



THE PULSE OF HBTU

SEPTEMBER 1, 2019
SUNDAY
INAUGURAL EDITION

Fortnightly Newsletter

RBI remunerate
Indian government
worth Rs. 1.76 Lakh
crore



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Exclusive
interview of our
Honourable Vice
Chancellor



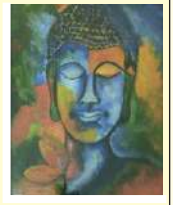
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Milky way
galaxy in the
shape of
Potato chip?



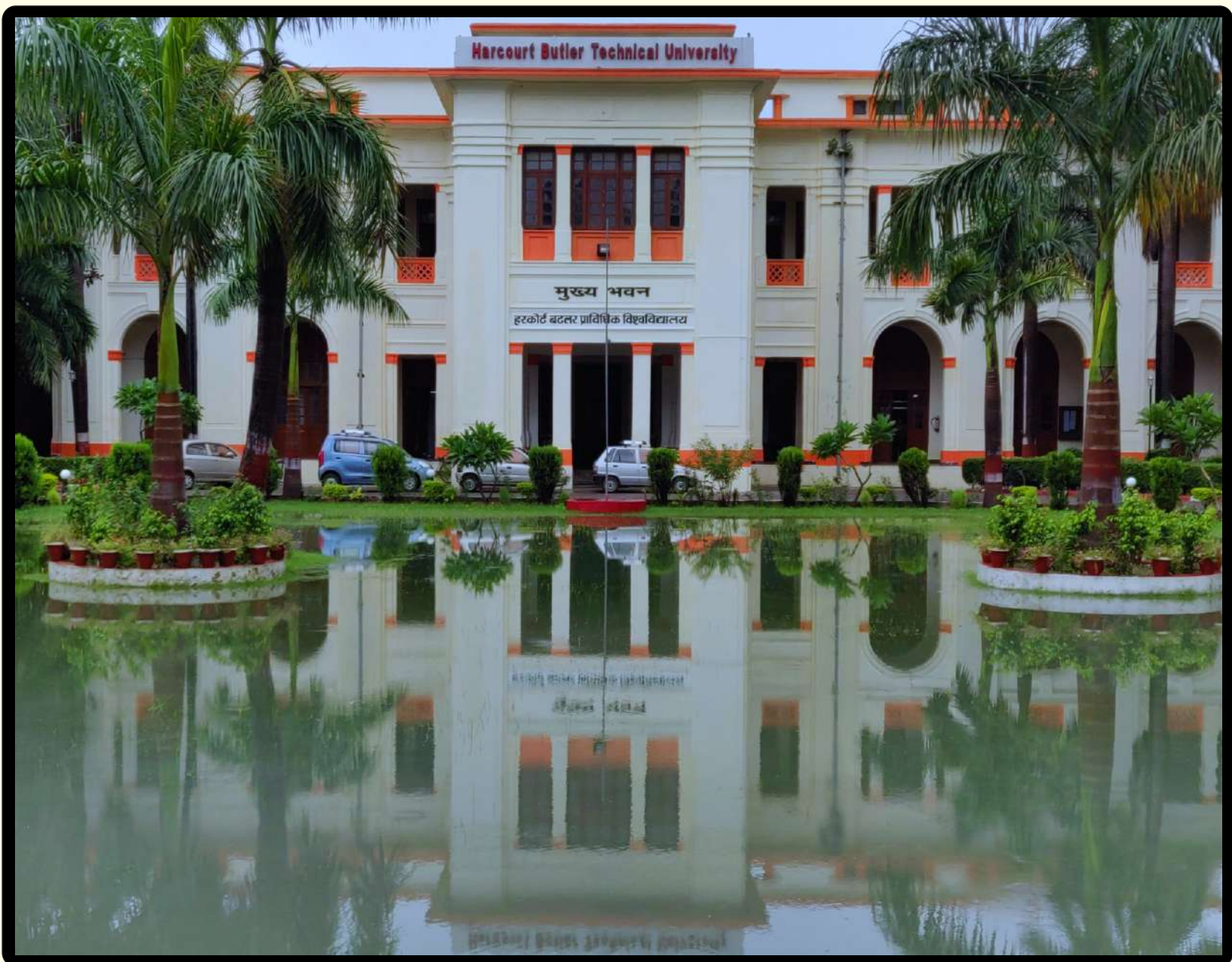
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Voice of HBTU



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HBTU unveils its official fortnightly newspaper



PIC COURTESY:- P.K. Kamani (Head of Dept. Paint Tech. HBTU, Kanpur)

HBTU COMPELETES ITS GLORIOUS 98 YEARS

Whilst the need for advancement in science and technology among the people of what was then called the United Provinces, the idea of establishing the now known Harcourt Butler Technical University took place . Consequently, the Indian Industrial Commission, 1916–18, at its Nainital meeting proposed two institutions for engineering — one at Roorkee and the other at Kanpur. To boost entrepreneurship, accelerate industrial development, create a sound environment for contemporary applied research, and inculcate scientific

temper, an institute called Government Research Institute, Cawnpore was started in 1920. It was housed in the two rooms of what was called Bhoot Wali Kothi. The old majestic building is still intact at the northwest corner of the Company Bagh crossing, near Nawabganj. Dr. H. E. Annett, who was then the Principal of the Opium Research Laboratory, Cawnpore, of which the new institute was an adjunct, was appointed as the head. On 25 November 1921, the then governor of the United Provinces, Sir Spencer Harcourt

Butler (1869–1938), K.C.S.I., C.I.E., formally laid the foundation of the present main (administration) building. It was rechristened Government Technological Institute in 1921. In 1928, it got the name Harcourt Butler Technological Institute. Its first principal of Indian nationality was Shri Dattatreya Yashwant Athawale. As of 1 September 2016, it was granted a university status and renamed Harcourt Butler Technical University under the HBTU Act, 2016 passed by the Government of Uttar Pradesh.

NATIONAL & INTERNATIONAL BUZZ

World's 5 biggest smartphone companies: Who gained, who lost...

1. Samsung: Gained market-share
2. Huawei: Gained marketshare
3. Apple: Lost marketshare
4. Xiaomi saw marginal jump in marketshare, and
5. Oppo remains static

Source: Gadgets Now Bureau

FATF Asia-Pacific Group blacklists Pakistan over non-compliance in terror financing

The current blacklisting of Pakistan would make its case much more difficult during FAFT. FAFT in June had warned Islamabad to meet its commitment by October or face action.

'3 Idiots' fame 'Rancho's School' in Ladakh wants to be known by its actual name

Teachers and students of the school in Shey, about 15 km from Leh city, want people to identify it as 'Druk Padma Karpo School' and not as 'Rancho's School'.

Infosys strengthens collaboration with Microsoft, JCI to bring smart space solutions

IT major Infosys said on Wednesday it has entered into a collaboration with Microsoft and Johnson Controls to deliver smart buildings and space.

