

# NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR



Follow your dreams they know the way



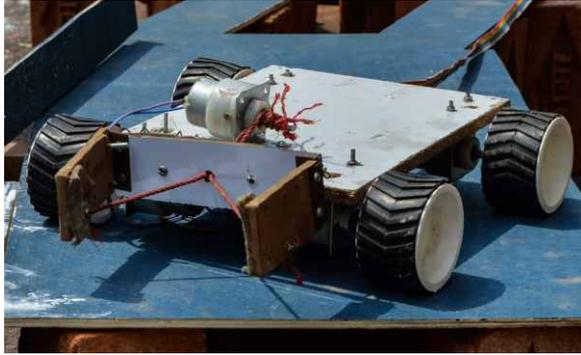
## SHILPI 2019



# 2019 - Living a year



# 2019 - Living a year





# Dedication

## *Abolition of Article 370*

*In an event of subtly ease the seeming permanent Kashmir issue, government of India abrogated Article 370 by president's rule under Article 356.*

*Thus, Kashmir is no more a special state; no more untouchable to other states of India but is more like any common state of India.*

*This one single step of maintaining Kashmir will turn the lack of awareness and expense of extension in the city simultaneously attempting to undo the discriminations that many displaced communities like those of Kashmiri Pandits have suffered.*

*This 'Shilpi' dedicates itself to the welfare of Kashmir and all Indians who deserved Kashmir, more than it deserved them!*

## MESSAGE FROM THE DIRECTOR

Magazines are indispensable part of an institute which provides an aesthetic platform to the students as well as teachers to showcase their talents in their creative fronts. As mirror reflects the appearance of a person, the institute magazine reflects the talents of the students and teachers of its houses.



In this context, “SHILPI” - The annual magazine of NIT Raipur plays the role of an ideal institute magazine. The institute is constantly striving in all round development of the students through its endless efforts, and SHILPI is one such endeavor, providing wide spectrum of literary and artistic talents of the students that culminate into the ambrosia of life and philosophy.

I am completely contented with the member’s hard work and commitment and the only suggestion is to implement their innovative ideas to ameliorate the magazine every year. My message to all the students is to work hard to achieve your goals and always be creative and innovative.

  
[Dr. A.M. Rawani]  
Director  
NIT Raipur



# EDITORIAL

The sky's all dark and purple every evening, and the days, they're losing color too. The streets are cold and the traffic jams are lonely. What's the difference between concrete and candy anyway. We're all OPTIMISTS here.

Here, grab this string. Have you got your paper cup? I've got mine. Go, go stand on the other side of the -- There, where the grass is greener. Can you hear me? I'm not going to talk any louder than this. How can yours be half empty? I thought I made sure that the cups were half full.

That's Literature talking in verses to keep you optimistic as you create your own universe. A wise man once said, "The Earth without art, is just eh." Or maybe it was someone at The Literati. But we totally agree. We're here to showcase the best work of amazeballs artists and writers from all over NIT Raipur between the two covers of SHILPI.

We welcome you to celebrate Literature and it's fandom that we found in our college campus.

Something better is coming as you flip the pages ahead, you're allowed to be excited.

Team Literati

# FACULTY SUPPORT

*“The highest education is that which does not merely give us information  
but makes our life in harmony with all existence”*

*- Rabindranath Tagore*

Our effort to shape 'SHILPI' is an endeavour to draw some fine lines and routes towards the definitive purpose of education which Gurudev Rabindranath Tagore the sage of Shanti Niketan opines in the above statement.

As the saying goes, change is the only constant in life. The world around us is changing rapidly and every individual is supposed to update its pace armed with intellect and wisdom to connect with the humanity at large. The students of NIT Raipur are yoked to carry the responsibility of wise-change not only on their own but also on the society they live in or are the part of. Our students have always shown their instinct to intimate with the challenges and change the circumstances for the betterment of society on all possible strata.

The present issue of 'SHILPI' showcases a prototype of creativity, imagination and sensibility the very characteristic of our students. We congratulate all the team members who helped in animating the pages of 'SHILPI'. We convey our sincerest gratitude to Director Sir, Dean Students Welfare and team 'Literati' for their instrumental support and efforts.

**- Team Literati**

# FACULTY SUPPORT



**Dr. Sanjay Kumar**  
Chairperson



**Dr. Ebha Koley**  
Member



**Dr. Anoop Tiwari**  
Member



**Dr. Saikat Majumder**  
Member



**Yeddy Vijaya Babu**  
Member

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# The 9<sup>th</sup> Convocation

## NIT Raipur's convocation ceremony, Foundation Day celebration on Dec 1

■ Staff Reporter  
RAIPUR, Nov 29

THE National Institute of Technology (NIT), Raipur, will organise its 9th Convocation Ceremony on December 1. The chief guest of the event will be Dr Sanjay Govind Dhande, Chairman of National Institute of Technology, Delhi. He is a world class professor and former Director of IIT Kanpur.

This year, unlike all the colleges throughout the nation, NIT Raipur is introducing a new trend for the convocation ceremony. The ceremony will be organised traditionally like an Indian cele-

bration. The students will have an Ethnic dress code, boys will be wearing 'kurta Pajama' and girls will wear 'Saree'. New convocation traditions will be made replacing the older ones of tossing of graduation caps.

A total of 1,138 students will be attending the ceremony, 886 of which are graduates, 191 are post graduates and 59 are PhD students. A scintillating medals and awards ceremony will be organised in which 57 medals, including silver and gold will be dis-

tributed to the students comprising of Branch Toppers, University Toppers etc.

It is worthwhile to mention, December 1 is also the Foundation Day of NIT Raipur, hence it is going to be a day full of ceremonies and celebrations. The Foundation Day will be celebrated in the evening at 6:00. N Bajendra Kumar, IAS Chairman cum Managing Director, NMDC Limited will be the chief guest and Padma Shri Professor Sanjay Govind Dhande, Chairman BOG

NITIE Mumbai & NIT Delhi will grace this occasion as guest of honour.

Dr A M Rawani, Director and Acting Chairman, BOG NIT Raipur will preside over the functions. Cultural programmes will be organised by the students and all the students of the college are waiting eagerly for the celebrations. A documentary will be launched during the event which will show about the glories of NIT Raipur, an institute whose foundation stone was laid by the first President of India Dr Rajendra Prasad and which was inaugurated by the first Prime Minister of India Jawaharlal Nehru.



**The Convocation Day** is the highlight of a student's life as it marks the culmination of their academic life. It is with great focus, determination and effort that a student earns their degrees here and this day is a milestone as they are recognized for this achievement. This day marks their transformation from students to professionals who are capable of shouldering responsibilities backed by the knowledge and wisdom attained.

**The Ninth Convocation Ceremony** was held at National Institute of Technology Raipur on Saturday, 01 December 2018. The Chief Guest of the ceremony was Padma Shri Prof. Mr. Sanjay Govind Dhande, Chairman of the Board of Governors of National Institute of Industrial Engineering, Mumbai and National Institute of Technology, Delhi. Mr. Dhande has served as Director at IIT, Kanpur.



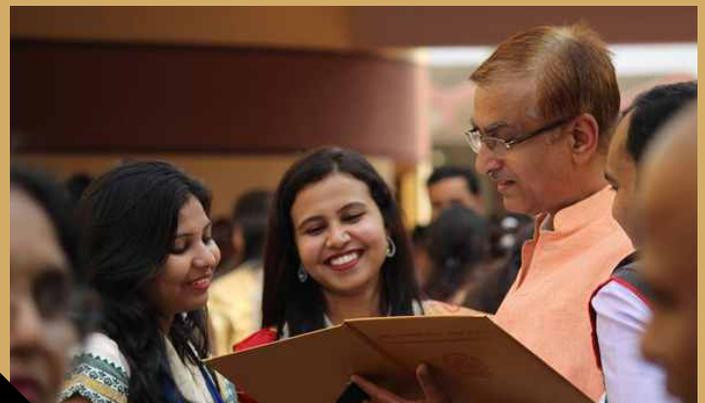
The North Indian tradition was followed for the first time in the institute and will be followed in the coming times. In which students appeared in white kurta

pajamas and girls in Indian sarees. This year, 59 students received doctoral degrees.

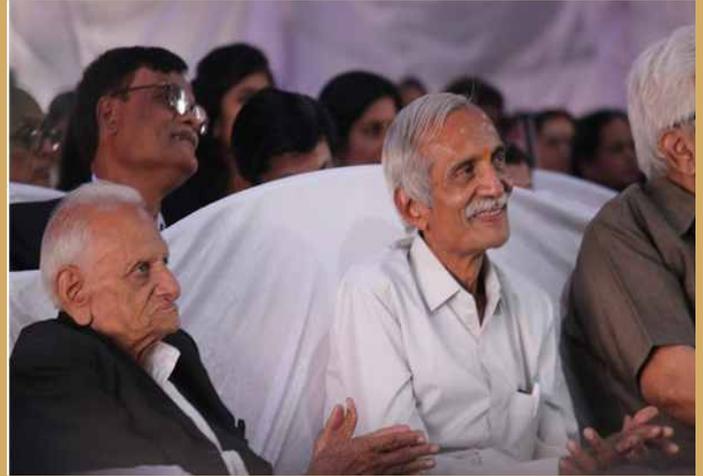
**The program** started with the national song Vande-Mataram. Director of the institute Dr. A. M Rawani, all members of the Board of Governors, members of the Senate, deans, all the heads of departments and other faculty were present. Dr. Rawani presented the annual report of the institute in his address. In which he mentioned 83 ongoing research works in the institute, besides he also counted all the achievements of the institute.



**Institute Director** Prof. A.M Rawani informed about the placement record of the institute's session 2017-18. In which a total of 517 students from 70 companies were placed. In his address, Shri Dhande congratulated all the students for reaching this milestone and advised to use their acquired knowledge for the upliftment of the country and society. He said in his address that the coming time is for the youth and he also mentioned the Industrial Revolution 4. Apart from this, Mr. Dhande said that with the arrival of Make in India, one should become a job producer instead of a job seeker.



**After which** the program of awarding the students started, which the students were eagerly waiting for. A total of 1138 students were awarded degrees.



In which 888 UK, 191 PG and 59 PhD degrees were awarded. A total of 47 gold and silver medals were awarded to the students. The overall topper of the institute was Aishwarya Srivastava of the Computer Science department, who was awarded the gold medal.

The program concluded with the national anthem and all the graduates went back home with flying colors.





# Topper's Talk





## Omaima Maqsood

Architecture  
C.A.T. IIM: Khozhikode

1. When did you decide that C.A.T. was the one for you especially when you were pursuing Architecture at N.I.T. Raipur?

**Actually, when I was interning in Barcelona, there I didn't have much experience of the professional world and realized there was lot more to do when you're working with a team. We were doing a project in which we had to coordinate all across the globe. My team had employees from Turkey and I felt there's lot more going on than the pure architectural design. Then I thought that I would give MBA a shot after architecture.**

2. What made you choose C.A.T. over placement or G.A.T.E.?

**Opportunities in architecture immediately after graduation are pretty limited. May be get a higher education. I realized that I'm not much driven for architecture. I'm good at speaking and working in a team. And so, I thought it would be better utilizing these skills after getting my M.B.A rather than continuing my career in architecture.**

3. When did you start your preparation? What was your strategy? Did you attend any coaching institution or sign up for any examination module?

**I tried studying private in Bangalore after coming from Barcelona. I enrolled for a course at time and started going for classes. But I had never taken any tuition classes throughout my education. And I realized that normal was not suitable for me and felt that is not going to be good for my confidence. And so, I decided that coaching classes are not at all helpful to me. But it differs from person to person. Then I subscribed to the online module of T.I.M.E. and studied on my own.**

4. There would have been some difficult times when you may have got stuck or may be feeling stressed. So how did you cope with and get back on track?

**I took a year gap, so I thought I need to justify this gap later in the interview and I had not any backup plan. If I failed then, I would have to go for architecture from which I had completely got out. I was not willing to do that. So that became the motivation function. Also, I was studying at home and didn't have the classroom environment. But my parents always motivated me. Ten days before the exam, I called my dad and told him that I don't know why I'm wasting my time. But he told that you have invested as much time you could have, go for it, cheer your mood and give the exam. They knew how to help me in my study, whenever I felt low.**

5. What kind of profile one should build for a shot MBA school? Were you in any of the clubs or the committee in college?

**My percentile was not as good as others, I got the advantage of coming from diverse background. Any architecture student going for MBA, they should go for it, math is not a prime subject. Identify your strong subject. I aimed high for verbal and logical reasoning. One should get good grades in under graduation because companies do look at your grades during shortlisting. I don't see a lot of difference coming from a different branch. But people should try to be a part of clubs and committees. I actively participated in extra-curricular activities like debate, quizzes etc. I went for state and national level competitions. That really made my profile look good. If you're not studying much, then make up for it by being a part of committee and clubs.**

6. So did you anticipate your result? What was your reaction upon knowing that you've made into one of the IIMs? I wasn't expecting much from myself compared to the other candidate. There were a lot of processes after getting selected. I didn't expect that I would make it to the final. I was mentally exhausted for 10 months. So, it was big relief. I wasn't overwhelmed.

7. What will you like to suggest to future aspirants?

**CAT is not very difficult exam like UPSC. 2-3 hours everyday preparation for two and half months is more than enough. 10 months preparation is not required. The habit you can build upon since day one is reading one. Verbal can be prepared in two months. I would really like to suggest to people is build your talking skills for group discussion and personal interview. How well you present and market yourself will take you further.**



## Arshpreet Singh

Branch: IT, GRE score: 323

Qu.1 When did you decide to pursue G.R.E.?

**I decided to pursue during 2nd year.**

Qu.2 In which universities you had applied?

**I haven't applied to universities yet.**

Qu.3 What made you choose G.R.E. over placements or G.A.T.E.?

**I did go for placement to get some work experience so that I get to know the job scenario and the opportunities available before I can be sure of what I want to pursue in my Masters. I chose GRE over GATE because universities that are abroad offer better research facilities and more specializations to choose from. Better pay load is also an added advantage.**

Qu.4 What preparations did you do?

**I went through some standard preparation materials like GRE official booklet, Manhattan Prep, Barron and so on. I also brushed up on my Mathematics' concepts from NCERT books up to 10th standard. Practicing as many questions as you can is instrumental to get a good score.**

Qu.5 Did you take T.O.E.F.L. too? How do you suggest one can improve their English enough to appear for G.R.E. and T.O.F.E.L.?

**Yes, I took TOEFL too and scored 112 out of 120. The preparation for English for GRE and TOEFL are actually quite different. To get good TOEFL scores, one can read novels, watch English tv-series/movies or listen to podcasts. But preparation for GRE's English is a different ball game all together. One should develop a habit to read well-articulated articles that are published in various fields (New York Times' articles are a good example) and should have a very good vocabulary too. You should be comfortable reading vocabulary-rich articles that use jargons and are completely unrelated to your field.**

Qu.6 Choosing the right university is crucial to future studies. What to look for in a university?

**One should go for the acceptance rate of the university because application process is a costly affair (~7000 Rs for a University). Also, one should go for graduation rate, placement conversion, quality of faculty, accreditations and the geographical location when choosing a University.**

Qu.7 Since it is quite expensive to study abroad what are you planning to do? Is it possible to get a scholarship?

**Indians in general get decent scholarships as we tend to be good at academics. One can apply for a scholarship during the application process itself. One can also go for scholarships that are given to people who are particularly good at academics.**

Qu.8 What is the minimum score one should aim for a good university? Does it differ with your discipline of interest?

**A score around 320 is considered decent. Actually, a decent score does differ with one's discipline of interest. For someone who plans to pursue Masters in industrial design, some universities might just need the TOEFL score and not need a GRE score at all. One should be very careful about the University's criteria for the application process.**

Qu.9 What message do you have for future aspirants?

**I personally believe that clarity and self-introspection are a game changer. One should not only know about 'what to do' or 'how to do it' but also be very clear on 'why to do whatever you are doing'. Doing a thorough research prior to commencing something would always help you a lot.**

Qu.10 Lastly what are your hobbies? Did they assist you in your preparation?

**My hobbies are reading novels, watching movies and dancing. Reading novels and watching movies were quite crucial for my TOEFL score. Dancing helped in a way too as it's a great stress-buster.**



## Vaidehi Mishra

Branch : Electrical Engg.

GRE score: 321

1. When did you decide to pursue G.R.E.?

**I was interested in research since school. Universities abroad are more flexible and support more when it comes to experimenting with your field of interest. That is why I chose to pursue GRE.**

2. In which universities you had applied?

**I will be taking some time before applying to universities.**

3. What preparations did you do?

**I joined an online coaching for my GRE preparation. Quantitative and logical reasoning is very easy. It's only the verbal section and essays that one needs to work on. Most coaching classes hand you wordlists to learn, but it's always better if you learn words simply by reading more articles, novels or any piece of writing. Vocabulary is not just about knowing what words mean but also to use them in the right context. It helps with both, the verbal section as well as the essays. Of course, practice matters. The more you practice, the better you get.**

4. Did you take T.O.E.F.L. too? How do you suggest one can improve their English enough to appear for G.R.E. and T.O.F.E.L.?

**If you're preparing for GRE, you won't need to prepare for TOEFL separately. My suggestion will be to keep looking for new ways to improve your language. Be it crossword puzzles, apps and games related to vocabulary, reading newspapers, articles, novels or even Fan-fiction. Just remember to revise the words you look up, it greatly enhances the chances of you adding it to your vocabulary.**

5. What is the minimum score one should aim for a good university? Does it differ with your discipline of interest?

**Universities do have a minimum score for eligibility, but that varies from university to university. Also, since GRE and TOEFL are only a part of the admission process, your statement of purpose, letters of recommendation, extracurricular activities etc. will play a more important role in getting a good university. You can get a good university with a score above 310.**

6. What message do you have for future aspirants?

**Study for the sake of your interest. If you're focused enough, you're bound to do well.**

7. Lastly what are your hobbies? Did they assist you in your preparation?

**Art helps me destress. I paint, I sing, I write. Trying to build yourself in any free time you get definitely helps. Extracurricular activities also help during admissions.**



## Prakhar Shukla

Branch : Electronic & Comm.

