VOLUME-VIII

rasagyan

Wings of CHEM Knowledge

EDITORS NOTE

Mr.Naveen Perapu
Chief Editor

I am Naveen new Chief Editor, And my team beginning with the Rasagyan Magazine, Redesigned and Re-imagined, we will learn from one another what a magazine is, and what it can be, in our always changing new world.

We have turned seven and are proud to say that you are holding the edition in your hands. We invite you to feast your eyes and warm your soul with this edition. As tradition goes, each year the magazine is created by a group of bright and diligent students.

It never ceases to amaze us as how many options the youth have today to choose from and out of which many of them choose the difficult ones. We really admire the students who have a clear vision and are working hard to give their best to become who they want to be. This comes naturally to some and not so naturally to others. Every student has their own struggle, some bigger and harder than the others. But what matters is that how the students inspire us with their experiences.

We would like to thank our department faculty advisor Mr.B. Pradeep Santosh Kumar sir without whom this magazine would cease to exist.

Designing Editor

Ms.M.Sai Roshitha (IV/IV)

Ms.G.Vaishnavi (IV/IV)

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Mr.DVS.Praveen (III/IV)

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Mr.B.Pradeep Santosh Kumar
Asst. Professor

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DEPARTMENTAL PROFILE OF CHEMICAL ENGINEERING

The Department of Chemical Engineering was started in the year 2012 with a UG programme in Chemical Engineering (60 intake). The Department boasts of a very efficient team of faculty with 6 Ph.D.s and 6 M.E. / M. Tech.s from premier institutions like IISc, IITs, BITS-Pilani and Andhra University. The faculty participates actively in state of the art research and continuously thrives to update knowledge and skills. The department is sanctioned with a UGC major research project worth of Rs. 12.39 lakhs and had completed consultancy project worth of Rs. 0.30 lakhs. The faculty members have expertise in core Chemical Engineering and inter-disciplinary research in the areas of Computational Biology, Bio-process Engineering, Bio-Fuels, Photo-Catalytic Degradation, Chemical Reaction Engineering, Membrane Technology and Industrial Pollution Control. The department has well equipped laboratories and equipment for inter disciplinary research in the fields of Bio-technology and Nano-technology. The major equipment are UV spectrometer, Bio-reactor, laminar air flow chamber, autoclave and the fermenter.

Prof.R.Srikanth HOD, Chemical Engineering)

The students of Chemical Engineering are placed across various IT industries like Infosys, IBM, Mu Sigma and Ux Reactor and in core industries like Torrecid, Ocean India, Divis laboratories, Teejay India Pvt. Ltd., NCL and Deccan Fine Chemicals Pvt. Ltd. etc.. Students to their credit have won many prizes in curricular, co-curricular and extra-curricular activities conducted at various IITs, NITs and reputed institutes across the country. Students are also encouraged to study further for their PG and Research in India and abroad. RACE (Rays of ANITS Chemical Engineers) the student body of the Department of Chemical Engineering organizes a two-day National level Tech fest named "CHEMFLARE-2020" to exhibit their technical and non-technical talents. Team work among students is encouraged to inculcate positive work habits and passion to work wisely, creatively and effectively. RACE body recognizes its social responsibility by providing essential utilities and donations to an orphanage named "4 THE PEOPLE".

Faculty Profile

Prof.S.Subba Rao: Major research interests include Bio-chemical engineering, Mineral processing engineering and Chemical reaction engineering. Worked on industrial fermentation for producing Citric acid, Glutamic acid, Immobilization of enzymes and whole cells, Reactive distillation and Grinding studies. Successfully completed a UGC Major Research Project entitled "Optimization of production parameters, extraction and characterization of a medicinally important drug Violacein by Solid State fermentation".

Prof.V. Sridevi: Major research interests are Bio-Technology, Optimization of Bio-Processes. Currently working on isolation of novel micro organisms from various sources and their utilization to produce value added products.

Prof.R.Srikanth: Major research interests are Membrane Separation, Modelling & Simulation and Optimization. Currently working in the areas of modelling & environment. Worked on AICTE MODROB project "Development of analysis of oriented chemistry laboratory". Published 15 research papers in national and international journals. Member of Board of studies for JNTU Anantapur and CUTM.

Dr. Ch.Anil, Associate Professor & Head: Major research interests are in process modeling, simulation, optimization and control. Currently working on microbial fuel cells and desalination techniques to promote socio-environment technologies. Published various research articles related to Proportional Integral and Derivative controller settings for Jacketed Continuous Stirred Tank Reactor, Level controlling system in distillation column, Boiler steam drum, Paper drum dryer cans, Surge tanks and Bioreactors.

Mr.M.Koteswara Rao, Assistant Professor: Major research interests are in process modeling, simulation, optimization and control. Currently working on Proportional Integral and Derivative controller for MIMO systems.

Dr.Anjali Dasari, Assistant Professor: Major research interests are study of hydrodynamics of viscous oil water flow through various pipe networks, CFD simulations and water treatment techniques. Currently working on bio-sorption to treat pharmaceutical waste water.

Mr.D.Guru Mahesh, Assistant professor: Major research interests are Fermentation, Molecular Biology, Bio-chemistry, Biology, Human values, Bio-informatics, Molecular Docking. Successfully completed a UGC Major Research Project entitled "Optimization of production parameters, extraction and characterization of a medicinally important drug Violacein by solid state fermentation". Published various research papers related to optimization of fermentation medium for the production of ethanol from jaggery using Box-Behnken design.

Ms. S. Harika, Assistant Professor: Major research interests are in battery technology, water treatment techniques. Currently working on phase change materials for LIPO cells.

Dr. K. China Malakondaiah, Assistant Professor: Major research interests are electro-chemical techniques for ceramic and composite membrane fabrication for water purification. Presently working on bacteria removal from synthetic solutions using low cost laboratory fabricated ceramic membranes.

Mr. B. Pradeep Santosh Kumar, Assistant Professor: Major research areas of interest include Chemical Looping Combustion, Under Coal Gasification (UCG) and Synthesis of Effective Adsorbents. Currently working on photo-catalytic degradation of heavy metals and pathogens present in contaminated drinking water using provokisites.

RACE

(Rays of ANITS Chemical Engineers)

Rays of ANITS Chemical Engineers or shortly known as RACE is a student association of the Department of Chemical Engineering which has been successfully empowering students since 2015 by providing a platform to improve and display their curricular, co-curricular, social and extra-curricular skills both educationally and recreationally. The main objective of RACE is to plan and take lead in various activities and events that enhances the students' will power and instill confidence in them to overcome their fears and face new challenges in the society.

The RACE association is guided by the department's esteemed faculty members who put all their effort and time in guiding the members of the RACE body to make the events successful. From the time of its birth the RACE body has conducted various national student conferences, interactive sessions with eminent personalities and various activities which bring out the inner talents of the students.

The following are the various activities conducted by the RACE during the academic year 2021-22.

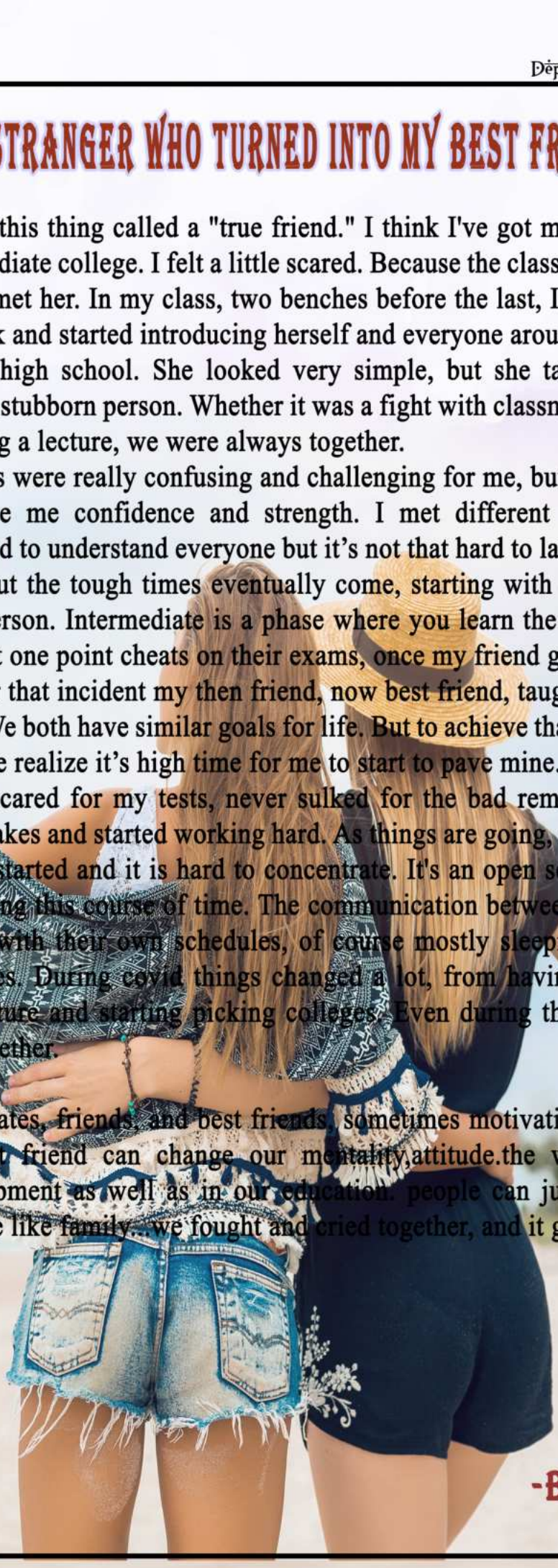
A STRANGER WHO TURNED INTO MY BEST FRIEND