Social Media Stress Leads To Online Addiction

Social media users tend to tackle stress from one platform by hopping onto another leading to the risk of becoming more and more addicted to such platforms, says a new study co-conducted by Indian-origin professor. Facebook and Instagram are known to cause stress in users. When faced with such stress, instead of switching off or using them less, people move from one aspect of the social media platforms to another, says Monideepa Tarafdar, Professor.

How Government Can Put RBI's Rs 1.76 lakh Crore Windfall To Best Use



The Reserve Bank of India on Monday approved a record ₹1.76 lakh crore payout to the government, which is more than double the ₹68,000 crore that it provided the previous year. Many economists have termed the move as a "lifeline" for the government.

This payout to the government will give authorities more fiscal options, including possibly reducing its borrowing or boosting spending to spur economic growth.

It's a much-needed shot in the arm of the finance ministry that, last Friday, had announced a raft of measures to revive the economy. These measures include recapitalisation of banks, refund of input tax credits to businesses and exporters, clearing of dues of public sector undertakings (PSUs) are aimed at improving liquidity in the system.

Govt should use the RBI reserves received to expedite investment of Rs 2,27,849 crore budgeted for the Pradhan Mantri Gram Sadak Yojana, Bharat Mala and the Indian Railways. Today, infrastructure investment is key to reviving the economy.

Bundles of roads, highway, railway tracks and urban development projects should be rolled out double-quick. This will immediately boost core sectors like steel, cement, petroleum and power. It will also attract private sector investment in infrastructure and increase competitiveness by reducing logistical bottlenecks.

The RBI's board approved the transfer on Monday, which includes a dividend of Rs 1.23 lakh crore and Rs 52,640 crore from its surplus capital, according to a statement.

Source: India Today

Hyundai Develops New Prototype Electric Scooter With Bets On Last Mile Mobility

The new prototype by Hyundai is a lithium-ion battery-powered electric scooter. As the need for cleaner energy becomes extremely important to combat climate change.

Hyundai wants the bike to be mounted on a vehicle when its not in use doing so charges the scooter automatically using electricity produced while driving. Hyundai and Kia vehicles in the future are reportedly going to come with this scooter.



Dual surgeries for breast cancer, heart tumor simultaneously successful in India

New Delhi, a team of doctors at Fortis hospital Vasant Kunj conducted simultaneously open heart surgery and segmental mastectomy under general anesthesia on a 55 year old patient from Gorakhpur, Uttar Pradesh.

A Team of doctors consisting of Oncologists Cardiologists, Anesthesiologists and critical care specialists conducted the simultaneous surgeries on the patient named Renu.

It was therefore decided in medical board in consultation with the patient, that both the operations would be done together, and the patient would be placed under general anesthesia. She then underwent an open-heart surgery first, and after the chest was closed and the patient stabilized, the breast was operated on.

At present the patient's main tumor or disease load due of Breast cancer has gone, heart has been optimized to withstand the chemotherapy and targeted therapy to prevent breast cancer from coming back.



IIT Madras Startups To Create One Lakh AI And Deep Learning Experts By 2020

The course is open to every student who is strong in high school mathematics and Python programming who can now become an AI and Deep Learning expert using this course. There is a huge demand for AI talent in India, but the supply is limited due to a shortage of affordable courses.

Why Gold Prices Are Rising Suddenly?

Gold prices have been soaring over the past five days. On Monday, gold prices touched a six-year high of over Rs 40,000 per 10 gram of 24k gold and experts expect the price of the yellow metal to go up in future.

What's driving sudden rise in gold prices

The uncertainty over US-China trade talks, developments in the global market and talks surrounding recession are some of the key reasons that have triggered a rise in prices of gold, reported Business Today.

Gold has also got a boost as the US yield curve inversion intensified on Tuesday to levels not seen since 2007, sending jitters down US markets. One of the key reasons why gold prices are rising globally is the mixed signals on trade talks between the US and China.

The weak global economic outlook for the entire year is another reason why gold prices are surging. The yellow metal is considered as a financial instrument that does not erode in valuation during periods of economic turbulence.



IN AND AROUND HBTU

A Message From Our Hon'ble Vice Chancellor

Q1. How do you feel to be the Vice Chancellor of the Institution which is going to complete 100 years?

A. It's really a matter of proud to be here as Vice Chancellor in a glorious Institute, now converted to a university. In my opinion we are passing through a phase of transformation... transition which takes time for systems and procedures to be put in perspective.

Q2. What was your childhood dream?

A. As such I hadn't any specific dream, but I always wanted to be a successful person. To achieve highest level in the sector in which I serve. Currently being Vice Chancellor of this prestigious University I think I have achieved a substantial part of my dreams.

Q3. What is the sweetest memory, you remember of your childhood?

A. I remember one of the incident of my school life. me and one of my friends, Krishna Pal Singh who happened to be a distinct relatives were studying together. In one of the examinations I scored little lesser marks than him, so I went to my teacher & asked the reason.... He laughed and said, "He is your nephew and you can sacrifice some marks for him". It gave me a lesson not to be a partial while evaluating your students.

Q4. One of the biggest achievements that made you feel proud?

A. I still remember, I was invited for Indian Engineering Congress in Bombay. I received Gold Medal for one of my papers, the thing that touched my heart the most was that all achievers were graced with their respective medals. It was an unmatched achievement of my academic career. In Indian Armed Forces, Police & Paramilitary forces the officers are graced with their achievement and medals on their dress while civilians are not used to such honors.

Q5. What did you feel as the Vice Chancellor of HBTU in the very first month of your tenure?

A. I am very attached to nature and there is an acclimatization period which everyone requires to get used to an existing system. I was a part of organization earlier also. So I had a lot of information before hand.



Prof. N.B. Singh
Hon'ble Vice Chancellor, HBTU Kanpur

Also I had discussion with honorable Governor. I took the opportunity, accepted it as I always look forward to the opportunities that I get in my life. The first month was eventful for me.

Q6. What do you prefer to be called a Professor or Vice Chancellor?

A. If you take the example of Chief Minister of a state or prime minister of a country or CEO of a company or head of any government department, everywhere where you have various responsibilities, one has less time for himself. But as far as a professor is concerned he or she has more time for himself or herself which is dedicated to academics, research and other socio culturally useful activities.

Q7. As HBTU is being converted or formed into HBTU, what is the impact or what has been observed?

A. We are financially as well as administratively autonomous but at the same time we are bound to work within rules and regulations of the state ordinance. The government provides us with fund to operate. Infrastructure Development support fund is also provided by the government. Now everything is

easy for the students- They can get extra time for their internship, they can get semester break for project work, academic break for internship or entrepreneurship. The better results are in front of everyone as we have increased from 71% to 80% in terms of good placement. to our students in leading companies.

Q8. What are your expectations from the students in this session?

