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CRES ECE MINDS

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



B. S. Abdur Rahman
Crescent
Institute of Science and Technology
Deemed to be University u/s 3 of the UGC Act, 1956





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"Always deliver more than expected"
- the sole motto of these established
individuals.



FROM PRO VICE- CHANCELLOR'S DESK

Mahatma Gandhi once said, "Adaptability is not imitation. It means power of resistance and assimilation." As many great leaders believe, adaptability and innovation done in the right mixture is the way of our future. In this digital world, technology has equipped us to face the pandemic in an efficient way. The Department of Electronics and Communication Engineering has brought forth this magazine "Cres ECE Minds" that showcases the artistry and inventiveness of the department. This magazine is the proof that even at our lowest point we are open to the greatest change and sometimes a ray of hope is all the sunshine we need.

Dr. A. Peer Mohamed
Pro Vice-Chancellor
B.S. Abdur Rahman Crescent Institute of
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FROM REGISTRAR'S DESK



I am happy to endorse the students e-magazine "Cres ECE minds" brought out by the students of ECE. The e-magazine contains a variety of interesting topics like Hyper Loop and Flying car. My good wishes to the students and faculty members who put their sincere efforts to bring this magazine.

Dr. A. Azad
Registrar
B.S. Abdur Rahman Crescent Institute of
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Chennai - 600048

FROM DEAN'S DESK



**" A DREAM IS NOT THAT WHICH YOU SEE
WHILE SLEEPING IT IS SOMETHING THAT DOES
NOT LET YOU SLEEP "**

- DR. A P J ABDUL KALAM

The above quote suits the Electronics and Communication Engineering department as it best describes our aim in taking the department forward. ECE department, over the years, perfected the ability to aim high and embrace excellence by the Head of the department and the team of faculty members and students. Regularly the department builds intellectual prosperity to influence success in academics, quality placements, research, and development.

It is worth mentioning that the department has well-established bondage with industries and developed affiliates. They strive to train and equip their students to get placed in top multinational corporations by polishing the talent hidden in them. I believe strongly that the challenges can be confronted and resolved by presenting their achievements and skills through this magazine.

The onward march in the field of technical education and research continues every day, pushing us forward to reach greater heights. Tomorrow is too late, yesterday is over, and now is the perfect moment to start! I extend my warmest wishes to both the students and faculty members of the Electronics and Communication Engineering department and wish them success on their initiative.

Dr. D. Najumnissa Jamal
Dean/SECS

**B.S. Abdur Rahman Crescent Institute of
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Chennai - 600048**

FROM HOD'S DESK



It is with great pleasure and pride that I peruse the pages of the ECE department magazine, the first of its kind in the illustrious annals of this department. How befitting it is that it has been released on completion of 25 years of the Department of Electronics and Communication Engineering!

I laud the Editorial board for bringing out the magazine on schedule, no mean achievement in itself considering the time and efforts that have gone into it.

The field of Electronics and Communication is at the forefront of innovation today, charting new territories. Engineering education also has kept pace with the advancements. This magazine succinctly captures the essence of the technological advances and innovation happening in this area. It highlights the achievements of the students and faculty and poses interesting research questions for future generations of students. The creativity, innovation, and tireless pursuit of the students and faculty are showcased beautifully for the benefit of students and the general public alike.

I applaud the editorial team for the hard work and dedication they have invested in realizing this goal and wish my dear students success in all future endeavors. I also encourage the forthcoming batches of students to continue the great work that has been started today and to emulate the achievements of their seniors.

Dr. C. Tharini
Professor and Head ECE Department
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**TECHNOLOGY
UPDATES**

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HYPER LOOP



Hyper loop is a new form of ground transport currently in development by a number of companies; It could see passengers travelling at over 700 miles an hour in floating pod which races along inside giant low-pressure tubes, either above or below ground. There are two major contrasts among Hyper-loop and conventional rail. Initially, the cases bringing travelers travel through cylinders or passages from which the majority of the air has been expelled to decrease contact. This ought to permit the cases to go at up to 750 miles for every hour. Also, as opposed to utilizing wheels like a train or vehicle, the cases are intended to coast on air skis, utilizing a similar essential thought as an air hockey table, or utilize attractive levitation to diminish FRICTION.

What are the benefits of Hyper-loop?

Supporters contend that Hyper-circle could be less expensive and quicker than train or vehicle travel, and less expensive and less contaminating than air travel. They guarantee that it's likewise faster and less expensive to work than customary rapid rail. Hyper-circle could in this manner be utilized to ease the heat off gridlocked streets, making travel between urban areas simpler, and possibly opening major monetary advantages thus.

Idea Behind it!

The idea of using low-pressure or vacuum tubes as part of a transport system has a long heritage.

The Crystal Palace pneumatic railway used air pressure to push a wagon uphill (and a vacuum to drag it back down) way back in Victorian south London in 1864. Similar systems using pneumatic tubes to send mail and packages between buildings have been in use since the late nineteenth century, and can still be seen in supermarkets and banks to move money around today.

One clear predecessor of the Hyperloop is the 'vacetrain' concept developed by Robert Goddard early in the twentieth century; since then, many similar ideas have been proposed without much success.

However, it was entrepreneur 'Elon Musk' who really reignited interest in the concept with his 'Hyperloop Alpha' paper in August 2013. This invention is going to be the best invention which could bring a revolution in the field of ultra fast transportation.

Working principle of Hyper Loop tube!

The basic idea of Hyperloop as envisioned by Musk is that the passenger pods or capsules travel through a tube, either above or below ground. To reduce friction, most of the air is removed from the tubes by pumps.

Overcoming air resistance is one of the biggest uses of energy in high speed travel.

Airliners climb to high altitudes to travel through less dense air; in order to create a similar effect at ground level, Hyperloop encloses the capsules in a reduced-pressure tube, effectively allowing the trains to travel at airplane speeds while still on the ground.

How is Hyperloop unique in relation to rapid trains?

Supporters contend that Hyperloop is essentially better than fast rail. It is lower cost and more vitality effective in light of the fact that, in addition to other things, the track doesn't have to give capacity to the cases ceaselessly and, in light of the fact that the units can leave at regular intervals, it's more similar to an on-request administration. It's additionally possibly a few times quicker than even rapid rail (and multiple times the speed of normal rail administrations).

Thus, Hyper Loop is a breakthrough invention and we hope that it's the Latest tech which could bring a Revolution! Thanks to Elon Musk for the innovation out of Empathy!

"When something is important enough, you do it even if the odds are not in your favor."

-Elon Musk.

- By R.S. NAWINEESH
ECE A, 3rd Year

FLYING CAR



Goodyear recently unveiled its AERO concept tyre for flying cars at Geneva International Motor Show in Switzerland. The tyre would convert into a propeller for flying. AERO is a tilt-rotor tyre that facilitates a seamless transition from ground-to-air travel.

Instead of a rigid wheel, it features fan-like spokes. The solid airless tyre is flexible enough to dampen bumps in the road while being strong enough for high-speed rotation needed for rotors to create vertical lift.

That rotation would be achieved using magnetic force to generate frictionless propulsion. Goodyear's AERO concept can function in the vertical plane as a road going tyre/wheel assembly, and in the horizontal plane as a tilt-rotor propeller.