I've always heard this thing called a "true friend." I think I've got mine. On the first day, I went to my intermediate college. I felt a little scared. Because the classroom is too large, I felt so lonely before I met her. In my class, two benches before the last, I asked a girl for a pen. But she turned back and started introducing herself and everyone around her because they all went to the same high school. She looked very simple, but she talked very loudly, and probably she was a stubborn person. Whether it was a fight with classmates, punishment from teachers, or bunking a lecture, we were always together.

The first few weeks were really confusing and challenging for me, but the people around me made it easy, gave me confidence and strength. I met different people with different mentalities. It's hard to understand everyone but it's not that hard to laugh at their silly jokes. At times it's fun but the tough times eventually come, starting with a group of people and ending with one person. Intermediate is a phase where you learn the most ways to cheat in exams. Everyone at one point cheats on their exams, once my friend got caught cheating in a weekend test. After that incident my then friend, now best friend, taught me a lot, helped me in my academics. We both have similar goals for life. But to achieve that the path she dreamed for herself made me realize it's high time for me to start to pave mine.

Since then I was scared for my tests, never sulked for the bad remarks but rather started correcting the mistakes and started working hard. As things are going, suddenly the pandemic hit, online classes started and it is hard to concentrate. It's an open secret that not even one person studied during this course of time. The communication between people has lessened, people went busy with their own schedules, of course mostly sleeping, eating and started watching web series. During covid things changed a lot, from having a lot of freedom to focusing on the future and starting picking colleges. Even during this period we, my best friend and I are together.

We became classmates, friends, and best friends, sometimes motivating each other to study harder, and a best friend can change our mentality,attitude.the way they help in our personality development as well as in our education. people can judge a person by their friends. now we are like family...we fought and cried together, and it grew our friendship.

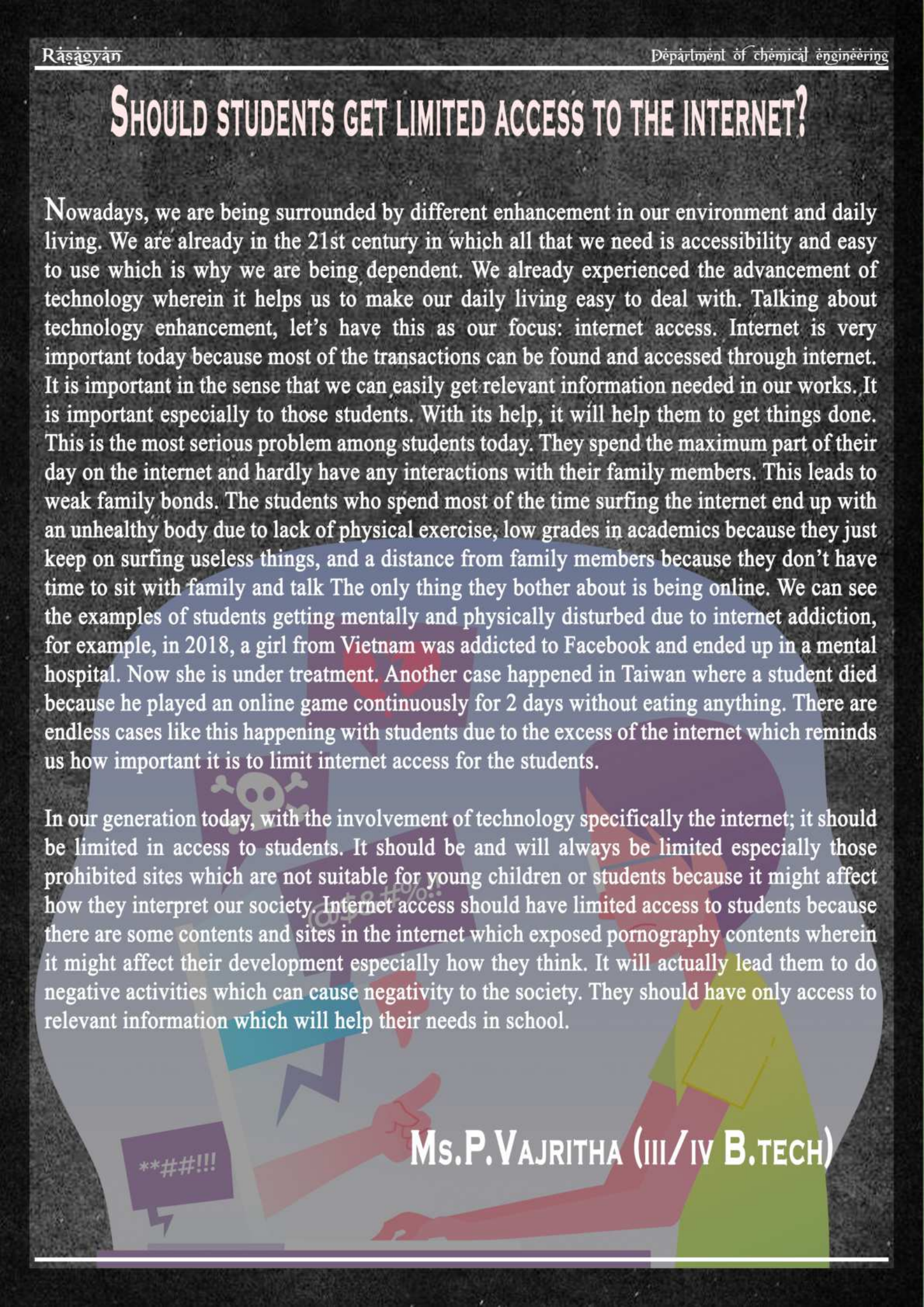


-B.GNANASAI

SHOULD STUDENTS GET LIMITED ACCESS TO THE INTERNET?

Nowadays, we are being surrounded by different enhancement in our environment and daily living. We are already in the 21st century in which all that we need is accessibility and easy to use which is why we are being dependent. We already experienced the advancement of technology wherein it helps us to make our daily living easy to deal with. Talking about technology enhancement, let's have this as our focus: internet access. Internet is very important today because most of the transactions can be found and accessed through internet. It is important in the sense that we can easily get relevant information needed in our works. It is important especially to those students. With its help, it will help them to get things done. This is the most serious problem among students today. They spend the maximum part of their day on the internet and hardly have any interactions with their family members. This leads to weak family bonds. The students who spend most of the time surfing the internet end up with an unhealthy body due to lack of physical exercise, low grades in academics because they just keep on surfing useless things, and a distance from family members because they don't have time to sit with family and talk The only thing they bother about is being online. We can see the examples of students getting mentally and physically disturbed due to internet addiction, for example, in 2018, a girl from Vietnam was addicted to Facebook and ended up in a mental hospital. Now she is under treatment. Another case happened in Taiwan where a student died because he played an online game continuously for 2 days without eating anything. There are endless cases like this happening with students due to the excess of the internet which reminds us how important it is to limit internet access for the students.