A. Develop culture & inculcate habit of helping others. University must appear lively & there must not be silence in the university after working hours. Students should dedicate a part of their time in performing yoga and regularly play in the morning apart from regular academics. This will help them develop a sound body. It is a well known fact that sound mind dwells in a healthy sound body.

Q9. What is your message regarding e-library?

A. E-shodhganga yojana is working which is a reservoir of thesis. E-journal is also available which students can access with a membership. So is the concept of E-library. Proper facilities are being provided for library, like air conditioning and this work is going to be completed shortly. Opening hours of library have also been increased.

Q10. What is your dream project?

A. 100% automation, 100% placement and at least 10 entrepreneurs per year. To fulfill this we need to add on the existing infrastructure and human resources. Team is there to complete the challenging task at hand. The efficiency of completing the task at hand is on the rise. I consider students to be very close to myself and I want the HBTU fraternity to live up to the legacy of the past.

EMPLOYABILITY SKILL TRAINING PROGRAMME

Employability skill training programme for final year and IIIrd B.Tech students was organized under TEQIP-III commencing from August 01, 2019. The aim for this program was to develop the required soft skills needed in any interview and personality tests. Today engineering graduates face a major issue of successfully placing themselves in a good job soon after they finish their engineering education. Employers around the globe seek for graduates who are not only competent and excellent in their own field and technical skills but also who possess special abilities to meet the progressively increasing demands of the employers thus making themselves stand away from crowd. Soft skills otherwise termed as employability skills relate to special abilities which make an engineering graduate employable.



The editorial team for the inaugural issue invites the members of HBTU fraternity to join the newsletter team. Correspondents from each of the faculties are required for collecting data, stories, news, views, events, editorial messages worth publication, prestigious experiences and innovative ideas for welfare of the university and its students at large. Candidates may contact at the office of Dean (Students Welfare) for further details.

INDUCTION PROGRAM

3 weeks induction program was successfully organized in HBTU Kanpur for B.Tech first year students to enhance the soft skill and personality of the students which ended on a good note on 19th August, 2019.

There were various activities like yoga, exercise, universal human value sessions, creative art session, English lectures, motivational lectures, sports activities, and historical visits around Kanpur and informal interaction in hostels. The schedule started with a wakeup call at 6:30 a.m. After that student went for yoga and exercise session for healthy lifestyle, physical, mental and spiritual practice. It followed by sessions on human value for moral, ethical relationship and then creative art session was conducted for developing skills of dance, drama, music, art etc. English lectures were arranged to improve reading, writing, listening and speaking skills of students. Motivational lectures were also scheduled for motivating student in positive direction. Students went for historical visit around Kanpur to places like Bithoor, Ganga Barrage etc with the allotted faculty mentor. For sports activity, students went to West campus, HBTU Kanpur with the aim of physical as well as mental well-being of individual. The day ended at 6:00 p.m. with informal interactions for identified attitude, value creation, and personality characteristics among the students.

The aim of this type program is to bring the hidden potential of students out of their hesitation and to strengthen them to face the real challenges out there by giving them exposure to every field whether it is sports or hobby or English etc.



Following our Prime Minister's guidelines on "I am Fit India Fit" slogan, a walk from HBTU Main Buildings portico to Lake View Ground was organized on 29th August 2019 at 4 PM for students, faculties and employees.



LAPTOP DISTRIBUTION

memorable event to witness the students being felicitated.

It is an initiative taken which shall prove to be a great inspiration among the students. Students shall be encouraged to study harder. This event aims to motivate all the students to achieve their goals and carve a niche for themselves.

Hope this event turns out to be a great success and talk of the city.

An event of laptop distribution for the newly admitted entrants of 2019 is being organized on the auspicious occasion of the University Foundation Day, 1st September 2019.

Hon'ble Prof. N.B. Singh has decided to distribute laptops to the rank openers of all the branches of the year 2019. This shall be a

Fraternity Achievers

It is a matter of pride for HBTU

Dr Ashutosh Karnatak, 1980 batch E.E. has been elevated to CMD GAIL (India) Ltd., a maharatna PSU under Ministry of Petroleum & Natural Gas, Govt. of India. The university is appreciative of his love for the Alma mater and looks forward to a fruitful association in future. The editorial team wishes him success in life.

Shri Rajiv Sikka, 1986 batch Civil Engg. has joined as CEO of Adani Indian Oil Corporation Limited, a joint venture of Adani group & Indian Oil Corporation Ltd., another PSU company. He had always made himself available to the university during his stint with the CUGL Kanpur as Director (Comm). The editorial team wishes him success in life.

Believe in yourself & think of long term



Dinesh Agarwal
C.S.E. 1990 HBTU Kanpur
Born 19th Feb 1969

He is an Indian entrepreneur, founder and CEO of IndiaMART, Online B2B marketplace in India. Man behind establishment of

Journalist: Great sir. Did he support you when you expressed your desire for becoming an entrepreneur??

Dinesh Sir: Yes. He actually supported and helped me become an engineer, showed me vision of the USA as well as told me various stories of entrepreneurs.

Journalist: A truly great man Sir. Prof. N. B. Singh,

Journalist : What is your viewpoint regarding entrepreneurship with respect to today's scenario and what is the main difference between the students of your time and the present time?

Dinesh Sir: These are almost 30 years apart. With very different environments to compare. 30 years ago, Smaller economy, No computers, Lower salaries, One needs to be thorough with subject as no instant help available, One needed to be more frugal and take smaller steps of risk and rewards.

Today Students have lot more exposure due to mobile & internet. Instant help and answers available. Much bigger economy and thus bigger opportunities. Long term bets are taken because of availability of capital and large opportunity.

Journalist: What message would you like to give to your juniors?

Dinesh Sir: Believe in yourself and think long term. Do what you like rather than what is fancy India and Asia are at the cusp of long term growth. AI, ML, robotics, solar, space are no longer future.. They are going to be your present.....

Whatever you learn, focus on basics



Dr. R.P. Verma, Ph. D. (Tech)
Chem. Engg.
Retd. Exec. Director

Indian Oil Corporation Ltd.

admission on the basis of merit in 1964. Getting into the college changed my thinking from the engineering point of view. I learned a lot from here.

Q2. What change you saw in your personality after completing your college?

A2. I felt the same as a common student but at that time people were not much familiar about engineering so I felt that I achieved something big.

Q3. What were the things which you liked to do in the college as your daily routine?

A3. I had been a little studious and innocent, but as we all know that family and teachers always play a vital role in one's life so they always motivated me about my studies. I also used to play volleyball but not much.

Q4- What do you think and experience about junior and senior relation?

A4- Initially all were very afraid about the seniors. I remember an incident of my college days. During summer, my friends and I were sleeping outside at night. Then there seniors came and took the cot into another room. This was the

Q1. How much attachment you feel and how much HBTU plays role in your life?