According to Daniel Hingue, engineer at Goodyear, who helped develop the tyre, "Individual blades absorb shocks while driving on the road but also act as robust rotors to create vertical lift when the tyre is tilted. While the AERO is still just a concept, technologies like a non-pneumatic structure and intelligent tire capabilities are already in development. Goodyear seems to sense the growing shift from conventional ground-based cars to flying ones and is aiming to be an innovator in that growing market."

AERO is equipped with light-based fibre-optic sensors to monitor road conditions, tyre wear and structural integrity. It would use artificial intelligence (AI) to combine and analyse sensor information and communications from other cars and nearby infrastructure. The AI processor would then recommend a course of action—including when to switch between flying or driving mode and anticipate, identify and resolve potential tyre issues before these become a danger.

- By Janani. M
ECE A, 3rd Year



Asynchronous Coded Electronic Skin

Human skin sensors send signals at a frequency slightly less than 1kHz while the sensors used in ACES send signals at 9Mhz. It is capable of separating physical contacts among different sensors in time less than 60ns. This skin can also precisely recognize the texture, shape, & rigidity of objects in 10 ms. It's suited to identify 20-30 different textures. It also can read Braille at an accuracy better than 90%. ACES can be easily connected with any type of sensor skin layer.

Its simple wiring system will increase its application as intelligent artificial skins used in AI, in robots, HMIs, and prosthetic devices. The innovation will allow people with prosthetic limbs to detect objects. It will also enable robots to feel the sense of touch, facilitating robots to interact better with humans. These smart robots will find its application in tragedy recovery tasks.

Did you ever imagine the artificial skin used in Star Wars becoming a reality? Well, it did so recently! Researchers from the National University of Singapore who had succeeded in creating self-healing skin which would facilitate human interaction with machines have developed electronic skin capable of recreating a sense of touch! This technology will help the user to feel texture, temperature and even pain.

It consists of rubber and plastic composite material and a hundred square sensors having a side of 1mm, which are connected by a single conductor, which is usually a wire. It can detect pressure, bending and temperature. When the electronic skin meets any surface, it sends electrical pulses back to one receiver. Each sensor transmits a unique pulse making it easily identifiable. So, signals from multiple sensors are transmitted simultaneously to a single receiver. As a result, it has high operation speed.

By Anjana Badrinath -
ECE A, 3rd Year

Indian Regional Navigation Satellite System



What is IRNSS ?

IRNSS is an independent regional navigation satellite system being developed by India. It is an alternative to GPS technology. GPS is American technology. It is designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary, which is its primary service area. An Extended Service Area lies between primary service area and area enclosed by the rectangle from Latitude 30 deg South to 50 deg North, Longitude 30 deg East to 130 deg East.

What are services provided by IRNSS ?

- IRNSS will provide two types of services, namely, Standard Positioning Service (SPS) which is provided to all the users.
- Restricted Service (RS), which is an encrypted service provided only to the authorized users. The IRNSS System is expected to provide a position accuracy of better than 20 meters in the primary service area.

What it is meant for?

According to the ISRO, the IRNSS was developed for terrestrial, aerial and marine navigation, disaster management, vehicle tracking and fleet management and integration with mobile phones.

How accurate is it?

With seven satellites, NavIC is considered to be at par with US-based GPS, Russia's Glonass and Galileo developed by Europe. The IRNSS is expected to provide a position accuracy of better than 20 metre in the primary service area. 24-satellite based GPS enable, On the other hand, smartphones can be accurate to within a 4.9 meter radius. The accuracy will though worsen near buildings, bridges and trees. Cloud cover also impacts GPS' accuracy. In some GPS receivers, the accuracy can be as good as 11.8 inches. However, it is being said that the NavIC system uses S and L bands, unlike GPS which uses only L band.

This, as per reports, helps NavIC to be more accurate than GPS. ISRO Partners With Chinese & American Telecoms For NavIC Navigation Supported Smartphones

ISRO has partnered With Chinese and American telecoms Qualcomm and Xiaomi for NavIC supported smartphones. NavIC is planned to be available for civilian use in mobile devices, after Qualcomm and Indian Space Research Organisation signed an agreement.

Qualcomm Technologies, Inc. in collaboration with the Indian Space Research Organization (ISRO), has developed & tested chip set platform across their portfolio which can support the Indian regional Navigation satellite system, NavIC. In January 2020, Qualcomm launched three new chip sets, Snapdragon 720G, 662 and 460 with support for Navigation with Indian Constellation (NavIC).

- By Kruba Sankar K
ECE A, 2nd year

5G TECHNOLOGY



What is 5G?

5G is the 5th generation of mobile networks, a significant evolution of today's 4G LTE networks. 5G is being designed to meet the very large growth in data and connectivity of today's modern society, the internet of things with billions of connected devices, and tomorrow's innovations.

What will 5G enable?

5G will enable instantaneous connectivity to billions of devices, the Internet of Things (IoT) and a truly connected world. There are three major categories of use case for 5G: Massive machine to machine communications – also called the Internet of Things (IoT) that involves connecting billions of devices without human intervention at a scale not seen before. This has the potential to revolutionize modern industrial processes and applications including agriculture, manufacturing and business communications. Ultra-reliable low latency communications – mission critical including real-time control of devices, industrial robotics, vehicle to vehicle communications and safety systems, autonomous driving and safer transport networks.

Low latency communications also opens up a new world where remote medical care, procedures, and treatment are all possible. Enhanced mobile broadband – providing significantly faster data speeds and greater capacity keeping the world connected. New applications will include fixed wireless internet access for homes, outdoor broadcast applications without the need for broadcast vans, and greater connectivity for people on the move. 5G will keep us connected in tomorrow's smart cities, smart homes and smart schools, and enable opportunities that we haven't even thought of yet!

When did 5G launch?

Initial 5G services commenced in many countries in 2019 and widespread availability of 5G is expected by 2025. 5G phones are already available in India but building the 5G networks they will work with is going to take time: The network operators must test the technology, acquire the necessary radio spectrum from India's government in an auction, then invest in and build out the network infrastructure before they're ready to offer service.

What do 5G devices offer?

The prime benefits of 5G devices will be significantly faster speeds in data access, downloading and streaming content. In addition, 5G devices will have increased computing power and make use of the lower latency, meaning that the devices will enjoy virtually instantaneous connections to the network, as well as greater connectivity when on the move due to the use of advanced antenna beam steering.

What devices are available for 5G?

Mobile handsets, tablets and hot spots equipped with 3G, 4G and 5G connectivity were launched in 2019 and low latency and widespread machine to machine applications using 5G will be developed in the coming years.

How does 5G work?

Most operators will initially integrate 5G networks with existing 4G networks to provide a continuous connection. A mobile network has two main components, the 'Radio Access Network' and the 'Core Network'. The Radio Access Network – consists of various types of facilities including small cells,

towers, masts and dedicated, in-building and home systems that connect mobile users and wireless devices to the main core network. Small cells will be a major feature of 5G networks particularly at the new millimetre wave (mmWave) frequencies where the connection range is very short. To provide a continuous connection, small cells will be distributed in clusters depending on where users require connection which will complement the macro network that provides wide-area coverage. The Core Network – is the mobile exchange and data network that manages all of the mobile voice, data and internet connections.

For 5G, the 'core network' is being redesigned to better integrate with the internet and cloud based services and also includes distributed servers across the network improving response times (reducing latency). Many of the advanced features of 5G including network function virtualization and network slicing for different applications and services, will be managed in the core. Network Slicing – enables a smart way to segment the network for a particular industry, business or application. For example emergency services could operate on a network slice independently from other users.