In our generation today, with the involvement of technology specifically the internet; it should be limited in access to students. It should be and will always be limited especially those prohibited sites which are not suitable for young children or students because it might affect how they interpret our society. Internet access should have limited access to students because there are some contents and sites in the internet which exposed pornography contents wherein it might affect their development especially how they think. It will actually lead them to do negative activities which can cause negativity to the society. They should have only access to relevant information which will help their needs in school.



MS.P.VAJRITHA (III/IV B.TECH)

Leadership skills from MS DHONI

BEING a team player

Whether it was backing newcomers like Shikhar Dhawan and Rohit Sharma early on in their careers or letting teammates bask in the glory of the 2011 World Cup victory, MS Dhoni believes in giving importance to the team's priorities and space to his players, in turn, empowering them. "This is an important skill to learn - to be open with the team and to allow others to think through, feel the right and wrong in every situation and then take solution-based decisions, which enables best results in every task at hand," says Vandana Shah, executive and leadership coach at The Chrysallis. "The difference between a boss and a leader is that a boss dictates terms, and a leader develops the team members, such that there is no more a need for a system to follow but where members work in sync on their own.

Being flexible to the development of team members also helps them evolve and build their emotional stability," adds Khyati Birla, executive coach. Don't buckle under pressure.

He isn't called Captain Cool without reason. In his career spanning over a decade, Dhoni has seen dark days too, and battled many controversies on and off the field. "However, when he's on the field, it's all about the game. The controversies directed at him may have rattled him. According to Birla, if the leader does not have the emotional resistance to stand strong under pressure, the team will follow suit.

There is no constant in heroism and a person isn't always on the top. Failure is an inevitable part of success and a true leader does a retake when there is failure.

HE ALSO LED TEAM CHENNAI SUPER KINGS For The Indian Premier Leauge. With his leadership skills he made his team win trophy for 4 times.

- KVV.SAITEJA III/IV

GUEST LECTURES

Webinar on "Campus placements in TCS &and Infosys"

Department of chemical engineering, ANITS organized the interactive session on "How to get TCS and Infosys campus placements" by Mr.Icchapurapu V.R.K.N.S.Aniketh ,TCS through online 28/07/2022.In this lecture Mr.Icchapurapu V.R.K.N.S.Aniketh highlighted about the basic interview rules, about the recruitment process. It has given hope and encouragement among students. Prof.R.Srikanth, Head, department of chemical engineering, faculty and students participated and benefitted through the lecture.

Webinar on "Post graduate programs at reputed institute of overseas"

Department of Chemical Engineering, ANITS organized an interactive session by Mr.Kamalakar Rao, Manager- Marketing, Institute for Foreign Studies (IFS), Visakhapatnam on 17/08/2022. This lecture is very useful to all students especially who are seeking admission aboard for future studies. It is an interactive lecture Prof.R.Srikanth, Head, Department of Chemical Engineering, faculty and the students participated and benefitted

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Webinar on "Gate exam"

Department of Chemical Engineering, ANITS organized a guest lecture on the topic "GATE" Msubbu academy on 17/11/2022. It was career guidance for all the students who are interested in the writing gate exam .Prof.R.Srikanth, Head, department of Chemical Engineering, faculty and all the students actively participated and benefited from the lecture.

Webinar on "Exploration of Petroleum at offshore"

Department of Chemical Engineering organized guest lecture by Prasad Anthakapalli, Super Intendent Engineer, ONGC, Kakinada on 22/09/2022. It was well organized and beneficial for upcoming graduates who are thereby to purse a good job in ONGC and guidelines for career .Prof.R.Srikanth, Head of the department of chemical engineering, faculty and all the students actively participated and benefited from this lecture.

Acherving Droblem solution fit and Product market fit"

Condercted by Mr. Thota Sivaji", M/S Aaharya Trehnologies Pvt. lte on 7th Feb 2023 in the legastound of chromial Beplaning umn association with IIC, ANITS.The good has anlated speaker Indian Econorzy ented the presentation by giving the bri of description on enlighted which is purely dependent. purely dependant on agricultur sector. Crcumstances Changed Indish new compitition in worlds Industrial a vice versa on which Knowledge economy. Eg. R&D. the has suplained men analysed the "prothem fit and product th market fil" steps is finding out the problem statement, identif the solution, testing the solution Market analgers, understanding the market and testing the product in the market. the success rate in the cource of time Durity awarding anly May method. mistakes and HOD. Chemical Engianty Prof & Sockouts, IJC expression with Anil and IIC ccordinates Mr B. Pradoy Santosh kumar and other faculty, students of Chemical have attended the session Principal, Prof.Sri Rama krishana has apprised the initiation from the Chemical Engineering Department

Chemflare 2022 – The Tech Feast

The Department of Chemical Engineering, ANITS, Visakhapatnam, in association with RACE (Rays of ANTTS Chemical Engineers) & ANITS IIChE Students chapter under Walter Region Centre was organizing two days National student CHEMFLARE-2022", during 21th and 22th April 2022. The guest of honour Mr. Naveen Neerukonda, Treasurer, ANES, Prof. T.V. Hanumantha Rao, Principal; ANITS is the president of the function. Dr. Ch. Anil, Head of the chemical Engineering department and Mr. B. Pradeep Santosh Kumar, Faculty convener, Mr. BVNSG Sudarshan Student president RACE body are also present on the dais.

Prof. T.V. Hanumantha Rao, in his presidential remarks informed the students that, the change in technological trends is taking place, the growth and transform in process industries are fast. The students need to foresee these changes should be updated with computational skills, optimization and data sciences. He also emphasized the importance of sustainable development, zero discharge, waste management and advised all the chemical engineering students to work in these areas.

Mr. N. Naveen, the Guest honour, advised students to be actively involved in workshops, conferences, technical fests conducted. He informed that, the chemical engineers are good at cause and effect of the process.

HOD, Dr. Ch. Anil, in his address expressed, the department will always encourages students to participate in various technical and extra-curricular activities. He also informed that, such events and activities will be organized in future also for the benefit of the students.
Mr. Pradeep, Convener, informed the activities of the CHEMFLARE-2020.
Mr. J. Sasidhar, Student president, gave the information of the RACE body activities.
Prof. S. Subba Rao, Prof. R. Srikanth, Dr. M. shiva Naresh, Mr. K. Koteswara Rao, Ms. S. Harika, Dr. K. China Malakondaiah,, Dr.D.Anjali, and Ms. P. Mallika Rani, other supporting staff, and Students were present on the occasion.

MODEL EXHIBITION

The main objective of this exhibition was to enhance the basic chemical engineering knowledge by shaping the ideas in the form of sophisticated models. Prizes were distributed to the best models which sustain to the modern technologies.

PAPER PRESENTATION

The main objective of this event is to introduce the latest trends in research and technology and also to develop the presentation and communication skills of an individual. Students showed their mettle during the CHEMFLARE 2k22 around 30 papers were presented.

POSTER PRESENTATION

The main objective of this event is to enhance the students to showcase their creative skills. Posture presentation is a key component of communicating science and an important element in successful career