A1. HBTU has played a very important role in my life. I took

funniest thing that ever happened. Other than this some were quite helpful to us. When it came to question of placements, seniors were very helpful.

Q5- What were the hangout points in the college where you spent your time?

A5- HBTU had a big lawn. In the winter season we used to sit in the lawn in the lunch time and enjoy ourselves cracking jokes and sharing different things.

Q6- What were the things which you missed in your life after college and job?

A6- During my college, my friends and I used to go to watch movies and in the evening we used to do cycling and hang out with friends. These are the things which I miss a lot.

Q7. What are the expectations you are looking from the juniors of 2019 batch?

A7. This is the matter of career so I would like to suggest to focus on the basics of whatever you study and learn. This will help you to do better than your expectations. I would like to suggest you all that you must devote your time for the subject which is useful. One must remember that excess of anything is bad. At the time of studies you should focus only on it because this opportunity will never come back to you again. You are a student of HBTU so you must shine like a star.

the e-marketplace, IndiaMART, in the year 1996, Dinesh is the chief driving force behind getting millions of SMEs online and expanding the marketplace to over 100 cities in the country.

Journalist: Good evening respected sir.

Dinesh Sir: Good evening.

Journalist: Thank you so much for your precious time sir. We, as a part of HBTU and print media sub council, request you to give some moment from your precious time to answer the following questions. We would be highly obliged to get your interview.

Dinesh Sir: Ya sure, anytime. So let's start it.

Journalist: What comes to your mind first when you hear the word HBTU?

Dinesh Sir: Respect, homeliness, masti (fun).

Journalist: What is the best memory of yours in HBTU that makes you happy?

Dinesh Sir: Lifelong friends that I made there.

Journalist: What was your inspiration that made you launch your start-up in 1996, when entrepreneurship was neither famous nor safe to invest in?

Dinesh Sir: My grandfather. He was a freedom fighter, visionary business man, member of UP legislative assembly, honorary magistrate and my guru.

HBTU is everything for me



Sunil Kumar Agarwal
Plastics Tech 1979
Whole Time Director
Kamdhenu Limited

Q. How you see the Importance of HBTU in your Life?

HBTU is my base whatever I am today is because of HBTU. All my confidence and knowledge, vision and positive attitude is

attending to all our requests in academics, extra curricular and social activities. Same was with our seniors. We studied together at that time.

Q. So can we say that at that time HBTU students lived more as a family rather than just students?

Ans. Yes, of course.

HBTU Facilitators

Mr Sunil Kumar Agarwal has furnished five of the university hostels with automatic R.O. water plants (with chiller), established infrastructure as per M.O.U. signed with the university in the presence of Hon'ble Chief Minister of U.P., Yogi Aditya Nath ji.

Q. After graduation and the life at HBTU (then HBTI), what was your aim? Sir, now you are a part of such a big business conglomerate (Kamdhenu LTD.) How was the journey?

Ans. My father came from a poor family and he was an orphan too. He made himself educated and us too. These conditions made me think that I have to do something that one day my name becomes world famous. My father had setup an industry and the product used to get sold just for his name! Such was his goodwill earned out of honesty and hard work. This inspired me to build up on the gamut of products and carve a niche for our brand worldwide. Today I am proud to

admit that with the blessings of Almighty God, my parents and my upbringing, it is a fact that we are manufacturing more TMT steel than any other brand in the Country. We have a diversified portfolio of products, large dealer network and dedicated workforce throughout the country.

Q. Can I know how you acquired such a great business sense and the practical knowledge?

Ans. It is all because of my father. I learned the basics from him.

Q. I would like to ask that how students should perceive their college life?

Ans. Maximize on the opportunity to having got admission to a Institution with great legacy. Acquire maximum knowledge, skills and humanitarian values. Whether you pursue higher studies, go for administrative services or opt for business, do it with an open mind and passion.

Q. I would like to know about some golden memories from your HBTU life?

Ans. What should I say, the entire HBTU life is a golden memory!

Q. Any particular moment that you will like to share with us?

Ans. Dr. JSP Rai sir used to scold me everyday and he always complained that I am the worst student. He used to say "Hailing from a business family you have nothing to do with studies, you are wasting your and my time at HBTU. I used

to assure him that "Sir you will see one day I shall do something big." I am very happy that one day Prof. Rai, having visited some website, came to my house and said "I am proud of you my dear son! Really you are a gem." He was the one who inspired me to do something for my Alma mater. He said to me- "Son, now that you have invested golden years of your life in building your business and achieved substantial success, it is the time to pay back. You should do something for your Institute. I was invited as chief guest and distinguished alumni on two different occasions. Citations & honor at my gurukul were the happiest moment.

Q. Your favourite hangout spot Sir?

Ans. Ramchandra's tea stall near hostel gate. Every evening, five or six of us used to sit and have tea and snacks.

Q. What inspires you to connect to your alma mater and contribute generously?

Ans. Nothing specific but I will give credit to my upbringing. I see this as my duty for my alma mater. The love and affection I have for Prof. Rai and Vivek Mishra ji. This is not charity it is my love for the college.

Q. Any future plans you have for the university and also for yourself?

Ans. I would like to see my college as the top most college of India and I am ready to contribute whatever shall be needed in the process. Our brotherly associate and representative, Vivekji is there to assist you on behalf of the company.

attributed to my nurturing at HBTU.

Q. What is the biggest thing you gained from HBTU?

Ans. Biggest thing what I gained from HBTU is my Self Confidence, relentless hard working outfit and never say die spirit. Book knowledge is different from actual knowledge. One thing I understood from my life in HBTU, resources can be acquired from anywhere, but self confidence, motivation to success is inborn.

Q. Other than academic knowledge how you saw the culture of HBTU when you were studying? Anything apart from studies in your college days?

A. Academic knowledge is imparted in every Institute but at my time, teacher and students had great understanding and lived like a family. All our difficulties were resolved. Our faculty members in Plastics dept. at that time included Prof. G.N. Mathur and Dr J.S.P. Rai (Went on to become the Director) had great spirit and treated us like their family members while

See In Depth

Earth's burning lungs: On Amazon's rainforest fire



BRAZIL'S ATTITUDE TO THE DESTRUCTION OF LARGE AREAS OF THE AMAZON RAINFOREST IS WORRYING

The Amazon rainforest, the largest of its kind in the world, is ablaze, with over 9,500 distinct fires burning through its main basin since August 15. Overall, Brazil has seen more than 76,000 fires ravage the Amazon in 2019, of which around 10,000 have been started in the past few weeks, mainly by loggers and farmers seeking, as they do during the summer months, to clear vast tracts for agricultural or industrial use. However, this annual exercise of planned deforestation appears to have crossed a tipping point this year. There has been an increase of at least 80% in the number of recorded fires compared to the same period in 2018, according to Brazil's National Institute for Space Research (INPE). This week, images of darkening skies above Sao Paulo, more than 2,700 km away from the fires, went viral. The number and intensity of the fires are closely linked to the rate of deforestation. Some reports estimate that in July 2019, the Amazon shrunk by 1,345 sq km, up 39% from the same month last year, and a historical record. The flames are not confined just to Brazil either. In neighbouring Bolivia, deadly blazes are devastating forests and farmlands, so much so, that its President, Evo Morales, has put his re-election campaign on hold over the weekend, and, unlike his Brazilian counterpart Jair Bolsonaro, was quick to welcome foreign aid to help fight the fires.