GRE score: 318

1. When did you decide to pursue G.R.E.?

**The exposure that I can get there in my field of VLSI design was better as compared to what I could get in India. As in US there are more VLSI design engineering opportunities as compared to India. So, I decided to pursue GRE.**

2. In which universities you had applied?

**I applied for MS in VLSI at University of California, Berkeley (UCB), University of southern California (USC), University of Illinois at the Urbana-campaign and Georgia institute of Technology.**

3. What made you choose G.R.E. over placements or G.A.T.E.?

**The opportunities that one can get in my domain are way better in US than in India. Also, the facilities and technology nodes are advanced in US as compared to India. Hence, I preferred GRE over GATE.**

4. What preparations did you do?

**I prepared using the material available online mainly using Manhattan series, Official GRE books and Barron's 888 words book.**

5. Did you take T.O.E.F.L. too? How do you suggest one can improve their English enough to appear for G.R.E. and T.O.F.E.L.?

**No, I did not take TOEFL. But to improve the vocabulary for GRE, I should recommend remembering different words in a daily basis from Barron's 888 words book, and then use them in correct context in daily life. Because in new editions of GRE they mainly focus on context of words, rather than just meanings.**

6. Choosing the right university is crucial to future studies. What to look for in a university?

**Things to be looked in university are their professors and their field of interest. Also, sometimes the ranking of universities may help. I would suggest to take help from the seniors doing their MS at US for more help and not just rely on online information.**

7. Since it is quite expensive to study abroad what are you planning to do? Is it possible to get a scholarship?

**Yeah, it's very costly to pursue MS in US without scholarship. It is possible to get scholarship, but for scholarship they need 330+ in GRE (for top universities) and also since there are lesser number of scholarships for MS, hence your overall performance should be very good to bag a scholarship.**

8. What is the minimum score one should aim for a good university? Does it differ with your discipline of interest?

**Minimum GRE score should be above 315 (for VLSI domain). As such GRE score is not considered much (if you are not aiming for scholarship) and a score above 310 will do fine. Yes, it depends on my discipline because since there is a boom of AI, ML industry hence their requirement may be different.**

9. What message do you have for future aspirants?

**I would recommend, those who have interest in their domain, they should go for GRE in comparison to GATE. GRE gives enough exposure to excel in any domain. Also, if you want to go for GRE make sure you work on your vocabulary.**

10. Lastly what are your hobbies? Did they assist you in your preparation?

**I like listening to Indian music and singing too. Yes, they helped me a lot in chilling out in my free time and getting relaxed while I was studying for GRE.**



## Shivendu Sinha

CIVIL ENGINEERING

GATE 2018 SCORE: 920, RANK : 35

1. When did you decide that GATE was the one for you? What made you choose GATE over other career options like CAT, placements etc.?

**Actually, one day I attended a demo class of mechanics of solid arranged by Engineering circle. After joining there, eventually my interest began to develop. Then I started focusing on the GATE.**

2. Which PSU/Institute have you applied to?

**I had applied to ONGC, IOCL, PGCIL, EIL, AAI and was selected by all the PSUs.**

3. When did you start your preparations? What was your strategy and how did you stick to it?

**I started my preparation in third year of my engineering. I ensured that I revised whatever was taught in the coaching class. I used to discuss with my friends and they assisted me a lot in the preparation. They were assured of my capabilities and cheered me all the time.**

4. Was it difficult to focus on GATE and semester studies? How did you cope with it?

**We have to set priorities, no one can excel in both the things. I prioritized Gate as my ultimate goal. Though I maintained my CPI above 8.5. If you don't want to take drop, my suggestion would be that you give more importance to the GATE preparation.**

5. Did you attend any coaching institution for your preparation or sign up for any examination module for your preparation? How was your experience?

**As I said earlier, I joined Engineering circle coaching class for the preparation. Besides I brought the question modules of Made easy and Ace academy and joined their test series. The study material provided by the coaching class was really helpful and more than enough. There I used to clear all my doubts. I practiced daily, previous year question papers during my summer vacations.**

6. What would you like to suggest to future aspirants? \*

**One should definitely go for online test series as they play a crucial role in the preparation. It teaches one how to score. It provides you, the environment as of the examination hall and tests your patience to appear in the exam.**

7. Did you anticipate your result when you were preparing for your exam? \*

**Yes, even a month before the GATE exam, my friends were more confident than me that I would crack this exam.**

8. What are your hobbies? Did they assist you in your preparation?

**I love playing football, badminton and cricket. Playing itself makes you at ease and cool. Whenever I was tense that I relaxed by playing these sports.**



ENGLISH

CORNER



# How to Cope Up with Competitive Exams?

We all live in the ruthless competitive world. For placing your next step you have to give the exam. There is nothing different in India. Almost one million candidates applied for UPSE exams last year. Almost the same number of students applied for GATE in total this year. No more words are required to embellish the extent of toughness. Let us discuss how to conquer these.

“Well planned is half done” This sounds correct to me. Even before starting the preparation there are a few hacks you can follow. Let me discuss them first. First one is Picking the study material. A friend of me discussed the interview of the IAS topper. She took almost a week to pick the books. Even until now all might seem to be okay for you but are those picks remain throughout the journey of preparation? The IAS topper cracked this problem. She decided that she won't try even if she gets the better one once decided. Well... now it is very fair to take time for choosing books or study materials. You have to be confident that those picks are entirely capable to nail it for you.

The second hack is an important one. Let me discuss it with quoting this line, “Competitive exams are like video games”

You read it right. Let me take an example to justify. Do you know EA sports cricket? Doesn't matter if you don't, If you are batting, to hit continuous sixes, always make sure the ball marker is on the leg side of the batsman. Move the batsman's foot accordingly so that the leg stump is visible and press the advance shot button together with the boost shot button towards the leg side. You can always hit a six.

This one has no relation to real cricket. But if you want to win you have to do this. Just like that, it is no brainer to think beyond what they expect from you. At least for that specific exam. You have to figure out their pattern, conventions, surprise elements, favorites (Yes, here also nepotism) etc.

Yes, many hacks are to be followed during the preparation. So the first one is, You need to become a magician. Sounds cool! Isn't it?

What a magician does? He has techniques to deceive you and all the techniques, the hand tricks are practiced millions of times. Simple as that!

Just like that, you need to become the magician of that subject, up to the exam's extent. Before performing magic, those practices will boost your confidence.

My teacher used to tell me that our half of the time was for studying what was going on and half of the time was to revise what had gone before. That was correct. Every exam tests your memory too, even if they deny there are lots of things to be remembered. The revision comes into play for these. You can remember anything. Believe me!

The last thing is you, how you act on the various circumstances? Before that test life will test you anyway. You will fight, you will win, and you will lose. Never leave the ring.

All the best!

**Mayank Sinha**  
**Information And Technology**  
**Third Semester**  
**Contact - 9575460537**



# Is Solution to corruption really integrity amongst people?

## The Dark yet True side

-By Priyanshi Sharma

'Integrity'- the quality of being honest and having strong moral principles, indeed a fascinating and a very virtuous way of combatting corruption, but at the same time we live in a world comprising of both good and evil, and expecting everyone to be good is a utopian world and therefore is it even valid to expect that the solution to corruption is simply integrity amongst people! Ofcourse there is much more to it!

Lets begin with day to day corruption. According to traffic rules in Delhi if you jump a red signal in Delhi you need to pay some fine and additionally your driving license shall be seized on the spot and suspended for atleast three months. In fact the person shall not be allowed to drive the vehicle and has to call someone to drive.

Maybe I'm rushing for an important meeting and knowingly or unknowingly I jump the signal, and I get caught. Then maybe my conscious would say, 'follow the rules' 'Its ok to get some time wasted' but then the rational mind kicks in telling me about the lacs I've on stake in that meeting. I can't afford to be late, especially when I had an "option"

To bribe the policeman and move on! My heart cringes, "What kind of a person you are?" and then brain interferes "You know what dear heart, It's a practice. Everyone does that and you would cry harder when we loose relations with those clients even when we had a way out'

Well, that 'way out' is the problem! Its not that one's ethics were feeble but we lacked prudential reasons to support those ethics. It is not practical to go the hard way round when easier paths are available. Acting the ethical way rather turned to be illogical and at the end we give in to be corrupt. The problem is the fact that paying under the table

is profitable for both parties. The fact that this has become an 'option' is the fault.

But what about the minority of honest officers we have. At this level maybe some people would need to pay proper penalties or maybe the honest person start acting dishonest tired of seeing his mates having more money in hand.

Lets see some cases of people who dared to be virtuous.

I would like to begin with Durga Shakti Nagpal who is well-known for launching a massive drive against corruption and illegal sand mining. This lady was put under a fake allegation of demolishing a mosque's wall and suspended, rather her husband was also alleged to act inhuman with a teacher and suspended without no mention of what inhuman action he was guilty for. She received threats from villagers, mining cartels, politicians. The Chief minister Akhilesh Yadav compared her with an errant child who needed correcting.

She could've accepted it and let it happen, or maybe come up with a settlement with the mining cartels and be very profitable, but she rather chose to be righteous and was awarded with harassment and allegations. Its heart-breaking to say so but what she had faced was bad and for many others escape of silence would have been preferred and followed way and of course it does not make one enthusiastic to be honest.

Or lets talk about the ONGC officer who was murdered on the spot for protesting and getting in the way of these goons!!

Can we afford to loose good and honest people in the name of integrity? Situations, practicality, rationality curb that integrity down! The problem is not that are morals are weak, its that we don't have prudential reasons to support it!

Its not just about awakening it, its about nurturing it, strengthening it! When we talk about places where rules are being followed, its not about people simply being honest, but there is a mechanism in which they have to act honest. For example on our very own Expressway there are radar to detect over speeding, which means every over speeded vehicle is identified and of course fine for each of these vehicles must be taken, which removes room for bribes.

A mechanism is to be created where being honest is not only the preferred way but the only way out for every single person.

**Name - Priyanshi Sharma**  
**Branch - Computer Science & Engineering**  
**Semester - 2nd**  
**College - NIT Raipur**



# Love Without Boundaries : Section 377

It is rightly said that love is the most purest and beautiful feeling that a person experiences in his/her lifetime. We have several examples in the history which proves the above line, be it Romeo-Juliet, Jodha-Abkar, Bajirao-Mastani. And if we are told to imagine love, these famous couples probably would come to our minds.

This is how we imagine love to be or rather this is how society pictures love to be. For a long time, the Indian mindsets had prejudiced love to be something that has to happen between opposite gender but a simple question arises that how does it matter that the feeling is for someone of the same or opposite gender? It was considered wrong to feel this way for a person of same gender, the person was made to feel ashamed of this fact and made to hide his feelings. The most horrifying fact is that it was considered a criminal offence. And the punishment was no less than that given to some criminal committing a crime (life imprisonment).

We, the people, live in the 21st century, the era of modernization. We ought to understand that modernity doesn't come from wearing modern clothes or using hi-tech gadgets instead overcoming our stereotypical outlook towards such social issues. These people need to be respected and given the dignity that they deserve rather than alienating them. We as individuals need to accept the diversity that exists among the human beings. We need to abolish this kind of thinking that has been enforced upon our minds.

It is high time that we give up such stereotypes related to the LGBT community and accept them as being normal human beings who have the right to live and love just as we do.

We need to open up our minds and hearts and accept this change for the betterment of every individual in this society because everyone has the right to be happy and accept the ideology of LIVE and LET LIVE.

Thanks to our Indian government who took the legendary decision to decriminalize section 377. Though this law has been passed but we still have a long way to go before this becomes acceptable to our fellow countrymen. It still seems somewhat difficult to eradicate our current mindsets and bring such a huge change within our orthodox society. We need to join our hands and come together for the cause of humanity in order to make this world a better place to live in where everyone is happy and leads a peaceful life and has the right to live freely without any restrictions and LOVE WITHOUT BOUNDARIES.



**SAKSHI BHANDARKAR**  
**CSE**  
**2ND SEM**



# SYLLABUS OF LIFE

The times have drastically changed. World is seeing a life-size transformation when technology is in hands with kids all through the globe. Humans have taken giant leaps and are still exploring 'what next'. The world is running and rushing with lightning fast internet, fast moving vehicles and latest technology enabled gadgets.

The only prodigy that is missing is about LIFE. Very few humans are concerned about the 'being of human'. Due to 'rat race' attitude, humans have ignored the most important curriculum i.e. the syllabus of life, which comprises of all that substance that we inherit from our parents and well-wishers.

The series of karma takes a man as high as possible but brings him back to the basics, where he realizes the value of life, the being of a human. Keeping a check on a few good points can help us to rise high and remain on the ground. Let's check the points of life

**Have faith in self** – It is very well said, 'If you don't believe in yourself, chances are that nobody else will either.' Trusting your instinct is very important to move ahead in life. It's not easy at all, but you must find out ways to unearth your buried self-confidence, and get in touch with a powerful faith within you never knew existed. Some of us may say that Mahatma Gandhi, Steve Jobs and Mother Teresa, were just lucky and they got world famous. But the only difference between them and us is that they developed their courage by constantly stepping outside of their comfort zone, thereby building their self-confidence, which ultimately led to their unwavering faith.

**Check Your Attitude** – Attitude can be positive or negative. Your attitude towards life denies your altitude. Psychology denies this word as an expression of favour or disfavour toward a person, place, thing or an event. Attitude refers to the concept of mood, which involves a lot of emotions that our mind and heart generate. Everybody has capability to do something in life. Motivation helps to define what you do but Attitude determines how well you do it.

**Don't Give Up!** Fail, Fall ..Stand. Walk ..Run! – Many of us know Nick Vujicic. He is a man without limbs. No arms no legs. If you goggle him, you'll get to see that without arms and legs he has developed into a celebrity and a motivational speaker moving around the globe to transform lives. He says, 'Never Give Up. The human spirit can handle much worse than we realize. It matters HOW you are going to FINISH. Are you going to finish strong?'

**Check your Words** – Once Lord Krishna was caught by Mother Yashoda eating mud. When asked to show his mouth, he opened it wide and Yashoda saw the entire universe in it. Now what do we infer? Logically, this story proves that 'YOUR WORDS DEFINE YOUR WORLD'. Your mouth through which you speak has the power to make you either famous or bring defame in your life, in your world. So it's very important for us to think and speak, because all the sound energy that we produce through our mouth comes back and hits us, you decide whether it be positive or negative.

**Create Ideas...Discuss...Follow!** – An average human mind produces around 50-60 ideas and thoughts in a day. The only thing is that many good ideas die soon in our hearts and minds, thinking that people may laugh on them or they are not practical. Well, your instinct can never be wrong. It's very important to come up with your thoughts, talks to people, discuss with experts and it is for sure that can frame its practicality and follow a new road to success.

**Stay Happy! Relax! Be Calm! Have Fun! Enjoy!** – Many of us are victim of being workaholic or running a race to nowhere. In this run and rush we forget to smile, to relax, to calm down, to touch our peer, to have fun, to enjoy. But trust me; best of the successful people take a break. It's very important to leave your routine for a while. It's very important to have few such days in life where you don't think logically, where you don't follow regular routine, but just do things what your heart says and relax! No wonder, you'll see a big change in your productivity.

**Talk to the Supreme Power (God)** – Many of us these days following latest trends don't believe in God. But at the same time, agree that there is some Supreme Power that controls our life that controls our success and failure. We do agree but we don't connect to that Power, which is utmost important.

**Work Hard!** – Well, the real essence is in doing hard work. It's very important to open your heart and mind into all the endeavours of life. Don't leave a task undone or do not get into something half-heartedly. Life demands struggle and every dream becomes reality only through determination, sweat, blood and hard work.

**Write a Lot...Listen a Lot...Talk a Lot!** – Another important aspect of any life is to have a proper definition of self. Who better than you can define you? It's good to write a lot. Have personal diary, planner, whatever strikes your mind, scribble it on paper. You may refer it in future and may be it can help you into connecting correct dots of life. And of course the learner in you should not die, be inquisitive and try to know new things by listening to people. Also keep talking to lots of people!

Just know, when you truly want success, you'll never give up on it. No matter how bad the situation may get. And may be few of these points help you sometime in life!

**Name - Siddhansh Shrivastava**

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**Sem - 5**



# What is the National Game of India?

*Wait! Did you thought HOCKEY?*

*No.. Hockey is not the National Game of India.*

*This revelation came to light when a young 12-year-old girl name Aishwarya Parashar filed an RTI request to the Prime Minister's Office in order to get certified copies of orders related to the declaration of the national anthem, sport, song, bird, animal, flower and the country's symbol. The query about the national sport was forwarded to the Ministry of Youth Affairs and Sports. In response to the RTI, the Sports Ministry confirmed that it had not declared any sport or game as the 'national game.'*

*This makes us wonder why hockey has so long been known as the national sport of India. Some would say that the international success of hockey since its Olympic debut in 1928 made the sport a household name. The Indian hockey team won six Olympic gold medals from 1928 to 1956 and 11 until 1980. But since then, hockey has been a major disappointment on the international stage, even though, right now, it ranks fifth in the world.*

*Success does not remain unchanged and is not the best criterion for deciding the national sport of a country. This is probably why hockey doesn't qualify to receive that honour. The next criterion could be popularity, as cited by cricket lovers of India. But cricket wasn't popular in India before the 1981 World Cup win. Things could change again and another sport could become more popular than cricket. Therefore, popularity isn't the right yardstick to give any game the national sport's status.*

*Accessibility is another factor that determines which game could achieve the status of national sport. Hockey and cricket are both expensive sports. While hockey requires one stick per player and also a synthetic playing surface, cricket requires a bat and a*

*ball, besides other gear like gloves, shoes and a helmet. A large section of India's population is underprivileged and doesn't have the means to a square meal a day, let alone sports gear. This makes most sports inaccessible to a major portion of the population.*

*Football is a relatively inexpensive sport. You only need one ball for two teams to play with. In many lanes and bylanes, you can find young boys playing football with a coconut shell or a plastic bottle when they don't have access to a ball. But unfortunately, India barely has any place on the international football scene. Even though local clubs are quite popular, for a sport to be named a national game, it has to have international success. That rules out football.*

*Cultural relevance becomes the remaining factor in deciding the national sport of a country. But India has so many different cultures that it is difficult to pick one sport that has significance for all cultures. Kabaddi is popular in the north, boat racing is popular in the south and football is popular in Bengal. It is therefore impossible to find a single sport that is important to everyone.*

*It now makes sense why India does not have a national sport. With so many people and cultures, it is impossible and impractical to choose one game that will appeal to the entire nation. Until India figures out what its national sport is, people will rejoice about cricket and read about hockey in history books.*

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**3rd sem**



# SELF HEALING CONCRETE

New materials and energy, design approaches, as well as advances in digital technology and big data, are creating a wave of innovation within the construction industry. With the introduction of smart roads and more energy-efficient housing, the need is there for construction to get smarter and more efficient too. With more innovative tools and techniques appearing all the time, here is an industry-changing examples of the new technology used in civil engineering today. This is self healing concrete. Cracks in concrete are a common phenomenon due to the relatively low tensile strength. Durability of concrete is impaired by these cracks since they provide an easy path for the transportation of liquids and gases that potentially contain harmful substances. If micro-cracks grow and reach the reinforcement, not only the concrete itself may be attacked, but also the reinforcement will be corroded. Therefore, it is important to control the crack width and to heal the cracks as soon as possible. Since the costs involved for maintenance and repair of concrete structures are usually high, this research focuses on the development of self-healing concrete. Self-healing of cracks in concrete would contribute to a longer service life of concrete structures and would make the material not only more durable but also more sustainable.

