Vidya Vikas Education Trust's
Universal College of Engineering
Kaman - Bhiwandi Road, Vasai, Maharashtra
Accredited with 'B+' grade by NAAC, approved by AICTE, DTE
Recognised as Gujrati Linguistic Minority

CURRENT WAVES

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College Profile

Everything you need to know about us.

Embraced by lush greenery and scenic beauty, Universal College of Engineering is a treasured place for aspiring engineers to leave their imprints towards success.

As a college within the wider network frame, we are one of the fastest growing institutions in India. Our institute has been accredited by National Assessment and Accreditation Council (**NAAC**) with **B+ grade** in the first cycle of accreditation. Times of India Survey **Ranked No. 1** in India among Top Emerging Private Engineering Institutes for 5 consecutive years 2015, 2016, 2017, 2018 and 2019 and the saga of accolades still continues.

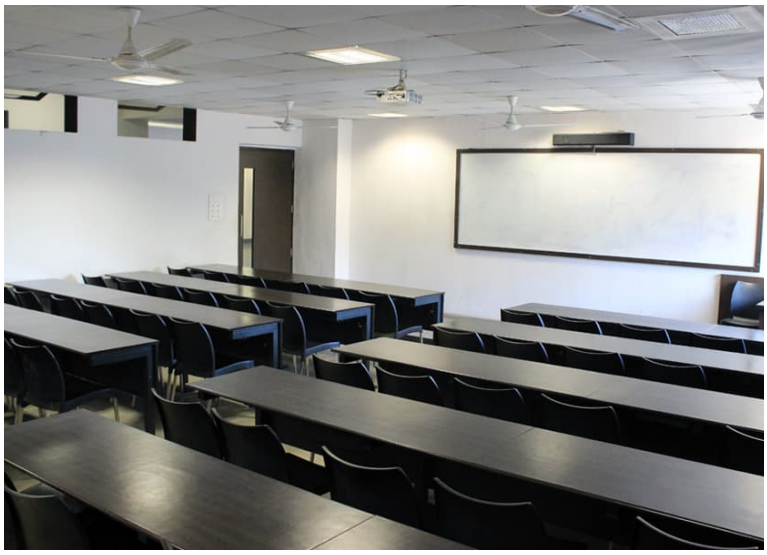
In response to the expectations of quality technical education, our college is approved by the All India Council for Technical Education (**AICTE**), New Delhi; recognized by the Directorate of Technical Education (**DTE**), Government of Maharashtra; affiliated to Mumbai University.

Our college is also associated with professional bodies like IEEE, IETE, ISA and CSI to update the revolutionary technological advancements.

ARTICLES INSIDE THIS ISSUE:

