



PRAGNANAM BRAHMA

ANITS



रासाग्यान

Wings of CHEM Knowledge



Volume-IV

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We have turned six and are proud to say that you are holding the sixth 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.

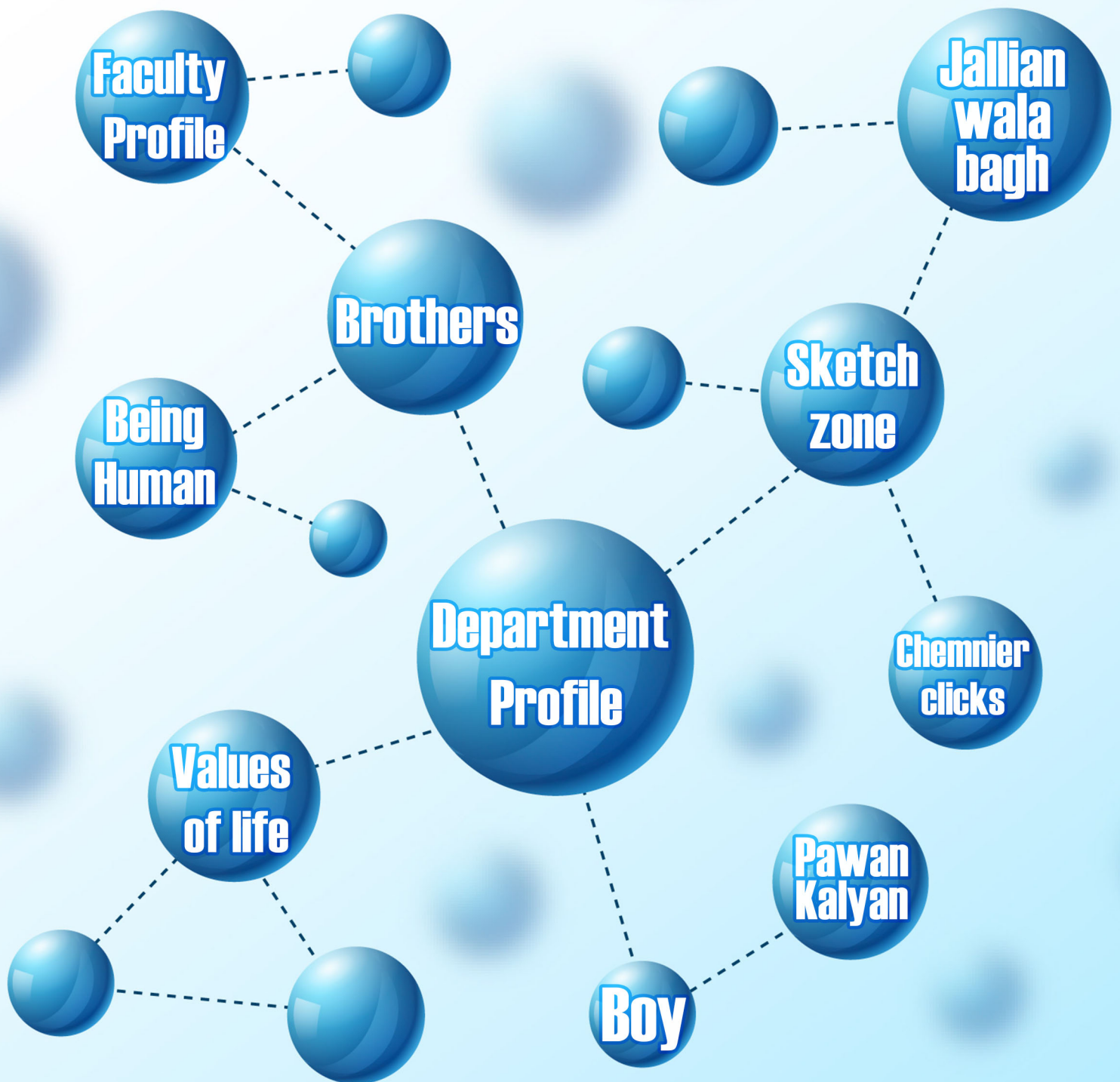
We would like to thank our faculty advisor Mr. B. Pradeep Santosh Kumar sir without whom this magazine would cease to exist.

Faculty Advisor

Mr. B. Pradeep Santosh Kumar
Asst. Professor



CONSTITUENTS



PROFILE OF THE DEPARTMENT 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.



