Welcome fee hike

IITs & IIMs need to focus on more research

Engineering education in the country, particularly in its premier institutions, has just got costlier. This is a welcome development and is in tune with the recommendations of several committees which wanted to reduce the institutes’ dependence on the government to meet recurring costs. Care has also been taken to ensure that the fee hike does not impact students from underprivileged backgrounds — while increasing the annual fees of the undergraduate programme at the Indian Institutes of Technology (IIT), the IIT Council has waived tuition fees for scheduled castes and tribes and those with annual family income of up to ₹1 lakh. For those with family incomes below ₹5 lakh, two-thirds of annual tuition fees will be waived. The fee hike also became inevitable after Budget 2016 proposed a new funding pattern for publicly funded institutes. The Budget proposed setting up a Higher Education Financing Agency, a quasi-sovereign body which will tap bond markets and then lend the proceeds to educational institutions. The plan was that while the operational expenditure of these educational institutions would be met with the help of their internal resources, their capital expenditure would be met through borrowings to be made by the proposed agency.

In a parallel, though unrelated move, some of the country’s top management institutes have also effected a steep seven to 10 per cent increase in the fees of their flagship postgraduate programmes. This was inevitable for keeping pace with inflation. In many cases, the latest round of fee hikes has narrowed the gap between the older IIMs and the newer ones. This again is a desirable step as large subsidisation of students who pass out from these top institutes isn’t required — and, in any case, there are adequate fee waivers for students with economically challenged backgrounds. The human resources development ministry of course had little role to play in this as the draft IIM Bill, which would have given it a say on every important matter including fee hikes, is, thankfully, in cold storage.

While fee hikes are welcome, the IITs and the IIMs should focus more on how to improve the quality of their institutes as centres of excellence. Their performance in the areas of consultancy and patents have been inadequate and they would do well to focus on this if they are serious about increasing their financial autonomy. More importantly, the quantity and quality of research output and generation of indigenous teaching material and books from these institutes in comparison with the better schools globally have not been up to the mark. Most IIMs, for example, still use foreign material for teaching as there hasn’t been enough emphasis on research. These institutes also need to change their business model as the current method, in which the institute funds its operations by cranking out multifarious programmes, is reaching its natural limit given the constraints on faculty.

On its part, the government would do well to curb its constant urge to micro-manage them as was evident in the draft IIM Bill. Instead, the ministry should focus on how to create an enabling environment for them. One obvious area would be to allow market-linked salaries to their directors and senior professors so that patriotism alone is not the main motivator for people taking up these jobs.
Indian Institutes Get Choosy with Foreign Faculty for Short-term Courses

New Delhi: Over 200 proposals made by foreign faculty to teach at Indian institutes under the Centre’s GIAN scheme have been rejected by the committee of academic experts when found they did not meet quality standards or bring adequate value addition to the classroom.

The Smriti Irani-led HRD ministry had launched the Global Initiative for Academic Network (GIAN) scheme last year in a bid to bring international academics to the Indian campus for greater academic exposure to both students and faculty. The Centre has broken GIAN with financial incentives on par with what China offered global academics to teach at their varsities—offering a remuneration ranging from $8,000-$12,000 to teach at IITs, IIMs, Central Universities, NITs and state universities as well.

From a total of 1236 proposals made by foreign faculty under the GIAN scheme, as many as 200 were rejected by Chairman of ‘Sectoral Committees’—12 sector specific committees manned by experts from IITs, IIMs, Indian Institute of Science and even retired professors.

Three of the courses were even withdrawn when found not satisfactory. In five cases, the foreign faculty declined to hold the courses largely due to unavailability of dates that matched the institute’s academic calendar. Data accessed by ET shows, till date, 409 courses by foreign faculty have been approved.

“Yes, we do reject courses if they do not fit into our scheme of things or are simply not good enough. West Sectoral Committees are going purely by merit and value of the course proposed. Just because someone is from a foreign varsity does not mean the course will be accepted. We want distinguished foreign faculty to teach at the institutes in India and enrich the academic atmosphere and make significant value addition. Sometimes the faculty may be good also but the course may not suit us, hence rejection,” a chairman of a Sectoral Committee that looks at GIAN proposals.

IISc-IITs to formulate comprehensive policy

NEW DELHI, DHNS: The Indian Institute of Science (IISc) and 16 Indian Institutes of Technology (IITs) are drafting a “comprehensive policy” for science and technology education in schools and institutions of higher learning.

The Ministry of Human Resource Development (HRD), which is in the process of finalising a national education policy, has assigned the task to these premier institutions, with an aim to introduce a “sound” academic foundation and facilities for innovation and research, starting right from the schools.

In a joint initiative, IISc and the 16 IITs are piloting a pan-India programme—‘Imprint-India’—to support development of innovative and sustainable engineering and technology solutions required to meet India’s requirements.

Security and defence, healthcare, information and communication technology, energy, sustainable habitat, nano-technology hardware, water resources and river systems, advanced materials and environmental science and climate change are among the 10 different domains identified for supporting innovation and research under the programme.

