, it seems to detect every lip movement and internally converts the electrical pulses into sounds signals and sends them neglecting all other surrounding noise. It is definitely going to be a good solution for those feeling annoyed when other speak loud over phone.

'Silent Sound' technology aims to notice every movement of the lips and transform them into sounds, which could help people who lose voices to speak, and allow people to make silent calls without bothering others. Rather than making any sounds, your handset would decipher the movements your mouth makes by measuring muscle activity, then convert this into speech that the person on the other end of the call can hear. So, basically, it reads your lips.

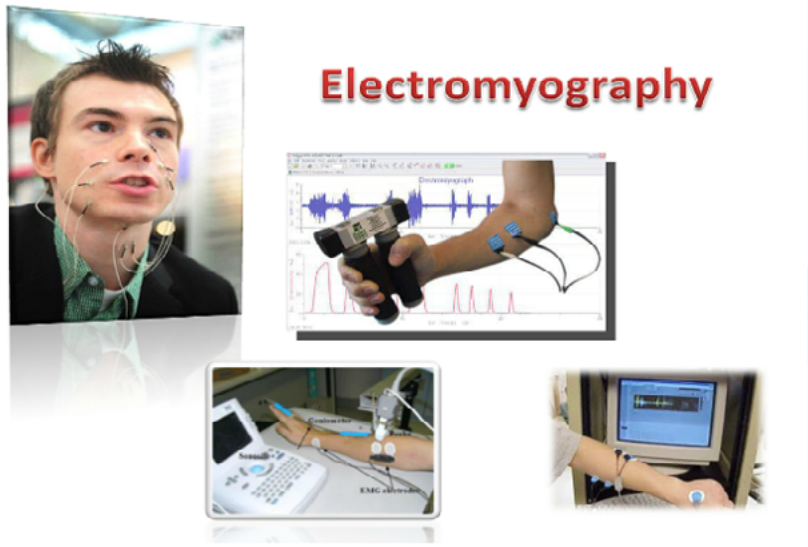
This new technology will be very helpful whenever a person loses his voice while speaking or allow people to make silent calls without disturbing others, even we can tell our PIN number to a trusted friend or relative without eavesdropping. At the other end, the listener can hear a clear voice. The awesome feature added to this technology is that "it is an instant polyglot; I.E, movements can be immediately transformed into the language of the user's choice. This translation works for languages like English, French & German.

METHODS

Silent Sound Technology is processed through some ways or methods. They are Electromyograpy(EMG) ,Image Processing

ELECTROMYOGRAPHY :

The Silent Sound Technology uses electromyography, monitoring tiny muscular movements that occur when we speak.
Monitored signals are converted into electrical pulses that can then be turned into speech, without a sound uttered.
Electromyography (EMG) is a technique for evaluating and recording the electrical activity produced by skeletal muscles.
An electromyography detects the electrical potential generated by muscle cells, when these cells are electrically or neurologically activated. Electromyographic sensors attached to the face records the electric signals produced by the facial muscles, compare them with pre recorded signal pattern of spoken words
When there is a match that sound is transmitted on to the other end of the line and person at the other end listen to the spoken words



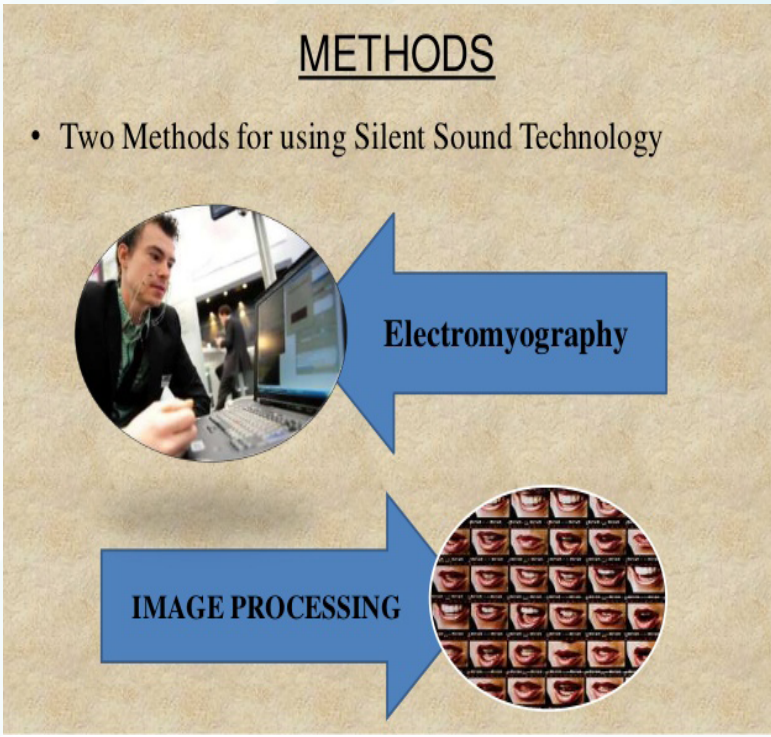


Image Processing:

The simplest form of digital image processing converts the digital data tape into a film image with minimal corrections and calibrations.

Then large mainframe computers are employed for sophisticated interactive manipulation of the data.
In the present context, overhead prospective are employed to analyze the picture.
In electrical engineering and computer science, image processing is any form of signal processing for which the input is an image, such as a photograph or video frame; the output of image processing may be either an image or, a set of characteristics or parameters related to the image. Most image-processing techniques involve treating the image as a two-dimensional signal and applying standard signal-processing techniques to it.Analysis of remotely sensed data is done using various image processing techniques and methods that includes:

1. Analog image processing

2. Digital image processing

Analog processing techniques: is applied to hard copy data such as photographs or printouts. It adopts certain elements of interpretation, such as primary element, spatial arrangement etc, With the combination of multi-concept of examining remotely sensed data in multispectral, multitemporal, multiscales and in conjunction with multidisciplinary, allows us to make a verdict not only as to what an object is but also its importance. Apart from these it also includes optical photogrammetric techniques allowing for precise measurement of the height, width, location, etc. of an object.

Digital Image Processing involves a collection of techniques for the manipulation of digital images by computers. It contain some flaws. To
overcome the flaws and deficiencies in order to get the originality of the data, it needs to undergo several steps of processing. Digital Image Processing undergoes three general steps:

1. Pre-processing
2. Display and enhancement
3. Information extraction

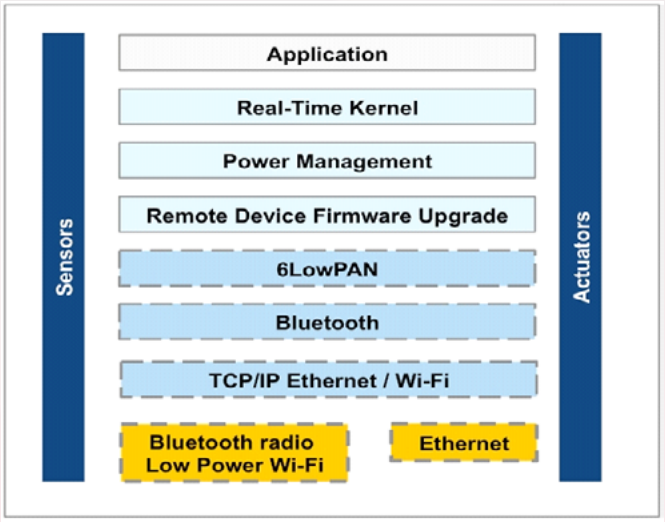
Thus Silent Sound Technology, one of the recent trends in the field of information technology implements ”Talking Without Talking”.
It will be one of the innovation and useful technology and in mere future this technology will be used in our day to day life.
‘Silent Sound’ technology aims to notice every movements of the lips and transform them into sounds, which could help people who lose voices to speak, and allow people to make silent calls without bothering others. Rather than making any sounds, your handset would decipher the movements your mouth makes by measuring muscle activity, then convert this into speech that the person on the other end of the call can hear. So, basically, it reads your lips.

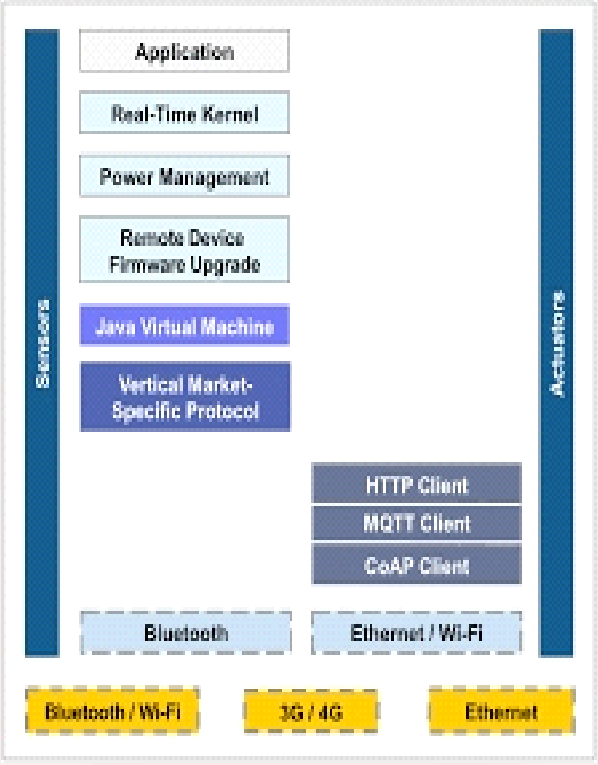
Parvathy Viswanath
S6 ECE

EMERGING TECHNOLOGIES USING RTOS

Pebble

The most popular smartwatch to date is the Pebble, which uses a variation of FreeRTOS (Free Real OS). The watch's firmware operating system is based on a FreeRTOS kernel and uses Newlib, the STM32 Peripheral Lib, the Ragel state machine compiler, and an unnamed UTF-8 Decoder.





Real-Time Operating System for IoT

A real-time operating system (RTOS) is critical for the management of hardware resources in computers and host applications as well as processing data on a real-time basis. Usually, this happens within a fraction of a second or even faster. Traditional operating systems like Windows, iOS, and Android work well with a fast processor that consumes a lot of power. However, they do not guarantee a real-time response within the environment where they are used. Therefore, these operating systems are not ultimate solutions for most IoT devices. Additionally, traditional operating systems take a large amount of memory from the devices and they do not support IoT chips. Thus, though they are ideal for performing multiple tasks, they limit synchronization. This limitation necessitates the development and use of an RTOS for IoT devices.A real-time operating system is a perfect fit for devices that perform multiple tasks, especially in scenarios of worst-case execution. It differs from a traditional operating system because it ensures accurate output within the set deadline or in a timely manner.