Dr. Ch. Anil (HOD, Chemical Engineering)

The students of Chemical Engineering are placed across various IT industries like Infosys, IBM, TCS, WIPRO, Mu Sigma and Ux Reactor and in core industries like Torrecid, Ocean India, Divis laboratories, Hetero Drugs, 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 every year a two-day National level student Tech fest named “CHEMFLARE” 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 in visakhapatnam. Students participated in NSS/NCC activities conducted by ANITS

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.Sri Devi: 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.

Dr. M. Shiva Naresh, Associate Professor: Major research interests are in Theoretical Biology, Experimental Design of Bioprocesses and Synthesis of Nano Materials. Currently working on photo catalytic degradation of pathogens and heavy metals present in contaminated drinking water using nano TiO_2 catalyst. Published research papers on protein-protein interaction of HIV and immune T-cells and optimization of process parameters of fermentation process. Completed consultancy project on anticorrosive paints to M/s Anantha Coatings, Hyderabad. Other research areas of interest include studies in downstream processing and biofuels.

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. P. Mallika Rani, Assistant Professor: Major research interests are in battery technology, fuel cell technology. Currently working on insitu carbon coating techniques on LFP cathode.

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. 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. 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.

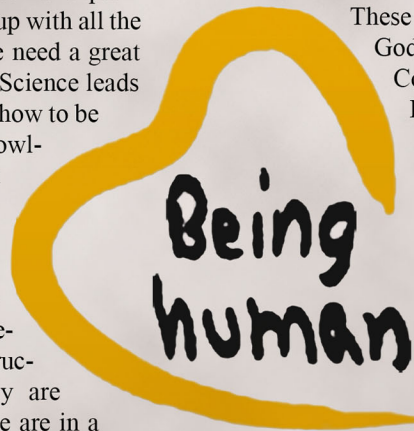


Being Human

Studies intended to provide general knowledge and intellectual skills. Science is a human quality of learning scientific things and ones ability to produce solutions in some problem domain, but without arts (intellectual skills) we cannot implement that solution in bringing change in the society. Role of Arts in Sciences: Our university makes us good engineers by providing us knowledge in various scientific disciplines. With all that education received, one can definitely become a great engineer in the future (A person who can improvise the present day technology by developing different gadgets) but just that scientific knowledge is not sufficient to prosper in that particular field. We need to work under different firms as per their rules and regulations which demand qualities like moral values and confidence to cope up with all the problems which we have to face. For that we need a great human heart==> Humanity==> Liberal Arts. Science leads us to a good position whereas Arts teaches us how to be a good person in the society. If we have knowledge in both then we will be the perfect humans with moral values.

All great scientists belong to that category. Epics also come under Arts, memorizing one situation from the epic Ramayana which reflects our present day technology i.e., construction of Ramasethu bridge (which presently are taught in Civil Engineering). Now-a-days, we are in a society where people know how to use 4G or smartphone technology but they really don't know the meaning of life and that's why many relations couldn't be maintained for a long time. With this we come to know the importance of Liberal Arts. Our institution provides us with Liberal Arts as minor course which is comprised of Big History, Great Books, Shakespeare, Technical writing and many more. Brief description about Big History: Big History surveys the past of the largest possible scales and it does so using the best available information from many different disciplines. It starts with: • Origin of Universe • Goes into the future • Get a sense of logic behind it.

We will study 13 billion years of human evolution and their civilization in a 3 week semester in the course of Big History. It raises fundamental questions about the meaning of history and human place in the cosmos. Brief description of Great Books: Great books should have a great theme, written in noble language which elevates the soul and speaks across the ages. People cannot read a great book and learn from it unless they are going to enter sympathetically into the mind of the author. By these great books we can define a good man as a man who practices "justice, moderation, wisdom and courage". These great books educate us to live our life's freely and responsibly. The ultimate lesson of these great books are to never give up, live your life and realize that everyday you can begin again.



These books educate us with some themes like "Fate, God, Meaning of life, Truth, Duty and Responsibility, Courage, Love, Jealousy, Ambition, Redemption, Death". There are different stories explaining usefulness of each one of the theme. From these books we can differentiate between what will be result for good things & bad things and what one should do & not to do. Not only reading those books if we apply those moral values in our lives then we can lead our life with peace and joy. A great book summarizes the enduring values and ideas of a great age and gives them as a legacy to future generations. Apart from these if we look at the Shakespearean era, Shakespeare was a master of human reality. He didn't present people as ideals but portrayed their true behavior and motivations. His stories comprised of tragedies, comedies and historical sensations. This course offers us with some plays like Othello, Romeo-Juliet Julius Caesar, Macbeth etc. In Technical writing course one is educated in how to write letters in different aspects mainly we are concerned about writing our resume, applying to different job interviews, writing letters to higher officials with different designations in formal way. Not only these there are many other things which increase our intellectual skills and finally making one succeed by knowing the real meaning of life that lie in practicing moral values. From the above description, one can understand the importance to studying arts along with Science.

