



THE byte

An E-MAGAZINE

by

Department of Computer Science and Engineering
IMS ENGINEERING COLLEGE, GHAZIABAD

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OCTOBER 2015

ISSUE - XIV



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ARTICLES

AICTE to cut number of engineering college seats by 600,000

India's technical education regulator is seeking to stem a decline in the quality of education and address the issue of vacant seats

India's technical education regulator is looking to cut the total number of undergraduate engineering seats by as much as 40% over the next few years by shutting some schools and reducing student intake in some others, as it seeks to stem a decline in the quality of education and address the issue of vacant seats.

"We would like to bring it down to between 10 lakh and 11 lakh (one million and 1.1 million) from a little over 16.7 lakh now," said Anil Sahasrabudhe, chairman of the All India Council of Technical Education (AICTE). The capacity should come down for the betterment of all—students, education providers and employers—he added.

Companies recruiting from engineering colleges in India have often complained about the quality of graduates from institutions other than the top schools such as the Indian Institutes of Technology (IITs) and the Birla Institute of Technology and Science, Pilani. Many engineering colleges lack proper infrastructure, and most of their students, taught by poor-quality teachers, gain few employable skills at the end of the four years they spend to get a degree.

In fact, only 17.5% of engineering graduates were deemed employable in a 2011 survey by software industry lobby group Nasscom. India's information technology (IT) industry spends nearly \$1 billion a year to make them job-ready, the report said.

At least 70% of engineering colleges in India are providing poor-quality education and this has led to reduced interest in the subject, said Raju Davis Parepadan, chairman of Kerala-based Holygrace Academy, which runs engineering colleges. "Authorities, especially AICTE, need to be strict with such institutions so that only serious players stay in the space and quality does not get hampered," Parepadan said, adding that the situation in Kerala is bad and that some several thousand engineering seats this year are lying vacant.

"So, closing down is one option, but the other option is due diligence so that serious players and serious students co-exist for mutual benefit. And employers get job-ready individuals."

The employability of engineering graduates in various states ranges between 12% and 42%, according to a report by education assessment company Aspiring Minds. Only 18.43% of engineers are employable in software engineer-IT services roles, the report said. For jobs in mechanical, electronics/electrical and civil engineering, a mere 7.49% are employable, it said.

AICTE will only "facilitate the closure of engineering schools" entirely or in parts to achieve the target, said Sahasrabudhe,



who took over as chairman in June. He, however, added that engineering colleges will not be forced to shut down.

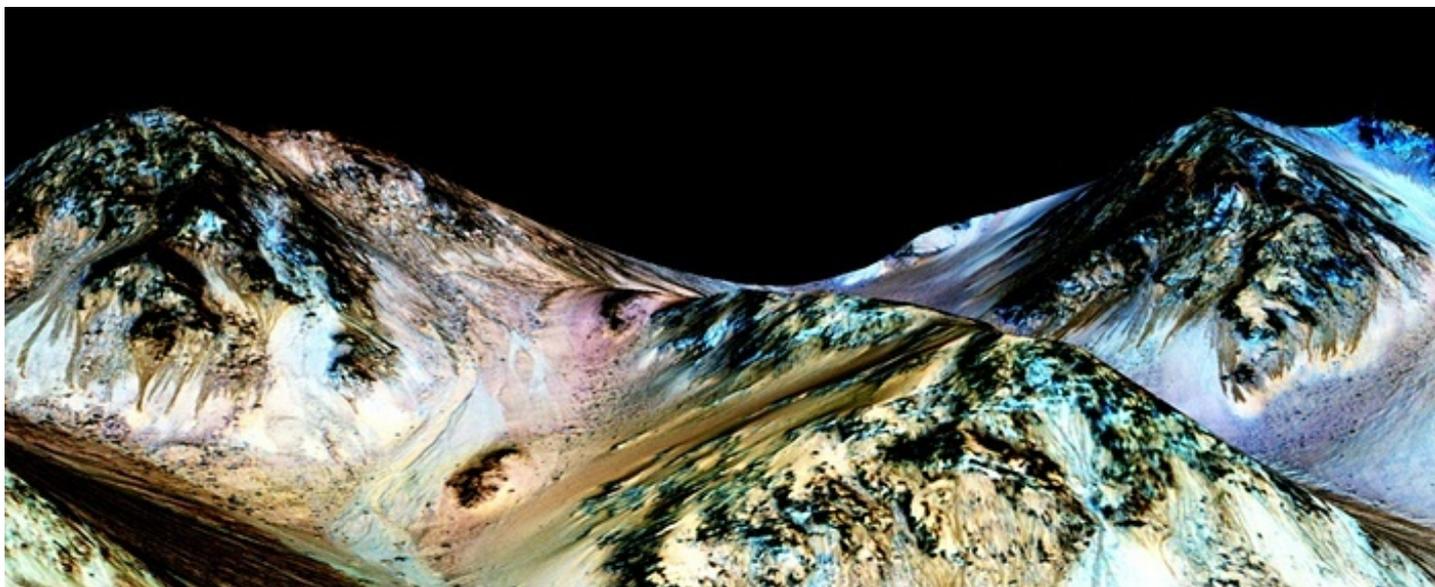
However, the large number of vacant seats is already taking a toll on engineering courses. As many as 556 engineering courses or departments have closed down this year alone, according to data available with AICTE. That number is, however, less than half the 1,422 applications that the regulator received seeking permission to shut engineering departments or courses.

"The intake capacity right now seems to be much above the demand," Sahasrabudhe said, adding that AICTE understands the need to balance the demand-supply situation.

For the first time in several years, the overall number of engineering seats has come down by about 30,000 seats in 2015, according to AICTE.

Student intake at the undergraduate level in engineering colleges started picking up from 2006-07. From 659,717 engineering seats in 2006, it jumped to 1.22 million in 2010 and more than 1.67 million in 2015. India has more than 3,470 engineering colleges.

Sahasrabudhe said he would take up the issue in his next executive council meeting after consultations with the human resource development ministry. AICTE will, however, "ensure that students are not at the receiving end", he added. "We shall also ensure that educational lands or properties are not converted into a real estate business by education players."



THE BYTE, OCT 2015

NASA scientists find evidence of flowing water on Mars

“Researchers say discovery of stains from summertime flows down cliffs and crater walls increases chance of finding life on red planet . ”

By : Ms. Vinita
Assistant Proff.

Dept. of CSE

Liquid water runs down canyons and crater walls over the summer months on Mars, according to researchers who say the discovery raises the chances of being home to some form of life.

The trickles leave long, dark stains on the Martian terrain that can reach hundreds of metres downhill in the warmer months, before they dry up in the autumn as surface temperatures drop.

Images taken from the Mars orbit show cliffs, and the steep walls of valleys and craters, streaked with summertime flows that in the most active spots combine to form intricate fan-like patterns.

Scientists are unsure where the water comes from, but it may rise up from underground ice or salty aquifers, or condense out of the thin Martian atmosphere.

“There is liquid water today on the surface of Mars,” Michael Meyer, the lead scientist on NASA’s Mars exploration program, told the Guardian. “Because of this, we

suspect that it is at least possible to have a habitable environment today.”

The water flows could point Nasa and other space agencies towards the most promising sites to find life on Mars, and to landing spots for future human missions where water can be collected from a natural supply.

“Mars is not the dry, arid planet that we thought of in the past,” said NASA’s Jim Green. “Liquid water has been found on Mars.”

Some of the earliest missions to Mars revealed a planet with a watery past. Pictures beamed back to Earth in the 1970s showed a surface crossed by dried-up rivers and plains once submerged beneath vast ancient lakes. Earlier this year, NASA unveiled evidence of an ocean that might have covered half of the planet’s northern hemisphere in the distant past.

But occasionally, Mars probes have found hints that the planet might still be wet. Nearly a decade ago, NASA’s Mars Global Surveyor took pictures of what appeared to be water bursting through a gully wall and flowing around boulders and other rocky debris. In 2011, the

high-resolution camera on Nasa’s Mars Reconnaissance Orbiter captured what looked like little streams flowing down crater walls from late spring to early autumn. Not wanting to assume too much, mission scientists named the flows “recurring slope lineae” or RSL.

Researchers have now turned to another instrument on board the Mars Reconnaissance Orbiter to analyse the chemistry of the mysterious RSL flows. Lujendra Ojha, of Georgia Institute of Technology in Atlanta, and his colleagues used a spectrometer on the MRO to look at infrared light reflected off steep rocky walls when the dark streaks had just begun to appear, and when they had grown to full length at the end of the Martian summer.

Writing in the journal Nature Geosciences, the team describes how it found infra-red signatures for hydrated salts when the dark flows were present, but none before they had grown. The hydrated salts – a mix of chlorates and perchlorates – are a smoking gun for the presence of water at all four sites inspected: the Hale, Palikir and Horowitz craters, and a large canyon called Coprates Chasma.

“These may be the best places to search for extant life near the surface of Mars,” said Alfred McEwen, a planetary geologist at the University of Arizona and senior author on the study. “While it would be very important to find evidence of ancient life, it would be difficult to understand the biology.