Applications

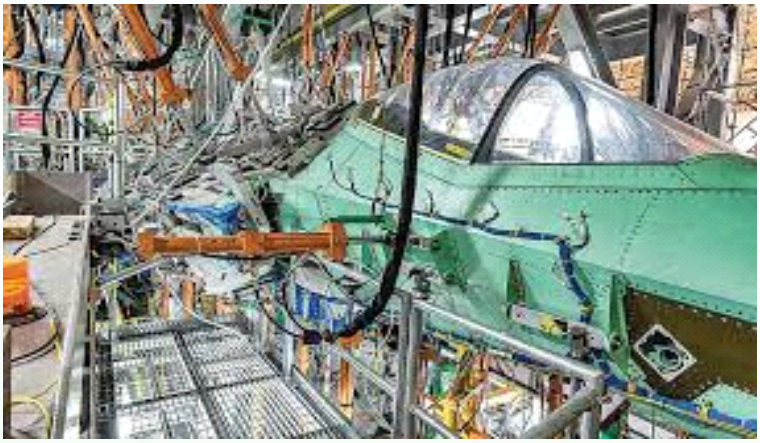
There are hundreds of uses of real-time operating system, they are mainly used for time critical systems, due to their reliability and responsiveness. Some examples of current applications of real-time systems include “control of laboratory experiments, process control in industrial plants, robotics, air traffic control, telecommunications, military command and control systems. Next-generation systems will include the autonomous land rover, controllers of robots with elastic joints, systems found in intelligent manufacturing, the space station and undersea exploration” . Real-Time operating systems will continue to show their importance in computing for many years to come, due to their versatility and reliability, which is relied on so heavily in many industries. Going forward new applications for real-time operating system will be created and introduced. As there will be new developments, especially in robotics where manual labour jobs traditionally very tedious and completed by low paid workers, can be efficiently completed by robotics powered by real-time operating system due to their responsiveness and reliability.

PikeOS Certified Hypervisor RTOS Technology

PikeOS is a real-time operating system and virtualization platform providing full separation in both time and space for multiple software applications running on different criticality levels. PikeOS is a commercial, hard real-time operating system (RTOS) that offers a separation kernel based hypervisor with multiple logical partition types for many other operating systems (each called a GuestOS) and applications. It enables users to build certifiable smart devices for the Internet of things according to the high quality, safety and security standards of different industries.

Production/Processing:

In Poultry production, Real-time systems have already been introduced, for example, In Moy Park, Robotic applications with camera's and programming are able to, in real-time identify poultry pieces and pack them accordingly into packaging. These systems are very fast, and if the movements where not set to the correct speed the pieces may not be placed correctly, in the moving packs along the conveyor belt. And so the real-time system needs to be efficient and responsive to alter speeds to meet the requirements at hand.



Other uses include: Motion controllers, test and measurement systems

Aerospace/Aviation

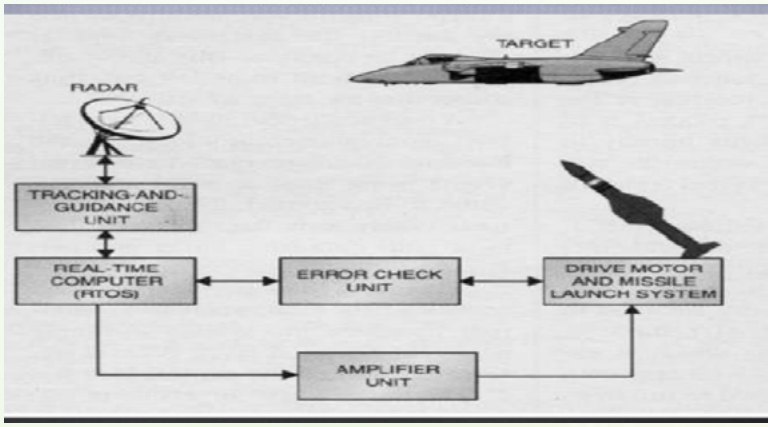
Air traffic control systems would use Real-time systems to monitor traffic around the airport, and so these systems are required to be very responsive and accurate to minimise the risks of collisions in and around the airport.

And to allow safe take-off and landings of all aircrafts at the same time. And so this task would be very time critical, as any fluctuations in aircraft speed could alter arrival times, and so the systems are required to be updated as quickly as possible to alleviate all possible anomalies.

Medical:

Real-time systems are also heavily used in medical applications, from heart rate monitors at a patient's bedside to a patient's embedded pacemaker, if these devices were not completely accurate and reliable this could impact the health of the patient and also cause loss of life. Cardiac monitors are able to continuously monitor heart activity of a patient, if there was a delay in the system producing a rhythm, it may delay the response of doctors treating the patient, and so this is a very time critical system, as it is required to be as responsive and reliable as possible.

Other uses include: MRI/PET scanners, Anaesthesia monitors, haemodialysis devices.



Military :

There are a broad range of uses of real-time systems in the military sector, for example computer guided missiles. Real time computers repeatedly monitor and track the target to ensure than any changes in target location are accurately monitored, to adjust speed and direction of missiles.

In the future embedded real time systems will be implanted into new-born babies using tiny chips/sensors. These chips will be able to continuously monitor the health and wellbeing of the individual. Monitoring everything from physical activity, nutritional status, body temperature and hydration levels.

Sesil Thomas
S6 ECE

MicroGreens
AMGF

AUTOMATIC MICROGREEN FARMING

INTRODUCTION

As the population of the world increases and cities grow in size, we are faced with remarkable societal problems regarding sustainable food security in the generations to come. Due to this people may face lack of nutrition and poison free foods. Under such situations, 'microgreen' vegetables can be helpful to diversify and enhance the nutrient content. 'Microgreens' are the tender immature tiny plants having two fully developed cotyledon leaves with or without the emergence of a rudimentary pair of the first true leaves. But microgreens are not used by common peoples as they cost high. Our intention is to make microgreens available for common peoples in their own houses under controlled conditions in a cost-effective manner.

PURPOSE

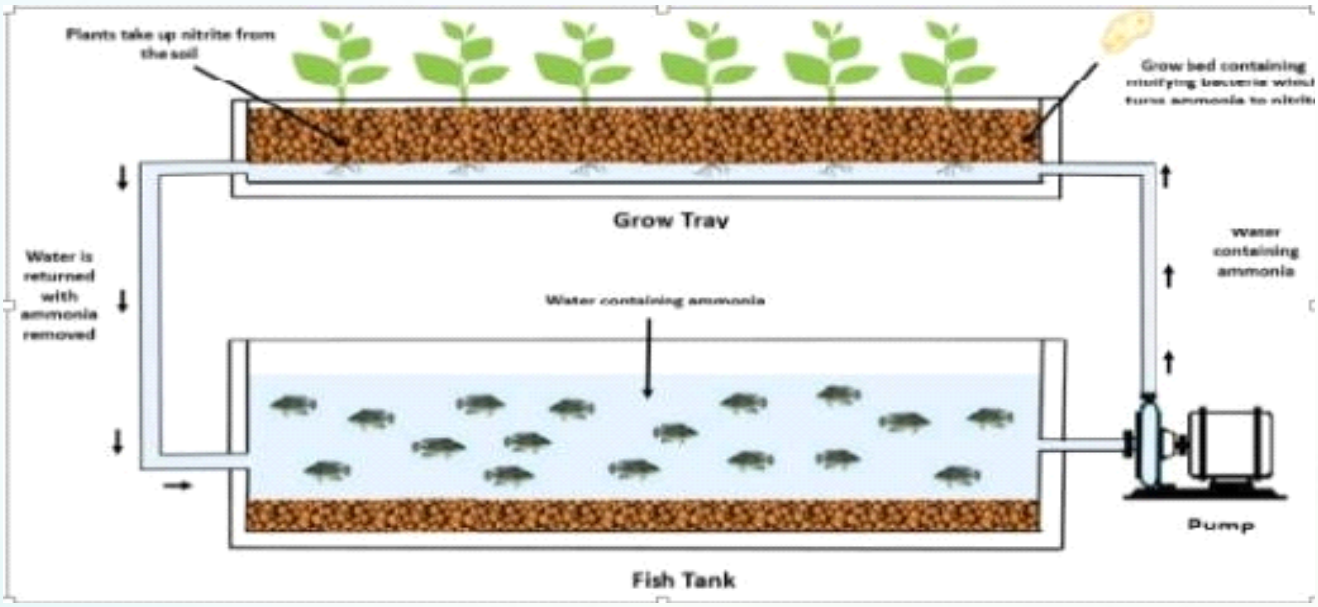
Easy to cultivate as it is automated.
Space requirement is less.
Ready to harvest in between 7-14 days.
Cost effective.

PROJECT DESCRIPTION

Our objective is to boost your health while saving money by growing microgreens at home. Architecture of the system consists of hardware – different sensors like temperature, moisture sensors and LDR are placed inside the micro green container. Sensors sense all the physical parameters and convert the analogue value to digital value. Temperature and humidity sensors are used to measure the temperature and humidity inside the container. Moisture Sensor are used to measure the moisture inside the container. An exhaust is provided for maintain the temperature at required level which works automatically with change in temperature. The LED strip placed inside the container will provide the required amount of light according to the data received from the LDR. After receiving unknown data from sensors it easily determines the weather condition. The data that we are collected is displayed using LCD display.

Aquaponics and IOT can be implemented along with this to make it more efficient. By using IOT we can access the conditions inside the system from anywhere at any time.

MicroGreens



OUTPUTS

VIABILITY: Its very efficient and can be easily operated.
CLOSE AT HAND: Easily acquirable.
SOCIAL IMPACT: To create a healthier generation even in this busy scenario.
ECONOMIC STABILITY: It's a cost-effective system.
COMPACTABILITY: It can be designed in any desired size.

EVALUATION

Social responsibility is the main intension of our technique. Microgreen cultivation can be made easy by using this technique to promote a healthier wellbeing of the society. Using this technique we are providing all the factors that needed for the growth of microgreens automatically, so that changes in external environment doesn't affects the growth process. By cultivating microgreens, we can avoid most of the diseases caused due to nutrition deficiency. This is going to become a major innovation in the field of agriculture also.

AKSHAY SAJEEVAN, ECE

ROHINI SREEKUMAR, ECE

LAKSHMI RAJEEV, ECE

NIKIL BENNY VARGHESE, ECE

ABHAY SAJEEVAN,ECE

Reboot Kerala Hackathon 2020

Reboot Kerala Hackathon is an initiative of the Department of Higher Education – Government of Kerala and the Additional Skill Acquisition Program (ASAP).