Network Function Virtualization (NFV)

– is the ability to instantiate network functions in real time at any desired location within the operator's cloud platform. Network functions that used to run on dedicated hardware for example a firewall and encryption at business premises can now operate on software on a virtual machine. NFV is crucial to enable the speed efficiency and agility to support new business applications and is an important technology for a 5G ready core.

5G working with 4G

When a 5G connection is established, the User Equipment (or device) will connect to both the 4G network to provide the control signalling and to the 5G network to help provide the fast data connection by adding to the existing 4G capacity. Where there is limited 5G coverage, the data is carried on the 4G network providing the continuous connection. Essentially with this design, the 5G network is complementing the existing 4G network.

What do the experts say about 5G and health?

In relation to radio frequency exposures and wireless technology and health, including frequencies used for 5G, the World Health Organization (WHO) states: "Despite extensive research, to date there is no evidence to conclude that exposure to low-level electromagnetic fields is harmful to human health."

In relation to 5G frequencies, Dr Sarah Loughran, Director of the Australian Centre for Electromagnetic Bioeffects Research.

Is 5G Safe For Children?

Yes. The EMF safety limits cover the 5G frequency range and include substantial margins of safety to protect all people including children from all established hazards.

The University of Wollongong states: "The higher frequencies (of 5G) actually means that the energy doesn't penetrate as deeply into the body than previous fourth generation and other generation technologies have." In relation to 5G and health, ARPANSA states: "There are no established health effects from the radio waves that the 5G network uses." 5G operates at a higher frequency than previous 4G networks so it can carry more data but can't travel as far. This means it will have less impact on the human body than any previous network,



- By Pathan Zubair Khan
ECE A, 3rd Year

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Indian Regional Navigation :

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- <https://www.isro.gov.in/update/21-jan-2020/launch-of-mobile-chipset-compatible-to-navic>
- <https://economictimes.indiatimes.com/tech/software/navic-know-about-indias-own-gps-now-available-on-smartphone/articleshow/74382364.cms>

The background is a microscopic view of a blue, hexagonal lattice structure. A large orange circle is centered in the frame, containing the text 'MOVIE TECHNOLOGY BREAKDOWN'. Two vertical black lines extend from the top and bottom of the circle. In the bottom-left corner, there is a dark grey rectangular area with a grid of small, yellowish, circular features. In the middle-right area, there is a yellowish rectangular label with black text.

**MOVIE
TECHNOLOGY
BREAKDOWN**

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MOVIE TECHNOLOGY BREAKDOWN

AVATAR

Remember that movie back in '09? The one that got us hooked onto our screens courtesy of its breathtaking, never-seen-before kind of visuals? Let's go over a few details about what made it so epic in the first place! (The name is AVATAR by the way.....duh :p)

To bring those blue aliens to life, the concept of Computer Generated Imagery "CGI" was used extensively.

When director Cameron would point the camera at his actors, they weren't seen as themselves but as their blue counter-parts. This was happening in real-time!

For more authenticity while filming, James Cameron made use of the Fusion Camera System. These consist of two cameras with lots of small HD image sensors such that camera lenses mimic the behaviour of the human eyes while filming nearby or far-off objects. This allowed Cameron to see his work in 3D while filming it!



Also, what made them blue guys look so life-like were the camera rigs that the actors had worn (like caps) during filming. These cameras captured a wide range of facial characteristics (position of eyes, ears, mouth, nose, etc.,) which were recorded and used by animators to make the characters look as life-like as possible.

As these cutting-edge technologies certainly helped make Avatar the blockbuster that it is today, one can only imagine what Cameron brings with his sequels! Will he outdo himself? Technology will tell.

**- By Misbahullah Sheriff
ECE 'A' 4th Year**

Interstellar

This movie directed by Christopher Nolan is different from other sci-fi movies because of its special effects and the plot tells us about the 5th dimensional world, black hole and many more things about outer space. The plot revolves around a team of explorers who undertake the most important mission in human history; traveling beyond this galaxy to discover whether mankind has a future among the stars.



There is hardly any CGI (computer generated imagery) in the entire film and computer effects were largely avoided for this movie by using on set camera trickery and 60-foot projections of the cosmos on set backgrounds and using favor of unusual mesmerizing location. Nolan filmed this movie on 35mm in anamorphic format and in IMAX 70mm (old format) photograph.

For screening this movie, theatre's had to change their digital projector's in place of 35mm film prints. This movie used DNGR (The double Negative Gravitational Render) a computer code which is used to create the iconic images of black holes and wormholes.

DNGR uses general-relativity equations to trace beams of light as they are bent and warped by the immense gravity of a black hole. Beams can get temporarily trapped, circling the hole many times before reaching the camera.

These beams cross sections get stretched and squashed during this process, amplifying the light in small regions, resulting in glittering patterns in the starlight; and thin accretion discs get warped into rainbows of fire that stretch over and under the black hole.

The gravitational shots were made by creating large rotating rigs with different orientation, suspending the actors to let them fly through the scene. The creators had to use the most innovative tool "THE LIGHT BOX" which is a boxy enclosure outfitted on the inside with 4096 LED bulbs.

Overall, Interstellar is a mind-blowing movie with fantastic visuals, an incredible story line and it will keep you hooked on till the end! The whole idea of relativity is beautifully described and if you watch the film in 3D then you're in for a treat!

- By Waasifur Rahman
ECE 'B' 2nd year

T.E.N.E.T

TENET is an upcoming SCI-FI film directed by Christopher Nolan. The main technological concept used in this film is "Space-Time Continuum". We might think that this film is just a time-travel movie like the other set of films, but this time Nolan has entirely changed the pattern of time travelling. According to TENET, it's a time-reversal! You might wonder! But it's the mere truth that we can only reverse the time and cannot jump over the time-space belt. Surprisingly, 'TENET' is a palindrome, which is the same in forward-reverse direction.

For example, Aging is an automatic forward-process and we cannot reverse it like the same way does Time. Likewise, if we are taking a hot cup-of-coffee it would eventually become Cool in a particular period of time. So, this is an example of forward process and it can be eventually changed to its original state by applying some heat. Now, coming to TENET, the Director has applied this concept to TIME and conveys that by applying a proper energy to time, we can reverse the entire happenings! You might still think that it's just a surreal-fiction, but actually it is! We all might have studied this concept in our 12th std physics namely 2nd Law-of-thermodynamics and its "ARROW-OF-TIME" deals with it all..

So, this 'TENET' is a type of Inverse-Time travelling device which is used by a spy agent to travel back to 2050's in order to avoid the WW3 which has happened in 2157. The agent risks his entire life in the Time-loop and this device absolutely amazing that it makes him to do difficult task in a easy way by applying the concept

of Kinetic and potential energy, So for a Non-Tenet person it's easy to jump from a height with the help of developed potential but difficult to climb against Gravity. But for a Tenet person it's easy to climb heights with the ability of inverse potential energy and difficult to come down due to inverse kinetic. So, for the agent it's a different TENET world in which he does extraordinary things in a much easier way when compared with others, since because he is in a completely different time zone in the inverse axis and the pattern of lives change.