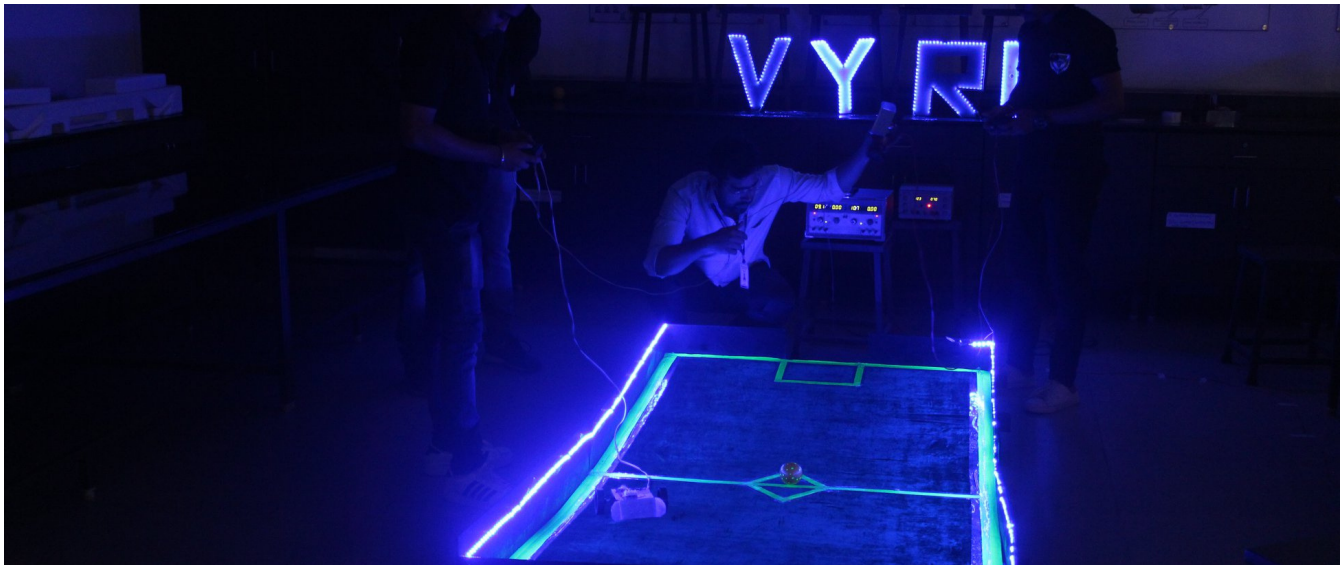
We offer 4 years full-time Bachelor of Technology in Computer Engineering, Civil Engineering, Artificial Intelligence & Machine Learning, Information Technology Engineering and Data Engineering.

The unique state-of-the-art facility of the institute has been carefully designed to accommodate the needs of the students. Laboratories are equipped with world-class facilities based on the latest technology of different sectors. Our smart classrooms are well ventilated, spacious and equipped with overhead and LCD projectors along with the public address system. College library provides a rich collection of specialist library resources and services to support students' academic work and enrich their research skills.



We are obliged to equip our students to get placed in highly reputed companies by mentoring their necessary skill set for cutting-edge technologies. The core highlighted areas are helping students with their technical competency, communication skills along with career guidance and counselling.

Universal College of Engineering has produced a large number of successful alumni who are working in reputed organisations in India and abroad and have contributed immensely to the cause of nation-building and society. We welcome all engineering aspirants to create an incredible legacy in the field of engineering.



The Sanitizer Conundrum

In this newsletter, we talk about the problem of plenty.

Business

The Story

Folks. It seems like we have too much sanitizer. That's right. According to an article in Bloomberg Quint, there's excess supply in the market pushing sanitizer prices lower each day. But this wasn't always the case. In fact, only a few months back we had a supply crunch that forced the government to cap prices and incentivize production.

As an article in Mint noted earlier this year—Manufacturers couldn't keep up. According to a market research report... half of 8,000 Indian consumers surveyed in March said they couldn't purchase sanitizers because there was a supply shortage; 26% of consumers were forced to buy brands they weren't familiar with. The prices too were rising exponentially—some hospital-grade sanitizers (i.e. those with alcohol content over 75%) were selling for up to ₹2,000 a litre. Sensing an opportunity, back-alley operators had started peddling fake and spurious products, involving plastic bottles, fake labels and bulk-bought sanitizers diluted with water or coloured liquids.

And so, the government was forced to incentivize legitimate producers to scale quickly. But alas, there was a problem. You can only scale so long as you have access to

key raw materials. Like alcohol for instance. No, not the McDowell's kind. We are talking about the real stuff. The original product—Ethyl Alcohol or more commonly referred to as Ethanol. Without Ethanol, the scheme doesn't work. So where does one procure this stuff?

Well… It's complicated. Ethanol is a complex derivative you extract while processing sugarcane. But that's a broad definition. You can extract it from sugarcane juice. You can extract it from molasses—the black viscous product you derive from refining sugarcane. Or you can even extract it from the likes of corn, bamboo, and rotten potatoes. And so if you really want to get your hands on this stuff your best bet is to find a sugar mill near you and ask them to hook you up.

