## NATIONAL ENGINEERING COLLEGE

(An Autonomous Institution - Affiliated to Anna University, Chennai)



K.R. Nagar, Kovilpatti - 628503



#### DEPARTMENT OF SCIENCE AND HUMANITIES















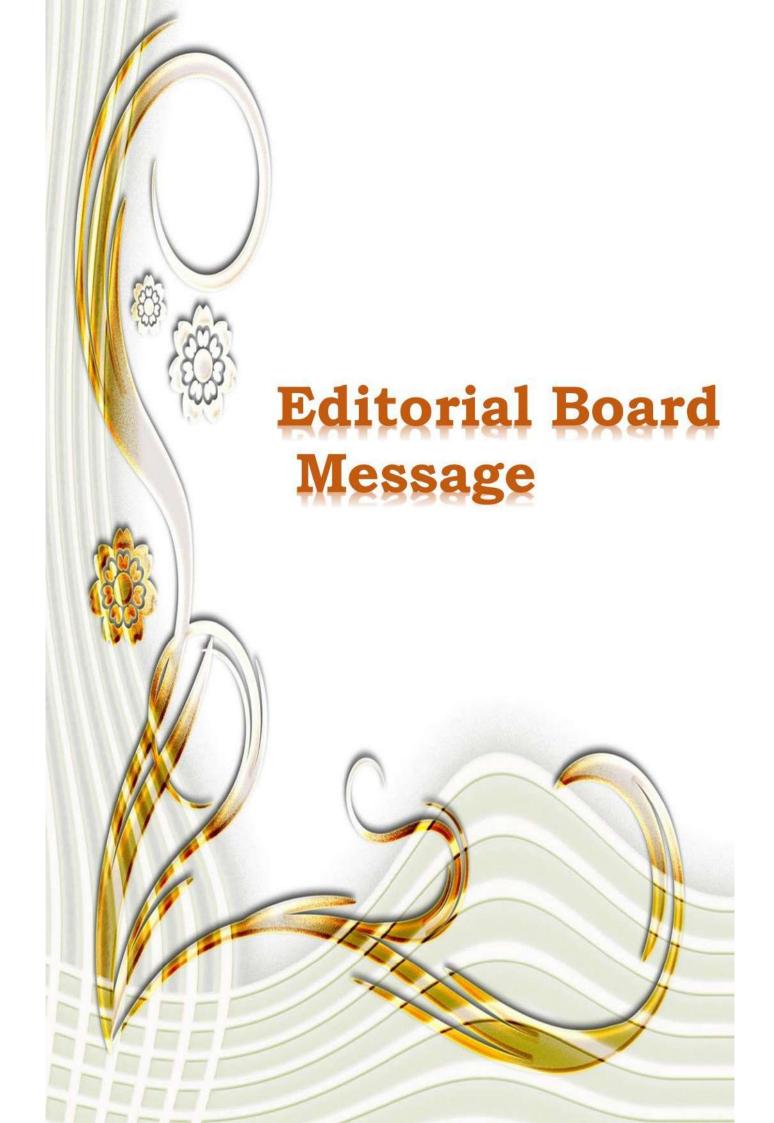
Newsletter 2K20 - 2K21

VOLUME - 6

ISSUE - 1

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# EDITORIAL BOARD

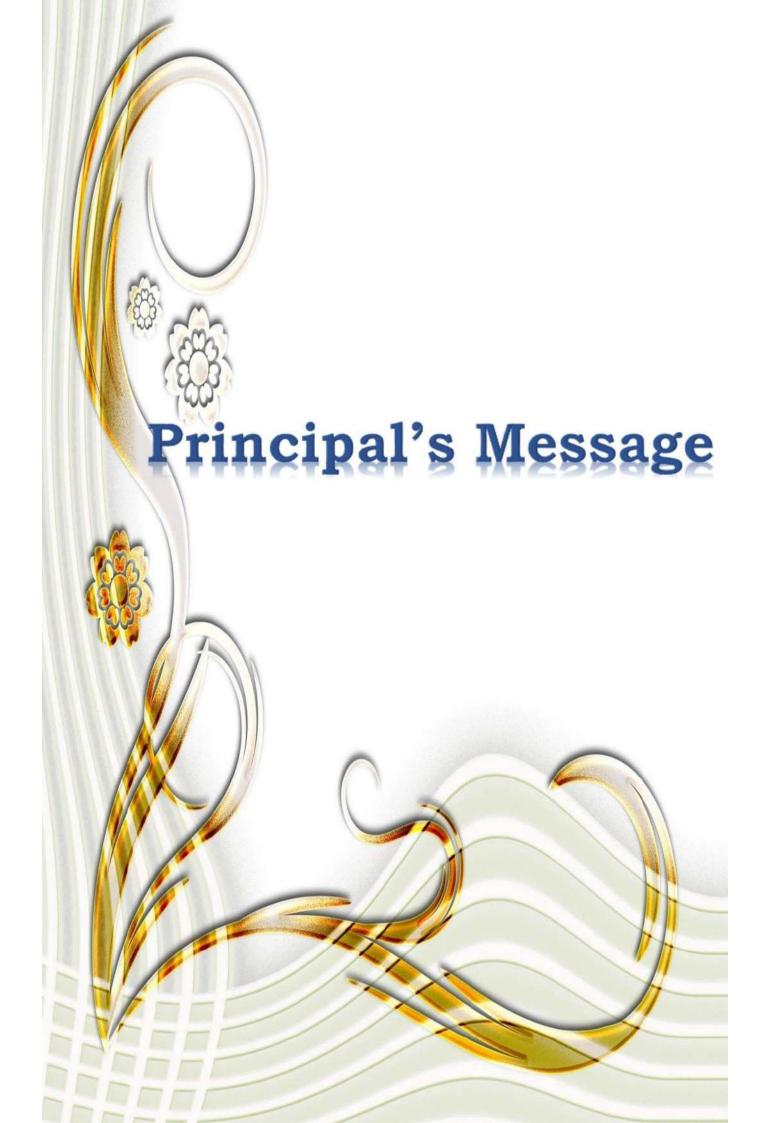
NEC would always set up learning activities that allow students to explore their creativity in relevant, interesting, and worthwhile ways. Newsletter is also one such platform for recognizing students' innovation and creativity. ThSis will enable the students to create what they want in their lives. It aims to provide a record of the College's activities and the achievements of students, staff members, and alumni, as well as offering interesting articles and their literary work of art. It gives us immense pleasure to continue the sequel of NEWSLETTER for the academic year 2020-2021 of our DEPARTMENT OF SCIENCE AND HUMANITIES. NEC has a great insight for making students with dazzling future by sculpting them to be participated in various activities and giving liberty to execute their ideas. The main aspect of the Newsletter is to maintain the high standard of integrity among students to develop their ideologies and their innovation in this highly advanced technical world. We wholeheartedly express our gratitude to the management for their consistent support, encouragement, and a free hand in this endeavor. We are thankful to all the student authors who have contributed articles for this newsletter. We truly believe that the pages in the Newsletter that follow will make all the readers to have a quality time.



# DIRECTOR'S MESSAGE



It is a matter of great pride and satisfaction for NEC to bring out the Newsletter which is released from the Department of Science and Humanities. It has made a tremendous effort to showcase students' talents in all the academic and non-academic areas. The efforts behind this Newsletter and its continuous sequel in every year are very much worth to appreciate. I am confident that this issue of Newsletter will have a positive vibe on all the students and the people who are interested in the arts, literature, sciences and technology and innovation. A Newsletter is like a mirror that reflects the clear picture of all sorts of activities undertaken by the Department and develops the creative writing skills among students such as essay and poetry. This enhances the reading practice of students. I want to appreciate Department of Science and Humanities and all the faculty members who have played wonderful role in accomplishing the task in time. I want to extend my heartfelt Congratulations to all the first year Students of NEC for their fruitful effort.



# PRINCIPAL'S MESSAGE



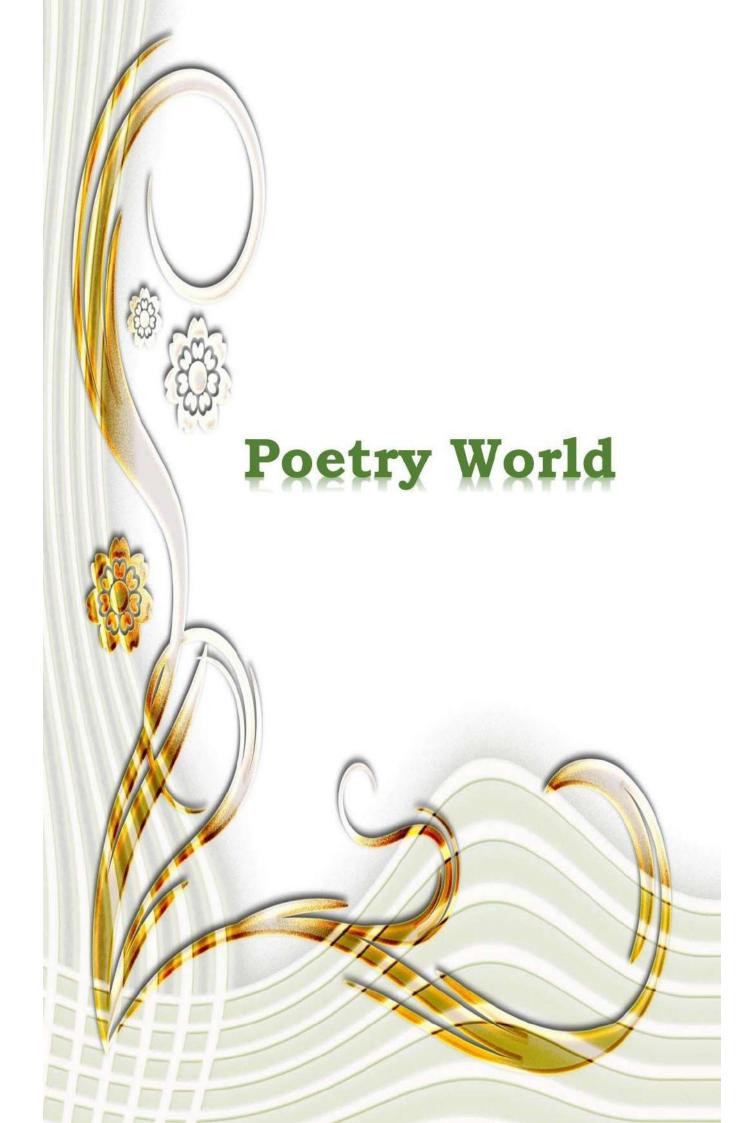
It is a great pleasure to congratulate the Department of Science and Humanities for such an excellent and well-rounded extra-curricular activity, The Newsletter. In a significant note, it provides the students with the essential information as well as it creates a way for them to develop and streamline their various skills, nurture their personalities and character. Therefore, NEC is continuing the platform called Newsletter for the benefit of students. The Newsletter can be the chisel and plays vital role in the life of a student. I want to congratulate all the faculty members for their sincere effort behind this Newsletter and bringing the platform to ignite students' creativity. I want to congratulate the Department of Science and Humanities for their tremendous guidance and support for bringing The Newsletter. I whole heartedly appreciate all the students for their continuous creativity and their timeless effort.



# HOD'S MESSAGE



It is my great pleasure to welcome you all for the NEC'ians hub of innovative thoughts and ideas, The Newsletter. NEC is actually known for bringing out students' potentialities and talents and making them to think creatively and find new things innovatively. It gives me immense pleasure to congratulate all the faculty members for their sincere effort for shaping the students with high caliber and talents. More significantly, it offers umpteen opportunities to gain transferable skills among students. I always believe, creativity allows viewing and solving the problems more vividly with innovation. The newsletter is the best platform which broadens students' perspectives and encourages students' literary skills and innovations to be recognized. I want to congratulate all the students for their wonderful support for the Newsletter publication successfully.



#### FRIENDSHIP - A REMINISCENSE

என்னோடு கருவழியால் நீ பிறக்கவில்லை என்றாலும்

என்னுடைய மறு ஒளியாக நீ இருந்தாய்...

என்னுடைய இன்பத்துக்கு விடையை விதைத்தவனும் நீ.

என்னுடைய வெற்றிக்கு என்னை விட அதிகமாக மகிழ்பவனும் நீயே. .

அன்பு ஒன்று தான் அனாதை. ஆனால் இந்த அனாதை அன்பை இத்தனை பேர் தத்தெடுப்பீர் என்று நினைக்க வில்லை.

உயிர் மாய்ந்தாலும் மணம் உடைந்தாலும் மரணம் அடைந்தாலும் என் உள்ளம் உன்னிடம் பாதுகாப்பாக இருக்கும் என்று நான் அறிவேன்.

நீங்கள் அனைவரும் என் மனதில் இருப்பீர் நினைவிருக்கும் வரை அல்ல. உயிரிருக்கும் வரை.

BY:R. JEEVAN SIDDHARTH

#### NATURE

Nature! Nature! So lush and green, The wonder of wonder anyone has seen So cool, clam and full of life Makes us forget all our strife Think of a forest full of trees Fluttering and dancing in the breeze. Cut them down and construct towers, Wait for ages to get a shower. The birds that soar high in the sky, Can we imitate them however hard we try. Learn to wonder and gape at things And see the happiness it brings We have got such wonderful things, Do what you can and save a wing. So that our children in future, MADHUMITHA M 2015002

I year IT

# SVILE

A smile starts from my mom,
After giving me birth to the world,
A smile spreads to family, friends
To share the happiness around me.
A smile Make me comfort and strong,
As from the enemies who trigger me.
A smile Give a contact to nature,
To enjoy to have a long breath to sleep.

S.krithika I year 2015007 IT

## POEM -MY MOTHER

MY MOTHER IS MY TREASURE,
SHE GIVES ME PLEASURE,
WHICH I CANNOT MEASURE,
SHE GOES CRAZY,
WHEN IAM LAZY
AS SHE MOULDS MY CHARACTER,
SHE IS MY DIRECTOR
GOD COULDN'T BE EVERYWHERE,
AND SO...HE MADE MOTHER FOREVER

BY
HARINI.M
2015009
BTECH-IT (1<sup>ST</sup> YEAR)

#### POEM - LIFE

LIFE IS AN OPPORTUNITY; BENEFIT FROM IT

LIFE IS SHORT; MAKE THE MOST OF IT

LIFE IS BEAUTY; ADMIRE IT

LIFE IS A CHALLENGE; MEET IT

LIFE IS LOVE; ENJOY IT

LIFE IS A RACE; RUN IT

LIFE IS A RIDDLE; FIND IT

LIFE IS DIFFERENT; LIVE IT

LIFE IS AN ADVENTURE; DARE IT

LIFE IS A JOURNEY; TRAVEL IT

LIFE IS LIKE A MIRROR; SMILE IT

**MEMORIES ARE SWEET; CHERISH IT!!!** 

BY

KARISHMA.S

BTECH-IT (1<sup>ST</sup>YEAR

## MODERN TECHNOLOGY

Modern technology is great when its works If you can handle all the buggy quirks Patience is key when dealing with the conveniences When pushing all the right buttons takes geniuses Modern technology is a great mind feeder I keep a whole library in my e-reader I went to read a book and what did I find I pushed the button and the screen didn't shine Modern technology is great for knowledge More than you can learn in the greatest college Anything you need to know is on the internet And everything is accurate, it's a sure bet Modern technology is the great new way So click away on your keyboard all day Seeing daylight is not healthy anymore There's no reason to ever go out the door

Arthi .S 2015027 I year

## POVERTY

Look at those wide eyes...

Staring blankly at the sky,

With no tears to cry.

The children were craving for bread, And to their poor mother they-d run; -Oh, give us some breakfast,- they said, Alas! their poor mother had none.

No stone field flowers For love of you, so walk There is nothing left To carry but your voice

Our world is a carton tent. He never knew what 'delicious' meant. Only God can his wounds mend. And poverty is his only friend!

Kavishka P 2015028

# LIFE

Life is real! Life is earnest!

And the grave is not its goal;

Dust thou art, to dust returnest,

Was not spoken of the soul.

I shall be telling this with a sigh

Somewhere ages and ages hence:

Two roads diverged in a wood, and I—

I took the one less traveled by,

And that has made all the difference.

What is this life if, full of care,

We have no time to stand and stare.

To live a life that matters,

To be someone of great worth.

To love and be loved in return

And make my mark on Earth
Thus alone can we attain
To those turrets, where the eye
Sees the world as one vast plain,
And one boundless reach of sky.

SUNDAR RAJ M 2015053

#### பெண்ணின் பெண்ணியம்

#### முன்னுரை :

பெண்ணியம்', இச்சொல்லை இன்று அனை வருமே தவறான சொல்லாகவே கருதுகிறார்கள் ் அதற்கு காரணமும் உண்டு ் தீய செயல்களைச் செய்துதற்கான சுதந்திரத்தை குறிக்கவே இன்று பலபெண்கள் இப்பெண்ணியம் என்னும் சொல்லை பயன்படுத்தி அனைவரின் எண்ணத்திலும் இச்சொல்லை இழிவான பொருளுடன் பதியவைத்துள்ளனர் ் ஆனால் இந்த எண்ணமும் பெண்ணியம் குறித்த அதந்திகளும் மாற்றமடைவதற்காக இக்கட்டுரையை நான் சமர்பிக்கிறேன் -

#### பாரதியின் பெண்ணியம் :

அச்சமின்றி அச்சமின்றி " எனக்கூறி ஆங்கி லேயோர் மணத்தில் அச்சத்தை விளைவித்த பாரதியாரின் பெண்ணிய கவிதைகளால் பெரிதும் ஈர்க்கப்பட்டவள் நான் · அவரின் அனைத்து பெண்ணிய கருத்துக்களும் பெண்ணியம்' என்னும் சொல்லின் சரியான பொருட்களாகும் · எத்தனையோ கவிதைகள் கேட்டாலும் , பாரதியின் " மாதர் தம்மை இழிவு செய்யும் மடமையைக் கொளுத்துவோம் " என்னும் வரிகள் கேட்கும் பொழுது தனியொரு உணர்வு தோன்றும் , ஒரு சக்தி பிறந்ததாக தோன்றும் –

#### ஆணம் பெண்ணும் சமம் :

ஆணும் பெண்ணும் ஓர் உயிரின் கிரு தலைகளாம் ; ஆணுக்கு பெண் இளைத்தவள் அல்ல " · ஆணும் பெண்ணும் சமம் என்று கூறுவதன் மூலம் நான் பதிவு செய்ய நினைப்பது , ஆண்களுக்கு கிடைக்கும்



## NUCLEAR POWER - A VIABLE OPTION AGAINST GLOBAL WARMING DUE TO CLIMATE CHANGE

#### Introduction

There is a word —drawdown which many of us never heard before but we ought to know. Drawdown is the new way of thinking about and acting on global warming. It's a goal for the future that we want, a future where reversing global warming is possible. Drawdown is that point in time when the atmospheric concentration of greenhouse gases begins to decline on a yearto-year basis. More simply is that point when we take out more greenhouse gases than we put into Earth's atmosphere. Nowadays we're all concerned about climate change, but climate change is not the problem. Climate change is the expression of the problem. It's the feedback of the system of the planet telling us what is going on. The problem is global warming, provoked by the increasing concentrations of greenhouse gases caused by human activity. Global warming stresses ecosystems through temperature rises, water shortages, increased fire threats, drought, weed, and pest invasions, and much more. So how do we solve the problem? How do we begin the process of reversing global warming? The only way we know how is to draw down, to avoid putting greenhouse gases up, and to pull down what's already there.

developing countries recognize and begin to act upon their shared stake in achieving positive outcomes that can be managed only by working together.

## Nuclear power

The saying is that with climate, those who know the most are the most worried. With nuclear, those who know the most are the least worried. A classic example is James Hansen, a NASA climatologist pushing for 350 parts per million carbon dioxide in the atmosphere. He came out with a wonderful book called -storms of my Grandchildren. And Hansen is hard over for nuclear power, as are most climatologists who are engaging this issue seriously. Today five out of six of us live in the developing world. We are moving to cities. We are moving up in the world. And we are educating our kids. Having fewer kids, basically good news all around. But we move to cities, towards the bright lights. And one of the things that are there that we want, besides jobs, is electricity. And if it isn't easily gotten, we'll go ahead and steal it. This is one of the most desired things by poor people all over the world, in cities and the countryside. Electricity for cities, at its best, is what's called baseload electricity. That's where it is on all the time. And so far there are only three major sources of that coal and gas, hydro-electric, which in most places is maxed out, and nuclear. I would love to have something in the fourth place here, but in terms of constant, clean, scalable energy, solar and wind and the other renewable aren't there yet because they're inconstant. Nuclear is

and has been for 40 years. Now from an environmental standpoint, the main thing you want to look at is what happens to the waste from nuclear and from coal, the two major sources of electricity. If all of your electricity in your life came from nuclear, the waste from the lifetime of electricity would go in a coke can, a pretty heavy coke can, about two pounds, but one day of coal adds up to one hell of a lot of carbon dioxide in a normal one-gigawatt coal-fired plant. Then what happens to the waste? The nuclear waste typically goes into dry cask storage outback of the parking lot at the reactor site because most places don't have underground storage yet. It's just as well because it can stay where it is. While the carbon dioxide, vast qualities of it, gigatons, goes into the atmosphere where we can't get it back and where it is causing the problems that we're most concerned about. So when you add up the greenhouse gases in the lifetime of these various energy sources, nuclear is down there with the wind and hydro, below solar and way below, obviously, all the fossil fuels. The wind is wonderful but one of the things we're discovering is that wind, like solar, is a relatively dilute source of energy. And so it takes a very large footprint on the land, a very large footprint in terms of materials, five to ten times what you'd use for nuclear, and typically to get one gigawatt of electricity is on the order of 250 square miles of a wind farm. In places like Denmark and Germany, they've maxed out on wind already. They've run out of good sites. The power lines are getting overloaded. And your peak out. Likewise, solar, basically bulldoze 1,000 square miles of land. It's okay on

dangerously radioactive for thousands of years after it is created. As you can see, there are many arguments both for and against nuclear power. With further technological advances, this zero-carbon energy source could help us reach a clean energy future.

#### Conclusion

We have real, workable technologies and practices that can reduce global warming. And it's already happening. What we need is to accelerate implementation and to change the discourse from one of fear and confusion. There are 100 solutions to reverse global warming eighty already exist today, and when taken together, those 80 can reduce global warming. And 20 are coming attractions, solutions on the pipeline, and when they come online will speed up our progress. These are solutions that are viable, scalable, and financially feasible. And they do one or more of three things: replace existing fossil fuel-based energy generation with clean, renewable sources; reduce consumption through technological efficiency and behavior change, and to biosequester carbon in our plants' biomass and soil. It's through a combination of these three mechanisms that reducing the effect of global warming becomes possible. So is reducing global warming is possible? The answer is yes, it is possible. But here is the great thing. We would want to implement these solutions So reversing global warming is possible, we can do it if we want to.

> Keerthigasri(2012115) 1 year CSE

### TECHNOLOGY AND DEVELOPMENT

Technology refers to the use of tools, machines, materials, techniques and sources of power to make work easier and more productive. While science is concerned with understanding how and why things happen, technology deals with making things happen.

Development is closely related with technology. The stage of development the human being has arrived could have been possible without the advancement in technology. The radical change and advancement in the economy, as we observe today, is the result of the modern technology.

Technology has brought about efficiency and quality in the manufacturing sector. Technological advancement has reduced the risk involved in manufacturing enterprises. There has been tremendous improvement in the field of health the world over not only the average age of people has increased but the mortality rate has also declined considerably.

This could be possible only because of technological advancement in health sector. There is perhaps no field of human life which has not been affected by technology. Agriculture, industry, profession, health, education, art, political processes, recreation, religious activities and daily life activities all are under the influence of technology.

But it is important to keep in mind that technological advancement has affected human life both positively as Well as negatively. Not only that life has become easy and comfortable, there are also indications of several threats to life and society in the future due to use/misuse of modern technology.

The nature and extent of development the human society has experienced by now is heading towards crises in future. The sustainability of development is in question today. This has happened only due to irrational use of technology.

It has been discussed here as to how development – economic as well as social – takes place with the advancement of technology but not without leaving a scar to threaten the human society. The development of technology, which itself is symptomatic of development, has brought about not only economic development but also radical changes in the social and cultural spheres of society.

S.KARTHICK MAHARAJA

2011077

ECE-B

#### MAPATHON EXPERIENCE

Rajasthan is considered to be the driest parts of the country and the main contributing factor that affects the soil fertility is land degradation. Myself along with my teammates at team amigos have analyzed different reasons behind land degradation in Rajasthan. We utilized the data from the Bhuvan portal developed by the Indian Space Research Organization. Soil loss classes, wind erosion classes, acid soil map, forest cover map, salt affected soil map and wasteland maps were integrated in the GIS using data from BHUVAN portal through QGIS software. Detailed flowchart and analysis have been attached. IRS LISS – III data was interpreted in GIS environment. Now I would like to discuss the various aspects of our study through out the further parts of our discussion. The region of interest has been chosen on the basis of extent of land degradation. In Rajasthan 180.3 Lakh Ha of land has undergone degradation. The major causes of land include, land clearance poor farming degradation overgrazing, inappropriate irrigation, urban sprawl, and commercial development, land pollution including industrial waste and quarrying of stone, sand and minerals. Land degradation has serious effects on the soil nature. The effect on the soil productivity and the environment around, decline in the land usefulness, loss of biodiversity, shifting ecological risk and a reduction on the land productive capacity. We have mapped the land degradation in Rajasthan also we have included various features to our map. The feature of our map is as follows sheet erosion occurs when rainfall intensity is greater than infiltration. Rarely seen but accounts for large volumes of soil loss. Rills are narrow and shallow channels which are eroded into unprotected soil by hillslope runoff. Since soil is regularly left bare during agricultural operations, rills may form on farmland during these vulnerable periods. Gully erosion is the removal of soil along drainage lines by surface water runoff. Gullies move by headward erosion or by slumping of the side walls. Ravine formation begins along river sides and encroaches upon the catchment area by headward growth. Ravines expands through Chasms flank the

Chambal in a 10 km wide belt, which extends southward from the Chambal-Yamuna confluence, some 480 km, to the town of Kota in Rajasthan, through Madhya Pradesh. In Rajasthan dunes occur in Bikaner, Barmer, Jaisalmer, Churu, Dugargarh, Jhunjhunu, Nohar, Sikar, Sardar Shahar etc. These are the spectacular features of Great Indian desert and occupy 58% of area. It is a nonsodic soil containing sufficient soluble salt to adversely affect the growth of most crop plants Soil Salinity Class Conductivity of the Saturation Extract (dS/m) Slightly saline [2 - 4 (dS/m)], Moderately saline [4 - 8](dS/m)], Severe saline [8 – 16 (dS/m)]. Sodicity in soil is the presence of a high proportion of sodium ions relative to other cations. Soils are often considered sodic when the amount of sodium impacts soil structure. Sodicity degrades soil properties by weakening the bond between soil particles. Frost heaving is an upwards swelling of soil during freezing conditions caused by an increasing presence of ice as it grows towards the surface, upwards from the depth in the soil where freezing temperatures have penetrated into the soil. Propagation of fractures due to expansion of freezing water in intergranular spaces and fractures in a rock body. Result is mechanical disintegration splitting, or breakup of rock. Barren Land has thin soil, sand, or rocks. Barren lands include deserts, dry salt flats, beaches, sand dunes, exposed rock, strip mines, quaries, and gravel pits. Water erosion is the removal of soil by water and transportation of the eroded materials away from the point of removal. Wind erosion can be caused by a light wind that rolls soil particles along the surface through to a strong wind that lifts a large volume of soil particles into the air. Waterlogging occurs when there is too much water in a plant's root zone, which decreases the oxygen available to roots. The process by which a nonsaline soil becomes saline, as by the irrigation of land with brackish water. The process of becoming an acid or the act of making something become an acid. It is relating to or denoting the presence or agency of ice, especially in the form of glaciers. Mapping of land degradation is essential in combating the complications caused by it. The cost of land degradation can be substantial for India where agriculture is a large contributor to the country's Gross Domestic Product, lost productivity can weigh heavily on the economy. A study by Delhi-based The Energy and Resources Institute (TERI) estimated that the economic losses from land degradation and change of land use in 2014-15 stood at 2.54 percent of India's GDP or Rs. 3,177.39 billion (Rs. 317,739 crore or US\$ 46.9 billion) for that year. Land degradation alone accounted for 82 percent of those costs. To prepare a degradation combating plan at the district or village-level, we need to map land degradation at a finer scale. It is better for preparing combating plans aimed at afforestation and conserving soil and water. Systematic implementation of watershed interventions should be a long-term priority in order to check soil erosion, improve soil moisture, increase recharge, stabilise river basins (catchments) and making agriculture and communities climate resilient. In future we could develop better infrastructure for carrying out mapping studies. The technology could revolutionize our land management. The geoinformatics proves to be promising tool in tapping the complete potential of our resources.

> BY HEMANTH.D 2011009

## WHAT MAKES SOMETHING KAFKAESQUE?

- ➤ The term kafkaesque refers to the sort of complex,unclear processes where no individual never really has an idea of what's going on and the system doesn't really care .This is a philosophical concept.This term "kafkaesque" was derived from a name called "kafka", who was a bohemian novelist in the 20th Century.He was known for style and quality so particular to him and anything that resemble that is referred to as "kafkaesque".
- ➤ We can understand this concept easily if we look into one of kafka's novels,"The Trial" in which the protogonist .Joseph kay is suddenly arrested at his home and was put into prison without the reason made clear to him. He was then forced to an absurd trial where nothing is really explained clear to him. At the end,he was never told why he is guilty or what was happening. This is called "Kafkaesque" where nothuing really make sense and everything

: 11: " (Albu : " Alba".