- Nikhila, (III/IV, B.Tech.)

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 2020-21.

INDUCTION PROGRAMME: Orientation program for newly admitted B. Tech students admitted in the A.Y 2020-21 in, during 01-02-2021 to 03-02-2021. Students of first year were warmly welcomed by the Dr. Ch. Anil, Head, Department of Chemical engineering and in his welcome speech, he emphasized on chemical engineering education at ANITS and its transition to reach high good positioned engineering college in Andhrapradesh over last few years. He had briefed about the inception of department and also highlighted "what exactly chemical engineering core stream is?" and its importance, applicability towards societal needs. He also emphasized on career opportunities in fields of chemical engineering and its related growth. Then he introduced all the faculty members to the students. Later a small documentary video on the basic difference between chemistry and chemical engineering has shown to the students. The head of department ended his speech with best wishes during their four years of stay at ANITS.





PAWAN KALYAN

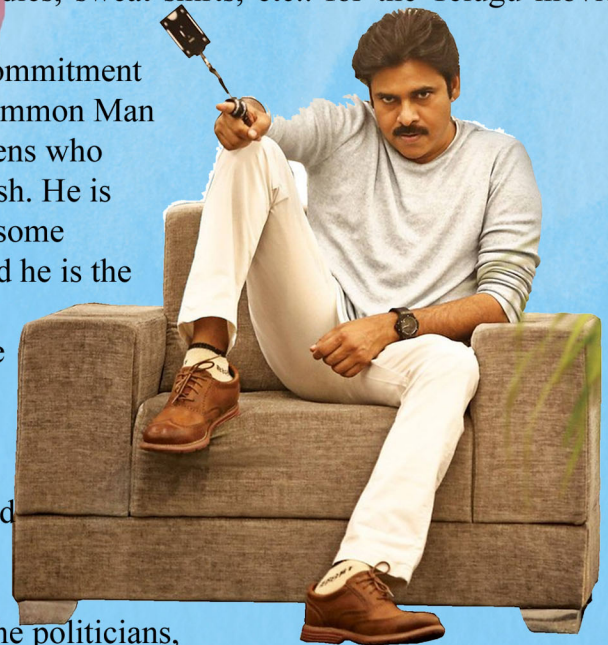
Pawan Kalyan also known as Power Star, Jenasenani. He is one of the Indian versatile actors, director, producer, screen play writer, singer, stunt coordinator, philanthropist and politician.

The actual name of Pawan Kalyan is Konidela Kalyan Babu. He was born on 2nd September 1971 at Bapatla, Andhra Pradesh. Kalyan is the younger brother of actor-politician Chiranjeevi, and he made his debut as a film actor in the year 1996 with the movie called Akkada Ammai Ekadda Abbai. He got the name Pawan Kalyan by his Marshal arts trainer in which the meaning of the word Pawan means Power.

Till date he acted for 26 movies as a lead actor, he got NANDI award for the movie named Tholiprema in the year 1998, He got the tag of Power Star from the movie named Badri, he also produced some movies with his own production house named as North Star, in his initial movies he was the stunt coordinator and he also stunt coordinator for the movie called DADI, he is also a singer sometimes he sung folk songs for his own movies, he also directed one movie called JHONNY, and written screen play for the movie called Sardar Gabbar Singh, he also earned a BLACK Belt in KARATE.

He was also known as Trend setter for the way of dressing, attitude, social activities and his behavior. He is the one who introduced Marsha lords, stick fights, hoodies, sweat shirts, etc.. for the Telugu movie industry.

He also known for his social activities, donations and his commitment towards his nation. He launched a charitable trust called Common Man Protection Force (CMPF). The trust is known to assist citizens who fall under EWS in the state of Telangana and Andhra Pradesh. He is known for his donations that he had done, for every movie some part of his remuneration is donated towards Sainik Fund and he is the person to respond for every disaster and uneven activity took place in the country and society. He is honoured by the Indo-European Business Forum and conferred the IEBF Excellence Award – 2017. The award was presented to Pawan Kalyan at the Global Business Summit held on 17th November at the House of Lords in London. He had realized that the CMPF trust was not sufficient for the public to serve and the he decided to start a political party on his own to fight against the uneven activities taking place by the politicians, corrupted government workers and Society