WILDFIRES RAGE IN BRAZIL'S AMAZON FORESTS, 83% RISE FROM LAST YEAR

The distinctly political undertones of the crisis in Brazil sets it apart. Mr. Bolsonaro's critics say that his economic and environmental policies have virtually set the stage for intensifying degradation of the Amazon's rich biodiversity. They argue that since he came to power this year, he has chipped away at the protections that the rainforest enjoyed, including by weakening the environment ministry when he made Ricardo Salles, found guilty of administrative improprieties for altering a map to benefit mining companies, the Environment Minister; by driving away Norway and Germany, principal donors who have backed protections for the Amazon; by sacking the head INPE over absurd allegations that he was disclosing how rapidly Amazon deforestation was happening; and by attacking both environmental charities, alleging without proof that they started fires to serve certain foreign interests, and indigenous Amazon dwellers. Under intense global pressure, including from the ongoing G-7 meetings of world leaders, Mr. Bolsonaro, a right-wing climate-change sceptic, appears to have relented to an extent, and has authorised 44,000 military troops to help with the firefighting efforts. Even if they succeed, and the Bolsonaro administration ultimately bends to global outrage over the destruction of a critical global ecosystem, the discernible shift in Brazilian public institutions responsible for guarding the future of the Amazon rainforest is a worrying sign of worse things to come.



THE NEXT FIVE YEARS WILL BE CRUCIAL TO BUILD A HEALTHY RENEWABLE SECTOR IN INDIA

With 15 of the top 20 polluted global cities in India, and energy being the primary source of pollution, it's critical for the country to transition from fossil fuel to renewable energy, and Internal Combustion Engine (ICE) automobiles to electric vehicles (EVs). In the last five years, the renewable sector in India has had some achievements, thanks to the proactive policies of the government. India is now the fourth and fifth largest country in terms of installed capacity of wind (36.3 GW) and solar (29.5 GW) in the world. The sector also saw the transition from feed-in tariff regime to transparent competitive reverse auctions, leading to record low tariffs of Rs 2.43/ unit in wind and Rs 2.44/ unit in solar.

Though the last government also ramped up the renewable capacity, the non-allocation of land, inadequate transmission capacity, frequent changes in RfS/bid documents, cancellation of reverse auctions, and poor financial health of Discoms have impacted sector's growth. The biggest problem is the poor financial health of the Discoms, the weakest link in the electricity supply chain. Due to poor billing (84.9%) and collection (95.3%) or sale of power at unviable tariff, most of the Discoms are suffering from losses. Through the UDAY scheme, the Centre has tried to reduce this debt burden, but without attaining 100% efficiency in billing and collection, and reducing technical losses from the current average of 19%, the companies will find it difficult to continue.

With the government aiming to have 260 GW of installed renewable capacity by 2024, and aspiring to replace the thermal plants in next couple of decades, India will require \$300 billion worth of investments. Almost 90% of this investment will be foreign direct investment. Thus the next five years are crucial for building a financially healthy renewable sector.

To do so, the government should focus on the following:

Five-year bidding plan: To achieve the 2024 target, the sector needs a consistent and stable five-year bid trajectory plan with annual and quarterly breakup to provide clear visibility for each year.

Strengthening of power purchase agreements (PPA): India must have international standard PPAs which address the concerns of developers and bankers. The clause of payment security needs to be strengthened to ensure secured and timely payments to the developers. This can be achieved through the creation of a payment security fund, and entering into a tripartite agreement between all stake holders.

Allocation of waste land: The central government in consultation with states should prepare a national policy for allotment of wasteland. If this is done, states can benefit in three ways:

One, generate revenue through leased waste land during project lifecycle (30 years) and upfront area development charges.

Second, the state will become power surplus; and third, create new jobs. As per estimate, 1 GW of project creates 5000 new jobs during construction phase and 200 jobs during operations phase.

Proactive transmission planning: For future growth of renewables, transmission can be a major bottle neck. To date, renewable projects were utilising existing free transmission capacities or the unutilised capacities of thermal power stations, which have been impacted due to low PLF's or stoppages because of financial and operational constraints. At present, the government has planned to develop transmission capacity for 66.5 GW. The details of planned evacuation infrastructure capacities should be made available to developers for project planning. The government should ensure timely commissioning of new transmission lines.

Low cost of financing: At present, the renewable sector faces weak liquidity and high interest rates due to payment security issues, delay in energy payments, uncertainty with land and transmission, implication of goods and services tax and non-bankable PPAs. The government should provide status of priority sector lending to renewable, and ensure that it does not have to bear the impact of conventional sector NPAs.

To realise our vision of becoming a global renewable leader and with recent steps taken by the power minister in understanding the issues faced by the industry, I am sure that new government will create a constructive macro environment for efficient execution of both generation and transmission projects, create financially healthy Discoms and provide access to low-cost capital.

Given the fact that the thermal sector continues to struggle with an overload of non-performing assets (NPAs), ensuring a healthy financial future for the renewable sector will be critical to attract global investors who will be the mainstay of the sector in the years to come. Green power for a healthy future of our children should be the motto of the government.

SCIENCE TOUR

We are surrounded by so many colours and shapes that we can distinguish visually but have you ever wondered how our brain interprets them?

A recent study has shown that there are neurons that respond selectively to particular combinations of colour and shape.

The study was published in the journal 'Science'.

"New genetic sensors and imaging technologies have allowed us to more thoroughly test the link between visual circuits that process colour and shape. These findings provide valuable insight about how visual circuits are connected and organised in the brain," said Edward Callaway, senior author of the study. Similar to a digital camera sensor, light-sensitive cells in the eye (photoreceptors) detect wavelengths of light within specific ranges and at particular locations. This information then travels through the optic nerve to neurons in the visual cortex that interprets the information and begins to decipher the contents of the picture.

"The goal of our study was to better understand how the visual system processes the colours and shapes of visual stimuli. We wanted to apply new imaging techniques to answer these longstanding questions about visual processing," said Anupam Garg, Study's co-first author.

The researchers used imaging technology combined with genetically expressed sensors to study the function of thousands of individual neurons involved in processing colour and shape in the primary visual cortex.

During long recording periods, roughly 500 possible combinations of colour and shape were tested to find the stimulus that best activated each visually-responsive neuron.

The team found that visual neurons selectively responded to colour and shape along a continuum--while some neurons were only activated by either a specific colour or shape, many other neurons were responsive to a particular colour and shape simultaneously, contrary to long-held notions about how visual processing works.