Concrete has an autogenous healing capacity as unhydrated cement is present in the matrix. When water contacts the unhydrated cement, further hydration occurs. Furthermore, dissolved CO<sub>2</sub> reacts with Ca<sup>2+</sup> to form CaCO<sub>3</sub> crystals. These two mechanisms, however, may only heal small cracks.

To enhance the healing mechanism, microfibres are added to the mixture. By mixing microfibres in the concrete, multiple cracking occurs. So, not one wide crack, but several small cracks are formed, which close more easily due to autogenous healing.

Superabsorbent polymers (SAP), or hydrogels, are able to take up a large amount of fluid (up to 500 times their own weight) and to retain it in their structure without dissolving. When cracks occur, SAP are exposed to the humid environment and swell. This swelling reaction partly seals the crack from intruding potentially harmful substances. After swelling, SAP particles desorb and provide the fluid to the surrounding matrix for internal curing, further hydration and the precipitation of CaCO<sub>3</sub>. In this way, cracks may close completely.

Due to the fact that the pH in concrete drops from 12.8 to 9-10 when a crack occurs, it is useful to investigate pH sensitive hydrogels. These will only swell when a crack occurs and fresh water penetrates.

Cracks can be healed by using calcium carbonate precipitating micro-organisms. These organisms are embedded in the concrete matrix after immobilization on diatomaceous earth in microcapsules or in SAP, and will start the precipitation of CaCO<sub>3</sub> once a crack occurs.

When a crack appears, the capsules break and the content is released. Due to capillary action, the agent will flow into the crack. After reaction, the crack faces are bonded together and the crack is thus healed.

Depending on the required regain in properties, different healing agents have been encapsulated. In order to reduce the water permeability of cracked concrete, polyurethane is provided inside the capsules. When strength regain is a more important issue, methyl methacrylate is encapsulated. For structures where the aesthetic aspect is important, water repellent agents can be encapsulated.

In the case of dynamic cracks in structures under cyclic load (e.g. due to traffic or temperature variations), encapsulated elastic polymers can be used. While cracks healed with CaCO<sub>3</sub> would reopen upon reloading and new cracks would form in the case of rigid polymers, elastic polymers should be able to bridge cracks of increasing width.

While fly-ash and blast-furnace slag concrete seem to be inferior with regard to the early age microstructure and strength development, their self-healing capability can be much higher, precisely because of the low hydration degree of the slag and fly-ash particles. Upon cracking, the unreacted particles can be activated again in order to close the crack and to regain water impermeability and strength.

Besides, service life predictions are performed for self-healing concrete based on the durability in aggressive environments with high sulphate and chloride concentrations or in the case of carbonation.

Standard procedures are being developed in order to compare the effectiveness of different self-healing approaches against one another. The aim of these procedures is to analyse the regain in liquid tightness and mechanical properties. Another procedure focuses on the durability of self-healing concrete with respect to carbonation and chloride ingress.

This innovation can help us to reduce our labour effort and maintains cost. Such innovations really help us to progress and make ourselves future ready.

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**Sem - 3**



# ALL “GOLD” ARE NOT GLITTERING

*There is a old proverb highlighting the importance of shining of gold, saying, ”ALL GLITTERS ARE NOT GOLD”, but what if I say that gold itself is not shiny as it is used to be and still it is as precious as it had always been since human history. The TATA INSTITUTE OF FUNDAMENTAL RESEARCH (TIFR) has done something with gold because of which it is now black in colour and called as BLACK GOLD as has got some marvellous properties which can be a boon to humanity*

## *Black (nano) Gold Combat Climate Change*

Global warming is a serious threat to the planet and the living beings. One of the main cause of global warming is the increase in the atmospheric CO<sub>2</sub> level. The main source of this CO<sub>2</sub> is from the burning of fossil fuels in our daily lives (electricity, vehicles, industry and many more).

Researchers at TIFR have developed the solution phase synthesis of Dendritic Plasmonic Colloidosomes (DPCs) with varying interparticle distances between the gold Nanoparticles (NPs) using a cycle-by-cycle growth approach by optimizing the nucleation-growth step. These DPCs absorbed the entire visible and near-infrared region of solar light, due to interparticle plasmonic coupling as well as the heterogeneity in the Au NP sizes, which transformed golden gold material to black gold.

Black (nano)gold was able to catalyze CO<sub>2</sub> to methane (fuel) conversion at atmospheric pressure and temperature, using solar energy. They also observed the significant effect of the plasmonic hotspots on the performance of these DPCs for the purification of seawater to drinkable water via steam generation, temperature jump assisted protein unfolding, oxidation of cinnamyl alcohol using pure oxygen as the oxidant, and hydrosilylation of aldehydes.

This was attributed to varying interparticle distances and particle sizes in these DPCs. The results indicate the synergistic effects of EM and thermal hotspots as well as hot electrons on DPCs performance. Thus, DPCs catalysts can effectively be utilized as Vis-NIR light photo-catalysts, and the design of new plasmonic nanocatalysts for a wide range of other chemical reactions may be possible using the concept of plasmonic coupling.

Raman thermometry and SERS (Surface-enhanced Raman Spectroscopy) provided information about the thermal and electromagnetic hotspots and local temperatures which was found to be dependent on the interparticle plasmonic coupling. The spatial distribution of the localized surface plasmon modes by STEM-EELS plasmon mapping confirmed the role of the interparticle distances in the SPR (Surface Plasmon Resonance) of the material.

Thus, in this work, by using the techniques of nanotechnology, the researchers transformed golden gold to black gold, by changing the size and gaps between gold nanoparticles. Similar to the real trees, which use CO<sub>2</sub>, sunlight and water to produce food, the developed black gold acts like an artificial tree that uses CO<sub>2</sub>, sunlight and water to produce fuel, which can be used to run our cars. Notably, black gold can also be used to convert sea water into drinkable water using the heat that black gold generates after it captures sunlight.

This work is a way forward to develop “Artificial Trees” which capture and convert CO<sub>2</sub> to fuel and useful chemicals. Although at this stage, the production rate of fuel is low, in coming years, these challenges can be resolved. We may be able to convert CO<sub>2</sub> to fuel using sunlight at atmospheric condition, at a commercially viable scale and Co<sub>2</sub> may then become our main source of clean energy.

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Sem - 3





# 72 YEARS OF INDEPENDENT INDIA

Swami Vivekananda once said, "One vision I see clear as life before me: that the ancient mother has awakened once more, sitting on her throne-rejuvenated, more glorious than ever. Proclaim her to all the world with the voice peace and benediction."

Today our cities are dotted with metro systems and these along with our metro systems are clean and modern than what is available in most of the world. Our new highways are nest in class. We are a leading power in solar and clean energy. Not just IT, but even in sectors like pharma we have produced key low cost innovations. Our mobile telephony operates at a whole different level unlocking bunch of innovations backed up by world's cheapest data rates.

From mobility to food delivery to chatbots and machine learning India is operating at cutting edge. After Aadhar and UPI, our banking system looks more sophisticated compared to most parts of world. Our rovers are going to places where no human object has ever been to. We are among the 3 countries to have successful Mars mission, among 8 nations with nuclear weapon.

72 years ago nobody would have thought India to be a key center of technological innovations. We were a burning mess of more than 500 princely states, looted by British Raj. We were left drowning in communal fights.

Today we are united, we even brought in Sikkim and Goa, we survived cold war that ripped many countries apart, and we fought many wars and still are quite safe and peaceful country. Apart of few months our democracy was never under threat, and our model is a key point of study for many countries.

In 1947 our parents and grandparents might not even have had slippers or good cloths while ordinary citizen of developed world had cars, phones and electricity. Now even a lower class home in India has phones, television, cable, internet, refrigerator and cooking gas. We wiped out famines and brought millions out of poverty and illiteracy. We eradicated diseases like polio.

We sure have had our share of failures in past 72 years, we failed to provide primary healthcare and education, we failed to create new cities, we were late in opening our economy etc. but we will learn from them, we will build on top of our previous generations because we still have a dream job left, to take our nation back to the path of glory.

We might have been born in a poor country but are not going to die in one.



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Sem - **3**



# SAVE WATER & Secure Future

Water is a basic life amenity. Without water, we cannot survive. From drinking to digestion, blood circulation etc. water plays the central role in our various life processes. In order to live a healthy life, availability of clean water is required. In spite of being so much important for us, our country even today after decades of independence, is trailing behind most of the other nations in terms of clean water supply to its citizens. According to a recent report, India has been ranked 120th position among 122 countries in water quality index, which itself shows the harsh reality of water shortage in our country. To counter these problems, JAL Shakti Abhiyaan has been initiated.

Considering the problems regarding the water shortage and supply, the ministry of JAL Shakti under Government of India has launched the JAL Shakti Abhiyaan on 1st July 2019, which will focus on encouraging water conservation and creating awareness among the people under the slogan "save water and secure future". Union Jal Shakti Minister, Shri Gajendra Singh Shekhawat, on 1st July 2019 has announced the commencement of the Jal Shakti Abhiyaan - a campaign for water conservation and water security. This campaign that will run through citizen participation during the monsoon season, from 1st July, 2019 to 15th September, 2019. An additional Phase 2 will be run from 1st October, 2019 to 30th November, 2019 for States receiving the North East retreating monsoons. The focus of the campaign will be on water stressed districts and blocks. The campaign mainly aims to educate the people living in villages and backward areas about the water conservation and various techniques like water harvesting method to counter the water shortage in such areas. It will be a

collaborative effort of various ministries of the government of India and the state governments being to bring a positive change in people towards the conservation of water. The crucial change in this campaign from previous attempts is that the campaign basically obliges public participation.

Apart from efforts from the government agencies, large-scale communications campaign has also been planned alongside the JSA involving mass mobilisation of different groups including school students, college students, swachhag rahis, Self Help Groups, Panchayati Raj Institution members, youth groups (NSS/NYKS/NCC), defence personnel, ex-servicemen and pensioners, among various others to aware the nearby areas facing acute water shortage in summers. This issue of water scarcity can only be solved by water conservation where ever possible, even if every single person starts saving 1 glass water a day, the problem can be minimised by manifolds which shows power of public participation which is the soul of this JAL SHAKTI abhiyan.

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# THE KUIPER BELT:

## OBJECTS AT THE EDGE OF THE SOLAR SYSTEM

The universe is very vast and we have discovered very little about it and there is lot more to discover. One of such discovery of science is the Kuiper Belt.

Beyond the gas giant Neptune lies a region of space filled with icy bodies, known as the Kuiper Belt, this chilly expanse holds trillions of objects — remnants of the early solar system.

In 1943, astronomer Kenneth Edgeworth suggested comets and larger bodies might exist beyond Neptune. And in 1951, astronomer Gerard Kuiper predicted the existence of a belt of icy objects at the far edge of the solar system. Today, the rings predicted by the pair are known as the Kuiper Belt or the Edgeworth-Kuiper Belt.

Despite its massive size, the Kuiper Belt wasn't discovered until 1992 by astronomers Dave Jewitt and Jane Luu. According to NASA, the pair had been "doggedly scanning the heavens in search of dim objects beyond Neptune" since 1987. Since then, astronomers have discovered several intriguing Kuiper Belt objects and potential planets within the region.

When the solar system formed, much of the gas, dust and rocks pulled together to form the sun and planets. The planets then swept most of the remaining debris into the sun or out of the solar system. But objects at the edge of the solar system were far enough away to avoid the gravitational tugs of the much larger planets like Jupiter, and so managed to stay in their place as they slowly orbited the sun. That is how the formation of Kuiper belt and distant object took place.

The most crowded section of the Kuiper Belt is between 42 and 48 times Earth's distance from the sun. The orbit of objects in this region remain stable for the most part, although some objects occasionally have their course changed slightly when they drift too close to Neptune.

Scientists estimate that thousands of bodies more than 100 km (62 miles) in diameter travel around the sun within this belt, along with trillions of smaller objects, many of which are short-period comets.

·Pluto was the first true Kuiper Belt object (KBO) to be seen, although scientists at the time didn't recognize it as such until other KBOs were discovered.

·Sedna, a KBO that's about three-fourths the size of Pluto, was discovered in 2004. It is so far out from the sun it takes about 10,500 years to make a single orbit. Sedna is about 1,100 miles (1,770 km) wide and circles the sun in an eccentric orbit that ranges between 8 billion miles (12.9 billion km) and 84 billion miles (135 billion km).

In July 2005, astronomers discovered Eris, a KBO that's slightly smaller than Pluto. Eris orbits the sun approximately once every 580 years, traveling almost 100 times farther from the sun than Earth does. Its discovery revealed to some astronomers the problem of categorizing Pluto as a full-scale planet. Pluto and Eris, surrounded by the Kuiper Belt, had clearly failed to do so. As a result, in 2006, Pluto, Eris, and the largest asteroid, Ceres, were reclassified by the IAU as dwarf planets. Astronomers are now reconsidering Haumea's status as a dwarf planet.

Because of their small size and distant location, Kuiper Belt objects are a challenge to spot from Earth. Infrared measurements from NASA's space-based Spitzer telescope have helped to nail down sizes for the largest objects.

In order to catch a better glimpse of these remote leftovers from the birth of the solar system, NASA launched the New Horizons mission. The spacecraft reached Pluto in 2015 and continued on with an aim to examine multiple KBOs. On Jan. 1, 2019 New Horizons flew by the Kuiper Belt object called 2014 MU69.

The first images taken of MU69 suggested a snowman-like configuration, with two round balls stuck together. These images seemed to confirm the idea of pebble accretion — a theory of planetary formation that suggests small rocky and icy bodies in the solar system are slowly pulled together by gravity.

However, images released a month after the flyby suggested that the pair were flatter than originally thought, more like two hamburger patties than snowballs. Their formation remains a mystery.

Science has really progressed in the past few decades. People have been looking towards the space agency like NASA ISRO and other national space research agencies for new discoveries .Discoveries like Kuiper orbit increases our hope towards these agencies. We hope to discover lot more like Kuiper orbit.



Name - **Tripti Yadav**  
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Sem - **3**



# AN INDIAN CHILD

- BY RITVIJ MISHRA

India the country uniquely identified among the other countries as a site of cultural diversity with people of all race, religion, cast etc. living with each other in great harmony. Today I am going to talk about something that may not be very important for most of you but surely it is very important for the future of the country which you live in. So let's break the suspense as today I took up the subject that is most important for any country and it's future, it's children.

Being a child in India is not very easy .

Evidently speaking as I am also the one among the many. Let me provide you all with some evidences and prove my word.

A child in India from the day he is born is wrapped around it's culture. And from then he has to carry it with him for the rest of his life as a moody friend that sometime irritates him, gives him joy and at other times makes him feel as a burden. But burden is I don't think the right word for describing the tradition despite the fact that today's generation thinks of it as that.

Traditions that an Indian child carry all over his life is what makes him a man that the whole world wants to follow for instance like Swami Vivekanand. Let me start by talking about one of the most important phase in the life of a child that is his student life.

When at the age of 5 a child first time enters play school that is when this word school sticks with him till he reaches to college. And believe me this word school is the best word that can happen to a child. It teaches him how to live his life and prepares him to face the challenges that the life will strike at him. I would often speculate in my childhood that why do I need to come to this big place filled with strangers leaving my parents at home but I guess it was important. Going to school not only taught me to interact with others but also taught me to set mine goals of life and also helped me differentiate between the right and wrong, the good and bad, the real and fake.

This was school to me and believe me what an beautiful, blissful, exciting, memorable and enthralling adventure it was. And after school comes another journey of a student that is his college. For an Indian student and as for a maths student like me, getting into a college is not anyone's cup of tea. Because of our population as we know is the '2nd' largest population in the world the competition is throat slaughtering. Students prepare rigorously for many years just to crack competition exams that might give them a spot and a stay at their choice of college. Now lets drop the intense talk and lets talk about the aftermath after clearing the exam.

After a student clears the exam with his/her hardwork and dedication comes the time for going to college, and I can relate to this situation more than anyone in this spot of time as I myself went to college this year. As u start another phase of your life, leaving the old one seems quite a burden and leaves us with intense sadness. The blend of the happiness of starting another phase of life and the sadness of leaving the ones we love and being away from them is a memory that every child remembers throughout his lifetime . But what you gotta do, you gotta do. So did I .

Moved to a stranger city, among stranger buildings, among stranger surroundings and among stranger faces. Leaving the familiar faces behind and remembered each day. And this is how an Indian child or any child, born and nourished in the laps of their parents soon becomes old enough and gets on to face the world alone but still has his parents holding his hands from behind and giving him that feeling of togetherness and affinity like he felt in his childhood.





## What After School.....

Yesterday, my friend Seema came to me and we spent much good time together after a long break. We used to share all our things with each other. She had just finished her 10th exam and was very happy because of holidays. There was also a place in her mind, little bit untidy as she had completed her school and missing a lot of fun.

We talked a lot, took some tea and then I asked her about her future plans about study. When I asked this question she slightly got disappointed and said, "didi, you know that I want to become a fashion designer from my childhood and want to study it further. But....."

"I got her point. Her parents are not in support of her decision. They were forcing her to go for medical side and want her to become an upcoming doctor. It is their right to have expectations from their daughter. Even every parent must have some but if the expectation is going to involve whole life then we have to think on that..."

When I heard this lot of thoughts came to my mind. Everyone lacks of students pass their hsc or ssc exams. So many opportunities of career are open to them and also our society wants intelligent young ones in every field. But we see now a days 90 to 95 % students take admission in engineering or medical side. I am not saying that taking admission in these fields is wrong thinking. I am also an engineering student but to see that are we really interested in it is much important to take decision.

Everyone gets this chance only once in life. It depends on oneself that how much correct decision he or she takes. When we choose our carrier we have to work in that field in our whole life. So it is necessary to take the decision by proper thinking. Parents should give the students right to choose their careers. They should communicate with their child and then help one to choose it. When taking decision one should be more careful at some points such as their financial condition, family support, advantage and disadvantage in the field, etc...