NON-TECHNICAL FEAST

PREVENTION OF SPREADING MOSQUITOS' DISEASES:-

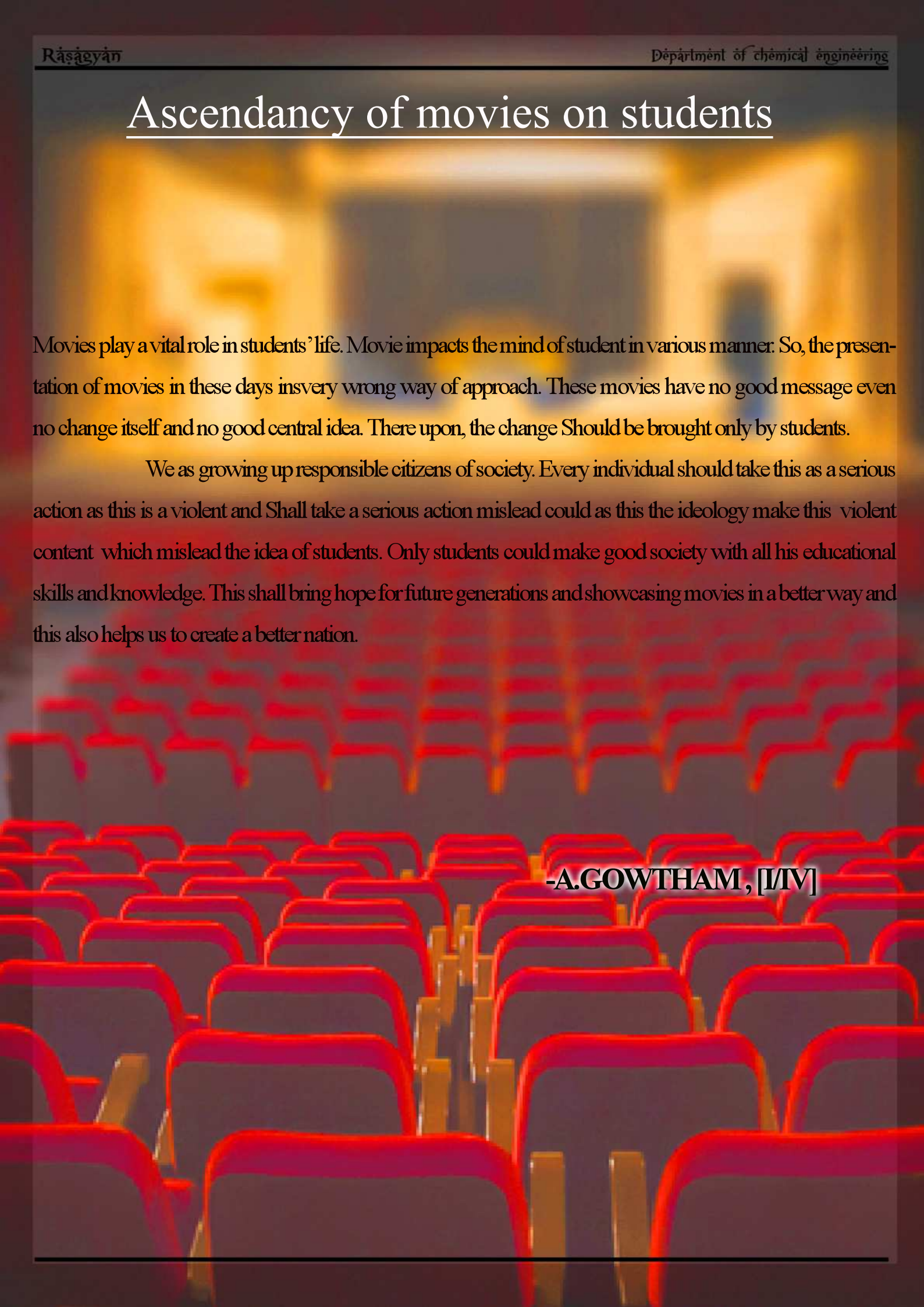
Prevention of spreading mosquito diseases (malaria and dengue) on 29th August, 2022

The Department of Chemical Engineering, ANITS, Visakhapatnam, in association with RACE Students chapter organized an awareness camp on prevention of spreading mosquito diseases in the nearby villages of Tagarapuvalasa. The program is flag shipped by Prof. K. Sri Rama Krishna, Principal, ANITS and Prof. R. Srikanth, HOD, Chemical Engineering along with faculty and students. Principal appreciated the RACE coordinators for taking this initiative to educate the nearby villagers. Students campaigned and educated the villagers of Nammivanipeta, Sangivalasa and Thallavalasa about the adverse effects of having an open drainage system, open cattle drinking pots and water pots with open lids. The mosquitoes breed in these containers with open lids and act as carriers for diseases like malaria and dengue. Students also spread the awareness that the villagers have to follow a dry day on Friday by emptying all the containers carrying water such that the breeding of mosquitoes will be prevented. A total of 83 students participated in the awareness program educating the villagers.

NSS BEACH CLEANING CAMPAIGN

Our department also encourages other activities among students which develops other skills. Early hours of 26 th August,2022. Students were gathered at nearest beach points, registered and participated in the cleaning campaign. This event is actually recorded in Guinness world record. Overall 4 gunny bags of garbage were collected and over the distance of 3 km were cleaned by our students. This event was appreciated by the principal and students were encouraged to participate in these kinds of campaigns every time.

Ascendancy of movies on students



Movies play a vital role in students' life. Movie impacts the mind of student in various manner. So, the presentation of movies in these days insvery wrong way of approach. These movies have no good message even no change itself and no good central idea. There upon, the change Should be brought only by students.

We as growing up responsible citizens of society. Every individual should take this as a serious action as this is a violent and Shall take a serious action mislead could as this the ideology make this violent content which mislead the idea of students. Only students could make good society with all his educational skills and knowledge. This shall bring hope for future generations and showcasing movies in a better way and this also helps us to create a better nation.

-A.GOWTHAM, [I/IV]

INSPIRING LINES
BY PURI JAGANNADH

Whenever you look at certain personalities in the film industry you tend to draw a lot of inspiration and confidence from them. One man who is the best example for this is crazy director **Puri Jagannadh**.

A look at his filmography, especially his film 'neninthe' are a proof of it. He has a very unique style of filmmaking and his hero characters need a special mention. His stories revolve around bold characters. He speaks boldly and openly about things in his mind. He is so passionate about films that the fate of the film at the box office doesn't stop him from making films. It is thisnature in him that makes me admire him.Apart from his radical style of filmmaking, there are many other lessons that can be learnt from him.He has started podcasts in which he discusses issues such as success, humanity, fear and guilt. Here are lines to remember from his podcasts

Success : Being successful doesn't mean being a star. Working hard and being passionate about the work you love doing is being successful.

Humanity: Humanity is an invisible weapon that was invented by humans to save us from ourselves.

Fear : Fear stagnation because of fear is cowardice. Taking a step forward in spite of fear is courage.

Friends and acceptance: Accept every persons strengths and flaws. This kind of acceptance can be seen only amongst friends. Set all your relationships in friendship mode and your life gets better.

Moderation : Whatever you do in life, do it in moderation. Eat, drink, play, work, exercise, laugh, love, cry, study and learn in moderation. Don't do anything in excess, be it good or bad.

Individuality: That everyone should be able to say even to us parents when we tell them certain things.Let them make their own decisions. Parents don't want kids to suffer what they have endured. But we should let them struggle and earn themselves.

Social media : The disadvantages of social media outweigh its advantages. A rule must be imposed asking to link the person's aadhar card to their account. Only then will people think before they post.

Simplicity: In Life, things don't always go our way. Contrary to peoples belief, simplicity means accepting your present, not living in poverty. It is nothing but letting go of things that are unnecessary.

Travelling :Travelling this world is like a big book. If you have lived your whole life in the place that you have been born and brought up, it means you have only read one page of this book. Read as many pages as you can. Travel as much as you can.

-K.Dinesh (III/IV)

INSPIRING LINES
BY PURI JAGANNADH

The famous dialogues in puri movies that made me to addict to his movies:
"nuv nandha aithe… nenu badri... Badrinath!!!"

"city ki entho mandhi commissioner lu vasthuntaru… pothuntaaru… chantigadu yeppudu ikkade untadu! Local!"

"ye commissioner kuthurlaki mogudlu rara!!"

"tipper lorry yelli scooter ni guddesthe ela untadho telsa? ala untadi nenu gudditheee!!"

"manchithananiki rojulu kavu sir ivi, manchollani devudu tvaraga teesukellipothadu antaru, teesukellipotam kadu sir…, ikkada unnolle pampinchestharu"

"I believe in war not in morality!!...sir yuddam chethakani vadey dharmam gurunchi matladuthadu sir!!!.."

"jeevitham anedi oka yuddam, devudu manalni war zone lo padesadu, be alert, protect yourself. Life lo oka goal antu pettukondi, kasitho parigethandi, padalanukunte kasi ga padeyyandi, chadavalanukunte kasi ga chadiveyyandi"

Mahesh babus dialogue "**evadu kodite dimma tirigi mind block avuthundo aade pandugadu**"is still cherished by me.

-K.Dinesh (III/IV)

CHEMINEER CLICKS

D.VISHNU, IV/IV

P.NAVEEN, IV/IV

DSV.PRAVEEN, III/IV

S.SHANMUKH, II/IV

DVS.RAGHAVA, IV/IV

THE FORGOTTEN GENIUS

Why Nikola Tesla did not get the Noble prize for his greatest inventions.

When we think about the greatest inventors of all time, there are a few names that come to mind. Henry Ford. The Wright brothers. Thomas Edison. But there is one name that is not as recognizable. He is Nikola Tesla, and his great invention is Alternating current.