This Device fascinated me and what I like the most is that it created an entirely new Time-axis synchronizing with the modern Physics concepts. In this TENET, happenings are not happened but are yet to happen which are to be altered by the TENET travelers and then happenings remains null. That's the amazing plan, yet confusing! So, this TENET is the latest tech used in an upcoming film which fascinated me before its release! Nolan's note to the fans is that "Don't think about it, just feel it!". T.I.M.E. R.U.N.S. O.U.T.

- By **MOHAMED DHANISH K.J**
ECE 'A' 3rd year

The background is a microscopic view of a cell culture. It features a grid of blue, hexagonal cells separated by white lines. In the top-left corner, there is a dark grey rectangular area. In the bottom-left corner, there is a dark grey rectangular area containing a grid of small, yellowish, circular structures. On the right side, there is a yellowish rectangular label with black text. A vertical black line runs through the center of the image, passing through the orange circle.

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thelogicalindian.com



Of The Stars & The Moon

Starts illuminate the sky with its lights and the moon reflects it, 12 years since passing out of Crescent Engineering, I reflect on what made Crescent and how Crescent made me. I am not going to dwell on the mix of nervousness and excitement of the first day of college, as the nervousness was quickly a thing of the past. Memories are afresh of what unfolded during my college life and I fondly recall a few instances that I remember for how I enjoyed it, for what I thought and what I learnt.

The Clock Tower

The walk to it, the walk from it, the walk by it, it was our single point meeting spot, the place where our buses would start to home and where we got dropped. It not only is a structure that points out the centre of college, but also a structure that is central in most students' memories. Yes, it was meant to see the time, but sometimes in a good way it sadly reflected how quick the time went past us at Crescent, I would just hope the time there never ended even while I and many others knew the inevitability of it. A beauty to behold, mobile phones were not aplenty then and hence I or many do not have clicked memories of it, but fortunately it remains crystal clear in each of our memories.

First Friend & The First Bench

School life was very competitive, with a very closely knit circle, I was taking my baby steps into socializing at the end of it. First day of college, I had no clue how to say hello to people to get introduced, but then, one friend (Mr. Balachandar - Who is a great tech person now at huge US based MNC) who was kind enough (or may be as clueless as me) on the way to the labs on the first bothered to say hi, On the upside he would go on to be one of my best friends, on the down side he was also the department topper. (remember 3 idiots movie, yes, same feeling).

Being naughty from the back bench was too easy, try the same in the front bench, the thrill is unmatched. I never sat for long in a single place, among the places I sat, one of the most enjoyable was the front bench. Many reasons, the two most important were, one, in the chances that you were in the mind to concentrate in the class, that was the best place.

Don't believe me? Ask the geeks, because I am not one. Second, was one of my other best friends Bharath who similarly wanted to flip between listening to the class and joke about it while the class was sitting right there. To miss the eye of the beloved teachers while being all of this right under their nose, the thrill was just staggering.

MGR not M G Ramachandran

There is no shortage of laughter's during the time of college, but one particular moment does stand out. It was a Tamil cultural function that is celebrated annually and conducted with participation from across the departments. In that function there was a quiz conducted, where questions were based on the Tamil personalities and history among others. The answer to one of the questions was MGR which the participant said correctly however, the host disagreed, he went on to say "Sorry, M G Ramachandran is the wrong answer, the correct answer is MGR". Rofl. (hope you got the joke).

The Learnings now

Funny moments and memories would need a much bigger space to elaborate, I would straight move into some of the best learnings from the time spent there. Learning the subjects were straight forward, the institution had the best teachers, some of the most experienced ones and a very progressive approach and policy.

Fondly remember the lights of Dr. S. Kaja Mohideen, Dr. P.K. Jawahar among others.

Picking up the pen

I have formerly been the editorial director and founding member of thelogicalindian.com, a 7 Million plus followed new age digital news media where I have had the privilege to write and opionate through hundreds of articles. Coincidentally, my first and second article was for the print magazine of Crescent Engineering College. I had written about the unfortunate London Bombings & the second one based on the legendary footballer Zinedine Zidane and since then I have never stopped writing, until I first wrote for the magazine, I thought I could never write. Had the absolute pleasure of directing a mime play to the tune of elvis presley's minus track of "A little less conversation". Hope to put in use this experience sometime in the future.

Diversity

One of the amazing experiences from Crescent was the diversity of students, it was an absolute pleasure to know each of them, understand, interact, befriend and eventually learn from them. I can name each of my awesome classmates who made the 4 years a truly enriching one, but I am indebted to crescent to celebrate the culture of diversity and mutual respect.

Future Looks Bright

Having since passed out in 2008, during my 4 years at Singapore and back to Bangalore and Chennai, I have keenly noticed the progress the institution has made. The new initiatives, the new ideas, the new courses offered among all. Even when I had interacted with the former Head of Department of ECE Dr. Tharini Prasad, they were further ideating new initiatives to enrich the students further with knowledge, skills and exposure. Such is the energy and passion which all are collectively working towards. Special mentions to Dr. S. Kaja Mohideen, Dr. P. K. Jawahar (who both have not aged one day since 2008) and also to Mr. M. Parvez Alam who has taken great efforts to nurture startups and for having made the Crescent Incubation Center one of the premium names in the country in a short span of time & to Dr. Ganesh - Director of Placement & Training. The positivity is so appealing, that I am tempted to pack my bags to head back to the college. The future of the present Crescent students looks very bright indeed.

- Interviewed by S Abhishek
ECE A, 4th year



Mr. PANDIYARAJ .G.V

BATCH(2005-2009)

IRS,
Deputy Commissioner of Customs,
Kolkata Customs
Department of Revenue
Ministry of Finance



It has been a proud moment to have graduated from BSA Crescent Engineering College, now Crescent University - B. S. Abdur Rahman Crescent Institute of Science and Technology.

It has been more than a decade but the memories of the college days still remain evergreen and I will cherish it forever. As for the College Faculty and the Hostel facilities, he proudly says "We had the best of the faculties and facilities. Hostel life is an another eye-opener. Missing those days, among others, Briyani! Proud to be a Crescentian!"

And he was an average student and balanced both academics and extra curricular activities organised by the college.

Career

He was selected in a software company in the Campus Placement after many unsuccessful attempts. But his interest and focus was on Civil Services. After graduation in 2009, he did not join the job and started preparation for the Civil Services Exam. He attended Civil Services Interview twice but could not figure out nevertheless he did not lose his hope. In the meantime, he was selected as Air Traffic Controller(ATC) in Airports Authority of India, a Union Government PSU. He worked for 4 years and continued the preparation for Civil Services Exam.

His perseverance paid off in 2015, he cleared Civil Services Exam and was allotted Indian Revenue Service. Now, he is posted as the Deputy Commissioner of Customs in Kolkata.

Pillars of Support:

Parents, Brother, Better Half, Mentors, Friends, Colleagues and Relatives.

உள்ளூர்வ தெல்லாம் உயர்வுள்ளல் மற்றது
தள்ளினுந் தள்ளாமை நீர்த்து
குறள்_596

"Whatever you ponder, let your aim
be lofty still,
Fate cannot hinder always, thwart
you as it will. - Thirukural_596"

*Thanks my Alma mater. Proud to be a
Crescentian.*

- Interviewed by
Turpunati Mansoor
ECE B, 4th year

Mr. Sulthan Syed Ibrahim H S

BATCH(2005-2009)

Air traffic Controller,
Airports Authority of India,
Chennai.