- ➤ But when Kafka was alive,he did not get any recognition for his work. He died believing his work wasn't good. After his death, his friend max brad published his works and here we are 100 years later talking about him. One of the philosophical figures of 20th Century, lived his life aware, unaware of the fact he was making history
- The most important thing here is that our life resembles to it, we came to lifeknowing nothing is made clear, we make money, friends, family and someday life and nothing of years of you wil make sense "Is out life also kafkaesque?" which is a billion dollar question that I learn't to your perspective.

By
S.Selvarajamanikam ECE
2011115



#### STRENGTH HAS NO GENDER

Gender inequality means inequality between men and women in accessing the existing resources. In the view of Krammara Treicehr any kind of behavior, policy, languages, and other actions that represents a fixed, comprehensive, and institutionalized view in regard to women as inferior beings, means gender inequality. (1985:185). Therefore, gender inequality refers to the differences between men and women in receiving social and economic advantages which is often to the benfit of men at the expense of women, which means men take superiority over women.

"Achieving gender equality requires the engagement of women and men, girls and boys. It is everyone's responsibility."

The issue of gender inequality can be considered as a universal feature of developing countries. One of the areas of disparity between males and females is related to the difference in their employment status which is present through occupational segregation, gender-based wage gaps, and women's disproportionate representation in informal employment, unpaid work and higher unemployment rates (UNFPA, 2005). As women in developing countries have low status in the community, the activities they perform tend to be valued less; and women's low status is also perpetuated through the low value placed on their activities (March et al., 1999).

In the case of Mauritius, even though there has been a rapid change in the society where women have reached a high level and hold status such as Judges, Directors, Engineers which were unconceivable to be the fields where women could emerged; there are still some occupation

I'm a strong woman because a strong woman raised me.
I love you mom.



where women are entangled in the culture norms and could not take the lead. For example, there are some sectors such as Fire Men at the Fire Services where there are no female officers.

The issue of gender inequality can be considered as a universal feature of developing countries. One of the areas of disparity between males and females is related to the difference in their employment status which is present through occupational segregation, gender-based wage gaps, and women's disproportionate representation in informal employment, unpaid work and higher unemployment rates (UNFPA, 2005). As women in developing countries have low status in the community, the activities they perform tend to be valued less; and women's low status is also perpetuated through the low value placed on their activities (March et al., 1999).

#### "Men of quality respect women's equality."

In the case of Mauritius, even though there has been a rapid change in the society where women have reached a high level and hold status such as Judges, Directors, Engineers which were unconceivable to be the fields where women could emerged; there are still some occupation where women are entangled in the culture norms and could not take the lead. For example, there are some sectors such as Fire Men at the Fire Services where there are no female officers.

Rather than men many women can also achived in their life

#### For Example:





"A nation's strength ultimately consists in what it can do on its own, and not in what it can borrow from others."

Indira Gandhi



- Anandibai Gopalrao Joshi became the first Indian female physician in the year 1887
- Marie Curie becomes the first woman to receive Nobel Prize. ...
  in the year 1903.
- Arati Saha became the first Indian and Asian woman to swim across English Channel in the year 1959. She also became the first female sportsperson to be awarded Padma Shri in 1960.
- Mother Teresa became the first Indian woman to win the Nobel Peace Prize in 1979.
- Shila Dawre became country's first woman auto rickshaw driver when she first stepped into the 'male-dominated' zone in the year 1988.
- Arunima Sinha is the first female amputee to climb Mount Everest.
- Kalpana Chawla was the first Indian woman who reached in space. As a mission specialist and a primary robotic arm operator, she went into space in 1997.
- Anjali Gupta is the first female flying officer in the Indian Air Force to be court martialled.
- Mithali Raj was the first woman to score a double hundred in Test Cricket (214\* against New Zealand at Wellington, 2004).
- Roshini Sharma recently became the first Indian woman to ride a motorbike from Kanyakumari to Kashmir.
- Pratibha Patil became the first woman President of India and held office from July 2007 to July 2012.
- Etc.....

So Gender doesn't a matter our Strength is the only thing that will help to prove ourself among the world





# NUCLEAR POWER - A VIABLE OPTION AGAINST GLOBAL WARMING DUE TO CLIMATE CHANGE

#### **Introduction:** -

Global warming is a critical problem faced by us at present. Our planet hasn't been hotter like never before. Global warming creates serious implications. As a result of rising global temperature, we could observe erratic weather conditions, rising sea levels, ocean acidification, melting of polar ice caps and extinction of species. These are alarming signs that depict that if the condition prevails life in our planet could become unsustainable. The main cause of global warming is the carbon emissions. Energy sector accounts for about three by fourth of the greenhouse gas emissions. Now it turns out to be crucial factor to reduce the greenhouse gas emissions arising from energy production. We need to look for much more clean and green solutions. When we consider different aspects such as sustainability, feasibility, viability, and availability we can conclude that nuclear power is the most promising solution to meet our energy demand. Nuclear is a zero-emission energy source also nuclear fuel is extremely dense fuel moreover it has a very low land footprint. Nuclear power has an enormous potential in powering up the entire world. Fossil fuels could get consumed at a faster pace on the other hand the extremely dense nuclear fuel could help us sustain in the longer rain. In addition to that the power generation is uninterrupted by natural factors. All these factors make nuclear power a reliable energy source. In every place there does exist challenges, nuclear power needs to be produced with utmost safety precautions otherwise it could result in catastrophic effects as those experienced at Chernobyl. We need to employ necessary safety technologies to ensure proper handling of nuclear fuel. In many instances people are against the development of nuclear power we need to create awareness among the people and ensure them safety and security. Let us dive into get deeper insights of the energy needs of the world and the latest technology in nuclear power production.

#### World energy matrix: -

Human development index is an indicator of the development in a particular country. Developed countries are found to have high HDI whereas developing and underdeveloped countries tend to have a relatively lower HDI. Interestingly we could observe a trend between Human Development Index and energy consumption. Developed countries with high HDI tend to have a higher per capita energy consumption on the other hand developing countries with low HDI have a lower per capita energy consumption. More than half of the entire world's energy was produced from fossil fuel sources which means the energy production contributed to load on the greenhouse gases. But when we look at countries with high HDI we find that in those countries the share of renewable sources is higher. The global energy consumption is set to shoot up high than ever before. The exponential growth in the developing countries could rise the demands and the demands needs to be met. When this electricity could be produced from a cleaner and greener source that will be help us in combating against global warming and climate change. Renewable energy sources power up one fourth of the electricity demands. Some of the drag factors in the development of the renewable energy sources include high cost, high land footprint, maintenance costs, availability, and low return of investment. Therefore, renewable resources could not compete with fossil fuels. So we need to use an alternative fuel source for energy production. Nuclear power turns out to be the most viable option. Let us explore the path into the development of nuclear power.

#### Nuclear power: -

We produce nuclear energy through nuclear fission process. The fission of atom releases enormous amount of energy therefore nuclear fission must be performed under controlled environment. We perform nuclear fission inside nuclear reactors. There are various types of reactors such as Pressurized Water Reactor (PWR), in which water at high pressure and temperature removes heat from the core transports it to a steam generator. In a Boiling Water Rector (BWR) water passing through the core is boiled to an intermediate pressure level. The saturated steam that exits through the core is transported through separators and dryers located within the reactor which promotes to a superheated state. The superheated vapor is used to turn the steam turbine. India began its nuclear research journey with high flux reactor, Apsara, which is India's and Asia's first nuclear reactor. The first commercial nuclear power plant had a

CANDU type reactor. The present-day nuclear power plants in India use Pressurized Water Reactor (PWR). Let us analyze the pros and cons of nuclear power. Nuclear energy helps in protecting air quality. Nuclear power plants can run 24 hours a day, 7 days a week. They can operate for longer stretches as they require refueling once in every 1.5 – 2 years. It is the most reliable energy source on the grid. Nuclear power poses its own challenges which are as follows nuclear power is viewed by the people as a dangerous or unstable process. As it could emit harmful radiations. Also, the process of handling of nuclear waste is a challenging process. This perception is based on global nuclear accidents nuclear power is mistakenly associated with nuclear weapons. Building a nuclear power plant could be discouraging because conventional reactor designs could result in multi-billion-dollar infrastructure projects.

Countries around the globe have pledged to fight climate change. Nuclear energy is the largest non-fossil fuel energy production source. If it is exploited to a great extent, then its complete potential could be unraveled. Nations have formulated policies supporting the growth of nuclear power. Several projects are under construction around the world on completion they could add up to the capacity. Research is being undertaken in the development of advanced reactors. A growth of 82% has been projected in the growth of nuclear power. With this we could conclude that nuclear power will play a key role in the production of energy from nonfossil fuel sources. Department of Atomic Energy has been constantly making efforts in developing nuclear power for the welfare of the nation. DAE has been instrumental in increasing the nuclear power potential. It has been implementing new projects. One of the notable achievements of DAE is the increase of nuclear power capacity from 4780 MW in 2014 to 6780 MW by completion of KKNPP 1&2 which is an increase of about 50%. DAE has also set records in the operational field by generating 14252 Crore Units of commercial electricity. DAE has global relations with other countries as they assist them in developing their nuclear program and technology. DAE has developed process to extract Cesium 137 isotope from high level liquid nuclear waste to make glass pencils for blood irradiation. India is the only country to have this technology in commercial market. The research in the agriculture sector helped the farmers in making higher yield and developing disease resistant breeds. DAE has a greater social responsibility as it strives to develop crucial nuclear technology in serving the citizens of the nation by developing radio therapy for cancer treatment.

#### **Conclusion:** -

Nuclear power could be considered the most viable solution to the global warming crisis provided we apply the modern science and technology in tapping the potential of the nuclear energy source. We need to develop more efficient and secure reactors. One of the challenging process in the production of energy from nuclear fuel is the handling of nuclear waste, if it is mishandled it could lead to catastrophic disaster as the harmful radiations could cause mutations. Advanced nuclear waste disposal programs prove to be a promising solution to the challenge. In addition to that many of the byproducts obtained after the energy production could be used in various applications such as radio imaging, radio therapy and it also finds applications in agriculture sector. With the advent of revolutionary technology radio therapy and diagnostics could become more affordable. Farmers could also benefit from crop irradiation technology. Nuclear power is zero carbon emission energy source. Increasing the nuclear power capacity will substantially reduce carbon footprint. The greenhouse gases in the atmosphere could be reduced as a result global warming crisis could be solved. Therefore, I conclude that nuclear power is the viable option against global warming due to climate change.

By

M. Guru Prasad

2011025

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# WHAT IS EDUCATION?

- 1. Education is the most powerful weapon which you can use to change the world-Nelson Mandela
- 2. The function of education is to teach one to think intensively and to think critically. Intelligence plus character- that is the goal of true education- Martin Luther King
- 3. Education is not preparation for life: Education is life itself John Demay
- 4. Education is the key to unlock the golden door of freedom-George Washington
- 5. The purpose of education is to replace an empty mind with an open one- Malcoln Forbes
- 6. An investment in knowledge pays the best interest- Benjamin Franklin
- 7. The roots of education are bitter; But the fruit is sweet- Aristotle
- 8. The whole purpose of education is to turn mirrors into windows.- Sydney J. Jlarris
- 9. Education is not the filling of a pail, but the lighting of a fire-William Butler Yeats
- 10. Education is the movement from Darkness to light-Allam Bloom
- 11. A child miseducated is a child lost- John F. Kennedy
- 12. All I want is an education and I am afraid of no one- Malala Yousafzai

Full form of 'EDUCATION'

E- Energy D- Discipline U- Uniqueness C- Confidence A- Art

T-Talent I- Intelligence O- Opportunity N- Nationality

By,

Mithraa Sri G

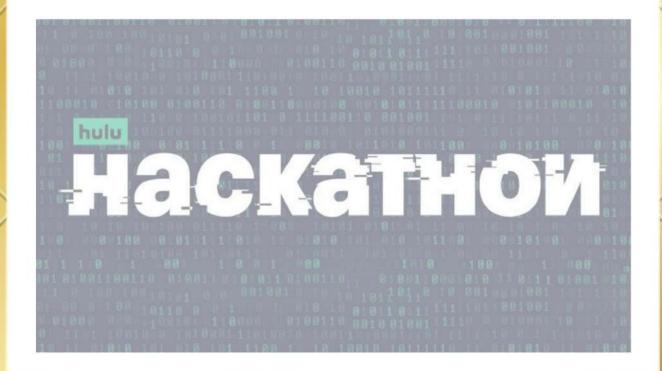
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borne diseases. Many water borne and vector borne diseases such as cholera, diarrhea, dengue, malaria, and typhoid could be controlled. Sometimes these diseases may become fatal. When people are infected, their productivity lowers thereby impacting the economy. Solving water shortage crisis. Every year lakhs of flood water are let into the sea during the monsoon season later people suffer water shortage in summer. If we ensure proper storage of this surplus water, it can be utilized during dry conditions. Climate change has threatened us with unprecedented massive floods causing damage to infrastructure, roadways, bridges, and houses. It makes lives riskier by causing huge damages. It is important for us to manage and overcome these problems. To solve the problem, we can use artificial intelligence-based technology to mitigate the flood and reduce the damages to a great extent. We keep on innovating to find solutions to solve the challenges faced by humanity. When we all unite to work towards progress it will definitely yield us fruitful results. Let us continue our journey of exploration.

BY

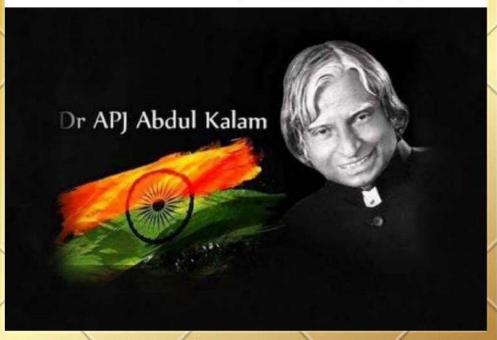
### M. GURU PRASAD

2011025



### DREAM HIGH

Once we think of dreams our mind automatically thinks about a great personality who have conquered all our hearts. Even though we miss his physical presence we are still living in the world which makes us feel his presence because he has set his foot in every field and build our India in an amazing way and also thought us to build our dreams and make our nation proud of our presence. Now you must have guessed that person who have occupied our articles topic,"yes most of your guess was right, he is our great "APJ Abdul Kalam sir". "You have to dream before your dreams can come true" These words by Dr APJ Abdul Kalam represent his lofty vision and commitment to cherishing and actualising his dreams. Dr Kalam never let challenges or roadblocks come in the way of his dreams. In his early years, in order to support his family he had to take on odd jobs but he did not let this compromise his education. This is an important learning for entrepreneurs. In order to succeed, it is vital to have a dream and then to hold on to it no matter what. The demise of Dr APJ Abdul Kalam has left a huge void in the nation and in our hearts. Dr Kalam was one of India's most loved President, an eminent scientist, and a



much admired leader. He hailed from a small village in Tamil Nadu. He studied aeronautical engineering and joined the fledgling space programme at the Indian Space Research Organisation (ISRO). Dr Kalam's presence really rejuvenated the organisation and under his leadership ISRO successfully launched many satellite programmes. Dr Kalam went on to play a major role in India's emergence as a nuclear power. His contribution to India's missile programme earned him the title of the 'Missile man.' He was regarded as India's most respected strategic thinker. In 2002, Dr Kalam was made the President of India. He graced this position with remarkable dignity and creativity. His winning personality and childlike thirst for knowledge endeared him to children and adults alike. He was often referred to as the 'People's President'. His message to the youth was: "My message, especially to young people is to have courage to think differently, courage to invent, to travel the unexplored path, courage to discover the impossible and to conquer the problems and succeed. These are great qualities that they must work towards. This is my message to the young people." Dr Kalam was a prolific writer and authored several books. His unique gift was to get to the heart of profound issues with simplicity. He once said,



"Let me define a leader. He must have vision and passion and not be afraid of any problem. Instead, he should know how to defeat it. Most importantly, he must work with integrity." Dr Kalam was the embodiment of intellect and humanity. As a student we salute this inspirational leader and are committed to upholding his legacy. Today we hold an oath to work smart and to improve our country economy as an engineers wholeheartedly.

> By Kavishka P 2015028



# **ESSAY ON**

# **MECHANICAL ENGINEERING**



#### Introduction:

Since the beginning of mankind, mechanical engineers have changed the world. From the alarm that wakes you up in the morning, to the light you turn off before you go to bed, all of these things are the result of mechanical engineering. Mechanical engineering drives innovation and invention. I chose to become a mechanical engineer because I want to be a part of something larger than myself. Mechanical engineering has helped shape every great civilization. I want to help shape our society like those who came before us. Even if it is as small as designing a new screwdriver handle that's more ergonomic and cheaper to manufacture. Mechanical engineering is solving problems and developing new ideas to make our world a better and safer place.

### Ancient Chronology:



The first documented use of mechanical engineering was by the Egyptians in about 6000 BC. According to The Institution of Mechanical Engineers, the first proof of Egyptian engineering was "depictions of canoes, dugouts and rafts in rock paintings." The use of canoes and rafts allowed the Egyptian people to transport food and building materials down the Nile River. For the next breakthrough in mechanical engineering, the wheel, we will have to wait about 3000 years. In around 3000 BC, The potter's wheel is invented to speed up the formation of jars and pots. The wheel is one of the greatest and most important inventions of all time. The

wheel revolutionized the world. The wheel eventually allowed people and goods to travel great distances overland. After the invention of the wheel, the use of mechanical engineering increases ten-fold relative to the past. In only a few thousand more years, steel, knitting machines, the printing press and many huger advance in technology are made.

### Mechanical Engineering Today:

Just about every industry in the world can benefit from having a mechanical engineer on the team. Industries are constantly seeking out new breakthroughs in creative design and development that a mechanical engineer can deliver. Mechanical engineers are invaluable assets when it comes to the construction of all kinds of devices and systems that society uses on a daily basis.

Engineering is easily one of the vastest fields in the world by far, and the amount of niche specializations in each of the various subcategories can be quite overwhelming at a glance. After mechanical engineering Fort Myers students have sorted out what their specific passion is, there will always be a position open for them to direct their talent towards an important purpose.

Due to the wide range of manufactured goods for all different kinds of industries in the world, mechanical engineering is a highly diverse subject. Mechanical engineers are the force behind everything from microscale sensors to spacecraft machinery. No matter what the final result is, a mechanical engineer's job is essential to give an idea form.

#### Causes and tools of the trade:

No matter what kind of industry a mechanical engineer is placed in, they're guaranteed to make a difference. Mechanical engineers create solutions for transportation, world hunger, space exploration, energy, health care, and many more beneficial causes for the good of the planet. Creativity, analytical tools and knowledge are all combined to turn a blueprint for global improvement into reality.

The tools that mechanical engineers use serve a diverse variety of purposes. An engineer's tools may be for product lifecycle management (PLM), finite element analysis (FEA), computational fluid dynamics (CFD), or various other kinds of comprehensive functions. The Bureau reported that in the year 2015, there were over 278,000 mechanical engineering jobs available.

### Employment opportunities:

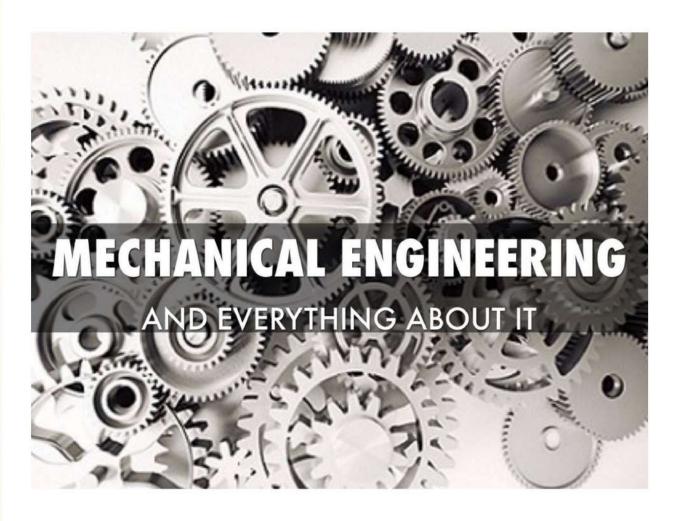
As a mechanical engineering specialist, the responsibilities will depend on the employers' unique technical operation needs. In many cases, a mechanical engineer may be brought aboard as a "generalist" who is meant to be on-call for just about any basic engineering discipline that there's a significant need for.

Career opportunities for mechanical engineers are constantly bountiful. Not only do mechanical engineers help with designing high-tech devices for technology firms, but they also help design the various different kinds of protective equipment used for sporting events as well.

### Conclusion:

Mechanical Engineering plays an important role in manufacturing technology from autos to planes to fridges. Without Mechanical Engineering we would not have things like motors, engines, generators and lifts.

- Ezhil Azhagan R.T. Mechanical



# IMPORTANCE OF INFORMATION

# TECHNOLOGY

Thousands of years past and the importance of technology have been greatly influencing our own society. Evidence shows that our ancestor was using different kinds of apparatus to convey information to its recipient. Some make fire to produced smoke signals, others uses pens and paper to transport data to different places. Information technology before was at some sort limited in every sector of banking industry, engineering business and computer society. It's been a long time since we are confronted by the importance of information technology; the only difference was how advance it is in terms of usability.

But nowadays, we are extensively feed up with technology of information all around us. Everything we have seen around us is purely a product of high end advancement. This advancement of technology provides the importance of information technology into a greater value. As historical events speak, information technology is a vital element in any development in terms of trade and commerce, defense and culture. It has fully grown

with outstanding drive and acquired a noble rank for itself and all those that linked with it.

But how important is the advancement of information technology into our lives? What is the part that this technology can show in present society? Will it be beneficial to all?

The arrival of computers made the importance of information technology rapidly spreading around where everyone has observed its unveiling growth. It's an industry which gathers the procedure of computer hardware, software and networking. Information technology turns as an aide. A standard process that allows great bulks of data to be kept and processed or transmitted at lightning speed. Now, there is more information at hand to make choices, sustain and preserve relations, monitor business activities or track movements. By this, information can be received and acquired at any moment.

Information technology brings out the production and development of mobile phones in the market such as iPhone, iPad which are more technologically motivated. It has released the doors open to which is profitably channelized through the use of cellular phones. In

addition, reaching out people is more convenient and accessible where everyone can use its application with comfort. Connecting with each other is made easy with the flooding entry of communication device available today. Right from the start, information technology has never been idle nor a slow moving process instead it's always been hardly striving to prove its long time effectiveness as period of change passes by.

As a general view, information technology today permits us to gather, handle and interconnect a gigantic volume of information. And its sustainable development improves its competence, capability swiftness and precisions of any components it provides. Information technology has achieved a lot in this present era and will continue to evolve. It's more than acombination of computers and communication technology. It is indeed truthful to say that the information technology has successfully infiltrated human existences, occupying the biggest part of every lifestyle; the importance of information technology; touching lives.

Sakara Pandiammal K 2015008

# DATA LOGGER

#### INTRODUCTION:

A data logger (also known as datalogger or data recorder) is a small and relatively inexpensive electronic device that monitors and records data over time (such as voltage, temperature, or current) via an internal or external sensor. It is usually based on a digital processor. A data logger is a compact, battery-powered device equipped with an internal microprocessor, data storage, and one or more sensors or sensor ports. Data loggers can be deployed and left unattended in a variety of environments to record measurements at set intervals for up to years at a time.

#### TYPES OF DATA LOGGERS:

#### TEMPERATURE DATA LOGGER:

A temperature data logger, also called temperature monitor, is a portable measurement instrument that is capable of autonomously recording temperature over a defined period of time. The digital data can be retrieved, viewed and evaluated after it has been recorded.

#### GPS LOGGER

GPS loggers log the position of the device at regular intervals in its internal memory. GPS loggers may have either a memory card slot, or internal flash memory card and a USB port. Some act as a USB flash drive, which allows downloading the track log data for further computer analysis.

#### VOLTAGE DATA LOGGER

Voltage Data Loggers are can be used for a wide variety of applications including monitoring energy consumption, detecting power drops and surges, as well as well as for recording the low voltage output of sensors.

#### STRAIN GAUGE DATA LOGGER

Strain gauge data loggers are suitable for direct measurement of load cells or strain gauges and bridges. These systems can supply a voltage or current excitation signal and provide gain and scaling for low-level signals, eliminating the need for any external signal conditioning.

### Corrosion Data Logger

Corrosion data loggers are used to monitor and record the rate of corrosion in steel structures. These are especially useful in marine environments, steel foundations etc.

### Water Level Data Logger

In tanks, a water level data logger can record the level continuously. This is useful in water tanks, petrol & diesel tanks, sewage tanks etc

And there are still more types of Data loggers

#### APPLICATIONS:

- Unattended weather station recording (such as wind speed / direction, temperature, relative humidity, solar radiation).
- Unattended hydrographic recording (such as water level, water depth, water flow, water pH, water conductivity).
- Unattended soil moisture level recording.

- Unattended gas pressure recording.
- Offshore buoys for recording a variety of environmental conditions.
- Road traffic counting.
- Measuring temperature of pharmaceutical products, medicines and vaccines during storage
- Measuring temperature and humidity of perishable products during transportation to ensure cold chain is maintained
- Process monitoring for maintenance and troubleshooting applications.
- · Process monitoring to verify warranty conditions

#### **FUTURE DIRECTIONS:**

Data Loggers are changing more rapidly now than ever before. The original model of a stand alone data logger is changing to one of a device that collects data but also has access to wireless communications for alarming of events, automatic reporting of data and remote control. Data loggers are beginning to serve web pages for current readings, e-mail their alarms and FTP their daily results into databases or direct to the users.

#### ADVANTAGES OF DATA LOGGERS:

- Data loggers help in continuous monitoring of conditions without having person to be on site.
  - Data loggers have low cost.
  - 3. Can be set up to start at a time in the future.

4. It is easier to understand scientific experiments and scientific concept with the help of better graphs/plots.

#### DISADVANTAGES OF DATA LOGGERS:

1. Basic training is needed to use the

equipment.

If the data logging equipment breaks down or malfunctions, some data could be lost or not recorded.

3. Equipment can be expensive for small tasks.

#### CONCLUSION:

The main benefit of using a Data Logger is that it enables companies to make informed decisions related to packaging design, transportation and the laboratory testing protocols that are necessary to protect the goods. Probably the most common and widely-used application of data loggers is for environmental monitoring. Thus, the data logger is useful for us as well as for environmental monitoring also.

Thank You!!

By

V.Abernha

2011016

ECE - A

# **NATURE LIFE AND MIND**

### INTRODUCTION

Nature, i ncluding t he universe, l ife and human mind, especially science, philosophy and art

phenomena, are t he i nterconnected and overlapping domains. They have f ormed a unity f rom

the very beginning which will continue to the very end. THE SKY The ancient civilisations,

fascinated by t he night sky, but also f rightened by i ts dark mystery, chose 12 constellations as

the sign of zodiac to predict theirmonuments devoted to religion and astronomy. The 6

thousand stars visible in the darkness by the naked eye, mostly concentrated in a luminous

band arching across t he sky and sprinkled out l ike drops of milk f rom a woman's breasts, as

painted on a Tintoretto's canvas, were named "Via Lactea", i .e. t he Milky Way . Unlike t heir

ancient ancestors, contemporary people watch t he night sky t o admire cosmic beauty and t o

dream, as i f t hey are l istening t o a Chopin's nocturne or Rimbaud's poem "My Stars i n t he Sky",

or watching t he whirls of "The Starry Night" painted by van Gogh, t he whirlpools of Descartes'

"Celestial Vortices", a radial work "Starry Sky f or t he Queen of t he Night" created by Schinkel,

the pastoral plot of "A Midsummer Night's Dream" by Shakespeare, or star t ravel i n t he movie

"2001: A Space Odyssey" directed by Kubrick . The senior author of t his essay, being a

neuroscientist and a great nature and art l over, f inds t he stars similar t o t he cortical neurons of

the brain I abelled with a blue f luorescent dye. It is f ascinating t hat billions of galaxies, many of

them containing billions of stars and planets, numerous quasars, pulsars, black holes, nebulae

and cosmic clouds, all i n constant movement and cyclical changes, f ill an i mmense space

billions of l ight-years crossways. According to Einstein's t heory of relativity, t he universe i s

organised in a 4-dimension space-time, with space and time changing by intensity of gravity and

the speed of a moving body, as was metaphorically depicted on t he surrealistic canvas

"Searching f or t he Fourth Dimension" by Salvador Dalí, on a l aser i nstallation by Nam June

Paik, and on the sculpture "Master of the Universe" by Richard Deacon.

