Newspaper Clips
September 21-22, 2014

September 21

Hindu ND 21/09/2014
P-2

IIT-Delhi to unveil new MBA curriculum

NEW DELHI: The Indian Institute of Technology-Delhi's Department of Management Studies will soon unveil a new MBA curriculum to catch up with the world's best in business management, officials said on Saturday.

Workshop

The announcement came after the IIT organised a "MBA Curriculum Review Stakeholders' Consultation Workshop" in a bid to respond to the changing times and catch up with the world's best in business management education.

The new curriculum based MBA programme is likely to be rolled out from the academic session beginning July 2015. — IANS

Hindustan ND 21/09/2014 P-08

आईआईटी में बाजार की मांग के मुताबिक एमबीए

पहल

नई दिल्ली | एजेंसी

आईआईटी दिल्ली में एमबीए की पढ़ाई बाजार के मुताबिक होगी। प्रबंधन अध्ययन विभाग(डीएमएस) पाठ्यक्रम में बदलाव की तैयारी कर रहा है। नए सत्र में नए पाठ्यक्रम के अनुसार एमबीए की पढ़ाई कराई जाएगी।

इस संबंध में शनिवार को संस्थान ने एमबीए के पाठ्यक्रम की समीक्षा पर कार्यशाला का आयोजन किया। कार्यशाला में उद्योग के हितों व मांग के हिसाब से पाठ्यक्रम विकसित करने पर जोर दिया गया। पूर्व छात्रों, छात्रों और उद्योग जगत से मिले आंकड़ों की समीक्षा की गई। इस अवसर पर आईआईटी गुवाहाटी के चेयरमैन डॉक्टर आर.पी. सिंह ने कहा कि नया पाठ्यक्रम पेश करना, मौजूदा पाठ्यक्रम को अद्यतन करना और कक्षा में पढ़ाने की विभिन्न पद्धति अपनाना एक बिजनेस स्कूल के लिए आवश्यक है।

एनटीपीसी के चेयरमैन अरूप राय चौधरी ने कहा कि कॉरपोरेट दुनिया में बदलती मांग से तालमेल बिठाने के हमारे मिशन के साथ विभाग ने अपने पाठ्यक्रम की समीक्षा करने का निर्णय किया है।

Amar Ujala ND 21/09/2014 P-09

डॉ. पाल को खोसला नेशनल अवार्ड

रुड़की (ब्यूरो)। आईआईटी रुड़की के 14वें दीक्षांत समारोह में लाइफ टाइम एचीवमेंट इन इंडिया के तहत आईआईटी दिल्ली के फिजिक्स डिपार्टमेंट के प्रोफेसर डॉ. बीपी पाल को खोसला नेशनल अवार्ड प्रदान किया गया। कंप्यूटर साइंस एंड इंजीनियरिंग के क्षेत्र में नवीनतम एवं सृजनात्मक कार्यों के लिए आईआईटी बांबे के डॉ. पुष्पक भट्टाचार्य को वीएनएमएम अवार्ड से सम्मानित किया गया।

Navbharat Times ND 21/09/2014 P-06

IIM से ऑनलाइन कोर्स

आईआईटी, आईआईएम जैसे देश के टॉप मोस्ट इंस्टिट्यूट से घर बैठे डिग्री लेने का सपना अब पूरा हो सकता है। एचआरडी मिनिस्ट्री ने एक प्रोजेक्ट शुरू किया है, जिसके तहत आईआईटी, आईआईएम और सेंट्रल यूनिवर्सिटी ऑनलाइन कोर्स ऑफर करेंगी। इसके पहले फेज में चार आईआईटी, दो आईआईएम और तीन सेंट्रल यूनिवर्सिटी शामिल हैं, जो इसी साल से ऑनलाइन कोर्स शुरू कर देंगी। अभी 5 सब्जेक्ट पर ऑनलाइन कोर्स ऑफर होंगे। पहले फेज में आईआईटी बॉम्बे, आईआईटी चैन्ने, आईआईटी कानपुर, आईआईटी गुवाहाटी, दिल्ली यूनिवर्सिटी, जवाहर लाल नेहरू यूनिवर्सिटी, बीएचयू, इग्नू, आईआईएम बेंगलुरु और आईआईएम कोलकाता ऑनलाइन कोर्स ऑफर करेंगे।