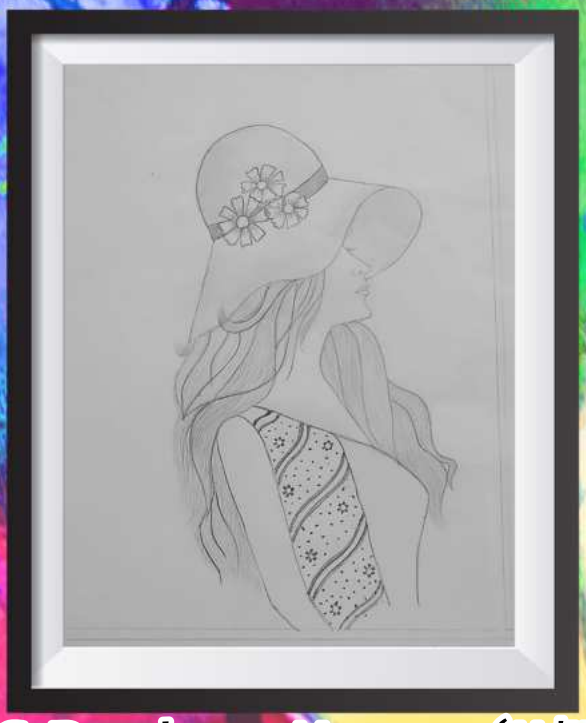
Nikola tesla was born in the town of Smiljan in day Croatia on July 10,1856. Tesla's father was a priest and wanted him to become one too but Tesla was interested in engineering. When he contracted cholera as a teen and nearly died, his father promised to send him to engineering school if he survived and miraculously, he did. He went to study in Austria at the Technical College of Graz where he is said to have worked from 3am until 11 pm every day. Tesla had great memory and a beautiful mind that he could perform calculus in his head and spoke eight languages. He was a good student at the start but would not finish school. He dropped out after becoming addicted to gambling and cut ties with his family so they wouldn't find out. His friends didn't know what happened to him either. They thought he drowned in a river. In 1882 he settled in paris to work for the French branch of Thomas Edison's electric company. He started off installing indoor lighting but the managers noticed his talents and had him doing more complicated work, designing and building dynamos and motors. He was soon traveling throughout Europe fixing problems at other Edison branches. Two years later, in 1884, Tesla's manager offered him a job at Edison Machine Works in New York City. He agreed and arrived in America with only four cents in his pocket because his money was stolen on the boat ride over. Tesla initially had a good impression of Edison. Edison was also impressed by Tesla, later saying "I have had many hard-working assistants but you take the cake." This mutual admiration didn't last. They would become bitter rivals. Tesla explained about the AC(alternating current) and advantages of using AC rather than DC(direct current). But Edison didn't care about AC because it could have hurt the sales of direct current since he owned all the patents for DC, so he offered him a $50,000 bonus to improve some machines that ran on DC. When Tesla make the DC motor model that work more efficiently, he refused to pay up and said "You don't understand our American humor". Regardless of how it played out, Tesla quit and set off to form his own electric company the following year in 1885. But his investors showed little interest and decided to take the company and all of Tesla's patents which could do because Tesla had assigned the patents to the company in exchange for stock which was now worthless. After losing his company, Tesla had to take a job digging ditches for two dollars a day just to survive and on the other side he did searching for investors to make AC generator. Then somehow he got some investors and thereby he developed a laboratory for his research and invented AC power systems which we are using now. Within 5 years he took 22 patents on his inventions like AC motors, generators, transformers and transmission lines. In 1887, Tesla invented an induction motor that ran on alternating current. The motor was the most efficient way to convert electricity to mechanical power. A version of it powers Tesla's vehicles which took its name from the inventor. He showed it off the following year at the American Institute of Electrical Engineers that caught the attention of George Westinghouse, a major player in the electric market who realized Tesla's AC motor might just be what he needed to complete his alternating current system and compete against

Edison's DC system. So Tesla licensed the patents for the AC motor to Westinghouse for $60,000 and also received stock and royalties. Westinghouse hired him as a consultant for $2,000 a month which is equivalent of over $50,000 a month today. So, he suddenly became rich and famous in America. AC power can send to longer distances with low lost compared to DC power. So everyone are adapting AC power systems due to it's advantages. Then the war between Tesla and Edison began and it is called as War of the currents. Edison tried hard to discredit Westinghouse and Tesla. He secretly financed electric chair that used alternating current to prove how dangerous AC was. Edison's company also publicly tortured animals to prove its point. In 1903, they electrocuted a circus elephant named Topsy and produced a film about it called Electrocuting an Elephant. Despite Edison's schemes, good things were happening for Westinghouse and Tesla. Tesla arranged a Turbine to Niagara water falls and produced electricity with AC generators and send it to the cities like New York, which are far from Niagara. Then the Edison's company which runs DC power runs into losses. There how the War of currents ended, Tesla won in this war. This is all done because Edison's company cheated Tesla for $50,000. Later the Westing house company went into losses and reached the bankruptcy stage, if it happens then the necessary AC power generation will be stopped, so Tesla cancelled his contract of receiving $2.5 per every horsepower generated by Westinghouse and saved the Westinghouse company. If he didn't cancelled the contract he will be in the worlds billionaires with nearly $300 billions. He spends his most of the money towards his research and build a laboratory for his research. He worked so hard on his research that he sleeps only 2 to 3 hours a day and made many Inventions. Unfortunately one day fire accident occurs in his laboratory and all his research was burned down, a years of research papers and the designs everything turns into ashes. Due to this, Tesla's financial status again came into previous stage. Everyone say that the inventor of Radio is Marconi but Tesla took patent on wireless communications before Marconi did. Marconi used 17 patents of Tesla to make Radio and got a nobel prize for invention of Radio, but Tesla didn't bother about that. In 1898, Tesla invented the small wireless boat and it is the world's 1st wireless remote control device, not only this he invented many like Tesla coil, Induction motor, Tesla Turbine, X-rays. His greatest dream was wireless Electricity transmission from one place to another but it costs so much money for research that Tesla cannot afford. So his dream didn't get real. If he got investors for his wireless electricity transmission project maybe he could succeed. He came with 4 cents and became a billionaire and again died as a penniless person.

-Mr.S.Raj Kumar (III/IV,B.tech)

NOTEBOOK TO CANVAS

Mr.DVS.Raghava (IV/IV)



Mr.S.Pradeep Kumar (II/IV)

Ms.P.Pavitra (II/IV)

Ms.P.Pavitra (II/IV)

DEPARTMENT of CHEMICAL ENGINEERING

Year 2022 2023

CONTINUING THE LEGACY OF 100% PLACEMENTS FOR THE LAST 4 YEARS

41 PLACEMENTS – HETERO

38 PLACEMENTS – meil

6 PLACEMENTS – deccan Fine Chemicals (India) Pvt. Ltd.

100% PLACEMENTS

1 PLACEMENTS – TATA CONSULTANCY SERVICES

2 PLACEMENTS – Mu Sigma

1 PLACEMENTS – The India Cements Ltd

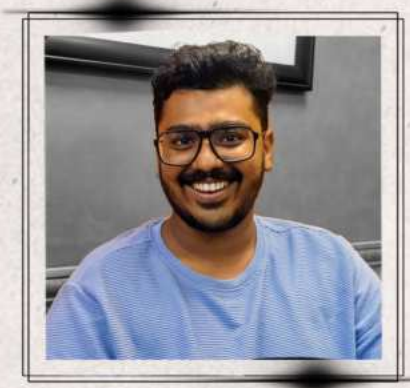
Alumni Byte

College is one of the most memorable parts of a student's life. Be it about friends, professors or growth of life. We have to make so many decisions as it will make an impact on the future of our life.Being a part of ANITS chemical engineering department, I have lived the best days of my life. It would be difficult to sum up four years of my time in this department in just few lines. This department has helped me grow into a person, I am today. The best part of this department is the faculty who are dedicated experts in their respective subjects. The support of the faculty members not only helped me gain knowledge, but also helped me to overcome my flaws. Apart from the curriculum, being part of the RACE body has helped me to be a part of extracurricular activities. I feel ANITS chemical engineering department is the wholesome basket for one who is looking to pursue something different in life and I'll

-G.Lokesh
(2018-2022)

-IVRKN Aniketh
(2018-2022)

The number 7 is always termed as a lucky number and maybe this is the case with being the 7 th batch of the department the "Happy-Go-Lucky" batch..!Even though my journey of 4 years in this department is done….,but I gathered a lot of memories which doesn't make me forget even a single moment which I have spent here. Whether you call it "The Days Of Scolding" or "The Days Of Appreciation", "The Ever Happening Silly Gossip Days" or "The Strict Picture Perfect Presentation Days" , Good or Bad , Sad or Happy , Silly or Sensible……., maybe all these emotions or maybe my complete life in the college can be summoned up to one single word……NOSTALGIC..!