"Our brain encodes visual information efficiently using circuits that are smartly designed. Contrary to what is taught in the classroom--that colour and form are processed separately in the early visual cortex and then integrated later by unknown mechanisms--the brain encodes colour and form together in a systematic way," said Peichao Li, another co-first author of the study.

"This discovery lays a foundation for understanding how neural circuits make the computations that lead to colour vision. We look forward to building on these findings to determine how the neurons in the visual cortex work together to extract colours and shapes,"
- Callaway

How Does Brain Process Colour And Shape?



THE MILKY WAY IS SHAPED LIKE A CURVY POTATO CHIP

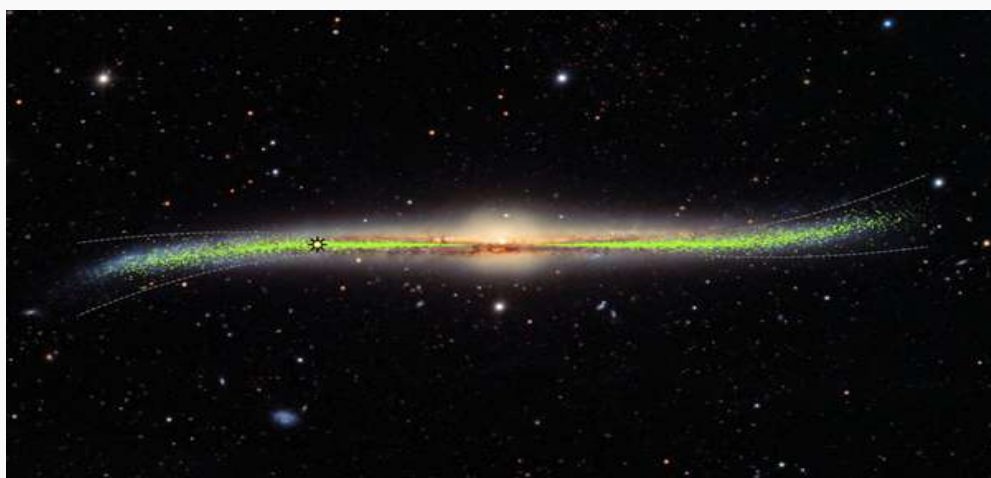
Our home galaxy, the Milky Way, is warped. It looks like a misshapen potato chip. And, there's a new 3-D map that brings the [contorted structure](#) of the Milky Way's disk into better view.

The Milky Way's disk is usually depicted as flat. But previous observations had revealed that the galaxy is curved at its edges. The new study shows that the Milky Way is even more warped than scientists had thought, says Dorota Skowron. She is an astronomer at the Astronomical Observatory of the University of Warsaw in Poland. Imagine you took a spaceship into deep space and looked back at our galaxy. "You could see by eye" that it's misshapen, Skowron says.

To make measurements of the galaxy, scientists have to estimate how far away stars are from Earth. That's typically a matter of guesswork. This time, the scientists made the map with measurements of stars called Cepheids. Unlike most stars, Cepheids vary in brightness over time. They vary in brightness in a particular way. Scientists can use that brightness to determine a precise distance to each star.

Skowron and colleagues made new observations of Cepheids as part of the Optical Gravitational Lensing Experiment, or OGLE. The team combined those measurements with previously studied Cepheids. That resulted in 2,431 stars charted in the map. The scientists describe the map in the August 2 *Science*.

The team also used the Cepheids' brightness variations to estimate the stars' ages. Younger Cepheids aligned with the Milky Way's spiral arms. The older stars were more scattered. This is a result of how they move over time as the galaxy rotates. That's at least according to a computer simulation. The scientists were able to roughly reproduce the stars' actual distributions. They did it by simulating stars forming in the galaxy's arms and spreading out over time. That helped scientists understand how the galaxy came to have its current curves.



Cepheid stars help scientists trace the galaxy's warped structure. This new map of the Milky Way reveals the warped shape of the galaxy. The map was made with stars called Cepheids. In this image, the Cepheid stars (green) are overlaid on top of an image of another warped galaxy. That galaxy is NGC 4565. The star icon indicates the sun.

J. Skowron/OGLE/Astronomical Observatory/Univ. of Warsaw



TECHIE BYTES

HOW ONLINE GAMES HAVE IMPROVED THE GAMEPLAY EXPERIENCE FOR MODERN PLAYERS



If you are somebody who breathes in the digital world, then you would know that online card games are something that will leave you with an unparalleled adrenaline rush! You play it for the fun and excitement of the game and the added attraction of being able to win cash prizes. With lives becoming more and more hectic over the years, the popularity of this game once a fixture at family gatherings and festive occasions slowly started to wane. Besides, no matter how many foolproof plans you make, there will be someone or the other who's unable to make it for the game, thereby ruining it for everybody.

With the online card gaming industry bringing rummy to the forefront, the industry has seen a growth spurt like no other. Compared to the 12260 crores revenue generated in the year 2017-18, in 2018-19 the revenue increased rapidly to 2060 crores. Playing your favorite game has become as easy as clicking a few buttons. Mobile gaming apps for online rummy are trending amongst rummy players, and with 88% gamers playing on their phone, this makes it an ideal platform on which you can play.

So, if you are a lover of games and are looking for partners, why not consider online rummy? All you need to do is download the game, register yourself, and get ready to play rummy online! There are multiple advantages to moving to the digital platform. Lets see what it can do for you.

Make it simple, yet smart

Most people have a notion that online websites are complicated and a hassle to use and understand. But online gaming websites are built and created in the most uncomplicated fashion to ensure they are simple and easy to use. You will just need to fill in your details, sign-up or register yourself for free using your Facebook login credentials. There are no hassles or multiple redirections; anybody and everybody can sign up! What's more, you can view the website in different regional languages. The site loads quickly and offers a seamless gaming experience on all platforms. These gaming platforms are available over the apps as well and playing while on the go is the best way to be.

No Dirt of Players

The challenge with just about any game today is finding the minimum number of players to participate in the game. That's no longer an issue. Log in to your account and start playing; there's no need to worry about finding people to play with, or someone to deal cards or to keep score.

The gaming experience is enhanced multifold due to the user-friendly design and a layout that incorporates stellar graphics and a flawless interface. The accessibility and game design impart a real-life feeling. Once a player makes their choice, they are taken to a lounge-like room with other players around a table. The real-time multiplayer capability is one of the reasons why online rummy has attracted so many the gaming experience is unmatched.

