V V COLLEGE OF ENGINEERING

V V Nagar, Arasoor, Tisaiyanvilai., www.vvcoe.org

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

VOLUME 1

Department of Electronics and Communication Engineering

INTEC 2022-2023

Energy Harvesting

Silicon Photonics

IOT

3D ICs

5G Technology

CHAIRMAN'S MESSAGE

VVCOE is committed to providing high-quality technical education to rural students, fostering holistic development beyond mere academics. Our emphasis lies in cultivating attributes that nurture well-rounded individuals capable of meeting global challenges. Creative thinking is promoted, encouraging diverse problem-solving approaches, analytical thinking, and adaptability.

In acknowledgment, I extend my congratulations and appreciation to the esteemed faculty and students of the Department of Electronics and Communication Engineering for their collaborative effort in producing the department magazine. This publication stands as a testament to the versatile skills our students possess, providing them a platform to excel in various domains, garnering admiration and respect.

Congratulations to all involved! Best wishes for continued success in your future endeavors.

Shri. S. Jegatheesan

CHAIRMAN

College Vision

- *Emerge as a premier technical institution of global standards, producing enterprising, knowledgeable engineers and entrepreneurs*

College Mission

- *Impart quality and contemporary technical education for rural students.*
- *Have the state-of-the-art infrastructure and equipment for quality learning.*
- *Enable knowledge of ethics, values and social responsibilities.*
- *Inculcate innovation and creativity among students for contribution to society.*

Department Vision

- *Produce competent Electronics and Communication Engineers and entrepreneurs with research ideas to fulfill societal needs through innovation, creativity, ethics, and values.*

Department Mission

- *Have good infrastructure and cutting-edge laboratory and research facilities for high-quality teaching, learning processes, design, development, and research.*
- *Provide resources, environment, and continuous learning processes for better exposure to contemporary technologies in Electronics, Communication, and allied Engineering.*
- *Encourage creativity and innovation and the development of self-employment through knowledge and skills, for contribution to society.*

LEARNING IN LOCKDOWN

THE IMPACT OF COVID QUARANTINE ON EDUCATION

INTRODUCTION

The COVID-19 pandemic started with a new virus in late 2019. It spread quickly worldwide, causing a big health problem. People got sick with different symptoms, like cough and fever. To stop the virus, countries did things like lockdowns, maintained distances and mask-wearing. This made life very different, affecting jobs, schools, and how we live. Scientists made vaccines to fight the virus for our life . But there are still challenges, like new forms of the virus and getting everyone vaccinated. COVID-19 implied how important it is for everyone to work together and follow safety rules to stay healthy and happy.

DISRUPTION OF TRADITIONAL LEARNING

The sudden closure of educational institutions disrupted the learning environment. Kids couldn't go to school like before. Instead, they had to learn from home, using electronic gadgets like computers,mobiles and tablets.

Some students found it difficult because they missed their friends and teachers. Others had trouble with internet or sharing devices with family members. Teachers also learn new ways to teach online. It changed how education normally works, making things different for students, teachers and parents.

DIGITAL DIVIDE AND INEQUALITY

Not everyone has the same access to technology. When COVID-19 made schools go remote and online , some students had computers and good internet access at their home. But others didn't have those facilities in their home. This made it hard for them to attend the online classes from home. Some families couldn't afford internet or computers. So, some students missed out their classes. This showed a big gap between those with and without access to the tech world. It's unfair because every students should have equal rights and chances to learn, no matter where they live or their family's money. And also if a family had more than one child, they faced difficulties in affording them a separate mobile phones to attend their online classes. Closing this gap is important to make sure every student can learn well, whether in school or at home.

IMPACT ON STUDENTS

COVID-19 made students to learn from home instead of going to school. This paved the way in using computers for classes. Some students liked it, but others found it hard without their friends or teachers with them. It was tough for some to focus or understand lessons online.

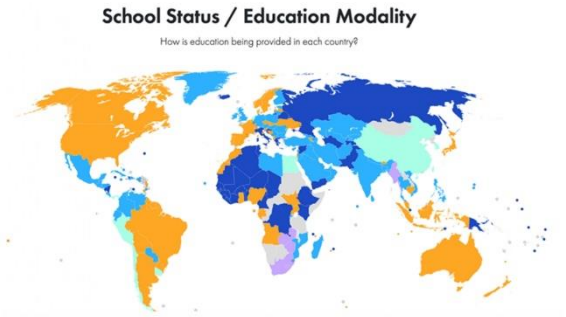
Some families didn't have computers or good internet, so some students couldn't join classes. This change made students feel upset, missing their normal school life. It was different for everyone, and some had a tough time learning. Some students lacked a quiet space for studying at home to learn effectively.