Kalyan, sir was a big book reader in which he reads a lot of books about the Freedom fighters of India, Unreviled freedom fighters, Socialists, Great Leaders, Old Sanskrit Poets, etc.. He had started his own political party on March 14th 2014 in the state of Andhra Pradesh named as JENSAENA and he was termed with JANASENANI. The main aims his political party were to build a non-corrupted society, politics was not for one RESIDENCE, Safety for woman/girls, Quality with Innovative Education, all castes should have equal importance, Spirit of asking their own rights to the Government, etc.. All of his speeches were used to motivate the public, uneven activities done by the ruling parties and to remember that the people are the rulers and politicians are the people to serve.

He had participated in 2019 Andhra Pradesh state elections on his own with his political party but unfortunately the result of that election was not came in his favor. He didn't give up his political carrier by the result of the elections, but Kalyan sir used to stay by saying that he always used to serve his society even in the tough times and he told that the politics was National Duty for him.



DEPARTMENT of CHEMICAL ENGINEERING

Year 2019 2020



We strike the Unachievable
We achieve the Impossible
Through our
Chemical Engineering

Jallianwala Bhag Massacre

I visited Jallianwala Bhag once and felt strangely anxious,
It was as if I could hear screams, shouts, and cries for help,
But, despite the silence, I couldn't see anyone call out.

I strolled and found out myself in front of a bullet-riddled wall,
I swear, I could hear it whisper,

It was as if those bullet marks wanted to talk to me.

A women's voice emanated from the mark in the corner,

She kept asking me whether I knew her son,

"Listen, do you know about my son?

He must've become a big man now, Right?

Must have surely outgrown his naughtiness,

Gotten married..... With a son who is as old as you,

I bet I have a grandson.....

Anyway, If you find anything about him do tell me."

I wonder why worrying makes all mothers sound like mine,

I agreed to her request.

I walked a little more, and heard another voice,

"Listen, Does mom's voice still quiver with excitement?

or is it tinged with disappointment?"

Listening to him, I felt my connection to her being severed.

"Don't tell her that I am here, She will cry her heart out,

And don't worry, You don't have to answer her,

her happiness lies in the act of asking."

A poet lived in the mark at the center of the wall,

who said:

"Seen different colors on people during festivals, but here people bleed the same,

When so many lives stop breathing together, does it affect the breeze?

Were the streets silent that day? or did they rattle with roars of Justice?

Even a farmer strategically reaps his harvest, Why do they reap our lives so blindly spraying

-V.Sinduja, (II/IV, B.Tech.)

Technical work @ Chemineers

Batch -1

Production of Ethanol from Organic Wastes

Due to increase of organic wastes from agriculture and domestic households, waste management has become a challenge. It is thought to overcome this problem and use these wastes for proper use. Ethanol is a chemical compound, a simple alcohol with the chemical formula C_2H_6O . Ethanol when prepared from organic wastes can be termed as Bio- Ethanol. Bio-Ethanol increases the octane number of the fuel with a small cost, virtually usable in all vehicles, easy to produce and store. It can also be mixed with gasoline to produce the fuel with less toxicity and The fuel spills are more easily degraded or diluted to non toxic concentrations.

Batch - 2

Conversion of Plastic Waste to Fuel

With rapid increase in the human population across the globe, waste management has become a major problem for most countries. The scope of converting plastic waste to fuel through pyrolysis helps to reduce plastic waste by effectively recycling it. The implementation of pyrolysis for this process is necessary to break the macromolecular structure of the polymer to smaller molecules called cracking. The temperature that is maintained is $300-500^{\circ}C$. The external heating can be carried out by using raw materials such as coal, wood and etc., The process is effective in catalytic cracking over thermal cracking, but it also depends on the catalyst cost, regeneration and etc.

Batch - 3

Graphene based batteries

Single-layer graphene was explored theoretically by P. R. Wallace in 1947. Graphene is an allotrope of carbon in the form of a single layer of atoms in a two-dimensional hexagonal lattice in which one atom forms each vertex. It is the basic structural element of other allotropes; including graphite, charcoal, carbon nanotubes etc. The graphene is produced by Electrochemical exfoliation technique. In this process graphite rod is immersed into $0.1M Na_2SO_4$ then the exfoliation takes place which gives the graphene powder. The powder is filtered and dried. The graphene powder is moulded into a rod and is used as anode. The Zn is taken as cathode and $ZnSO_4$ solution is used as electrolyte. It is a rechargeable battery which is having high efficiency than Li-ion battery. It is eco-friendly and economical.