Ready anytime

With the boom in technology, online rummy is always at your disposal. All you need is a phone, laptop, or tablet, and an inexpensive internet connection. That's it. Now you can play anytime and anywhere! Gone are the days when you had to wait for the weekend, form a group, or even travel long distances to meet like-minded players. Now simply visit the website on the device of your choice, join a game, and start playing. No matter what time of the day it is, you are sure to find people online with whom you can play a game of rummy. So, whether you are stuck in traffic, travelling, or relaxing at home, you can indulge in some rummy entertainment on the go. And guess what, with so many people becoming a part of the online rummy industry, nothing stops you from playing a game at any time. Sleepless at 3 a.m. with nothing to do? Just log in you will find people ready and waiting to challenge you!

Realistic experience: Online gaming is more popular than you know, and online rummy in particular has brought about a veritable revolution in the virtual space by creating a lifelike physical table gaming experience. Every detail of the real-time game has been incorporated and served so players can have an authentic experience.

With India amongst the top 5 countries with a rapidly growing gaming industry, you can see the vast difference between 2010 when there were just 25 gaming companies to a whopping 250 above companies in 2018 (Forbes). And with the increasing amount of smartphone users (520 million in 2018), the gaming industry is ready to take a big leap! Now that you know all these facts, what are you waiting for? Once you have figured how to play rummy, just hop aboard the online gaming train. Learn, explore, and play games on this platform that offers a perfect gaming experience!

Sunlight Can Produce Energy And Clean Water At the Same Time

Engineers have constructed a device that not only generates electricity from the sun, but also distills freshwater from seawater. Solar farms that install such two-for-one systems could help meet the increasing global demand for drinking water while cranking out useful power. Peng Wang, Wenbin Wang and Yusuf Shi have applied for a patent on the new concept. They are part of an 11-member team that developed the new device. All work at King Abdullah University of Science and Technology in Thuwal, Saudi Arabia. They described their new device online July 9 in Nature Communications.

A solar cell forms the heart of the new system. Such cells harvest sunlight to make electricity. Some of the incoming light, however, will turn into heat. The new system harvests this waste heat to drive the evaporation of seawater. That water vapor wafts through a porous membrane made from plastic. This filters out contaminants, including salt. As such, this is a desalination system. So the liquid that condenses out on the other side will be clean freshwater.

The removal of salt from the water doesn't affect the electricity production by the [solar cell], explains Peng Wang. He's an engineer and lead author of the new study. At the same time, he adds, this system gives you bonus freshwater. Such tackling of two big challenges at once is a great idea, says Jun Zhou. He's a materials scientist at Huazhong University of Science and Technology in Wuhan, China. Zhou was not involved in the new project.

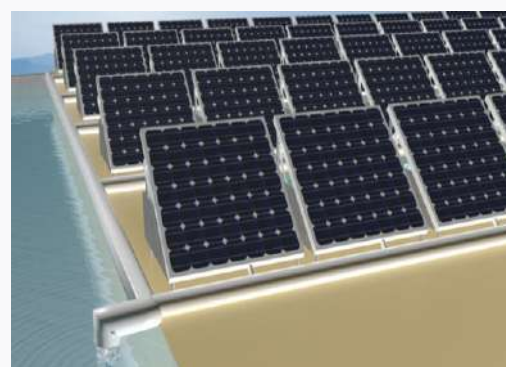
The systems prospects

So far, the King Abdullah researchers have reported on lab tests using a prototype, or early experimental version of the device. They exposed it to a lamp whose light mimics that of the sun. The new system converted about 11 percent of the light it received into electricity. That's not bad. Solar cells sold today typically transform some 10 to 20 percent of the sunlight they soak up into usable energy.

Wang's team also tested how well their system cleaned up water. They fed it saltwater and dirty water that contained toxic heavy metals. Their findings suggest that a device about a meter (39 inches) across could pump out about 1.7 kilograms (3.7 pounds) of clean water per hour. For perspective, a gallon (3.8 liters) of water weighs 8.4 lbs (3.8 kg).

Its really good engineering work, says George Ni of the project. He's an engineer who was not involved in the new study. He did, however, work on water desalination while a graduate student at the Massachusetts Institute of Technology.

The next step is, how are you going to deploy this? says Ni. Is it going to be on a roof? If so, how do you get a source of water to it? If its going to be [floating] in the ocean, how do you keep it steady so that it isn't toppled by waves? Such practical issues would need to be figured out before the device could enter real-world use.



This artist's drawing suggests what a floating solar-electricity and water-cleansing system might look like. Here the solar-cell panels are mounted atop a water clean-up system.

WENBIN WANG

Efforts Pay You Back



SHUBHAM DHAMA
FINAL YEAR STUDENT OF CSE, GOT
THE PRE-PLACEMENT OFFER IN
MICROSOFT

Q. How did you make up your mind and when did you start your fight to achieve your dreams?

A. As I was keen towards computer science from high school and took it as my additional subject in 10+1. And after deciding not to take a drop after intermediate, I started exploring this field even before I joined the college. After getting familiar with the coding culture, I made my C++ strong and from 2nd semester I started participating in Codechef competitions. Also, during my first year, I took the guidance from two of my seniors, Harshit and Kunal Sir who helped me a lot. This is how I took the first step towards my goal and as I always say atleast I made the start

Q. Did you ever think that you will achieve such a huge pack again a prestigious company like Microsoft?

A. I believed in myself. The way I started my journey from the first year and then carried it further, it made me confident that I will ultimately achieve something good. After getting successful in Google summer of code, it lifted my confidence. I had a belief that I will be selected in some first-tier companies etc. but the way it turned was unexpected.

Q. What was the most important point on which you focussed the most and which you think has played an important role in achieving your goal?

A - I think problem-solving skills is the most important thing one must focus. Competitive programming is one of the best ways to sharpen your skills. But creating projects using development skills is nothing less, as then you solve real world problems. So for me you do competitive programming or development programming it doesn't matter, you should just focus on solving problems. Well there is another important point which is as hard and important as previous one, which is communication.

Q. As many say that there is a huge involvement of luck factor to get the placement, what are your views regarding this?

A-Luck Is What Happens When Preparation Meets Opportunity", this has always been my favorite definition of luck which pretty much explains my views. People who have always been close to you would never say that you achieved something by luck, they know the hard work you did.

Q. What message do you want to give to your juniors as how they start preparing for the placement? From which year they should start preparing?

A. According to me, you should start preparing as soon as possible. I started exploring before I joined college but I say that you have complete first year to explore this field and first of all figure out whether you love it or not. For those who have not studied computer science before, they must google their queries, make full use of youtube, take help from seniors (most recommended), explore as many things as you can and begin with whatever you have but start as soon as possible.

Q. How do you entertain yourself when you get too much stressed out and how you give time to yourself?

A. So it changed over the semesters but music is my favorite stress buster (Eminem, Ed Sheeran, Taylor, Arijit, Kendrick, well I have many favorites as I love listening music of many genres). I enjoyed watching F.R.I.E.N.D.S with my friends during the second year although I don't watch any sort of series in general. I have also watched few movies, mostly fiction (John wick and Thor are my favorites). I love spending time surfing the internet, mostly reading articles and posts related to technical, philosophical, productivity and many other fields. And yeah, I enjoy chilling out with friends the most, they are the best and I really love them.