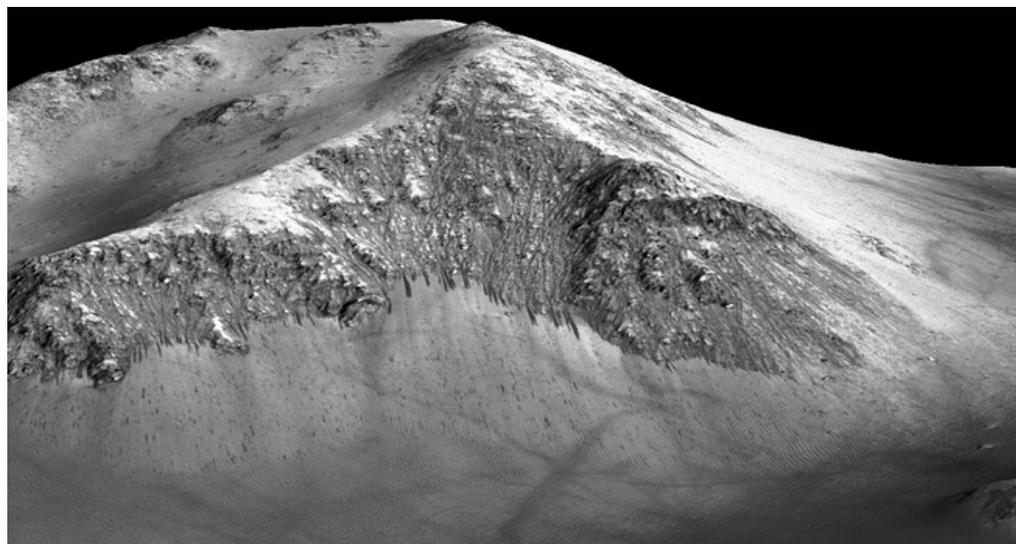
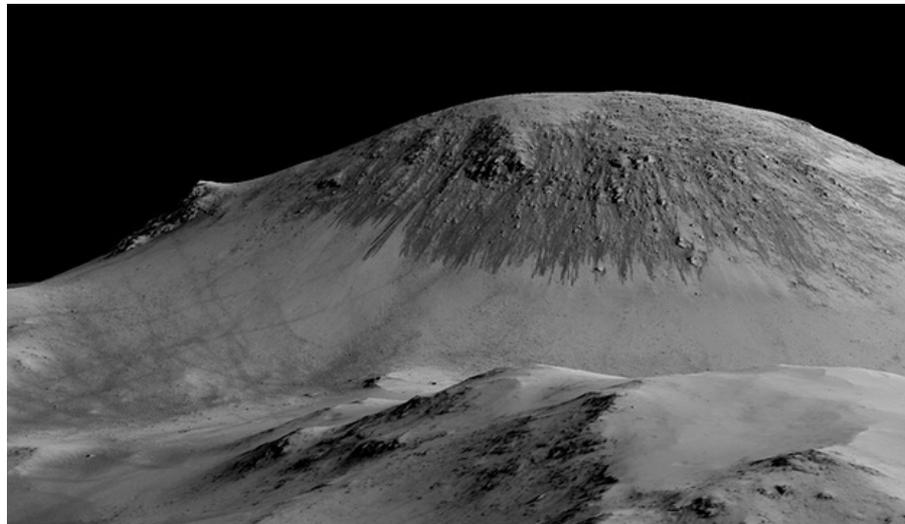
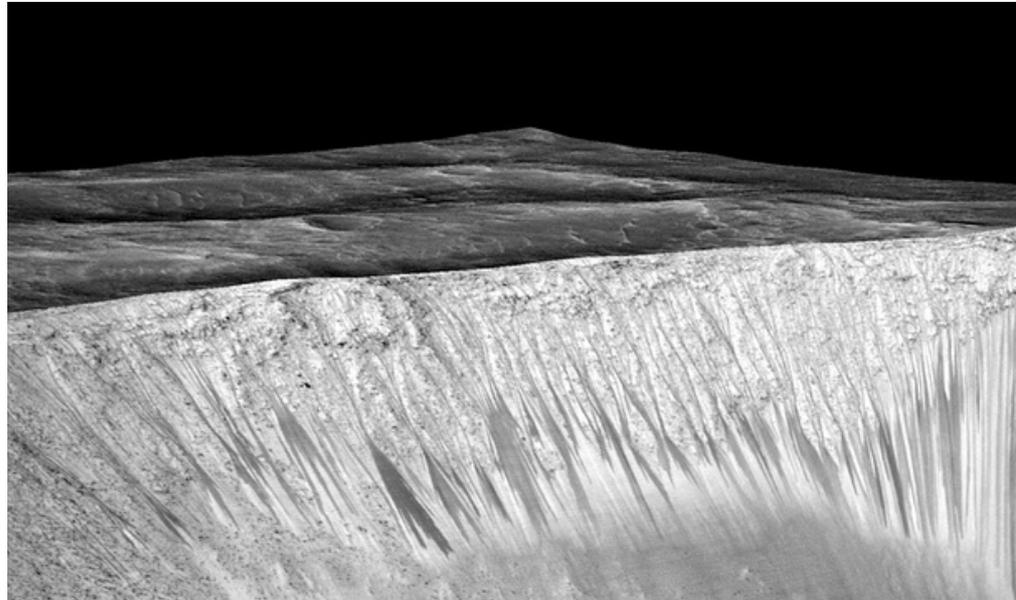
“The mystery has been, what is permitting this flow? Presumably water, but until now, there has been no spectral signature,” Meyer said. “From this, we conclude that the RSL are generated by water interacting with perchlorates, forming a brine that flows downhill.”

John Bridges, a professor of planetary science at the University of Leicester, said the study was fascinating, but might throw up some fresh concerns for space agencies. The flows could be used to find water sources on Mars, making them prime spots to hunt for life, and to land future human missions. But agencies were required to do their utmost to avoid contaminating other planets with microbes from Earth, making wet areas the most difficult to visit. “This will give them lots to think about,” he said. For now, researchers are focused on learning where the water comes from. Porous rocks under the Martian surface might hold frozen water that melts in the summer months and seeps up to the surface.

Another possibility is that highly concentrated saline aquifers are dotted around beneath the surface, not as pools of water, but as saturated volumes of gritty rock. These could cause flows in some areas, but cannot easily explain water seeping down from the top of crater walls.

A third possibility, and one favoured by McEwen, is that salts on the Martian surface absorb water from the atmosphere until they have enough to run downhill. The process, known as deliquescence, is seen in the Atacama desert, where the resulting damp patches are the only known place for microbes to live.

“It’s a fascinating piece of work,” Bridges said. “Our view of Mars is changing, and we’ll be discussing this for a long time to come.”



JAVA'S 20 YEARS OF INNOVATION

In 2015 marks 20 years since the first version of Java was released for public use. The timing of its arrival coincided with the advent of the web and the new role technology took in improving business productivity, streamlining business processes, and creating new ways for businesses and customers to interact.

The importance of a given programming language—especially one as pervasive as Java—in changing how people use technology is difficult to underestimate. The big data revolution, for example, is primarily a Java phenomenon.

In industry and business, most of server-side computing is done using Java applications. And much of the Internet of Things is also emerging on Java devices.

But 20 years ago, the language was delivered to an entirely different set of needs: a good, general-purpose language for desktop computing.

Java arrived at an important moment in software development. Up until then, the primary programming languages were few and well-established: Fortran in scientific computing, COBOL in business, and C or the emerging C++ everywhere else in commercial programming.

While less popular languages filled specific niches—Ada (defense), Pascal (hobbyists and consultants to SMBs), Smalltalk and Lisp (academia), Perl (system administrators), and so on—the Big Three dominated computing.

Fatigue with C

However, a fatigue with C was definitely emerging. The language had two major handicaps in those days: First, it was too low level—that is, it required too many instructions to perform even simple tasks. Second, it wasn't portable, meaning that code written in C for the PC could not easily be made to run on minicomputers and mainframes.

The portability of C was also a major problem. Although by 1995, many vendors had adopted the 1989 ISO standard, they all added unique extensions that made porting code to a new platform almost impossible.

It's no coincidence, then, that this era saw the emergence of a new generation of languages. In 1995 alone, there appeared Ruby, PHP, Java, and JavaScript.



Java almost immediately became popular for mainstream programming due to its portability and large set of built-in libraries. The then-mantra for Java was “write once, run anywhere.” While not strictly true initially, it quickly became so, making Java a good choice for business applications that needed to run on several platforms.

Once a language becomes mainstream, it tends to have a long lifetime, as will be demonstrated this year when the languages born in 1995 all begin celebrating their twentieth anniversaries. What makes Java stand out, though, is how much the language and platform have evolved in that time span.

Most conspicuous, to me at least, is the change in the Java Virtual Machine (JVM). While it delivered portability almost from the start, it did not initially deliver speed. Java was known for being slow to start and slow to run.

Continual Improvements

Today, Java is among the fastest languages and can scale to programs that can process vast resources, as the big data revolution—a mostly Java-based phenomenon—has amply demonstrated.