Sometimes all the words in the world cannot best describe what you feel, similarly, Crescent is a feeling! And that feeling will cherish with me for the rest of my life!, says **Mr. Sulthan Syed Ibrahim H S**, an alumni of 2009 batch from our Electronics and Communication Engineering department. We immediately felt a sense of comfort in Mr. Sulthan's voice and instantly had such an awe and reverence for his response.

When we further asked him about how our department and Crescent shaped him to become the person that he is today, he goes on saying,

"Four years of my life at Crescent has taught me so much. Crescent nurtured my skills, be it, the technical concepts, interpersonal and leadership skills, sports and athletics etc., I consider all these as gifts given to me by the Almighty through Crescent."

Well that was a wholesome answer and we surely were impressed by the way Mr. Sulthan carried the entire interview. After a brief silence when we were about to ask him the next question, he broke the ice by saying,

"There certainly was no pressure in our life during those 4 years except, that one 75 % attendance criteria! You face that too, didn't you? "

We laughed and said that the attendance tension is real!

We had a glimpse on Mr. Sulthan's college life, then we were interested in knowing about his life as an Air traffic controller. He responds,

"My career in AAI (Airports Authority of India) is rather a thrillingly beautiful job. As the responsibility is sky high, literally SKY high! it can be stressful at times but as the saying goes it's all in the mind. I love my job and I enjoy every minute of it."

And he further adds that his work hours are so brilliantly organized so that he has more free time to pursue his hobbies more efficiently and the AAI gives equal importance to extra-curricular activities such as sports, environmental and CSR activities too.

And Mr. Sulthan uses this free time to guide and mentor many of his junior friends.

When we asked him the kind of advices that he'd like to give to his juniors he replies,

"I just believe that you must understand the following three things in life."

1. Fear of failure, is the root cause of failure. Hence, you must take risks when required.
2. Don't let others word shape your life, you must shape your own life and enjoy it.
3. Nothing is Impossible, Work Hard.

Finally, we explained him about the E-magazine and its featurettes, then he responded,

"I am so happy that this magazine includes various useful categories like the technological advancement in the ECE department, current affairs, experts' columns etc. I believe that one must read more to become successful. It is the duty of the author to incite the curiosity and the interest of the reader. I am undoubtedly confident that this magazine team will do that."

He finally concluded by saying,

"Just don't be like a coke bottle that powerfully rises due to the initial gas present on it and settled down overtime. Be a spark that never fades !"

- Interviewed by
Jai Sakthi Vijay M
ECE A, 4th year

Mr. Mohammed Mohideen

Batch (1998-2002)

Founder of
WEGoT Utility Solutions pvt Ltd.
&
Denvik Technology Pvt Ltd.



Experience is the hardest teacher. It gives you the test first and the lesson afterward. The interview with Mr. Mohideen started with his experience that began in the year 1999 with the Crescent engineering college.

Being an ardent teenager, he always had huge interest and enthusiasm against electronics and programming. And that made him choose electronics and communication department amidst all other engineering departments. It is those little memories that will last forever. Likewise, Mr. Mohideen says, that his four years of undergraduate life was filled with beautiful memories throughout.

Later he talks about the highly enlightened and proficient professors he had during his college life and he also refers to his most skilled and experienced class advisor Dr. P. K. Jawahar, the current head of the department of the Electrical and Instrumentation Department.

He continues the discussion by quoting about the well-equipped infrastructure of the laboratories and classrooms he had those days, where he especially mentioned the well-maintained VLSI and Microwave labs.

The force of passion is balanced by the force of interest. The founder of Denvik Technology admits that, his interest on the Embedded System was amplified by the various mini projects he did from his pre-final year. This made him choose the stream of Embedded Systems and then made him work on numerous mini projects on both industrial and his academical domain. He also worked in a small company at the beginning of his career.

Everything you need will come to you at the perfect time. Identically, at 2007, Mr. Mohideen started his own company "The Denvik Technology" in partnership with his friend Mr. Vijay Krishna who is a senior by three years and they started working together for a few years.

Even-though, he had very less experience, gearing up with his partner made him do a few products and it took them two more years to release them into the market.

Adding up on this, he also opens up about his another company on utility management solutions which started in the year 2015. The prime focus of this firm is on water management.

Various electronic sensors were fixed in the major water usage points and the data acquired would be taken to the cloud for analyzing and then it will be delivered to the user. This is a social and economic conscious company which will totally concentrate on the conservation of water and has preserved billion liters of water.

Asking upon the ideas and the key principle for becoming an entrepreneur, Mr. Mohideen says that the first and foremost quality of becoming an entrepreneur is the striving to become one.

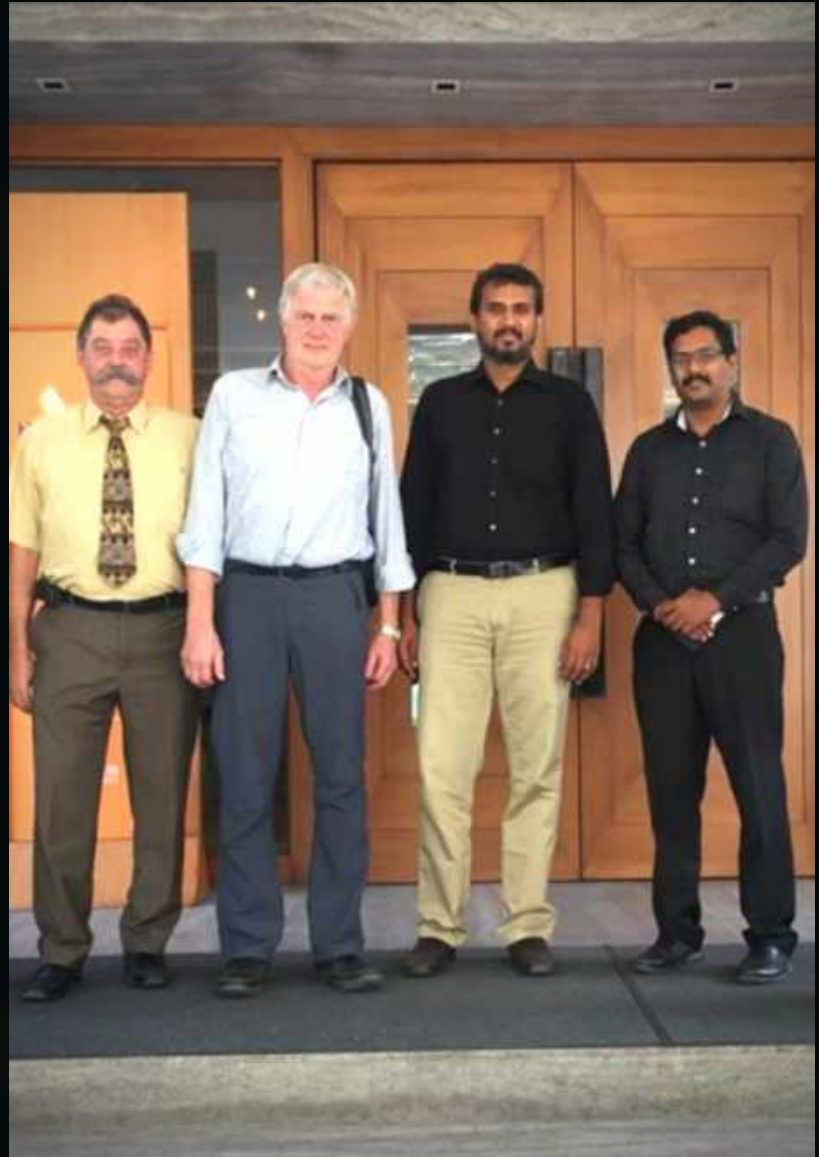
One majorly need the belief, flair and an impulse inside them to mold themselves into an entrepreneur. He also adds up by saying that the settling attitude of students with their monthly salaries will actually make them work for someone else. He also intensifies about the provocations that generally fall on the way of the success and advises not to fall prey for it.