The HRD ministry has entrusted the Imprint-India team to come up with a comprehensive policy document which can impact education and research in the chosen ten domains of national importance keeping in view the future of the country.

“They have been mandated to come up with an education policy from school onwards, which is in coherence with the mandated domains of the Imprint-India programme. For schools, the focus of the mega exercise is to prepare a road map on how do we introduce topics of national interests at primary, secondary and higher secondary levels,” official sources told Deccan Herald. At the level of higher education, the IISc-IITs team is expected to suggest measures on various aspects including aligning of undergraduate, Masters and PhD programme with themes chosen for research in 10 different domains identified under Imprint-India programme.
IISC SET TO BECOME ZERO-WASTE CAMPUS WITH BIOFUEL PLANT

A bio-methanation plant on campus will convert waste into bio-gas for hostels

While at least two bio-methanation plants are closing down in the city due to non-payment from Bruhat Bengaluru Mahanagara Palike (BBMP) and contractors have threatened to close down more in the coming days, the city-based Indian Institute of Science (IISc) has decided to set an example by taking a lead in that very direction.

The IISc is setting up a bio-methanation plant to convert green waste into bio-gas, which in turn would be used as fuel within the campus itself. By doing so, IISc is aiming at zero waste going from the institute to the city's landfills or the waste processing units, as planned by the BBMP following people’s failure to segregate waste at source.

According to Prof JM Chandra Kishen, spearheading the efforts by the Centre for infrastructure, Sustainable
Transportation and Urban Planning (CiSTUP), the project will be model to be emulated by institutes across India.

Kishen said: "Many faculty members at the IISc are working on different problems; we would like to integrate all of them and come out with certain guidelines that can be emulated by other institutes."

The project — Solid Waste Management Initiative at IISc (SWaMII) — started with segregating waste at the source itself in each department of the institute where five coloured bins are set up to dispose wet waste, non-biodegradable dry waste, biodegradable dry waste, e-waste and sanitary waste.

The project currently handles solid waste from 14 departments and 250 residencies from within the institute premises.

The segregated waste is collected by SWaMII volunteers and transferred to a recovery facility on a daily or weekly basis. While some waste is locally composted, dry waste is recycled and sanitary waste disposed of in accordance with guidelines of the state pollution board. "All green waste will get into a bio-methanation plant. We will produce gas which will be sent to the hostel messes for cooking. We are looking at a sustainable model," Kishen said, adding the facility will occupy an area of 2,000 square feet.

**IISc innovations: Saltwater lamp sensors to check heart, lungs**

[Provider Name]

BENGALURU: The Indian Institute of Science (IISc) which has recently been ranked the best university in the country has been buzzing with research innovations for years. In the latest, TOI looks into four innovations that are taking shape at, or, come out recently from the 107-year-old institute.

**Solar water purifier & saltwater lamp**

An IISc start-up, SuryaGen, has come out with a low-cost solar water purifier and a salt water lamp. Professor Vasant Natarajan, from the Department of Physics in IISc, whose brainchild SuryaGen is, said: "The solar water purifier can transform water from any source - be it from sea, river, pond, wells, or even water collected from rain - into potable water."

Impure water is evaporated using solar energy and the vapours are condensed to pure water on a cold surface. This leaves behind bacteria, heavy metals, arsenic, fluoride and other impurities. It can produce 1.5 litres of potable water from 3 litres of impure water.

The saltwater lamp, he said can power 12 LEDs with just half a litre of water and 2 tablespoons of salt. It is suitable for remote areas where grid facility is not available.

**Novel sensor to check on heart & lungs**

A team of researchers have developed a novel sensor they claim can simultaneously measure both cardiac and respiratory activities. The new device is non invasive, and can be wrapped around a person's chest. It can help in early clinical diagnosis of many conditions associated with lung and cardiac health. The device is robust, portable, shock-proof, non-electric.

Called the Fibre Bragg Grating Heart Beat Device, it is based on an optical fibre sensor known as a Fibre Bragg Grating. S
Asokan, Professor at Department of Instrumentation and Applied Physics led the team. They’ve also developed sensors for various healthcare applications including measuring blood pressure, cardiac markers, blood glucose levels.

“The simultaneous detection of cardiac and respiratory activities with a single device helps in decoding the abnormalities connected to lungs and heart dysfunction. One of the most desirable advantages of this instrument is that it can be used for the detection of original heartbeat shape (Nascent Morphology),” says K Chethana, a member of the team.

Bacteria-free water

With deaths due to water related diseases on the rise globally, high efficient water filtration that is affordable is gaining importance. A research team at IISc claims to have a solution. It has designed a membrane which can almost eliminate bacterial contamination from water.

The newly designed membrane is made of polyethylene, which has several advantages like low cost, strength, durability and stability. It also prevents biofouling - accumulation of micro-organisms on the membrane, which blocks the membrane and increases the overall time, cost and energy required for water purification.