No move to dissolve UGC, says commission member

http://timesofindia.indiatimes.com/city/pune/No-move-to-dissolve-UGC-says-commission-member/articleshow/42935451.cms

PUNE: University Grants Commission (UGC) member D N Reddy on Friday ruled out any move to dissolve the commission in favour of some other regulatory body for higher education in the country.

"The present (NDA) government is thinking of restructuring the UGC. However, there is no move to scrap the commission," Reddy said, while responding to the concerns raised by the representatives of open and distance learning (ODL) institutes.

Reddy said, "An expert committee assigned by the HRD ministry under a former UGC chairman is currently working on the restructuring plan, which is much required considering the changes the higher education in the country has gone through over the last several years. The number of colleges and universities has gone up rapidly over the years."

"When the UGC Act was passed in 1956, the number of colleges in the country was 100s but now, we have over 38,000 colleges and 600 universities. The universities are expected to go up to 1,000. As such, restructuring of the commission is needed to address various issues on account of such expansion of higher education," he said. An expert panel, headed by R P Agrawal, former secretary to HRD ministry, was looking into the amendments to the UGC Act, he added.

Last year, the HRD ministry transferred the regulatory functions for ODL universities and institutions to the UGC after the Distance Education Council (DEC), which was performing the regulatory functions as a constituent unit of the Indira Gandhi National Open University (IGNOU), was dissolved. A set of interim regulations were prepared by the N R Madhava Menon committee and the same are being implemented by the UGC's Distance Education Board.

Reddy conceded that there is no clarity yet on various regulatory norms for ODL institutes and for offering technical education through distance education board. "The Supreme Court has already said the All India Council for Technical Education has no powers to regulate technical education. The report of the HRD ministry's Madhava Menon committee on reforms in distance education is to go to the Parliament for approval in the form of an enactment for a new regulatory authority for distance education. We expect a clear picture to emerge by December when the regulatory authority and apt regulations will be in place."

He said, "The reforms committee's recommendations are excellent from both, the government and the institutes' point of view but, much would depend on how much the government adopts and translates into the act for the proposed regulatory authority."

Deemed universities question UGC's panel review method

http://timesofindia.indiatimes.com/india/Deemed-universities-question-UGCs-panel-review-method/articleshow/42944419.cms

NEW DELHI: The saga of 41 deemed universities, found unfit to be university by the Tandon Committee of 2009, took a new turn on Friday as counsel of a few deemed universities told the Supreme Court that the latest UGC panel reviewed them on the basis of just video presentation and not physical visit to the campus.

The Supreme Court has asked the UGC to reply by Tuesday when it will hear the issue. Unease among 41 deemed universities put in the 'C' category by the Tandon committee emanates from the fact that the UGC Committee, set up at the behest of the apex court, to review them has, in turn, created three sub-categories—'A', 'B' and 'C'. 'A' sub-category consists of less than 10 deemed universities which have been found fit to continue as university. 'B' sub-category consists of more than 15 deemed universities which also can continue as deemed university after fulfilling few conditions and 'C' sub-category has about ten institutions that will have to forgo the deemed university status and get affiliated to any university.

The UGC report will be discussed in the full meeting of the commission next Monday. But those who fear to be in the 'C' sub-category are complaining about the method adopted by the panel. Their plea is that the Supreme Court should give directive for physical review of infrastructure rather than depending on video presentations. They also pointed out that the UGC itself has changed its stance. Earlier UGC was in favour of an on-site review but was not inclined for it when the Supreme Court asked it to review 41 'C' category deemed universities.