Anudeep
(2018-2022)

I have started my Engineering journey with a fear of addressing new people, with a fear of could I make my parents proud and a fear of tension that could I crack campus placement and get a job. And once when the, life in Chemical Engineering, ANITS have started right from the first day, I felt a little togetherness with the faculty, a little more closeness with the friends and lot more forever bond with the branch of Chemical Engineering. I remember Pradeep sir giving us the lecture for the first time while we are in 1st year which impacted me by his way of approaching any work we do with joy and dedication. I remember Anil sir who always displays it is not the marks ultimately it is the knowledge which will make us grow. And I remember a lot more with Anjali ma'am where we used to share everything with ma'am. And Each and everyone have made my journey a beautiful moments which while looking back at it make me feel only one thing, I wish to come back and listen to the classes by all the faculty cause I miss those.

Alumni Byte

The past 4 years in college have been a wonderful era in my life. I am grateful to my department; itreally changed my perception towards nature. I discovered my inner peace at ANITS. I still get on track with thoughts of working for Rasagyan, organising events, and working in labs to remind me of my true potential and positivity. To talk about academics, I'm not the right person. But I am good at managing tasks and I believe in understanding the core of an issue.

When it was time for placements, I decided to plan my studies abroad. Everyone around you tries to experiment with your feelings, emotions and strengths, so be aware of yourself. When you are confident enough, you can easily analyse people and deal with your situations. You can't win the race until you begin the first step. Begin your first step by shedding the leaves of inferiority and growing the nascent confidence by upgrading your skills.

-BVNSG Sudarshan
(2018-2022)

College is one of the most memorable parts of a student's life. Be it about friends, professors or growth of life. We have to make so many decisions as it will make an impact on the future of our life.Being a part of ANITS chemical engineering department, I have lived the best days of my life. It would be difficult to sum up four years of my time in this department in just few lines. This department has helped me grow into a person, I am today. The best part of this department is the faculty who are dedicated experts in their respective subjects. The support of the faculty members not only helped me gain knowledge, but also helped me to overcome my flaws. Apart from the curriculum, being part of the RACE body has helped me to be a part of extracurricular activities. I feel ANITS chemical engineering department is the wholesome basket for one who is looking to pursue something different in life and I'll definitely cherish the moments I spent here forever. At the end, it is always the experience you take home that will be worth the time you all spare all these four years. I wish this department goes on doing great stuff and help students achieve their dreams. This department has been like a family and today With the grace of God and blessings of this family, I was able to crack Campus Placements and now working with one of the well-known MNCs.

Thank you ANITS chemical engineering department for being the best part of my life.
Will always remain your student.

-S.Sravani
(2018-2022)

INDUCTION PROGRAMME

All new fresh minds have been brought together into the department of chemical engineering so as part of making them habituate into the department we have conducted a induction program to tell them about the programs, features, outcomes, about department and faculty briefly and other doings. As a part of entertainment some interaction programs has conducted like singing, dancing, indoor games. And created awareness about the department and future carrier. And also all the students had shown a great enthusiasm to learn and showcased their insights.

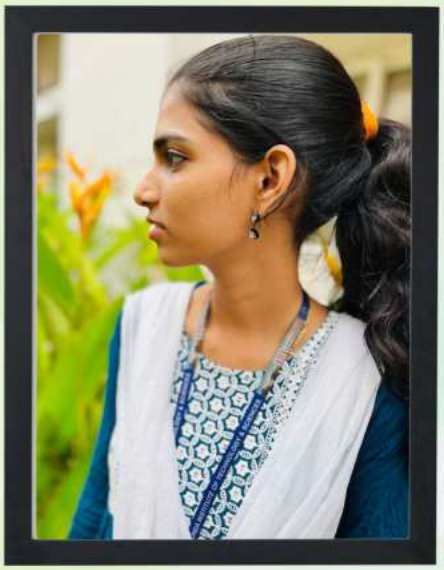
Race members of our department conducted different impromptu sessions to the students like jam (just a minute), debate competition, crossword puzzles, acting.

They even had a college tour to know about each department which includes visiting laboratories, central library, automotive hub, workshop, etc.,.

Career guidance by experienced faculty, non-teaching staff were guiding about the rules and regulations to be maintained in the premises. Students got adapted to the college in no time.

Interview Daze

Ms.M.Sai Roshitha (IV/IV,B.tech)



Interview daze Since, I was in my 2 nd year I always wanted to get placed in tcs company. I started preparing myself to improve coding knowledge. I am confident with my skills that I can crack the exam. In 4 th year 1 st semester my campus placement drives are started. I gave an attempt for 5 different named companies and I lost in every attempt. Then my confidence levels started depleting. I motivated myself and prepared even more harder. Finally, I cracked the written exam and felt excited to face the interview. I started my preparation by taking guidance from my seniors. Mock interviews were conducted by the department which boosted up my confidence. With all these inputs and hard work, now I am a tcs employee which is my goal since 2 nd year and my success in the present.

Ms.G.Vaishnavi (IV/IV,B.tech)

Heyaa!! hello everyone, am Vaishnavi and am a good girl, please note it. Campus placements being the target of every student in their engineering days is something which is here to talk about. Completely new to the interview sessions was something challenging to us. The first company I got selected gives me the most happiness. MEIL-Megha Engineering& Infrastructure Limited being one of the top 5 companies in Andhra Pradesh, which has 7000 employees for day-to- day work. Glad to say that I will be working in that reputed company and will be increasing my potential gradually. Coming to the interview session which was held on 28 th October 2022 was my very first experience, both technical round and HR was pretty good. Mr. Shaji who returned from Dubai was the new employee in the same company. He explained the working and also asked some questions related to chemical engineering. I was nervous at the start but Mr. shaji made it comfortable and gave the confidence to speak up. It was something to be expected they made me sit idle for 5 minutes, may be just to test my patience and then talked to me. They were friendly and were impressed by my resume. Fun part is they asked me to speak in Hindi I was pretty fluent in it, they were happy with my language.

జ్ఞాపకం

జ్ఞాపకం

కొన్నిసార్లు నిద్ర రాదు (అన్నిసార్లు అంటే బాగోదు.

మరేం చేస్తావపుడు.....

ఆలోచిస్తుంటా.....

అదే తెలుసుకుంటున్నా.....

ఎంత వరకు ఇలా ?

అదేంటో తెలుసుకున్నంతవరకు....

మరి ఆ తర్వాత....

అధిరోహిస్తా..

నా ఏకగ్రీవ రాజ సింహాసనం...,

అంటే?

నా ఆలోచనా అన్వేషణలో తోడ్పడినందుకు.

అయిపోయిందిగా మళ్ళీ ఎందుకు..!

మళ్ళి పుట్టించేందుకు...

అంటే..

పుట్టింది అక్కడే, వెతికింది అక్కడే దొరికింది అక్కడే.

ఆలోచనలు.

మళ్ళీ మళ్ళీ ఎందుకు..!

గుర్తుంచుకునేందుకు...

ఎందుకలా

అనే నా 'జ్ఞాపకాలు"

బి. సాయి కుమార్

TECHNICAL WORKS @ CHEMINEERS

Reduction of TDS using Microfiltration:-

Total dissolved solids (TDS) are a measure of the amount of dissolved minerals, salts, and other solids in a given volume of water. High levels of TDS can lead to a variety of problems, including taste and odor issues, scaling of pipes, and corrosion of equipment. Microfiltration is a type of filtration process that uses a membrane to remove particles from water. It is often used to reduce TDS levels in water. The microfiltration process works by passing water through a membrane with tiny pores. These pores are small enough to allow water molecules to pass through, but too small for most particles and other contaminants to pass through. As the water passes through the membrane, the particles and other contaminants are trapped on the surface of the membrane, while the clean water passes through.