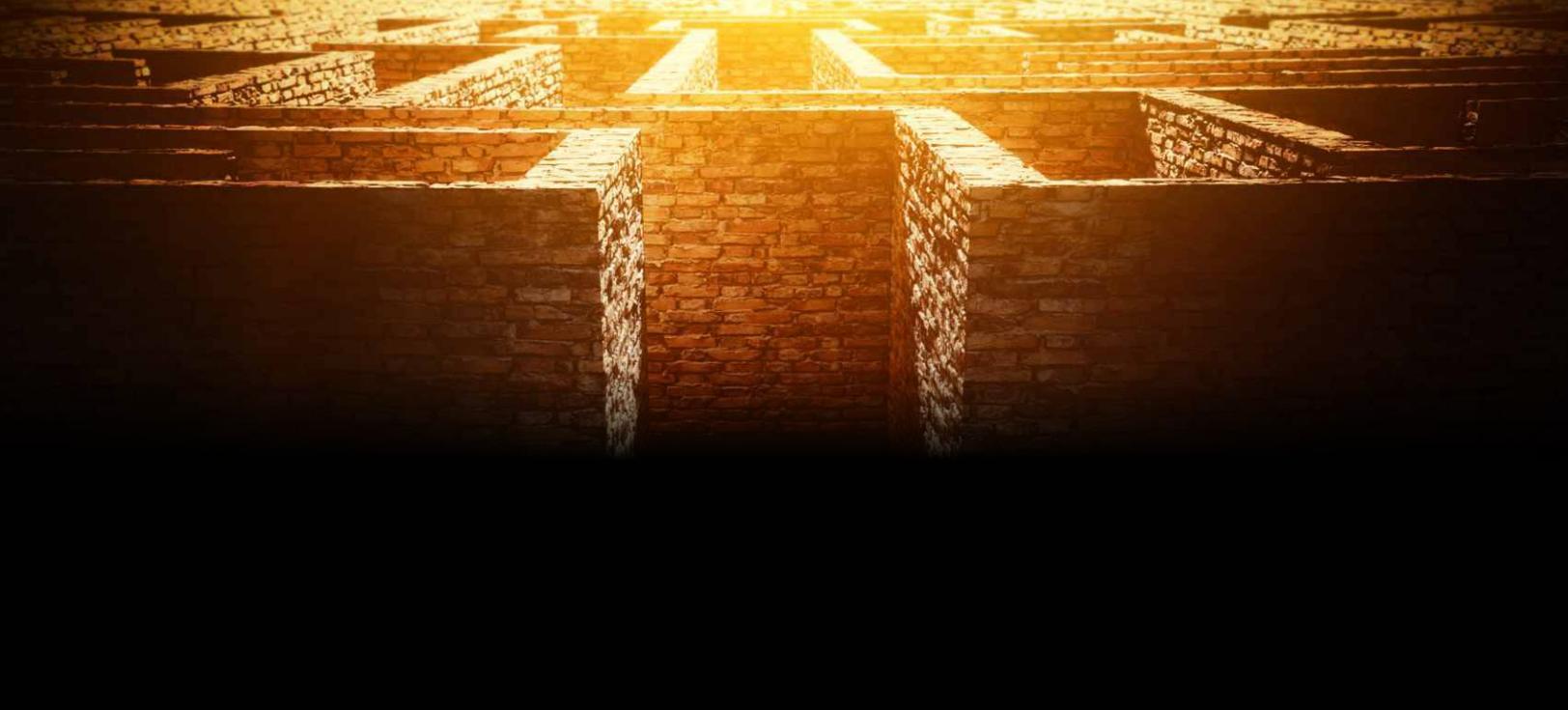
If someone likes his or her field then there is no need to tell him or her to do the work in good way. It automatically happens and also they feel better when they did so. Here the chances of being successful are 100%. Any task is not small or big. So saying is the biggest mistake of our society. Work is work. There are so many people in world who are successful in their respective field. We have to take them ideal and go on with determination and faith in our work. Then it will be more beautiful to us and also for world.

While doing our job we also do our duties about our family and society. By making balance in our personal and professional life we can go further and progress in our life.

All the Best !!

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**Branch - IT**  
**Sem - 1st**





# EVERYONE HAS THEIR OWN CROSS TO BEAR

“everyone Has Their Own Cross To Bear, So The Best You Can Do Is Pull Yourself Up By Your Bootstraps And Climb Up The Hill”  
-Jordan Peterson

Things will never turn out exactly as you want them to. Truth be told, this place was not on my radar prior to JEE Advance. But in hindsight, it probably is one of the best things that could have happened. Maybe it's a testament to human adaptability or to fate. Judging this is something that I am leaving up to you.

For as long as I can remember, I always wanted to live a quiet life. Simply coasting was enough for me. I probably would never have chosen this life. But over time and after some losses, I find myself becoming something better than my wildest dreams. There are times when you will want things to go back to the way they were. I know I still do. But that is why we are supposed to cherish our memories rather than being bound by them. It will be tough to stand back up, but neither life nor engineering was ever meant or said to have been easy.

The best advice I can give is make new memories and be true to yourself. You will be opposed and at times your ideals may seem trivial, but these are the foundation of your character. Education will continue on beyond these four walls and these four years, but your character will end up deciding the doorways that open to you. And even better there is true glory to be found in achieving something you have fought so hard for.

Great minds aren't forged by some divine interventions; they simply accept their situations as well as their ability to alter it. In many ways this article is as much an essay for advice as it is a call to action. This place may not be perfect, but no place ever is. You can either coast through or you can come forward. Because honestly, the more voice that come forward the better we all end up. So let go of your fears and stand behind what you believe in. And as for dealing with the pain, would you coast along the current or take charge and ride the waves of glory?

**Yash Pradhan**  
**Semester-3**  
**Mechanical**

# It's Black Gold, not yellow!

Indians are desperate to showcase their talents and intelligence in front of whole world. With each passing day they are trying to prove themselves. One such discovery is made by our great researchers. Indian scientists have tinkered with the chemistry of the yellow metal and have turned it into 'black gold'. They claim that it can be potentially used for applications ranging from solar energy harvesting to desalinating seawater.

Scientists at the Mumbai-based Tata Institute of Fundamental Research (TIFR) used gold nanoparticles and by rearranging size and gaps between them developed a new material, which has unique properties such as capacity to absorb light and carbon dioxide. Gold does not have these properties, therefore 'black gold' is being called a new material. In appearance it is black, hence the name 'black gold.' The findings have been announced in *Chemical Science*, a scientific journal published by the Royal Society of Chemistry.

"We have not doped gold nanoparticles with any other material or added other materials. We varied inter-particle distance between gold nanoparticles using a cycle-by-cycle growth approach by optimizing the nucleation-growth step, using dendritic fibrous nanosilica, whose fibers were used as the deposition site for gold nanoparticles," explained Vivek Polshettiwar, who led the research team, while speaking to *India Science Wire*. One of the most fascinating properties of the new material is its ability to absorb the entire visible and near-infrared region of solar light. It does so because of inter-particle plasmonic coupling as well as heterogeneity in nanoparticle size. Black gold could also act as a catalyst and could convert carbon dioxide into methane at atmospheric pressure and temperature using solar energy.

In order to study solar energy harvesting ability of the new material, researchers dispersed it into water and exposed the solution to light for one hour and the temperature of the solution was measured. The temperature of the solution with pure silica spheres rose to 38 degrees while the ones with different concentrations of black gold rose to 67 to 88 degrees. The maximum increase in temperature was attributed creation of thermal hotspots due to the heterogeneity of the particle sizes as well as optimum inter-particle coupling.

Researchers said the material can be used as a nano-heater to convert seawater into potable water with good efficiency. "Our results indicate the potential application of black gold in purification of seawater to potable water via steam generation using solar energy under atmospheric reaction conditions," according to the researchers.

Behind this great discovery the great minds were MahakDhiman, Ayan Maity, Anirban Das, Rajesh Belgamwar, Bhagyashree Chalke and Vivek Polshettiwar (TIFR); Yeonhee Lee, Kyunjong Sim and Jwa-Min Nam (Seoul National University). The study was funded by the Department of Science and Technology (DST) and the Department of Atomic Energy (DAE). Everyday some new research is being done across the world but India is not lagging behind, whether it is ISRO's mars mission, 100 satellites launch, Chandrayan launch, artist creating history, sport persons proving their talents, etc. So, we should also try our best to serve our country.

**Name - Ashwini Vaishampayan**

**Branch - META**

**Sem - 3rd**



# एहतियात

इश्क में बेपरवाहियाँ अच्छी हैं मगर  
मेरी एक बात का एहतियात रख  
पहले पेशा, कुनबा, फिर चाहत रख

जुबां पे गालियाँ ठीक है मगर  
अपने लहज़े में ये अदब रख  
पहले आप, तुम फिर तू रख

'मान' गरीबी में दम टूटता है मगर  
आँखों में चाहे आँसू बेहिसाब रख  
पहले हकीकत, मेहनत फिर ख़्वाब रख

-स्वाभिमान डेहरिया  
5th sem mining



# नर्म-ए-दिल

किसी तरह ही सही ज़िन्दा ग़र मैं रहूँ  
जितना रहूँ खुदा! नर्म-ए-दिल मैं रहूँ  
शहर ये भी जलने को है नफ़रत में अब  
अवाम-ए-इश्क़ जहाँ खुदा! उधर मैं रहूँ  
तेरा घर रोशन रहे, तेरे घर दीवाली हो  
चाहे फिर लौ-ए-चराग़-ए-घर मैं रहूँ  
न दिल जले न पेट न पाव किसी का  
हो दवा सबकी चाहे दर-ब-दर मैं रहूँ  
एक तेरे बग़ैर न ईद हुई न दीवाली मेरी  
'मान' बता अब खुश किस तरह मैं रहूँ

-स्वाभिमान डेहरिया

5th sem mining

# चलो आज, कुछ नहीं करते है

चलो आज, कुछ नहीं करते है, नींद दूभर, जगना भी मिथ्या हैं  
अब तो शब्द भी कर्हा रहे है, शोर और शांति दोनों अन्यथा हैं

ना हँसना, सुख का आगाज़ लगे, ना रोना लगे दुःख कि छाया  
ना हम वक्रत के पैगाम पढ़े, ना किसी के आगोश में हो सहारा

ना मैं कुछ सोचूँ, ना मैं कुछ समझूँ, क्योंकि जैसा चाहो वैसा होता नहीं  
संताप में बिलखती जब मेरी रूह, अब तो यह दिल तब रोता भी नहीं

हीरा क्या अपनी परख कर सकता है?, सूर्य क्या जाने अपना तेज!  
क्या कोयला अपनी ऊर्जा पहचानता है?, फिर किस बात का खेद!

तो चलो अब पन्ना पलट देते हैं, नया आगाज़ कर लेते हैं  
जीवन थोड़ा हल्का लेते हैं, थोड़ा-थोड़ा खुश हो लेते हैं

अपने कर्म कि ज़िम्मेदारी रखें, जहान के होश और सोच कि नहीं  
अब तो दिल खोल के हँसे, अथवा बीत जाएगी यह भी घड़ी यहीं

रोने-हँसने के बहाने अनेक हैं, दोनों में मन कुछ ग़लत नही पाता हैं  
हृदय टटोल, ध्यान से देख, अंधेरे से तेरा उजाला बेहद ज़्यादा हैं

-प्रियांशी शर्मा

3rd sem Cse

# सीख

अपनी हर कमजोरियों से,  
लेना एक सीख,  
मत किसी से मांगना,  
दया का भीख |  
जज्बा रखना अपने आप में,  
कुछ कर दिखने का,  
मौका मत देना किसी को ,  
कोई कमी आजमाने का |  
तुम खुद की खुदी की बुलंदी हो,  
तुम खुद ही स्व की खामोशी हो|  
तुम जशन मन सकते हो  
अपनी उचाईयों का,  
क्योकि तुम खुद की उचाईयों पे  
रखा दस्तावेज हो||

-भावना भारती सिंह  
Mtech , 3rd sem  
Information Tech.



# भारत के वीर जवान

कौन थे वो तिरंगे में लिपटे हुए  
क्या थी उनकी पहचान  
किसके लिए शहीद हो रहे हैं  
ये भारत के वीर जवान

जब होता है रेप  
तो फाँसी फाँसी चिल्लाएंगे  
जब होती है शहादत  
देशभक्ति तभी दिखाएँगे  
बस नाम के हैं हिन्दुस्तानी  
क्या हुआ कभी अभिमान  
किसके लिए शहीद हो रहे हैं  
ये भारत के वीर जवान

यहाँ अफ़जल गुरु याद है सबको  
भूल गये कलाम  
किसके लिए शहीद हो रहे हैं  
ये भारत के वीर जवान

कोई कहता है मस्जिद थी यहाँ  
और कुछ मन्दिर यहीं बनायेंगे  
सुना था भगवान की है यह दुनिया सारी  
पर ये भगवान को जगह दिलाएंगे  
कोई हिन्दू बन गया  
तो कोई बन गया मुसलमान  
किसके लिए शहीद हो रहे हैं  
ये भारत के वीर जवान

कोई कश्मीर की आज़ादी तो  
कोई भारत की बर्बादी के नारे लगाता हैं  
किसी को बोस से है नफ़रत तो  
कोई भगत सिंह को आतंकवादी बताता हैं

-अनीश मोर





## ये हौंसला कैसे झुके

वो एक अँधेरे कमरे में बंद था, अँधेरा घुप्प अँधेरा उसके हाथ में एक रस्सी थी और छत पर इक रुक हुआ पंखा। कमरे में दरवाजे थे, सैकड़ों दरवाजे, सब बंद पड़े थे, कोई नहीं था उसके साथ उस कमरे में.. अचानक से सारे दरवाजे एक एक करके खुलने लगे और हर खुलते दरवाजे के साथ कमरे में और अँधेरा बढ़ता गया..!

उन दरवाजों से उसके जान पहचान वाले निकल के आ रहे थे मगर सब हँस रहे थे उसपर... उसका स्कूल वाला दोस्त उसपर हँस रहा था क्योंकि वो हमेशा से एक एवरेज से भी कम वाला स्टूडेंट था।

उसके मोहल्ले वाले उसपर हँस रहे थे क्योंकि वो आईआईटी का एक्जाम क्लियर नहीं कर पाया था।

उसके प्रोफेसर्स उसपर हँस रहे थे क्योंकि कालेज में भी पवाइंटर्स के खेल में वो सबसे पीछे था।

उसके कालेज के दोस्त उसपर हँस रहे थे क्योंकि वो नहीं बोल पाता था फरटिदार इंग्लिश।

वो लड़की जिससे वो करता था बेइंतेहा प्यार वो उसे देख भी नहीं रही थी। उसके माँ-बाप उससे निराश थे क्योंकि नहीं मिली थी उसे जॉब और नहीं कर पा रहा था वो उनकी उम्मीदों को पूरा।

उसके सारे सपने उसपर हँस रहे थे जहाँ उसने देखा था खुद को एक लेखक, सिंगर या म्यूजिशियन बनते हुए।

हर खुलते दरवाजे के साथ वो खुद को कमजोर महसूस करता, बेहद कमजोर ..... अंत में वो गिर पड़ा अपने कदमों पर, उसके हाथ में रस्सी का फंदा था जिसका एक छोर पंखे में बंधा था, वो दर्द में था, रो रहा था, चीख रहा था .... मगर वहाँ कोई नहीं था जो उसे सुन सके। कमरे का एक दरवाजा अभी भी बंद था,

उसने दौड़कर उस दरवाजे को खोला, उस दरवाजे के पार रौशनी थी, जिंदगी थी, उस दरवाजे के पार उसके स्कूल के दोस्त थे जो उसके साथ बिताये पलों को याद कर रहे थे।

उसके मोहल्ले वाले थे जो उसकी योग्यता की तारीफ़ कर रहे थे,

उसके प्रोफेसर्स थे जो उसके अनुशासन और स्किल्स से प्रभावित थे,

उसके कालेज के दोस्त थे, वो लड़की थी, जो उससे उतना ही प्यार करते थे जितना वो उनसे करता था।

वो अब मुस्कुरा रहा था, उसके हाथ से रस्सी छूट चुकी थी, वो रौशनी की तरफ दौड़ रहा था, सब खुबसुरत हो रहा था, कहीं दूर से एक आवाज आ रही थी..!

"ये हौंसला कैसे झुके.. ये आरजू कैसे रुके...  
मंजिल मुश्किल तो क्या... धुंधला साहिल तो क्या...."

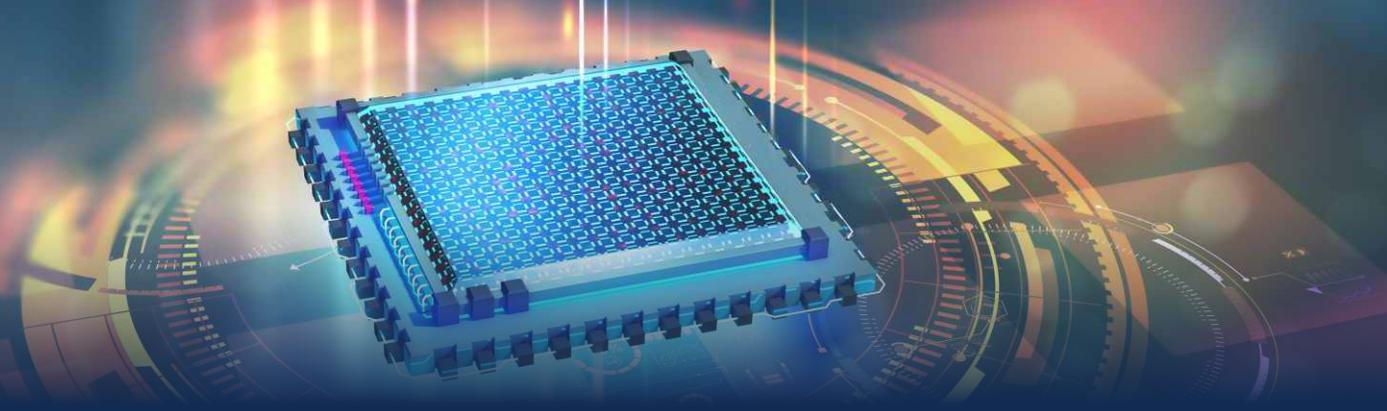
-आयुष कुमार मिश्रा

7sem civil

# TECHNICAL







# QUANTUM COMPUTER GATEWAY TO REVOLUTION

Since the 1960s, the power of our brain machines has kept growing exponentially, allowing computers to get smaller and more powerful at the same time,

But, this process is about to meet its physical limits.

Inside every modern computer, we have ICs(Integrated Circuits) which further consist of modules and which is further made up of logic gates, which is further made up of transistors(mostly MOSFET).