But luckily for us, sugar mills were already producing ethanol by the bulk, thanks to the government's insistence on using ethanol as an alternative fuel. So producing ethyl alcohol was never a challenge. However, when sanitizers became a priority, the central government had to ask states to divert ethanol supply to manufacturing plants that actually produced sanitizers. Even sugar mills that owned distilleries were prodded to start churning out this stuff.

As another article in the Hindu notes—With the market for hand sanitisers expanding with COVID-19, sugar mills have got into production of the sanitiser. They do not have to invest in additional facilities and the production norms are prescribed by the government. The distribution channel is also in place and there is no shortage in availability of molasses or alcohol.

And so the government granted them temporary licenses to get in on the act and before you knew it everybody was making sanitizers. But wait, that's not all. The government was so wary of an impending supply crunch that they even diverted excess rice (stockpiled at Food Corporation of India-FCI) in a bid to boost ethanol production for hand sanitizers. This pissed off a lot of people considering they weren't throwing away rotting rice, instead, using rice that they deemed were excess stockpiles. As Jean Dreze, the prominent Indian economist wrote—

Consider Jharkhand. Millions of people there live on the margin at the best of times, and are now exposed to hunger and starvation. Eight lakh households have applied for a ration card, and chances are that most of them are poor households—one often meets them in the villages, sadly clinging to their crumpled application receipts. The Jharkhand government, however, is reluctant to issue ration cards beyond what the central government provides for—its finances are in bad shape and tax revenue is likely to crash this year. Covering all these households for a year or two, as an emergency measure, would make just a tiny dent in the FCI's food stocks. The Jharkhand government recently sent a request for additional foodgrain to the Food Ministry, but it was turned down.

Anyway, the point is we devoted so much resource to producing hand sanitizers that we now have too much of this stuff. Perhaps the only upside is that everybody can afford these things and hopefully, it'll help us beat the virus.

The Great Government Gift

In this newsletter, we talk about the government's new plan to revive demand.

Policy

The story

How does one revive the economy?

It's a complicated question especially considering the pessimism surrounding Covid-19. People aren't spending like they used to. Businesses aren't investing like they used to. And there is a very real risk that India might slip into a recession and stay there for a while. So its incumbent on the government to do something. They have to instil confidence in people and businesses and they have to do it now.

But how do you spur demand when there's so much doom and gloom surrounding the economy. The national unemployment rate is at 8.35% (as on August). While it's better than the 23% we saw back in April, it's quite likely that these people are entering the workforce at lower wage rates. Also, Jan Dhan accounts tell you that people are preparing for the worst. They are saving record amounts of money and aggregate bank deposits have increased by ₹6.8 lac Crores since April 2020, compared to an increase of ₹1.5 lac Crores in the same period last year.

Understanding Leave Travel Concession (LTC)

The government thinks all its employees deserve to go out and enjoy a nice vacation every now and then. And in a bid to incentivize them, the state also offers these employees paid leaves and they compensate them for any additional travel expenditure they might incur. Obviously, there are caps and restrictions on how you can use and claim these benefits but the underlying premise is simple—Govt employees need leisure time and a small portion of their salary component ought to be reserved for this purpose.

But what happens when you can't travel or you don't want to? Well, in that case, you can encash the LTC benefits i.e. take cash upfront. Once again there are caps and limits on how much you can encash but that provision is still available.

But what happens when you want to travel, but can't do it because of a pandemic. That is a unique situation and deserves special consideration. So the government has an exciting proposal for all the employees who haven't been able to go on those vacations and travel to their heart's content. If you have leaves you won't be able to put to good use, then you can ask the government to be paid in cash. After all, you were promised to be paid for these days even if you didn't work. And a promise must be kept. And those travel benefits? Well, you can encash them too. But the exact semantics and the calculations involved are slightly complicated. We don't quite understand how it's done. But we promise we will get back to you. Maybe tomorrow.