The language, too has seen extensive revision. From a start in which there were rough corners lying here and there, Java has evolved into a tool that can address almost every kind of programming problem.

The advent of Java 8 in particular added important features taken from functional programming idioms that make code shorter, more reliable, and more expressive.

The details of Java's history are so well known that it's easy to forget how truly rare it really is. The rarity is that few languages have benefited from constant, large-scale engineering investment for two decades. Among major languages today, only Microsoft MSFT +2.27%'s C# (and the .NET runtime) has been favored in this same way.

At one time, it was hoped that large communities of developers would be capable of driving this change by themselves. And certainly, the rapid pace at which early development tools advanced gave all programmers reason to believe. But those early tools turned out to be outliers, rather than heralds of coming things.

So, while others might celebrate 20 years of Java as if language endurance were in itself a major accomplishment, I prefer to celebrate the sustained rate of innovation and the 20 years of continuous investment required to make that happen.



"write once, run anywhere"

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Odisha School Girl Wins Award At Google Science Fair For Developing Water Purifying Agent

Lalita Prasida Sripada Srisai, a 13-year-old student of class 9th in DPS Damanjodi in Koraput district of Odisha, has made India proud by winning the 'Community Impact Award' at the prestigious Google Science Fair in California on Tuesday. Winning the award in the 13-15 years age group, she received 10,000 USD as the prize money. She is also set to be supported by Google for a year to build her project.

Lalita developed a low cost bio-absorbent based water purifier. It functions mainly on waste corn cobs. The Corn cob is the least utilized part of the maize plant. It is a very important agricultural waste. Having high mechanical strength, rigidity and porosity, corn cob is a suit-

Lalita's teacher, Pallabi Mahapatro, claims that the technique can be used for immobilizing the contaminants in domestic and industrial effluents, and in ponds, reservoirs and water tanks.

For the time being, Lalita's peers and staff at her school have been celebrating this grand victory while many are congratulating her on social media.

The Principal of DPS Damanjodi, Trinath Prasad Padhi, reveals that Lalita is also very proficient in co-curricular activities like song and dance. She is set to receive a grand welcome on her return to school through a

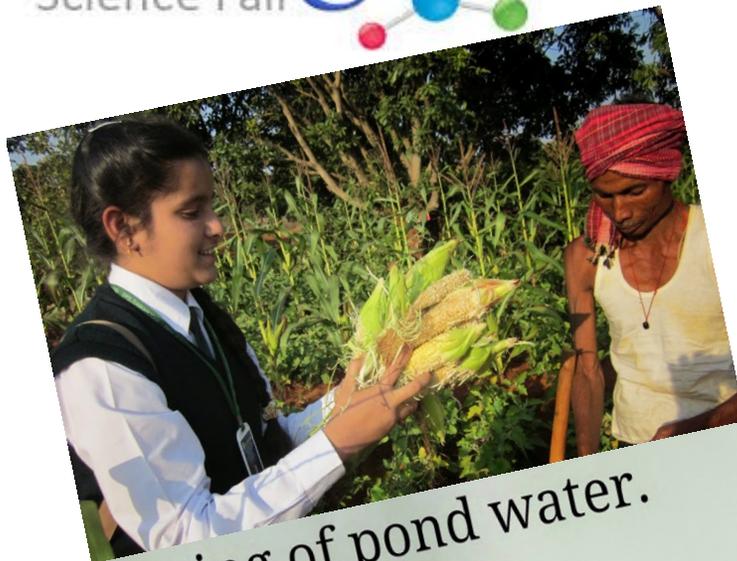
able absorbent. This enables contaminants like oxides of salts, detergent, suspended particles, coloured dyes, oil and grease to be absorbed in the surface of the corn cobs. Some of the heavy metals are also absorbed.

"If the drain pipe of the household is connected to a chamber having different layers of corn cobs in partition layers or to an S-trap pipe having corn cobs, it will separate about more than 70-80 % of contaminants including suspended particles from the waste water," says the report published about her project on the Google Science Fair website.

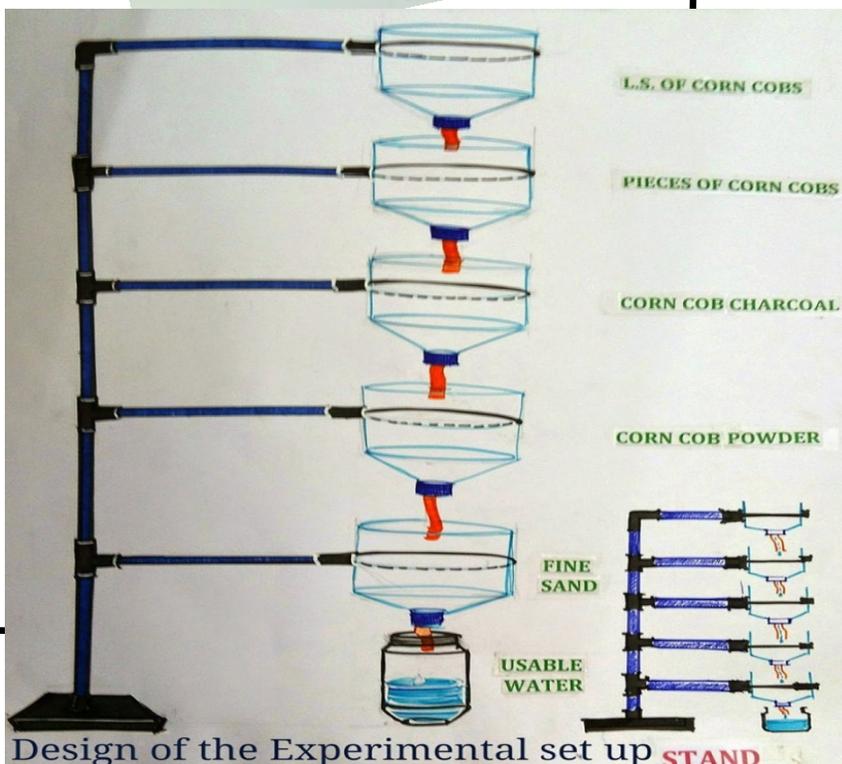
major function.

Meanwhile, The Logical Indian community congratulates her and wishes her all the best for the next stage of building the project in the coming year!

Google
Science Fair



Cleaning of pond water.



Design of the Experimental set up STAND



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Latest Technology

European consortium develops new approaches for dealing with Big Data

It's not a huge mystery why Los Angeles experiences earthquakes. The city sits near a boundary between two tectonic plates -- they shift, we shake. But what about places that aren't along tectonic plate boundaries?

For example, seismicity on the North American plate occurs as far afield as southern Missouri, where earthquakes between 1811 and 1812 estimated at around magnitude 7 caused the Mississippi River to flow backward for hours.

Until now, the cause of that seismicity has remained unclear.

While earthquakes along tectonic plate boundaries are caused by motion between the plates, earthquakes away from fault lines are primarily driven by motion beneath the plates, according to a new study published by

USC scientist Thorsten Becker in Nature on Aug. 27.

Just beneath the Earth's crust is a layer of hot, semi-liquid rock that is continually flowing -- heating up and rising, then cooling and sinking.

That convective process, interacting with the ever-changing motion of the plates at the surface, is driving intraplate seismicity and determining in large part where those earthquakes occur. To a lesser extent, the structure of the crust above also influences the location, according to their models.

"This will not be the last word on the origin of strange earthquakes. However, our work shows how imaging advances in seismology can be combined with mantle flow modeling to probe the links between seismicity and mantle convection," said Becker, lead au-

thor of the study and professor of Earth sciences at the USC Dornsife College of Letters, Arts and Sciences.

Becker and his team used an updated mantle flow model to study the motion beneath the mountain belt that cuts north to south through the interior of the Western United States.

The area is seismically active -- the reason Yellowstone has geysers is that it sits atop a volcanic hotspot. Previously, scientists had suggested that the varying density of the plates was the main cause. (Imagine a

mountain's own weight causing it to want to flow apart and thin out.)

Instead, the team found that the small-scale convective currents beneath the plate correlated with seismic events above in a predictable way. They also tried using the varying plate density or "gravitational potential energy variations" to predict seismic events and found a much poorer correlation.

"This study shows a direct link between deep convection and shallow earthquakes that we didn't anticipate, and it charts a course for improved seismic hazard mapping in plate interiors," said Tony Lowry, co-author of the paper and associate

professor of geophysics and geodynamics at Utah State University.



MILITANTS OUTSMART INDIAN AGENCIES WITH NEW TECH TOOL

THE BYTE

SOURCE : NEWS

A technological breakthrough prompted by the devastation of Hurricane Sandy in 2012 in New York area is the latest militant tool baffling the Indian security establishment.

The technology, of sending mobile communications without using mobile networks, has given another twist to the ongoing cat-and-mouse game between militants and security agencies in recent months. For sometime now, Indian agencies have noticed infiltrating militants from Pakistan carrying smart phones without SIM cards. And they presumed the militants would procure local SIMs in Kashmir for using them.