Schools tried their best with online classes, but it wasn't the same as being in school. COVID-19 changed how students learned, and it was a big challenge for many kids.

GOVERNMENT INITIATIVES AND SUPPORT

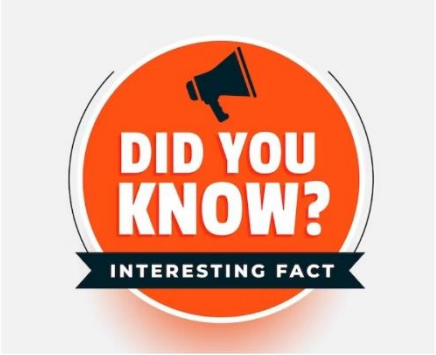
During COVID-19, governments all over the world took initiative steps to support education. They provided funds for schools to buy latest technology for online classes. Some governments gave free internet or devices to families who couldn't afford them. Education departments made guidelines and resources for teachers to help how to handle the online classes. They also supported mental health education services to the students who are struggling with their stress or anxiety.

Governments worked hard to ensure that all students, regardless of their circumstances, had access to education during this quarantine period. These initiatives aimed to bridge the digital gap and offered necessary support for both students and teachers adapting to the new learning era.



CONCLUSION

In conclusion, the COVID-19 pandemic brought unpredicted changes to education all around the world. The shift to remote learning disturbed the traditional schooling, revealing inequalities in access to technology and resources. Students faced various challenges in adapting the online classes, dealing with social isolation, and practicing new learning methods. The pandemic underscored the importance of addressing the digital divide and ensuring equitable access to education for all. Governments and educators made efforts to support students and teachers, providing technological resources and mental health services. While the pandemic posed significant hurdles, it also highlighted flexibility and innovation within the education sector. Moving forward, addressing the impact of COVID-19 on education requires continued collaboration, investment in digital technology, and strategies to mitigate the learning differences, ensuring inclusive and adaptable educational ways for future challenges.



DID YOU KNOW?

DIGITAL DIVIDE

Around **46%** of the world's population still doesn't have access to the internet, leading to unequal opportunities for remote learning during the pandemic.

GLOBAL DISRUPTION

The pandemic forced approximately **91%** of the students worldwide out of normal classrooms at the peak of school closures, affecting more than **1.5 billion learners.**

MENTAL HEALTH IMPACT

Over **70%** of students reported increased **stress** and **anxiety** due to disruptions in education and isolation from peers during quarantine.

TEACHERS ADAPTATION

Around **63 million** primary and secondary Teachers worldwide had to rapidly adapt to online teaching methods to continue providing education during lockdowns.

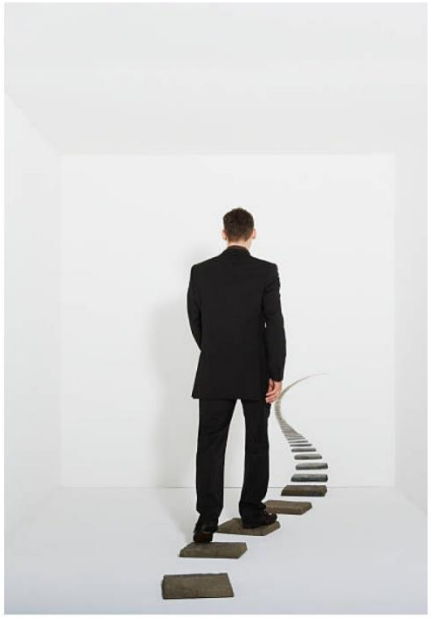
IV P. Anusiya

Degrees: Career Keys or Stepping Stones?

In today's landscape, the value of a degree in carving out a successful career path is a topic often debated. Is a degree the ultimate key that unlocks opportunities, or is it merely a stepping stone toward success? Let's dive into this discussion.