Reboot Kerala Hackathon 2020 aims to provide students of Higher Education Institutions a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem-solving.

This was the Kerala's biggest hackathon series with 22 hackathons across state. There were 100+ problem statements and 8000+ students. We were a team of 6 members and a mentor,Assistant professor: Resma chandran, to support us. We got selected in the 1st round idea presentation under Transportation department. There was 15 other departments like Agriculture, Education, Health, Tourism etc..
The 2nd round competition for theme: Transportation was conducted in MDIT, Ulliyeri Calicut. 30 teams were short listed for this round. The event was conducted during 21st, 22nd and 23rd of February, 2020. The inauguration was done by Consumer Fed Chairman
M. Mehboob. Calicut collector Shri. Seeram Sambasiva Rao addressed students and the cordinator was Shri. Bijil Kumar,ASAP
After the inauguration ceremony every team gathered at their respective desks and started doing their projects. The problem statement was announced 15 days in prior. We were provided with basic accommodation facilities, food and refreshments.

The given problem was “virtual reality driving training simulators at driving licence training centers ,and we have research and find it, that these all are the reasons which causes this problem to be occurring, like motor vehicle crashes, dilemma causes to the young drivers at the first year of their licensure, no alert system for a dangerous situation in existing system. The existing simulators are available at high cost.

Purpose:

- Focus on driving training institutes.
- Refresh his/her driving skill.
- Cost effective and use of reused material.
- Real world driving experience.

Project Description:

The objective mainly focuses on driving training institute to improve the driving skill in a cost effective way by using reused material and to create a real-world driving experience. The architecture solution includes hardware as well as a Software development. A brake, accelerator, Steering wheel, gear and clutch are used here as hardware parts ,where all these were taken as scrap .So there by our overall hardware cost gets reduced up to an extent of 5% of existing system. Shaft of the Steering wheel is connected to a CMOS sensor to IC ATC 751 then to the PC. CMOS sensor is taken from old mouse
thus we can reuse the e-waste and can implement our product in a cost effective way. Brake system, acceleration system and gear system are included in this. The realistic world is created using the unity software and VR box.
Add-on features such as adjusting different modes of weather condition, audible information about the traffic rules and violation, inbuilt alert system when the user make any traffic violation, can also be for added.

Outputs:

- FEASIBILITY-It can be done easily and conveniently.
- VIABLE\ECONOMIC IMPACT-Cost effective, only 5% of existing system.
- SCALABILITY-Reduced size of 60cm*40 cm.
- SOCIAL IMPACT-Reduces accident, driving discipline can be increased.

Evaluation:

Our product satisfies the overall lenses of innovation like feasibility, viability, scalability. The main social impact of our product is making the young drivers to drive the vehicle in any strategic conditions, reducing the vehicle crashes by giving proper driving practice, increases the driving discipline among drivers. This product will be a good asset for the training institute.
There was 2 stages to be completed in the 2nd round. 1st stage, product evaluation was done by a jury of 3 experts from transportation department of Kerala. Selected 15 teams will be granted to 2nd stage for power judgement. We were one among the 15 team and we presented our product before the jury members. Our product was awarded for prize with a cash award of 20,000 INR and selected for grand finale. It was a great experience for us in participating in this massive platform.

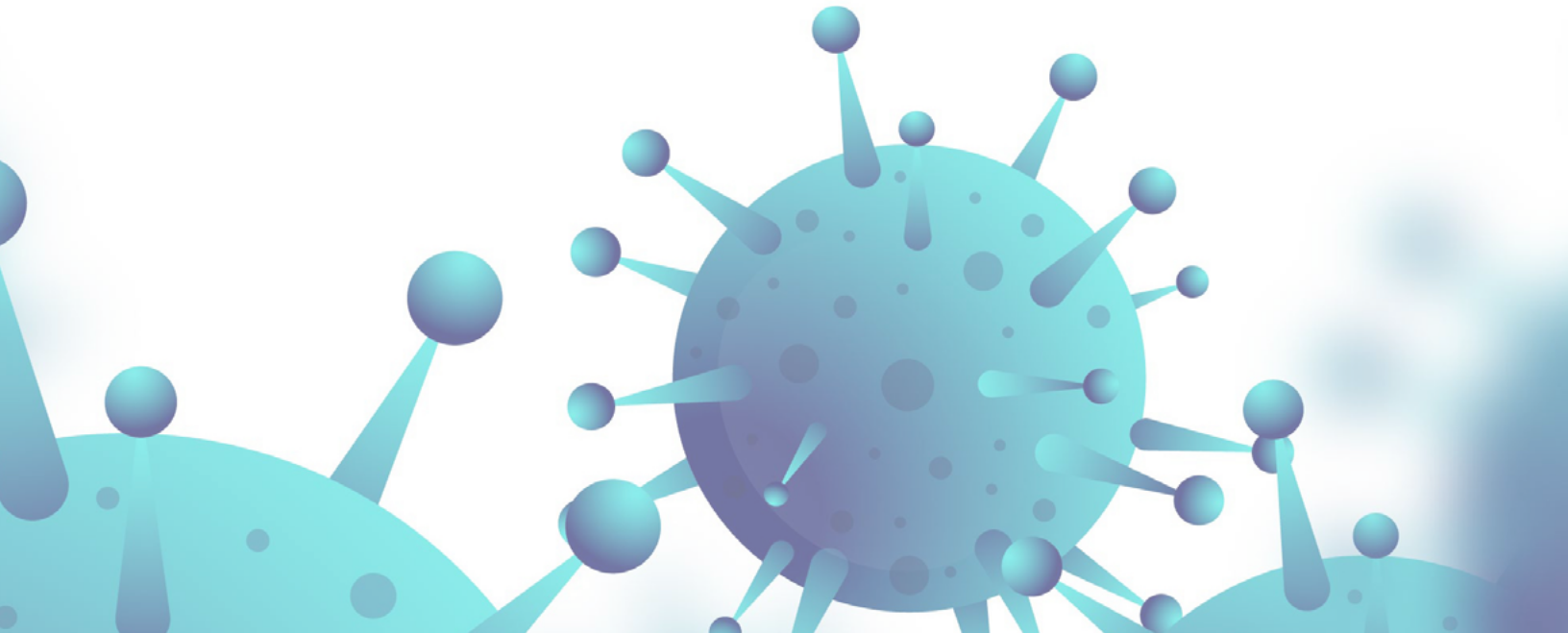
Abhay Sajeevan,ECE
Jeffin Joseph Idicula, ECE
Manu Rk, ECE
Parvathy Viswanath, ECE
Reshma Roy, ECE
Gopika Vijayakumar, ECE

കോവിഡ് 19 ഒരു ഓർമ്മപ്പെടുത്തൽ

ലോകമെമ്പാടും ഇപ്പോൾ മുഴങ്ങി കേൾക്കുന്ന ശബ്ദമാണ് കോവിഡ് 19.

ചൈനയിൽ 11 ദശലക്ഷത്തോളം ജനങ്ങൾ താമസിക്കുന്ന ഹ്യുബെ പ്രവിശ്യയുടെ തല സ്ഥാനമായ വുഹാനിലാണ് കോമഡി 19 എന്ന് ശാസ്ത്രലോകം പേരിട്ടിരിക്കുന്ന കൊറോണ വൈറസിന്റെ ഉത്ഭവം . അതിവേഗം മനുഷ്യരിൽ പടർന്നതും ശരിയായ പ്രതിരോധമരുന്ന് ലഭ്യമല്ലാത്തതും കൊവിഡ് 19 മഹാമാരിയായി പരിണമിച്ചു ലോകമെമ്പാടും. ഈ വൈറസ് അപകടകാരിയായ തിനാൽ പാൻഡെമിക് .എന്നീ വിപത്തിനെ നാമകരണം ചെയ്തു. പാമ്പുകളിൽ നിന്നോ വവ്വാലുകളിൽ നിന്നോ മറ്റു ജന്തുക്കളിൽ പ്രവേശിക്കുകയും അവയുടെ മാംസത്തിൽ കൂടെയും സമ്പർക്കത്തിലൂടെ യും മനുഷ്യരിൽ എത്തുകയും ചെയ്തതാകാമെന്നാണ് വിലയിരുത്തൽ . രോഗം കൂടുതൽ ആളുകളിലേക്ക് പടർന്നുപിടിച്ചപ്പോൾ ഡബ്ലിയു എച്ച് ഓ ആരോഗ്യ അടിയന്തരാവസ്ഥ പ്രഖ്യാപിക്കാൻ തക്കവണ്ണം കൊറോണ വൈറസ് ഭീതി ഉയർത്തിയപ്പോൾ ഇത് ചൈനയുടെ ജൈവായുധം ആണോ എന്ന് പോലും സംശയിക്കപ്പെട്ടു.

അമേരിക്കൻ ,സ്പെയിൻ ,ഇറ്റലി തുടങ്ങിയ വികസിത രാജ്യങ്ങൾ പൊലും ഈ മഹാമാരിയെ ഭീതിയോടെ നോക്കി കാണുമ്പോൾ ഈ രോഗത്തിൻറെ തീവ്രത എന്തെന്ന് നമുക്ക് മനസ്സിലാക്കാവുന്നതാണ്. ജലദോഷം മുതൽ ആസ്മ തുടങ്ങിയ മാരകരോഗങ്ങൾക്ക് വരെ കാരണമായേക്കാവുന്ന വൈറസുകളുടെ കുടുംബമാണ് കൊറോണ. കിരീടം ,പ്രഭാവലയം എന്നീ അർത്ഥങ്ങളുള്ള □കൊറോണ□ എന്ന ലാറ്റിൻ പദത്തിൽ നിന്നാണ് വൈറസിനെ ഈ പേര് കിട്ടിയത്. കിരീടം പോലെ തോന്നിക്കുന്ന ഒരാവരണം വൈറസിന് ചുറ്റും ഉള്ളതിനാലും , സൂര്യൻറെ പ്രഭാത വലത്തോടു രൂപസാദൃശ്യ□ ഉള്ളതിനാലാണ് ഈ പേര് വന്നത്. 2019 ഡിസംബറിൽ ക□ത്തിയ കോവിഡ് 19 ഉൾപ്പെടെ ഏഴു തരം കൊറോണ വൈറസുകളെയാണ് ഇതുവരെ തിരിച്ചറിഞ്ഞിട്ടുള്ളത്. ചുമയ്ക്കുമ്പോഴും തുമ്മുമ്പോഴും പുറത്തേക്ക് തെറിക്കുന്ന സ്രവങ്ങളിലൂടെയും, തുണികളിലൂടെയും ആണ് ഈ രോഗം മനുഷ്യരിൽ നിന്ന് മനുഷ്യരിലേക്ക് പ്രധാനമായും പടരുന്നത്.