However, latest inputs, including interrogation of Sajjad Ahmed, who was captured by the Army in August last week, show that the militants are adopting the breakthrough technological solution, primarily meant to ensure basic mobile communication even when mobile networks are down, to overcome eavesdropping by Indian agencies.

Indian agencies can today listen in on VHF conversations, mobile phones and satellite phones.

With accurate interception and monitoring of these devices, intelligence agencies, the Army and the BSF have been very effective in neutralising several militants, especially when they infiltrate into India.

These technical capabilities have dealt deadly blows to attempts to breathe life into a dying Kashmir militancy.

With the breakthrough capability to send bare mobile communications through VHF (very high frequency), the militants seem to have been successful in avoiding Indian agencies, especially during the cru-

cial hours when they cross the Line of Control.

The technology is to pair a smart phone with a radio set, and send out short SMSs, an SOS appeal or the exact location to other paired devices using line-of-sight very high frequency. The first public discussion on the solution, and the most high profile product for it, emerged in the U.S. after the October 2012 Hurricane Sandy. The ineffectiveness of cell phones after mobile towers were destroyed by the hurricane was the reason for dreaming up the technological breakthrough.

The capability ensures that the infiltrating militants have continuous, but bare, communication link with their handlers and other militants who are in the group, while avoiding tracking by Indian agencies. This capability is secure even in high peaks and ravines, especially near the Line of Control where conventional mobile and satellite phones can give away their exact location.

Ahmed, who was captured from Rafiabad area, told his interrogators about what they call YSMS communication application. He said they were advised against using mobile phones, and to rely on YSMS for contact.

When Abu Suhaib, one of the militants in the infiltrating group and technology expert among them, was sure to be killed by the Indian Army on August 27 he tried to break up the system, However, Ahmed stopped Suhaib from fully destroying it. The Army later recovered the Samsung mobile phone and the wireless set paired to it for YSMS.

Sources said the recovered radio set is a traditional one, and not the slim gadget that U.S. start-up GoTenna has developed. "Which means this is either a Pakistani or a Chinese solution," an official in a technical intelligence agency said.

"We have been recovering smart phones without SIM cards for sometime. Now we know the reason," he said.



Mechanism behind 'strange' earthquakes discovered

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It's not a huge mystery why Los Angeles experiences earthquakes. The city sits near a boundary between two tectonic plates -- they shift, we shake. But what about places that aren't along tectonic plate boundaries?

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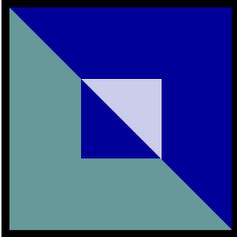
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LITERARY



The ten most important books to expand your brain

THE BYTE
OCT 2015

Books suck. No question about it, almost everyone who writes a book is a crappy writer.

And this is a good thing.

It's because the writer spent his life getting GOOD at what he was writing about. He didn't spend his life being good at writing.

He didn't spend his life typing. He ran a country. Or built a robot. Or discovered DNA or walked between the twin towers.

He or She DID something. Something that changed lives. Something that went from his or her head out into the real world.

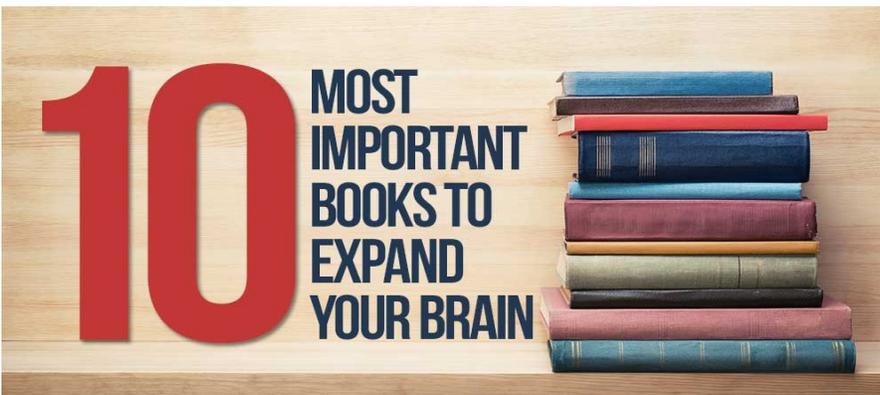
But that's ok. There are a few good books out there.

I like reading billion-person books. Books, that if read widely, would change a billion lives.

I like reading books where I feel my brain have an IQ orgasm. Like, I literally feel my IQ go up while reading the book.

And, (please let me stick with this metaphor one more sentence), I might have a little brain-child that turns into my own special idea or book after reading a great book.

Before I give my list, I want to mention there are three kinds of non-fiction books: (and I'm only dealing with non-fiction. Fiction is another category).



Don't read it for the Holocaust. Or psychological theory.

Read it because when you're about halfway through you will realize your life is no longer the same.

And next time you get a chance to whisper in the ear of someone about to kill himself, whisper words from this book.

"BORN STANDING UP" by Steve Martin

And while you are at it, throw in "Bounce" by Mathew Syed, who was the UK Ping Pong champion when he was younger.

I love any book where someone took their passion, documented it, and shared it with us. That's when

The Books

"MASTERY" by Robert Greene

This book is like a curated version of 1000 biographies all under the guise, "how to become a master at what you love".

"BOLD" by Peter Diamondis and Steven Kotler

Basically if you want to know the future, read this.

Supplement it with "Abundance" by the same two and "Tomorrowland" by Steven Kotler" and even "The Rational Optimist" by Matt Ridley.

I feel "Abundance" is like a sequel to "The Rational Optimist". So I'm giving you four books with one recommendation.

"OUTLIERS" by Malcolm Gladwell
Gladwell is not the first person to come up with the 10,000 hour rule. Nor is he the first person to document what it takes to become the best in the world at something.

But his stories are so great as he explains these deep concepts.

How did the Beatles become the best? Why are professional hockey

players born in January, February and March?

And so on.

"WHERE GOOD IDEAS COME FROM" by Steven Johnson

Also add to this: "How We Got to Now" by Steven Johnson.

Basically: don't believe the myth of the lonely genius.

Ideas come from a confluence of history, "the adjacent possible" specific geographic locations, etc.

The connections Johnson makes are brilliant. For instance, The Gutenberg Press (which, in itself, was invented because of improvements in sewing looms), made everyone realize they had bad vision.

So the science of lenses was created. So microscopes were eventually created. So germs were eventually discovered. So modern medical science was discovered.

And so on. Johnson is a thinker and a linker and tells a good story.

"MAN'S SEARCH FOR MEANING" by Victor Frankl

I'm at a loss for words here. Just read it.

you can see the subtleties, the hard work, the luck, the talent, the skill, all come together to form a champion.

Heck, throw in, "An Astronaut's Guide to Earth" by Commander Chris Hadfield.

"ZERO TO ONE" by Peter Thiel

There's a lot of business books out there. 99% of them are BS. Read this one.

So many concepts really changed my attitude about not only business but capitalism.

Thiel, the founder of PayPal, and first investor in Facebook, is brilliant in how he simply shares his theories on building a billion dollar business.

I love his story on my podcast what exactly happened in the room when a 24 year old Mark Zuckerberg was offered \$250,000,000 and refused it in two minutes.

"QUIET" by Susan Cain

Probably half the world is introverts.

Maybe more. It's not an easy life to live.

I sometimes have that feeling in a room full of people, "uh-oh. I just shut down. I can't talk anymore and there's a lock on my mouth and this crowd threw away the key."

Do you ever get that feeling? Please? I hope you do. Let's try to lock eyes at the party.

"Quiet" shows the reader how to unlock the secret powers that probably half the world needs to unlock.

And, please Susan Cain come on my podcast.

Indian IT firms among world's worst paymasters'

Indian IT companies are among the 10 worst paymasters in the world, says a survey — a mid-level IT manager draws an average salary of USD 41,213 while his Swiss counterpart gets over four times more.

According to recruitment platform MyHiringClub.com's Worldwide IT Salary 2015 survey, India was ranked 7th on the list of lowest paymasters for information technology (IT) managers, down by one position from last year's.

While Indian IT managers drew an average salary of USD 41,213, Bulgaria topped the list with a meagre USD 25,680, followed by Vietnam and Thailand averaging at USD 30,938 and USD 34,423, respectively.

"The impact of outsourcing and off-shoring on IT roles in North America and Western Europe helps explain the pattern of global pay," MyHiringClub.com & FlikJobs.com CEO Rajesh Kumar said.

The list includes Indonesia at the fourth spot with average wages of USD 34,780, followed by the Philippines (USD 37,534), India (USD 41,213), China (USD 42,689), Czech Republic (USD 43,219), and Argentina (USD 51,380).

"Lower-level roles are being moved to regions where talent is cheaper. The jobs that remain in Western Europe and the United States may be fewer in number, but are more demanding and complex. However, there is an increasing evidence of India's growing stature and presence in the high-end value chain, where cost advantages may not be the only drivers of future growth," Mr. Kumar added.

At the other end of the spectrum, when it comes to countries that pay out the best IT salaries, Switzerland again topped the list with an average annual remuneration of USD 1,71,465. The same job if taken in Belgium, second on the list, would fetch USD 1,52,430, the survey said.