In fact, many of the deemed universities feel that since the Tandon Committee did not physically verify infrastructure and other facilities, an overall review is the only way out.

Few UGC members are also of the view that the committee should not have relied on presentations alone. They are likely to raise the issue during the full commission meeting next week.

Times of India ND 21/09/2014 P-09

For Mars mission experts, safe mode means danger

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Chennai: After 300 days and 650 million km, as India's Mars Orbiter Mission (MOM) spacecraft gets into the last lap to the Red planet, a term the scientists have begun to hate hearing is, ironically, 'safe mode.'

A spacecraft goes into safe mode when it encounters a strong cosmic current or a flare. When this happens, the spacecraft positions itself to keep its antenna looking at Earth for signals and solar panels at sun for energy, and shuts down all 'non-essential' systems. This is not unusual—on September 11, Nasa spacecraft Dawn went into safe mode and was soon revived.

But if it happens to MOM during the last leg of its journey, scientists would have very little time to 'wake up' the craft and get it into the Mars orbit. Failing to reactivate the spacecraft to normal mode would mean MOM flying past Mars to outer space.

"Safe mode is one of the most unpredictable events in spacecraft navigation," says T K Alex, former director of Isro's Satellite Centre. "You never know when an electric streak can strike in deep space." All modern spacecraft are designed to go into safe mode to protect itself from further damage. Once the danger is over, mission control on earth gives commands to reactivate the spacecraft. Nasa's Dawn, which is on its way to orbit the dwarf planet Ceres, was thus reactivated twice in the past three years.

MOM project director S Arunan is confident and cautious when he says that so far the Indian spacecraft has not gone into safe mode.

"Getting MOM out of safe mode is no big deal," says Arunan. "But if it happens during the last day, we will be hard-pressed for time."

This is because scientists have already uplinked all commands for the final manoeuvre for MOM to get into the Martian orbit on September 24. A safe mode event would mean these commands not being carried out. And scientist will have to recheck the commands and, if needed, uplink them afresh. All these have to be done before the spacecraft reaches the orbital vicinity of Mars. Adding to the challenge will be the 12-minute one-way time lag for radio signals between Earth and MOM.

A spacecraft goes into safe mode when it encounters a strong cosmic current or a flare and shuts down all 'non-essential' systems. But if it happens to the Mars Orbiter Mission during the last leg of its journey, scientists would have very little time to revive it, which would mean MOM flying past Mars into outer space

September 22

Asian Age ND 22/09/2014 P-3

IIT Council may change eligibility criteria today

AGE CORRESPONDENT
NEW DELHI, SEPT. 21

The IIT council, which is scheduled to meet on September 22, is likely to change the eligibility criteria from the existing top 20 percentile to top 20 percentile or 75 per cent marks in the Class XII board exam, whichever is lower. The meeting, to be chaired by Union human resources development minister Smriti Irani, is likely to overturn the top 20 percentile system introduced during the UPA-2 regime by the then HRD minister Kapil Sibal in 2013. The controversial 'percentile system' that decides students' eligibility for admissions into the IITs may be changed with the Joint Admission Board (JAB) of the premier technical institutions recommending the change for a seat in the IITs.

The recommendations came in a meeting of Standing Committee of IIT Council, a sub-committee of the IIT council last week, sources said. The top 20 percentile system required successful candidates to be among the top-20 percentile scorers in Class 12 exams of their respective boards, in an attempt to make students focus on their Class 12 exams. This rule had created a controversy as there was huge variation in the cut-off marks of different boards and had resulted in 80 students mostly from Andhra Pradesh missing a seat in IITs despite qualifying the entrance examination, as they had failed to figure in the top 20 percentile.

Hindustan Times ND 22/09/2014
P-11

IIT Council to meet, take a call on UGC standoff today

HT Correspondent
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NEW DELHI: The standoff between the IITs and UGC on IITs discretion to structure on their courses will be discussed in the annual meeting of the IIT council, the apex decision-making body of the IITs in Chennai on Monday.