When we raised him a question on the skill sets that are extremely necessary for a fresher who is about to apply for a job, he replies that there are a few qualities which he expects from his employees. For example, a fresher must possess the knowledge of their core subject that seems to be the pre-requisite.

Adjoining with this, he also says that the learning process never ends. Continuous learning is the secret goal which one must always set to themselves says, Mr. Mohideen during the discussion. He also believes that the positive attitude and an effective communication skill are a few key qualities that freshers must contain within themselves.

Ending up the discussion, we requested him to share some insights regarding the requirements and pre-requisites that are expected from a student for interning in his company, he added up saying that the intention on working over the research and development is the major expectation. Later Mr. Mohideen also points about the passion of the student which drives him/her towards the goal and the specified skills on the domain which will help them reach the success. With all these mentioned qualities, Mr. Mohideen assures for an internship offer and would also hire such talented avid students into his firm.

Spending time with such a simulative and energetic entrepreneur is prodigious. Among his overblown schedule of duties, with no amount of soreness he shared all his experiences and guidance to us. We are wholly grateful to him for providing some inspiring content for you.



- Interviewed by S Abhishek
ECE A, 4th year

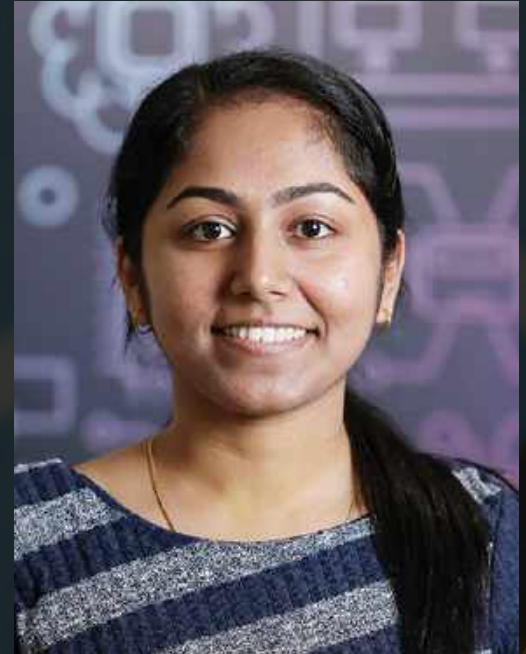
RECENT ALUMNI ACHIEVEMENTS (2019-2020)

SRUTHI KURIAKOSE BATCH(2010-2014)

Completed her B.Tech in Electronics and Communication Engineering from B. S. Abdur Rahman Crescent Institute Of Science And Technology. She had completed her Masters in Engineering from RMIT university and she is currently pursuing her PhD .

Moore's law observes that the number of transistors it is possible to put on a computer chip will double every 18 to 24 months. Beyond 2021, new materials and technologies will be required to shrink the size of electronics, we are proud that Sruthi Kuriakos addressed this problem by exploiting and manipulating quantum confinement induced properties in atomically thin materials. This breakthrough allows multifunctionality that could enable high speed electronics.

Kuriakose work presents a major leap towards small, energy efficient yet more powerful electronics and opto-electronics. She has also fabricated electronic devices on rigid and flexible substrates using the Nanomaterial black phosphorous at a micro-nano scale for realizing the working of a field-effect transistor and mimicking brain cells activated by light stimulation. Her findings allow us to downscale the key electronic device components and create synthetic sensory organs like Artificial Retina. And the judges commented that this kind of research could have far reaching implications given it could apply across all computing.



M.SHEIK MANSOOR BATCH(2005-2009)

Sheik Mansoor is armed with B.E.(ECE) from Chennai Crescent Engineering College in 2009, yes we are proud to say that he is our alumni!

Sheik Mansoor who assumed charge as the first revenue divisional officer (RDO) of the newly formed Gudiyatham division in Vellore district. From a software professional to group 1 service (deputy collector cadre) official in the Tamil Nadu government, this 33 year old enterprising youngster tasted success through consistent effort to reach dizzy heights.

After his graduation, Sheik worked in TCS and Wipro till 2017, before he made an attempt for State Civil Service Exam and came out with flying colors

getting eleventh rank in Tamil Nadu Public Service Commission (TNPSC) Group 1 Service Exam in 2017. After serving as probationary deputy collector, he got a regular posting in the cadre post. The young officer felt elated being the first RDO cum Sub-Divisional Magistrate of the newly created Gudiyatham division in the trifurcated Vellore district

His confidence and hardwork paid off well and he made his Educational Institute and family extremely proud.

"THINK POSITIVE, WORK SMART AND EXCEL"

- the mantra for Sheik Mansoor's success in his career and life.



MOHAMED AASHIK RAHMAN BATCH(2011-2015)

Aashik did his B.Tech in Electronics and Communication Engineering in B. S. Abdur Rahman Crescent Institute Of Science And Technology, "Yes he is our proud alumni".

Aashik is the CEO of a young and fast growing organization the **Propeller Technologies**.

Propeller Technologies is an organization with strong ambition and vision to provide industrial and application oriented skills rather than just theoretical knowledge.

"Zafi, the humanoid medical robot who lead the fight against COVID-19 from the medical front is one of the many innovation by Propeller Technologies. Holding on to the spirit of innovation and technology this young start up from Trichy is all set to become the best of their field".

This statement was given by the machine makers Propeller Technologies has started their wings in the field of drones and now their wings have spread over various advanced technologies like robotics, especially serving robots like Zafi which played major role fighting against COVID-19.

Propeller Technologies is a company which deals with the domain of Robotics, Embedded systems, Product development and industrial solutions. With strategically currently focusing on educational domain to bridge the gap between industry demands and current academics offering in institutes. With a passion in Robotics and keeping constant eye on various national and international events, we have a vast experience in the same and a constant focus in this grooming industry.



Mr. Mir Mohammad Ali BATCH(2004-2008)

Mr. Mir Mohammed Ali, I.A.S, is currently the District Collector of Kannur, Kerala. And we are proud to say that he did his B.E.(ECE) program in Crescent Engineering College.

After his graduation he moved to Delhi for preparing for Civil Service examination, which was his long time ambition. He cleared the Indian Civil Service Examination in 2011, with 59th rank in All-India. He also completed M.A. in Political Science during the same time.

He was posted as Assistant Collector (Under Training), Kozhikode in July 2012, and took full charge as a Sub Collector, Thrissur District in September 2013. At present he is posted as 46th District Collector of Kannur District, Kerala.

He initiated the Map my Home Project which he started as a District Collector, with over 100 students. The project uses Google Maps to increase accessibility and accountability at Government offices, besides giving a fillip to local businesses.

Over a period of three months the project mapped more than 1500 locations. The Government of Kerala later issued an order recommending the implementation of this project throughout the state.

And we are extremely proud to say that he won the hearts of the people while serving as Kannur District Collector and was credited for making Kannur, the first district in Kerala as plastic free.