Batch-4

Production of Gasoline by FCC

Fluid catalytic cracking (FCC) is one of the most important conversion processes used in petroleum refineries. It is widely used to convert the high-boiling, high-molecular weight hydrocarbon fractions of petroleum crude oils into more valuable gasoline, olefin gases, and other products. Cracking of petroleum hydrocarbons was originally done by thermal cracking, which has been almost completely replaced by catalytic cracking because it produces more gasoline with a higher octane rating. It also produces byproduct gases that have more carbon-carbon double bonds (i.e. more olefins), and hence more economic value, than those produced by thermal cracking. Oil refineries use fluid catalytic cracking to correct

the imbalance between the market demand for gasoline and the excess of heavy, high boiling range products resulting from the distillation of crude oil. The modern FCC units are all continuous processes which operate 24 hours a day for as long as 3 to 5 years between scheduled shutdowns for routine maintenance. There are several different proprietary designs that have been developed for modern FCC units. Each design is available under a license that must be purchased from the design developer by any petroleum refining company desiring to construct and operate an FCC of a given design.

Batch – 5

Extraction of Chitosen from Prawn Shells

There are different kinds of sewages obtained from industries, agriculture and households. Wastewater contains organic and inorganic materials like dyes, antibiotics, heavy metal ions etc., waste water includes physical chemical and biological methods with various technologies like adsorption, filtration, biodegradation, oxidation and reduction, UV radiation, flocculation/coagulation. Due to the increase in chemical pollutants in water, waste water treatment has become more uneconomical. Chitosan acts as the best solution in treating waste water to attain sustainability in environment. Chitosan is a second abundant polysaccharide after cellulose. After consuming sea food, the left over is dumped into seas which is one of the main pollutants in coastal areas. Chitosan is mainly present in marine animals like crab, shrimp and crustacean shells. This crustacean shell mainly consists of 30-40% protein, 30-50% CaCO_3 and 20-30% chitin. Chitosan is obtained by treating shrimp shells and crustacean's shells with NaOH, HCL and acetone. Present study is focused mainly on extraction of Chitosan from prawn shells and thereby using it as an adsorbent for treating water pollutants like copper metal ions.

Batch - 6

Extraction of Silica from Rice Husk

Rice husk is an agricultural residue abundantly available in rice producing countries. But the problem lies with the disposal techniques. Silica is the major constituent of rice husk ash varying from 85%-95%. With such large silica ash content, it becomes economical to extract silica from the ash. In this project an attempt is made to introduce a simple process to extract silica from the "rice husk ash". The extracted silica is highly dispersible and has wide variety of applications. It solves the disposal problem of husk as well as a valuable product is manufactured from it.

Batch – 7

Fabrication of Ceramic Membranes for Water Filtration

Contemporary research in ceramic composites for membrane applications targets the fabrication of stable low cost micro-filtration range membranes. This work reports the fabrication of stable low cost mesoporous membranes deploying subsequent formulations based on kaolin and other suitable low cost materials such as quartz, sodium carbonate, calcium carbonate, boric acid and sodium meta-silicate. Incidentally, the processing temperature in this work is about 850–1000 °C instead of 1100 °C which is the usual sintering temperature for inorganic membrane fabrication. The membranes casted as circular disks (52.5 mm diameter and 4.5 mm thickness) were subjected for characterization studies using TGA, XRD and SEM analysis, to evaluate the effect of maximum sintering temperature

on membrane structure, porosity and mechanical integrity. Pore size distribution, porosity, average pore size of the membrane along with permeation experiments with water is carried out to study the membrane performance

Batch - 8

Removal of Chromium from Synthetic Water using Electro Coagulation Method

Cr(VI) is one of toxic metals that cause serious threat to human health and the environment because it is non-biodegradable. Among the technologies for removing these pollutants, electrocoagulation can be considered as an effective method where the flocculating agent is generated by electro-oxidation of a sacrificial anode. This method have some advantages such as less amount of produced sludge and high efficiency in removal of pollutants. Synthetic chromium waste water was prepared. The process was conducted at pH 3. The current was set at 3A. The variable of time of electrocoagulation at 1 and 2 hours. After performing the process on electrochemical cell, samples are analyzed by the UV spectrophotometer for the amount of Cr(VI) metals present.