### MATTER, FORCES AND UNIVERSE

The visible matter which occupies, to our surprise, only 0.5% of the composition of the universe,

is made up of a f ew main elementary particles, i .e. t he negatively charged electrons (leptons)

orbiting an atomic nucleus at various energy l evels at nearly t he speed of l ight, and quarks

which build up t he positively charged protons and t he neutral neutrons within t he nucleus. The

particles are bound among t hemselves by 4 basic f orces, t hat i s, t he weak nuclear f orces,

strong nuclear f orces, gravity, and electromagnetic f orces, i neluding l ight with i ts photons t hat

travel at the highest speed in the universe (about 186,000 miles per second). Photons, which

are both particles and waves, actually belong to the force particles. All the main particles and

their bounding f orces often make a perfect unity, which i nspired t he mentioned artist Dalí t o

paint the "Intra-Atomic Equilibrium of a Swan's Feather". Finally, the "empty" i nterstellar and

intergalactic space is occupied by dark matter (26.5%) and dark energy (73%), whose repulsive

force overcomes gravitational f orce, t hus causing t he universe t o expand. Matter and energy,

interconnected by t he i ngenious equation "E = mc2" of Einstein and by a "yang--yin" unity ofopposites (ordinary matter-dark matter, gravitation-dark energy, matter-antimatter, positive-

negative electric and magnetic poles, creation-destruction), are t he essence of nature, f rom t he

miniature subatomic l evel t o t he giant clusters of galaxies, f rom a singular particles annihilation

to the grandiose and unthinkable supernovae explosions. Forces of nature i nfluence our planet

as well, causing i ts rotation around a north-south axis and orbiting t he Sun, according t o

Newton's and Kepler's laws, along with the accompanied Moon bilises its axis and produces

tides. High pressure of t he i nner melted rocks sometimes causes volcanic eruptions, t he

movement of adjacent rock masses of t ectonic plates produces earthquakes, and even f ormed

mountains i n t he past, and several t ypes of surface erosion also give t heir contribution t o

modelling t he Earth 1 andscapes.

### THE MIRACLE OF LIFE

Hundreds of composers wrote pastorals, many t housands of painters and poets artistically

glorified t he Earth l andscapes, but virtually only t hose decorated by a miracle of nature-life, a

dynamic, energy producing, self-maintaining, self-controlling and self-reproducing system,

always i n i nteraction with i ts surroundings. Although based on universal principles, I ife i s yet a

new quality which i s more complicated t han t he galaxies t hemselves. Only several dozens of

the main elementary particles, f orces and processes, i ncluding t he nuclear f usion i n t he stars (i.e. H + H He + energy), build, organise and keep t he universe t ogether. On t he other hand,

hundreds of chemical reactions and physical processes t ake place i n a single l iving unit every

minute. This is equally true for microscopic living particles, such as bacteria, and for each cell in

the huge body of the oracles.

### CONCLUSION

The absolute unity of t he human mind, I iving world, t he Earth and cosmos, i .e. matter and

energy, real and abstract, crude cosmic power and sophisticated 1 ife, creation and destruction,

will exist almost f or ever, t hat i s, f or another f ew billion years, until an unimaginable cataclysmic

apocalypse. They all could t hen continue as a metaphorical reincarnation i n an 11th dimension,

in a parallel universe, or i n another world which will be born somewhere i n endless and t imeless

non-space.

Mohammed farshana 2012097

# **HUMANS AND TECHNOLOGY**

We are living in a world driven by technology. The advancement of technology has played an important role in the development of human civilization. Technology provides innovative ways of doing work through various smart means. The electronic appliances, gadgets, faster modes of transport have added to the comfort factor in our lives.

### Technology is A Part of Life

Technology is the fundamental base of improvement in today's society. If we look to all countries around the world, we can notice that they improved quite a lot and this development is the cause of the technology. Technology is one of the essential parts of our life which makes this world easier to live and give us more freedom and a lot of ways to live differently. As we live in technological world, we need technology in every single matter of our life. For instance, technology has built the strongest communication bridge among the people of the world which they can communicate to each other no matter where they are, and they can travel wherever they want. These improvements of technology bring a lot of changes in the people's lives and give more credit for these changes.

Some people may argue that technology can become detrimental over time. This is supported by the fact that ourtechnology has drastically changed the earth. Most technological wastes do not decompose and end up contaminating the soil or water around them. Other technological inventions, such as diesel engines, coal-powered engines pump out large quantities of greenhouse gases. As a result, the ice caps are melting and the sea levels are rising. However, the inventors did not foresee the catastrophic consequences of their inventions.

We can still make a difference though- by promoting renewable and ecofriendly technology. Electric cars are the future in a world where oil and natural gas is nearly depleted. Solar-powered homes can be sustainable and reduce the burden on the power grid. Nuclear energy is far more feasible, economic and cleaner when compared to coal-powered plants. Such technologies may be the only way our planet does not become irreversibly damaged.

Technology is an absolute need we cannot escape from, it has a very big role in most aspects of our lives. In other words, it answers most of Mankind problems. Across centuries technology evolves. The importance of technology is aiming for comfort of use in whichever form it is. It always directs for easiness in life. Take the mobile technology for example. The faster the world is moving, the more hi-end the features are offered

#### Conclusion:

Technology is one of the greatest tools for mankind, however, it has the potential to be misused. Technology can also cause some jobs to become obsolete, causing unemployment. Moreover, current technology needs to focus on being more eco-friendly and minimize their carbon footprints. This is the only way to ensure that technology does not result in the destruction of our natural resources and eventually, our planet.

**Harini D 2015022** 

# ARTIFICIAL INTELLIGENCE

Today's Science bridges the gap between the science taught in class and real-world discoveries—giving indepth explanations of important advances in biology, chemistry, the environment, space, physics, and technology. More specifically science is growing much more advanced in technical field, one among them is Artificial Intelligence an amazing field which has a very big hope for every young mind which ponder with fantastic ideas. Artificial Intelligence is the theory and development of computers, which imitates the human intelligence and senses, such as visual perception, speech recognition, decision-making and translation between languages. Artificial Intelligence has brought a revolution in the world of technology.

Artificial Intelligence refers to the intelligence of machines. This is in contrast to the natural intelligence of humans and animals. With Artificial Intelligence, machines perform functions such as learning, planning, reasoning and problem-solving. Most noteworthy, Artificial Intelligence is the simulation of human intelligence by machines. It is probably the fastest-growing development in the World of technology and

innovation. Furthermore, many experts believe AI could solve major challenges and crisis situations.



Types of Artificial

Intelligence First of all, the categorization of Artificial Intelligence is into four types. Arend Hintze came up with this categorization.

## The categories are as follows:

Type 1: Reactive machines – These machines can react to situations. A famous example can be Deep Blue, the IBM chess program. Most noteworthy, the chess program won against Garry Kasparov, the popular chess legend. Furthermore, such machines lack memory. These machines certainly cannot use past experiences to inform

future ones. It analyses all possible alternatives and chooses the best one.

Type 2: Limited memory – These AI systems are capable of using past experiences to inform future ones. A good example can be self-driving cars. Such cars have decision making systems. The car makes actions like changing lanes. Most noteworthy, these actions come from observations. There is no permanent storage of these observations.

**Type 3:** Theory of mind – This refers to understand others. Above all, this means to understand that others have their beliefs, intentions, desires, and opinions. However, this type of AI does not exist yet.

**Type 4:** Self-awareness – This is the highest and most sophisticated level of Artificial Intelligence. Such systems have a sense of self. Furthermore, they have awareness, consciousness, and emotions. Obviously, such type of technology does not yet exist. This technology would certainly be a revolution.

# **Applications of Artificial Intelligence**

First of all, AI has significant use in healthcare. Companies are trying to develop technologies for quick diagnosis. Artificial Intelligence would efficiently operate on patients without human supervision. Such technological surgeries are already taking place. Another excellent healthcare technology is IBM Watson.

Artificial Intelligence in business would significantly save time and effort. There is an application of robotic automation to human business tasks. Furthermore, Machine learning algorithms help in better serving customers. Chatbots provide immediate response and service to customers. AI can certainly make education more efficient. AI technology can discover the needs of students. Then it can adapt according to their needs. AI tutors provide study help to students. Also, AI can automate grading which results in saving a lot of time.

kaviska P 2015028

# COMMUNICATION TECHNOLOGY

Communication is the exchange of information through different mediums.

It is an activity that started even before the civilization of human beings; however, over a period of time, as technology advanced, accordingly different modes of communications also developed including telecommunication and wireless communication.

In today's world, information and communication technology play an important role in almost every activity that we perform.

## **Types of Communication**

Based on the advancement and mode of technology, telecommunication is categorized as –

- . Telecommunication
- Wireless Communication

Let us now discuss each category -

### **Telecommunication**

Telecommunication is a technique of transmission of information from one location to another by electromagnetic means.

Different types of information can be transferred through a telecommunication system, such as voice, text, pictures, etc.

## **Modern Telecommunication System**

The modern form of telecommunication involves computer technology and it is capable of transferring wide range of data including audio, video, textual, many other computer files.

Major components of modern telecommunication are -

- **Hardware** For example, computer system and modems.
- **Software** This controls the Computer programs.
- Media This is the communication outlet, wired or wireless.
- Networking This technology connects various computer systems.
- **Protocols** These rules govern information and communication transmission system.

### **Wireless Communication**

Wireless communication is a technique of transmitting the information or power between two or more points, which are actually not connected with the physical wire/conductor. The most common wireless technology uses 'radio waves'. Microwave transmission is another technology.

The world's first wireless telephone communication took place in 1880. This was experimented by Alexander Graham Bell and Charles Summer Tainter. Both of them together invented and patented the 'photophone.'

Photophone was a sort of telephone, which conducted audio conversations wirelessly over modulated light beams, i.e., electromagnetic waves.

However, in the 21<sup>st</sup> century, the invention of cellular phones radically changed the concept of communication system and made available the wireless communication system even in the remote part of the country

The integration of Information and Communication
Technologies (ICT) into every sphere of contemporary
life has had profound implications for how people learn in
school, solve practical problems, and function in the
workplace. Networked computing and communications
technologies and media have become essential tools of
practically every profession and trade, including those of
lawyers, doctors, artists, historians, electricians,
mechanics, and salespersons.

Ajithra S

FCF

# ESSAY ON TECHNOLOGY

We are living in a world driven by technology. The advancement of technology has played an important role in the development of human civilization. Technology provides innovative ways of doing work through various smart means. The electronic appliances, gadgets, faster modes of transport have added to the comfort factor in our lives. It has helped in improving the productivity of an individual. Technology has brought a revolution in many operational fields. It has undoubtedly made a very important contribution to the progress that mankind has made over the years.

# **Advancement of Technology**

Technology has reduced the effort and time and increased the efficiency of the production requirement in every field. It has made our life easy, comfortable, healthy, and enjoyable. It has brought a revolution in transport and communication. The advancement of technology along with science has helped us to become self-reliant in all spheres of life.

# **Technology is Our Part of Life**

Technology has changed our day-to-day life. Those days have gone when only the rich could afford the luxuries. Due to the growth of globalization and liberalization, all

the luxuries are within the reach of a common man. Today, an average middle-class family can afford a television, washing machine, refrigerator, computer, Internet, etc. At the touch of a switch, a man can witness any event that is happening in far-off places.

# **Benefits of Technology in All Fields**

Technology has not only improved the quality of life but also brought about revolutions in various fields. Let us learn about it.

# **Technology in Communication**

With the advent of technology in communication which includes telephone, fax machine, cellular phone, Internet, multimedia, email, communication has become much faster and easier. It has transformed and influenced relationships in many ways. We no longer need to rely on sending physical letters and wait for several days for a response. Technology has made communication so simple that you can connect with anyone from anywhere by calling via mobile phone or messaging them.

Today the Internet is used for shopping, paying utility bills, credit card bills, admission fees, E-commerce, online banking facility. In the world of marketing and sales, companies are marketing and selling their products and creating brands over the internet. In the field of travel, cities, towns, states, and countries are using the web to post detailed tourist and event information. Travelers can easily find information on weather, maps, timings for events, and transportation schedules and buy tickets to various tourists' spots.

## Technology in office or workplace

Technology has increased the efficiency and flexibility in the workspace. Technology has made it easy to work remotely which has increased the productivity of the employees. External and internal communication has become faster through emails and apps. Automation has saved time and there is also a redundancy in tasks.

Technology has wiped out the manual way of storing files. Now files are stored in the cloud, which can be accessed any time, and from anywhere. With technology, companies can make quick decisions, act faster towards any solutions, and remain adaptable. Technology has optimized the usage of resources.

## **Technology in Education**

Technology is making education improve over time. With technology, students and parents have a variety of learning tools at their fingertips. Teachers can coordinate with classrooms across the world and share their ideas and resources online. Students can get immediate access to an abundance of good information on the Internet.

Teachers and students can access plenty of resources available on the web and utilize them for their project work, research, etc. Online learning has changed our perception of education.

## **Technology in Banking**

Technology and Banking are now inseparable. Technology has made banking operations very sophisticated. With the emergence of Internet banking, self-service tools have replaced the traditional ways of banking methods. You can now access your money, handle transactions, and monitor your bank statements anytime and from anywhere in the world. Technology has made banking more secure and safe.

# **Automation in Manufacturing and Production Industries**

Automation has increased the level of productivity in various fields. It has reduced the labour work and increased the efficiency of the production. Repetitive work can be done easily without any waste of time. This has also reduced the cost of the products.

## **Technology in Medicine**

Technology in the field of medicine has not only improved our personal quality of life; it has also improved the lives of many medical professionals and students who are training to become medical experts. It has allowed much faster access to the medical records of each patient.

Patients and doctors keep up-to-date with the latest medical findings, share treatment information, and give one another support in medical problems. Modern technology has allowed us to contact doctors from the comfort of our homes. There are many sites and apps through which we can contact the doctors and get medical help.

## **Disadvantages of Technology**

Even though technology has increased the productivity of the individuals, organizations, and the nation, it has not increased the efficiency of the machines. Machines do not have the ability to plan and think beyond the instructions that are fed into their system. Technology alone is not enough for progress and prosperity. Management is required and management is the human-act. Technology is largely dependent on human intervention.

> Bharathi 2012093 CSE

## SYSTEM ON CHIPS

### Introduction:

A system on a chip is an integrated circuit (also known as a "chip") that integrates all or most components of a computer or other electronic system. These components almost always include a central processing unit (CPU), memory, input/output ports and secondary storage, often alongside other components such as radio modems and a graphics processing unit (GPU) – all on a single substrate or microchip. It may contain digital, analog, mixed-signal, and often radio frequency signal processing functions (otherwise it is considered only an application processor). SoCs are very common in the mobile computing (such as in smartphones and tablet computers) and edge computing markets. They are also commonly used in embedded systems such as WiFi routers and the Internet of Things.

In general, there are four distinguishable types of SoCs: • SoCs built around a microcontroller, • SoCs built around a microprocessor, often found in mobile phones; • Specialized application-specific integrated circuit SoCs designed for specific applications that do not fit into the above two categories, and • Programmable SoCs (PSoC), where most functionality is fixed but some functionality is reprogrammable in a manner analogous to a field-programmable gate array.

## **Applications:**

SoCs can be applied to any computing task. However, they are typically used in mobile computing such as tablets, smartphones, smartwatches and netbooks as well as embedded systems and in applications where previously microcontrollers would be used. Embedded systems: Where previously only microcontrollers could be used, SoCs are rising to



prominence in the embedded systems market. Tighter system integration offers better reliability and mean time between failure, and SoCs offer more advanced functionality and computing power than microcontrollers. Mobile computing: Mobile computing based SoCs always bundle processors, memories, on-chip caches, wireless networking capabilities and often digital

camera hardware and firmware. With increasing memory sizes, high end SoCs will often have no memory and flash storage and instead, the memory and flash memory will be placed right next to, or above (package on package), the SoC.

## Personal computers:

SoCs are being applied to mainstream personal computers as of 2018. They are particularly applied to laptops and tablet PCs. Tablet and laptop manufacturers have learned lessons from embedded systems and smartphone markets about reduced power consumption, better performance and reliability from tighter integration of hardware and firmware modules, and LTE and other wireless network communications integrated on chip (integrated network interface controllers).

In 1992, Acorn Computers produced the A3010, A3020 and A4000 range of personal computers with the ARM250 SoC. It combined the original Acorn ARM2 processor with a memory controller (MEMC), video controller (VIDC), and I/O controller (IOC). In previous Acorn ARM-powered computers, these were four discrete chips. The ARM7500 chip was their second-generation SoC, based on the ARM700, VIDC20 and IOMD controllers, and was widely licensed in embedded devices such as set-top-boxes, as well as later Acorn personal computers.

#### Structure:



An SoC consists of hardware functional units, including microprocessors that run software code, as well as a communications subsystem to connect, control, direct and interface between these functional modules.

#### Processor cores:

An SoC must have at least one processor core, but typically an SoC has more than one core. Processor cores can be microcontroller, microprocessor ( $\mu$ P), digital signal processor (DSP) or application-specific instruction set processor (ASIP) core. ASIPs have instruction sets that are customized for an application domain and designed to be more efficient than general-purpose instructions for a specific type of workload. Multiprocessor SoCs have more than one processor core by definition

## Memory:

SoCs must have semiconductor memory blocks to perform their computation, as do microcontrollers and other embedded systems. Depending on the application, SoC memory may form a memory hierarchy and cache hierarchy. In the mobile computing market, this is common, but in many low-power embedded microcontrollers, this is not necessary. Memory technologies for SoCs include read-only memory (ROM), random-access memory (RAM), Electrically Erasable Programmable ROM (EEPROM) and flash memory

#### Interface:

SoCs include external interfaces, typically for communication protocols. These are often based upon industry standards such as USB, FireWire, Ethernet, USART, SPI, HDMI, I<sup>2</sup>C, etc. These interfaces will differ according to the intended application. Wireless networking



protocols such as Wi-Fi, Bluetooth, 6LoWPAN and near-field communication may also be supported.

#### Other:

As with other computer systems, SoCs require timing sources to generate clock signals, control execution of SoC functions and provide time context to signal processing applications of the SoC, if needed. Popular time sources are crystal oscillators and phase-locked loops. SoC peripherals including counter-timers, real-time timers and power-on reset generators. SoCs also include voltage regulators and power management circuits.

## Design verification:

Chips are verified for validation correctness before being sent to a semiconductor foundry. This process is called functional verification and it accounts for a significant portion of the time and energy expended in the chip design life cycle, often quoted as 70%. With the growing complexity of chips, hardware verification languages like SystemVerilog, SystemC, e, and OpenVera are being used. Bugs found in the verification stage are reported to the designer.

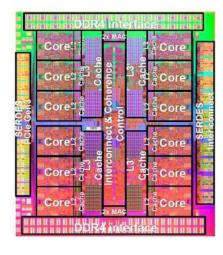
Traditionally, engineers have employed simulation acceleration, emulation or prototyping on reprogrammable hardware to verify and debug hardware and software for SoC designs prior to the finalization of the design, known as tape-out. Field-programmable gate arrays (FPGAs) are favored for prototyping SoCs because FPGA prototypes are reprogrammable, allow debugging and are more flexible than application-specific integrated circuits (ASICs).

### **Conclusion:**



Despite the numerous challenges that the System-On-Chip field is facing, this technology will continue to grow. The collaboration of universities with industry will definitely give rise to exciting research that will help the growth of this field and will also help solve the challenges that are faced by this field. With increasing time to market pressures, FPGAs, Programmable logic devices and complex programmable logic devices will be merged into SOCs. The recent advances in the technology namely Configurable System on Chip CSOC, will increase tremendously the SOC Market. CSOCs satisfy the time to market pressures with providing the programmable capability of a PLD.





Pavithra ECE

## ARTIFICIAL INTELLIGENCE

#### Introduction

Our life in this modern age depends largely on computers. It is almost impossible to think about life without computers. We need computers in everything that we use in our daily lives. So it becomes very important to make computers intelligent so that our lives become easy. Artificial Intelligence is the theory and development of computers, which imitates the human intelligence and senses, such as visual perception, speech recognition, decision-making and translation between languages. Artificial Intelligence has brought a revolution in the world of technology.

#### Branches of Artificial Intelligence:

- Knowledge Engineering
- 2. Robotics
- 3. Machines Learning
- 4. Natural Language Processing

#### Types of artificial intelligence

Artificial Intelligence is categorized in two types based on capabilities and functionalities.

#### Artificial Intelligence (Type-1)

#### 1. Narrow AI (weak AI):

This is designed to perform a specific task with intelligence. It is termed as weak AI because it cannot perform beyond its limitations. It is trained to do a specific task. Some examples of Narrow AI are facial recognition (Siri in Apple phones), speech and image recognition. IBM's Watson supercomputer, self-driving cars, playing chess and solving equations are also some of the examples of weak AI.

#### 2. General AI (AGI or strong AI):

This system can perform nearly every cognitive task as efficiently as humans can do. The main characteristics of general AI is to make a system

that can think like a human on its own. This is a long-term goal of many researchers to create such machines.

#### 3. Super AI:

Super AI is a type of intelligence of systems in which machines can surpass human intelligence and can perform any cognitive task better than humans. The main features of strong AI would be the ability to think, reason, solve puzzles, make judgments, plan and communicate on its own. The creation of strong AI might be the biggest revolution in human history.

#### Artificial Intelligence (Type-2)

#### 1. Reactive Machines:

These machines are the basic types of AI. Such AI systems focus only on current situations and react as per the best possible action. They do not store memories for future actions. IBM's deep blue system and Google's Alpha go are the examples of reactive machines.

#### 2. Limited Memory:

These machines can store data or past memories for a short period of time. Examples are self-driving cars. They can store information to navigate the road, speed and distance of nearby cars.

#### 3. Theory of Mind:

These systems understand emotions, beliefs, and requirements like humans. These kinds of machines are still not invented and it's a long-term goal for the researchers to create one.

#### 4. Self - Awareness:

Self-awareness AI is the future of artificial intelligence. These machines can outsmart the humans. If these machines are invented then it can bring a revolution in human society.

#### Applications of Artificial Intelligence

#### Marketing:

Artificial Intelligence provides a deep knowledge of consumers and potential clients to the marketers by enabling them to deliver information at the right time. Through AI solutions, the marketers can refine their campaigns and strategies.

#### Agriculture:

AI technology can be used to detect diseases in plants, pests and poor plant nutrition. With the help of AI, farmers can analyze the weather conditions, temperature, water usage and condition of the soil.

#### Banking:

Fraudulent activities can be detected through AI solutions. AI bots, digital payment advisers can create a high quality of service

#### Health Care:

Artificial Intelligence can surpass human cognition in the analysis, diagnosis and complication of complicated medical data.

#### Conclusion

Artificial Intelligence will bring a huge revolution in the history of mankind. Human civilization will flourish by amplifying human intelligence with artificial intelligence, as long as we manage to keep the technology beneficial.



NOOR NISHA ECE

## EMBEDDED SYSTEM & IT'S APPLICATION

An embedded system is typically some combination of hardware and software, either fixed in function or programmable. An embedded system could be designed to support a specific function or functions within a larger system. Examples include industrial control systems and machines, automobiles, military systems such as avionics and weapons system, medical equipment, consumer products, smartphones, and building automation. The overall embedded systems market has evolved considerably in the last few years. This includes the technology and industries served. With the advent of IoT and the Industrial IoT (IIoT), embedded systems technology has become an enabler for the rapidly expanding world of smart and connected IoT ecosystems. The broad, diverse, and highly fragmented embedded systems market consists of software, development platforms, and hardware. More industries, products, and services than ever now rely on embedded systems. The industrial market for embedded systems includes communications, automotive, aerospace, consumer electronics, military systems, along with industrial controls and other sectors, including smart cities

Embedded systems are managed by microcontrollers or digital signal processors (DSP), application-specific integrated circuits (ASIC), field-programmable gate arrays (FPGA) and gate arrays. These processing systems are integrated with components dedicated to handling electric and/or mechanical interfacing. Embedded systems programming instructions,

referred to as firmware, are stored in read-only memory or flash memory chips, running with limited computer hardware resources. Embedded systems connect with the outside world through peripherals, linking input and output devices

#### **Basic Structure of an Embedded System:**

Sensor: The sensor measures and converts the physical quantity to an electrical signal, which can then be read by an embedded systems engineer or any electronic instrument. A sensor stores the measured quantity to the memory.

A-D Converter: An analog-to-digital converter converts the analog signal sent by the sensor into a digital signal. Processor & ASICs: Processors assess the data to measure the output and store it to the memory.

D-A Converter: A digital-to-analog converter changes the digital data fed by the processor to analog dataActuator:

An actuator compares the output given by the D-A Converter to the actual output stored and stores the approved output.

#### **Real Time Applications of Embedded Systems**

Embedded systems have a vast variety of application domains that varies from low cost to high, consumer electronics to industrial equipments, entertainment devices to academic equipments and medical instruments to weapons and aerospace control systems. The applications include home appliances, office automation, security, telecommunication,

aerospace control systems. The applications include home appliances, office automation, security, telecommunication,

instrumentation, entertainment, aerospace, banking and finance.

## **Embedded Systems in Automobiles and in telecommunications**

- Motor and cruise control system
- Body or Engine safety
- · Entertainment and multimedia in car
- · E-Com and Mobile access
- · Robotics in assembly line
- · Wireless communication
- Mobile computing and networking

## **Embedded Systems in Peripherals & Computer Networking**

- · Displays and Monitors
- · Networking Systems
- · Image Processing
- Network cards and printers

#### **Future Trends in Embedded Systems**

The industry for embedded systems is expected to continue growing rapidly, driven by the continued development of Artificial Intelligence (AI), Virtual Reality (VR) and Augmented Reality (AR), machine learning, deep learning, IOT. The cognitive embedded system will be at the heart of such trends as: reduced energy consumption, improved security for embedded devices, cloud connectivity and mesh networking, deep learning applications, and visualization tools with real time data.

## Embedded System:

"Embedded" means hidden inside so one can't see it. "System" means multiple components interfaced Together for a common purpose.

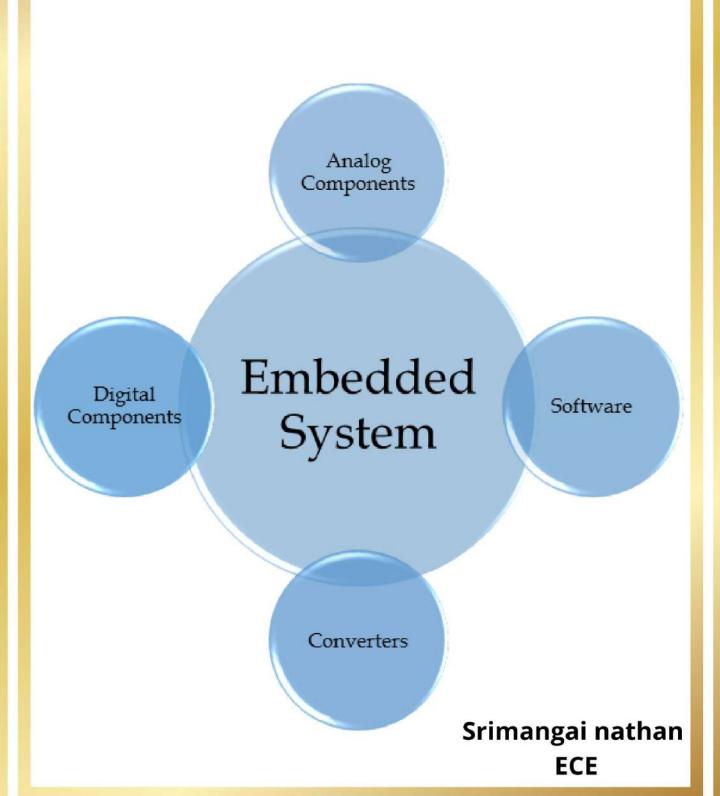








According to a 2018 report published by QYResearch, the global market for the embedded systems industry was valued at \$68.9 billion in 2017 and is expected to rise to \$105.7 billion by the end of 2025.



## LASER

Laser physics is a branch of optics that deals with the theory, practice, and uses of lasers.

Laser physics principally deals with quantum electronics, optical cavity design, laser construction, the science of generating population inversion in laser media, and the evolution of light in a laser.

It also deals with the physics of laser beam propagation, particularly that of Gaussian beams, laser applications, nonlinear and quantum optics.

## What Are Lasers?

Lasers are electronic devices that emit narrow beams of electromagnetic radiations (light). The word laser is an acronym and can be expanded as "light amplification by stimulating the emission of radiation."

The laser beams have a property similar to that of light waves emitted all at once. They are coherent, and usually of one wavelength (or color).

There are many types of lasers, varying from giant lasers that emit high energy pulses of radiations like X-rays to a small device that are used in semiconductor chips to produce infrared lights.

Further, a laser is a device that increases the intensity of light by focusing in a particular direction.

Lasers not only increase the intensity of light but also generate light. Lasers emit light by stimulated emission of radiation, which increases the intensity of radiation. Some lasers produce visible light, and some produce ultraviolet or infrared rays.

Lasers are different from conventional light sources. Lasers have some properties which are not found in traditional light sources like sun, electric bulb, and incandescent lamp.

## **Characteristics of Lasers**

You can find a number of characteristics of laser light over ordinary light source:

- Coherence
- Directionality
- Monochromatic
- · High intensity

## i. Coherence

Visible light receives its emission from excited electrons (electrons of the higher energy level) are moved down to the lower energy level (ground state).

directions. The light of a laser is focused in a particular direction.

### How Does a Laser Work?

You can take a normal laser (like a ruby laser) to see the action that is done.

Check out the image below; the device contains all the components required to make a laser function properly. The ruby laser has a medium in the form of a ruby crystal, a set of mirrors on either end (one of which is more transparent as compared to the other) and a flash tube stimulant.

## Here's How the Process Will Work Here:

- i. First, an electric current is supplied to turn the flash lamp on and off, which excites the electrons of the ruby crystals.
- ii. These excited electrons of the high energy state return to the ground state, thereby emitting a photon of light by spontaneous emission.
- iii. These photons move in the medium, bouncing off the mirrors and exciting other electrons into the high energy states. This process emits more photons by stimulating emission.

Since now you have more number of excited electrons than the ground electrons, so it creates a population inversion.

## ii. Directionality

In conventional light sources like lamps, torchlights, electric bulbs, etc, photons move at random points. As such, these sources scatter light in all possible directions. The lasers emit light in a particular focused direction.

## iii. Monochromatic

Monochromatic light means a light beam which contains a single wavelength. Photons that originate from natural light sources contain a range of energies, wavelengths, and colors.