Dr.k.China Malakondaiah

Removal of Chromium from synthetic water solution by using a low-cost adsorbent:-

Pollution has been a huge part of human lives since so long. It has come to a stage where human beings got habituated with the pollution around them and started to live in it. Pollution can be cause from many sources like air, water, land, soil and radioactive etc. Among these air and water play an important role in the life of a human. Though, many steps have been taken to reduce the pollution, the water pollution still effects both the human and the marine lives. This is because of the heavy metals like Mercury, Cadmium, Arsenic, Lead, Copper, Nickel, Zinc and Chromium present in the water, which are produced and discharged by industries or factories in nearby lakes, rivers etc. There are many methods which can be used to remove the heavy metals from water like Chemical preparation, Membrane filtration, biological methods and Adsorption

.

Mr.M.Koteswara Rao

HYDROGEN PRODUCTION

The entire world is facing lot of issues using the fossil fuels. The major concerns are shortage and depletion of fossil fuels and environmental issues. To face this challenge, hydrogen is the best alternative as a fuel as it emits zero emissions. In this proposed work, experiments are carried out at laboratory scale to produce hydrogen.

Dr.Ch.Anil

PRODUCTION OF PAPER PULP FROM GROUNDNUT SHELLS

To prepare a project report on the PRODUCTION OF PAPER PULP FROM GROUNDNUT SHELLS by kraft's pulping process. Paper products are still in huge consumption around the world. Even though technology has spread globally, there is no decreasing in requirement of paper and its products. Paper production through pulping has been identified as the ideal avenues of exploring the uses of GROUNDNUT SHELLS as they are rich in "CELLULOSE".
Ideally, the cellulose can be used to synthesis fibres that can be converted into useful paper products.

Prof.R.Srikanth

PRODUCTION OF BIODIESEL FROM WASTE COOKING OIL:-

Due to the awareness of adverse effects of conventional fuels to environment and the frequent rise in crude oil's price, the need for sustainable and environment friendly alternate source of energy has gained importance in recent years. Biodiesel is proved to be the best replacement for diesel because of its unique properties like significant reduction in green house gas emissions, non-sulfur emissions, non-particulate matter pollutants, low toxicity and biodegradability. This paper reviews the pretreatment step, the physical and chemical properties of waste cooking oil, Esterification, Transesterification and production of Biodiesel from waste cooking oil by various methods and catalysts reported so far. The factors affecting the process parameters reported are studied and the point of interest focuses on their Alcohol to oil ratio, Reaction temperature, Catalyst both qualitative and quantitative scope. The optimum condition is investigated and the exhaust emissions of Biodiesel and Petroleum diesel are compared.

Dr.D.Anjali

Novel approach to prepare Zinc Oxide Nanoparticles using Tecoma Stans leaf extract:-

In present days Nanotechnology got wide range of recognition and appreciation due to its nano size and wide range of applications in various fields not only in Industries as Catalyst but also in various fields like Cosmetics, Paints, Electronic gadgets, Medical Technology, Agriculture, Dyes and Water purification, etc., In this report we discussed about the origin of Nano Technology and its various techniques along with their applications and also written about the best Synthesis process to prepare Nanoparticles by considering the eco-friendly and cost efficient technique i.e., Green Synthesis technique and we elected Tecoma Stans (Yellow bells) plant leaves (which contains high content of phytochemicals which are used to make Nanoparticles using above technique) to prepare Zinc oxide Nanoparticles using its Acetate form known as Zinc Acetate. Here in this paper, we prepare leaf extract of Tecoma stans and with the help of that extract we able to prepare Zinc oxide nanoparticles using Zinc Acetate solution (0.2M).

Mr.B.Pradeep Santhosh

A NOVEL APPROACH FOR SYNTHESIS OF ZINC OXIDE NANOPARTICLES:-

Nanotechnology is concerned with materials, structures, and systems whose components exhibit novel and significantly modified physical, chemical, and biological properties due to their nanoscale sizes. Tiny materials having size ranges from 1 to 100 nm are termed as nanoparticles. Due to their high surface area and nanoscale size nanoparticles possess unique physical and chemical properties. Based on their properties, shapes or sizes they can be classified into different classes. Their reactivity, toughness and other properties are also dependent on their unique size, shape and structure. Due to these characteristics, they are suitable for various commercial and domestic applications, which include catalysis, imaging, medical applications, energy-based research and environmental applications. These Zinc nanoparticles possesses properties of shine, anti-dust and waterproof, so these nanoparticles particles are used in paints or dyes as anti-dust and waterproofing agent and in cosmetics for shine.

Ms..S.Harika

DEATH OF THE BRITAIN QUEEN

On 8 September 2022, at 03:10 BST(British Summer Time), Elizabeth II, Queen of the United Kingdom and the longest-reigning(ruling period) British monarch, died of old age at Balmoral Castle in Scotland, at the age of 96. The Queen's death was publicly announced at 06:30. She was succeeded by her eldest son, Charles III.

The death of the Queen set in motion Operation London Bridge, a collection of plans including arrangements for her state funeral, which set protocols for her death occurring in Scotland. Members of the royal family travelled to Balmoral Castle throughout the day. Prince Charles arrived at 10:30 and was met by Princess Anne who was already staying with the Queen. Charles and Anne were by the Queen's side when she died.

Prime Minister Liz Truss is believed to have been informed of the Queen's declining health that morning by the Cabinet Secretary, and received an update at 12:00. At 12:30 Buckingham Palace made a public announcement expressing concern for the Queen's health; the Speaker, Sir Lindsay Hoyle, made a brief statement of good wishes in response. After the announcement, the Union Flags at Buckingham Palace. Crowds gathered outside royal residences, and rainbows were seen above Buckingham Palace and Windsor Castle. The Queen's death in Scotland meant that Operation Unicorn was the first part of Operation London Bridge to take effect. The Queen's body was transported to Edinburgh where ceremonial events took place, before her body was transported to London for the state funeral.

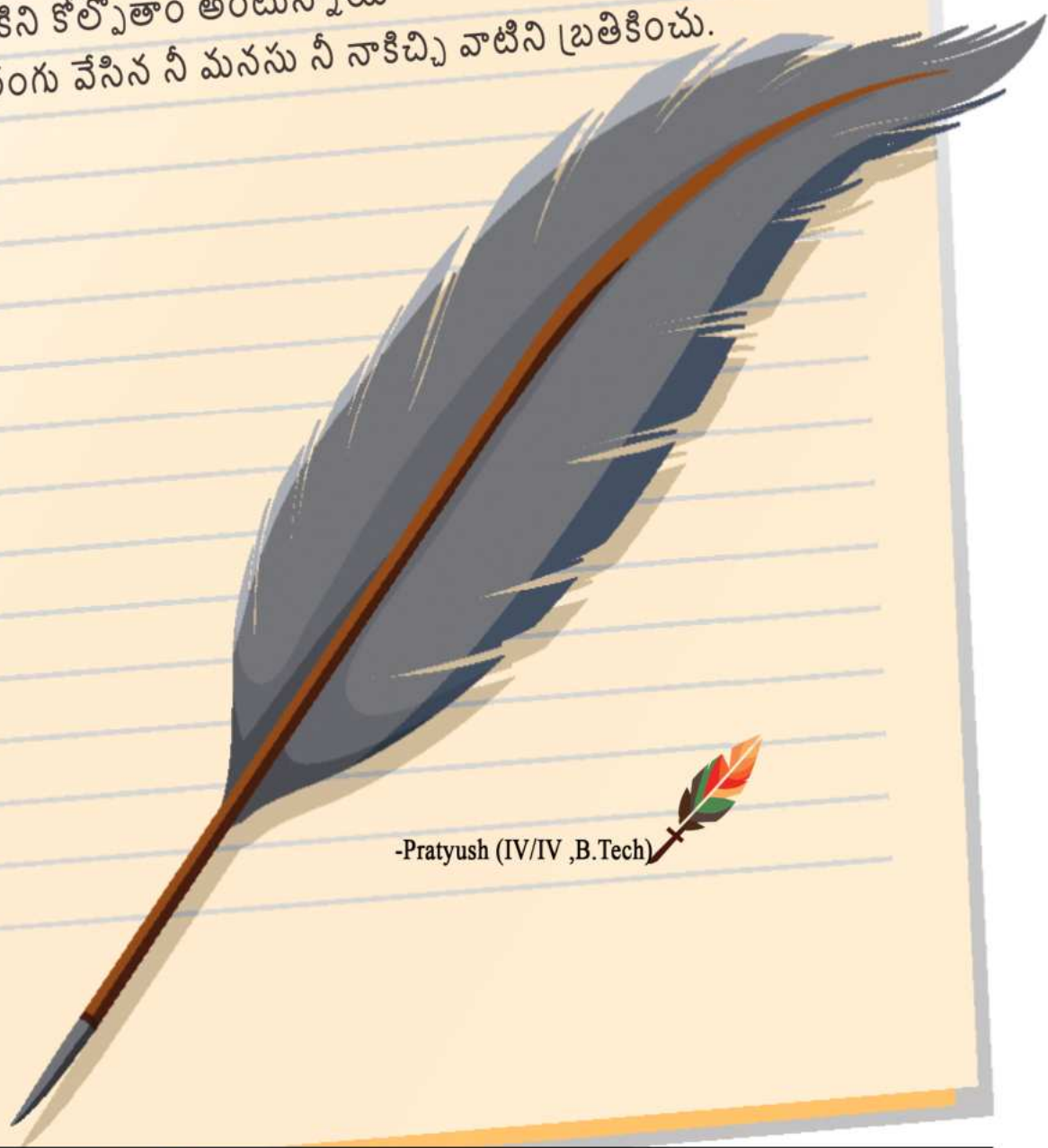
The Queen's coffin left Balmoral Castle at 10:46 on 11 September, draped with the Scottish version of the Royal Standard of the United Kingdom and topped with a wreath consisting of flowers from the castle gardens. Guns were fired every minute from Edinburgh Castle during the procession. On arrival the coffin was carried into the cathedral (church) and the Crown of Scotland placed on it.