Batch – 9

Removal of Heavy Metals from Aqueous Solutions using Adsorbents

With the onset of industrialization mankind has experienced development and prosperity but also various environmental issues in the society and one of the most visible impacts are in the form of water pollution. Effluents from various industries which are being released into the water bodies in the form of toxic heavy metals is a serious threat. The conventional methods of reducing heavy metal contamination include chemical precipitation, chemical oxidation, ion exchange, reverse osmosis etc. These methods are costly, energy intensive and often associated with generation of toxic byproducts. Thus adsorption has been selected as a cost effective method for the removal of heavy metals from aqueous bodies. Our project aims at determining the effective adsorbent which adsorbs the heavy metal at different varying factors like pH, concentration, temperature, agitation time, adsorbent dosage etc. A comparative study of the different adsorbents is done by experimenting the adsorbents and tabulating the results with graphs.

Batch- 10

Production of Bio- Diesel

Biodiesel is an alternative energy source and could be a substitute for petroleum-based diesel fuel. To be a viable alternative, a bio-fuel should provide a net energy gain, have environmental benefits, be economically competitive, and be producible in large quantities without reducing food supplies. Most of the sources, methods and apparatus to produce biodiesel are reviewed. Some of the patents propose the use of oils and fats of animal or vegetal origin and other kind of sources. Many others focus on the methods for the production or oxidation stability of the bio-fuel in order to make its production economically competitive. Several apparatus comprising reactors and refineries are also presented. This review article summarizes recent and important patents relating to the production of biodiesel to make its production a viable alternative.

The Real TRUTH

It was my first day to enter into a police station. I was super excited, because it was my childhood dream. I went out for patrol. Suddenly I heard a loud scream from a woman. I went to rescue her but unexpectedly, I found a dead body in the trash bin with full of blood. Immediately I called ambulance and police men. Everyone has arrived at the crime scene. The police officer collected information from the woman. I was shocked. There was no clues except a note on the dead body which is "I MADE A MISTAKE" and a written message on dead body's hand in Arab language which is (يلا تلالا يف ىرخأ لتق ةم ىرج). That note made me curious about the case. As per the message I understood there will be another murder. But the real task is how can I prevent that! Within seconds I heard another case. Shockingly, both the cases were similar, there is a note on the dead body and a note on the dead body's hand but now the content in the note is different which is "IF YOU WANT TO CATCH ME TRY TO FIND OUT THE ORIGINAL CRIMINAL, YEAR(2010)".

It might be about an old case then I thought to go to the back date and thoroughly refer all the previous cases to study them. They are around 50 cases in the year 2010. Out of 50, 20 criminals have died, 20 are in prison. There are only 10 cases present which are clearly needed to study. Considering the Arab note among 10 criminals one criminal knew Arab. I started to go through the case in detail. But unfortunately, the person has been in hospital since 2015 because of an accident he's brain got paralysed. I keep on digging it more, I knew it is so difficult. But then too I decided to solve this case. I gathered the information of both dead bodies. Surprisingly, one of them was police and other was a lawyer.

Now finally I found the case of the past. It was murder case of an actress. Many questions have raised in my mind. How this case linked to the criminal? Why did he killed them? To solve the puzzle I started looking in detail the old case.

(few years ago.....all the media is focusing on the top actress murder. Everyone was disappointed on listening the news. All the fans have started protests on the roads. The entire crime department have started investigation. Strangely there was a diagram which is a star with her blood so, the crime branch have confirmed it as murder. But they were no clues, but from the CCTV footage it was confirmed that the plumber was the last person she met. Because of the pressure from the higher authorities and the only clue that is available. The police investigation has stopped and they closed the case and arrested the plumber)

I really found strange on arresting him. I understood he was the one who killed the two officials. But why? So I personally investigated and I concluded the criminal and arrested the criminal. The real fact is that the actress's death is a natural death. The actress has a Crohn disease. She suddenly fainted and her head hit the table. She lost a lot of blood. Due to over blood flow led to her death, but the suspicious thing is the sketch. It was a single stroke sketch. As a normal human it was impossible to draw a single stroke drawing without a fingerprint. So there is something suspicious in the drawing. There was a video in the social media where a robot vacuum cleaner drew the same diagram. So finally I found out the mystery behind the actress murder. I arrested the plumber for killing the two officials. I interrogated him. He lost his family because of his arrest in the past. Surprisingly, the police officer knows the truth but if he says the truth then the medals he gained for solving the actress's case will be returned. So the police officer has stopped and arrested the innocent. Due to which the plumber lost his family and ruined his life. Finally the plumber ended up his life in jail. But he was happy because the truth has revealed.



MORAL : TRUTH IS LIKE THE SUN YOU CAN SHUT IT OUT FOR A TIME , BUT AIN'T GOING AWAY.