Usually, a degree has been seen as a crucial, a passport to enter various professional domains. It offers not just knowledge but also a ultimate learning environment that encourages critical thinking, problem-solving, and discipline. Definitely, it acts as a foundational pillar for many careers, providing a basic understanding about the field. However, the way things work in the professional world has changed. Employers increasingly seek skills beyond what formal education provides. They value practical experience, soft skills, and adaptability of the candidates. This questions the standard belief that degrees alone enough to get a prosperous career. In today's digital era, some argue that specific skills might hold more weight than a degree. Industries like IT, design, and digital marketing often value demonstrable skills over formal qualifications. Online courses, workshops, and boot camps have gained importance as options to acquire targeted skills without the commitment of full degree program.

Moreover, entrepreneurship and innovation bloom outside the limits of traditional education. Innovators like Steve Jobs and Mark Zuckerberg have signified that groundbreaking success doesn't necessarily connect with a formal degree. Their stories challenge the belief that a degree is the ultimate weapon of success. However, while success stories of skill-based successes exist, they are the exception rather than the rule. For many professional domains like medicine, law, or engineering, a degree remains as a key necessity due to the specialized knowledge and certifications required. The The core is in stability. A degree might not ensure success, but it can significantly enhance one's fortunes. It opens doors, provides access to networks, opportunities, and entry-level positions that might otherwise be out of reach. Furthermore, it's not merely the degree but what one makes of the educational journey. Engaging in internships, networking, and extracurricular activities enhances the overall experience, equipping individuals with a broader skill set and a professional network that can be invaluable in the long run.



The evolving job market expects a blended mixing of academic qualifications and practical skills. A degree can be a strong basement, but to build a successful career, it's important to complement it with continuous learning, adaptability, and a strategic approach to acquiring new skills.

In conclusion, the question of whether degrees serve as career keys or stepping stones doesn't have a specific answer. Instead, it's about understanding the evolving role of education in a fastly changing world. A degree can provide essential tools, but it's the individual's ongoing commitment to learning and growth that truly guides a career toward success. Balancing formal education with practical skills and adaptability is the ultimate recipe for blooming in today's complex professional landscape.

S. Muthuram

I AM A ROBOT

- A ROBOT ,am I?

Computers are my creative brain
And cameras are my sharp eyes,
I don't have muscles and skin
And I have metals and wires,
I don't have heart for feelings
But I have control system to control,
I don't have larynx to speak
But I have speaker to talk,
Luckily, I don't have mind to experience stress
So don't worry about cruelty,
Still wonders ,a robot am I?
.....!

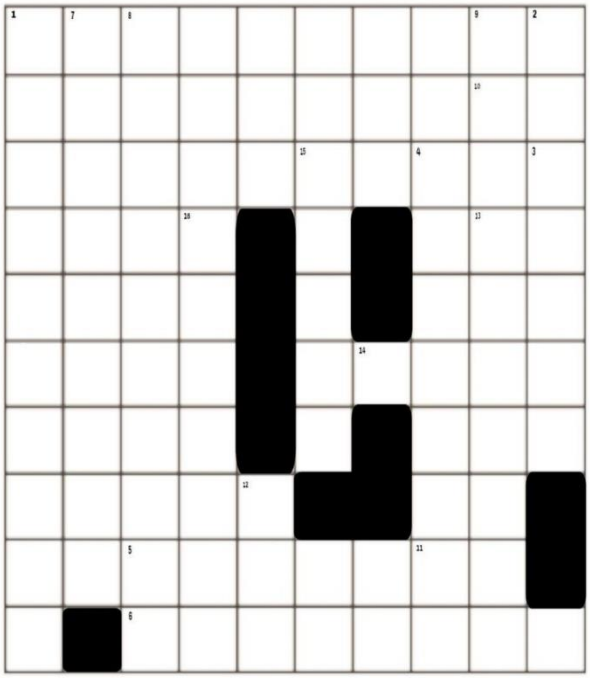
நட்பு

தன்னல தமிழைத்
தலை வணங்கி
தாய் தந்தை
ஏடளித்த இதயம்விரும்பி
இவையேரை தாழ்பணிந்து
என்னைக் கவர்ந்த
இம்சை உறவினை
இயன்றவரை விவரிக்க
ஆசையல்ல பேராசை.....
என்ன அமைதி
தயாரா உங்கள்
புன்னகையோடு..... இதோ.....
தவம் வணங்கி
வரம் ஏங்கும்
வார்த்தை இல்லா
உணர்வு மொழி.....
வரையறை என்று
உனக்கு இல்லை.....
ஆனால் என்ன ?
இலக்கணத்தை இதயமாய்
கொண்டவன் நீ.....