# The Properties of Laser Similar to That of Monochromatic Light Are

- 1. Frequency
- 2. Wavelength
- 3. Color

## iv. High Intensity

Wave intensity is the energy flowing through a unit normal area per unit time. Light from an ordinary source spread out in all

- iv. The photons keep bouncing back and forth between the two mirrors of the medium, but one of the mirrors is a little less reflective and lets some photons through it.
- v. Photons that emerge from the mirror are concentrated as a powerful beam of laser light.

## **Laser Types and Uses**

There are many types of lasers, and they are categorized based on the type of medium at which they are used. This can be solid, liquid, gas, or semiconductor.

## A. Solid-State Lasers

These lasers are made up of solid media, like ruby or crystalline. The lasers have a flash tube wrapped around it to excite the electrons.

These types of lasers are typically used for target destination systems by the military applications and also to drill holes in metals.

## **B.** Gas Lasers

These types of lasers are made out of helium or helium-neon. They are used to produce characteristic red laser light.

These lasers are powerful and efficient and are used for industrial cutting and welding applications.

## C. Liquid Dye Lasers

The liquid dye lasers use liquid dyes like rhodamine in a liquid solution as their medium. In these lasers, the electrons are excited either by an arc lamp, flash lamp, or another laser.

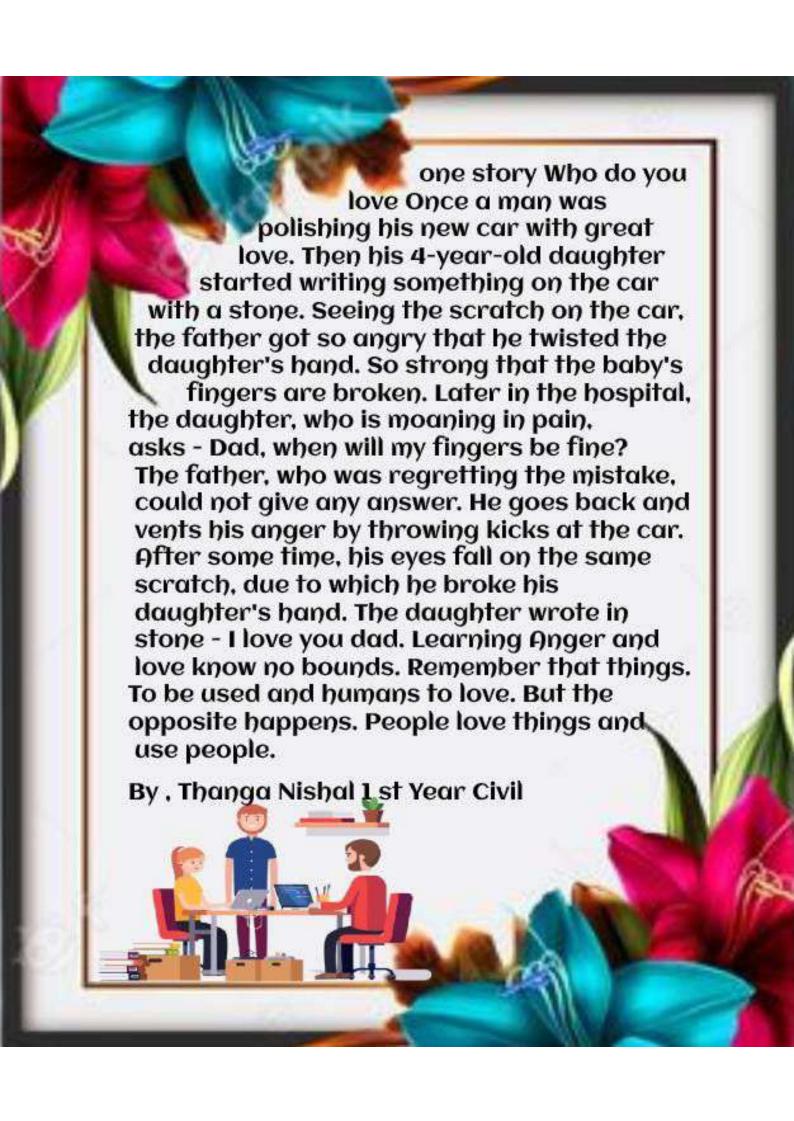
Liquid dye lasers can produce a broader band of light frequencies as compared to solid-state or liquid lasers and are used in a variety of applications.

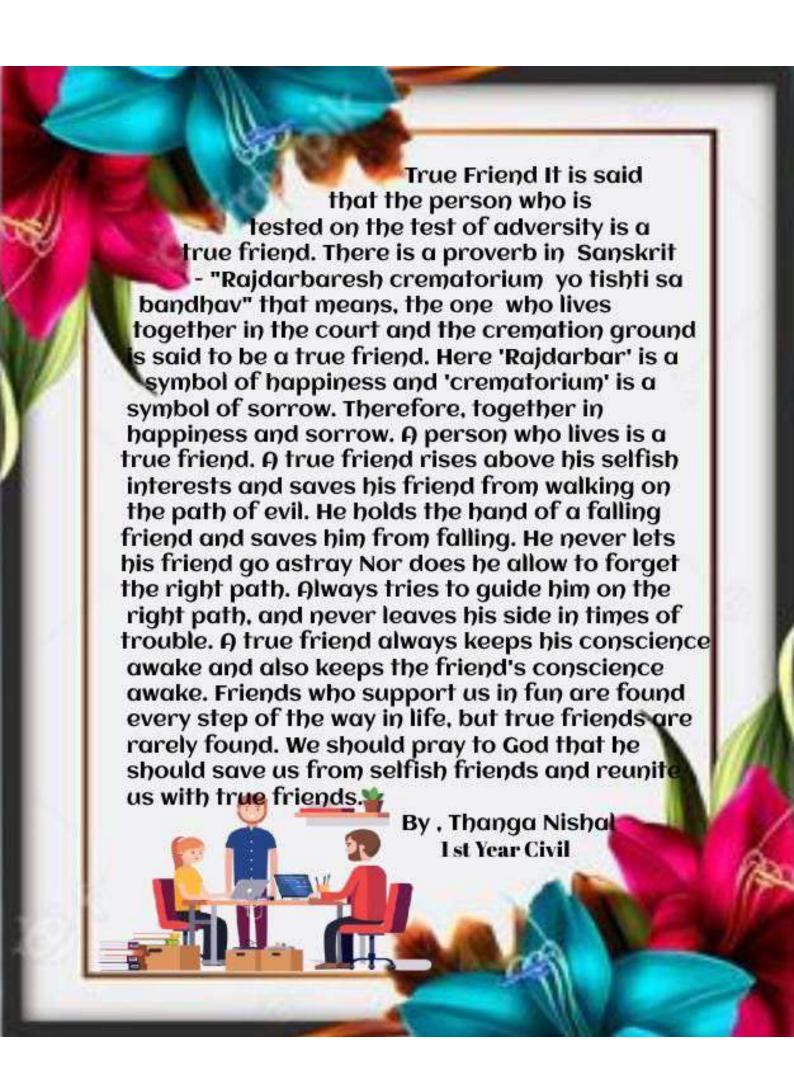
### D. Semiconductor Lasers

These types of lasers are very cheap to produce and hence found in several electronic devices like laser printers a barcode scanner.

These are also called diode lasers, as they use LED to generate light in a monochromatic pattern.

kalpana 2010110 CSE



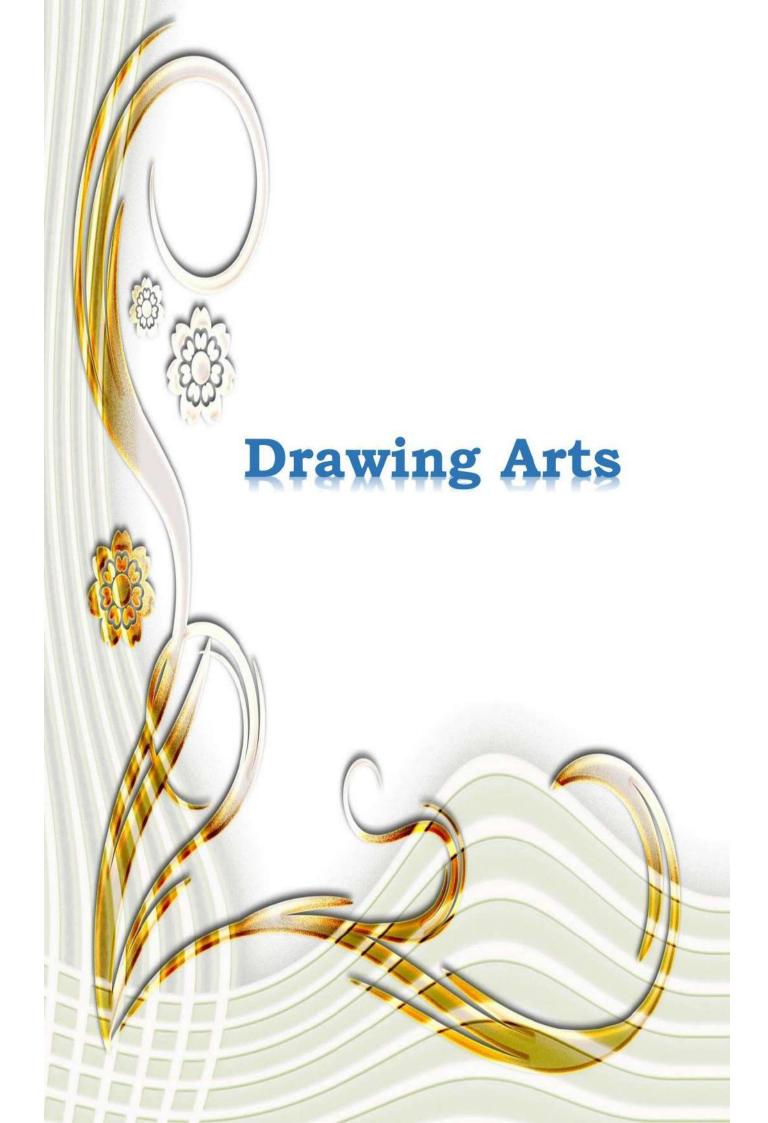


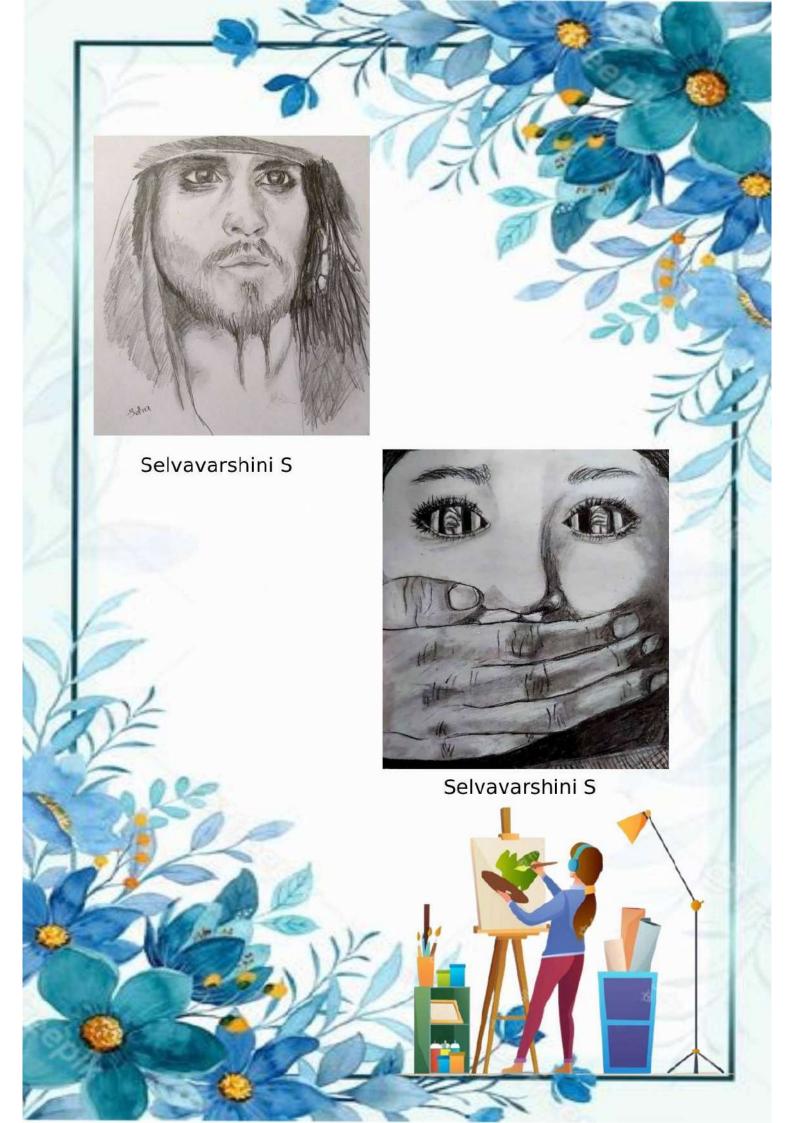
## THE YELLOW WALLPAPER

This story was written by Charlotte Perkins Gilman (1892). Gilman based The yellow Wallpaper" on her own experience of 'The rest cure'. The Yellow Wallpaper tells the story of a woman who suffer from "temporary nervous depression -a slight hysterical tendency", and whose husband, John, has rented on old mansion for three months in order for her to recover there. As part her cure, she is forbidden from working stimulating company, writing or anything else that might disturb her 'rest'. Yet instead of curing her, lacking anything to focus her attention on, she focuses on the ugly yellow wallpaper in one of the rooms descending into a psychosis that fixates on the pattern and color of the wallpaper.

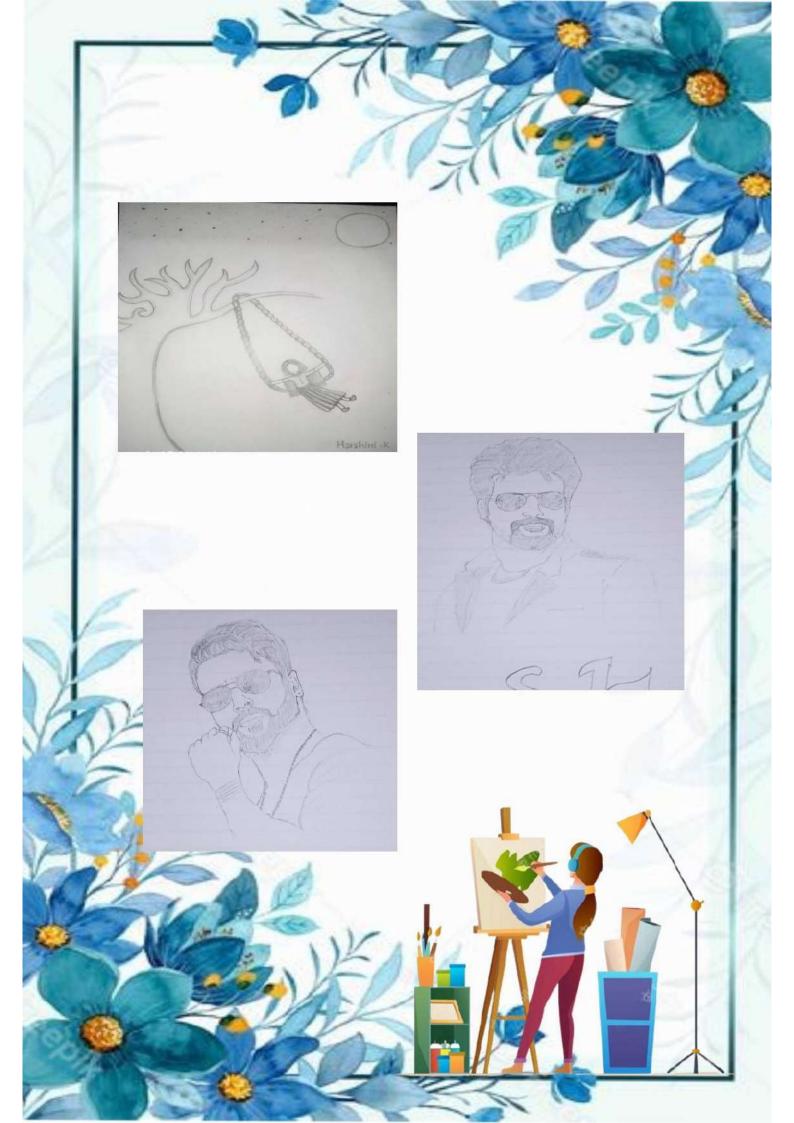
The underlying message of the story is relatively obvious in the present day, it is clear that there is not much wrong with the main character at the start of the story, but her controlling husband forbids her any decision-making of her own in the guise of curing her (whether his intentions are innocent or not is a matter of interpretation), and she has far too little to occupy her mind. An intense boredom from which she is permitted no respite drives her into genuine madness. Yet at the main when the story was written, a 'rest cure' of the kind that the main character is subjected to was the standard cure for 'hysteria'; 'The Yellow Wallpaper' was when it was written, a protest against the contemporary treatment of women's health Gilman herself wrote that it was "not intended to drive people crazy, but to save people from being driven crazy, and it worked.

Sankara Pandiammal. K B.Tech(IT)