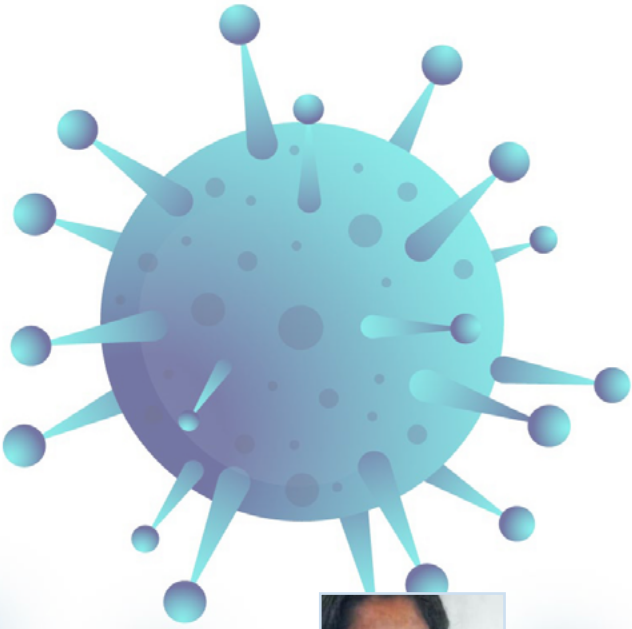


ഒരു കൂട്ടം വൈറസുകളുടെ ഫാമിലിയാണ് കൊറോണ വൈറസ്. ഇപ്പോൾ പൊട്ടിപുറപ്പെട്ടിരിക്കുന്ന വൈറസ് ബാധക്ക് ഇഛഢകഉ19 എന്നാണ് പേര് നൽകിയിരുന്നത്. ഇ്യീമ ശ്യൗഒ റശഒ ലമെലെ 2019 എന്നതിന്റെ ചുരുക്കരൂപമാണ് ഇത്. കൊറോണ വൈറസ് മുൻപ് പല രോഗങ്ങൾക്ക് കാരണമായിട്ടു□ങ്കിലും ജനിതകമാറ്റി സംഭവിച്ച വൈറസാണ് ഇപ്പോൾ ക□ത്തിയത്..

ഇന്ത്യയിൽ ആദ്യമായി റിപ്പോർട്ട് ചെയ്ത മൂന്ന് കൊറോണ വൈറസ് കേസുകളും കേരളത്തിലാണെന്നുള്ള വസ്തുത സംസ്ഥാനത്തിന്റെ ആരോഗ്യസംവിധാനങ്ങളെ ദേശീയ ശ്രദ്ധയിലേക്ക് ഉയർത്തി. കൊറോണ റിപ്പോർട്ട് ചെയ്ത ആദ്യ 5 മണിക്കൂറിൽ തന്നെ 20 ഐസൊലേഷൻ വാർഡുകൾ തയാറാക്കാൻ ആരോഗ്യവകുപ്പിന് സാധിച്ചു. ഈയിടെയായി രോഗനിരക്കുകൾ ഉയർന്നത് ആശങ്കകൾക്കു ഇടയാക്കുന്നുയെങ്കിലും സങ്കീർണമായി അവസ്ഥകൾ മാറുന്നില്ലെന്നു ആശ്വസിക്കാം...

കൊറോണ വൈറസ് ബാധ സ്ഥിധികരിക്കുന്നതിനുള്ള ടെസ്റ്റ് ര□ുഘട്ടമായാണ് നടത്തുന്നത്. ആദ്യഘട്ടത്തിൽ രോഗിയുടെ സ്രവം ഉപയോഗിച്ച് നടത്തുന്ന റിയൽ ടൈം പോളിമറൈസ് ചെയിൻ റിയാക്ഷൻ (ഞഠജഇഞ) ടെസ്റ്റ് നടത്തുക ര□ാഘട്ടമായി ജീൻസിക്യൂഎൻ സിങ് ടെസ്റ്റ് നടത്തുന്നു. ഇതോടെ രോഗബാധ പൂർണമായും സ്ഥിതികരിക്കാനാവും. വൈറസ് ബാധയുടെ ഇൻക്യുബേഷൻ പീരിയഡായ 14 ദിവസത്തിന്റെ ഇരട്ടി ദിനങ്ങൾ നിരീക്ഷണത്തിൽ കഴിയുന്നതോടെ രോഗബാധ ഉ□ാകുമോ എന്ന് സ്ഥിരീകരിക്കാൻ ആകു.....

കോവിഡ് 19 എന്നതിനെ എന്നന്നേക്കുമായി തുടച്ചു നീക്കുവാൻ കഴിയുമോയെന്നത് ആശങ്കയുളവാക്കുന്നതാണ്. മാസ്കും സാനിറ്റൈസറുക്കളൊക്കെ നിത്യജീവിതത്തിന്റെ ഭാഗമായി കുറച്ചു നാളത്തേക്കെങ്കിലും നിലനിൽക്കും.... കോവിഡ് 19 നു ശേഷം നാം നേരിടാൻ സാധ്യതയുള്ള തൊഴിലില്ലായ്മയും സാമ്പത്തികപ്രതിസന്ധിയുമൊക്കെ തരണംചെയ്യുവാൻ ഭരണകൂടം വേ□ുന്ന നടപടിക്രമങ്ങൾ സ്വീകരിക്കേ□താണ്.. സ്വന്തം ജീവനാണ് ഒരു മനുഷ്യന്റെ എറ്റവും വലിയ ധനം. കോവിഡ് 19 ഒരു നവലോക നിർമ്മിതിക്കുള്ള എല്ലാ സാധ്യതക്കളും തുറന്നു തരുന്നു....



Reeba Biju
S6 ECE

CHANGING TRENDS IN EDUCATION

THE NAME OF THE DOG IS PUPPY. This seems like a simple sentence. But did you know that in Kenya, Tanzania, and Uganda, three out of four third grade students do not understand it? In rural India, nearly three-quarters of third graders cannot solve a two-digit subtraction problem such as 46 minus 17, and by grade five — half still cannot do so.

The world is facing a learning crisis. While countries have significantly increased access to education, being in school isn't the same thing as learning. Worldwide, hundreds of millions of children reach young adulthood without even the most basic skills like calculating the correct change from a transaction, reading a doctor's instructions, or understanding a bus schedule—let alone building a fulfilling career or educating their children.

A global learning crisis

One big reason the learning crisis persists is that many education systems across the developing world have little information on who is learning and who is not. As a result, it is hard for them to do anything about it. And with uncertainty about the kinds of skills the jobs of the future will require, schools and teachers must prepare students with more than basic reading and writing skills. Students need to be able to interpret information, form opinions, be creative, communicate well, collaborate, and be resilient.

Change starts with a great teacher

A growing body of evidence suggests the learning crisis is, at its core, a teaching crisis. For students to learn, they need good teachers—but many education systems pay little attention to what teachers know, what they do in the classroom, and in some cases whether they even show up. Fortunately for many students, in every country, there are dedicated and enthusiastic teachers who, despite all challenges, enrich and transform their lives. They are heroes who defy the odds and make learning happen with passion, creativity and determination.But even heroes need help. We need to be sure that all teachers are motivated to do their best and that they are equipped with what they need to teach effectively.

We need an education system that excites children

The nation needs an education system that excites and stimulates children, providing them with the learning they need to fulfill their potential. This means providing a curriculum of practical and vocational learning alongside theoretical study.

Providing Hands on Experience

Modern classrooms are inclined more in giving unique hands on experience rather than following the traditional way of teaching. For example instead of showing color on paper, the educational professionals use blocks, toys, sand, water etc. which helps them demonstrate the difference between them in a better and more creative way. Children are often asked to assemble toys, read instructional directions, differentiate between currency notes and coins etc. which makes the child learn faster along with having fun. Today the educational professionals are not just mentors but they work as family.

The contemporary education trend does not revolves around classroom and homework. It focuses more on academic boosting of social and moral experiences. As the academic assessment of every child is requisite part of evaluation. It helps the educational professional to learn and understand the needs of every child. Assessment of any individual has gone beyond the parameters of marks obtained in exams or class tests. It focuses more on the social, moral and comprehensive development of a child.

Integrating Technology in Classroom

After narrowing down the assessment gap the most significant thing which changes the current education format is inclusion of technology. Technology is so widespread that offers so many new resources of learning. Technology helped us change dull and monotonous classrooms into a smart classes, working with visual upshots, audio discourses and other supplementary methods, makes the kid grasp and absorb swiftly.

THE INCREASING ROLE OF TECHNOLOGY

Online learning

Online Education in India: 2021', a comprehensive report prepared by KPMG in India and Google points out that the online education market in India is slated to witness an eight-fold growth by 2021. There is already a rise in the number of e-learning companies offering classroom supplement solutions and solutions for competitive examinations. And the coming years will witness a further rise.

Peer learning

Online learning opens the door for student collaboration. In a classroom, teachers are often pressed for time and there are not many opportunities for students to learn from one another. However, online learning platforms have a dedicated learning community where students can help each other learn. They can collaborate on projects, clarify each other's doubts or discuss projects. This helps them gain a fresh perspective on topics and learn concepts anew.

Anytime, anywhere learning

This trend allows students to learn anytime from anywhere ensuring learning is no longer limited to the four walls of a classroom. Students can learn from the comforts of their home or while strolling in the park. This allows learners to explore their interests more. For instance, in the conventional scenario, a learner can approach the teacher only during school hours to clarify any doubts. However, many online learning platforms have doubt clarification sessions that allow students to clarify their doubts instantly.

Making learning more engaging

One of the reasons technological intervention in the K-12 sector is successful is because of its great potential to make educational content engaging and interesting. Thanks to 2D and 3D technology, digital content has made itself a useful resource for both students and teachers. Theory in itself is not enough to make students understand concepts. Digital content due to its interactive nature is easy to grasp. Students are able to understand and retain concepts better. In the near future, we would see a proliferation of content using technologies such as Augmented Reality (AR), Virtual Reality (VR) and Mixed Reality (MR).

Artificial Intelligence

Compared to other sectors like health and infrastructure, technology has been a late entrant in the education sector due to which the impact of artificial intelligence is also be bound to be delayed. But it has immense potential to improve the learning outcomes in the education sector.

Adaptive learning

This is a unique learning solution powered by artificial intelligence, where the learning path is personalised for each learner based on interactions with learners. It suggests a series of assessments and study materials, to each learner to mitigate his/her learning gaps and meet their individual learning objectives. This personalised way of learning enables learners to study at their own pace and as per their own ability. Thus, a personalised learning experience engages students effectively in their own learning.