-K Sandhya (I/IV, B.Tech.)

Spirit of Education

If you ask a kindergarten child why do you read? He will surely reply "to find a good job!" What if you ask the same question to a teenager of 9th or 10th grade? You would definitely find the same answer! Why? Why isn't he aware of the purpose of education? So far, we have been successful in making toppers and rankers but not citizens, gentlemen and wise people. Education has become a field for easy learning. But where is the spirit? The main purpose of education is that the child acquires social knowledge and turns into a man. It's a type of initialisation. Always remember your goal whenever you do something. A person who has no goal is like a boat without rudder. One more thing, don't ever care for success, care for excellence, success follows you. It's only you, who can differentiate between reality and fantasy, illusion and ability. If you are in a dilemma to choose the best amongst available please choose the one which can provide you the best social environment with limited hours of study. Study is not the criteria, the institution must provide the students character building classes, soft skill development programmes etc.

-Y.V.S.K. Akhila,II/IV

Attitude is Everything

"Attitude ", is what Matters !!!

Each one of us is better than what we think about ourself. With his abilities and intelligence, each one is a unique person. We the combination of the most superior machine and our brain the finest precision instrument, are ready to take on the world.

But it doesn't happen like this as beyond this there is one thing that defines us, 'our attitude' an eight letter word that can make or break us. According to Winston Churchill, attitude is a little thing that can make a big difference. An individual may spell attitude the way he likes just that it should be filled with everything that is positive, here is how it can be spelt.

A-Always see the brighter side of things and people.

T-Turn around any time from your situation by being positive.

T-Total control - take control of your negative thoughts.

I -I can do it - keep on "I can and I will do " thinking.

T-Think positive start everything with a positive thought.

U-Unleash- Unleash all your inherent strength.

D- Design- Design your destiny yourself.

E -Examine- Examine yourself constantly to add good and eliminate the bad in you.

Remember your attitude will effect other people and what they think of you.

Attitude is small yet an important step, so have a positive and bright attitude to achieve success in life.

शायरी

हर रोज गरि कर भी,
मुक्कमल खड़े है,
ए जदिगी देख,
मेरे हौसले तुझसे भी बड़े है ।

इत्तेफ़ाक़ अपनी जगह,
खुशकसिमती अपनी जगह,
खुद बनाता है जहान में,
आदमी अपनी जगह ।

कतिने नादान थे तुफान को कनारा समझे,
कतिने बेजान सहारों को सहारा समझे,
कतिने कंज़र्फ़ थे वो लोग जो साहलि पे थे,
हमे डूबता देखा और नज़ारा समझा ।

-Muskan (II/IV ,B.Tech)

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.



Shout back at us

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

Editorial board
RASAGYAN

Impact Lecture Series-I

As a part of IIC calendar activity, ANITS Innovation Council (ANITS, IIC) in Association with the Department of Chemical Engineering conducted an Impact Lecture Series which mainly focused on the concepts of 'The Current Trends in Chemical Engineering' which is held in the month of August 2020. Students and faculties of ANITS have participated actively in all the session. This lecture series comprised of five notable speakers who spent their valuable time in getting all of us notified with the situations and trends in the chemical engineering. On an average 110 students, 20 faculty members and audience are participated in this series.

DEPARTMENT of CHEMICAL ENGINEERING

ANITS IICChE STUDENT CHAPTER
organising

CHEMICAL ENGINEERING IMPACT LECTURE SERIES - I
Theme: **Current Trends in Chemical Engineering**
by renowned young researchers and industrial experts

10:00 AM

2nd AUG, 2020
Dr. Naveen
Dept. of Chemical engineering
KU LEUVEN, Belgium

9th AUG, 2020
Mr. S. Ramappa
Assistant Environment Engineer
TSPCB, Hyderabad

23rd AUG, 2020
Dr. Uma Numburi
Senior Systems Engineer
Philips India Ltd, Bengaluru

16th AUG, 2020
Dr. Siva Rama Krishna Perala
Scientist
Unilever, Bengaluru.

30th AUG, 2020
Mr. Gopi Bisetti
Senior Process Engineer
HPCL, Visakhapatnam

*E-Certificate will be issued for Participants

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Kalla Reshma
Student Coordinator, IICChE

Dr. M. ShivaNaresh
Faculty Coordinator, IICChE

Dr. Ch. Anil
Head of the Department

The first session was held on 2nd August 2020 by Dr. Naveen who is a professor in Dept. of Chemical Engineering at KU LEUVEN, Belgium. He discussed about the opportunities for studies who want to pursue higher studies. He described about his areas of research which mainly was Sideways Self-propulsion mechanism. His words inspired many students who wish to continue their education towards Research and Development.