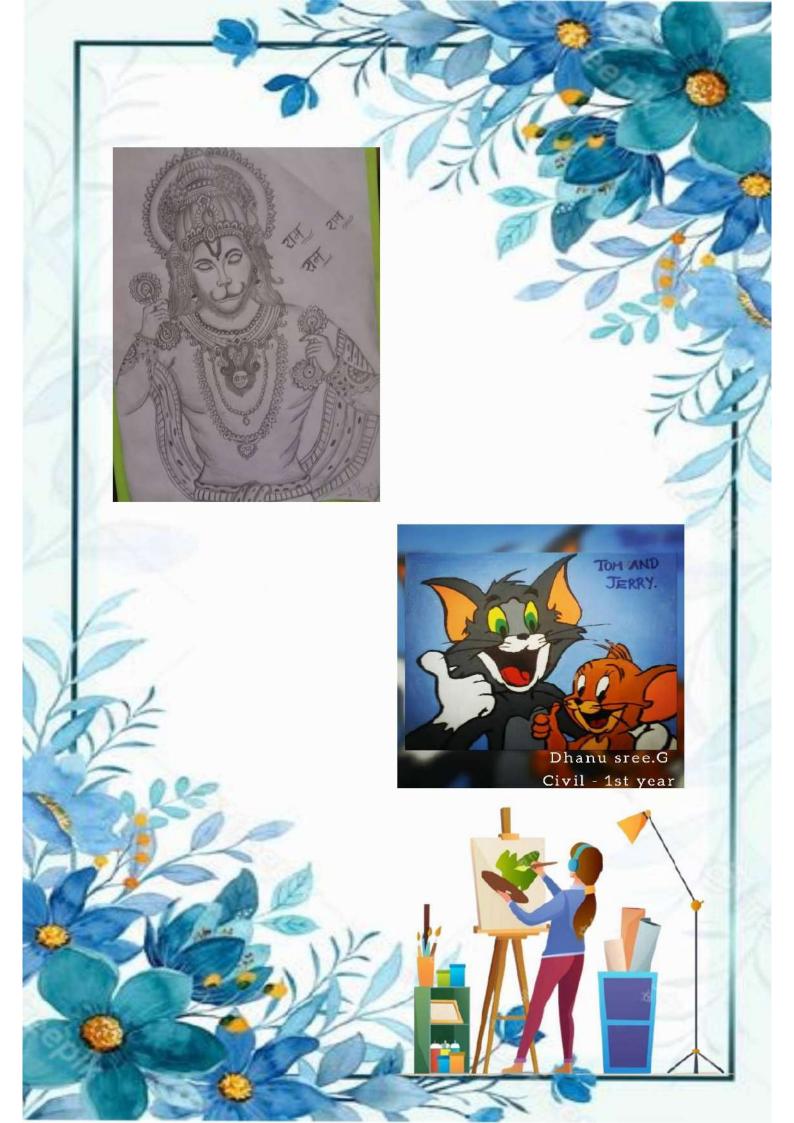








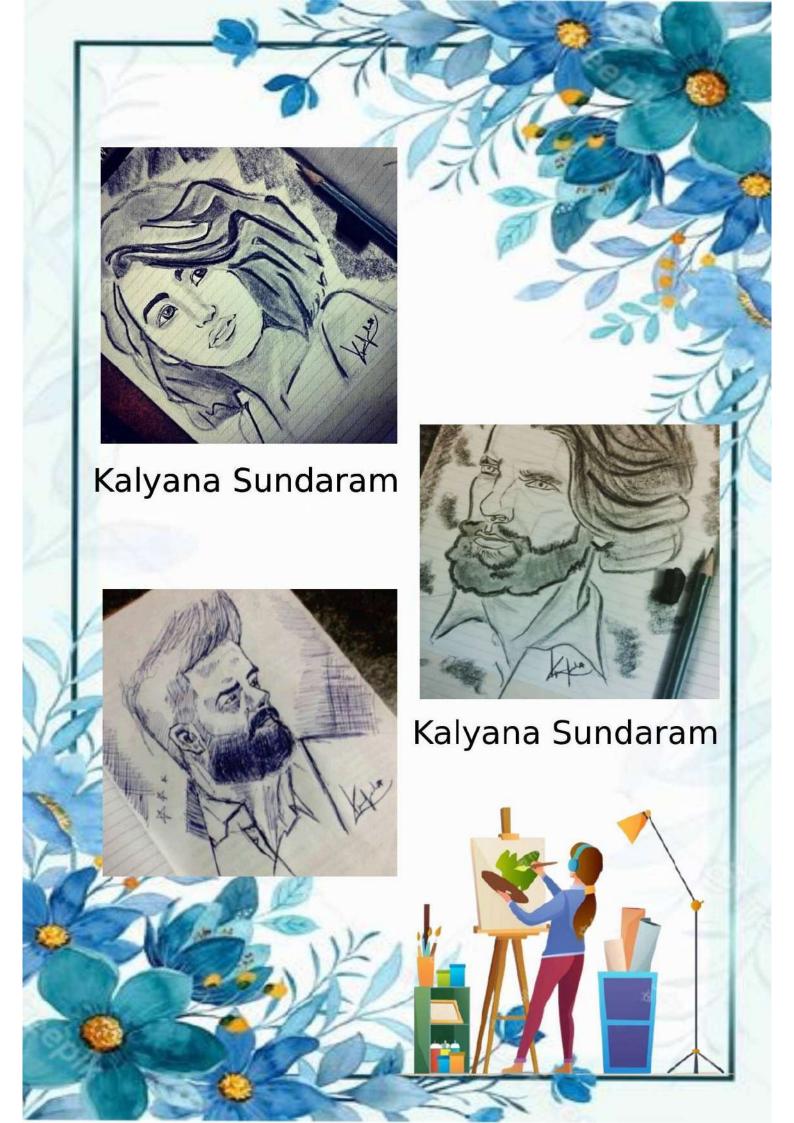








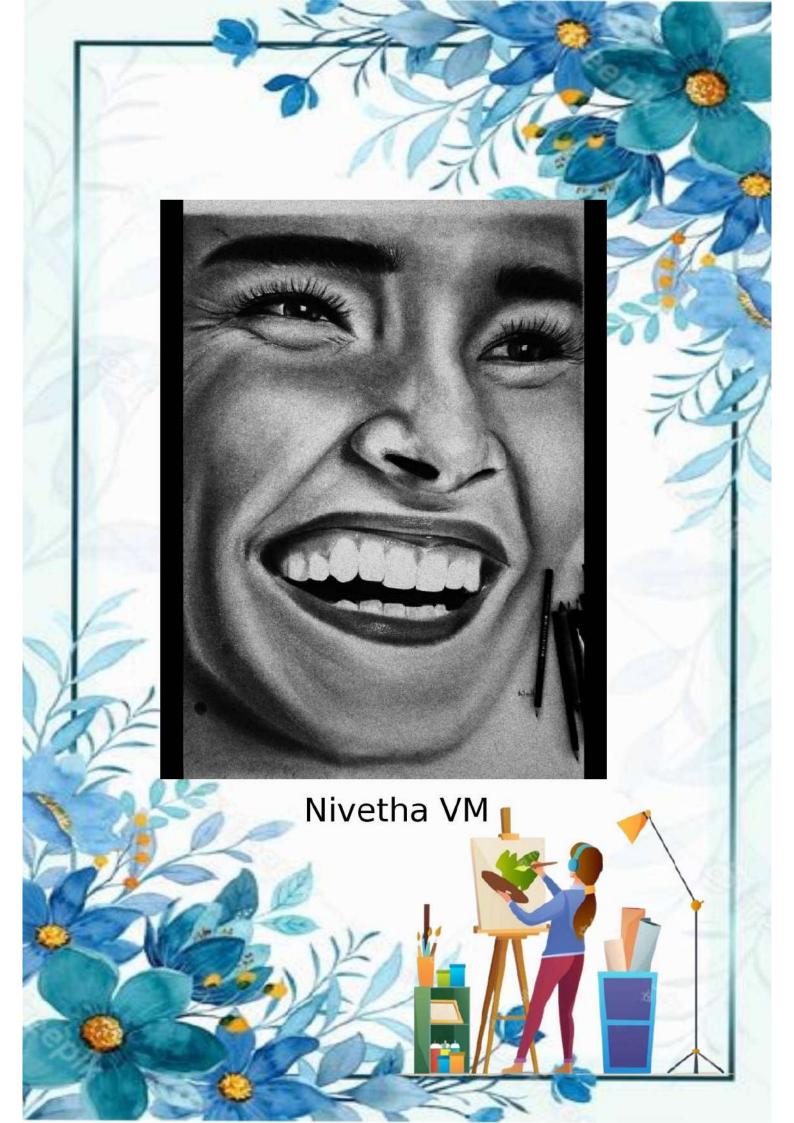




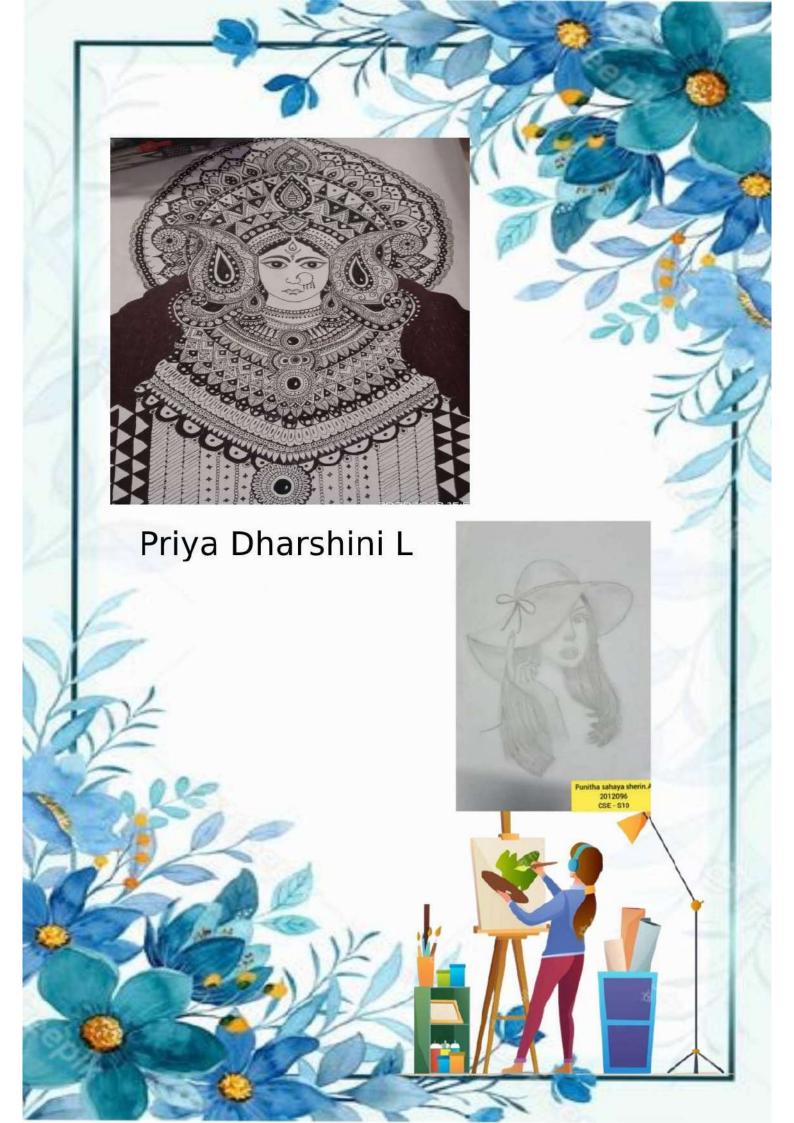


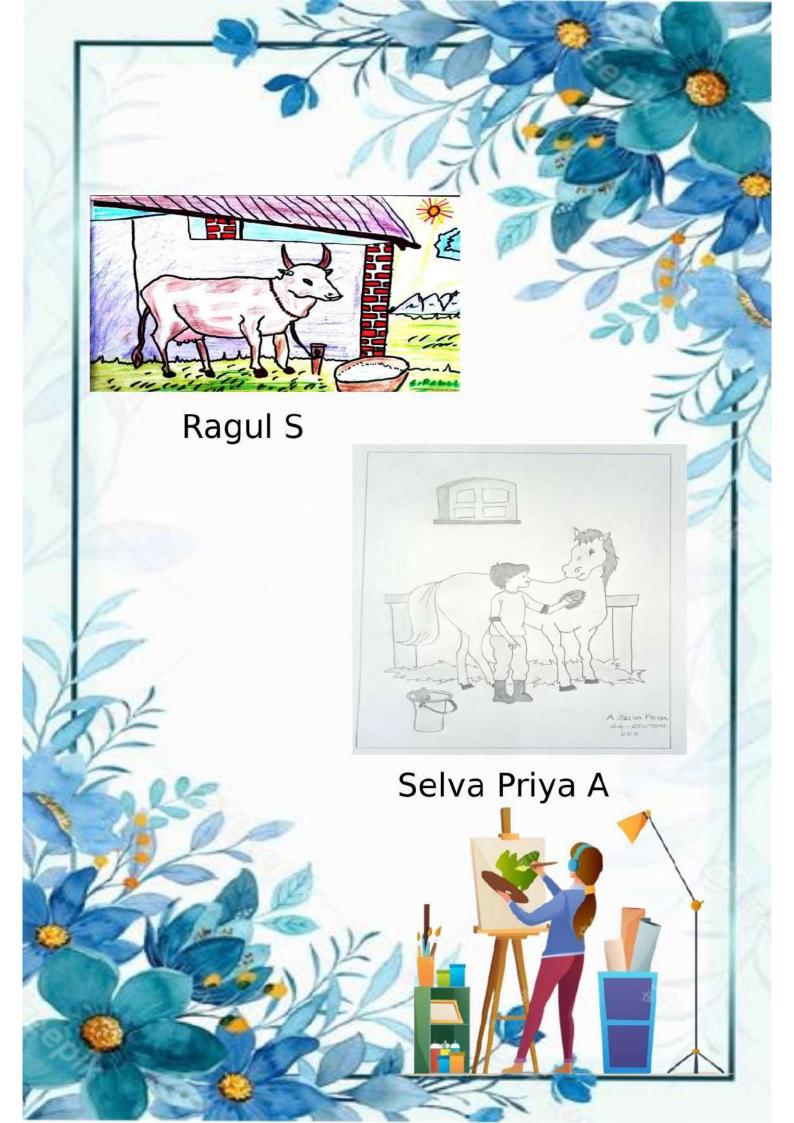








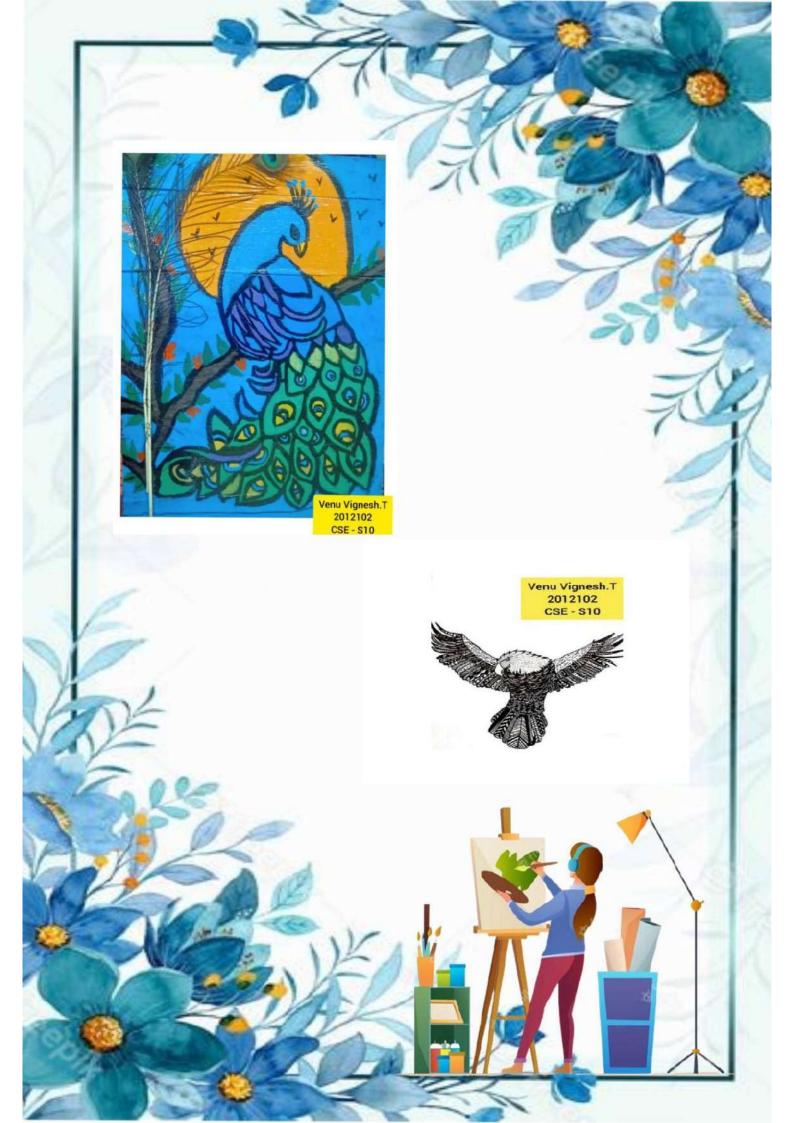






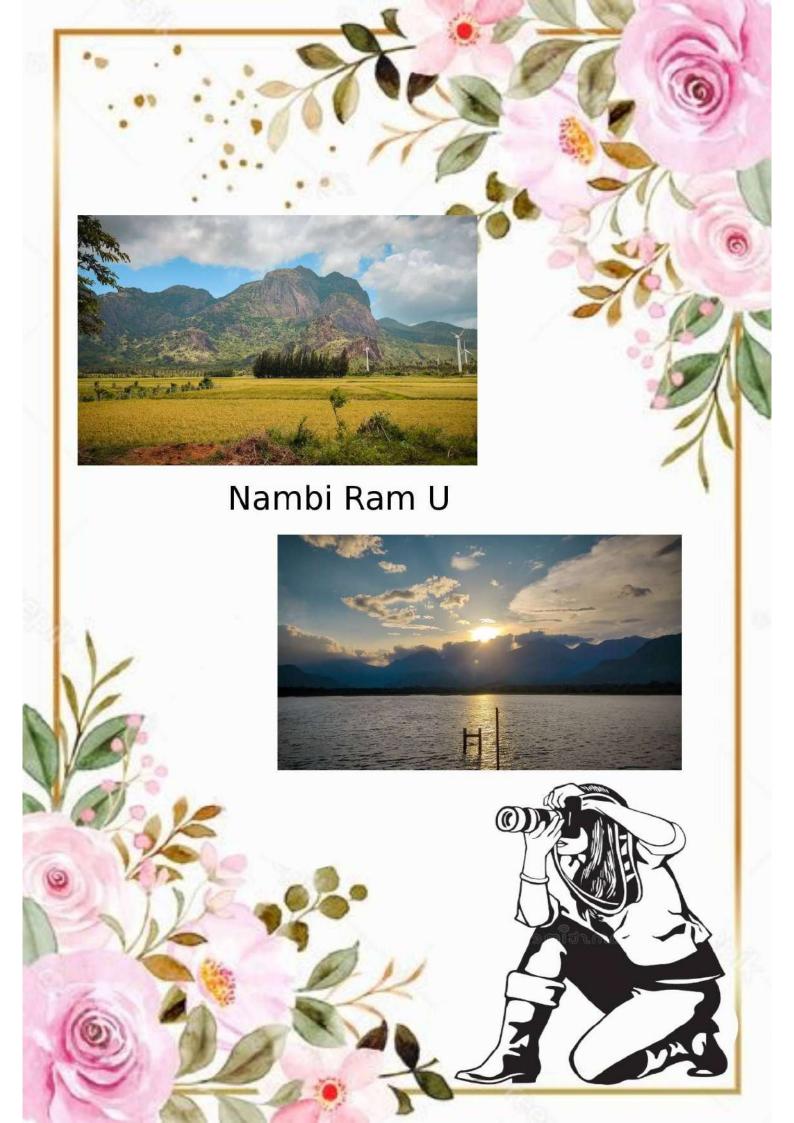


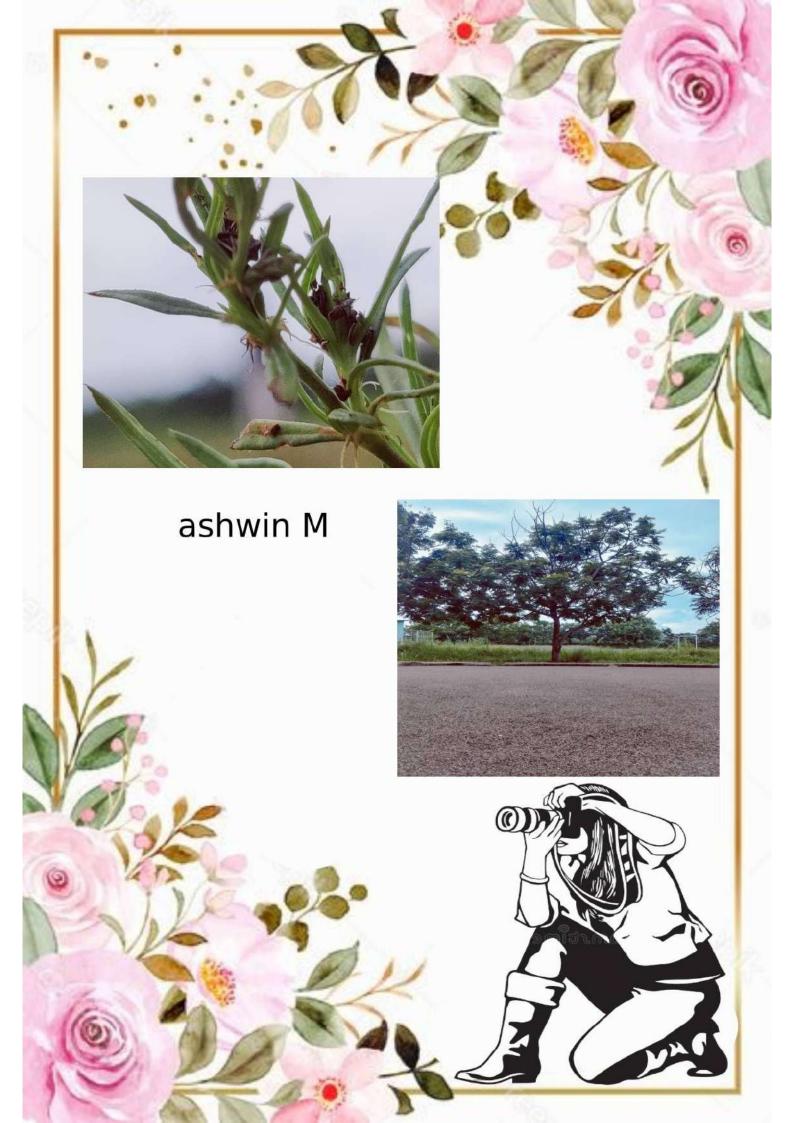




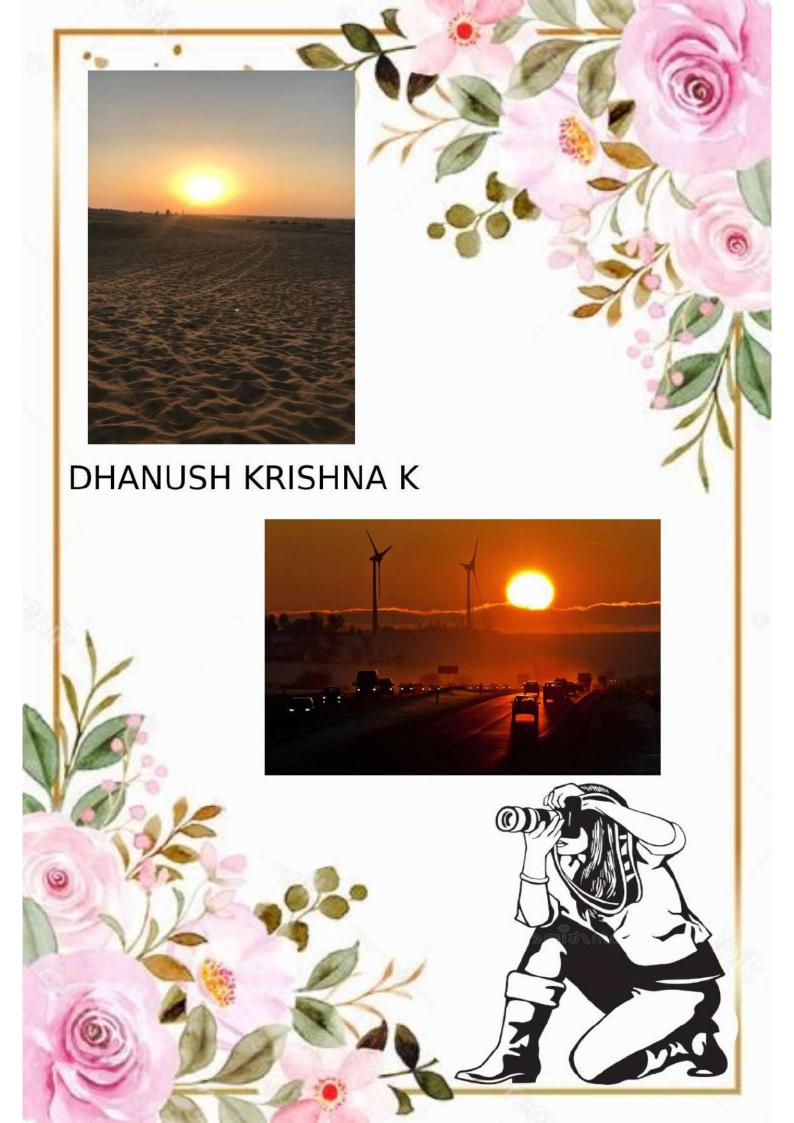




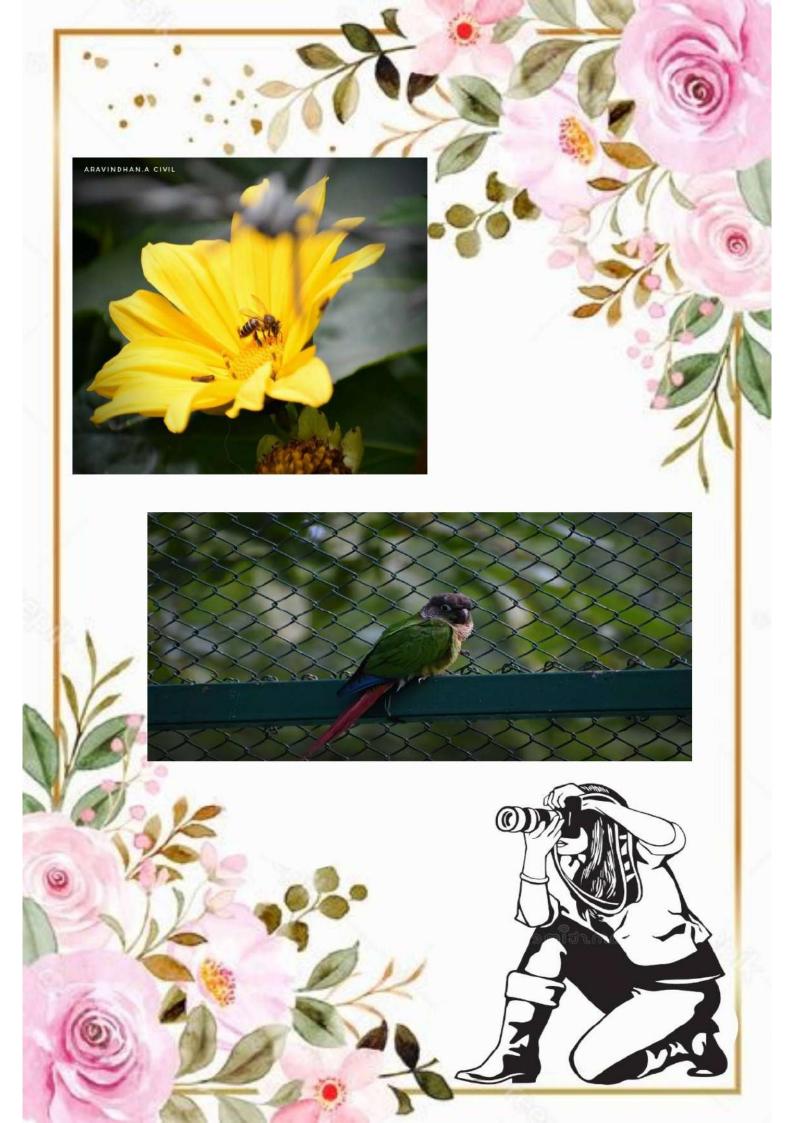


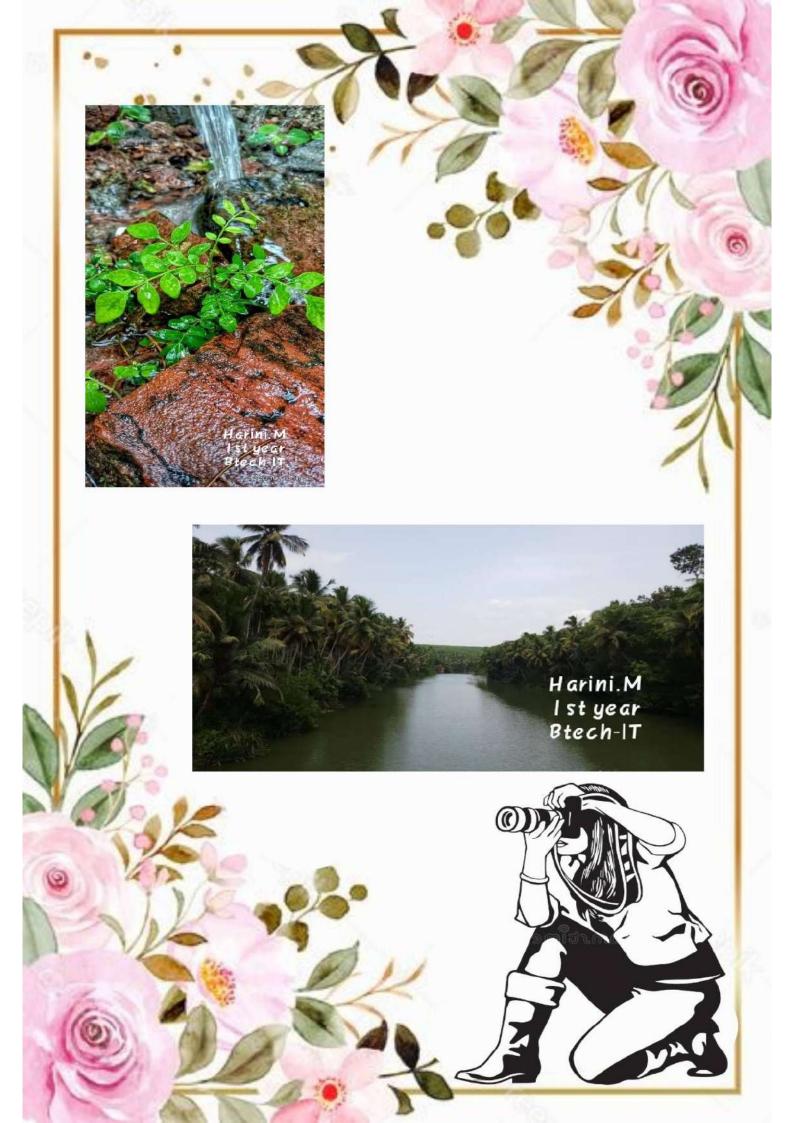










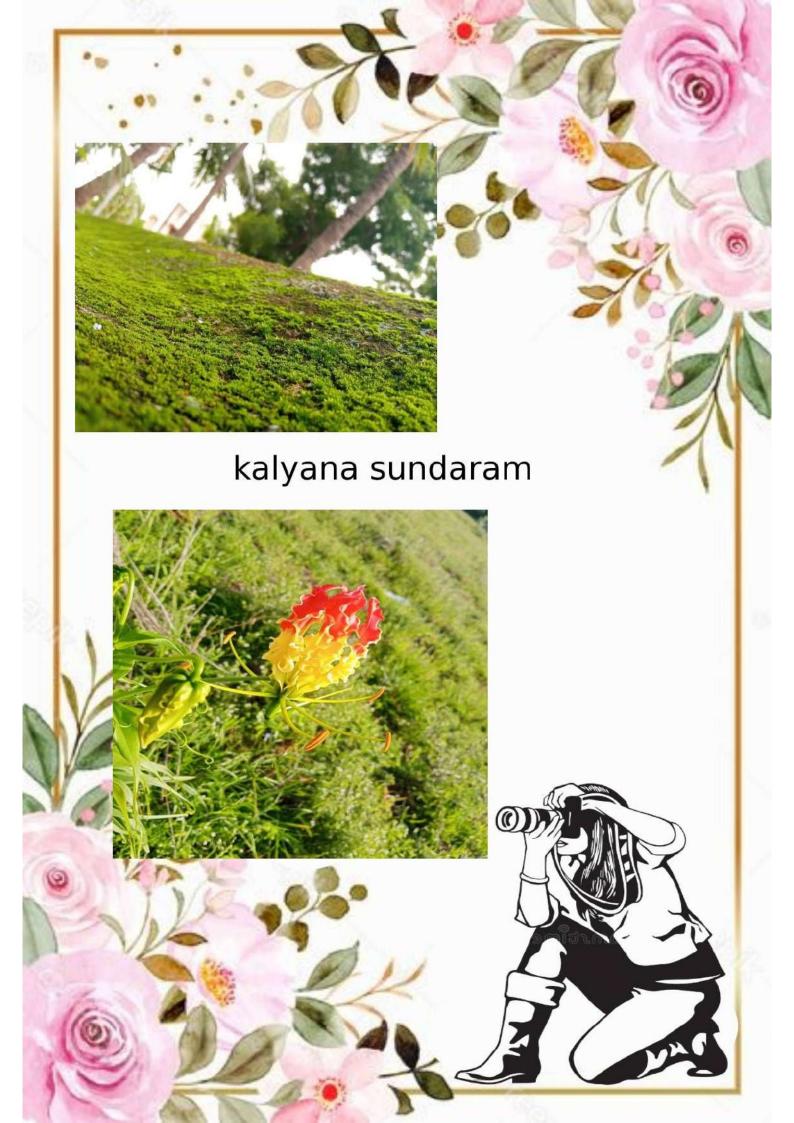


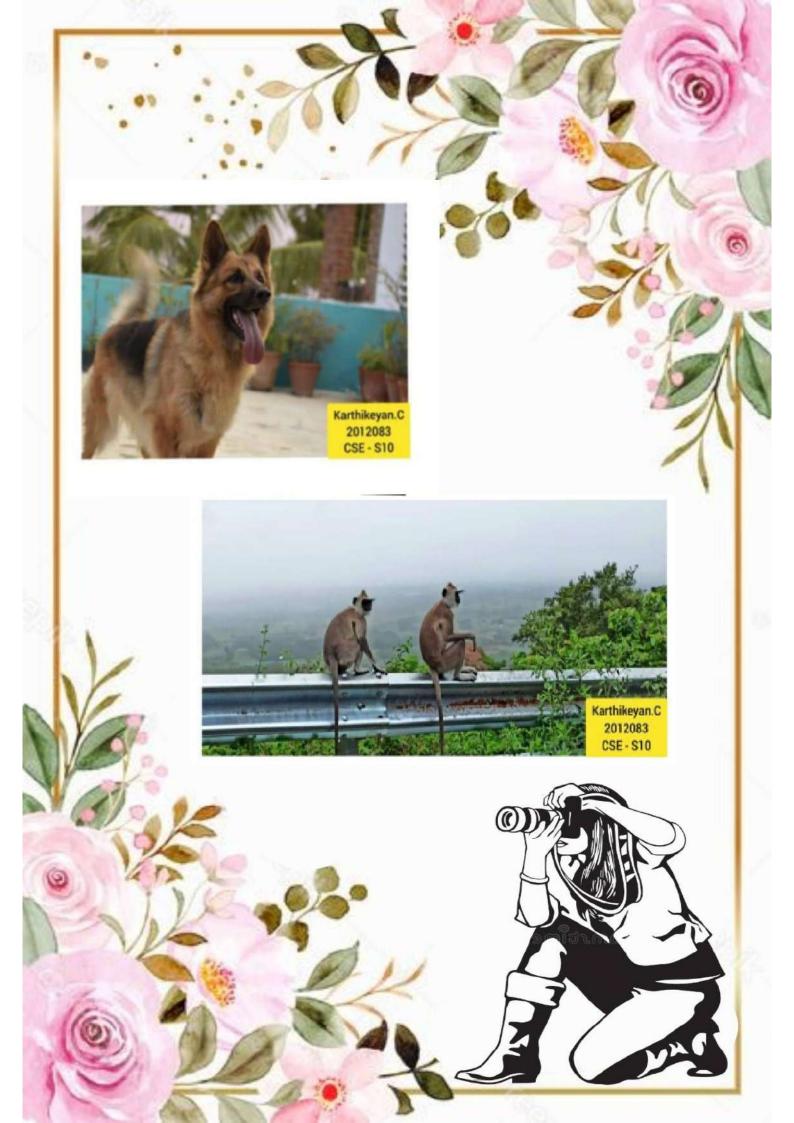






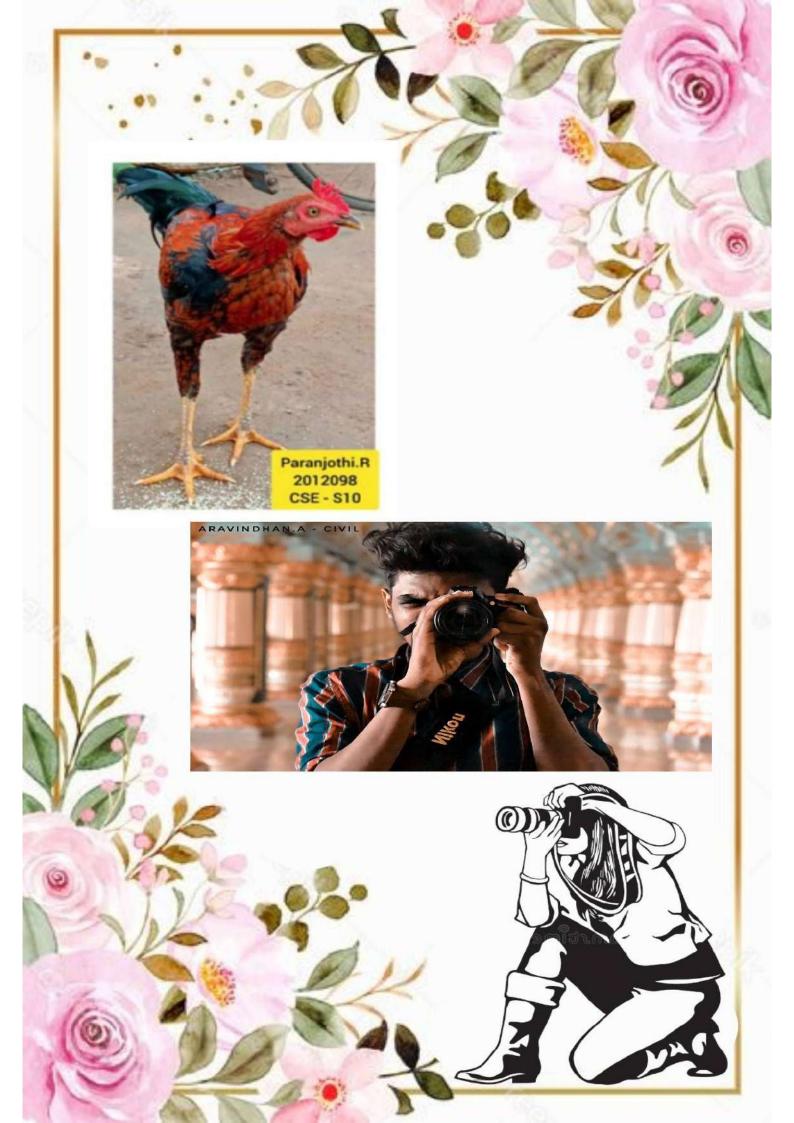


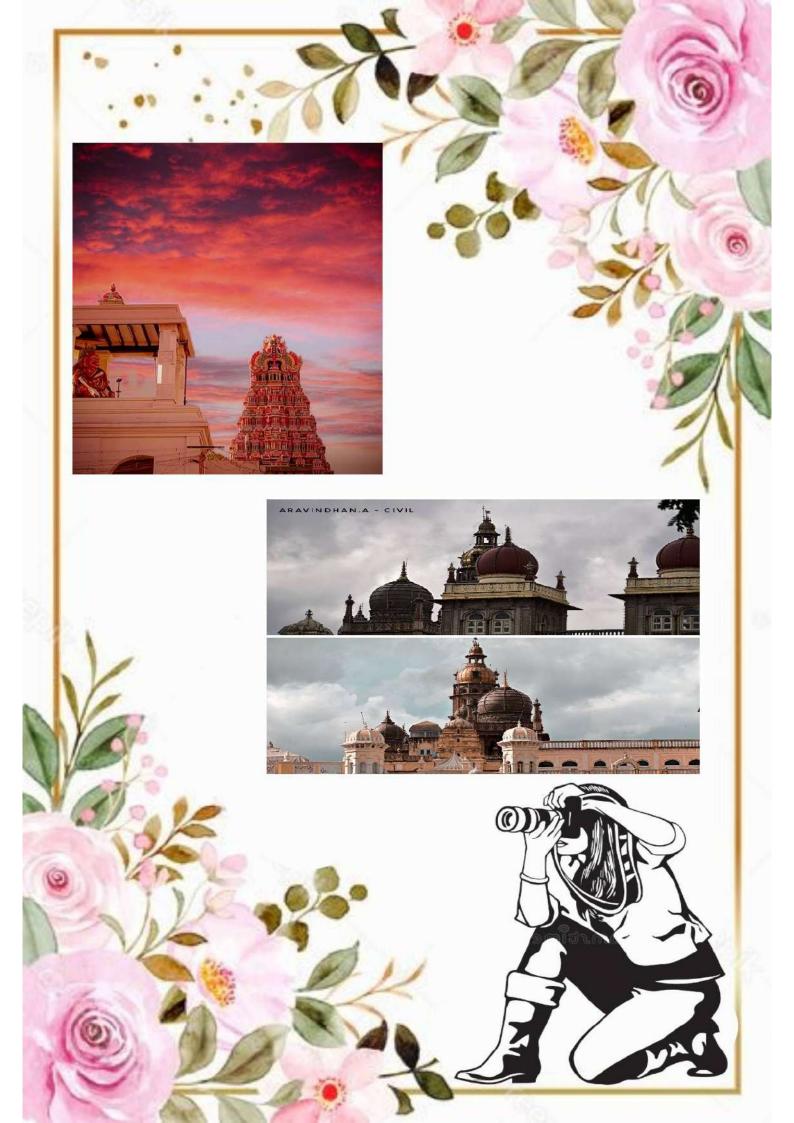


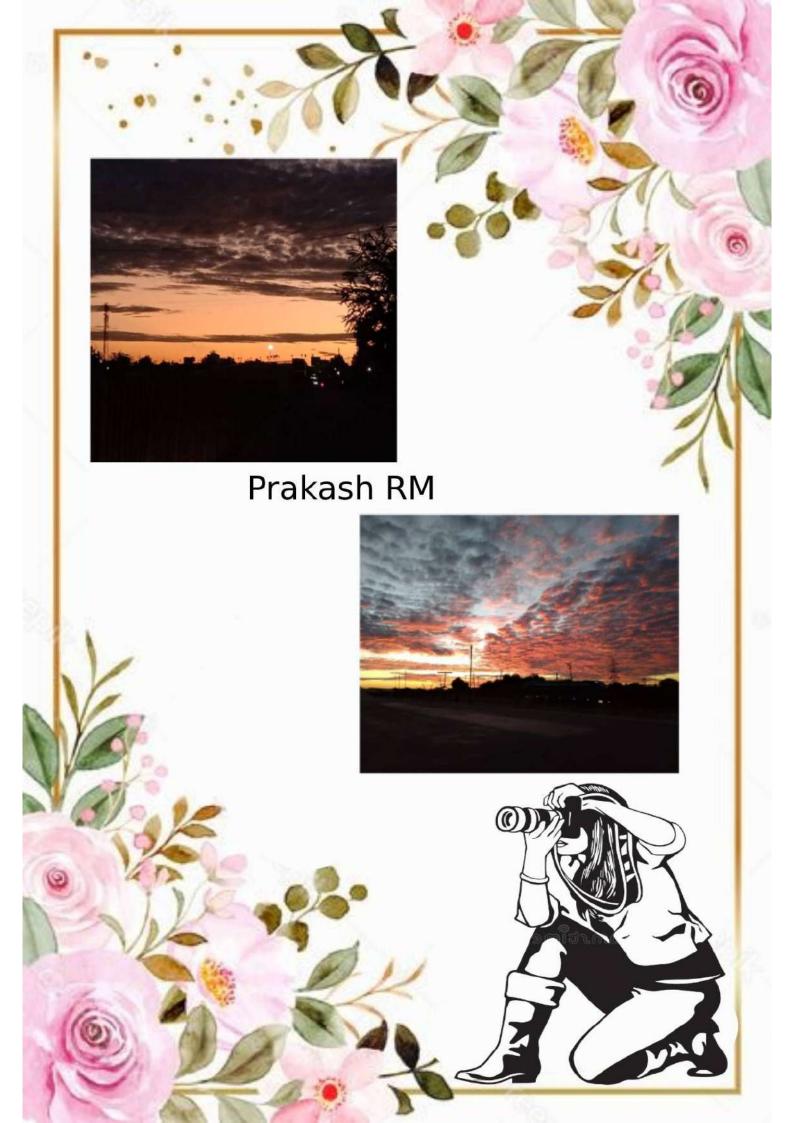




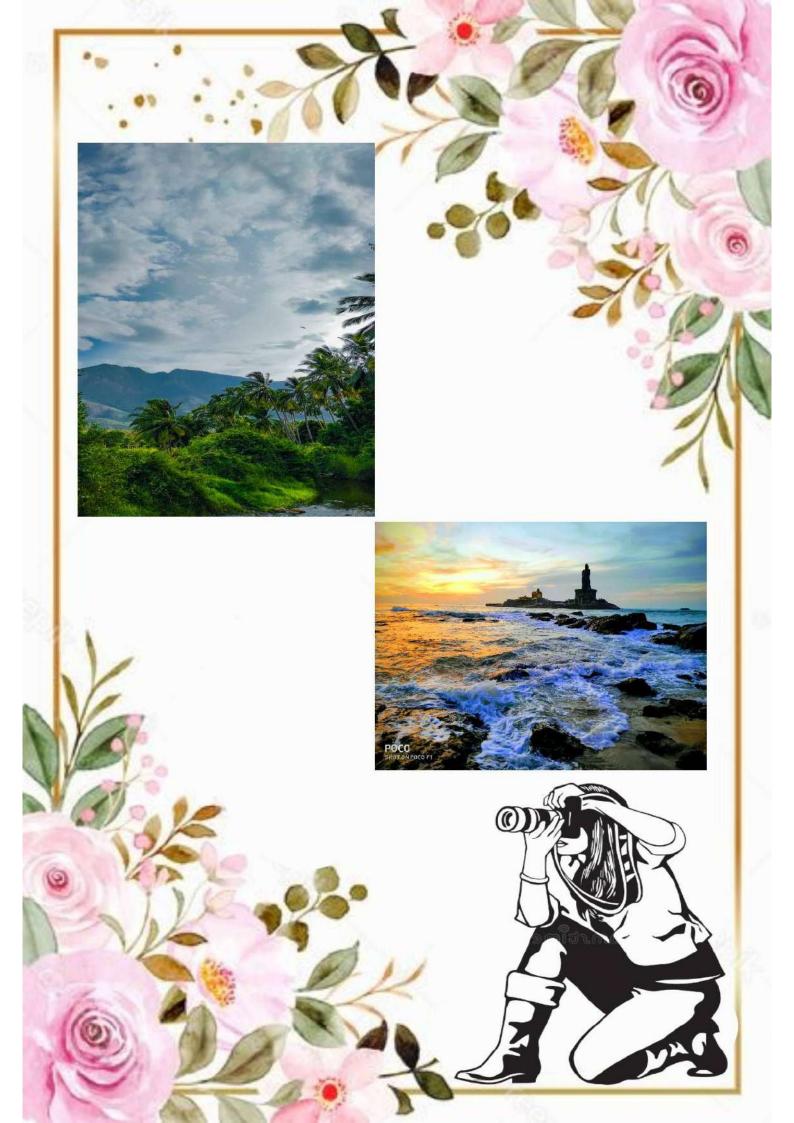


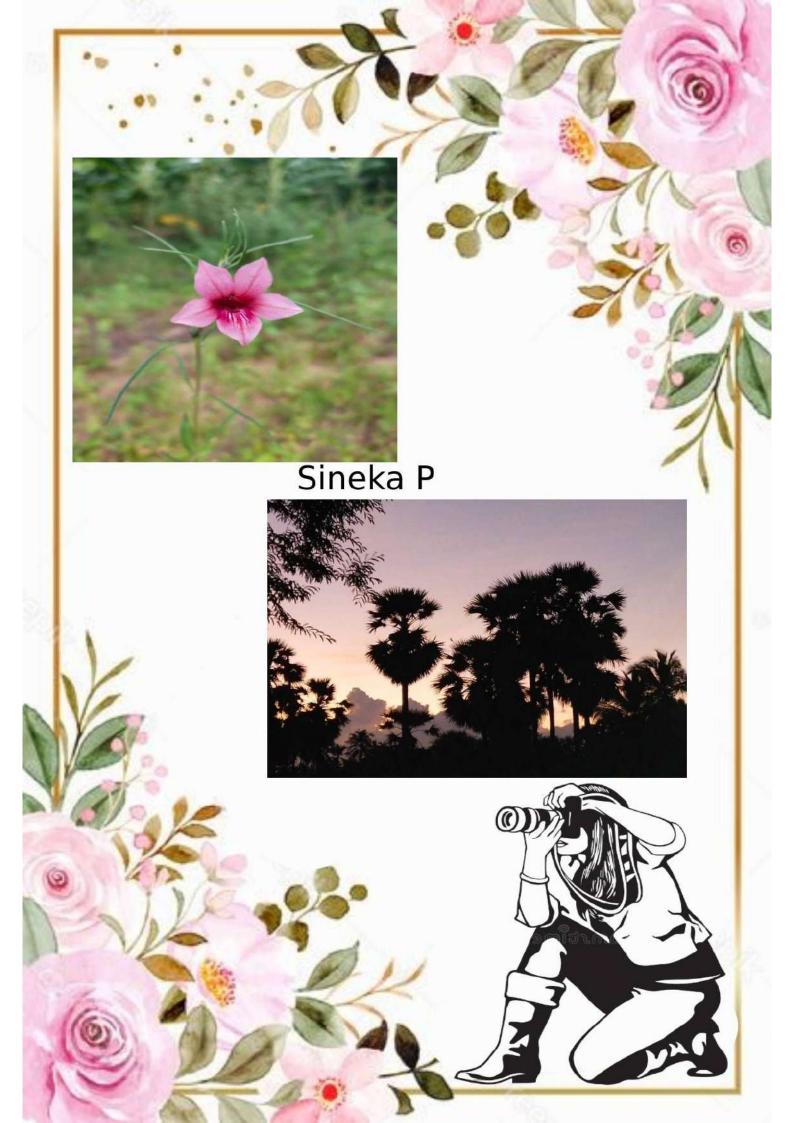


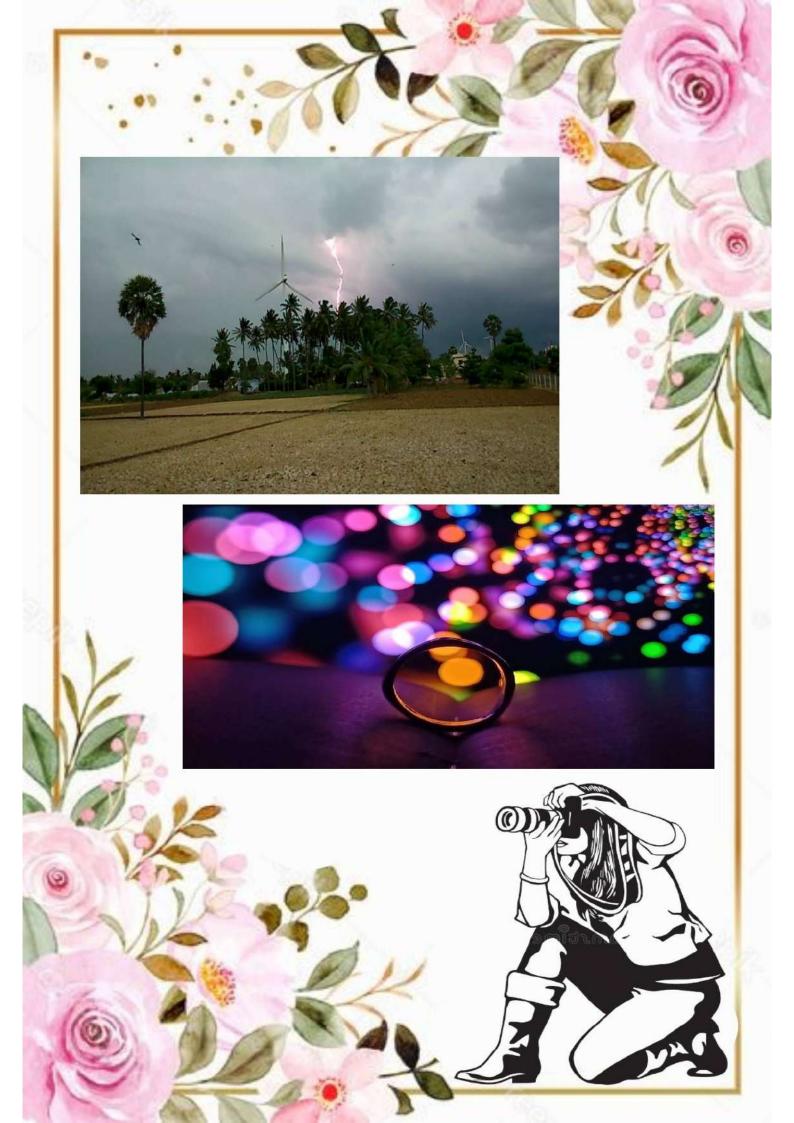








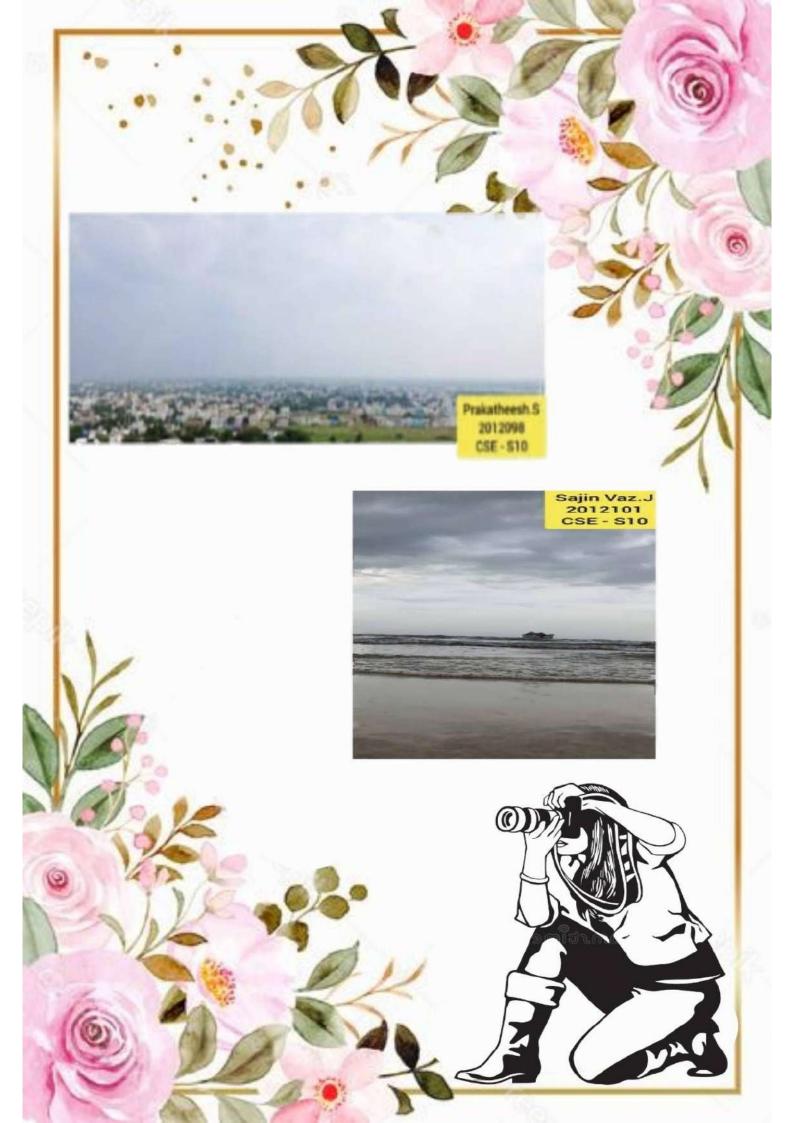






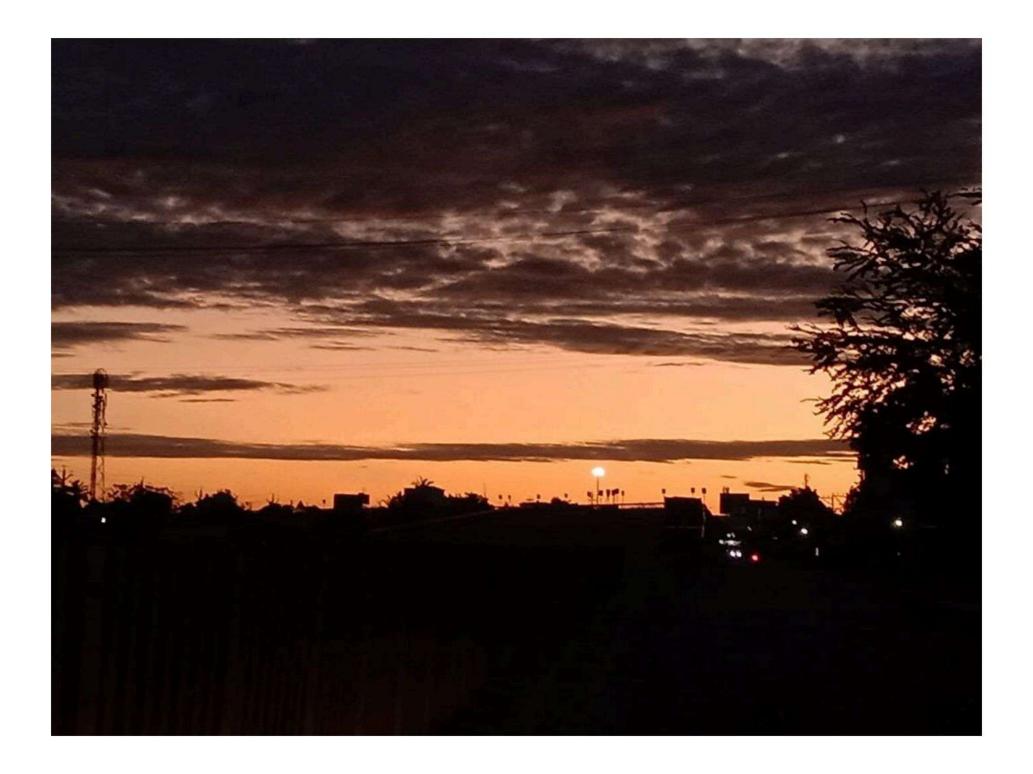


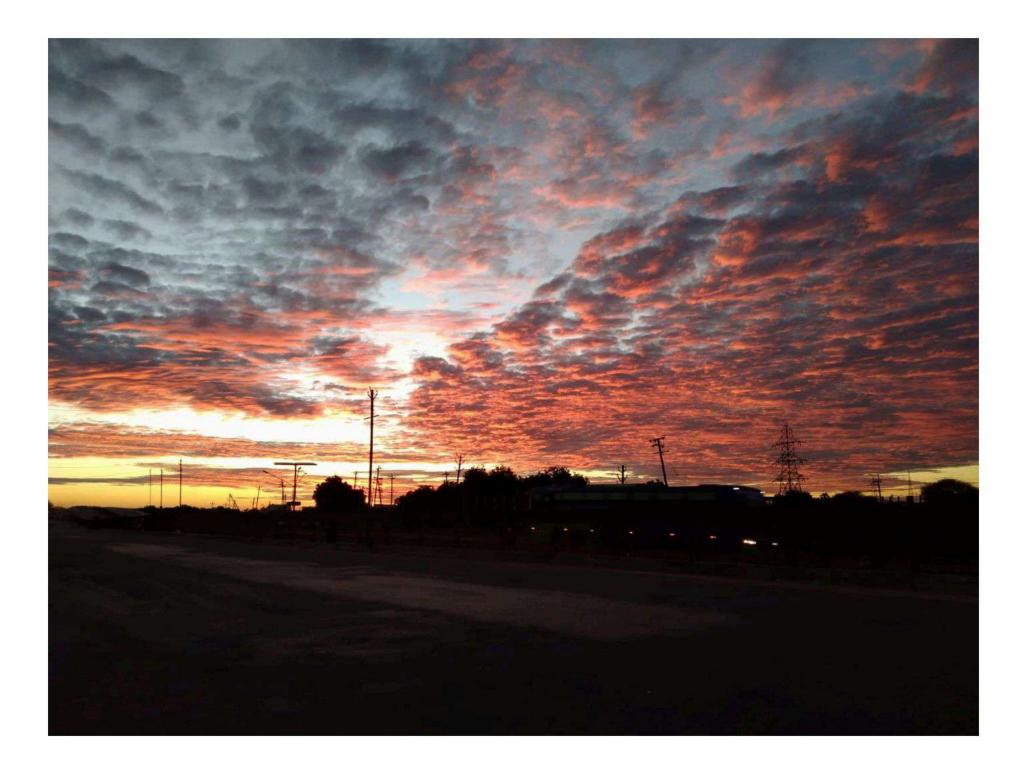


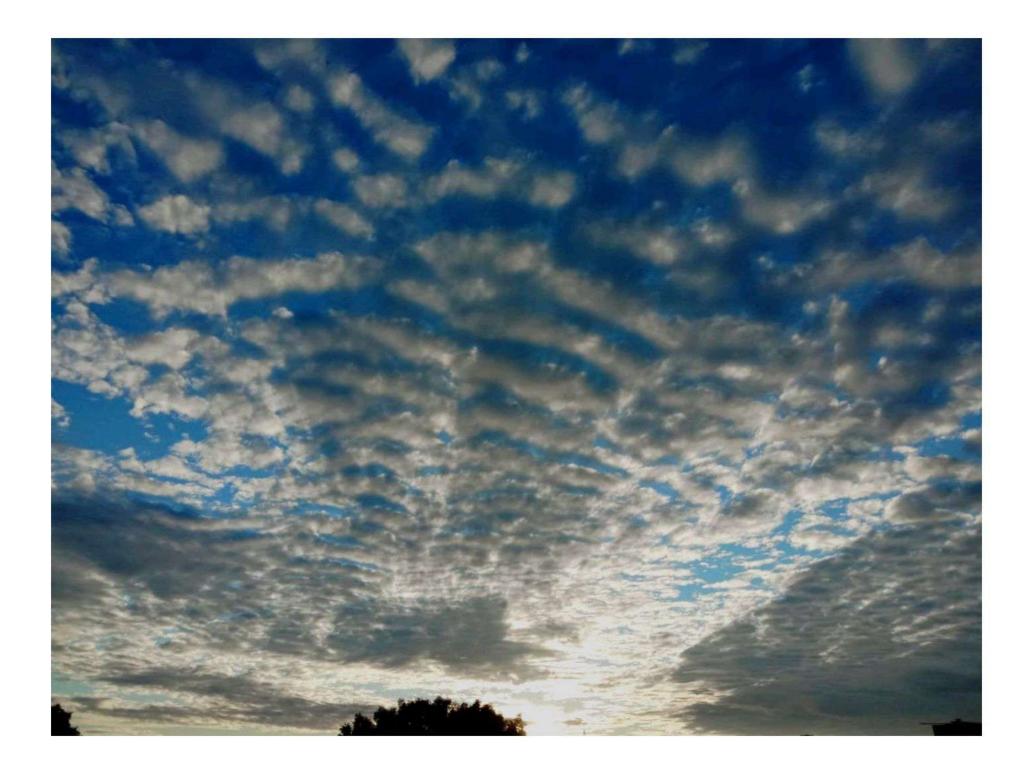


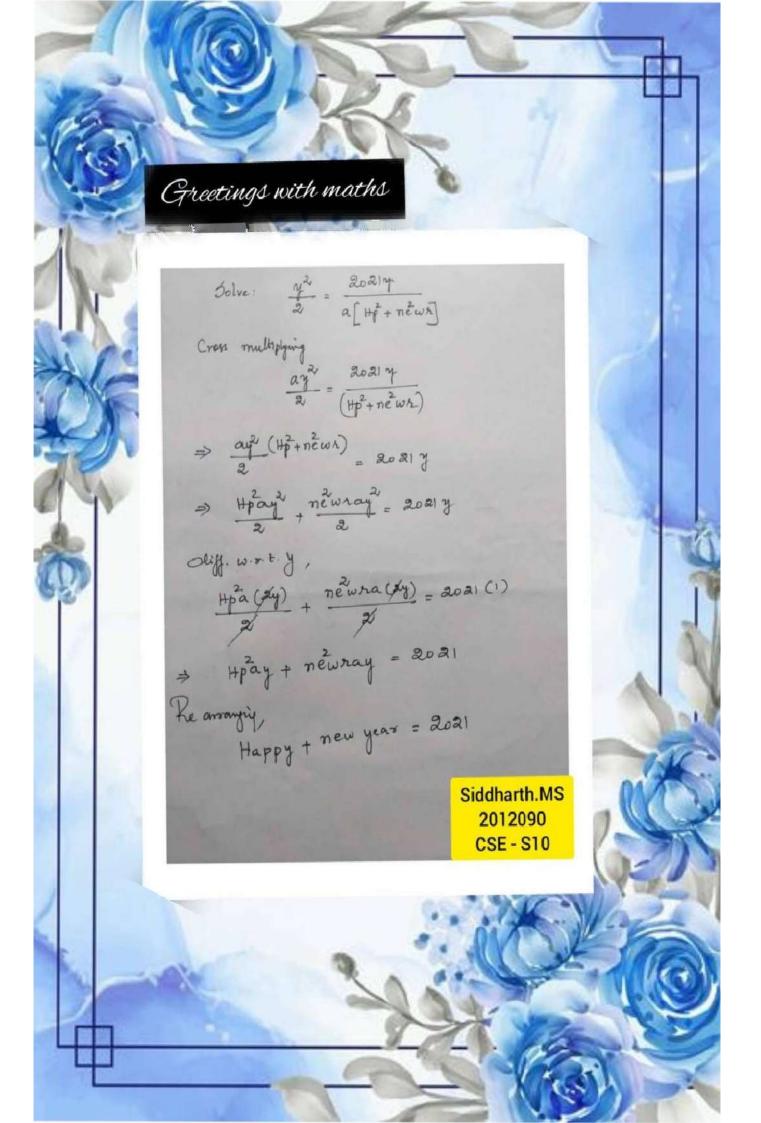




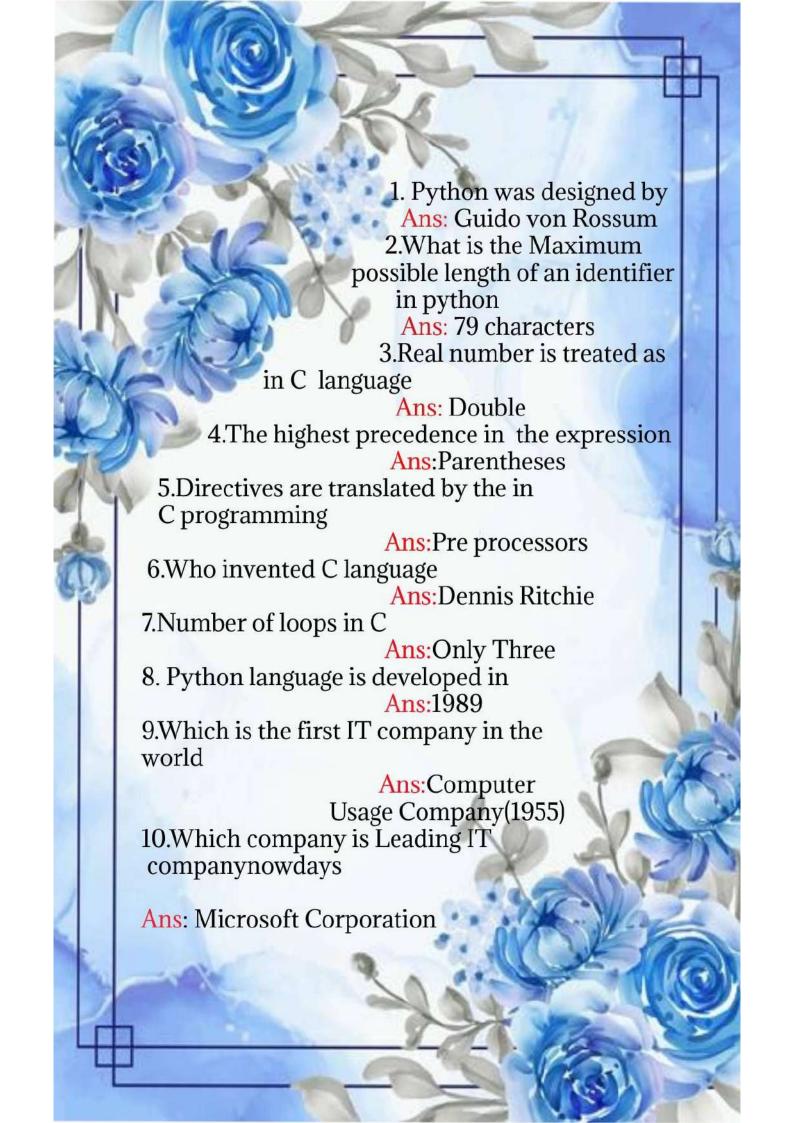


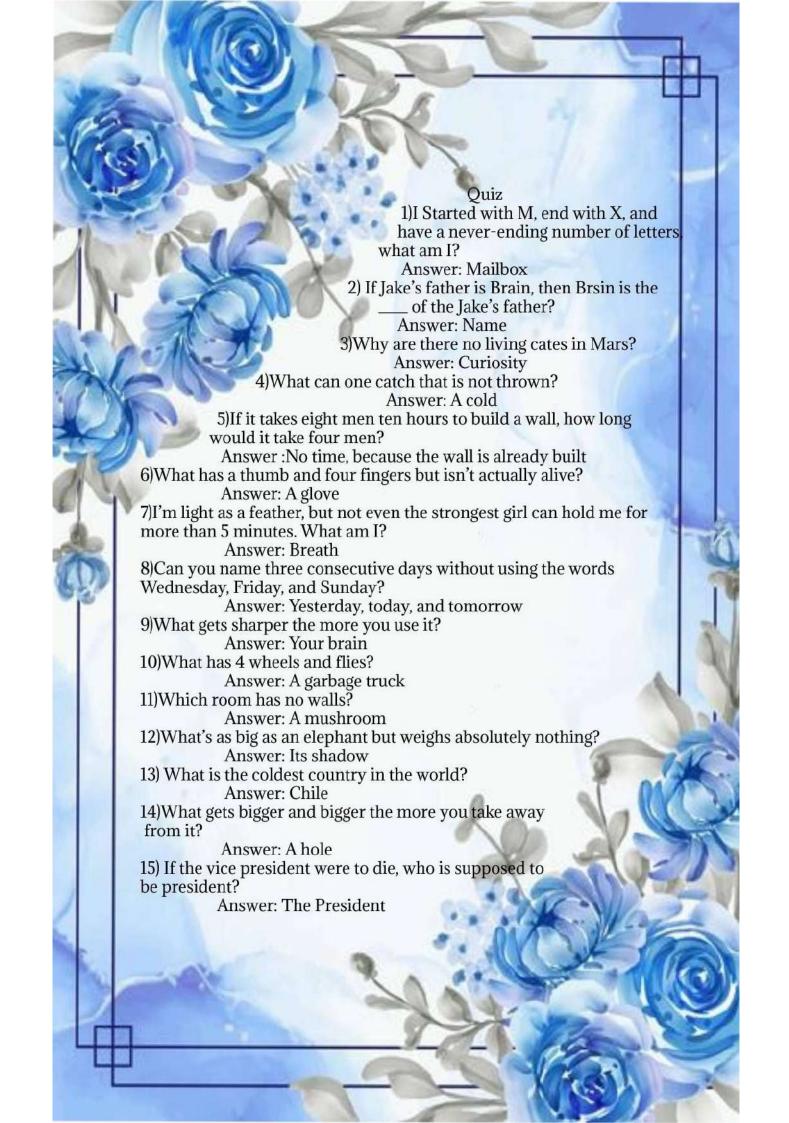


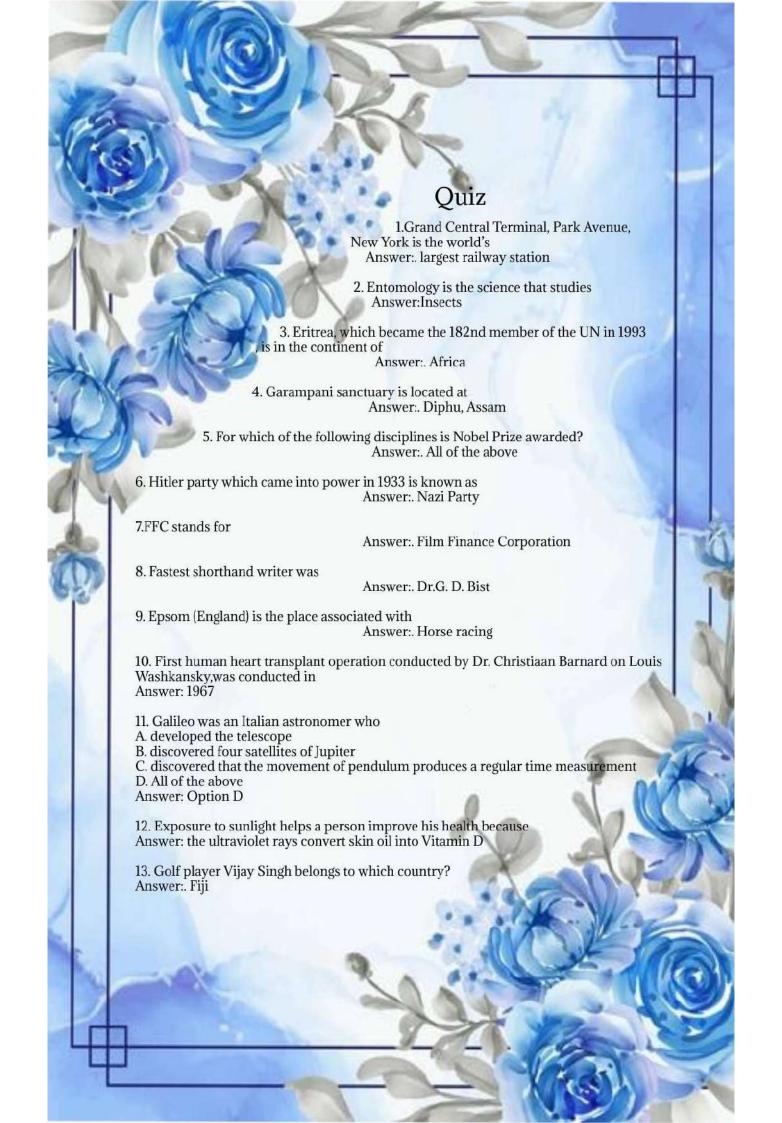




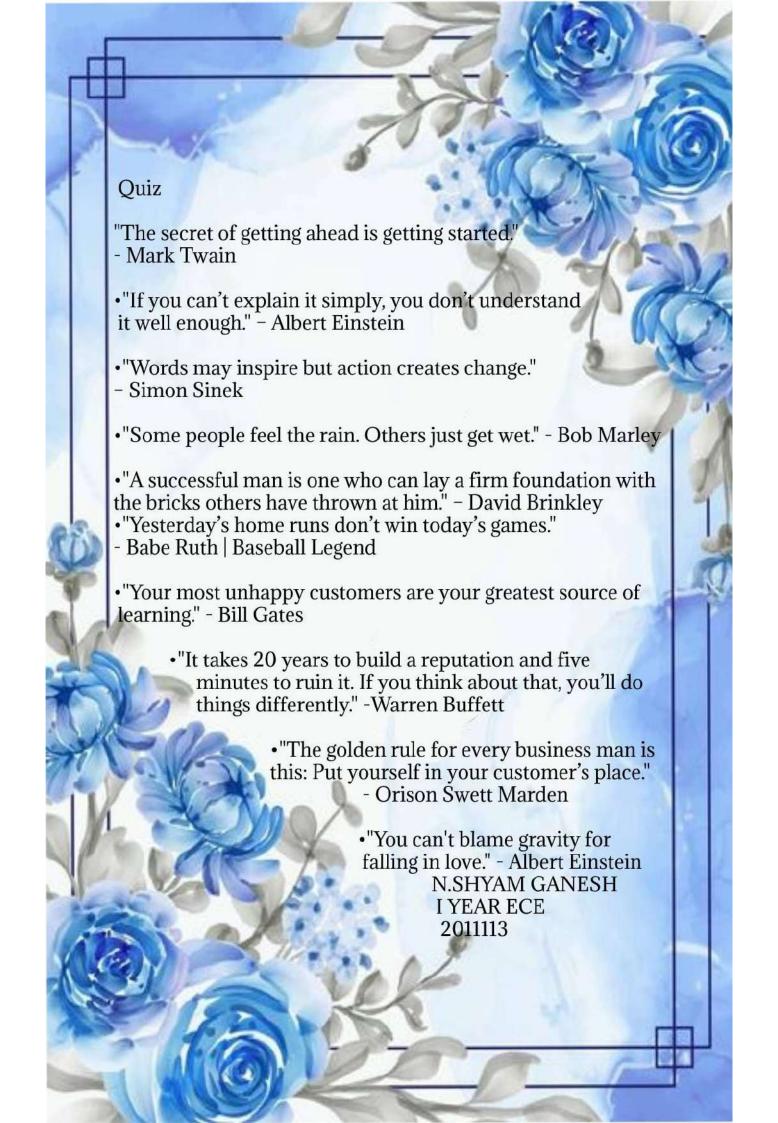


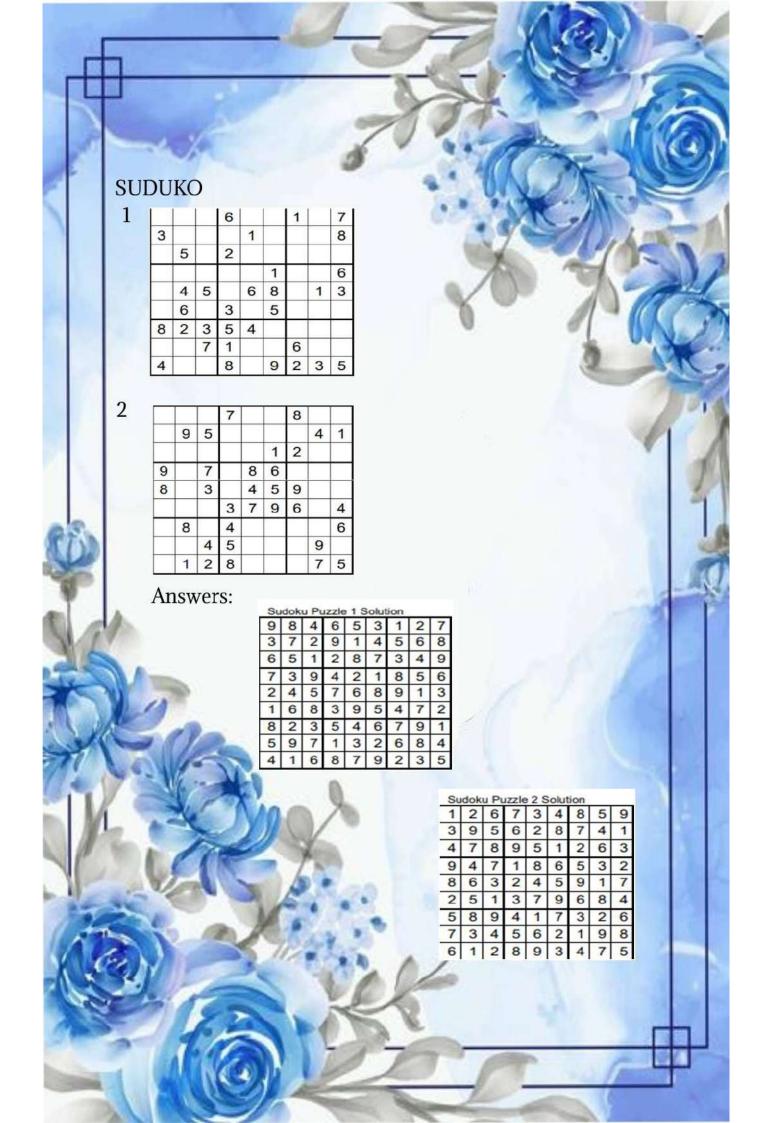


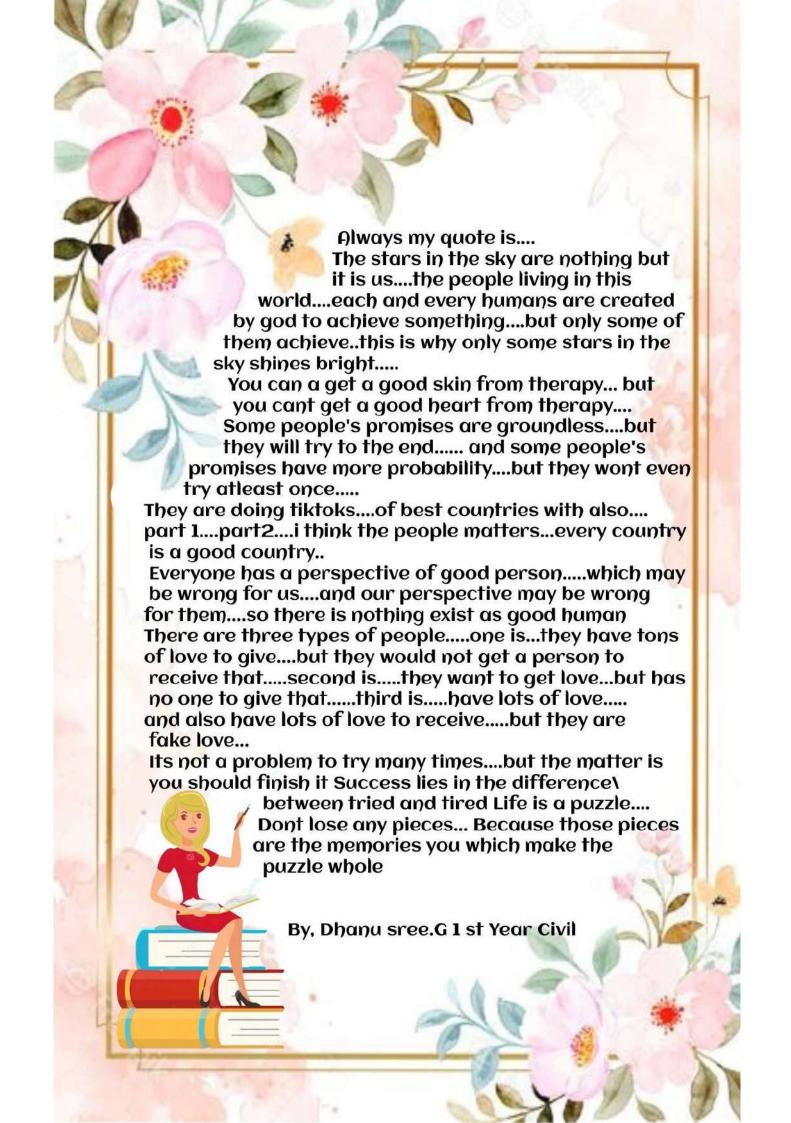


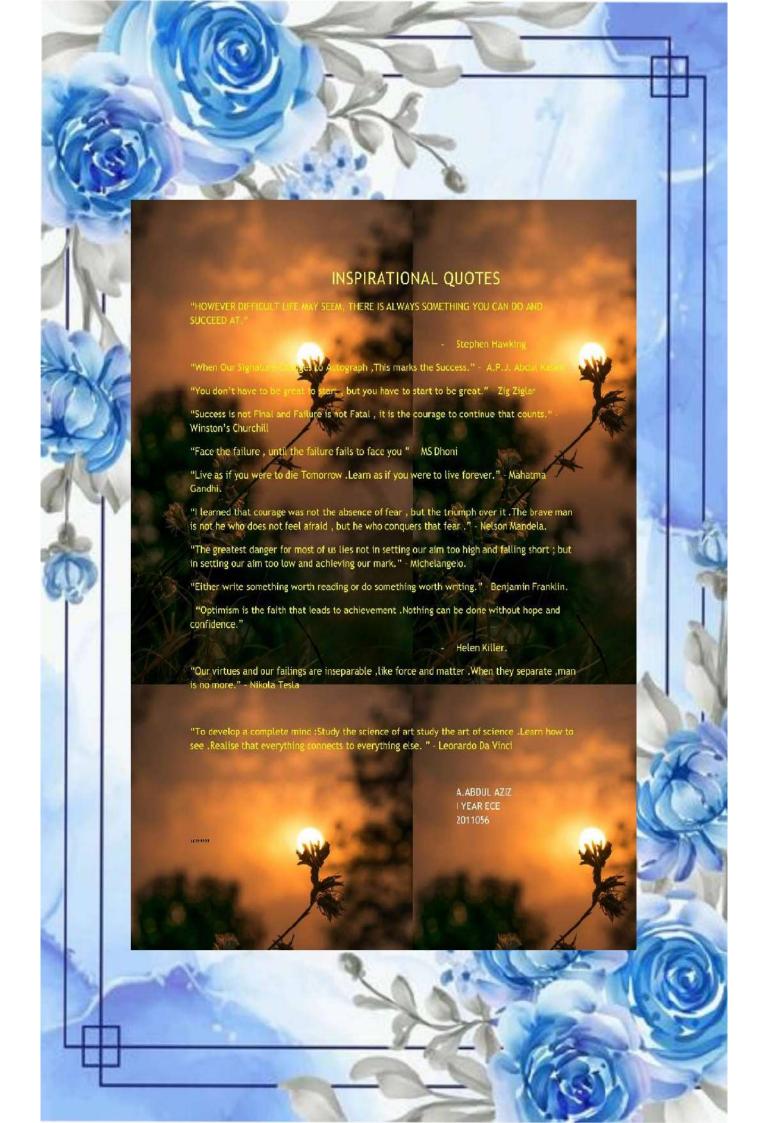


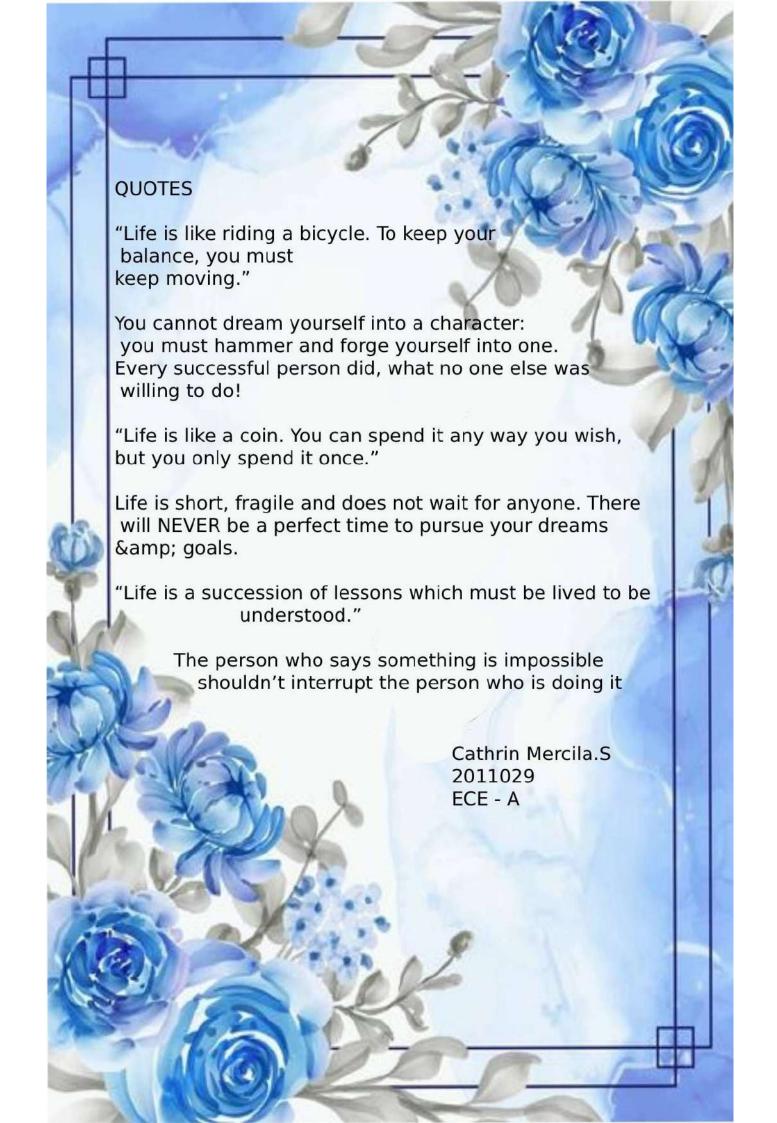














# National engineering college Department of Science and Humanities

Competitions organized by the department – 2020-21

SNO	Dateofevent/competition(DD-MM-YYYY)	Nameoftheevent/competition
1	05-06-2021	Coding Contest
2	05-06-2021	MATSAT 1.0
3	22-05-2021	VCODE Coding Contest
4	11-05-2021	National Technology Day
5	23-04-2021	Shakespearians 2K21
6	30-04-2021	Candid captures
7	27-02-2021	National Science Day
8	14-01-2021	Pongal Fest 2021
9	12-01-2021	National Youth Day
10	29-12-2020	National Mathematics Day
11	09-10-2020-15-10-2020	Kalamspire 2K20
12	17-09-2020	Founder's Day Celebration
13	15-09-2020	Engineer's Day
14	16-08-2020	Creative Writing Contest
15	25-06-2020	Dance Mania
16	29-06-2020, 30-06-2020	Nec Tech Surjana 2K20

# National Engineering College DEPARTMENT OF SCIENCE AND HUMANITIES

## Events organised by the students

	4		
SNO Date	lame of the student organise		
05.06.2021		coding contest league-1	
1 26.06.2021		coding contest league-3	
03.07.2021		coding contest league-4	
05.06.2021		coding contest league-1	
226.06.2021	SINEKA P	coding contest league-3	
03.07.2021		coding contest league-4	
05.06.2021		coding contest league-1	
3 26.06.2021	SOUNDARYAA S	coding contest league-3	
03.07.2021		coding contest league-4	
19.06.2021	HEENA FATHIMA P	coding contest league-2	
417.07.2021	HEENA FATHINA P	coding contest league-5	
19.06.2021	THAILA SHREE S	coding contest league-2	
17.07.2021	I HAILA SHREE'S	coding contest league-5	
6 26.02.2021	JAYA SURIYA B	National Science Day - Instant Science	
705.06.2021	ESA WARSHINI S	Matsat 1.0 - Math Master	
05.06.2021		coding contest league-1	
8 26.06.2021	Jeyaram P	coding contest league-3	
17.07.2021	rCu	coding contest league-5	
05.06.2021		coding contest league-1	