The size of a transistor which is used inside our traditional computer system is only 14 nanometers, which is 8 times smaller than an HIV virus, and 500 times smaller than a red blood cell.

It has reached its physical barrier because transistors are approaching barely the size of an atom, the transistor act as a switch for the electrons which are passing through it.

It can either allow or restrict the flow of electrons. It acts as a physical barrier to the electrons which is the basis of binary computing. If we further decrease the size of a transistor, then electrons can transfer to another side of the blocked passage. This phenomenon is known as quantum tunneling.

In quantum physics, things work differently from the predicted ways we are used to. So, scientists are trying to use the unusual quantum properties to their advantage, by building quantum computers.

Any technological device that we use today works on the basis of binary computing.

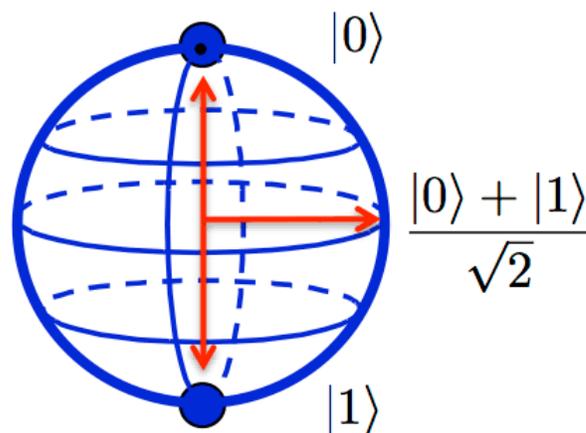
Binary computers use the sequence of 0s and 1s to derive meaning from our inputs and produce outputs.

It's more like a group of 7 years old who are calculating very simple maths problems and a very large group of

them can simply calculate anything from Astrophysics to Zelda.

In case of Quantum computer we use qubits.

Qubits, aside from sounding way cooler, have extra functions that bits don't. A qubit can be any two-level quantum system, such as a spin or a magnetic field or a single photon. '0' and '1' are their two possible states like a photon's horizontal or vertical polarization. In the quantum world, the qubit doesn't have to be any one of those. It can be of any proportions of both states at once. This phenomenon is called superposition. But when you have to observe its state, it has to decide any one of the values. So, as long as it's unobserved, the qubit is in a superposition of probabilities for '0' and '1', and you



**Qubit**

can't predict which it will be. The instant you measure it, it collapses into one of the definite states. Superposition is a game changer.

So, qubits allow us to choose multiple possible combinations at a time.

if we even have all the possible combinations of 0s and 1s at the same time, still we will have to check the correct solution out of it.

Here quantum entanglement is here to help us.

Quantum entanglement is a close connection that makes each of the qubits react to change in each other's state instantaneously, no matter how far they are apart means that when measuring just one entangled qubit, you can directly deduce properties of its partners, without having to look.

A normal logic gate gets a simple set of inputs and produces one definite set of output.

A quantum gate manipulates an input of superposition, rotates probabilities, and produces another superposition as its output.

So, a quantum computer sets up some qubits, applies quantum gates to entangle them and manipulate probabilities, then finally measures the outcome, collapsing superposition to an actual sequence of 0's and 1's.

This makes quantum computers very fast when it comes to searching for any file in a database.

Quantum entanglement is actually teleportation.

Manipulation of the subatomic particles in an atom cannot be done at higher temperatures, they need temperature near to 0 Kelvin which cannot be achieved easily. So, the qubits are kept in highly sophisticated refrigerators and are very sensitive to external factors.

There is another problem called quantum decoherence.

Quantum decoherence happens when losing

information to the environment over time. The “timer” doesn't start until we try to do something with qubits, like measure them or perform a computation. It induces noise in our output which makes it unreadable.

Quantum computer is believed to be a threat to national security

The moment you will google the term “quantum computer” you are definitely going to come across articles explaining quantum computers as a threat to national security and how shor's algorithm can break our present RSA encryption.

It is theoretically proven that Shor's algorithm (which is made for theoretical quantum computers) can break our present RSA algorithm, which is used for encryption and uses 128–256 bit system. In the RSA algorithm, we have a gargantuan number which is the multiplication of two prime numbers. There are 2 keys used in this system- the “public key” and the “private key”. You can share the public key with anyone (it can only be used to access the product of two prime numbers) and the private key stores the correct set of two prime numbers to decrypt the message.

Shor's algorithm gives us a way to get those 2 prime number using the public key within a very short period of time.

But, the fact is that today, the quantum computer we have only has 50 qubits. But for running Shor's algorithm for Garganta number we need millions and millions of qubits.

So, we are still very far away from our security being threatened by quantum computers. It's not a thing of national security at least right now.

Aman Kumar Dewangan  
Semester-3  
Electrical



# THE RUSSIAN PLANE REACHED THE MOON'S ORBIT 72 HOURS BEFORE THE US

Armstrong stepped on the Earth's satellite moon on 20 July 1969. At that time, he had observed that this small step of man will prove to be a big step for mankind. But this was not the first time before Neil stepped in moon such type of competition was ongoing between the Soviet Union and America. Going on this link, when on 15 September 1959 the then-president Nikita Khrushchev was called on a historic tour of America. when he reached Washington and after facilitation, he presents a spherical like an object to Dwight Eisenhower, in which there was a mark of Soviet Union. Actually, it was a satire on the American space program. This was a copy of onboard of luna-2 which landed one day before in moon surface and becomes the first spacecraft. Before successful achievement by NASA on his mission with Apollo 11 in 1969 by landing a man on the moon, Russia already has defeated them two times in compact with the moon.

## Space Race

Arriving first on the moon, the Soviet Union gave a remarkable speed to the internal race of both the generals. This race was also started by the Soviet Union. The Soviet Union launched their first satellite Sputnik in 1957. After this, in February 1966, they managed to make a soft landing with Luna 9 to the moon and the Soviet Union also took the first picture of the moon's surface. Two months later, Luna 10 became the first vehicle to orbit the moon. This made it easier to study the surface of the moon. Earlier, the scientists of both countries had forbidden that they should try to get off the moon without landing directly.

## Russia was close to success

In the year 1961, the American Space Agency NASA scientist JhonHuhbolt gave his perspective on Lunar Orbit

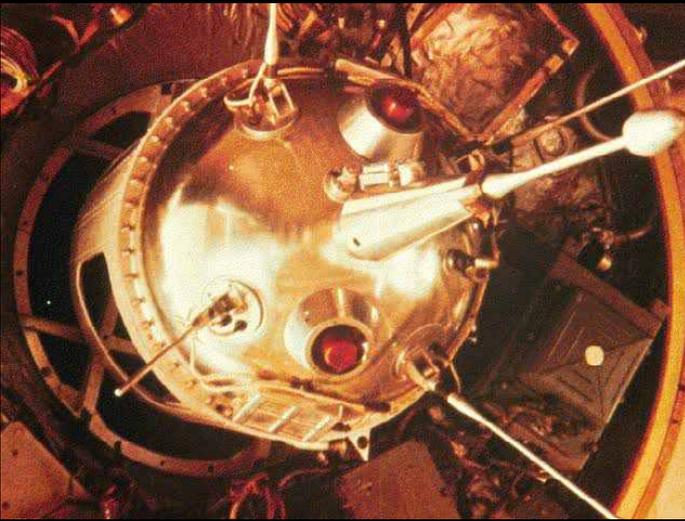
Redavoo, In which it was said that there will be a mothership which will revolve around the orbit of the moon and one of the small vehicles will leave the mothership and reach the moon surface. In this way, America succeeded in landing. Although the Soviet Union had reached very close to the moon in 1966. In this regard, the Space Curator of the Science Museum of London says that a robotic vehicle landed before the humans landed in the moon, who shared the surface information. But in this episode, we cannot forget all the achievements of the Soviet Union, with the help of their provided data could reach the moon.

## Luna mission

Luna 2 crashed into the moon at high speed

This spacecraft was launched on 12 September 1959. Soviet Union officials had done a work of secrecy that made the world aware of their achievement. He shared confidential information about his expedition with British astronaut Bernard Lovell, Loyal told the world about the success of this mission.





He also informed the US about this achievements, which was not ready to recognize the achievements of the Soviet Union earlier. The Luna 2 vehicle hit the moon at a speed of about 12 thousand kilometers per hour on the night of September 14, 1959. This mission proved more than a competition to look good to each other during cold war. According to the Human Exploration Program Manager of the United Kingdom Space Agency, important information about the lunar surface of scientists was received from this expedition.

How was the moon surface revealed from Luna-9 Seven years later the Apollo mission was helped by Luna-9. Before landing in the moon, Soviet and American scientists believed that the surface of the moon would be very soft in terms of spacecraft. They had the fear that the surface of the moon would be filled with sand, in which the spacecraft would sink. This mission of the Soviet Union revealed that the surface is dusty and there was an important information here. The expert says that this was indeed a scientific achievement and it helped a lot in Future mission.

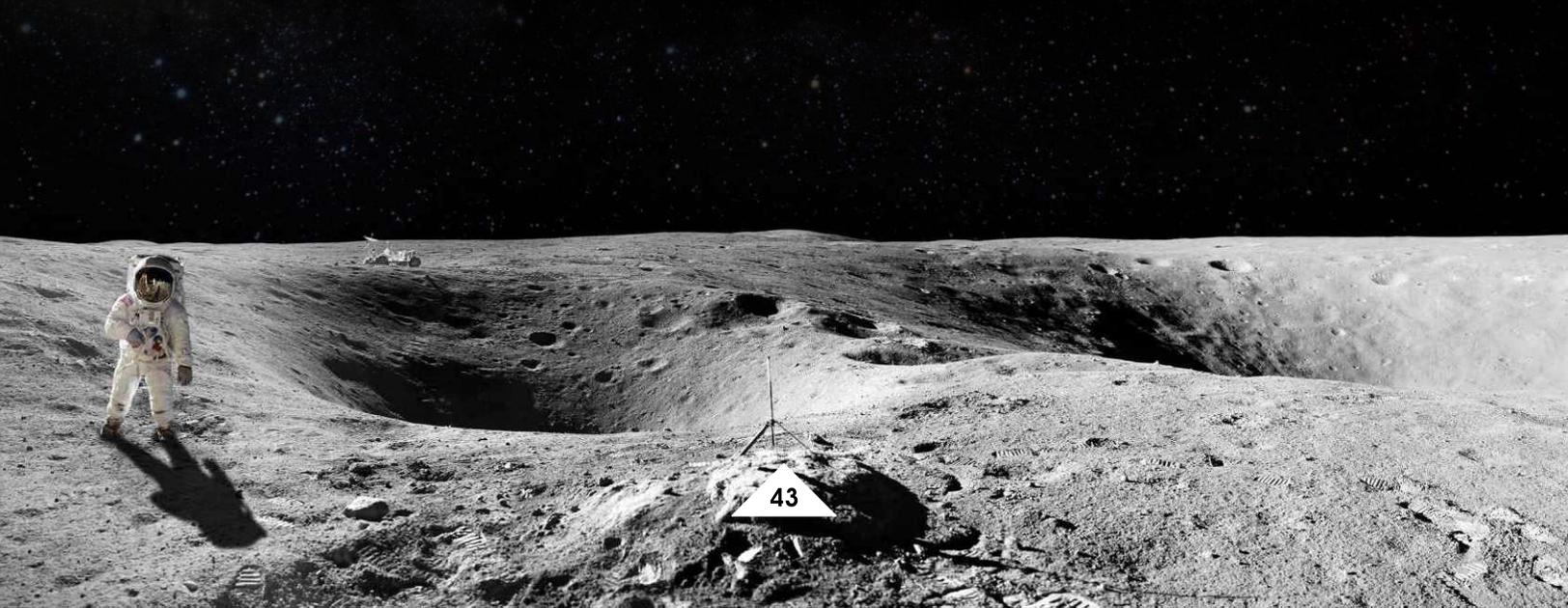
Luna 10 Spacecraft gathered information about the moon soil

Luna 10 Spacecraft was also the Soviet Union's edge over America. In fact, Luna 10 discovered more important things, which included information about the elements of the moon and small-small particle of stones. Small particle of stones move fast in space. This could have become a threat to astronauts on any internal mission and the surface of the moon. Famous space historians say that the Soviet Union had begun to think that it had won the race for space by sending the first astronaut in 1961 or the first space walk in 1965. They never thought that America would be able to land astronauts on the lunar surface.

America made a decisive lead in the year 1968

America made an edge when, under the Apollo 8 mission, he sent a manned spacecraft to the moon in 1969, who had successfully returned to his orbit. Within a year, Apollo 11 was successful in landing on the moon. The Soviet Union had no response to the Apollo 8 mission, even before that they were ahead of the US in terms of sending manned spacecraft. After all, about how this happened, NASA historians say that the Soviet Union was successful in sending spacecraft orbiting the moon, but it did not take any special steps to send the vehicle with humans and could not make the necessary development.

**By-  
Neelkant Newra  
Biomed  
3rdsem**



# 5G

## 5G'S WAVEFORM IS A BATTERY VAMPIRE AS CARRIERS ROLL OUT 5G, THE INDUSTRY IS CONSIDERING OTHER WAYS TO MODULATE RADIO SIGNALS

In 2017, members of the mobile telephone industry group 3GPP were bickering over, whether to speed the development of 5G standards. One proposal, originally put forward by Vodafone and ultimately agreed to by the rest of the group, promised to deliver 5G networks sooner by developing more aspects of 5G technology simultaneously. Adopting that proposal may have also meant pushing some decisions down the road. One such decision concerned how 5G networks should encode wireless signals. 3GPP's Release 15, which laid the foundation for 5G, ultimately selected orthogonal frequency-division multiplexing (OFDM), a holdover from 4G, as the encoding option. But Release 16, expected by year's end, will include the findings of a study group assigned to explore alternatives. Wireless standards are frequently updated, and in the next 5G release, the industry could address concerns that OFDM may draw too much power in 5G devices and base stations. That's a problem, because 5G is expected to require far more base stations to deliver services and connect billions of mobiles and IoT devices. "I don't think the carriers really understood the impact on the mobile phone, and what it's going to do to battery life," says James Kimery, the director of marketing for RF and software-defined radio research at National Instruments Corp. "5G is going to come with a price, and that price is battery consumption."

And Kimery notes that these concerns apply beyond 5G handsets. "China Mobile has been vocal about the power consumption of their base stations," he says. A 5G base station is generally expected to consume roughly three times as much power as a 4G base station. And more 5G base stations are needed to cover the same area. So how did 5G get into such a potentially power-guzzling mess? OFDM plays a large part. Data is transmitted using OFDM by chopping the data into portions and sending the portions simultaneously and at different frequencies so that the portions are "orthogonal" (meaning they do not interfere with each other). The trade-off is that OFDM has a high peak-to-average power ratio (PAPR). Generally speaking, the orthogonal portions of an OFDM signal deliver energy constructively—that is, the very quality that prevents the signals from canceling each other out also prevents each portion's energy from canceling out the energy of other portions. That means any receiver needs to be able to take in a lot of energy at once, and any transmitter needs to be able to put out a lot of energy at once. Those high-energy instances cause OFDM's high PAPR and make the method less energy efficient than other encoding schemes. Yifei Yuan, ZTE Corp.'s chief engineer of wireless standards, says there are a few emerging applications for 5G that make a high PAPR undesirable. In particular, Yuan, who is also the rapporteur for 3GPP's study group on non-orthogonal multiple-access possibilities for 5G, points to massive machine-type communications, such as large-scale IoT deployments. Typically, when multiple users, such as a cluster of IoT devices would communicate using OFDM, their communications would be organized using orthogonal frequency-division multiple access (OFDMA), which allocates a chunk of spectrum to each user. (To avoid confusion, remember that OFDM is how each device's signals are encoded, and OFDMA is the method to make sure that overall, one device's signals don't interfere with any others.) The logistics of using distinct spectrum for each device could quickly spiral out of control for large IoT networks, but Release 15 established OFDMA for 5G-connected machines, largely because it's what was used on 4G. One promising alternative that Yuan's group is considering, non-orthogonal multiple access (NOMA), could deliver the advantages of OFDM while also overlapping users on the same spectrum. For now, Yuan believes OFDM and OFDMA will suit 5G's early needs. He sees 5G first being used by smartphones, with applications like massive machine-type communications not arriving for at least another year or two, after the completion of Release 16, currently scheduled for December 2019. But if network providers want to update their equipment to provide NOMA down the line, there could very well be a cost. "This would not come for free," says Yuan. "Especially for the base station sites." At the very least, base stations would need software updates to handle NOMA, but they might also require more advanced receivers, more processing power, or other hardware upgrades. Kimery, for one, isn't optimistic that the industry will adopt any non-OFDMA options. "It is possible there will be an alternative," he says. "The probability isn't great. Once something gets implemented, it's hard to shift."

By-  
Sanit Parashar

# DEVELOPMENT OF HEA PARTICLE REINFORCED AL MATRIX MULTILAYERED COMPOSITE

## 1. INTRODUCTION

A multilayered material typically consists of several layers of metal A and metal B, both of which are bonded together by the application of severe deformation forces. Sheet metals are extensively used for construction purpose. They are widely used in several industries such as mining, construction, farming, shipping, manufacturing, aviation, medical and transport.

### 1.1 ACCUMULATIVE ROLL BONDING (ARB)

ARB is an SPD process which can be used for bulk production of multilayered sheet materials.

ARB is a deformation cum bonding process. The additional shear strain induced during the process at working temperature activates additional slip planes and facilitates bonding and deformation.

Steps of ARB are:

1. The surface of the metal strips to be rolled are degreased and wire brushed to increase surface friction for more efficient mechanical interlocking
2. The two metal strips are then conventionally roll bonded
3. The bonded strip is cut in half along the length and the surfaces of the two strips thus obtained are treated again.
4. The two strips are again stacked and roll bonded.
5. This process is repeated multiple times to obtain ultrafine grains

### 1.2 ASYMMETRIC ROLLING (AR)

Asymmetric rolling is an SPD technique used to control both texture and grain refinement of metallic materials.

### 1.3 CoCrFeNi

High Entropy alloys are defined as solid solution alloys that contain more than five principal elements in almost equal atomic percentage, generally the atomic percentage of any individual element is more than 5%. High-entropy alloy are defined by the high entropy of the random solution state of multi-principal-element alloys. Random solution states are defined as liquid solution and high-temperature solid solution states where the thermal energy is sufficiently high to cause different elements to have random positions within the structure [10].