இனம் கடந்து
மனம் பரந்தாய்.....
தன்னலம் மறந்து
தலைக்கணம் தகர்த்தாய்....
இன்னும் என்னென்ன
சொல்ல எளிமையாய் ???
இருப்பதை பகிர்ந்து
இவ்வுலகை நிறைத்தாய்
எண்ணமும் வண்ணமும்
எட்டுதிசையும் விதைத்தாய்.....
அதுமட்டுமா! அதுமட்டுமா!
காற்றாய் உருவெடுத்து
நேற்றை மறக்கடித்தாய்.....
உன்னை எப்போது
உருவளவில் காண ???
தரத்தின் கருவறை
உன் புகழிடம் அல்லவா...
கள்ளகபட பார்வையால்
காலத்தை வென்றாய்...
உள்ள புன்னகையில்
உருவம் படைத்த
ஓவியம் நீ.....
உரிமை மொழிகள்

யாவும் உன்குரல்களே...
ஆயிரம் உறவிருப்பினும்
ஆண்டவன் ஏங்கும்
உறவு நீயே.....
அனைத்து உறவிக்னையும்
ஒன்றாய் உருவெடுத்த
மறு தாயே.....
உன்னை விதைத்தால்
இழியவனும் விமோட்சனமடைவான்
எண்ணங்கள் தூய்மைபெறும்.....
வண்ணங்கள்
வாலிபமடையும்
இத்துனை எத்துனை
வயதினை கடந்து
வானமாய் வாழ்க்கையாய்
விரிந்தவன் நீ.....
உயிர்கள் ஏங்கும்
ஒட்டுமொத்த உலகின்
கோரிக்கை நீ.....
உயிர்களை தாலாட்டும்
மறுதாய் மடியே.....
நட்பு! நட்பு! நட்பு!

Crossword Puzzle



Left to Right:

6. Electromagnetic waves produced by heat is___rays.

14.Detect the optical signal is ___diode.

Bottom to Top:

5.Recovering information from a carrier is___.

Right to Left:

3.Modyfying a high frequency ____.

8.Darlington pair amplifier used___transi

9.____is used for store the data

10.____is a passive component.

11.Optical source are____.

Top to Bottom:

1. Electronic and communication were discovered in ___century.

2.One way communication are called___.

4.Discrete signal is called___signal.

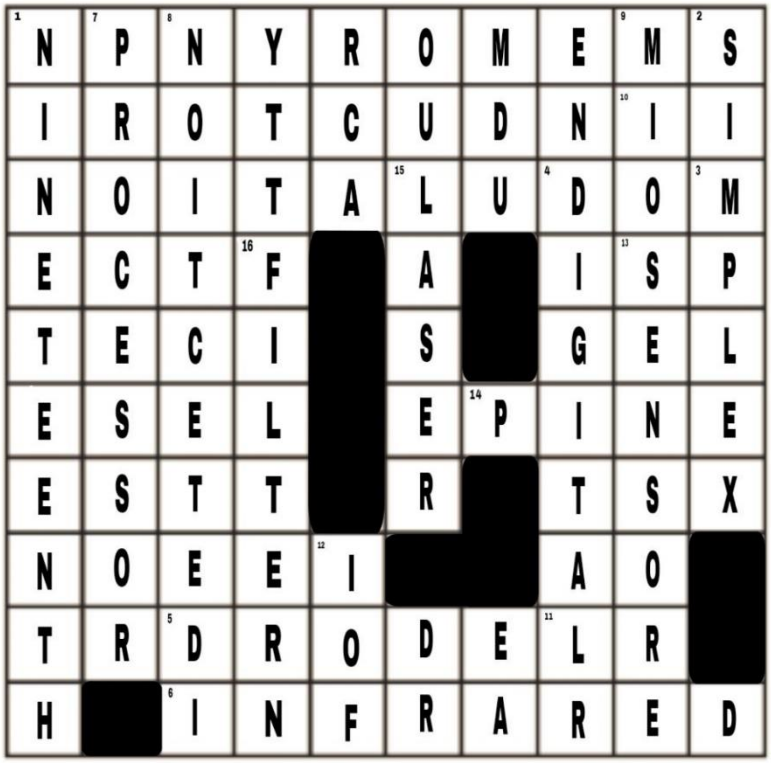
7.Central processing unit is also called as___.