The council, which has three Members of Parliament, the Chairmen of all IITs, the Director of IISc as its members, will meet under the chairmanship of HRD minister Smriti Irani.

In the meeting, the IITs are likely to oppose UGC's move to regulate their courses in accordance to UGC guidelines.

UGC, which an apex regulatory body for higher education in the country, had shot off a letter to all IITs on July 12 asking them to conform to degrees recognised by it saying unspecified degrees could lead to a barrage of litigation.

UGC's letter had come in the backdrop of the Delhi University's four year undergraduate programme (FYUP) controversy, after which it had notified all the recognised degrees.

Other issues on the agenda of the council meeting is top 20 percentile as eligibility criteria for the IITs, upgrading of Indian School of Mines, Dhanbad as IIT, and pending appointments in the premier technical institutions.

Navbarat Times ND 22/09/2014
P-9

IIT में एडमिशन क्राइटेरिया बदलना मुमकिन

■ विस, नई दिल्ली : आईआईटी में एडमिशन का क्राइटेरिया बदल सकता है। 22 सितंबर को चेन्नै में होने वाली आईआईटी काउंसिल में इस पर चर्चा हो सकती है। अभी इलेजिबिलिटी क्राइटेरिया 12वीं क्लास में टॉप 20 पर्सेंटाइल का है, जिसे बदलकर टॉप 20 पर्सेंटाइल या 75 पर्सेंट मार्क्स (जो भी कम हो) किया जा सकता है। यह सुझाव पिछले हफ्ते आईआईटी काउंसिल की स्टैंडिंग कमिटी की मीटिंग में रखा गया। टॉप 20 पर्सेंटाइल का सिस्टम यूपीए सरकार के वक्त में लाया गया था। इसके मुताबिक, सफल स्टूडेंट्स को अपने एजुकेशन बोर्ड में 12 वीं क्लास में टॉप 20 पर्सेंटाइल स्कोरर में से होना चाहिए। इसका मकसद था कि स्टूडेंट अपने 12 वीं के एग्जाम में ध्यान दें।

Deccan Herald ND
22/09/2014 P-1

Smriti to alter IIT chief's selection process

NEW DELHI, DHNS: Human Resource Development (HRD) Minister Smriti Irani is keen on scrapping the process of appointment of the directors of the Indian Institutes of Technology (IITs) framed during the United Progressive Alliance (UPA) regime.

Smriti

The existing procedure allows appointment of an IIT director for yet another term if his performance is adjudged as outstanding by the search and selection committee constituted to fill the post on expiry of the term of the incumbent.

Applications are invited from other candidates through advertisement only in the case where an incumbent director is not found to be fit for re-appointment or he refuses to continue in office for yet another term.

This process of appointment was approved by the IIT council last year, even as there were views within the council that such a system would "compromise the opportunity to wider contestation."

Congress leader MM Pallam Raju was the HRD Minister and the chairperson of the Council when such a procedure for re-appointment of an IIT director was adopted. The directors of IIT-Bombay, IIT-Hyderabad and IIT-Gandhinagar were given another consecutive term under this system.

The ministry proposed to scrap the system of re-appointment of directors recently after Chairperson of the board of governors of the IITs Ropar V S Ramamurthy resigned following differences with the search-cum-selection members over re-appointment of the institute's incumbent director.

"The ministry has proposed to do away with this process of appointment and revert to the old system where a director was appointed only through a wider contestation. Under the old system, if an incumbent director wanted to have another term, he had to apply for the post along with other applicants and face the entire screening process again," sources told *Deccan Herald*.

Times of India ND 22/09/2014 P-5

India's innovations at IIT social summit

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New Delhi: India put its innovations on display at the Social Good Summit on September 21 and 22 during which the United Nations General Assembly has been in session. Hosted at IIT Delhi on Sunday, the first India Social Good Summit 2014, webcast live for thousands of students, had experts and students came come together to interact on one question: What type of world do we want to live in by the year 2030?