Denmark came in at third on the best-paying list, with salary in the IT sector averaging at USD 1,38,920. The US and the UK were ranked fourth and fifth, respectively, with



average packages of USD 1,32,877 and USD 1,29,324, respectively.

"India remains one of the most favourite outsourcing destinations due to this low-cost factor, but the future might bring with itself a completely different scenario," the survey predicted.

The survey compared the total annual cash compensation and total remuneration information of the mid-career level for IT staff at 9,413 companies across 40 different countries between August 1 to August 31, 2015.

Prize for solving longstanding neutrino puzzle

Canada's Arthur B McDonald and Japan's Takaaki Kajita have won this year's Nobel Prize in Physics for their surprising discovery that tiny, subatomic particles called neutrinos have mass.

Their experimental results forced scientists to rethink the "Standard Model" of particle physics that had successfully explained all observations of the subatomic world for decades.

What are neutrinos?

Neutrinos are produced when radioactive isotopes decay and have been shrouded in mystery ever since Wolfgang Pauli first proposed them in 1930. In the Standard Model, they were assumed to have no mass (like particles of light, photons) and be neutral (lacking electric charge). This would also explain why neutrinos usually pass straight through matter without interacting, making them extremely difficult to detect. Enormous instruments are required to observe them in sufficient numbers to study their properties.

Neutrinos were first directly observed by the Cowan-Reines experiment in 1956, using neutrinos from a nuclear reactor and two large tanks of water. If a neutrino interacted with a nucleus in the detector, this would result in a flash of light that could be picked up by photomultiplier tubes that were sandwiched between the tanks. Frederick Reines was awarded the Nobel Prize in 1995 for this work.

mass →	≈2.3 MeV/c ²	≈1.275 GeV/c ²	≈173.07 GeV/c ²	0	≈126 GeV/c ²
charge →	2/3	2/3	2/3	0	0
spin →	1/2	1/2	1/2	1	0
	u up	c charm	t top	g gluon	H Higgs boson
QUARKS					
	≈4.8 MeV/c ²	≈95 MeV/c ²	≈4.18 GeV/c ²	0	
	-1/3	-1/3	-1/3	0	
	1/2	1/2	1/2	1	
	d down	s strange	b bottom	γ photon	
	0.511 MeV/c ²	105.7 MeV/c ²	1.777 GeV/c ²	91.2 GeV/c ²	
	-1	-1	-1	0	
	1/2	1/2	1/2	1	
	e electron	μ muon	τ tau	Z Z boson	
LEPTONS					
	<2.2 eV/c ²	<0.17 MeV/c ²	<15.5 MeV/c ²	80.4 GeV/c ²	
	0	0	0	±1	
	1/2	1/2	1/2	1	
	ν_e electron neutrino	ν_μ muon neutrino	ν_τ tau neutrino	W W boson	
					GAUGE BOSONS

However, when detectors became sensitive enough to observe neutrinos created in nuclear reactions in the Sun, scientists faced a big problem. They had calculated the amount of neutrinos from the Sun that should be hitting the Earth, but observed only a third of this number in their experiments. A further Nobel Prize was presented to Ray Davis in 2002 for this discovery. The mystery of these missing neutrinos was coined the "solar neutrino problem" and remained a puzzle for forty years, until the collaborations led by Kajita and McDonald made their exciting discovery.

Underground discovery

There are three different types, or "flavour", of neutrino – electron, muon and tau – which have slightly different mass and can interact with other particles in different ways.

In 1998, Kajita, who now works at the University of Tokyo, announced that the Super-Kamiokande experiment in Japan had found that neutrinos "oscillate" between these flavours, which is possible thanks to the strange rules of quantum mechanics.

Super-Kamiokande detected muon-neutrinos coming straight from the atmosphere above, as well as those hitting the detector from below after having travelled through the Earth. Since neutrinos barely interact, there should be equal numbers of neutrinos coming from the two directions. However, the muon-neutrinos that came straight down to Super-Kamiokande were more numerous than those that had passed through the planet. This indicated that muon-neutrinos that travelled longer had more time to oscillate into tau-neutrinos that could evade the detectors.

These results were confirmed in 2001 by Arthur B McDonald, based at Queen's University in Canada, and the Sudbury National Observatory collaboration, this time by detecting oscillations of neutrinos from the Sun. By carefully observing the interactions of neutrinos with "heavy water", they were able to determine the total number of neutrinos, as well as the fraction of electron-neutrinos. They crucially showed that there were no missing neutrinos, once all the flavours had been taken into account.

The discovery of Kajita and McDonald solved the solar neutrino problem as it could explain where the missing neutrinos had gone; they simply changed flavour on their way from the Sun to the detector, meaning that they couldn't be recorded. It also showed that the Standard Model was incomplete, as such oscillations are impossible in the absence of neutrino masses.

From their pioneering work, the neutrino field has boomed across the world, with experiments in every continent. Now that we know neutrinos have mass, we need new theories to explain how they acquire it. If new fundamental particles are responsible for neutrino masses, one of them could account for dark matter, a mysterious substance that makes up the vast majority of the matter in the Universe. Work is ongoing in this area and exciting discoveries may be just around the corner.



Heartiest Congratulations!!!

to all 163 selected students in TCS.



TATA CONSULTANCY SERVICES

- Sarvanand Pandey
- Eshita Pawar
- Safal Arora
- Anuj Agarwal
- Priyanshi Jain
- Alind
- Deepshikha Baghel
- Deeksha Rai
- Aman Verma
- Shubham Varshney
- Priyaranjan Yadav
- Sumit Singh
- Akshay Bhasin
- Piyush Aggarwal
- Anmol Maheshwari
- Vishesh Saxena
- Dewaksh Kansal
- Manan Puri
- Lalit Kumar
- Pragya Khanna
- Shresth Jaiswal
- Shubham Dixit
- Pawan Srivastava
- Pulkit Chaurasia
- Surabhi Srivastava
- Anukrati Mishra
- Kanchan Yadav
- Yash Gupta
- Shivani Sharma
- Sushant Ranjan
- Saakshat Srivastav
- Kirtika Agarwal
- Mandeep Taneja

LIST OF STUDENTS From Computer Science And Engineering Department

- Ankur
- Nidhi Maheshwari
- Shubham Sinha
- Karishma Agarwal
- Aayush Mittal
- Sneha Singh
- Ashutosh Kaushik
- Kartik Panwar
- Aishwarya Singh
- Deepanshi Agarwal
- Shreya Chauhan
- Bhardwaj Chaudhary
- Saurabh Singh
- Kajal Goel
- Sahiba Gupta
- Aastha Sharma
- Shivangi Pathak
- Sandeep Panghal
- Priyansha Mishra
- Uzma Nikhat
- Alok Rai
- Pragya Sahu
- Nikhil Sharma
- Tanya Arora
- Sakshi Sharma
- Sonal Shalya
- Preeti
- Sanmay Chauhan
- Vedant Garg
- Satyam Gupta
- Rahul Verma
- Arvind

Current Affairs

**THE
BYTE**

**OCT
2015**

INTERNATIONAL

CERN formally confers its Associate Membership to Pakistan

Pakistan was formally conferred Associate Membership status by European Organisation for Nuclear Research (also known as CERN). The membership was granted after Pakistan formally completed the required internal ratification process. With this, Pakistan became the first Asian country to become member of CERN.

193 UN members reach agreement on New Sustainable Development Agenda

On 3 August 2015 United Nations 193 member states have reached an agreement on the outcome document New Sustainable Development Agenda for the next 15 years i.e. Till 2030. The new agenda draft document called “Transforming our World: The 2030 Agenda for Sustainable Development” was built on the success of the Millennium Development Goals (MDGs). The draft agreement outlines 17 nonbinding goals with 169 specific targets that comprise different socio-economic issues. These goals will succeed 8 MDGs which was adopted in 2000. It has broader sustainability agenda dealing with ‘five Ps’ people, planet, prosperity, peace, and partnership.

Ranil Wickremesinghe as Prime Minister of Sri Lanka for the second time

Sri Lanka present Prime Minister Ranil Singhe is again elected as the Prime Minister for the second time in the Parliament elections held on 17 August, 2015. United National Party (UNP) of Singhe secured 106 seats and with the support of Tamil parties Ranil is again elected as the Prime Minister. The former Prime Minister Mahinda Rajapaksa’s party United People’s Freedom Alliance (UPFA) is in the second place in the Parliament elections.

China, Pakistan signed deals worth 1.6 billion US dollars to implement CPEC

China and Pakistan on 12 August 2015 signed 20 agreements worth 1.6 billion US dollars to implement the ambitious China-Pakistan Economic Corridor (CPEC) project. These agreements were signed during the CPEC Forum that was held at Karamay city in Xinjiang province of China bordering. Both the countries together also issued the Karamay Manifesto on the China-Pakistan Economic Corridor (CPEC), a major project under China’s Belt and Road Initiative.