12.___port is used for allow connection to hardware.

15.___is an example of a single mode optical signal.

16.____used reduced the noise

Answer



1.NINETEENTH 2.SIMPLEX

3.MODULATION 4.DIGITAL

5.DETECTION 6.INFRARED

7.PROCESSOR. 8.NPN

9.MEMORY. 10.INDUCTOR

11.LED. 12.IO

13.SENSOR. 14.PIN

15.LASER. 16.FILTER

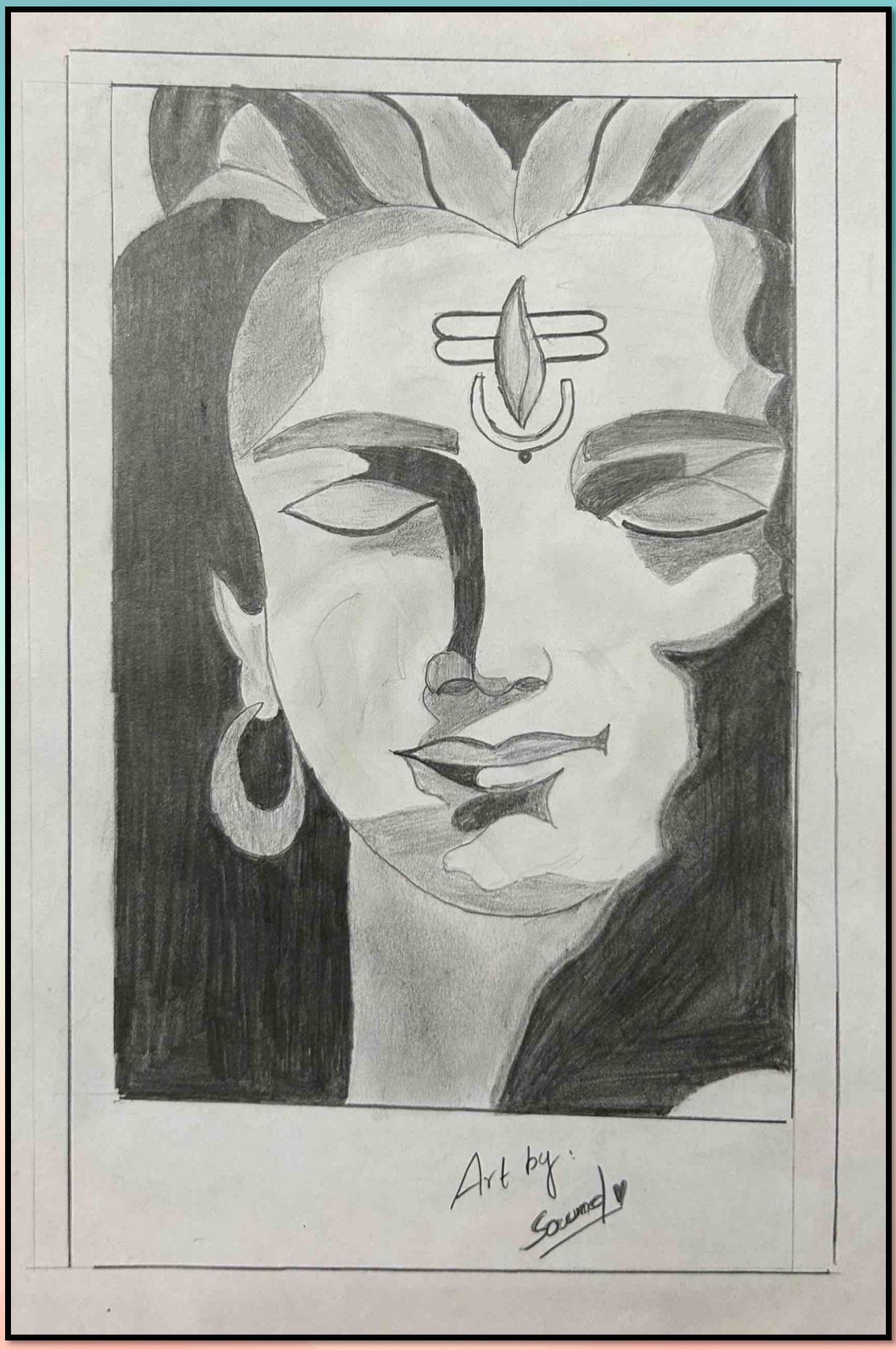
II K. Anantha Ramu

வேலைக்கான வெளியூர் பயணம்

அப்பா அறிவுரை சொல்லி
கொடுத்த 1000 ரூபாய்..,
அம்மா அன்போடு மறைத்து
கொடுத்த 500 ரூபாய்..,
கொஞ்சம் துணிமணிகள்..,,
நிறைய அழுகாட்சிகள்!!
நண்பன் கொடுத்த தங்குமிட விலாசம்..,
நகர விருப்பமில்லாத கால்கள்,
வழியனுப்ப தயாரான சொந்த ஊர்.!!
வரவேற்க காத்திருக்கும் வெளியூர்
என அனைத்தும் வரிசை கட்டி நிற்க..,
எல்லாம் கொஞ்ச நாளில் சரியாகிவிடும்
என்ற மூன்றாம் நபரின் ஆறுதலோடு வேலைக்கான முதல் ***வெளியூர் பயணம்*** தொடங்குகிறது...

!!

II M. Muthukrishnan



III

S. Muthu Sowndarya

Abbreviations in embedded system

AES

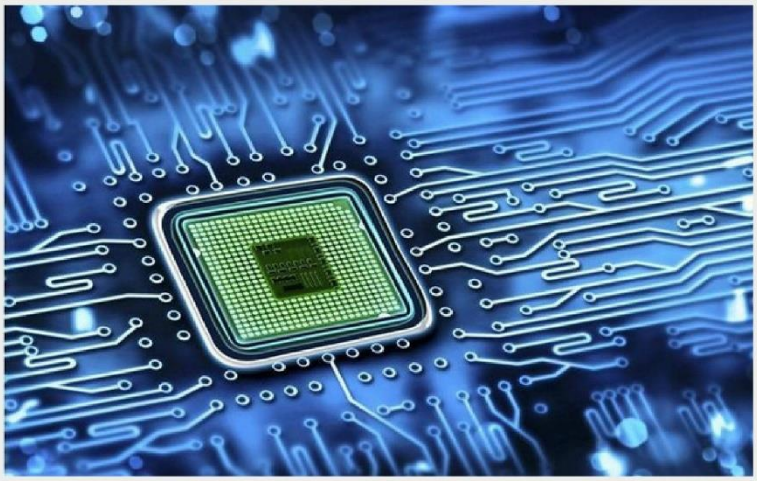
ADVANCED ENCRYPTION STANDARD

A symmetric encryption method which is the successor of the DES

CC

CONSTANT CURRENT CHARGING

A form of charging where the charger supplies a relatively constant Current



CV

CONSTANT VOLTAGE CHARGING

In constant voltage charging, the full current of the charger can flow into the battery.This is stopped when the poor supply reaches the preset voltage

DES

DATA ENCRYPTION STANDARD

A symmetric encryption method

EVSE

ELECTRIC VEHICLE SUPPLY EQUIPMENT

Charging stations for plug in electric vehicles

FDC

FAST DATA CHANNEL

Data channel of the SENT bus protocol

Abbreviations in embedded system

FUZZ TESTING

Fuzz testing or fuzzing is an automated software testing technique that involves providing invalid, unexpected or random data as inputs to a computer program

IEC-61851

European standard on wired charging of electric vehicles

L-d

Inductance in d-axis , rotor is aligned with the poles

Schuko plug

A shock proof plug . The name derives from the German acronym for "schutz -kontakt" these types of plugs & sockets are very common in Europe