His 'Map my Home' project wherein college students were involved in mapping all government offices and small public service establishments using mobiles was implemented across the state was well received among the public.

Department of ECE has invited Mr. Mir Mohammed Ali, I.A.S, to deliver a speech on inspiring the young minds towards Civil Service Examination, on 8th September 2017, at the convention center of B. S. Abdur Rahman Crescent Institute Of Science And Technology.



COFFEE WITH FACULTY

Dr. S. Kaja Mohideen

Senior Professor & Director
(PG Admissions)

A lush green campus with lots of trees keeping us always fresh, academic freedom to both the faculty and students, and the matured and disciplined behavior of our students is what Dr. S. Kaja Mohideen responds as we sat down to ask him about the three evergreen attractions of Crescent, that made him continue his service in this great institution since 1991.

Talking to us about his inspiration, he says,

"I remember one of our ECE class representatives (15 to 20 years back), Mr. Ganesh. All the students of that particular class were studious, but surprisingly that class quite often had a misunderstanding with the department. Many times when an issue arose we faced difficulty to convince those class students. Then came the class representative Ganesh for our help. First, we will convince him and he will assure us that he will settle the problem. He will go to the class, address his classmates for 10 to 15 minutes, and will come back to us and say "problem solved" and surprisingly the entire class would follow the instruction of the department. Once during an issue, I watched him addressing his classmates. The way he approached his classmates, the way he made them understand the situation, and the way he convinced them impressed and inspired me very much. I can proudly say that my learning of Leadership skills started from Ganesh"



It was an inspiring story for us as well, we understood how powerful and impactful the way we communicate with others is, as leaders. We then asked him about his childhood dream.

"You will be surprised to hear that in my school days, I dreamt of becoming a doctor. As my house in Madurai is just opposite Madurai Medical college, on seeing the medicos daily, it is quite natural that I dreamt to become a doctor. Since I fell short of the cutoff marks, I missed the medical seat but I got an engineering seat in Thiagarajar College of Engineering, Madurai which was one of the only 8 govt engineering colleges in Tamil Nadu (at that time, there were no private Engineering colleges) which made my parents feel happy. You know one thing, while I was receiving my Ph.D. degree, my mind voice told me that, "Hey, now you are also a Doctor", which made me smile on stage (ha..ha..)."

While speaking about his interest in electronics, he gives full credit to his teachers in Thiagarajar College of Engineering who taught him the fundas of Electronics and communication with passion and dedication and as for his success mantra, he says,

"At any point in time, I haven't felt that I'm a successful man and have made an achievement. There's a lot more to carry out. Every day, our life teaches us a new lesson and it always raises the threshold level of success. Hence I'm carrying out my work politely with love, passion, and sincerity."

Apart from taking lectures, he always loves to move with students friendlier. He understands that it is a great gift to be in the teaching profession and that always we will be with young generation students, which he believes, that is what keeps his mind young and happy.

"A Professor's role is not only to inculcate knowledge but to identify the student's interest and passion and accordingly motivate, guide, and provide all support. A Professor has to show the path to students to achieve their goals."

"I always feel that I am stronger in maintaining good interpersonal relationships with colleagues and students. Negativity will always try to pull down our energy and self-motivation. At any cost, we should not fall prey to it. Simply we have to ignore them, focus our attention even stronger than before, and move firmly towards our goal. In the current scenario, every human being will be subjected to stress and depression. The level of stress will vary with each individual based on their nature of work, family support, and the environment."

"From my point of view, the stress and the depression will be only for a short while like a passing cloud and everyone should learn how to come out of it. If I feel stressed, I will hear songs loudly in my home theatre system or will start watching a Rajini movie. I am a die-hard fan of Rajini (even now, I never miss to watch a Rajini movie at least two or three times in Theatre, that too, within the first week of release). Rajini had never let me down(ha..ha..). "

"During stress, seeing him on the screen, his amazing energy and enthusiasm would instantly spring on me and I will get back to my work with full energy (ha..ha..). Similarly, everyone should find their own way to overcome stress."


What gives Dr. S. Kaja Mohideen motivation is that however tough the situation may be, on entering the class and taking the class for his enthusiastic students, his heart always felt light, forgetting all his issues.

Finally, we asked him about his best memory at Crescent.

"23 February 2019 was the best ever day in Crescent which I will never forget. It was the day our CRESCENTSAT Team of 20 students, after 3 to 4 months of hard work and sincere efforts designed and fabricated the prototype of the CRESCENTSAT satellite and successfully launched it using a Helium Gas Balloon to an altitude of 30 Kms. Our student's dedication, sincerity, amazing skill, and expertise lead to the success of the CRESCENTSAT launch. There are no words to explain the joy and happiness felt by the CRESCENTSAT Team after the successful launch. As the Project Director, it was a really memorable moment for me."

Thanking him for his time and for sharing his wonderful knowledge and life experiences with us, we walked out of his cabin, more inspired than ever and we hope that you as a reader found motivation, inspiration and happiness in his experiences as well.

**-Interviewed by
Jai Sakthi Vijay M
ECE A, 4th year**

The background is a microscopic image showing a grid of blue, hexagonal cells. A vertical black line runs through the center of the image. In the middle of this line is a large orange circle. Inside the circle, the words "BRAIN" and "SCRATCH" are written in a bold, black, sans-serif font. The text has a red and blue shadow effect. To the right of the circle, there is a small, rectangular, yellowish label with black text that reads "8008-1", "52402", and "3228A". In the bottom left corner, there is a dark grey rectangular area containing a grid of small, yellowish, circular structures.