Besides the advent of technology, the education sector has also witnessed a change in the approach towards teaching and learning in the last decade.

Shalu Abraham
S6 ECE

Is It Safe ?

Now those who just entered the world of custom rom, they always have one question of safety and honestly nothing wrong in that. It is obvious to have such a question because custom ROMs are a modified version of android. Safety depends on what kind of custom ROMs you are gonna use. I am highly recommending to use ROMs developed by well-known organizations if you don't know their name then just search it on the internet but never download ROMs if the developers are unknown.

Why use?

Well, I am not suggesting that everyone just starts to use custom ROM but if you wanna dive deep in android modifications then you should use them. When OEM launches new devices they just drop the software support for old devices and whenever the new version of Android comes out your device fails to get that update in such cases custom ROMs are helpful. Custom ROMs can improve your device functionality, performance, stability, allow you to do any modifications plus you can get in contact with community, devs directly through social media if you need any fixes or solutions to your problem.

What is an Android Custom ROM ?

The term ROM, which stands for Read Only Memory and really has very little to do with what a custom Android ROM actually is, can be confusing. A custom Android ROM refers to a phone's firmware, based on Google's Android platform. Android is open source and therefore any developer can edit the code, recompile it, and re-release for a wide variety of devices. Users can install ROMs to change a device's appearance and behavior. ROMs are developed by the Android community, often times by a group of core developers who do this purely out of passion for modding. This means that most are completely free. Custom ROMs are available for phones, tablets, media players, smart watches and almost any type of device running Android.

When you buy your Android device, it comes with what we call a "stock ROM" or the "stock firmware". This refers to the preinstalled operating system. This ROM usually has limited functionality as defined by the phone's manufacturer. By flashing a custom ROM, you can unlock extra features and sometimes improve the performance.

Android Custom ROMs are developed by the Android community, oftentimes by a group of core developers who do this purely out of a passion for modding. This means that most of them are completely free.

Many Android users will never touch a custom ROM and will be perfectly satisfied. For those of us who want to push the performance of our devices and unlock extra features, we'll be using custom ROMs. Here are some of the benefits of switching to a Custom ROM:

• Performance

Out of the box, your phone or tablet's hardware is clocked at a speed that the manufacturer considers optimal in terms of heat and battery life. On a custom ROM, you'll be able to overclock your hardware to get big performance increases. These changes can really show when you're playing graphics intensive games. Another way a ROM can improve performance is by removing carrier or OEM-installed apps, known as bloatware, which can free up system resources.

• Battery Life

On the flip-side of overclocking, there's underclocking. If you don't really need all the speed of your massive processor, you can dial it back a bit by underclocking. With your processor running at a lower speed, you can often extend battery life by days! This is something to consider if you find yourself charging your phone multiple times per day. A custom ROM, again, by removing bloatware, can help free up the CPU to do less because there are fewer apps running in the background.

• Updates

One of the most frustrating things about owning an Android is waiting for your manufacturer to push an update to your phone so you can get the latest features. Often times manufacturers will even cut support for your device entirely. This leaves you stuck with a phone with an old version of Android. The solution is a Custom ROM on the newest Android version. Even if your phone is stuck on Oreo, you can download and flash a ROM based on Pie and Android 10. Many of the more popular ROMs even get updates on a daily basis.

• Customization

Android is already very customizable right out of the box. With a custom ROM you can even modify things like the color of your notification light, the force of your vibration, the saturation of the colors on your screen and much more.Custom ROMs delivers latest top end android features and customizations to low and middle end smartphones with extreme smoothness and stability.

Is Root Necessary?

NO..!!! you don't need to give root access for just installing custom ROMs because they can be installed through third-party recovery software and they don't require root access. All you have to do is unlock the bootloader of your device to install third-party recovery.

Will it affect the warranty ?

This totally depends on OEMs, for example in some cases unlocking boot-loader and installing Custom ROM may not void your warranty (Xiaomi, Realme, Oneplus). In some cases, you will lose your warranty (Asus, Sony, Samsung, Motorola) but its worth it.

Will it brick my device?

The process of installing custom ROMs is can be very easy/hard totally depends upon your knowledge. If you do things as per instructions then nothing strange will happen but if you don't then surely your device will die or hard brick.

What is a bootloader?

In simple terms, a bootloader is a bunch of code that runs on a device before the operating system starts up. This low-level code contains the instructions that tell a device how to start up and find the system kernel. To install third-party recovery you need to unlock it. Some OEMs (Huawei) don't allow you to play with a bootloader, so you can't install custom ROMs until they give permission (Xiaomi).

What is Custom Recovery?

Recovery is basically software which allow you to flash ROM, default recovery in a device is known as stock recovery which is developed by OEMs. Stock recovery allows you to flash stock ROM but not custom ROM, therefore you need third party recovery to get the job done. Orange Fox Recovery is one of the most popular and stable custom recovery.

Arun N R
S6 ECE

A Toast to a Beautiful Happening

ASHISH MATHEW JOHNSON
(2012-2016)

We grow up moving through school(s) and colleges we gain strength, wisdom, patients, skill, virtue and most importantly friends. As a point we will gain so much that we loose track of ourselves, that is when we discover a sense of balance between all these. My college life was calm and and at the same time frustrating, going through miss understanding anger and pain. But I never felt alone, The college I joined was not the college I passed out from. It grew with me, and when you have something like that, the it is cherished for a life time.

My first impression was, this looks the parliament house, not in a good way. It was classic old school. But it was ok but during the 4 years I got to see something beautiful come up, and to have been a part of that is an extraordinary feeling. It grew from 'the engineering college I go to' to 'My Engineering College'

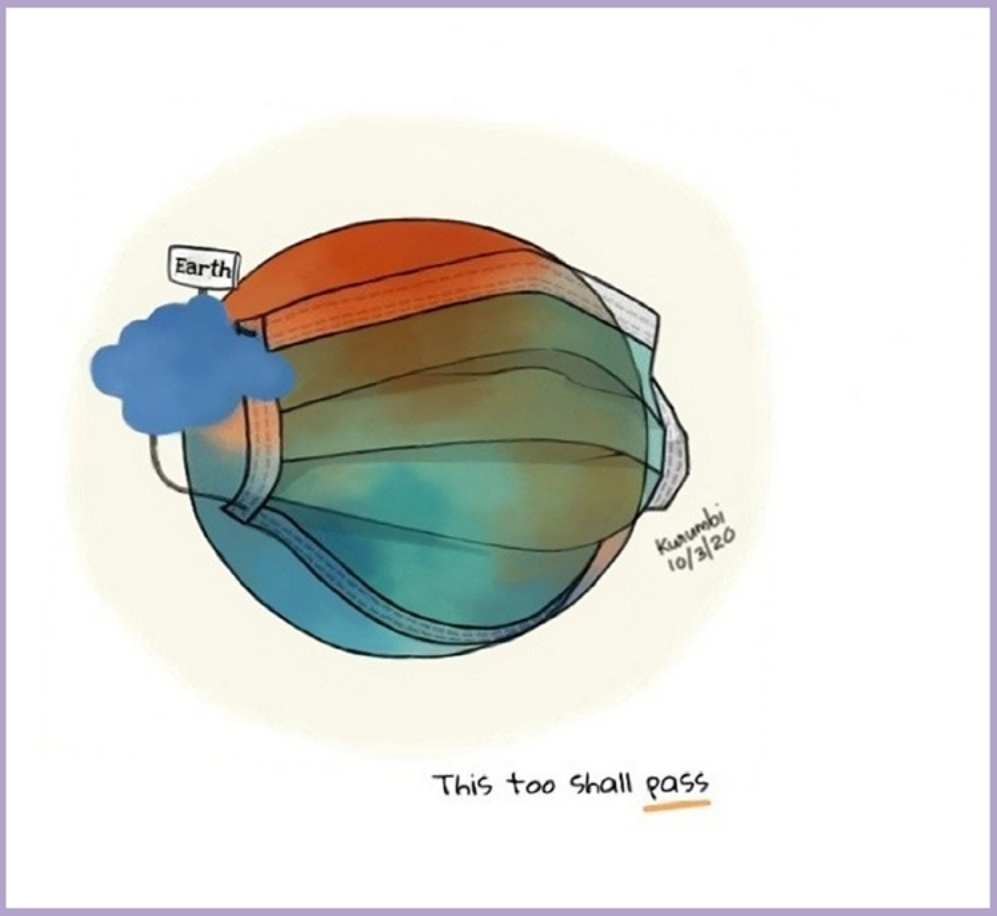
I had a short temper and an autocratic way of coordinating anything that was given to me, that is I had to do everything myself and everything that happens must be according to my will only. I learned to work as a team and to interact with others I was a more of an introvert, but I got the hang of balancing of going too much into myself and too much out there. I learned to manage different situation, and how to talk and more importantly how not to talk. Though I am not perfect I learned that it is ok and all you can do is keep improving, People will come and go, but friends will stay. They are the ones how shout at you and forgive you when you try to correct yourself. It was such a beautiful experience.

Having been not so good at studies I thought I was going to be alone, it is not that there were a lot of students that didn't study well, but I never felt alone, but I understood that this feeling of being left out is my own doing.

My college truly gave me balance and a sense of direction. It gave me an idea of how and were each emotion goes and how to balance each of them.

I am glad I choose my Mangalam College of Engineering. I am as good as I am because of everything that happen there.

Everything that happened was for good, I am glad it all happen, losses and all….a toast to moving forward.