RTE

RUNTIME ENVIRONMENT

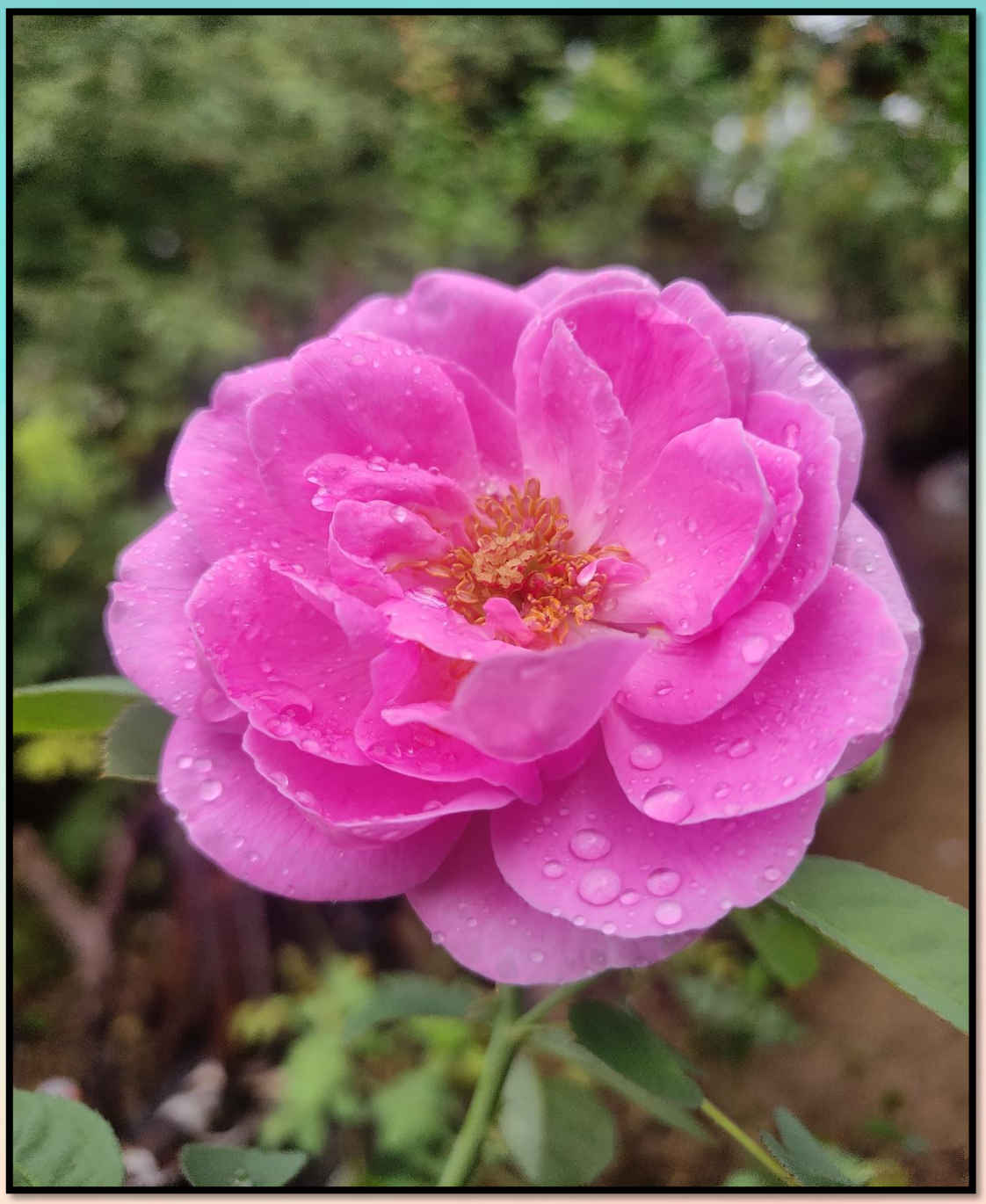
The runtime environment is the realization of the Virtual Function Bus

TARA

THREAT ANALYSIS &RISK ASSESSMENT

Method for identifying & assessing cyber vulnerability & selecting counter measure that can mitigate them

III S. Ponrathi



II

A. Anusuya

QUIZ TIME

1) The full form of Java?
   Ans:Just Another Virtual Accerelator.
2) The Another name of Java?
   Ans:Java coffee.
3) Who is the founder of Java?
   Ans:James Gosling.
4) The inventer of python language?
   Ans:Guido Van Rossum.
5) The name python came from BBC series called?
   Ans:Monty python's flying circus.
6) What is the science of making machines that can think like humans?
   Ans:Artificial intelligence.
7) Who is the father of robotics?
   Ans:Joseph F.Engelberger.
8) What was the first robot?
   Ans:The unimate.
9) Which is one of the most sophisticated humanoid robots?
   Ans:Sophia.
10) Which is the hardware description language used to model electronics system?
    Ans:verilog.

III J. Harshini

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