High entropy alloys demonstrate four core effects:-

1. High-entropy effect
2. Lattice Distortion effect
3. Sluggish diffusion
4. Cocktail effects

### 1.4 Asymmetric Accumulative Roll Bonding

Hailiang Yu et.al. have implemented both AR and ARB for the fabrication of ultrathin AA1050 and AA6061 bimetallic foils. In their work they found that performing AR after ARB reduced the residual voids in the bimetal and provided a good bonding. They also reported that with increasing AR the ductility of the material decreased initially but at the later stages it increased.

## 2. EXPERIMENTAL DETAILS

### 2.1 Synthesis of specimen

#### 2.1.1 Synthesis of CoCrFeNi HEA powder

The CoCrFeNi HEA powder was synthesized by ball milling pure powders of Co, Cr, Fe and Ni (purity-99.99%) for eleven hours. The pure powders of required elements were taken in equiatomic ratios.

#### 2.1.2 Rolling of specimen

The surfaces of two pure aluminium sheets, of 1mm thickness each, were degreased and wire brushed. 2 wt.% of CoCrFeNi (HEA) powder was spread evenly between the aluminium sheets using a paintbrush. The sheets were stacked and roll bonded for a thickness reduction of 50% at 250°C. This constituted of one pass. The sheet so obtained was cut into half along its length and its surface was prepared by degreasing and wire brushing. HEA CoCrFeNi powder was again spread evenly between the surfaces and the roll bonding was carried out as earlier. This process is repeated six times i.e. for six passes.

### 2.2 Characterization

The X-Ray Diffraction (XRD) analysis was conducted using (X'pert Pro Panalytcs) XRD instrument equipped with Cu K $\alpha$ -radiation (1.5405 Å) employing a scan speed of 0.02o per second in the 2 $\theta$  range from 10° to 90° for obtaining the XRD pattern of the HEA CoCrFeNi powder. 2 $\theta$  range from 30° to 80° was selected for obtaining the XRD pattern of the specimen after 0, 2, 4 and 6 ARB passes and the same range was used for the asymmetrically rolled (ARed) specimen (the surfaces in contact with high speed roll and low speed roll and the cross-section were examined).

## 3. SUMMARY

HEA CoCrFeNi particles were synthesized by eleven hours of ball milling. ARB and AR were successfully incorporated to make laminated HEA (CoCrFeNi) reinforced Al composite. The initial particle size of HEA CoCrFeNi particles was observed to be 6.99  $\mu\text{m}$ . After six ARB passes the fragmented particle size was found to be 0.65  $\pm$  0.21  $\mu\text{m}$  and the average particle size was found to be 5.96  $\pm$  3.09  $\mu\text{m}$ . The particles got fragmented due to the shear flow of softer matrix through harder HEA particles. The agglomeration of freshly added particles for each pass at the newer interface caused the average particle size to be greater than the fragmented particle size. The lattice strain increased with increasing passes, whereas the crystallite size decreased. The lattice strain after six ARB passes was evaluated to be 0.002 and the crystallite size was found to be 62.73  $\mu\text{m}$ . In case of AR the surface in contact with the roll of higher speed showed more lattice strain and finer crystallite size. The lattice strain of the surface in contact with the high speed roll after AR was found to be 0.0035 and crystallite size was found to be 51.11  $\mu\text{m}$ .

By-  
**Pragnya Chatterjee**  
Metallurgy  
5th Sem



# THOUGHT AND DESTINY

Human destiny is decided not by any system, society or governance, but by a person thought and action itself. Destiny is the birth child of our character and character is the collection of our habits and hobbies. Habits are mutated through the reoccurrence of a particular action and action is the birth child of thought. So if we want to see how our destiny is framed that can be seen in five steps-

·Step One -Thought– that takes birth in the mind of a person and as a result it materializes into action.

·Step Two Action– it is result of our thoughts which in process may result into habit or hobby

·Step Three -Habit/ Hobby– they are result of both someone's regular and rare action and in run of time they decide the character of a person

·Step Four -Character –it is the result of someone's accumulated habits and hobbies which in turn will decide his destiny

·Step Five Destiny –it is the final outcome of thought and child of our character.

These steps cannot be reversed back. It means destiny cannot decide character, character cannot decide habit, habit cannot frame an action and action cannot predecide a thought. So, we should be very alert at the thought level. Suppose we have a bad thought in our mind so it will certainly result into a bad action and bad action may result into two things- hobby or habit.

Hobby and habit both are segregated on the scale of their occurrence and characteristics. Habit is a regular occurrence and uncontrolled action, whereas hobby is a rare occurrence and is a controlled action. So if out of a bad action if somebody gets into bad habit because habits reoccur frequently they play major role in the formation of character. Though hobby also plays a portion in framing a character yet it is not that much impactful. For an example, if a person gets a bad habit of smoking and a good habit of painting so the bad habit of smoking will certainly convert him into a patient because of its frequency. Whereas a good habit of painting cannot convert him into a successful painter because of its rare occurrence.

So the moment we sense a bad thought in our mind we should turn alert and behave with it as a vicious alien and we should try to put it out of our mind. Because sometimes there are chances we may tend to believe that we have so many good thoughts in our mind so if some bad thought are also there they may not be able to make an impact. It is somewhere an agreeable belief but that thought will certainly consume its share in mind. So whenever we are weak in determination we may be attracted to convert our bad thought into action.

Thus there can be two series to explain this idea-

1.Good thought= good action= good habit/ hobby=  
good character= good destiny

2.Bad thought= bad action= bad habit/ hobby= bad  
character = bad destiny

Thought is most prominent and first and foremost in the framing of destiny as destiny starts from here. So if we are good at even thought level we can be hopeful for a good destiny. This can be understood with this story.

Once upon a time there lived a priest and a prostitute in a neighbourhood. The priest hated the prostitute and would everyday abuse and blame her for spreading sin and lust in the society. So his major thoughts were consumed about thinking of sins, lust and passion. His heart was full of vices and malice for all the day. On the other hand, the prostitute would every day get up and on seeing the priest she would pay due reverence to him, would visit the temple with piety and purity in heart and she would always think of good life of the priest and always wished to get next birth as a priest. Finally when both of them died, and reached in the court of god of death, priest was punished to hell due to his bad thoughts on the other hand the prostitute was sent to heaven on the account of her good thoughts.

**BY DR. ANOOP KUMAR TIWARI**



# GAME OF THRONES

## A POEM

When game is of life and death  
You can't afford to make errors,  
Because the night is dark  
And full of terrors!

Beware of the danger Miss Khaleesi  
On you are everyone's bets,  
But can't deny the fact that  
The Lannisters always pay their debts.

For the game called life  
Never go for the option end way,  
And always say to the God of Death  
Not today! Not today!

Unaware of the secret  
Grew the Targaryen we all know,  
As rightly said by Ygritte  
You know nothing Jon Snow.

When you feel death is near  
Break the bars and keep going,  
Because as the Starks say  
Winter is coming! Winter is coming!

**By:-  
Tanmay Choudhari  
IT, 5th Semester  
NIT Raipur**



# LIFE OF AN ENGINEER

Engineering-Full of mysteries and confusion

A lot of innovation, invention and creation

IIT and NIT- goal of each and every engineer

But, only few succeed and enjoy their career

But, what about after admission??

Enjoy with no fear and tension

Study one night before examination

Pass easily with so much of dedication

A lot of clubs and committees attract attention

Student join different clubs with zeal and passion

After third year, start realising about job and placement

Struggle hard to improve their skills for settlement

Some succeed but some failed to get dream company

But ,we engineers never lose hope and creativity

So, my future engineers ,study what you like to get name and fame

Never run without goal and aim

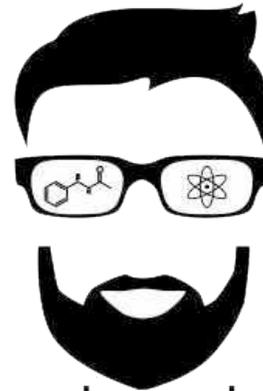
**By -KRISHNAAGYAKARI RAJABABU**

**3RD SEMESTER**

**Electrical Engineering**

**NIT Raipur**

I didn't choose the  
**ENGINEERING LIFE**



the engineering life  
**CHOSE ME**



# I hit SNOOZE on love again

I hit snooze on love again  
inside this little dead house

Another beautiful girl  
worthy of everything  
and it's hard to believe  
that I am the everything.

This is when you focus on  
becoming one thing

So I cook, nope.  
So I write, eh.

So I exercise.  
I can't breathe.  
So I go to bed.

There we go,  
to dream of basking dogs,  
shallow graves of previous  
dreams,  
fatherhood of poems,  
battle ready  
to hit snooze on love again.

By-  
TejasKochar  
CSE,  
5th sem



# TEARS

Poison builds up gradual and slow  
Like Pus in wounds  
If not treated well, it bursts and flows  
And feelings loose bounds

Tears come and are whined  
They're the ones that made you  
embarrassed  
They're the ones who didn't ask  
Just hugged you when you needed

They didn't shout, they saw you alone  
They seem as useless  
As humour of the funny bone  
But they were your companions  
When you felt lost all alone

They're an overflow, as words  
They aren't daggers, They don't hurt  
When blood sucked from the heart  
And heart can't bear more  
They're the ointment to the heart so sore.

By-  
Priyanshi Sharma  
Computer Science  
& Engg.  
3rd sem  
NIT Raipur



# OBLIVION

As innocent as a child,  
As charming as a bride.  
An enthusiastic anima  
That can even ignite a dying persona.  
Second childhood,  
Lost between the woods.  
Experienced wrinkles  
Eyes twinkle.  
Unyielding determination,  
Thoughts sagacious.  
Kind and compassionate,  
Better than any soul mate.  
Careful yet adventurous,  
At times, anxious.  
May not have all 16 pairs of teeth,  
But, they surely possess a colossal heart within.  
Time is precious  
And he's vivacious.  
For the world he's a champion,  
One in a billion.  
Stuck in mere oblivion,  
But to his own children, he's an alien.

**By-**  
**Shubhangi Agrawal**  
**Mechanical, 3rd semester**  
**NIT Raipur**



# WHY DIDN'T THOUGHTS REMAIN OLD?

In the new era, Why didn't thoughts remain old!

Seeing her in pain, Hearing her screams, You chose to stand by the road, Showing it on social media,  
You denied a hand to one Who needed it. In the new era, Why didn't thoughts remain old!

Getting socially connected, Emotional connection was lost,

With these signals being transmitted in the air, Actual feelings were hidden easily, You and I choosing  
to be together,

Lost the ones who deserved to be here, In the new era, Why didn't thoughts remain old!

Moving fingers on the keypads, Reduced the eyes around,

Beauty of the nature was ignored, Because the Same picture in the phone looked more profound,

Tongue slipped while speaking, Because fingers became the mediators now, In the new era,

Why didn't thoughts remain old!

Building a bond is easy now, Falling in love is just a trap now,

Every next person is attractive to you, Probably only outer beauty matters to you too, Words were not  
shared, Conversations on texts are better now, In the new era,

Why didn't thoughts remain old!

With increasing technology, Pictures became bright,

Memories blur, Texts letters were valued more, Handwritten were not worthy at all, Hand writings  
degraded, Because phones became smart, In the new era, Why didn't thoughts remain old!

When someone truly needed a shoulder none was around

Because virtuality brought you to a fancy world, Breaking your ties from the real world,

With hundreds of virtual friends, And zero when you needed them around, In the new era,

Why didn't thoughts remain old!

Knowing the truth, Missing previous times,

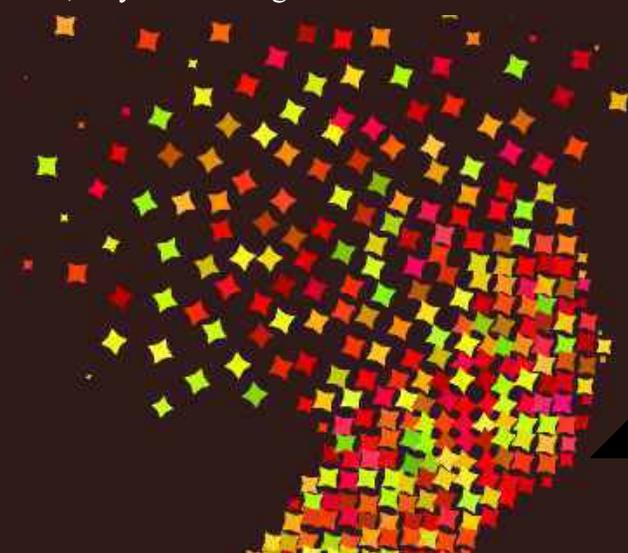
We are moving on a path, From where you and I will never return,

To find a world both of us equally need, Just to find ourselves drowning in the middle of a sea,

From where there is no path to go back from where we began,

Yet in the new era,

I ask, why didn't thoughts remain old!



By-  
Akshita Midha  
Biomedical, 1st sem  
NIT Raipur



# FREEDOM ..!

Sing your own praises ! Hail your own union!  
Raise your grand banners ! Let sycophants speak your splendor !  
Chant your mantras in Radio and Tele ! Say it aloud, Say it all day in my ear !  
But I will still shout 'Freedom'

O Press me, depress me !  
Bend my spine and splinter my bones !  
Gift me a prison and shatter my mind !  
Call me a traitor and lock me in dark !  
Crush my knowledge and name me a fool !  
Take my land and destroy my dominion !  
Oh, if you may , poison my soul too!  
But i will still shout 'Freedom'

Your promised growth, Your riches and glory  
Your purity and heaven, Keep them with you !  
For even if you serve me supper  
And ave me this Earth.

It's my land and my right, It's my faith and my style .  
It's my luggage and my speech  
Who are you to imply ? Who are you to probe ?  
Oh, even if you are Hades  
I will show you , your 'Grave'  
I will shout it aloud and forever, 'Freedom'

By-  
Hari Priya  
Biotech,3rdsem



# FARE THEE WELL ....

The gates are open , for one last time !  
That familiar bell, it rings our nearing end ! The curtains are closing ,  
yes they signal our ending prime .  
These years of friendship , love and bond These years of youth, exuberance and  
jubilation  
These years of peace, unity and liberation Can these all ever be replaced ?  
Fare thee well dear; for now , with our ardour undisplaced.

The roads will diverge, and our paths will differ !  
Struggle or peace ; love or gore Our choice won't just mirror !  
Glory and slander would alter and adore ! Friends and relations would come and go !  
This life would give and take, as it flows ! Oh, but our memories, would it ever fade?  
Fare thee well friend ; for now, in our love's shade.

\

This great Banyan and rugged fence. The non-stop chatter and our lunch-break  
gossip  
The first crush, its sore break-up and our heart's offense.  
The teacher's anger and their humble lock up  
Our first effort and its victorious walk, The stage shows, and the candid talk  
Oh, this life in school , yes we lived it right ! Fare thee well mate ;  
for now , in our memories light !

Brothers and sisters, friends and my dear,  
Our tears of love, let them shed; let them flow !  
Let these tears run like Gangs, and moisten our hearts clear !  
Let these tears seal our bonds and bonds and preserve our Love's sow!  
Fare thee well my love; hold faith and belief, let them be our prow.  
Fare thee well my love ; oh but believe this is just for now !

By-  
Hari Priya  
Biotech, 3rdsem





# To Quit Or To Face

I am half dead man on a half dead mare.  
with a promise , I rode,  
To see the great mountain top.  
Dry were the lands, and ruthless was the  
sun.

The mare said, 'no more' ; but not me.

Through storms, I trekked.  
And the ravenous Gods, I challenged them  
all.

Flesh had dried, and broken were bones.  
But, my will never inclined.  
My soulful skeleton,I did drag it atop.

Soon, in this wind and snow,  
I would be dead,lost and gone .  
It matters not if I am dead.  
It matters though that I kept my promise.  
And it matters that I didn't quit.  
For quitting is but easy  
Than facing and still going .

**By-**  
**Hari Priya**  
**Biotech,3rdsem**



## You should know what is in your hand...

It's the emotions , makes intangible feelings alive

It's the love ,beats in unreasonable likings

It's the imagination, brings hope

It's the understanding how your decision of choosing words  
change someone's life

It's you human who have this, can share, understand or ignore all this

It's you ,who have decision to project yourself or kill within

It's you who can not only care but give voice to unspokable incidents.

Being selfish is proof of your existence ,shows your stands for whatever  
you feel for...

We wander the whole world in search of benefits but want to close our  
eyes in the lap of these sentiments.

It's your anger ,greed and profitable desires which can't even see to what  
extent you are the cause of deterioration of trust and humanity.

You yourself is the big world ,which we take whole life to explore

Love yourself ,respect your inner beauty ,then only you can respect humanity

It's not easy to save pearl from snatchers still that worm sacrifices his life to  
let us see the existence of purity of that beauty

It's you ...

and you should know what is in your hand...

**By –  
Sakshi Chandrakar  
Metallurgical Engineering  
3rd Sem**



# THE BIRTH OF A FATHER

- DR. ANOOP KUMAR TIWARI

For Your mild breath and spark in eyes

I can pay any price

Your woolly hits on my rough chest

Miss those millions when not at rest

The worst I fear the best I dare

All I wish for you just Fine and fair

Your crystal lips and transparent eyes

Endow my soul an unknown rise

Above all wisdom and above all price

I can pay any price

Heavy gongs above smoky towers

Desolates rooms and dusty hours

Gives no wisdom, purity or powers

Your pink feet and snore like showers

Gives me all wisdom, purity and powers

Above all wisdom and beauty of flowers

Shifting me above all smoky towers

Some made their future and TRP rung

Morn to eve the same song sung

Pious people clad all in white

Clamored under the dome, for what is right

Chuckled their Tongues for cathartic pleasure

Statements and slogan but only to measure

All political gain or social pleasure

She breathed her last and they twisted their eyes

Practiced throats and practiced their voice

To make their slogans of a useful price

Wandering bus with a dissected fish

It was just a taste of new dish

The poor lass enjoyed a chartered flight

When people cried for what is right

Floral tribute at dole some sight

The sleepers were shaken in the restless night

Candles condolences flags and bills

Their shy slumber was shaken at hills

Debates and discussions at Raisina hills

Then they returned to their man made hills

They frowned and licked their wordy bills

And they turned to their sleeping pills

Vulgar girls at the age of three

Monkish monsters roaming all free

My heart shiver my darling for thee

The crest is bleeding

And breast is dry

The octogenarian sobbing with a silent cry

When we are clapping for the Life of Pie

Boys are mistaking and mistaking every day

When North is roaring and not calm is the bay

No blessing sages in fresco on walls

But serving sermons in shopping malls

Some fumbling sages are behind the bars

When still many moving... In white cars

Around the dome or at home

Everywhere is fear and filthy foam

Nobody is Roman and nowhere is Rome

Are they safe even at home?