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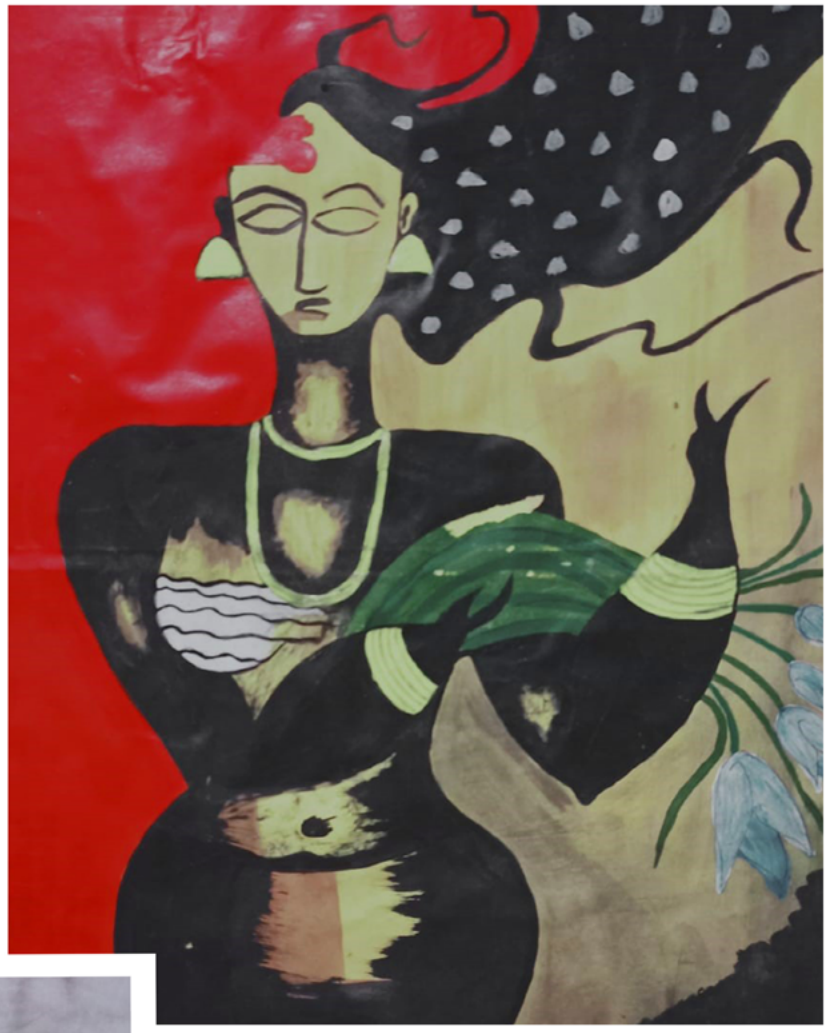
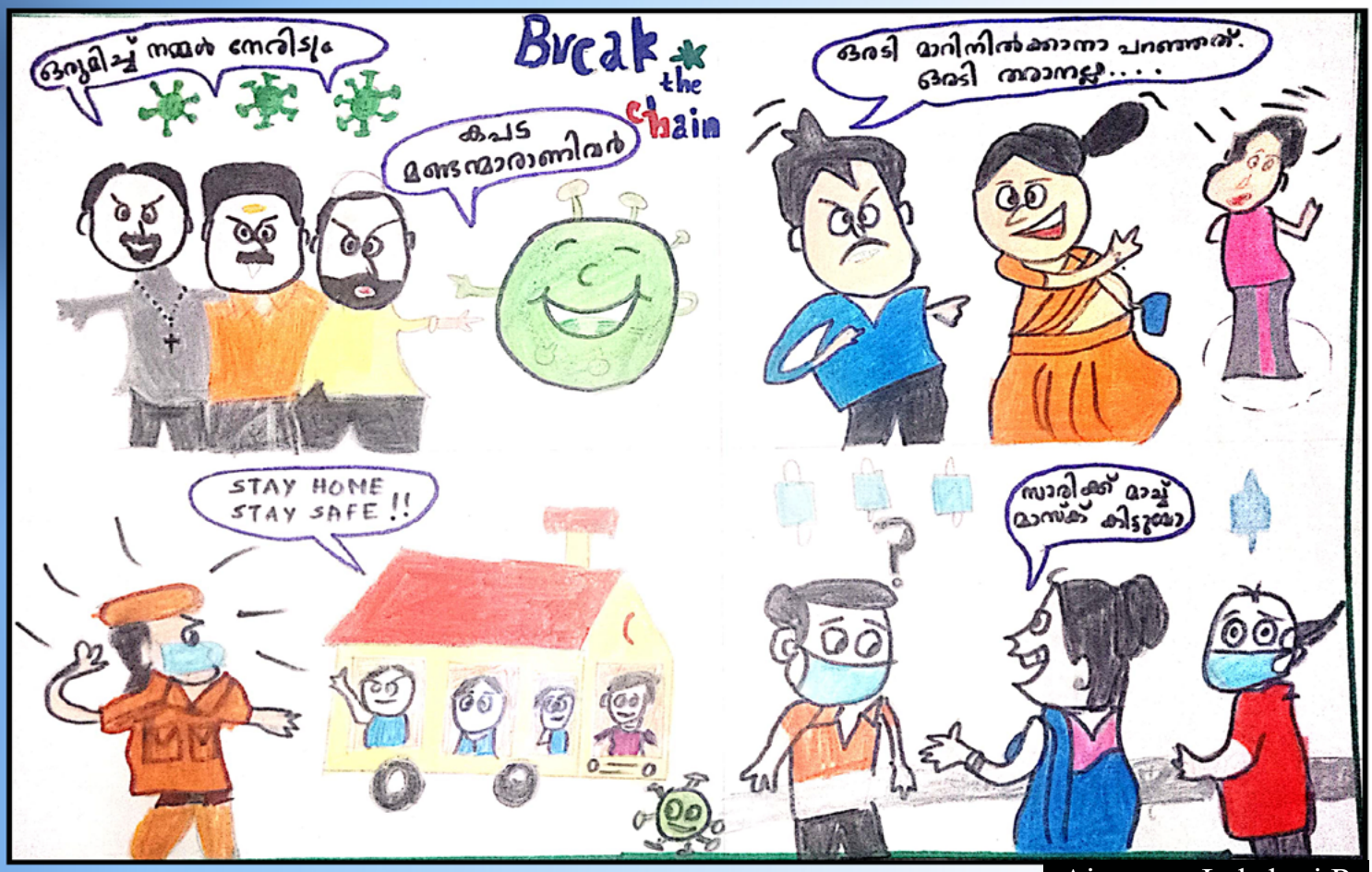


Honey mol S
S4 ece

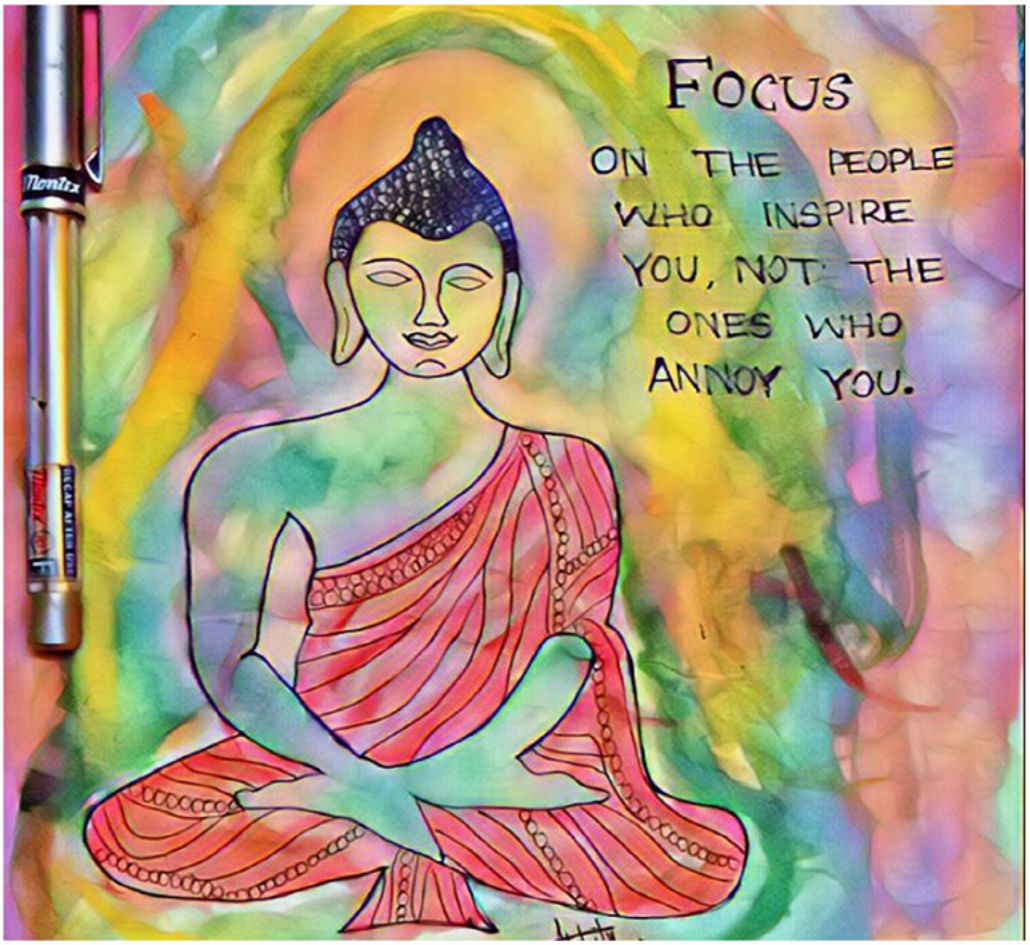
Ajay Prakash,
S4 ECE



Aiswarya Lakshmi R
S4 ECE

Akhil Kumar S

Anju Rajan
S4 ECE



Akhilu U
S4 ECE

മിന്നാമിനുങ്ങിൻ നുറുങ്ങുവെട്ടം

ഇരുട്ട്
ഏകാന്തതയുടെ കളിത്തോഴി
മൗനം കൊ□് അലമുറയിടുന്നവൾ
അവളും കരയുകയാണ് മൗനമായി
അലറിവിളിക്കുകയാണ്
കാതോർക്കാൻ ആരുമില്ലെന്നറിഞ്ഞിട്ടും
ബന്ധങ്ങളെല്ലാം വാക്കുകളായ
മൗനം കയ്യേറിയ ചിട്ടുകൊട്ടാരത്തിൽ

നാലു ചുവരുകൾ തീർത്ത അതിർവരമ്പിൽ
ബാല്യം ഞെരിഞ്ഞമർന്നപ്പോൾ
വാടിപ്പോയ പനിനീർപ്പൂവ്
വെളിച്ചത്തിൽ ചിരിച്ച് ഇരുട്ടിൽ കണ്ണീരണിഞ്ഞവൾ
കുസൃതികൾ ഉടഞ്ഞുവീണ കളിയിടങ്ങൾ
അകലെ നിർത്തിയ കൂട്ടുകാർ
ഉള്ളറയിലൊളിച്ച സ്വപ്നങ്ങൾ

എങ്കിലും അറിഞ്ഞിരുന്നു അവൾ
ഉള്ളിലൊതുങ്ങിയ ബാല്യത്തെ
വിരുന്നെത്തുന്ന അവധിക്കാലത്തിലൂടെ
മുത്തശ്ശിത്തണലിൽ□.. മാവിൻ ചുവട്ടിൽ..
എങ്കിലും കാണാത്ത ചിപ്പിയായി
സൗഹൃദമേ നീയവളിൽ ഒളിച്ചു

കണ്ണീർ കുതിർത്ത കവിൾത്തടത്തിൽ
ആദ്യമായി വെളിച്ചം വീശിയതവളായിരുന്നു
ചിമ്മിത്തിളങ്ങിയ മിന്നാമിനുങ്ങ്..
ഇരുട്ടിന്റെ കളിക്കുടുക്ക
അവളുടെ കൂട്ടുകാരി□..