A service of thanksgiving was then held to celebrate the Queen's life and highlight her association with Scotland. The service was led by the minister of St Giles Cathedral, the Reverend Calum Macleod, and the homily given by the Moderator of the General Assembly of the Church of Scotland. Psalm 118 was sung by Karen Matheson. It was attended by the royal party, politicians, including Liz Truss and representatives from the Queen's Scottish charities and organisations.

-N.Harika (III/IV B.tech)

ఇంద్రధనస్సు

నీలి రంగు పోసుకున్న నా ఆకాశం,
ఎర్రగా ఎగురుతూ పారే నా రక్తం,
చల్లగా నలుపు లో నానుతున్న నా నిసి,
నా ప్రపంచం లో నీ ఊపిరి రంగు లేనిదే
వాటి ఉనికిని కోల్పోతాం అంటున్నాయి
వెన్నెల రంగు వేసిన నీ మనసు నీ నాకిచ్చి వాటిని బ్రతికించు.



-Pratyush (IV/IV ,B.Tech)

शायरी

दोस्ती नाम पेशायरी

तो बचपन भी क्या सूत था जब दो उंगलयिांजोड़तेही दोस्ती हो जाती थी

कतिनी छोटी सी दनुनया हैमेरी,

एि मैंहै

और एि दोस्ती तेरी !!

येदोस्ती ि गणति हैसाहत

यहाँदो मेसेएि गया तो

ुछ नहींबचता

वो दोस्त मेरी नजर मेंबहुत

महहनेरखतेहै!

तत आनेपर मेरेसामने

आईनेरखतेहै!

दो अक्षर ि मौत और तीन अक्षर जिीवन में

दो अक्षर ि मौत और तीन अपर जिीवन मेहमेवाि रजा है

ैं सेछोड़ दु उनि दोस्तो ि जजनि जजमादा भी मैनेही

अच्छी और सच्चेदोस्त, तुम समझ मेंनही आनेपर मि है!!

- Pradip kumar (II/IV ,B.Tech)

NOTEBOOK TO CANVAS

P.Pavatra (II/IV)

B.Sai Kumar (II/IV)

G.Reethu (II/IV)

INDUSTRIAL VISIT

The department at the college is known for its proactive approach to provide students with practical learning experiences.One such activity that the department recently organised a one day Industrial visit to Dr.Reddy's Laboratories for all the students from the department. The aim of this visit to pharmaceutical industry and its manufacturing processes. On the 27th of February, 2023, the Department of Chemical Engineering at College organized a one-day pharmaceutical industrial visit for their 2nd, 3rd, and final year students.The students were accompanied by two faculty members, Ch.Anil Sir and M.Subba Rao Sirl, who ensured that the visit went smoothly and that the students gained maximum benefit from the experience. The students arrived at the pharmaceutical company's manufacturing facility at 9:00 AM. They were welcomed by the company's officials who gave them a brief introduction to the company and its operations. The students were then taken on a tour of the facility, where they were shown various departments and units, including the raw material storage, production, quality control, and packaging. The students were impressed by the Dr.Reddy's state-of-the-art equipment and machinery used in the production process. They also learned about the various stages involved in the production of pharmaceutical products, from the initial stages of drug development to the final stages of packaging and distribution. The students had the opportunity to interact with the Industry's scientists and engineers, who explained the various processes involved in drug development and production. They also learned about the regulatory requirements and quality control measures that are necessary to ensure the safety and efficacy of pharmaceutical products.

The visit was an enriching experience for the students, who gained valuable insights into the pharmaceutical industry and its operations. They also got a chance to witness the practical application of their theoretical knowledge in the field of chemical engineering. The students left the facility with a newfound appreciation for the pharmaceutical industry and its contribution to the healthcare sector. The visit provided the students with a valuable learning experience and will undoubtedly help them in their future careers as chemical engineers.

కళ్ళు

ఎన్నిసార్లు చూసినా చూడాలనిపించే కళ్ళు
చూడకపోయినా చూడాలనుకునే కళ్ళు
ప్రేమికుడిని సైతం ఆకర్షించే కళ్ళు
మంచును సైతం కరిగించే కళ్ళు
బాధను సైతం అధికమించే కళ్ళు
ఆవిందాన్ని సైతం వెదజల్లే కళ్ళు

కాటుకలాంటి నీ కళ్ళలో నల్లని సముద్రం దాన్ని ఉంది.
ఆ నల్లని సముద్రంలో ముత్యాలు దాగి ఉన్నాయి.
చందమామ లోని తెలుగు అందుకునేమో కళ్ళ నీ కళ్ళను చూడాలనిపిస్తుంది.

మనస్సుకు బాణం తగిలినా నొప్పి అనిపించదు.
నీ కళ్ళతో చూస్తే మనస్సుకు గుచ్చుకుంటుంది.
అందుకునేమో నా మనస్సు నీ కళ్ళను ప్రేమిస్తుంది.

నేను ప్రేమించే కళ్ళు ఏడిస్తే...

నేవు ప్రేమించని నా మనస్సు బాధపడుతుంది.
అందుకునేనూ నా కళ్ళంటే నాకు చాలా ఇష్టం.

బి. సాయి కుమార్

WHY RASAGYAN WAS BORN?

A small idea to spread knowledge and wisdom along with bringing out the inner talents of the students gave birth to RASAGYAN. It is the first ever departmental magazine in the history of ANITS.

Our Motive for a Better World , Our Motive for a Prosperous Society , Our Motive for a New Generation which seeks :

1. To Enshrine The Hidden and Extract the Existing Creativity among the Energetic Minds.
2. To Enrich Analytical, Thinking, and Writing Proficiencies.
3. To find Research Oriented Minds, For a Better World.
4. To bring Awareness about what's going on in and around our campus.

There are no restrictions for writing articles. It is not necessary that the articles should be related to any particular field. We accept vibrant range of themes. Articles related to our department and current affairs are given more preference. We do not limit ourselves. We accept poems, paintings, art and photography from the students.

Reach us Out

We would like to know more about what our readers think for where we should land and where we should meet in our magazine. Please feel free to chip in your ideas, queries, complaints, compliments, suggestions and words that help us to get as a feedback to this edition of magazine. Help us to improve, help us to stand for our improvement. Write to us at the mentioned mail address and please support us. Thank you for sparing your time with us!

Send your own articles, photographs, poetry, cartoons, short stories, humorous content, drawing and painting or anything else that you would like, that could be portrayed through us in this magazine to the mentioned mail address or submit it to any of the editorial team members.

EMAIL: editor.rasagyan@gmail.com

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RASAGYAN

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