9 26.06.2021	Pandi Muniasamy M	coding contest league-3	
17.07.2021	11/1/1	coding contest league-5	
12.06.2021		coding contest league-2	
10 26.06.2021	Bhuvanessh R	coding contest league-3	
17.07.2021		coding contest league-5	
12.06.2021		coding contest league-2	
11 26.06.2021	Shunmuga Nathan K	coding contest league-3	
17.07.2021		coding contest league-5	
05.06.2021	Vigneshwaran J	MATSAT 1.0 - Bridge It	
12 26.02.2021	Kalyana sundaram M	National Sccience Day - Science Club Event	
26.06.2021	M Sri Murugan	NEC FLAIR YODHA - Hippo Craters	
05.06.2021	Hemanth. D		
	Abernha. V		
12	Noor Nisha. V	T-I	
13	Shiny Divya Mary. S	Talentrix	
	Guru Prasad. M		
	Franklin. J		
03.07.2021	Abernha. V		
14	Noor Nisha. V	Triofun	
	Shiny Divya Mary. S		
05.06.2021	Mothishree M J		
15	Vaishnavi M	Technical Quiz	
15	Durkka Parameswari T	recinical Quiz	
	Padma Shankari S		

# National Engineering College DEPARTMENT OF SCIENCE AND HUMANITIES

# Events organised by the students

		_		
	05.06.2021	Gopinath B	_	
16		Balakrishnan M	Non Technical Quiz	
		Siva Shakthi Dharan V		
	26.06.2021	Immaculate Jeffe R		
		Subasree S G	0	
17		Maheswari A	Quizzbuzz	
		Ajithra S		
	26.06.2021	Gopinath B	Technical Quiz	
18		Balakrishnan M		
11300		Alwin Joshua J		
5		RAJA ARUMUGHAM.M	VCODE CONTEST	
	22.5.2021	MAHARAJAKUMAR.S		
19		HARINI.M		
		KARISHMA.S		
		HARINI.M		
	5.6.2021	KARISHMA.S	VEDDAL CONTECT	
20		HARINI.D	VERBAL CONTEST	
		SANKARAPANDIAMMAL.K		
	12.6.2021	KAVISHKA.P		
		SELVAVARSHINI.S	MATH PUZZLES	
21		HARINE SAKTHE.K.		
		NARMATHA.P		
		AARTHI		
	12.6.2021	KARISHMA.S	-6	
22		HARINI.M	APTITUDE CONTEST	
		NARMATHA.N		
	26.6.2021	SUNDARRAJ.M		
23		SANTHAKUMAR.C	WORD GAME	
23		VINOTH BABU.K	WORD GAINE	
		NAMBIRAM. U		
	3.7.2021	DEEPA LAKSHIMI.B		
24		GAYATHRI.P	ELINI EESTA	
24	24	ANUSHYA.R	FUN FESTA	
		DIVYA.G		
	17.7.2021	SOWMIYA.C		
		MERLIN.K		
25		VAISHMASHREE.I	CONNEXION	
		NARMATHA.N		
		NAVETHA.S		

# INTERNSHIP DETHILS 2020-2021

		400000000000000000000000000000000000000		AND AND THE PERSON AND THE
S.NO	REG.NO	10.00	BRANCH	COMPANY NAME
1		Anbu Prasanna	CSE	International Model United Nations
2		Dhanush Krishna	CSE	Aashman Foundation
3		Bency Jesline B	CSE	International Model United Nations
4		Sri Murugan M	CSE	TechieeGY
5		Maheswari K S	CSE	International Model United Nations
6		Anbu Prasanna	CSE	International Model United Nations
7		Dhanush Krishna	CSE	Aashman Foundation
8		Bency Jesline B	CSE	International Model United Nations
9		Maheswari K S	CSE	International Model United Nations
10		Vigneshwaran J	CSE	TechieeGY
11	2012064	Shunmuga Nathan K	CSE	TechieeGY
12	2012067	Kalyana Sundaram M	CSE	TechieeGY
12				Gurugram Police Cybersecurity
13	2012071	Hari Narayanan R	CSE	TechieeGY
14	2012070	Hariram M	CSE	TechieeGY
11.655	[RAMEDE)	Contract Con	- COL	Saraftech
15	2012081	Esa Warshini S	CSE	International Model United Nations
				Interestopedia
		keerthikasri G	CSE	Aashman foundation
		keertnikasn G	CSE	Muskurahat foundation
16	2012115			Inamigos foundation
17	2012105	sugasini. p	CSE	IMUN
18		Venu vignesh T	CSE	Police cybersecurity Techieegy
19	2012110	Kalpana M	CSE	TechieeGY
20	2012103	paranjothi R	CSE	Techieegy
21	2012118	Rahul Nayagam K	CSE	TechieeGy