അവധിക്കാലം കാലവർഷത്തിന് വഴിമാറിയപ്പോൾ
അവൾ യാത്രയായി തൻ സഖിയുമായി
പൊതിഞ്ഞു പിടിച്ച കുഞ്ഞിളം കൈകളിൽ
നാലു ചുവരുകളിൽ അവൾക്കു കൂട്ടാകാനായി
അവളുടെ തോഴിയായി□□
നിറപുഞ്ചിരിയുള്ള ചങ്ങാതിയായി

ഇരുട്ടിനെ പ്രണയിച്ചകൂട്ടുകാരിയോട്
അവൾ പകർന്നത് തൻ സ്വപ്നങ്ങളാവാം
തേടിയത് വാത്സല്യമാവാം
ചിമ്മിമിന്നുന്ന വെളിച്ചം അവൾക്കായുള്ള
നിറപുഞ്ചിരിയാവാം□□
ശാസനയുടെ അമ്മമനമാവാം

കാലത്തിന്റെ കുത്തൊഴുക്കിൽ
ആ തോഴി തൻ മിഴികളും ഉറക്കമായി
സൗഹൃദത്തിൻ ഓർമ്മത്താളിൽ
വീ□ുമാമിഴിനീർ പടർന്നപ്പോൾ
അവൾ തേടിപ്പോയി തൻ പ്രിയസഖിയെ
ചിമ്മിച്ചിരിക്കുന്ന സൗഹൃദത്തിനായി

ആയിരം നുറുങ്ങുവെട്ടത്താൽ
അവൾ വസന്തത്തെ എതിരേറ്റപ്പോൾ
മൗനം അവൾക്കിന്ന് അന്യമാണ്□□
വെളിച്ചമെന്ന അശ്വത്തിൻ തേരിൽ
തൻ തോഴിയെത്തേടി യാത്രയായവൾ
ലോകമേ നിനക്കിന്നവൾ
മൺചിരാതിൻ നുറുങ്ങുവെട്ടം മാത്രം

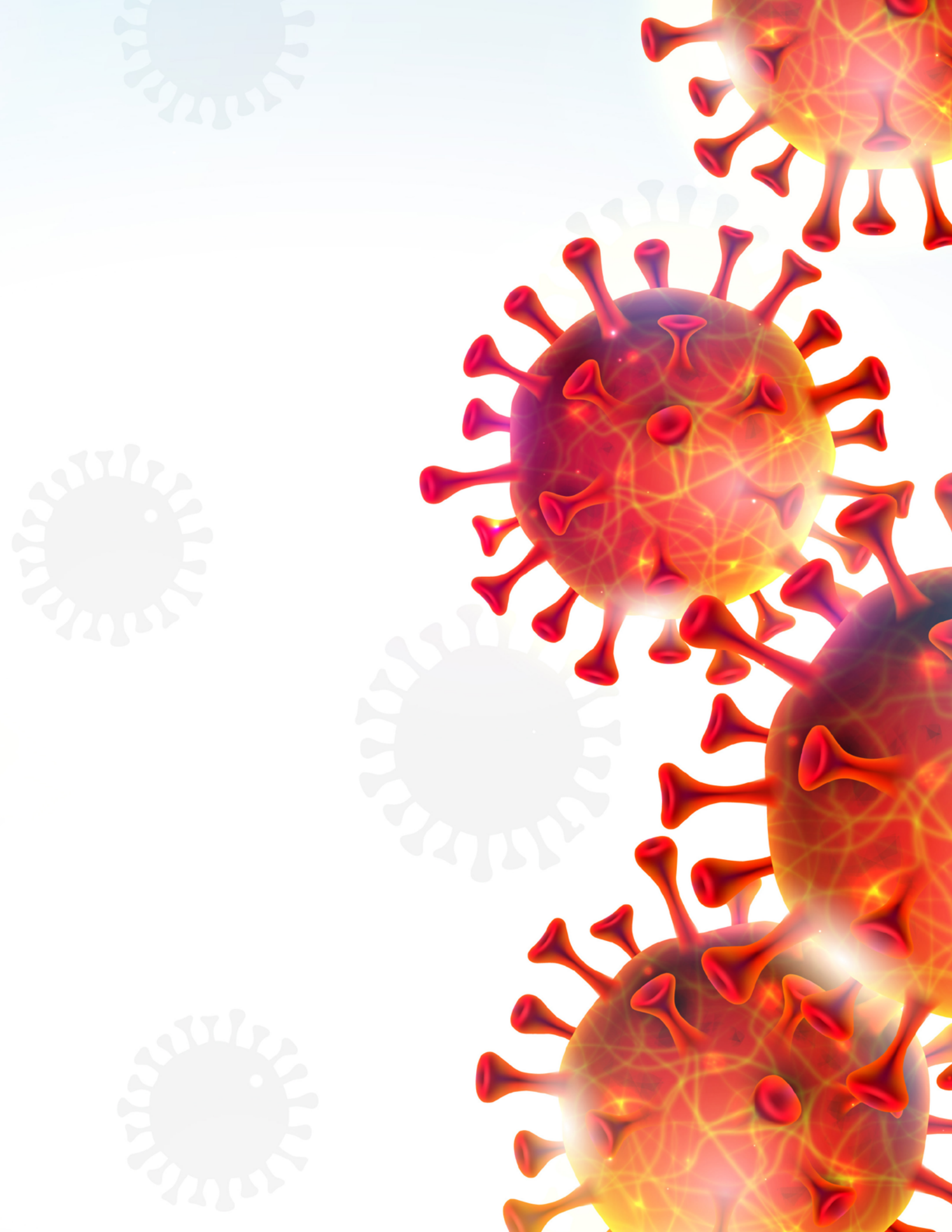
Anjana Babu
S6 ECE

വിഷാണു

ഉലകാകെ ഉലയുന്നു
ഭീതിയിൻ നെരിപ്പോടിൽ
അങ്ങിങ്ങ് അസ്ഥിരത
കാലപുരി പൂകി പതിനായിരങ്ങളും
കാരണഭൂതനാം അണിയറശിൽപി
അതിസൂക്ഷ്മമാം വിഷാണു
ഗുപ്തനിധിയാകും ഔഷധം
തേടിയലയുന്നു പ്രഗത്ഭരും
കർമ്മനിരതയിൻ പടച്ചട്ടയേന്തി
ആരോഗ്യസേവകർ,സമാധാനപാലകർ
തിരക്കിട്ട് പായും ലോകമോ
നിലയത്തിലോടിയൊളിച്ചു
ചങ്ങല കണ്ണികളറുക്കുവാൻ
ഒത്തുചേരലുകൾ ഒഴിവാക്കി
ശുചിത്വ ശീലങ്ങളേറ്റു പാടി
കരങ്ങൾ കൂപ്പി ആർഷഭാരത
പൈതൃകം വീ□ടുത്തു
പൊയ്മുഖമണിയും മാനവർക്കോ
വിപണിയിൽ പലവിധം
മുഖാവരണങ്ങൾ സുലഭമായി
അതിർവരമ്പുകൾ തീർക്കും
അസുരനാം അധിപതി
അവജ്ഞയാൽ ആരണ്യപുത്രനെ
അന്നത്തിൻ പേരിൽ ചോരനാക്കി
പ്രഹരമേൽപ്പിച്ചു പാതകം ചെയ്തു
കാട് കയ്യേറിയ കാട്ടാളൻ
കാട്ടുമൃഗങ്ങളെ കോമാളിയാക്കി
കൊന്നു കുതിച്ചുയരങ്ങൾ കീഴടക്കി
പുഞ്ചിരിക്കും പൈതലിനെ
മാതൃത്വത്തിൻ മേന്മ മറന്ന്
നിഷ്ഠൂരമായി നിഹനിച്ചു

ധാത്രിയാകും ധരിത്രിയെ
താണ്ഡവമാടി ചവിട്ടി
മെതിക്കും മനുജാ
ഇത് കാലത്തിൻ ഉപഹാരം
മരണശയ്യയിൽ പ്രകൃതിക്കോ
ഉച്ഛ്വാസം വീ□ുകിട്ടി
നിദ്രയിലാ□ നിർത്ഥരിക്കിത്
പുനർജന്മ പുണ്യകാവ്യം
ദേവാഗാരം,സരസ്വതി മണ്ഡപം
നിർജീവ നിർമ്മിതികളായി
വിരൽത്തുമ്പിലെത്തും വിജ്ഞാനം
അക്ഷയഖനികളായി
ആൾദൈവങ്ങൾ വരദായകർ
നേത്ര കർണ്ണങ്ങൾ മൂടിയിരിപ്പായി
പരമാർത്ഥത്തിൽ പാഷാണം
നരനോ വിഷാണുവോ?
ആർത്തിയില്ല,കൊച്ചു കൊച്ചു
സന്തോഷങ്ങളെ പുൽകുവാനും
ഉള്ളതുകൊ□് ഓണമുണ്ണുവാനും
പഠിച്ചു മർത്യർ ഇന്ന്
അനുഭവം ഗുരുവാണ്
ചരിത്രം ആവർത്തിക്കും
കാലചക്രമോടവേ ഇതു,
പുനർവിചിന്തനത്തിൻ നേരമേ
ഹിംസ വിട്ടു ജാതി മത
വർഗ വർണ വംശ ഭേദമന്യേ
നേരിടുക ഒറ്റക്കെട്ടായി
ശത്രു വിഷാണുവിനെ
അപരന് കരുതലായി
തളരരുത് തകരരുത്
വിഷാദത്തിൽ വീഴരുത്
അതിജീവനം അന്യമല്ലല്ലോ...

Sesil Thomas
S6 ECE



WHEN MY TIME COMES

I do not know when my time comes
To do anything that is worthwhile
But often I doubt how it will be
With a question I wonder my doings.

Still my fear when my last day comes
Oh! Should it will happen to me so soon.
A great desire is awaiting me
But I know it will happen to everyone.

Lord, I tremble even in your presence
Who will be with me to defend me
Because the evil that I did is rude
Has the time came for me to repent?

How shall I impress my deeds until they decays
If you are unwilling to hear my catastrophe
Will you drop me from my intervene
Then my lifespan ends with a swish.