The second session was held on 9th August 2020 by Mr. S Ramappa who is an Assistant Environment Engineer at TSPCB, Hyderabad. He, being an environmental engineer, discussed his findings on the different sources of pollution and effluent generation. He also explained about industrial downstream processing which is very useful for treating these effluents.

The third session was held on 16th August 2020 by Dr. P. Shiva Rama Krishna who is a scientist at Unilever, Bengaluru. He described the scope of chemical engineering in the field of bio-medical sciences. His views on Higher Education provoked thoughts in students who are aspiring for higher studies.

The fourth session was held on 23rd August 2020 by Dr. Uma Numburi who is a Senior Systems Engineer at Philips India Ltd, Bengaluru. She talked about current trends and areas of research in chemical engineering. She mentioned about the scope of nanotechnology in industries. She also added the current role of women in the field of chemical engineering.

The fifth session was held on 30th August 2020 by Mr. Gopi Bisetti who is a Senior Process Engineer at HPCL, Visakhapatnam. He discussed the scope of Chemical engineers in the field of petroleum industries. He also emphasized on various competitive exams and showcased the right path to prepare for these exams. He also mentioned the projects which he has undertaken as a process

Impact Lecture Series-II

As a part of the IIC calendar activity, the ANITS Innovation Council in association with the Department of Chemical Engineering had organized an Impact Lecture Series on 'Entrepreneur Mindset' in December 2020. Students and faculty of ANITS have participated actively in this session. This lecture series is comprised of four notable speakers who spent their valuable time in getting all of us well aware of the option as an Entrepreneur and how an Entrepreneur could change the face of the nation with creative innovations.

The first session was held on 11th December 2020 by Mr. Vikram Vanama, Founder & Director of Trimax Bio Sciences Pvt Ltd., Raichur, Karnataka. He discussed the thought process required for an Entrepreneur by stating his journey of becoming a successful entrepreneur. He explained the managing of economic aspects for an entrepreneur at the starting stage.

The second session was held on 18th December 2020 by Shri N Venkata Reddy, founder & director of Teck Team Solutions. He discussed the Entrepreneurial Problem-solving skills that every student who aspires to be an Entrepreneur faces at the beginning. He stated the right skills that need to be adapted for an Entrepreneur such as the ability to act on solutions, Business and industrial awareness, etc. His ideas of approach in overcoming the problems faced by Entrepreneur helps many young minds.

This third session was held on 24th December 2020 by Mr. Thota Sivaji, Founder & CEO of Aaharya Technologies Pvt Ltd. He Stated how Invention and Globalization are playing a major part in the Nation's development with a statistical approach. He also stated that the vision should be visionary rather than imitating others. He concluded by stating various examples of how an Entrepreneur could define his ideology to be unique and helpful in social growth.

This fourth session was held on 30th December 2020 by Mr. Raghuvver Allada, Co-Founder & Director of SuperZop. He discussed about different innovations that led to a drastic change in today's world, by sector wise which involves product-based, process based, business model based, customer experience based. He noted the five key things for an Entrepreneur mindset. He clearly stated how to build an Entrepreneur mindset by giving Do's and Don'ts which inspired every student to build a strong step towards Entrepreneur

ANITS DEPARTMENT of CHEMICAL ENGINEERING ANITS IICChE & IIC jointly organises

IMPACT LECTURE SERIES - II ON ENTREPRENEURSHIP
THEME:
ENTREPRENEUR'S MINDSET

11th Dec, 2020
Mr. Vikram Vanama
Founder & Director
Trimax Bio-Sciences Pvt Ltd
Raichur, Karnataka

18th Dec, 2020
Shri N Venkata Reddy
Founder & Director
Teck Team Solutions

24th Dec, 2020
Mr. Thota Sivaji
Founder & CEO
Aaharya Technologies Pvt Ltd

30th Dec, 2020
Mr. Raghuvver Allada
Co-Founder & Director
SuperZop

Many more to come...

Contact No. 7995362032

Registration Link <https://bit.ly/2JFn2Np>

*E-Certificates will be issued for Participants

Student Coordinators: BVNSG Sudarshan, III/IV IVRKS Aniketh, III/IV	Faculty Coordinator: Mr. B. Pradeep Santosh Kumar Dr M Shiva Naresh	Dr. Ch. Anil Convener, HOD
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CHEMINEER CLICKS



DVS Raghava, III/IV