Words & Expressions

Watery - To be filled with water

His watery eyes told the whole story.

Watery grave - To die by drowning

It was off the coast of Italy that Shelley went to his watery grave.

Water something down - To manipulate any idea to make it acceptable to people easily

The party has watered down its ideals in order to appeal to cross sections of society.

Be treading water - With no development I think she feels that she's just treading water in that job.

Blood is thicker than water - Family affairs are more important than external affairs His friends neglected him but his family accepted him. He, then, realized that blood is thicker than water.

Blow something or somebody out of the water - To defeat or to destroy

They came to court with fresh evidence that would, they said, blow the prosecution's case completely out of the water.

Pour/throw cold water on something - To criticise

It is easy to throw cold water on the new scheme.

Be dead in the water - To fail

So how does a government revive an economy that is dead in the water?

Hold water - True power

His logic holds water hence it was accepted.

CREATIVE CLUSTER

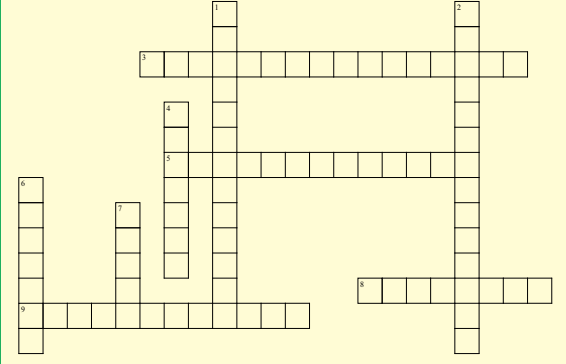
मैं जीवन हूँ

मैं जीवन हूँ
 'मैं जीवन हूँ'
 युगों युगों से
 बिना थके बिना रुके
 बिना निद्रा का वरण किये
 एक दम सजग
 निर्बाध गति से
 निराकार रूप में गतिमान हूँ
 मैं चलता रहता हूँ निरन्तर
 मैं जीवन हूँ।
 टूटती है साँसों की लय भी
 दिल की धडकन भी रुकती है
 वेदना हृदय की आँसू बन
 दृग कोरों से बह जाती है
 अपनों के इन्तजार में ही
 विस्मित आँसू पत्थर बन
 जाती हैं
 अन्ततः जिंदगी भी
 थम ही जाती है
 पर मैं चलता हूँ निरन्तर
 मैं जीवन हूँ।
 तूफानों की गति रुकती है
 प्रलय की चाल भी थमती है
 नदी समुन्दर में मिलकर
 अपना आकार खो देती है
 कलानिधि और दिवाकर भी
 थककर शयन करते हैं
 पर मेरी नियति है चलना
 मैं चलता रहता हूँ निरन्तर
 मैं जीवन हूँ।
 कोई रूप नहीं
 कोई देश नहीं
 राग नहीं कोई द्वेष नहीं
 सुख दुःख हर्ष विषाद से ऊपर
 हर दम निडर
 दीन दुनिया से बेखबर
 न कोई ओर न कोई छोर
 शान्त चुपचाप न कोई शोर
 न पीछे मुड़ना
 न निहारना दायें बाँयें
 अपनी ही धुन में
 सिर्फ आगे की ओर
 मैं चलता रहता हूँ निरन्तर
 मैं जीवन हूँ।
 कितनी सदियाँ आर्यी
 और कितनी चली गर्यी
 असंख्य जीव- जन्तु
 दानव- मानव
 आये ठहरे और चले गये
 सब रुकते हैं,
 सभी रुके, सभी थके,
 पर समय चक्र कभी भी
 रुकता नहीं
 मैं अजर हूँ अमर हूँ
 सार्वभौम शाश्वत हूँ
 अदृश्य हूँ पर विद्यमान हूँ
 समस्त प्राणिमात्र में, मैं
 संचार करता हूँ प्राणों का
 इसलिए मैं चलता रहता हूँ
 निरन्तर
 जीवन चलने का नाम है
 मैं जीवन हूँ।
 -डॉ. रामनरेश त्रिपाठी 'मयूर'



Ashna gupta
 2nd B.tech
 Biochemical engineering

Crossword



Across

3. Since 2017 Diacetyl has been removed from one particular product, as it can cause extreme cases of Bronchitis when it is inhaled in steam form
5. Delhi garden, designed by Sir Edwin Lutyens, includes roses named after famous personalities such as Mother Teresa, Raja Ram Mohan Roy, John F. Kennedy and Christian Dior
8. In 326 BC, Alexander the Great stopped his army to rest in Khewra. Alexander's horse began licking the stones on the ground. Seeing all the horses doing so, a soldier tried one himself and the Khewra Salt Mines were discovered. In which country is modern-day Khewra located?
9. The town where the Pandavas lived. The name of the town literally means 'plain of Indra'.

Down

1. British vehicle manufacturer signed actor Benedict Cumberbatch as the brand ambassador for its India operations
2. Bengali sleuth with an alliterative name has been portrayed on screen by actors like Uttam Kumar, Rajit Kapoor and Sushant Singh Rajput over the years
4. This Mughal emperor established the Dinpanah, which in Persian means 'asylum of faith'. It is located inside the Purana Qila of Old Delhi.
6. The name of this disease literally translates to 'bad air' in Italian
7. He has been India's flag bearer six times between 1998 and 2018. What's his first name? One of the two Olympians who have had the honour of leading the country during the opening ceremony multiple times.

FEET

No-one can know another man's trouble
 they walk the same path unaware of the rubble
 they don't take a spill, ever stumble or slip
 their feet will jump, dance, prance and skip
 while other feet rip letting blood ooze
 others have lucky feet born wearing shoes
 that keep them bone dry when they walk life's mire
 and leave them unburnt when stepping on fire
 not troubled by rocks or by mud or hot coals
 their feet remain sweet but they've holes in their souls.

SWARN SRIVASTAVA
 2nd B.tech
 CHEMICAL ENGINEERING

Upcoming Amazon prime series

- 1) Victoria :season 3 ; 3rd Sept
- 2) Undone- Amazon original series ; September 13
- 3) free meek
- 4) Chasing Happiness
- 5) Airplane

Upcoming Netflix series

- 1) The spy - 6th Sept
- 2) Elite: Season 2 - 6th Sept
- 3) Terrace house : Tokyo 2019-20
- 4) Unbelievable - 13th Sept
- 5) American Horror story : Apocalypse

To Catch up in next Edition

- 1) Insignia of the rover PRAGYAN on the surface of Moon
- 2) Pros and Cons of abolition of Article 370 on Kashmir.
- 3) Interviews of Prominent Harcourtians.

SKETCH



AKASH SINGH
 1ST B.TECH
 COMPUTER SCIENCE &
 ENGINEERING