But what we do know for certain is that you must spend actual money before you can claim and encash your LTC. And you can only spend it on items that attract a GST of 12% or more. Also, it will have to be a digital transaction and you'll be expected to provide an invoice. So yeah, it's not going to be a walk in the park.

But the government wasn't finished. They also announced a special festival advance scheme and it's quite interesting actually.

So the story goes that all central government employees can now avail an interest-free advance of ₹10,000 in the form of a prepaid RuPay Card. Meaning it's not free money. It's simply a loan of sorts and the government will recoup the full principal eventually. Also, you can't plonk it in your savings account since it's on a prepaid card remember? So technically you'll be forced to spend it and you'll have to do it by March 31st 2021, at which point I am assuming the card will stop working. The government also promised to offer loans worth ₹12,000 crores to states in a bid to get them to spend on land, machinery, and people. The hope is that all of this spending will put a dent on the aggregate demand and help India recover from this crisis.

AI research in India?

In this newsletter, we talk about Artificial Intelligence and the government's ambitious AIRAWAT project.

Policy

The story

Earlier this month PM Modi addressed a virtual summit on Artificial Intelligence—RAISE 2020. The discussion largely centred on India's potential as a rising power in the field of Artificial Intelligence and how it can be used to promote the public good. However, despite the promising address, it's safe to say that India is lagging quite considerably in the race for AI domination.

India stands at the tenth spot among countries filing AI-related patents, in a list dominated by the US, China and Japan. And considering artificial intelligence is often compared with civilization changing technology like electricity and the internet, India cannot afford to be complacent.

But here's the thing—AI research cannot progress unless we have the infrastructure to support said research.

For instance, computers can only think and process information like humans if they are allowed to learn from tons and tons of data.

As we wrote in one of our articles earlier this year.

For the past few years, a data revolution of epic proportions has changed the way businesses think and function. Netflix wants to build a recommendation strategy for its millions of users. Uber wants to foresee demand using rider patterns. Google wants to create the most powerful chess engine that has ever existed.

And as a consequence, you're constantly looking at developers building complicated models to glean insights from large data sets. Big companies training computers to solve problems using learning methods that mimic the human experience. And institutions flush with cash, actively seeking solutions that could help them expedite this process.

So in effect, AI research is expensive and requires a lot of investment in building cutting-edge processors and research facilities. Normally this kind of cost is borne by billion-dollar corporations like Google or IBM or start-ups backed by wealthy investors. But waiting for private investors to walk in and nurture AI research in India is a bit like waiting for a fairy godmother. And since we know India lacks a robust AI research ecosystem, it's perhaps incumbent on the government to push this initiative.

And this is where India's ambitious project AIRAWAT comes in. Under the AIRAWAT initiative, the government plans to build a series of supercomputers with the help of microprocessor manufacturers, like NVIDIA and Intel. The supercomputer facilities will be hosted at various academic institutes like IITs, IISc, etc and these academic institutes will be at the forefront of AI research.

They are also expected to act as guides and mentors for other institutes in this domain. Say, for instance, helping AIIMS to develop AI-based solutions for healthcare and other applications. You get the idea. Also, these facilities will act as incubators of sorts for start-ups and early-stage companies. And the government is banking on this "democratic access model" to invigorate the AI ecosystem in India.

If you're wondering whether this is unique to India—No. This isn't a one of a kind initiative. AIRAWAT is being modelled after the Summit and ABCI facilities in the US and Japan, respectively. Both of which are run by state-sponsored research institutes. And like in other countries, AIRAWAT is also expected to complement our current mandate of building 70 high-performance computing facilities in India. Currently, we have just two supercomputers among the 500 best supercomputers in the world—226 of which are in China, and 113 in the US. With AIRAWAT, the hope is that India can also compete with these superpowers.

But won't AI disrupt the workforce and deskill people? Won't this put Indians out of jobs? Well, even if you were to assume that AI will have this effect, do bear in mind, these jobs will move out of India if other countries get a head start. So perhaps the only thing you can do is to make sure you don't miss the bus completely.

VidyaVikas Education Trust's

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