How I wish and how I dare

For thee everything only, fine and fair

The only shelter is the prayer and prayer

May He endows you the nerve to dare

Which now days is no more rare

I wish for thee only fair and fair

I wish for thee only fair and fair

Your touch endows me an unknown rise

Above all wisdom and worldly rise

I wish a worthy one to hold your palm

before I leave thee with peace and calm

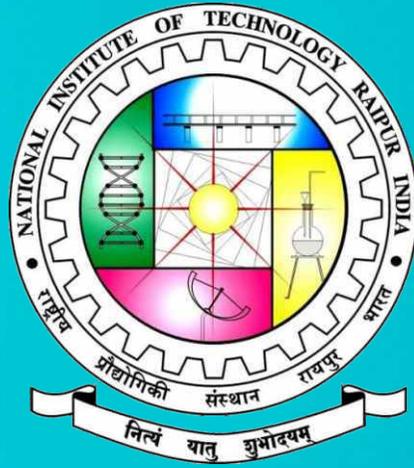
May god protect you from filthy flies

All deceptions and glory of lies!

The only shelter is the prayer and prayer

I wish for thee only fair and fair I wish for

thee only fair and fair.



# *Clubs and Committees*

REPORTS

# ABHINAY

## THE DRAMATICS CLUB

The session 2018-19 has been a golden one for the dramatics club of nit Raipur. This journey started with "TOUCHWOOD", on 14th of July in which they performed 3 nukkad natak in association with Swachh Baharat Abhiyaan to spread awareness about common superstitions like babas over doctors.

Then on 15th July, they performed kaalikh in pt. deen dayal auditorium which was centralized about job problems of common labours. On Independence Day abhinaya released a video featuring the meaning of true independence from common Indians. On 2nd September abhinaya performed "ABHILASHA" at magneto; on 14th September performed "MIME PLAY" in association with NSSNIT Raipur which depicts the story of a martyr soldier. September had been a busy month with "UNKAHI 6.0" open mic session, and auditions. The team has won nukkad natak competition held during "MERAZ" at IIT bhilai. During "MOODINDIGO" held at IIT Bombay abhinaya had performed "RAMTURAVANBHITU", "MIME TIME", "AABHUSHAN" on 27-30 December. In January 2019 the club has organised a nukkad natak on depression & unkahi7.0. During ECLECTIKA team AAKRITI and team DARPAN, two daughter team of abhinaya participated in GOONJ and team Aakriti won first prize by performing "Ram Tu Ravaan Bhi Tu". A drama workshop was conducted by Mr. Rajesh Shrivastava (member of IPTA) focussing on the topics like language and voice modulations and helped in guiding keen students.



The flagship event of the club "RAANGMANCH'19" WAS organised successfully as a drama night gathering massive audience. Three self-directed plays, 1 stand-up comedy, 1 group dance event and one short play were performed by the members of the club along with other entertaining performances by members of the NGO, "Oxfam, India". "Phaasikebaad" "Bhram" "Kaabuliwala" The event was graced by the presence of dignitaries namely Mr. P. Diwan (Dean Student Welfare, NIT Raipur), the Celebrity Guest - Avantika Srivastava (Mrs. India 2018-19 and Mrs. Asia 2018-19), IAS M. Geeta ma'am and Niharika Barik Singh, along with Mr. Urmimala Sen Gupta and Mr. Anand Sharma (from the NGO „Oxfam India).

All the members of the abhinaya from head coordinator to the executives work very hard for each event from early morning till the event ended under the guidance of the faculty in charge Dr. Govardhan Bhatt sir and the best thing about the events of abhinaya is that they spread the awareness among the masses inside and outside the campus in an entertaining way which is enjoyed and applauded by everyone student or professor common man or intellectual alike.



# CLICK CLUB

The club organized the Annual Photography Workshop under the supervision of Dr. S. Sanyal covering the wide range of topics regarding Mobile Photography, Basic camera handling, light modifiers, post-processing and composition along with the outdoor photowalk to implement these rules. The students were taught by experienced and professional photographers associated with brands like NatGeo, History TV etc. Sessions were delivered by Mr. Dheeraj Katare, Wildlife Photographer, Mr. Prudhvi Chowdhary, Landscape and Travel Photographer (NatGeo, BBC earth), Mr. Rakesh Phulapa, Entrepreneur and Travel Photographer and Siddhant Soni, travel photographer (TravelXpTv, HistoryTv18, NatGeo Traveller India, CanonAsia). The outdoor photowalk, at the end of the workshop for practically implementing the knowledge of photography were conducted at Mukhtangan and Mahadev Ghat.

The club organized 2 photography exhibitions annually, Aura and Pixel Lane, displaying the work of club members in autumn and spring semester respectively. Along with this, club also organized various photography competitions namely Capture



The Moment in collaboration with technical committee, life around reflection, Aakriti, shades of spring, click and eat in collaboration with cultural committee and annual photography competition on theme cultural heritage, architecture and lifestyle of our partner state Gujarat.

The Club Team made its presence felt in all the events in the college from the 'Beginning' to 'Electrika', cultural fest of the college by capturing the moments in the lens.





# ANNUAL ACTIVITIES OF UNNAT BHARAT ABHIYAN NIT RAIPUR



Unnat Bharat Abhiyan is an initiative by MHRD-Government of India, for rural upliftment of the villages of India. IIT-Delhi is the central coordinating institute for UBA. Under this initiative, NIT Raipur has been identified as Regional Coordinating Institute(RCI) by MHRD and has adopted five villages namely, Guma, Bana, Gomchi, Kara and Tendua; all under supervision Block-Dharsiwa (District-Raipur). UBA NIT Raipur is committed for upliftment of the above mentioned villages. UBA NIT Raipur conducts many events in the fields of education, health care and social welfare of the villagers to fulfill its purpose. Some events under these domains are providing career counselling to school students, distribution of text-books, awareness campaigns related to clean drinking water, sanitation and hygiene. In the last session of UBA, many events like village trips to Guma and

Bana were organized and UBA team had face to face interaction with the school students and villagers on various issues. UBA team conducted a session on career counselling to students of class 11th and 12th in Guma village in last UBA session. Currently, Shri Harendra Bikrol sir (MCA Department) is the Professor incharge of UBA NIT Raipur. UBA NIT Raipur team has 85 members (approx) and around 35 core members. Recently, on 31st August-2019, a visit to Bana Village was organised to get the details of the lifestyle of the villagers and their day to day problems related to drinking water, sanitation, hygiene and literacy. UBA team also visited Primary school-Bana, interacted with the school students and teachers and distributed textbooks to the school students. In September, students of Government Higher Secondary School-Guma along with three faculties from the school were invited to visit NIT Raipur campus on the occasion of Aavartan-the Technical Fest of NIT Raipur. The students witnessed the inaugural ceremony of the fest and were addressed by our Director-Dr. AM Rawani sir (Director-NIT Raipur) and other guests of the event. After that, gifts were distributed to the school students as a memory of their visit to NIT Raipur campus. UBA NIT Raipur team is continuously striving to excel in its endeavour and is determined to bring some changes in the present situation of the villages adopted by it.





# ANNUAL ACTIVITIES OF UNNAT BHARAT ABHIYAN NIT RAIPUR



CLICKCLUB, NITRR'19



CLICKCLUB, NITRR'19



CLICKCLUB, NITRR'19



CLICKCLUB, NITRR'19



CLICKCLUB, NITRR'19

# INNOVATION CELL

## ANNUAL REPORT



Innovation Cell, NIT Raipur was formed in May, 2018 under the supervision of Director and Head, Career Development Center, NIT Raipur. It aims to inculcate the spirit of innovation and entrepreneurship amongst the students, encourage and support innovations through assistance, mentorship and support. Innovation Cell comes up with some objectives like to implant a traditions of innovation driven entrepreneurship , to act as an institutional mechanism for given that various services including information on all aspects of venture building to budding S&T innovators and entrepreneurs , to motivate, support and mentor students for problem identification and development of their innovative solution , to catalyze and promote expansion of knowledge-based and innovation-driven enterprises and promote employment opportunities amongst youth specially students , to encourage practical implementation of Curriculum , to provide some platforms (Makerspace) which brings together people of similar approach to work as a team on innovative ideas, a place where you can freely work on your innovations and discuss about trending technologies , to bring innovative Start-Ups over Conventional Ideas.



It conducts activities like -

### 1.I-Talk :

I-Talk provides a platform for geek students to grab some experience from Experts on the trending topics of industrial domain through an interactive Session. It seeks to make students aware of the various Industrial Development and Innovative Sectors. Following are the sessions organized by Innovation Cell.



2.Award for being into Top 25 IIC among 950 in India at First Annual Innovation Festival of MIC:

Under the leadership of Director Sir and Head of Career Development Cell, NIT Raipur achieved the honor of being among top 25 IIC's out of 950 in India.

### 3.Innovation Manthan 2.0:

It was a mega event organized by the E-Cell NIT Raipur in collaboration with Innovation Cell. Students from many colleges participated in this and presented their projects and prototypes related to innovations, start-ups. Many investors also came to provide seed grant to the students with magnificent Start-Up. An Acceleration Grant of Rs.50, 000 was given.

### 4.Case Study:

Case Study was a collaborative event with E-Cell conducted during E-Summit. The problem statements from different areas and industries were provided to the participants. Every participant was asked to provide solution to those problems. It brought the interest of different institutions towards innovation and entrepreneurship. The participation of many students proved that it was a successful event and one of the unique events that was being conducted in Raipur.



# INNOVATION CELL

## ANNUAL REPORT



5. Session on “Social Entrepreneurship” by Mr. Ved Mitra Arya : In Joint Collaboration with Entrepreneurship Cell and IEEE Student Branch NIT Raipur organized an expert lecture session on the topic “Social Entrepreneurship among Students” addressed by Mr. Ved Arya. He made students aware about Buddha Fellow Program and encouraged students for being an Entrepreneur.

6. Session on “Real Life Problem Identification and their solutions” by Sachin Gaur :

Sachin Gaur (CEO of Mixorg & Innovatiocuris) one of top ten investors of India came to Makerspace NIT Raipur to interact with the students about real life problem identification and their solutions. This interactive session was organized to motivate students and give them a basic idea about how they can find problems in day to day life and how they can find it's solution



7. Innovation Exhibition 2.0 :Innovation Cell organized an exhibition on 13th August,2019 for revealing its recent ongoing projects to the National Board of Accreditation and Dean Academics highlighting the development of innovation ideas in the institute.



8. Representing NIT Raipur at funding expo Organized by Aditya Birla Group:

Sriram and Team, members of I-Cell represented NIT Raipur at the event with their innovative Smart Helmet for Coal Miners. It was made keeping in mind, the problems faced by miners in the mines. It provided them with communication and detection of any poisonous gas leakages in the mines. The device can prevent many emergency situations inside the mines. It received quite a good response. The event was mainly organized to select the projects that will be funded by Aditya Birla Group.

9. Daily Problem Statement Release:

Social Network being the most powerful invention of mankind. I-Cell came up with a platform to release daily problem statement on Social Network so as to develop brain-storming habit among innovato.



# Nrityam

THE DANCE CLUB NIT RAIPUR

The session 2018-19 has been a golden one for the dance club of the institute, Nrityam. It organized a lot of dance events all year round. The first event organized by the club was the Annual “Grand Garba Eve” on 11th October 2018 and “Dandia Eve” on 25th October 2018 under “Ek Bharat Shreshtha Bharat”, a flagship programme by Government of India. The college campus was adorned with earthen lamps, fairy lights and Rangoli. There was a huge participation and the event turned out to be a grand success.



The next event organized by the club was “Nrityotsav”, a day dedicated to dancing, on 2nd February 2019. There were two competitions in Nrityotsav – “Nritya Symphony”, a solo and duet dance event and a group dance competition, “Dance Eve” with all styles except classical, semi-classical and folk. It was a very interesting competition, both the judges and the audience had a really great time. With over 500 people turning up for the event, one can say Nrityam has set up a benchmark.

Nrityam will be organizing “Nrityangana”, the classical, semi-classical and folk dance competition on 23rd February 2018 as well as “Eclectika Dancing Star”, the solo dance competition on 22nd February 2018 during Eclectika'19.

Apart from all the events that have been successfully organized by the club, Nrityam also conducted regular practice sessions to keep the spirit of dance alive in the students. Not only team Nrityam showed enthusiastic involvement in the activities inside the institute, for example, in Aavartan, Independence day, Eclectika etc. but also participated and represented the institute at different cultural events like IIT Bhilai.

All the members of team Nrityam- from the head Coordinators to the executives, work very hard for each event from early morning till the event ended under the guidance of the faculty incharge- Dr. Neha Gupta and the best thing about the events of Nrityam is that all the faculties with their families and the students of the college enthusiastically participate in the events.



# RAAGA

Raaga-The Music Club was born in 2009, to set a platform to foster the nursery of musical talent and choose the best. Its history is woven strongly into that of NIT Raipur. Since its birth in 2009, its magic has grown many folds. Its journey started with the joint effort of the students, Director, Dean Student Welfare, Professor In-charge Dr.S. Sanyal and Faculty In-charge Dr.Ayush Khare.

In the beginning of each session, a large number of music lovers apply for being a part of Raaga.

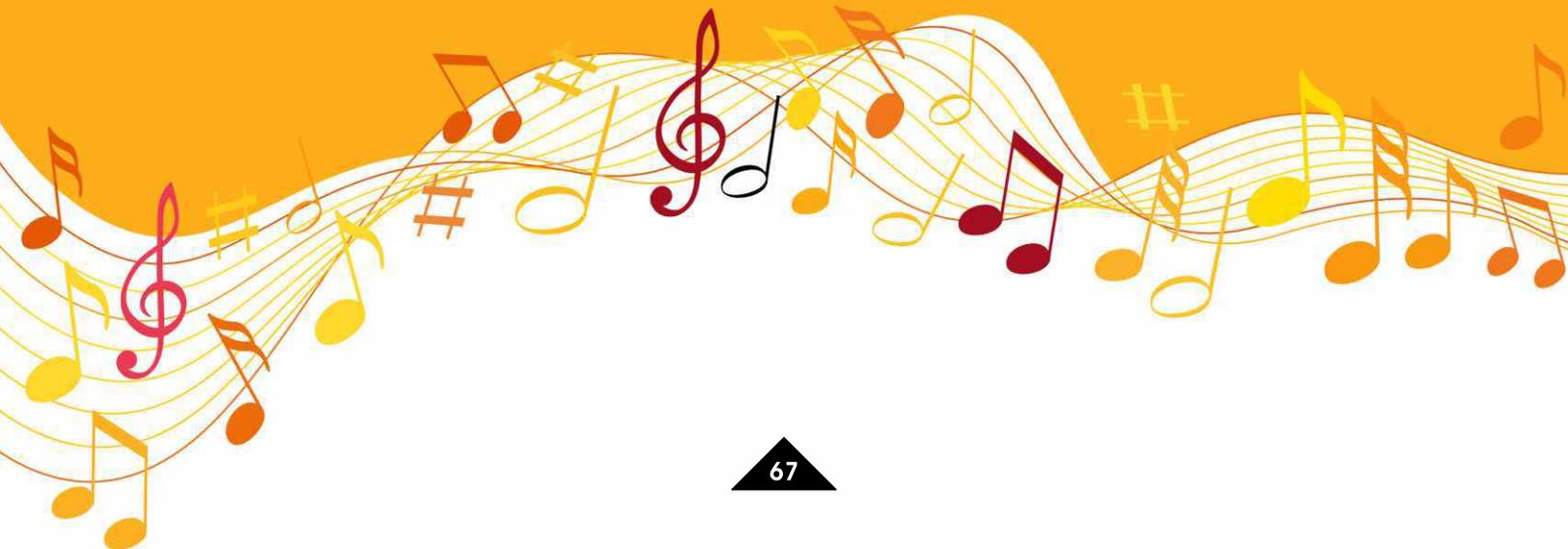
Raaga organizes NIT Raipur's annual musical eve Shruti every year. It is the flagship event of Raaga where the team performs songs of various genres such as retro, western, pop, bollywood, semi-classical etc



Shruti captures students enjoying to the tunes of melodious songs and grooved to the thrilling beats.

Apart from Shruti, Raaga also contributes to various cultural activities of the college throughout the year. Independence Day, Republic day, Alumni meet, Eclectika Cult Nite and other such events provide a slot of 10-15 minutes for Raaga's performance. Raaga also performed at Pt. Deen Dayal Upadhyay Auditorium on multiple occasions such as workshop on Luminiscence Conducted by the Physics department, E- Summit by E-Cell, TedX etc.

The club aims at promoting the musical talent in the premises of NIT Raipur and provides a ground where people having a taste for music can learn and grow.



# Sanskriti



The Cultural Committee of NIT Raipur, Sanskriti functions internally to preserve and promote cultural activities parallel to technical edification in college. The team consists of student body of Core Coordinators, Head Coordinators and executives under the guidance of faculty in charge. Independence Day celebration is the first event for the team. The day begins with flag hoisting and speech by Director Sir, followed by NSS march and continues with numerous patriotic performances from students and faculty evince our gratitude for freedom fighters. Engineer's day i.e. 15th September, the birth anniversary of Sir M Visvesvaraya is conducted with many fun filled events across college, designed to challenge our engineering skills and reflexes. Traditional day is a highly anticipated event which is celebrated before Diwali, this day the campus is decorated with lights, candles and diyas, enticing a huge

gathering of faculty and students all dressed in ethnic wear. Halloween celebration takes in the campus where face painting event is organized; students participate in groups and paint daunting make up on each other's face. Uttarayana : kite festival also known as Makar Sankranti is the period of harvest. This day is traditionally celebrated by flying colorful kites in open sky.

Republic Day celebration is initiated by flag hoisting and Director Sir's blessings. Students present cultural performances with a strong message of being a responsible citizen. Eclectika, the cultural fest of NIT Raipur is celebrated in 3rd week of February every year. It is widely renowned as the largest cultural fest in central India Eclectika features copious amount of events and attractions which are split into a course of 3 days. It includes events like Eclectika Idol, an opportunity for singers to present and refine their talent. Clash of choreos, a dance competition which sees participation from many different institutes. Kalopsia, is an art exhibition which features the finest paintings, sketches and other artwork made by students.

Avirbhaav The War of bands, is an exhilarating experience where different bands exhibit their talents. Tafree Standup comedy, a congenial event that offers a stage to budding comics in and around college. Each eventful day of Eclectika finds closure with a rejuvenating evening, the first one being EDM Night, a modern genre of enthralling music that makes you lose yourself to the upbeat rhythms. Next is the Cult night, students from college take the stage and present their talents of singing, dancing, poetry etc. Finally the cynosure of entire fest, the celeb night which concludes Eclectika. Students get a chance to see their favorite celebrity artist perform for them, live in college. The celeb night witnesses exorbitant attendance, the artist raises the spirits and makes every Eclectika a timeless memory for every member of NIT family.