Bangladesh became first country to receive funds from UN for Solar Home Systems

Bangladesh became the first country to receive funds from the United Nations (UN) for its fast growing solar home

systems. The UN Framework Convention for Climate Change (UNFCCC) issued 395286 carbon credits worth 3.56 million US Dollar to two Bangladeshi organisations. Infrastructure Development Company Ltd (IDCOL) and Grameen Shakti are the two organisations that won the carbon credits. The UNFCCC has issued 212482 carbon credits to the IDCOL&182804 credits to Grameen Shakti.

INDIA & WORLD

India & World Bank signed agreement with NCRMP-II

On 11th August 2015, to support the second phase of the National Cyclone Risk Mitigation Program (NCRMP-II) an agreement of 308.40 million US dollar was signed between World Bank and Union Government. State Governments of Goa, Gujarat, Karnataka, Kerala, Maharashtra, and West Bengal also signed the agreement. On behalf of the World Bank, John Blomquist, Program Leader and Acting Country Director in India and Raj Kumar, Joint Secretary, Department of Economic Affairs on behalf of the Union Government signed the agreement.

Union Cabinet approves proposal to sign agreement with UNESCO

Union Cabinet gave its nod to a proposal to sign an agreement with UNESCO for establishment of a Centre for World Natural Heritage Management and Training for Asia-Pacific region. This centre will be established as a category-2 centre (C2C) of the UN body at the Wildlife Institute of India (WII) in Dehradun, Uttarakhand. By signing this agreement WII Dehradun will be first existing institute to be accorded recognition by UNESCO. It will be also the first institute to get natural heritage recognition by UNESCO as currently there are 9 C2C institutes related to cultural heritage. It should be noted that this agreement has been mooted by the Union Environment Ministry.

Xiaomi launched first India-made phone “Redmi 2 Prime”

Chinese Smartphone maker Xiaomi has announced its first manufacturing unit in India in Sri City, Andhra Pradesh. China’s Xiaomi launched it’s first India-made phone, the ‘Redmi 2 Prime’, and announced a tie up with Taiwan’s Foxconn to make smart phones in the country. Foxconn would make Xiaomi phones at the Sri City plant in Andhra Pradesh. Xiaomi is 3rd largest smartphone maker in the World while Samsung and Apple are at 1st and 2nd place respectively.

Union Cabinet approves MoU between India, Nepal for construction of petroleum pipeline

The Union Cabinet has approved a Memorandum of Understanding (MoU) between India and Nepal for construction of petroleum products pipeline from Raxaul (Bihar) in India to Amlekhgunj in Nepal. The MoU seeks to promote bilateral cooperation in the oil and gas sector between both neighbouring countries and secure long term supply of petroleum products to Nepal. Raxaul-Amlekhgunj petroleum pipeline: In the first phase it will be constructed by Indian Oil Corporation (IOC) on behalf of Indian Government at a cost of 200 crore rupees. IOC will be also engaged in re-engineering and construction of the Amlekhgunj Depot and allied facilities.

Government of India approves MoU between India & America to establish PACE-setter Fund

The Union Cabinet gave its ex-post-facto approval for the Memorandum of Understanding (MoU) between America and India to establish the PACE setter Fund. The PACE setter Fund is a fund that supports the Promoting Energy Access through Clean Energy (PEACE) an initiative between US and India through Partnership to Advance Clean Energy (PACE). Accordingly both the countries has raised corpus of about 8 million US dollars (Rs. 50 crore) on a 50:50 sharing basis.

NATIONAL

Ministry of Rural Development launches SAMANVAY portal

Rural Development Minister Chaudhary Birender Singh launched SAMANVAY on 4 August 2015. SAMANVAY will compile all schemes of both the Centre and state governments at the gram panchayat level. It will help the MPs to utilise relevant schemes to plan and implement Sansad Adarsh Gram Yojana (SAGY). More than 1800 state schemes across India have been documented in SAMANVAY.

Delhi High Court Amendment Bill, 2015 approved by Parliament

On 5th August 2015, Delhi High Court Amendment Bill, 2015 was passed. It was passed in Lok Sabha by a voice vote on 5th June 2015 and in May 2015 it was passed in Rajya Sabha. In order to minimize the workload of the Delhi High Court, the Bill seeks to modify the Delhi High Court Act, 1966.

UP Stoods first in 'Give It Up' of LPG Subsidy:

Uttar Pradesh takes first place in give up the LPG subsidy. 2.45 lakh people from Uttar Pradesh have given up their LPG subsidy in the 'Give It Up' campaign started by Central Government. Maharashtra is in second place whereas Andhra Pradesh in 12th place and Telangana in 13th place in give up of LPG subsidy.

Access to telemedicine with the launch of SEHAT

On 25 August 2015 central government launched the new program called SEHAT (Social Endeavour for Health and Telemedicine) to access the medical services in the rural areas throughout the country. Minister of Communication and Information Technology Shri Ravi Shankar launched this program in New Delhi through this program, people may consult the doctors through videolink. The centre along with Appollo Hospitals opened the Common Service Centres to provide healthcare access.

Start-up India – Stand up India campaign was announced by PM Narendra Modi

On 15th August 2015, while celebrating 69th Independence Day at Red Fort Prime Minister Narendra Modi announced a new campaign "Start-up India; Stand up India" which is aimed to promote bank finance for Start-ups so

that more employment in India can be created. As per the initiative PM urged 1.25 lakh bank branches to provide finance to at least one Dalit or Adivasi and at least one woman entrepreneur.

STATES

Union Government signed historic peace accord with NSCN (I-M)

Union Government on 3 August 2015 signed a landmark peace accord with the National Socialist Council of Nagaland Isak-Muivah (NSCN (I-M)), putting an end to almost two decades long pending peace talks. The signing of the pact is the end of over 80 rounds of negotiations that spanned 16 years with first breakthrough in 1997 when ceasefire agreement was sealed. Government's interlocutor for Naga peace talks RN Ravi, inked the document on behalf of the Union government, while NSCN (IM) chairman Isak Chishi Swu and general secretary Thuingaleng Muivah were the signatories on behalf of the Naga organisation.

Jharkhand empowered ACB to arrest Ministers & civil servants in bribery cases without permission

Jharkhand Government on 4 August 2015 empowered Anti Corruption Bureau (ACB) to arrest Minister, MLA and senior civil servants without taking permission from the concerned authorities in cases of being caught on taking bribes. The decision to change the rule of ACB was taken during the state's cabinet meet chaired by Chief Minister Raghubar Das. With this, the earlier known Vigilance Bureau has been given new name and greater power.

Rajasthan HC banned 'Santhara' ritual in Jain Community:

The Rajasthan High Court banned Jain's ritual 'Santhara' (a voluntary and systematic fasting to death), making it punishable under IPC Section 306 (Abetment of Suicide). The ban on the Jain ritual comes after a Public Interest Litigation (PIL) filed by human rights activist and advocate Nikhil Soni a decade ago. The activist claimed the ritual is a social evil and should be considered as suicide.

Amitabh Bachchan as Brand Ambassador for 'Save the Tiger' campaign of Maharashtra:

To promote eco tourism, especially tiger tourism in Maharashtra, the Maharashtra Govt. appointed Amitabh Bachchan as ambassador for Maharashtra's "Save the Tiger" campaign. At present Maharashtra has six tiger reserves and the tiger population has increased from 103 in 2006 to 169 in 2010, according to the tiger census.

Gujarat to become 1st state to launch 'agro-solar policy'

'Agro-solar policy' is to be launched in Gujarat, making it the first state in India to do so. Under this policy, the farmers will have to tap energy from the sun. This will help them earn additional income from power generation companies. According to officials in Gujarat Energy Research and Management Institute, farmers and power generation companies will be in a win-win situation with generation of solar energy in agricultural fields.

CONFERENCES

Global “Call to Action” summit 2015

The Ministry of Health and family welfare cohosted the “call to Action” summit 2015 for ending preventable child and maternal deaths along with Ethiopia’s Ministry of Health, in New Delhi. In the two day summit health ministers from 24 Priority Countries, state health ministers from India are participated.

Forum for India Pacific Islands Co-operation (FIPIC) summit

The second summit of the forum for India Pacific Islands Co-operation (FIPIC) is held at Jaipur on 21 August 2015. Delegates from 14 Pacific Islands attended the summit along with Prime Minister Narendra Modi. The discussions are done about climate change. India proposes to hold International conference on ocean economy and Pacific Island countries in New Delhi in 2016 and to assist in establishing a space Technology Applications Centre in any one of the Pacific Island Countries.

AWARDS & HONOURS

Amalendu Krishna of TIFR wins Ramanujan Prize

The Ramanujan Prize for 2015 was won by mathematician Amalendu Krishna of the Tata Institute of Fundamental Research, Mumbai on 3 August 2015. Dr. Krishna was honoured for his contributions in the area of algebraic K-theory, algebraic cycles and theory of motives. Dr. Krishna is from Bihar. This is the second time it is being awarded to an Indian, with Sujatha Ramadorai having won it in 2006.