BRAIN SCRATCH

8008-1
52402
3228A

JUMBLLED WORDS

rnmtrfraeso

omeclirp

aharderw

peolymr

bratney

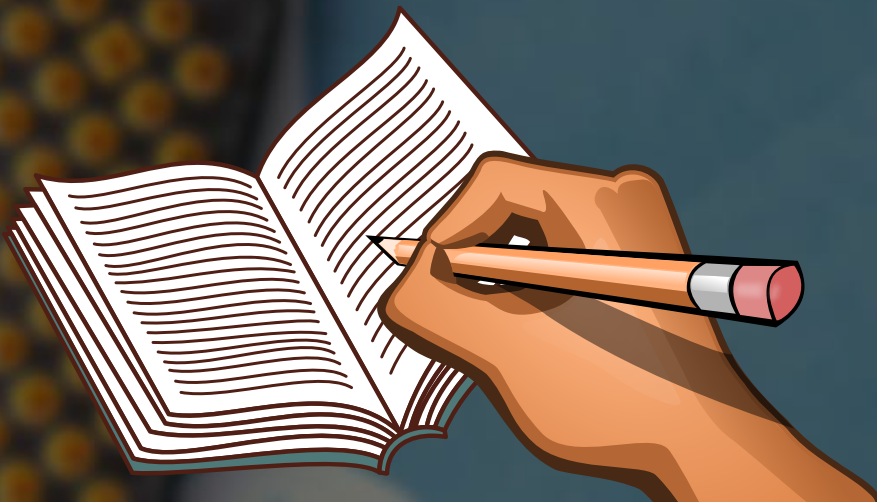
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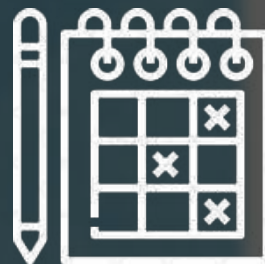
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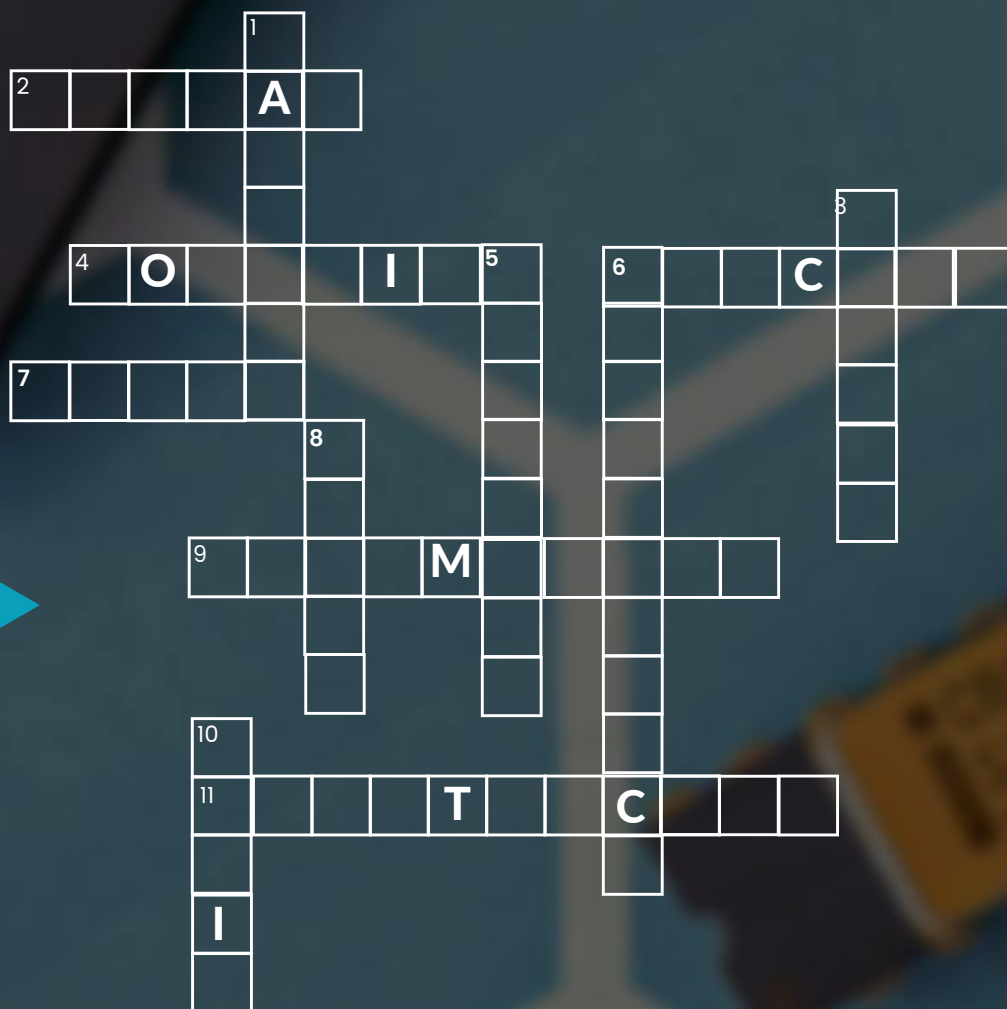


SUDOKU



	7							9
5	1		4	2		6		
	8		3			7		
		8			1	3	7	
	2	3		8			4	
4			9			1		
9	6	2	8				3	
				1		4		
7			2		3		9	6

CROSSWORD



Across

2. The fundamental quantity of representing some information.
4. The field of computer science and engineering concerned with creating devices that can move and react to sensory input.
6. A path between two or more points along which an electrical current can be carried.
7. A two-terminal electronic component that has low resistance in one direction, and high resistance in the other.
9. The technology by which a process or procedure is performed with minimal human assistance.
11. The set of physical phenomena associated with the presence and motion of matter that has a property of electric charge.

Down

1. The electrode from which a conventional current leaves a polarized electrical device.
3. A tough elastic polymeric substance made from the latex of a tropical plant or synthetically.
5. A collection of data or computer instructions that tell the computer how to work.
6. Ratio of the change in electric charge of a system to the corresponding change in its electric potential.
8. Relationship between the input and the output is based on a certain logic.
10. Any natural or synthetic organic compound consisting of a non crystalline or viscous liquid substance.



PUZZLE WINNERS



CrossWord	SUDOKU	Jumbled Words
APARNA 3rd yr,ECE- A	SUMAIYA FATHIMA 3rd yr,ECE- B	SANIYA MIRZA 2nd yr,ECE- B
PATHAN ZUBAIR KHAN 3rd yr,ECE- A	PATHAN ZUBAIR KHAN 3rd yr,ECE- A	

Answers

CROSSWORD

Across:
 2,Signal
 4,Robotics
 6,Circuit
 7,Diode
 9, Automation
 11,Electricity

Down:
 1,Cathode
 3,Rubber
 5,Software
 6,Capacitance
 8,Gates
 10,Resin

JUMBLED WORDS

Transformer
 Compiler
 Hardware
 Polymer
 Battery
 Barrel Shifter
 Encoder
 Interrupt
 Actuator
 Processor

SUDOKU

3	7	4	1	6	8	2	5	9
5	1	9	4	2	7	6	8	3
2	8	6	3	9	5	7	1	4
6	9	8	5	4	1	3	7	2
1	2	3	7	8	6	9	4	5
4	5	7	9	3	2	1	6	8
9	6	2	8	7	4	5	3	1
8	3	5	6	1	9	4	2	7
7	4	1	2	5	3	8	9	6



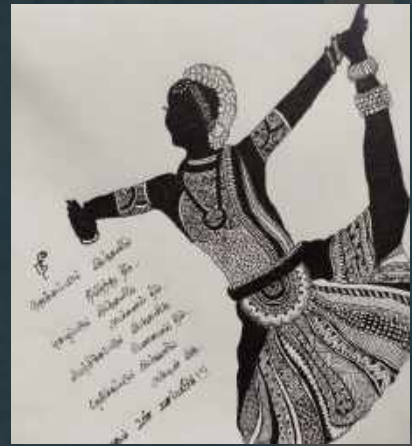
**ARTISAN
VALLEY**

8008-1
52402
3228A



"NOT JUST A STUDENT BUT ALSO
A PORTRAITIST!"

- Ms. Anupama Kumari
Student (M.Tech)
Batch (2018-2020)



"NOT JUST A TEACHER BUT AN ABSTRACTIONIST!"

-Ms. R. Anitha
AP(SR.GR/ECE)



"NOT JUST A TEACHER BUT ALSO AN ORGANIC AGRICULTURE MANAGER!"

- Ms. S. Hemalatha
Instructor Gd-I

25TH YEAR CELEBRATION



STRENGTH OF ECE

DR. D. NAJUMNISSA JAMAL
DEAN/SECS

DR. C. THARINI
PROFESSOR & HEAD

DR. S. KAJA MOHIDEEN
SENIOR PROFESSOR &
DIRECTOR (PG ADMISSIONS)

DR. M. MOHAMED ISMAIL
PROFESSOR
DEPUTY DEAN (ACADEMIC AFFAIRS)

TEACHING FACULTY

DR. G. KANNAN ASSO. PROF.
MR. H. HASAN BABU ASST. PROF. (SR.GR.)
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