22	2012085	Bibinsha K S	CSE	TechieeGy
931130	NAME OF TAXABLE			Gurugram Police Cybersecurity
23	2012086	Jasmitha B	CSE	International Model United Nations
				Intermind ~ C
24		Esakkiammal E	CSE	TechieeGy
25	2012092	Karthicknarayanan M	CSE	TechieeGy
26		Maria Antony Harish J	CSE	TechieeGy
27	2012096	Punitha Sahaya Sherin A	CSE	TechieeGy
28	2012098	Prakatheesh S	CSE	TechieeGy
29		Subash S	CSE	TechieeGy
30	2012100		CSE	TechieeGy
31		Balakrishnan.M	ECE	Gurugram Police Cybersecurity
32		Gopinath B	ECE	Gurugram Police Cybersecurity
33	2011078		ECE	Intershala
34	2011082	Mithraa Sri	ECE	Intershala
35	2011084	Harshini K	ECE	Intershala

# INTERNSHIP DETHILS 2020-2021

		The state of the s		AND	
36		Hari Haran A	ECE	Intershala	
37	2011091	Revathi S	ECE	Intershala	
38	2011088	Sridharan S	ECE	EarthDay.org India	
39	2011098		ECE	Intershala	
40	2011099	Larisha Juhi Ackshaya V	ECE	E-Cell, IIT Bombay	
41	2011103		ECE	E-Cell, IIT Bombay	
42	2011104	Abassa B	ECE	Intershala	
42	2011104	Abama 5	ECE	E-Cell, IIT Bombay	
43	2011105	Vanitha M	ECE	Intershala	
44	2011108	Sathishkumar P	ECE	Intershala	
45	2011111	Mano Ranjith P	ECE	E-Cell, IIT Bombay	
46		Vidhya Varshini	ECE	Intershala	
10000		Selvarajamanickam. S	ECE	Intershala	
47	2011115			E-Cell, IIT Bombay	
48	2013002	MATHAN RAJ	EEE	IMUN	
49		CHRISTEN.R	EEE	IMUN	
50	2013013	MUTHUMARIAPPAN	EEE	IMUN	
51		PONKATHIRVEL	EEE	IMUN	
52		VENKATESHKANNAN	EEE	IMUN	
53	2013030	Yuvaraj S	EEE	ETOP Technologies, Chennai.	
54	2013028	Mohana Krishnan	EEE	Microsoft	
55	2015045	Pradiksha.S	IT	Internshala	
56	2015024	Kailaash Jeevan J	IT	IIT, Kharagpur	
57	2015009	Harini.M	IT	IIT Bombay	
57				International IMUN	
58	2015011	Karishma.S	IT	IIT Bombay	
				International IMUN	
59	2015007	Krithika,S	IT	International IMUN	
60	2015002	Madhumitha.M	IT	International IMUN	
61	2015012	Anushya.R	IT	International IMUN	
62		Gayathiri.P	IT	International IMUN	
63	2015001	Divya.G	IT	TechineeGY	

# National Engineering College

# Department of Science and Humanities SKILL RACK REPORT TOP 10 MEDAL SCORERS

NAME	BRANCH	BRONZE
SHENBAGA RAJ S	CSE	1111
SUNDARAM S	CSE	923
MUKESH M	CSE	870
MAHALAKSHMI S	CSE	862
RUBESH MUTHUVEL R	CSE	859
RAJESWARI R	CSE	857
AVANTHIKA M	CSE	856
GAYATHRI J	CSE	842
SUSINTHIKA B	CSE	809
SIVA PREMA B	CSE	804

# National Engineering College

# Department of Science and Humanities

# SKILL RACK REPORT

## TOP SKILLRACK RANK

NAME	BRANCH	SKILL RACK RANK
SUNDARAM S	CSE	783
SHENBAGA RAJ S	CSE	875
MUKESH M	CSE	1101
BALAKRISHNAN M	ECE	1351
MAHALAKSHMI S	CSE	1449
RAJESWARI R	CSE	1520
AVANTHIKA M	CSE	1593
RUBESH MUTHUVEL R	CSE	1630
GAYATHRI J	CSE	1653
SUBITHA V	EEE	1666
GOPINATH B	ECE	1681
SUSINTHIKA B	CSE	1758
ESAKKI RAM R	CSE	1973
RAJA KARENCIA A	CSE	1990



MAKING MEMORIES OF A LIFETIME WITH PEOPLE YOU WILL NEVER EVER FORGETIAFTER JOINING B.E, WE ALL CAME TO KNOW EACH OTHER THROUGH ONLINE MODE. WE HAD A NEW EXPERIENCE LEARNING THROUGH ONLINE CLASSES. THEN WE CAME THROUGH OFFLINE CLASSES AND STARTED A NEW JOURNEY FOR OUR COLLEGE DAYS.COLLEGE DAYS ARE THE DAYS WE ENJOY THE MOST. WE ARE REALLY EXCITED TO MEET OUR NEW FRIENDS OUR STAFFS. THE DAYS WE ENJOY THE MOST. WE ARE REALLY EXCITED TO MEET OUR NEW FRIENDS OUR STAFFS.