Indian-origin Adrienne Batra wins ‘Best Journalist’ in Canada

An Indo-Canadian woman journalist has been awarded by Indian community members in Ottawa for her outstanding achievements in the field of journalism. Adrienne Batra, the 41-year-old editor of Toronto Sun, was recognised as the ‘Best Journalist’ at this year’s Parvasi Awards, which featured India’s sports legend Milkha Singh as this year’s guest of honour.

Hyderabad players Srikanth Kidambi and Anup Kumar Yama in Arjuna Awards List

The Government on 14th August, announced the names of the sportspersons who won the Prestigious Arjuna Awards for the year 2015. This year 17 sportspersons won the Arjuna Awards. Among these shuttler Srikanth Kidambi and roller skater Anup Kumar Yama are the two from Hyderabad. Indian cricketer Rohit Sharma and Indian Hockey Goal Keeper Sreejesh are among the Arjuna Award winners. The awards are given by the President Pranab Mukherji on August 29th, the National Sports Day.

Urdu Author Shamim Hanfi chosen for first Jnangarima Award

The famous Urdu author Shamim Hanfi has been chosen for the first Jnangarima Manad Alankaran Award which is started this year by Bharatiya Jnanpith. The award was introduced on behalf of seven decades of Jnanpith. The Jnangarima Manad Alankaran Award comprises a monthly honorarium for one year.

Celkon Mobiles Get Make in India Award for Excellence – 2015

Celkon Mobile is a leading Indian smart phone player, and is a major initiative from the “Make in India” movement has inaugurated its first State-of-the-Art manufacturing facility in Hyderabad on the 11th of June 2015 with four production lines and eventually enhanced its capacity to higher levels. To appreciate commitment of Celkon Mobiles, Government of India has honored this company with “Make in India Award for Excellence – 2015” in Telecom Gadgets category at an event organised in Gandhinagar on 18th August.

SPORTS & GAMES

Ranveer Singh Saini wins gold at Special Olympics

Golfer Ranveer Singh Saini created history by becoming the first Indian to win a Gold medal at the Special Olympics World Games in Los Angeles. The 14-year-old autistic golfer achieved the feat in GF Golf-Level 2 Alternate Shot Team Play event in 31 July 2015.

India women’s team won silver in World Archery Championship

Indian women’s recurve archery team of Deepika Kumari, Laxmirani Majhi and Rimil Buriuly won silver at the World Archery Championships in Denmark on 2 August 2015. In the final match of World Championship they lost to Russia by 4-5 score. Indian archer Rajat Chauhan has won silver medal in the World Archery Championships in the compound category. It was India’s first-ever individual medal in the World Archery Championships.

Ganguly wins Silver Medal in Asian Continental Chess Championship:

Grand Master and former national champion Surya Sekhar Ganguly won the Silver Medal in the Asian Continental Chess Championship by defeating Zhang Zhong of Singapore in the final round.

Abhishek Verma won the Archery World Cup 2015:

Abhishek Verma, Indian Archer won the Gold Medal in the individual men’s compound event at the Archery World Cup 2015 which was held in Poland. In the final he defeated Esmail Edabi of Iran with 148-145 score.

Andy Murray won Rogers Cup Masters Tournament 2015

Men’s Section:

Andy Murray of Great Britain won Rogers Cup Masters Tournament 2015 also known as the Canada Masters. In the final match played at Montreal, Canada he defeated world number one Novak Djokovic of Serbia by 6-4, 4-6, 6-3 score. It was Murray's overall 11th Masters Title and first victory against the world number 1 since Wimbledon final of 2013.

Women's Section:

Belinda Bencic of Switzerland lifted her maiden Canadian Open Masters title after world number two Simona Halep retired hurt. The match ended 7-6, 6-7, 3-0. It was Belinda's second career title. In semi finals she out played World No. 1 Serena Williams.

ECONOMY

UTI Mutual Fund crossed One Lakh Crore

UTI Mutual Fund crossed One Lakh Crore Rupees mark recently. UTI is the oldest mutual fund house of India. It is worth mentioning that the total asset under the control of Indian mutual fund companies is around 4.5 lakh crore. UTI Mutual Fund is being run by the UTI Asset Management Company (UTI AMC).

RBI relaxed Branch Authorisation Policy to allow banks to merge or close branches in urban areas

On 6th August 2015, Section 23 of the Banking Regulation Act, 1949 -Relaxations in Branch Authorisation Policy was notified by Reserve Bank of India (RBI). This will give the authority to banks at their own discretion to shift, merge or close branches, in urban areas.

SBI launched new mobile wallet App 'Buddy':

State Bank of India, on 18th August launched a new mobile wallet App 'Buddy'. The Union Finance minister Arun Jaitley launched this App in Mumbai. The App comes with features such as send money to registered and new users, Ask money and send reminders to settle dues, trans-fer of money, Recharge and pay bills instantly. SBI along with Accenture and Master Card, launched this new App.

Bandhan Bank launched in Kolkata

Finance Minister Arun Jaitley on 23 August inaugurated the operations of Bandhan Bank in Kolkata. The Bank is started with 501 branches in 24 states with 2,022 servicing centres and 50 ATMs, 1.43 crore accounts, around Rs. 10,500 crore loan book and 19,500 employees. Bandhan bank happens to be the first bank to come up in the eastern region since independence. Chandra Sekhar Ghosh is the Managing Director and CEO of Bandhan Bank.

ICICI Bank launched 'Smart Vault' digital locker facility

ICICI Bank on 18 August 2015 launched a new digital initiative called Smart Vault. Smart Vault is India's first automated locker facility with high-end robotic technology. It was launched by Managing Director (MD) and CEO of

ICICI Bank, Chanda Kochhar in New Delhi. In this digital initiative, robotic technology is used to access the lockers from the safe vault.

SCIENCE & TECHNOLOGY

Bharti Airtel launched its 4G services in 296 towns across India

On 6th August 2015, 4G high-speed data services were launched in 296 towns in pan-India by Bharti Airtel. The service will be made available to customers through Wi-Fi routers, internet dongles and 4G-enabled mobile phones. With this, Bharti Airtel, the largest telecom company of India, became the first company to offer pan-India 4G network. 4G service will be available to the customers at 3G prices with packs starting at 25 rupees. To provide the 4G services, Airtel has collaborated with mobile manufacturer major Samsung. In April 2012, Bharti Airtel launched the first 4G services in Kolkata and after that it is now available in 15 other cities of India.

NASA Probe discovers New Planet ‘Kepler-453b’

NASA’s Kepler mission has discovered a new planet known as ‘Kepler-453b’. It is the 10th planet discovered by the Kepler mission. The Planet’s radius is 6.2 times that of Earth and about 6 per cent larger than Neptune. It’s size indicates it is a gas giant, rather than a rocky planet and thus unable to have life on it.

New Search Engine developed by Indian-Canadian Anmol Tukrel

Anmol Tukrel, a 16 year old Indian origin canadian designed a new personalised search engine that is more accurate than Google search engine. He designed the search engine as a high school project and submitted in the Google science fair also. He took nearly 60 hours for this coding. This new search engine is 47 per cent more accurate than Google. Unlike most search engines that use person’s location or browsing history to show the results, this search engine tries to show the most relevant result by mapping it to a user’s personality.

ISRO Successfully launched GSLV – D 6

Indian space Research Organisation (ISRO) successfully launched it’s Geo synchronous Satellite launch vehicle (GSLV)-D 6 on 27 August, 2015. GSLV – D 6 successfully placed it’s most advanced GSAT- D 6 satellite in it’s designated orbit. The launch vehicle is having the complex cryogenic engine. which is made in India. The GSAT-6 satellite will provide S-band Communication services mostly to the defence sector. The Weight of GSLV – D 6 launching Vehicle is 414.75 Tonnes.

NASA spacecraft finds neon gas in Moon’s atmosphere

A NASA spacecraft has confirmed for the first time that the Moon’s thin atmosphere contains neon, a gas commonly used in electric signs on Earth because of its intense glow. This was published in the Geophysical Research Letters by

Benna, lead author of a paper describing observations from Lunar Atmosphere and Dust Environment Explorer (LADEE)'s Neutral Mass Spectrometer (NMS) instrument.

PERSONS IN NEWS

A). APPOINTMENTS

Om Prakash Rawat appointed as New Election Commissioner:

Madhya Pradesh cadre IAS officer Om Prakash Rawat was appointed as new election commissioner on 13th August. In the three member election commission board, Naseem Zaidi is the Chief Election Commissioner, Achal Kumar Joti is the one of the election commissioners and the vacant third place has been filled up with Om Prakash Rawat who belongs to 1977 IAS batch worked as Secretary at the centre and retired from his service in December, 2014. Om Prakash Rawat will be as election commissioner till December, 2018.

Sudhakar Shetty elected as President of Gymnastics Federation of India

Sudhakar Shetty of Maharashtra was elected as the president of the Gymnastics Federation of India (GFI) on 12 August 2015. He succeeds Jaspal Singh Kandhari. Elections for the four year term were attended by 35 members from 18 States and Units.