FATHIMA FAUJA
S2 ECE

POWER OF TEARS

Tears heals the wound
Prayers wipe the tears
and it gave me the strength to
gain
Confidence.
Darkness is the partner of tears
It held hand with darkness,
to light the lamp of brightness
and paving a way for -
Brighter Smile.

Reshma Roy
S6 ECE

BEST FRIEND

A best friend for life
Throughout each day and night
She smiles in my joy
And laughs at my folly
She fills me with grace
Making my world much better place
She knows my fears and keeps my secrets
She is a partner without a partnership deed
Whose values can never be depreciate
She is someone too special in my world
Someone to cherish my life
We share our love in an equal ratio
Without an existence of any sacrifice or gain
She's a broken piece fallen to me
From the deepest part in heaven
A gift forever, a friend forever.

Linju Skaria
S6 ECE

CHASE OF INFINITY

Though the shadow hides,
with brisk and shine,
never bothered to be alive,
to know the reality grazing in the open world.
A mesmerising truth that opens the secrets,
stored in those sensational creations.

Under the wings of those strains,
showing the glimpse of terror,
seeking for another chance,to form a lean barrier.
The twinkling layer beyond the sea,
similar to that of the hollow sky,
with endless creations and seeking elements,
making the world so high.

Over the dark nights,
in search of those unrevealed secrets,
over the darkest hour,
as time passes, which cross the feeling of fear,
by adopting those sparkles unrevealing the path.

Sruthi Prasad
S2 ECE

SUNKISSED

And only a few hours had left for him,
to say goodbye
He is all set to clear his way to his shining sun
Bella is still I her dreams of her new beginning
Roosters made her to wake up
And she felt this wakeup was pore peaceful
than any days
In the circumference of birds chopping's Bella
found so blessed
Cuckoos gave her a warm welcome
Full of fragrances colored by birdsongs, lead
Bella to hilltop
And the white peach already left clearing the
way to his golden path
Bella opened her eyes to see the one she had
dreamt of
His pristine rays kissed her forehead, made
the place a sublime one
Bella descended the hill, with heart full of pleasure.

Aiswarya Lakshmi R
S4 ECE

HER BIG DAY

Pearls from heaven blessed her
Fragrance from roses cuddled her
Melodies from anonymous striked her
Colours from clouds kissed her
Pretty dolls and handsome heroes came for her
Chimes of chandlies made the wedding places more romantic
Happiness,Happiness,Happiness!!!
And she, waited for her handsome to arrive

MONSTER AND ANGEL

Mamma, monster is seizing me
Locating my hiding place
Invisible, nasty, brutal
giant and dark creature
Destroys my inner peace
Consuming me whole as a prey
Appear as a nightmare
Snatching my sweet nap
Drenching me in tears
Feeling like I'm drowning
In a blue deep vast ocean
No one is there to save me
I squeezed the pillow hard
As a rope of hope
Goals are falling apart

Isolated in the crowd
Why does he follow me?
when there is no proper reason
Heartache in my chest
Emptiness in my stomach
I found his identity
He is Mr. Depression

Mamma, an angel is raising me
Compel me to come out of shell
Invisible, virtuous, kind,
giant and pale creature
Enlightening me with wisdom
Challenging against depression
Won a battle in my brain war field
Supressed sadness in my mind
Setting up a routine, ray of hope

utine, ray of hope
Toil with pleasure
Engaging in jovial activities
Appear as a lifetime
Feeling like I'm flying
with wings of wishes
In the blue cloudless sky
Everyone is there to cheer up me
Spending time with friends and family
Splitting up my joy and sorrow
Pursuing happiness in life
I follow him without any objection
I had a proper reason
Joy in my jaw
Self esteem in my heart
I found his identity
He is Mr. Dream

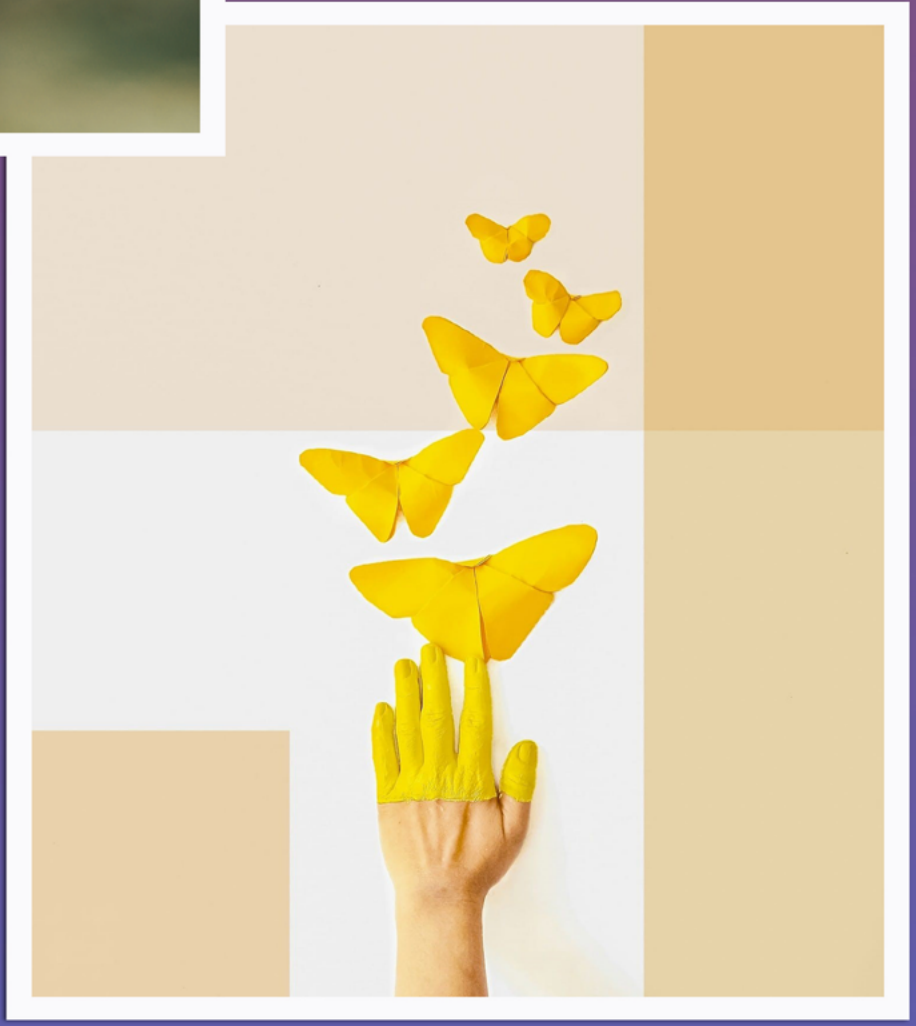
Sesil Thomas
S6 ECE

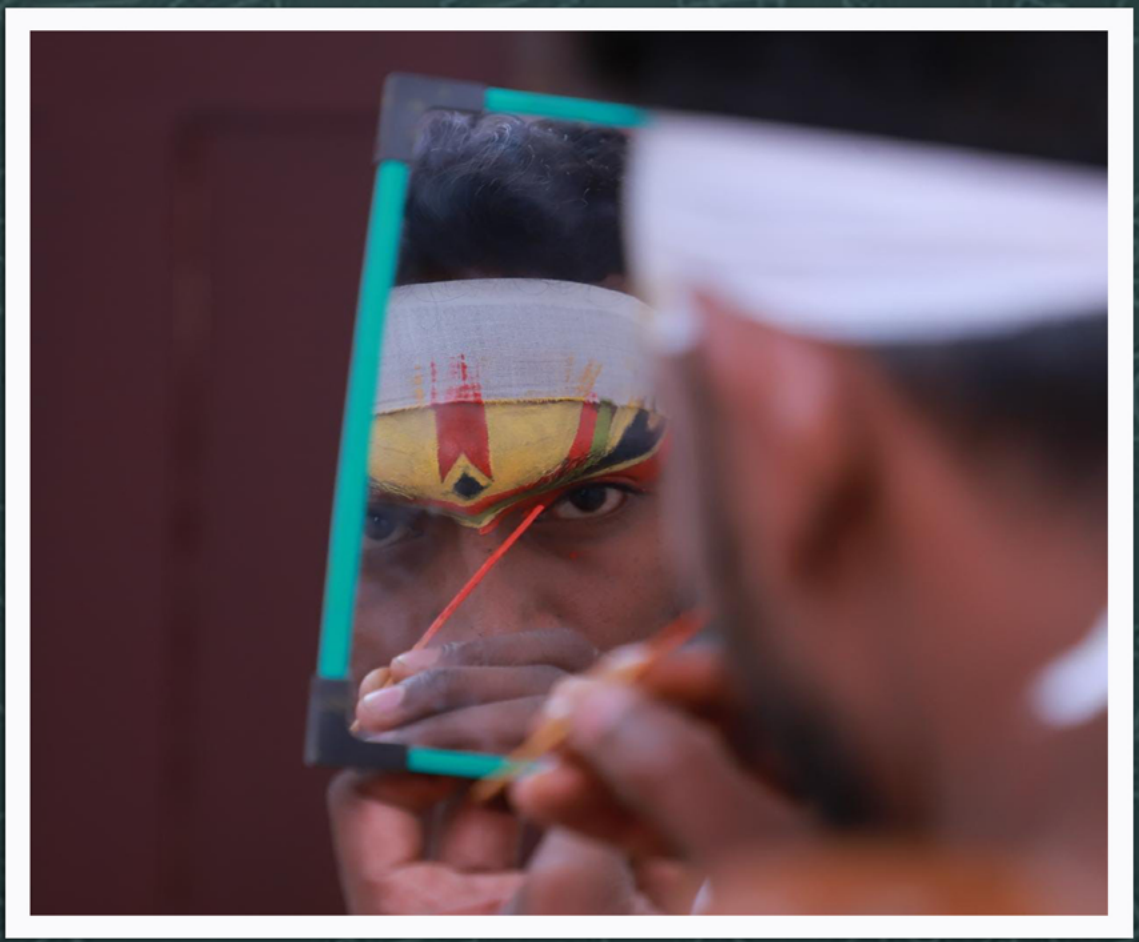
AND THAT WAS ALL THE DIFFERENCE

I'm going for it and for a
change it's a decision
no way, what will others think?
Oh come on, its my life from
where did these others come from?
No one does that these days
just follow the trend or else
you'll end up nowhere
I'm tired of living my life
impressing others and
pretending that I'm happy about
everything, I will unbound
myself of these chains today
and depart for my destination
And that was made all the difference

Abhishek Ajukumar
S4 ECE

wideangle
PHOTOPLAY





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ELECTRONICS AND COMMUNICATION DEPARTMENT

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(BATCH 2016-2020)

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