COLLEGE IS THE PLACE WHERE WE LEARNT TO STAY INDEPENDENT AND MADE SELF DECISION. EVENTS IN COLLEGE DAYS REMAIN AS EVERLASTING MEMORIES. OUR COLLEGE LIFE IS FULL OF FUNS. WE RECOLLECT THE MEMORIES THAT SPENT IN COLLEGE BECAUSE THE MEMORIES OF COLLEGE LIFE GLOW XLIKE A LIGHTHOUSE ON ONE'S WHOLE LIFE. ONE SHOULD KEEP THEIR EYES AND MIND OPEN INORDER TO LEARN AND ENJOY THE REAL PLEASURES OF COLLEGE LIFE.

WE ARE VERY MUCH EXCITED TO VISIT WHOLE BUILDINGS TO OFF OUR COLLEGE SUCH AS LIBRARY, A WONDERFUL PLACE TO READ AND LEARN LAB EXPERIMENTS, A PLACE TO IMPROVE OUR EXPERIMENTAL SKILLS & COMMUNICATION CLASS LAB, WHERE WE CAN IMPROVE OUR PROFESSIONAL ENGLISH CANTEEN, WHERE WE HAD FUN AND HAPPINESS THROUGH SHARING OUR SNACKS COPPORTUNITY KNOCKS HERE ARE MANY, WE HAVE PARTICIPATED MANY MORE COMPETITIONS AND WON PRIZES TO

COLLEGE STUDENTS ENJOY ALL THE FACILITIES

AND AMUSEMENTS OF BASKETBALL COURT .HOSTEL LIFE OF COLLEGE STUDENTS IS VERY

PRECIOUS .HE/SHE ENJOYS COMPLETE LIBERTY TO LEAD HIS/HER LIFE ACCORDING TO THEIR

OWN CHOICE THEY CAN GO TO BED AT WILL AND RISE TAT WILL THERE ARE DIFFERENT

SHOWS GAMES .DEBATES AND SOME SNACKS .TO HAVE MORE FUN IN COLLEGE THE

STUDENTS MAKE LIFELONG FRIENDSHIP .COLLEGE DAYS REMAIN SPECIALIN EVERY ONE'S LIFE.



This is about our first year ECE-B family members. In our college all faculty members and HOD gave their full support to us and their encouragement and positivity enlightened our days. Because of this pandemic period.

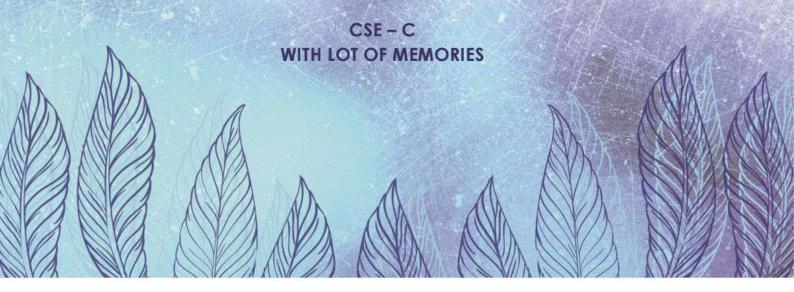
we attended the offline class for one month only. At that time the lab hours were more realistic and interesting in the first semester.

During 2nd semester the lab was in online mode but that was not very realistic. We found some difficulties on those days. All faculty members are very patient to us in both online and offline class. Even in online class they conducted alumni interaction, various competition and verbal ability to improve our knowledge and strengthen our confident. Due to this lockdown our mental health and happiness were affected and so we didn't get a chance to meet our friends and enjoy our college days.

Our faculty members work hard to develop our coding -based knowledge so they conducted python course for one week in first semester and they also conducted C programing course in 2nd semester. And thanks for all your help and support to develop our skill and confident that we will always carry forward to the next year and very thankful for the tutors, they stood behind all our activities. And we are very grateful to be your student.



DUE TO THE SPREAD OF THE CORONA VIRUS, MOST OF THE UNIVERSITIES HAVE MOVED TO VIRTUAL CLASSROOMS, THOUGH IT WAS NEW TO US. WE ENJOYED IT THOUGHT IT WAS WELL PLANNED AND LAID OUT. IN TODAY'\$ SOCIETY, ONLINE COURSES ARE WIDELY USED IN COLLEGES PROVIDING EASY ACCESS TO COURSE MATERIALS, CLASSROOM DISCUSSION, AND FEEDBACK TO INSTRUCTORS, WE HAVE TAKEN SEVERAL ONLINE COURSES AND PARTICIPATED IN COMPETITIONS CONDUCTED BY DIFFERENT COLLEGES IN DIFFERENT STATES SINCE THEY WERE CONDUCTED IN ONLINE PORTALS IT WAS EASY FOR MOST OF US TO PARTICIPATE FROM HOME IF IT WAS IN A FACE TO FACE INTERACTION MOST OF US COULDN&#39:T OFFER THE EXPENSES THIS COULD BE ONE OF THE BENEFITS OF ONLINE CLASSES. IN ONLINE CLASSES, WE GOT THE EXPERIENCE OF ONE-ON-ONE TEACHING WHICH HELPED US IN BETTER UNDERSTANDING. EVEN THOUGH IT WAS AN ONLINE LEARNING EXPERIENCE ALL OF MISS THE WONDERFUL TIME WE SPEND WITH OUR FRIENDS BUT WE WERE BONDED ALONG WITH THE TECHNOLOGY WE WILL BE MEETING THROUGH ONLINE MEETS. WE ENJOYED THE JOY OF FRIENDSHIP THROUGH THE PATH OF TECHNOLOGY. WE THINK WE GOT MORE EXPOSURE LIKE ONLINE COURSES, COMPETITIONS, INTERNSHIPS, AND MUCH MORE IN THE ONLINE-BASED LEARNING COMPARED TO THE TRADITIONAL METHOD. OUR FACULTY AND MANAGEMENT WORKED AROUND THE CLOCK TO ENSURE SMOOTH TRANSITION FROM CLASSROOM TEACHING TO INTERACTIVE ONLINE SESSIONS WHICH HAVE BEEN RUNNING SUCCESSFULLY, WE WOULD LIKE TO THANK ALL FACULTY MEMBERS AND MANAGEMENT FOR PROVIDING US A VALUABLE EDUCATION AND MAKING A WONDERFUL MEMORY THAT WILL NEVER FADE.





My journey here started virtually in December, not dramatic, not in a normal way people used to join but in a google mee. It all seemed weird at first sitting in front of our laptop enclosed between 4 wall but as time went on, I was naturally adjusted to the current reality. My journey in our college officially started at 8th of Feb, which I remember very vividly. I was dressed in green came along with my parents, I was a hosteller, so there was so much expectations and so much stuffs going on in my mind on that very first day. The 2 months I spent in college and hostel was such a wonderful and fastest time in my life. It just went past my eyes in a fraction of second. class.

I first visited our college back in 2016, I never dreamt that I would a student in this big college but I always looked up to it, the magnificent buildings, Hallways, the entrance they give much memories, All I remember was waking up to the sound of alarm, rushing to college, making friends but there were so much other a things too, like for the first time giving Seminar in front of my class. I could still feel the anxiousness and awkwardness I put into the class Everything feels so different now, we are once again pushed back into home back to the hard reality. It has been more than 4 months now, since we came home, still hopefully waiting for the day when .I could see the smile in my friends and not just stare into their masks to see them smile. Hopefully and Hopelessly waiting for our lives to be lived.





The first day at NEC was started at 19th of November 2020. We were introduced to our respective tutors. AICTE Student Induction Program was conducted by Anna University, Chennal for one week. 1st Semester online class got started due to the spread of Covid 19 virus. The National Technology Day was conducted in the online mode. There are different types of competitions held and I have participated in drawing competition on the topic Technology for and with society. The CO exams were conducted by the faculty members of the department, After the lockdown, the colleges were reopened. In the online class I have heard only the voice of my friends and faculty members. After the two months of online classes, for the very first time I have seen my new friends and my faculty members. Since I was far away from my home I decided to stay in hostel. It was the unforgettable moments of my life. There was a separate hostel for First year students; the food provided in the hostel was also delicious. I have played games in the evening with all my friends in the first year. Going to mess in the weekend and having fun. By the way, we have done many online courses like Coursera, EDX, NPTEL, in the lockdown period. Our college have given us the opportunity to do 5 online course offered by the ICT academy Skillegde. We have seen our practical labs in the same building and well equipped English lab. I also registered for BEC exam which is a certification exam for English language. Every weekend we will have non-academic programs that will be conducted by our faculty members sometimes by our club members. At last day of the offline class we had a connection program conducted by Science club members. We have got 1st price. Again lockdown got started due to the severe spread of covid virus, again I missed my friends, only hearing their voice in the audio

First end semester examination was conducted though online mode. We have done our lab practicals though offline and enjoyed holidays for 10 days. Second semester got started in the month of april. We had a alumini interaction with karthikeyan (alumini of nec working as a research engineer iitm) arranged by our department. We also had many alumini interactions through online, arranged by our hod sir. We also had many competitions like matsat, international yoga day, international youth day, alumini talk about our career. Last but not least we had five days special c programming workshop arranged for first year students which will be very useful for our placement. Maths faculty members had arranged for aptitude and gate classes which will be helpful in the final year exams to improve our quality. We had finished our 2nd end semester examination and practicals though online mode. I have been preparing for my bec exam which is going to be held on month of december 2021.

By- BALAGANESH P
MECH-B
2010066



# S&H DEPARTMENTAL **EVENTS - ENGLISH**



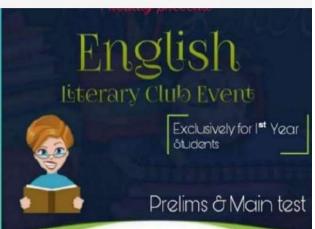
ENGLISH FOR **ENGINEERS** 

RESOURCE PERSON

Dr. T.Shrimathy



**NEC S&H** WEBTALKS 2K20





PRELIMS - THROUGH **GOOGLE FORMS** 





SHAKESPEARIANS



457<sup>th</sup> Birth Anniversary of SHAKESPEARE

SHAKESPEARE (1564 - 1616) English Playwright

23.04.2021 (Griday)

2K21

Events

E-Centificate will be Provided

#### **Prelims - Topics**

JUMBLED SENTENCES **ERROR SPOTTING** FILL IN THE BLANKS

Prelims - through google forms



National Engineering College 🕨 tonomous institution Affiliated to Anna University Cl

Department of Science and Alumanities



MR.Kevin Coyne **Cambridge Assessment English** 



#### S&H DEPARTMENTAL **EVENTS** -KALAMSPIRE

NATIONAL ENGINEERING COLLEGE P.E. to un. No. but S-021501. Though And Dr. Department of Science and Hamanities 9th October 15° October 2020

KALAMSPIRE'2K20

- Story retting (famil/English) Oxioto (famil/English)
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IATIONA ENGINEERING COLLEGE

CHIPARTHER OF SCHOOL AND HUMANITAL OF

CALAMSPIRE

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KALAMSPIRE 2K20

TOPIC

#### MY DREAM INDIA

#### RULES AND TERMS

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DEPARTMENT OF SCIENCE AND HUMANITIES



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DEPARTMENT OF SCIENCE AND HUMANITIES Pressally greaterly

#### KALAMSPIRE'2K20

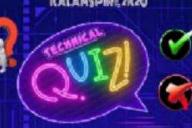


## RULES .

- TAMIL.
- Samed talk only in the allowed time. ENGLISH



KALAMSPINE2H20





ROUND 1: KICKSTART

ROUND 2: COMMECT THE COMMECTIVES

ROUND 3: TEGENO PIE ROUND 4 : GUESS ME?

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KALAMSPIRE 2K20

#### ONE MINUTE PERFORMANCE

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## NATIONAL ENGINEERING COLLEGE

K. R. NAGAR, KENYI, PATTI-628503

(An Apponenous Institution Affiliated to Acon University Chemia)

Department Of Science and Humanities PROUDLY PRESENTS

#### **KALAMSPIRE 2K20**

MOTIVATIONAL SPEECH CONTEST

Date /10/2020

30 to 4.30

#### RULES

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National Engineering Callege

Department of Science and Humanities Property Present

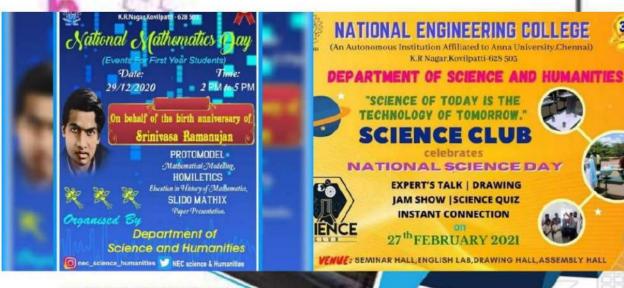
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#### S&H DEPARTMENTAL **EVENTS - MATHS**



DEPARTMENT OF

SCIENCE AND HUMANITIES

AND MATHS CLUB



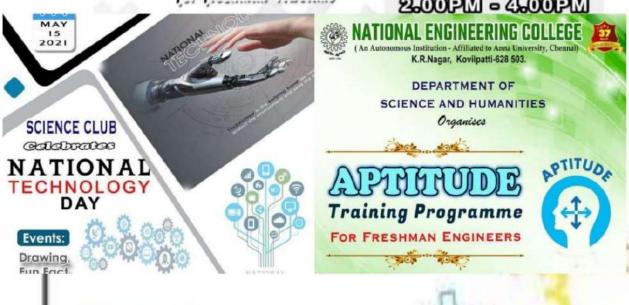


for freshman NECians

OS JUNE 2021

SATURDAY

2.00PM - 4.00PM



#### S&H DEPARTMENTAL EVENTS- OTHER PROGRAMS









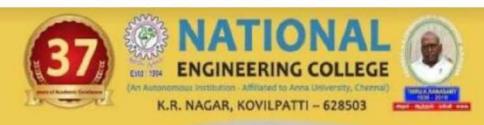
### S&H DEPARTMENTAL EVENTS - OTHER PROGRAMS 1



### S&H DEPARTMENTAL EVENTS - OTHER PROGRAMS 2



## **DEPARTMENTAL EVENTS - CIVIL**





## Mr.M.Muthura

Managing Director Profenaa Technologies, Coimbatore.

ENGINEERING

CAD / CAM / CAE SKILLS

MAKE YOU SUCCESSFUL

For I Year Mech & Civil Students



Google Meet

Time: 12.00pm Date: 12.06.2021

Organized by

Department of Science & Humanities



## **DEPARTMENTAL EVENTS - CSE**





## **DEPARTMENTAL EVENTS-ECE**



## **DEPARTMENTAL EVENTS - EEE**





Department of Science & Humanities

Google Meet

Organized by



## **DEPARTMENTAL EVENTS - IT**



## **DEPARTMENTAL EVENTS - MECH**



K.R. NAGAR, KOVILPATTI - 628503 @ www.nec.edu.in



## **CAREER AFTER ENGINEERING**

**DEPARTMENT OF SCIENCE & HUMANITIES** 

# INTERACTION

(For 1st Year Mechanical Students)

#### Mr. Karthikeyan S

Research Engineer, AMTDC, IIT Madras, Chennai.

Mech: 2014 - 2018



11.00 am



22.05.2021 (Saturday)



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05.06.2021 (Saturday)



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Department of Science & Humanities

# FOR SCHOOL STUDENTS-3D ANIMATION BLENDER



ABOUT THE DEPARTMENT OF SCIENCE AND HUMANITIES :



## FOR SCHOOL STUDENTS -FLAIR YODHA





# FOR SCHOOL STUDENTS- OTHER PROGRAMS



## STUDENTS ACHIEVEMENTS





# S&H DEPARTMENTAL **EVENTS - ENGLISH**



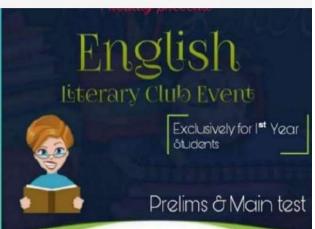
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### KALAMSPIRE'2K20



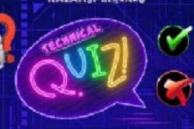
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DEPARTMENT OF SCIENCE & HUMANITIES

KALAMSPINE2H20





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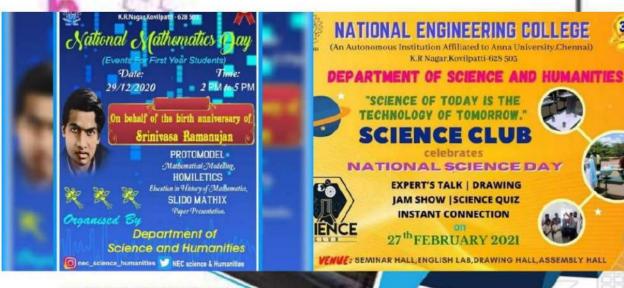
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## S&H DEPARTMENTAL **EVENTS - MATHS**



DEPARTMENT OF

SCIENCE AND HUMANITIES

AND MATHS CLUB



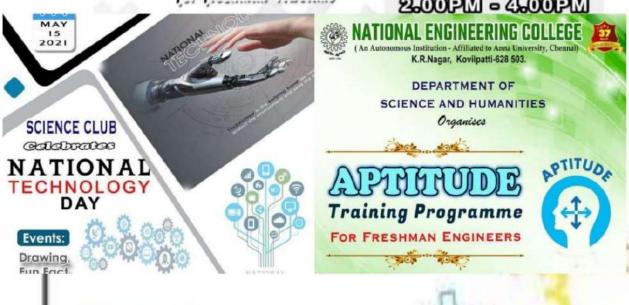


for freshman NECians

OS JUNE 2021

SATURDAY

2.00PM - 4.00PM



## S&H DEPARTMENTAL EVENTS- OTHER PROGRAMS









## S&H DEPARTMENTAL EVENTS - OTHER PROGRAMS 1



## S&H DEPARTMENTAL EVENTS - OTHER PROGRAMS 2



## **Journal Publications by faculty members**

S.No	Name of the Authors (including all Co-authors)	Title of the Paper	Name of the Journal	Name of the Publisher	Month & Year
1	Dr.S. Thalamuthu, Dr.M.A. Neelakantan	Trinuclear nickel(II) amino acid Schiff base complex containing phenolato and acetato bridges: Structural and functional resemblance of urease	Inorganica Chimica Acta IF:2.304	Elsevier	Oct.2020
2	Velayutham Raja, Mrs.R.Venkada Lakshmi, Dr.C.Puthiya Sekar, Sabarathinam Chidambaram, Dr.M.A.Neelakantan	Health Risk Assessment of Heavy Metals in Groundwater of Industrial Township Virudhunagar, Tamil Nadu, India	Archives of Environmental Contamination and Toxicology	Springer	Jan.2021
3	V.Raja, Dr.M.A.Neelakantan	Evaluation of Groundwater Quality with Health Risk Assessment of Fluoride and Nitrate in Virudhunagar District, Tamil Nadu,India	Arabian Journal of Geosciences IF:1.37	Springer	Jan.2021
4	V.Raja, Dr.M.A.Neelakantan	Pollution and noncarcinogenic health risk levels of nitrate and fluoride in groundwater of Ramanathapuram district, Tamil Nadu, India	International Journal of Environmental Analytical Chemistry IF:1.431	Taylor & Francis	Feb.2021
5	Dr. A. Panimaya Valan Rakkinia and K. Mohanrajb	Influence of pH of the electrolyte on the formation and properties of electrodeposited ZrSe2 thin films	Inorganic and Nano-Metal Chemistry IF:0.839	Taylor & Francis	April.2021
6	Neethu K.S, Sivaselvam S, Theetharappan M, Ranjitha J, Bhuvanesh N.S.P, Ponpandian, Dr.M.A.Neelakantan, Kaveri M.V	In vitro evaluations of biomolecular interactions, antioxidant and anticancer activities of Nickel(II) and Copper(II) complexes with 1:2 coordination of anthracenyl hydrazone ligands	Inorganic Chimica Acta IF:2.304	Elsevier	April.2021
7	Mrs.R.Venkada Lakshmi, Dr.C.Puthiya Sekar Dr.M.A.Neelakantan,	Evaluation of Groundwater Quality in Virudhunagar Taluk, Tamil Nadu, India by	Journal of the geological society of India IF:0.899	Springer	May.2021

		using Statistical Methods and GIS Technique			
8	Mrs.R.Venkada	Industrial impact on	Environmental	Springer	June.202
	Lakshmi,	groundwater quality with	Monitoring		
	Velayutham Raja,	special reference to Cr2+ and	and		
	Sabarathinam	Pb2+ in coastal aquifers	Assessment		
	Chidambaram,		with Impact		
	Dr.C.Puthiya Sekar,		Factor 1.903.		
	Dr.M.A.Neelakantan		Congrats.		

### Workshop and FDP attended by the faculty members

S.No			
	Name of teacher attended		(from – to) (DD-MM-
	attenucu		YYYY)
1	Dr M A Neelakantan	Current innovations and the future of the	01.06.2020
2	Panimaya Valan	Therapeutic Developments, VIT, Vellore Nationa level Faculty Development	12.07.2021
2	Rakkini. A Programme on advance Topics in Physics, S  Marys College, Thoothukudi		12.07.2021
		Webinar on NEP 2020- Vision to Action, IIIT, Kalyani, West Bengal	
3	Thalamuthu S	Annual Congress of Immuno Oncology- Webinar	30-10-2020, 31-10-2020, 01-11-2020
4	Annapopathi M	Exploring Advances In Graph Theory, Loyola College	15.06.2021 to 17.06.2021
		Application of Graph Theory , VOC, College, Thoothukudi	07.06.2020
		A Two Day Online International Faculty	30.07.2020 to
		Development Programme On Recent Trends In Graphs And Networks, MDT Hindu	31.07.2020
		College, Tirunelveli Mathematical Modeling in Multidiscipilinary	01.06.2020 to
		Domain, Bannari Amman Institute of Technology	07.06.2020
5	Mr.S.Subash	Plenary Webinar, SSN College of Engineering, Chennai	23.01.2021
6	Sasireka S	Application of Graph Theory , VOC, College, Thoothukudi	07.06.2020
		National Webinar on Mathematical Analysis and Topology, GVN College, Kovilpatti	20/06/2020
		Mathematical Modeling in Multidiscipilinary Domain, Bannari Amman Institute of Technology	01.06.2020 to 07.06.2020
		Two Day National Webinar on Linear Algebra & Complex Analysis, Ayya Nadar Janaki Ammal College, Sivakasi	18.06.2020 to 19.06.2020
7	Thamba J	G Chem Paint, DMK College for Women, IIT Bombay	05-11-2020
		Webinar on Computational Biology of Disease- Sri Venkateswara College of Engineering, Chennai	21/05/2020
		Current innovations and the future of the Therapeutic Developments, VIT, Vellore	01.06.2020
8	Gomathy	AICTE FDP	
9	Saravanaperumal V	Moving to Master Science in Technology	18.06.2020 to 20.06.2020

Recent Trends in Chemistry, Bharathiar University Current innovations and the future of the	04.01.2021 to 07.01.2021
Current innovations and the future of the	01.06.0000
Therapeutic Developments, VIT, Vellore	01.06.2020
10 Thangam S FDP AICTE- Leadership and Excellence	03.06.2020
11 Rosalin S Mathematical Modeling in Multidiscipilinary Domain, Bannari Amman Institute of Technology	01.06.2020 to 07.06.2020
12 Geetha S  Five Day Faculty Development programme On  "Applications of Mathematics in Engineering, KPR Institute of Technology	27.07.2020 to 31.07.2020
Webinar on Applications of Differenctial Equationas, Kongunadu Arts and Science College, Coimbatore	06-04-2020
Two days National level techniques and applications in teaching Engineering mathematics, KPR College of Engineering, Tamilnadu	10.06.2020 to 11.06.2020
13 Basith Praveen S S Fuzzy Mathematics and its Applications, Government College, Daman Workshop on Domination Theory and	11.07.2020 to 13.07.2020 04.02.2021 to
Topological Indices, Mangalore University, Mangalore	06.02.2021
14 Rajeswari S  Five Day Faculty Development programme On "Applications of Mathematics in Engineering, KPR Institute of Technology	27.07.2020 to 31.07.2020
15 Senthil Murugan P An Insight into Mathematical Model in Information and communication	26.03.2021 to 27.03.2021
16 Ramachardran E Recent Avenues in Chemical Sciences,	22.06.2020 to
Saranatham College of Engineering, Tiruchy	28.06.2020
Recent Trends in Chemistry, Bharathiar	04.01.2021 to
University	07.01.2021
Assessment & Tools, SRM University (FDP)	27.01.21 to 28.01.2021
Mathematicial Modelling and their Applications in Sciences and Engineering, S. N Patel Institute of Technology, Umarkh	08.01.2021 to 09.01.2021
18 Ramalakshmi V Outcome based Assessments , NITTR , Chennai Five days national Level online workshop on	07.12.2020 to 11.12.2020 05.04.2021 to
Functional and numerical Analysis, NIT, Tiruchy	09.04.2021
19 Jasmine Arockia Mary Content prepartion and Delivery mode of Teaching, NIT, Warangal	05.10.2020 to 10.10.2020
Online workshop on Tools and Techniques for Quality reasearh, NIT, Tirchirapalli	29.10.2020 to 31.10.2020

20 Kaniselvi S		Enhancing Soft Skills and Personality- NPTEL	Feb -Apr 2020
		Two day English Literature FDP,Sivananda Sarma memorial RV College	31-05-2021 , 01-06-2021
21	Nandakumar	Webinar Virtual Blended Learning: English language Teachers association of India	08-Nov-20
22	Suriyakala I	Two day English Literature FDP,Sivananda Sarma memorial RV College	31-05-2021 , 01-06-2021
23	Dr.B.Annaraj	Recent Trends in Chemistry, Bharathiar University	04.01.2021 to 07.01.2021
		Current innovations and the future of the Therapeutic Developments, VIT, Vellore	01.06.2020
24	Dr.A .Nichelson	Nano and Biomaterials Synthesis& Applications, NIT Tiruchy	21,25 june2021
25	Murugan V	Laser Fundamentals and Applications NPTEL FDP	Sep - Nov 2020
26	Chitirai Kumar S	Current innovations and the future of the Therapeutic Developments, VIT, Vellore	01.06.2020
27	Rammurthy	Webinar Stochastic Process	06-05-2020
28	Rajeswari C	Seminar on Queueing Theory and Wavelet Transforms, National Enigneering College	06-08-2020



## **DEPARTMENTAL EVENTS - CSE**





## **DEPARTMENTAL EVENTS-ECE**



## **DEPARTMENTAL EVENTS - EEE**





Department of Science & Humanities

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## **DEPARTMENTAL EVENTS - IT**



## **DEPARTMENTAL EVENTS - MECH**



K.R. NAGAR, KOVILPATTI - 628503 @ www.nec.edu.in



## **CAREER AFTER ENGINEERING**

**DEPARTMENT OF SCIENCE & HUMANITIES** 

# INTERACTION

(For 1st Year Mechanical Students)

#### Mr. Karthikeyan S

Research Engineer, AMTDC, IIT Madras, Chennai.

Mech: 2014 - 2018



11.00 am



22.05.2021 (Saturday)



Google Meet







Managing Director Profenaa Technologies,

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**ENGINEERING** CAD / CAM / CAE SKILLS MAKE YOU SUCCESSFUL

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K.R. NAGAR, KOVILPATTI - 628503

ER. P. KANDASAMY Principal Technical Officer, CSIR - CLRI, Chennai.

05.06.2021 (Saturday)



11.00am to 12.

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Time: 12.00pm

Department of Science & Humanities

# FOR SCHOOL STUDENTS-3D ANIMATION BLENDER



ABOUT THE DEPARTMENT OF SCIENCE AND HUMANITIES :



## FOR SCHOOL STUDENTS -FLAIR YODHA





# FOR SCHOOL STUDENTS- OTHER PROGRAMS



## STUDENTS ACHIEVEMENTS



#### **PATRON**

Thiru K.R.Arunachalam, Correspondent

#### **CO-PATRONS**

Dr.S.Shanmugavel, Director Dr.K.Kalidasa Murugavel, Principal

#### **CONVENER**

Dr.M.A.Neelakantan, HOD (S&H)

#### STAFF ADVISORY COMMITTEE

Mr.K.Nandakumar Dr.A.Nichelson

#### **EDITORIAL BOARD MEMBERS**

VENU VIGNESH T – CSE

RAGUL S - EEE

KEERTHIKASRI G - CSE

I BALA SUBBAIAH – ECE

MADHUSUDHANAN.S - MECH

ABERNHA.V – ECE

AKASH.V – CSE

HARINI. M - IT

KARISHMA.S – IT

HARIHARASUBRAMANIAN.J – ECE

MITHRAA SRI G – ECE

JEYARAM P - CSE

YUVRAJ. S – EEE

KAVISHKA P – IT

DHANUSREE. G-CIVIL

**BALAGANESH.P-MECH**