Ram Nath Kovind sworn in as new Governor of Bihar

Former Rajya Sabha member and a dalit leader Ram Nath Kovind was sworn in as new governor of Bihar on 15 August 2015. Acting chief justice of Patna high court Iqbal Ahmad Ansari administered oath to Kovind as the 36th governor of Bihar at a function at Raj Bhawan. Kovind, two term Rajya Sabha member and chief of BJP SC&ST wing earlier from Uttar Pradesh.

B). RESIGNS

Greek Prime Minister Tsipras resigned

Greek Prime Minister Alexis Tsipras has submitted his resignation to the President on 20 August and has called an early elections. Tsipras resigned his post as his leftwing Syriza Party was split over the terms of a 95 billion dollar bailout deal with its European creditors on 20 August. The election will be expected to be on 20 September.

Libyan PM Abdullah al-Thani resigned hours after peace talks restarted

On 12 August 2015 Prime Minister of Libya Abdullah al-Thani announced his resignation during a live telecast. He announced his resignation hours after fraught peace talks between the country's rival factions restarted. During the talk show Prime Minister Al-Thani faced a barrage of angry questions from citizens who blamed his government for the lack of basic services such as electricity and poor security in areas it controls. UN-sponsored round of peace talks

between Libya's warring factions that started on 12 August 2015 in Switzerland's Geneva aimed at creating a unity government, with representatives of the powerful Tripoli parliament joining the negotiations, ended without any resolution.

C). DEATHS

Colonel Harwant Singh (Retd), World War-II hero passes away

Retired Colonel Harwant Singh, a World War-II veteran and hero passed away in Patiala, Punjab on 4 August 2015. He was 95. He was commissioned in 2nd battalion of the Sikh Regiment of then British Army in September 1941. During the World War (WW)-II he had served in Palestine, North Africa, Iraq, Cyprus and Italy for the British Army. In 1944, he was awarded with the Military Cross (highest award of the British Army) for gallantry during an offensive against the German forces on the Gothic Line in Italy. During the first Independence Day celebration of 1947, he was officer in charge of the flag-hoisting ceremony held at Princess Park on August 15 and Red Fort on August 16.

Hero Cycles founder O.P. Munjal died

Om Prakash Munjal (87), the founder of Hero cycles died in Ludhiana on 13th August. O.P. Munjal started a bicycle spare parts business in Amritsar in 1944. In 1956, he started India's first bicycle manufacturing company 'Hero'. With the production of highest number of bicycles in the world, Hero company was in Guinness Book of World Records in 1986. O.P. Munjal was the first person to start the electric bicycles in India in 1990. O.P. Munjal was also elected as president for All India Cycle Manufacturer's Association (AICMA).

D). VISITORS

Prime Minister Narendra Modi visited UAE:

Prime Minister Narendra Modi visited United States of Arab Emirates (UAE) for a two days visit on 15th August, 2015. On his visit Modi visited the Sheikh Sayed Grand Mosque in Abu Dhabi. Modi focus on trade and counter terror measures in his official engagements. India and UAE elevated their relationship and agree to fight against terrorism and misuse of religion after bilateral talks between Modi and UAE Prince Sheikh Mohammad Bin Zayed Al Nahayan in Abu Dhabi on 17th August. The UAE agreed to increase investments in India to 75 million dollars (about Rs. 5 Lakh crore), while the two nations will raise trade to nearly 100 billion dollars in the next five years.

Five agreements signed between India and Seychells

The Seychells president James Michel visited India on 26 August 2015 for three day visit in the country. Five agreements including an information exchange agreement with respect to taxes memorandum of understanding for the supply of Dornier air craft a protocol on framework of cooperation in the field of blue economy and other agreements have been signed between the two countries.

E). MISCELLANEOUS

Indian-American Atul Keshap confirmed Ambassador to Sri Lanka

Indian-American Atul Keshap has been confirmed as the U.S. Ambassador to Sri Lanka and Maldives, becoming the second Indian-origin diplomat to be posted to the region after Richard Rahul Verma. Mr. Keshap (44), a former official at the US Embassy in India, was on 5 August 2015 confirmed by the U.S. Senate as the country's envoy which would be his first Ambassadorial posting.

PM Narendra Modi as one of the 'Most Viewed CEO' on LinkedIn:

Prime Minister Narendra Modi with over one million followers, created a record as 'the most viewed CEO in India'. Modi stood at first place in the list of most viewed CEOs on professional site LinkedIn. Modi is the third-most followed world leader on Twitter with 14.4 million followers.

'Yasutaro Koide' of Japan in Guinness Records as World's Oldest Person

'Yasutaro Koide' of Japan is in Guinness Records as world's oldest person on 21 August, 2015. Koide of 112 years belongs to the city of Nagoya of Japan. He was born on March 13, 1903.

PLACES IN NEWS

Mysore tops in Swachh Bharat rankings

Mysore in Karnataka has topped the Swachh Bharat rankings of 476 cities in the country based on the extent of open defecation and solid waste management practices. Mysore leads the pack with minimal open defecation and extensive adoption of solid waste management practices, followed by Tiruchi (Tamil Nadu), Navi Mumbai, Kochi (Kerala), Hassan, Mandya and Bengaluru from Karnataka, Thiruvananthapuram (Kerala), Halisahar (West Bengal) and Gangtok (Sikkim) in that order.

Kochi became first Indian city to join World Tourism Cities Federation Council

Kochi on 10 August 2015 became the first Indian city to be a member of Beijing headquartered World Tourism Cities Federation (WTCF) Council and join its league of leading tourism cities across the world. The invitation to Kochi to be the member of the council was sent to Kerala Tourism Department by WTCF, which was formally accepted by the department. The membership acceptance document was handed over to Chinese Ambassador to India Le Yucheng by the Kochi Mayor Tony Chammany.

Taj Mahal becomes the first Monument to join Twitter:

One of the wonders of the world, Taj Mahal became the first monument in the world to join the Twitter. Uttar

Pradesh Chief Minister Akhilesh Yadav launched the Tag # My TajMemory on 15th August, 2015 to invite lovers of Taj Mahal to share their best Taj Moments. Akhilesh was the first person to upload a picture of his Taj Moments. The Taj handle had generated over 2,500 followers within 3hours of the launch.

International “Fine cup of Coffee” award for Vishaka Agency Coffee estates

The “Arabica” coffee of Minumuluru estates belongs to Vishaka agency won the International “Fine cup of Coffee” award for the year 2014-15. This is the sixth award for this coffee from 2003. In 2010 this coffee won the “Flower of Indian Coffee” award. In Vishaka agency two types of Coffee are present called “kaveri” & “Arabica”.

Cochin airport becomes world’s first to completely operate on solar power

Cochin International airport has become the world’s first airport to be powered completely by solar energy. Chief Minister Oommen Chandy on 18 August 2015 inaugurated a 12 MW solar power plant at the airport. The plant comprising 46,150 solar panels laid across 45 acres in the cargo complex will enable Cochin airport to have 50,000 to 60,000 units of solar electricity every day for its operations.

ABBREVIATIONS

AMFI : Association of Mutual Funds of India

PMSBY : Pradhan Mantri Suraksha Bima Yojana

BBB : Bank Board Bureau

FIPIC : Forum for India Pacific Islands Cooperation

IAAF : International Association of Athletics Federation

PMVLK : Pradhan Mantri Vidya Lakshmi Karyakram

Books in News

Classic Gujarathi Novel “Saraswati Chandra” in English after 128 years:

After 128 years, a classic Gujarathi novel, Goverdhanram Tripathi’s “Saraswati chandra” is being translated into English by the director of Sabarmati Ashram, Tridip Suhrud. The novel was written between 1887 and 1901 by Tripathi in four volumes and laid the foundation of modern Gujarathi literature.

“Param Vir Chakra : The Ultimate Honour” by Amar Chitra Katha:

India’s largest selling comic book publisher, Amar Chitra Katha on the event of 69th Independence Day celebrations, released a special book on the 21 Param Vir Chakra recipients in the name of “Param Vir Chakra: The Ultimate Honour”. This book is a tribute to the recipients of highest military award in India. The book illustrates the stories of each hero’s life from childhood to the battle field.

COMMITTEES

SM khan Committee to assess situation in FTII

The Union Government on 19 August 2015 Constituted a three member Committee to assess the situation over the student protest in Film and Television Institute of India (FTII) in pune. The team will be headed by the Registrar of News Papers in India, S.M. Khan.

IMPORTANT DAYS & DATES

Oct – 2 : International Peace Day

Oct – 8 : National Airforce Day

Oct – 9 : International Post Office Day

Oct – 10 : National Post Office Day

Oct – 17 : International Poverty eradication Day

Oct – 21 : National Police Day

Oct – 24 : United Nations Day

JAVA

JAVA with **ANDROID**
JAVA on **CLOUD**



.NET with **CLOUD**

PHP

PHP on **CLOUD**

Embedded SYSTEM
EMBDROID
(Integrating-Embedded & Android)

VLSI
TECHNOLOGY

ROBOTICS

SQT

WITH QTP, QC, LR
DATABASE TESTING

MATLAB

ORACLE

10g Developer / 10g DBA
Oracle Apps R12

ANDROID
IPHONE



CCNA, CCNP
MCSE, MCITP

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PRO-E / CATIA

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