# THE ENTREPRENEURSHIP CELL

The E-cell NIT Raipur aims to support the the idea of entrepreneurship and budding startups in the college. It fulfills its aim by organizing various events in this field providing students with the necessary knowledge about developing a startup from just an idea to a model and also allows a platform where they can showcase their ideas to the world. One of the major events that the Ecell conducts is Esummit where various riveting Speaker sessions, national-level investors, Mind-boggling Quizzing rounds, problem statement round and some virtual play with the stocks and money take place.



Shweta Kothari, Managing editor at The logical Indian. The Uthkrisht session involves felicitation of various social entrepreneurs and hear their minds. Various personalities like Abhishek Dubey who is currently the CEO of Muskaan Dream, an award-winning social impact organization, Nikhil Gampa who currently works in the liquid waste management sector, have graced the Summit this year. The Summit also includes various events like Wallstreet- the virtual stock market, B-quiz and an internship fair and Innovation Manthan, a platform to showcase innovative ideas, and a fun thrilling comedy session by some famous comedians like Rahul Subramaniam. The Ecell successfully implemented the first of its kind app "Internship Portal" of NIT Raipur, dedicated towards startups based internship, enhanced knowledge of Business Model Development amongst engineering students, bought in real life problem statements from in and around Raipur from sources like smart city, young india, 36 inc etc. for case study, conducted B-Model workshop, Digital Marketing workshop, stock market workshop,conducted mock investor pitching session for students of Nit.



The summit starts with an inaugural ceremony with dignitaries like Dr. A.M. Rawani (Director, NIT Raipur), Dr. Prabhat Diwan(Dean Academics), Dr. RN Patel(Faculty in-charge of E-Cell NITRR) sharing words of wisdom. The summit is a two day long event comprising of sessions like Entropy session where various speakers address the students on various topics. It included some personalities like Sandeep Jain, founder GeeksforGeeks, Raj Shamani, UN speaker and one of the top 5 young influencers of India, Sandeep Chaddha, prouduct manager at Microsoft India,



# THE ENTREPRENEURSHIP CELL



# The Technocracy

## TECHNICAL COMMITTEE OF NIT RAIPUR

The Technocracy is the students' technical committee of NIT Raipur. It was a seed sown in 2007 by a few technical enthusiasts, which has grown and established its strong roots. Currently, it comprises of over 100 members. The vision of Technocracy is to bring out the technical thirst in every student through their innovative ideas and help them discover the concealed, untapped avenues of science and technology.

The TechnoCracy remains active throughout the year and conducts various workshops like on Machine learning, designing, seminars by eminent personalities and guest lectures by alumni. The TechnoCracy is known to organize the Annual Science and Technical Festival of NIT Raipur; "AAVARTAN" which is the largest tech-fest of central India, by all standards. The main aim of AAVARTAN is to provide a national level platform for students to showcase their technical fare.

**WORKSHOP ON MACHINE LEARNING-** Machine learning is an application of Artificial Intelligence that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning is shaping and simplifying the way we live, work, travel and communicate. This workshop was conducted by AAVARTAN, NIT RAIPUR where participants were given an insight about it and a hands on session where students learned about python and various terminologies.



### KLEOS

One of the most intriguing, mind boggling and impelling event of AAVARTAN'19, KLEOS. The exhilarating online treasure hunt, organized by Technocracy, NIT Raipur. Thinking intensively, thinking critically. Trusting your gut instincts, being intuitive and thinking outside the box. Resolving the enthralling mystery with the clues provided and testing your logic, aptitude and skills and taking them to an all new level with various puzzles, riddles and brain teasers combination.

### Alquora

Alquora is a student Programming Competition was organized by Technocracy in collaboration with Hackerrank. Alquora qualifiers was conducted on september 16 and final onsite round was conducted at aavartan. Coding, or the basics of programming, are fast becoming a new literacy standard around the world. It aims to introduce the students to the computing community.

# The Technocracy

## TECHNICAL COMMITTEE OF NIT RAIPUR

### AAVARTAN'18

AAVARTAN is the annual TechFest of NIT Raipur with more than 30 events, VIGYAAN - a science exhibition and different attractions.

The various events that held are as follows :-

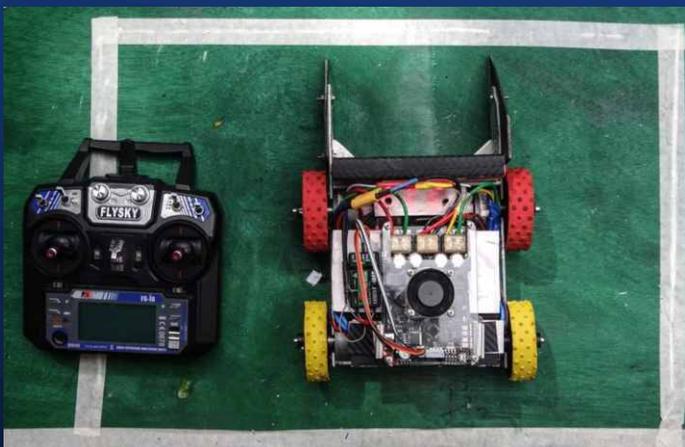
- CAD-alyst
- Technomic Quotient 8.0
- Capture the moment
- Gravity Control
- ECOPOLIS
- Terrain Trader
- Maze Runner
- Roboshoot
- Aquabot
- October Sky
- LANGAMING
- ENIGMA
- BEG BORROW STEAL
- MIND FLAYER
- Gwiggle
- KHET
- SOLD-OUT
- POPSIC TOWER
- Sherlock Holmes
- CIRCUITRIX
- PIPOMANIA
- RUSH HOURV



Vigyaan, National Science Exhibition,  
NIT Raipur

VIGYAAN- is a national level science Exhibition conducted during AAVARTAN'18 annual TechFest of NIT Raipur. Vigyaan promises to nurture the scientific temperament of the student beyond their natural limitations. This scientific rendezvous promises to leave a spine-tingling effect on the participants. The participants have to design a model to solve a Contemporary problem in the society. It tests the scientific and technical abilities of an engineer. In a nutshell Vigyaan is the scientific sensational; integration of Aavartan.

There are 14 domains with each domain having a set of minimum 5 problem statements. Top 3 teams (maximum 3 members) from each domain will get cash prizes up to INR 8000 and certificates. Participation Certificates to teams in top 15 abstracts from each domain who will be given a chance to present the prototype/ abstract of their mode.



# LITERARY COMMITTEE

The literary committee of NIT Raipur aims at elevating the standards of literature in the college and provides a space for people who are interested in this field to flourish and share their thoughts. With Dr. Sanjay Kumar as its professor in charge the committee works throughout the year to achieve its agenda of taking the literature out of books into this dynamic world.

Various events conducted by the team annually are-

- Publishing Shilpi- Shilpi, the annual magazine of the college is published under the supervision of the team, which gives a gist about activities that were conducted annually in the college premises. Also, it features various technical and non-technical articles and poems by students as well as faculties.

- Vigilance week- Conducted in last week of October month this event includes essay writing and debate session in order to raise awareness among the students on various social issues.

- Debate Society- To raise the spirit of debate and group discussions debate sessions are conducted under the debate society, once a fortnight. The debates are bilingual and concerns current social and political issues.

- Literati in association with Eclectika organizes some fun events during its three-day long tenure-



**1. Literathon-** It is a fun event of three rounds, based on literature, the first round being a quiz on TV trivia, second round a merge of darting and word phrasing and the third round a treasure hunt.

**2. Legal Eagle-** It is a stimulation of a legal case by teams which is judged by real life judges from the district court.

**3. Hansard -** it is a mock parliamentary debate session which stimulates an actual parliamentary session by the teams.

The team's objective is to foster a platform for literature works and write ups and promote proficient use of language. The team strives to achieve this in upcoming years too by various new means.



# SHAURYA: THE SPORTS COMMITTEE

Zeal is like a determined image of relentless flying in the confident eyes of an infancy bird. You can bind it for a moment but certainly it can never be bind into shackles for a lifetime. Sport committee NIT Raipur is a similar story of unending zeal and enthusiasm pulsating in the veins of each and every member in it.

The thunderous committee with its sky high history has many remarkable events shining like stars. Throughout the year this committee organises many events.

## SAMAR

Samar is the paramount event organised by SHAURYA. It the largest sports fest of central INDIA. The event lasts for 4 days. SAMAR is packed with commoving team sport events, athletics,yoga and many fun events. Fun events include DJ night, musical eveand many recreational programs. Many celebrities have been a part of this festival. In 2017 international wrestler Geeta phogat attended the fest and addressed the students of NIT Raipur. Every year there is a distinct theme of the whole fest. The decoration of the campus is decided by this theme. In 2018 this theme was emerging Chhattisgarh. This year the theme is harry potter.

## ENGINEERS DAY CELEBRATION

The committee celebrates engineers every year by organising fun events for students. Recreational Events like dodge ball, tug of war, musical chairs and DJ night. This year arm wrestling, tug of war, pizza race and many other events were organised.

## IBCL

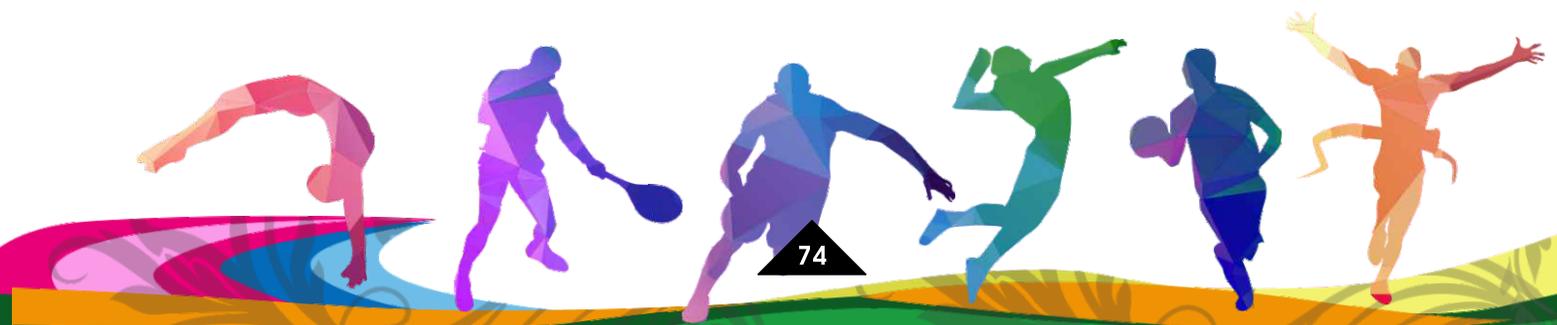
The Inter Branch Cricket league is held every year for the interaction of juniors with seniors.

## SUZUKI CARNIVAL

During SAMAR a motorbike stunt event is held where professional stuntmen perform stunts on bike and bicycles.

## FLASH MOB

The promotion of SAMAR is done with power - packed performance of flash mob. It is called The Matargashti. It is held at most crowded places of the city to mark the beginnings of huge excitements that lie ahead.





CLICKCLUB,NITRR'18



CLICKCLUB,NITRR'18



CLICKCLUB,NITRR'18



CLICKCLUB,NITRR'18

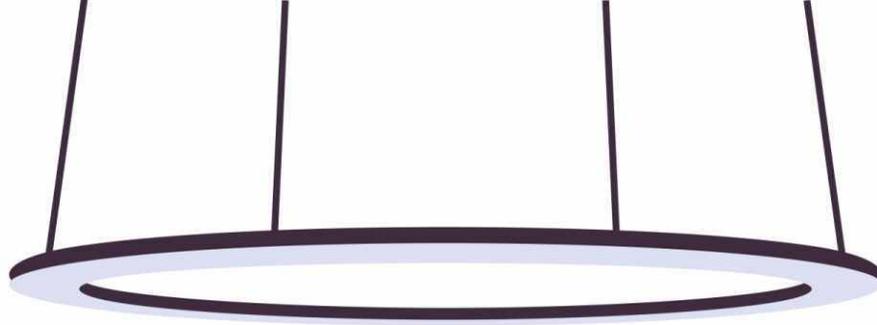


CLICKCLUB,NITRR'18



CLICK CLUB NITRR'18





# DEPARTMENT ACTIVITIES

# IT DEPARTMENT

Established in the year 2000, Information Technology Department is the study, research and work place of 300 people from 28 states across India. About 15 professors in this department teach mainly in areas like Information Science & Technology, Computer Science & engineering, system-oriented sciences, and mathematics, etc., carry out research in their respective field. The mission of the Department of Information Technology is to serve the society by preparing undergraduate students for professional practice as successful engineers, by providing continuing education opportunities and by making original contributions to the art of engineering.

Graduates of IT department have applied knowledge of different basics like Mathematics, Physics and Chemistry, Computer System Architecture, Memory Organization, Data base System, Design of algorithms, Optimization Algorithms. Graduates have the capability to work in multidisciplinary environment and can make automation of the system to work with using programming knowledge and their backgrounds like Medical Image Processing, Wireless Networks, Robotics and Bio-Medical Problems etc and skills to use Modern Programming Languages like Python, R, Advanced Java, Scripting Languages and Software tools like MATLAB, Net-Sim, NS-2, NS-3.

Facilities :

Networking Facility : We have OMNET++ and NS2/NS3 simulators for Computer and Network Design Lab. In these simulators, R&D activities related to computer networks, mobile computing, ad hoc networks and wireless sensor networks are performed.

Programming Facility : We have softwares for programming like Turbo C++, CodeBlocks, Python and Java in which students perform R&D activities related to software engineering, cryptography and object oriented programming.

Image processing Facility : We have MATLAB software to perform research on image processing.

Data research facility : We have MATLAB simulator and R software to perform R&D activities related to data mining, artificial intelligence and big data.

Brief Details of Important Lab

1 Computer Network Lab

HP Z420 Workstations

Lenovo/HP/Zenith P4/Dual

Core/Core2Duo/Celeron Desktops

Benchmark I Security

Benchmark NetSysT Firewall

Benchmark NetSysT Router

D-Link 16port Switch

Benchmark LAN Trainer

Turbo C++

Windows XP

Functional areas & its capabilities: Academic support and R&D activities on computer networks, mobile computing, ad hoc networks and wireless sensor networks

1. Software Technology Lab

Functional areas & its capabilities: Academic support and R&D activities on Software development, design and testing.

### 3.DBMS Lab

- All in one PC's
- MySQL
- Visual Studio (.Net)
- Turbo C++
- Windows 2010

Functional areas & its capabilities: Academic support and R&D activities on databases, data mining, text mining and time series analysis

### 4.Programming Lab

Functional areas & its capabilities:Academic support and R&D activities on programming languages, algorithms and operating system.

### 5.Computer Graphics Lab

- All in one PC's
- Turbo C++
- Windows 10
- MATLAB

Functional areas & its capabilities:Academic support and R&D activities on computer graphics and CAD.

### Achievements :

The Bachelor of Technology in Information Technology program is designed to provide its graduates a solid educational foundation on which they can build successful and sustainable career in Information Technology or a related field. Graduates of IT department session 2018-19 have come up with an impeccable record of placement in reputed companies like Genpact India Pvt. Ltd. , Wipro Limited , Capgemini , Oracle Financial Services (OFSS) /Optum (UHG) , Reliance JioInfocomm , Deloitte Consulting , Sigmoid , Cognizant etc.

# Mining Engineering Society (MES), NIT Raipur

## Techfest'19

Mining Engineering Society in association with Department of Mining Engineering, NIT Raipur organized a two day Departmental Technical Fest for the students of Mining Branch on 5th and 6th March, 2019. The Chief Guest of the fest was The Head of Department, Prof. Dr. Pankaj Dewangan.



The main aim of this fest was to encourage and develop the students' knowledge in the **New and Advancing Technologies in**

**the field of Mining.** Numerous Events like Case Study, Paper Presentation, Poster Presentation, Mining Quiz, T-Shirt designing competition, etc. were organized. Students industriously took part in all the activities. **Attractive Prizes** and **Certificates** were awarded to the excelled students.



## MES Sports

Keeping in mind about the fitness and frolicsome mind of the students, **MES team** organized the **Sports Month** from 15<sup>th</sup> February, 2019 to 15<sup>th</sup> March, 2019. The teams were made from all the four years. Sports like **Football**, **Volleyball** and **Cricket** were played in the morning time during the weekends. For the very first time, **Badminton** was introduced for the girls of this branch. Prizes and Certificates were awarded to the winners and runner-ups.

# Welcome Ceremony'19



**Mining Engineering Society (MES), NIT Raipur** organized the **Welcome Ceremony** for B.Tech 1<sup>st</sup> year students of Mining branch on **19<sup>th</sup> September, 2019**. The event was inaugurated by The Head of Department **Prof. Dr. Ravi K Jade** by the lighting of lamp. Various Faculties of the Department delivered the key note about their

experiences and aspects regarding the Mining branch and also made them aware about the achievements in academic arenas.

The program then continued with the introduction of 1<sup>st</sup> year students followed by the **cultural events and fun activities**. The 1<sup>st</sup> and 2<sup>nd</sup> year students actively presented mesmerizing performances like dancing, singing, poetry, drama, etc. Prizes were given to the students who took part in quiz. The Program ended up with the vote of thanks given by the Assistant Prof. **Dr. Ashish K Dash** and group photo session.





# DEPARTMENTS 2019

# Department of Bio Medical Engineering



# Department of Bio Technology



# Department of Computer Science Engineering



# Department of Chemistry



# Department of Electronics & Communication



# Department of Electrical Engineering



# Department of Information & Technology



# Department of Metallurgy



# Department of Training & Placement



# Department of Mining

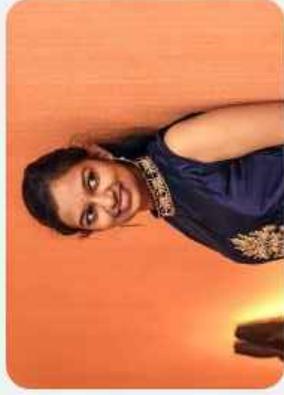




## MEET OUR HEAD COORDINATORS



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*Information Technology*



**NAUNIKA JAIN**  
*Computer Science Engineering*



**RAVI SHARMA**  
*Information Technology*



**RISHABH GUPTA**  
*Information Technology*



**RITIK MOHAN GARG**  
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**SAMEER KUMAR CHOUBEY**  
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**TANMAYEE KHARE**  
*Civil Engineering*



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