To make the three dimensional porous membrane, the scientists mixed the polyethylene oxide (PEO) with polyethylene during the manufacturing process, and later created tiny pores. Biocidal agents are chemical or biological agents used to kill unwanted organisms.

A large portion of the porous membrane is covered with graphene oxide sheets which are efficient and safe biocidal agents with potential to kill bacterial contaminants. Unlike other biocidal agents like silver, graphene sheets are non-leaching and non-depleting and thus are safe for use in filtration procedure.

Trestor and IIT Bombay students have the perfect solution to Mumbai’s difficult water situation


It was in October 2, 2015 that the Narendra Modi government started the Swachh Bharat Abhiyaan or Clean India Mission. It is 2016 and yet Clean India is far from reaching its vision. The problem is with our mindset. Hence, Trestor in collaboration with some IIT Bombay students created Swachh Machine to incentivise people to participate in the mission. It is every bit as clever as it sounds!

The idea: for every recyclable waste item one puts inside the machine, they will be rewarded with a digital value token called ‘trest’, which can be exchanged for 300 ml of clean drinking water. At a time when the city of Mumbai is heading towards a drought like situation, this comes as a boon.

"Through our Swachh Machine, we intend to inculcate a culture of cleanliness among the people of Mumbai," said Kunal Dixit, founder of Trestor, a startup that is using the concept of bitcoin to connect the community.

You do not need a smartphone to receive the token, you can also take a printout of it and use it. It has been installed at IIT Bombay and the results have been remarkable.
"The aim is to install it in every available public space like railway stations, bus stops, roadsides etc. We target to install 5000 machines every month by the end of 2016," said Kunal.

The machine has 3 compartments, one for bottles, one for cans and one for things which are not bottles or cans. The machine detects the waste and generates token. Though one can put non-recyclable waste too in it, one does not get any trest in return. The machine reduces the waste to one-sixth of its size. When it reaches 80% of its capacity, it sends an SMS or a voice note to the administrator.

The starting cost of one machine is Rs. 50,000. The price can go as high as Rs. 1 lakh depending on the customisation one needs.

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30 govt school principals undergo training at IIM-L

NEW DELHI: Principals of 30 Delhi government schools are undergoing a five-day training programme at Indian Institute of Management, Lucknow to learn leadership and strategic management skills to bring in improvement in education.

"We are learning new things at IIM here. I am enjoying my training. At the session, we are being taught how to generate capability of good leadership, which I will use in my school. This is a good exposure for principals at the session here," Principal of Rajkiya Pratibha Vikas Vidyalya in Yamuna Vihar, Rajpal Singh said over phone from Lucknow.

Singh said he was happy to learn new things which he did not get to know in the last 25 years.

During the programme, participants will be trained in "Leadership and strategic management for quality improvement in education".

As part of its teachers training initiative, Delhi government recently decided to send 90 principals of the government-run schools to the Cambridge University in the United Kingdom for a leadership training exercise. Delhi government, in the budget, has allocated Rs 102 crore for international training of principals and teachers.

"As a first step, 90 principals will be sent to the Cambridge University in three batches. This training or education leadership programme will span over 10 days.

PTI
SC restores single test for medical admission

R SEDHURAMAN
LEGAL CORRESPONDENT

NEW DELHI, APRIL 11
The Supreme Court today restored the National Eligibility-cum-Entrance Test (NEET) for admissions to undergraduate and postgraduate medical courses such as MBBS, BDS and MS and MD.

A five-member Constitution Bench headed by Justice Anil R Dave revived NEET by recalling the apex court’s July 18, 2013 judgment delivered by a three-member Bench, which was led by then Chief Justice Altamas Kabir, who retired that day. Justice Dave was part of that Bench, but had given the dissenting ruling in the 2-1 split verdict. The 2013 ruling had come on petitions by private medical colleges against the NEET.

Today’s order came on review petitions by the Medical Council of India, Dental Council of India, which had introduced NEET in 2012, and the Government. The Bench, however, clarified that the validity of NEET would be decided afresh by a Bench comprising five or more judges to be constituted by Chief Justice TS Thakur.

Asked if NEET stood restored, the Bench said: “That is the natural consequence.” NEET would be in place until any SC ruling to the contrary. The Bench said the 2013 ruling “needs reconsideration. We do not propose to state the reasons in detail at this stage”, as doing so would prejudice the hearing.

The SC had in 2013 quashed the notification on NEET, holding that the test would deny a level playing field to students in view of the disparities in educational standards.

However, no national entrance exam this year

New Delhi: The NEET for medical colleges won’t be held this year despite Supreme Court’s orders to restore the test. Still in the process of understanding the ruling, Health Ministry officials said NEET can’t be held for the 2016 session and will be held only from next year. “The process of admissions starts around December. Many entrance tests have been held. AIPMT is scheduled for May 1. Processes for this year’s admissions have been set in. NEET can now only be held from the next year,” a top official said.

The ministry, meanwhile, described the SC orders as a “huge win” for the government stand on a single test to reduce the burden of multiple examinations on students. — Aditi Tandon

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