Filmmaker Shekhar Kapur, actor Sushant Singh Rajput and UN resident coordinator Lise Grande joined a host of youngsters who showcased their innovations. These included the smart cane for visually disabled, waterless urinals to address sanitation challenge, Gram Vaani Community Radio for reverse flow of information, and grassroot empowerment, a technology which has already impacted two million people in 15 states and replicated in Afghanistan, Pakistan, Namibia and South Africa.

Speaking about life 2030, Kapur said, "What will the cellphone become in 2030? Maybe a watch, a lens in your eye. Who knows? In 2030, everyone will be equal and it will be a democratic, unbelievable world. The way technology is changing the world, it is hard to predict what all is possible in 2030."

Following the event online, health minister Dr Harsh Vardhan tweeted: "Always believed in modern technology's potential to solve problems of poverty. Social Good Summit will showcase many inventions-best wishes. Delighted to see youth participating actively in finding tech solutions for social good."

Hindu ND 22/09/2014 P-5

Career counselling seminar at IIT-D

CAMPUS JOTTINGS

The Indian Institute of Technology-Delhi Alumni Association, in collaboration with the institute's Training & Placement Cell and its Board for Student Welfare, organised a career counselling seminar and panel discussion this past week.

The first session integrated discussions on prominent themes like how to improve students' performance during campus interviews and comparing various career options available to them. It was moderated by CalyptoDesign Systems managing director Sanjiv Narayan. The discussion was guided by alumni who go for pre-placement talks and campus recruitment in various colleges, including the IITs. They counselled students to be confident and yet focus on minute details that might help them clinch the job.

The second panel discussion had experts with decades of industry experience who shared valuable viewpoints about their expansion, hurdles, milestones, career transitions, balancing family and career, and values and ethics. Around 800-1,000 students attended these sessions.

★

The first 'Oxford India Lecture' highlighted the role of "smart health" in improving access to healthcare. This is the first time the University of Oxford has organised such an event in India and it is only the second time it has done so outside the United Kingdom following last year's Oxford China Lecture in Shanghai. It reflects the strong ties the University has in India, particularly through world-class partnerships with many Indian research institutions.

One leading Oxford University academic said mobile phones and smart devices will have a large role to play in improving access to healthcare and involving patients more in their own treatment.

Professor Robyn Norton's lecture on "Mobilising Healthcare: Harnessing Science, Technology and Entrepreneurship," for an invited audience was introduced by Oxford University Vice-Chancellor Professor Andrew Hamilton.

Professor Hamilton said the University wanted to "celebrate the many links between Oxford and India that have existed for many years".

"Indeed, the large number of research partnerships that exist between Indian institutions and Oxford University is likely to surprise many people," he added.

— *Vijetha S.N.*

Economic Times ND 22/09/2014 P-14

New IITs to be Set Up with Foreign Help

Modi govt takes a leaf out of Nehru's book to set up five premier institutes

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New Delhi: The Narendra Modi-led NDA government plans to establish five new Indian Institutes of Technology (IITs) announced in this year's budget with the assistance of foreign countries, just as the Congress did in the 1950s and '60s under then Prime Minister Jawaharlal Nehru's initiative.

The proposed IIT in Goa will come up in collaboration with well-known institutions in the United States, an official familiar with the matter said, adding that human resource development minister Smriti Irani will accompany Prime Minister Modi to America later this month to sign a joint declaration for this purpose.

The partner countries for the rest of the proposed premier engineering schools in J&K, Chhattisgarh, Andhra Pradesh and Kerala will also be identified soon, the official added on condition of anonymity.

The IITs in Mumbai (then Bombay), Chennai (then Madras), Kanpur and Delhi were established in collaboration with the erstwhile USSR, then West Germany, USA and the UK respectively.

IIT Kanpur, for instance, had received technical assistance from a consortium of nine leading US institutions including Massachusetts Institute of Technology, Princeton University and University of California at Berkley.

According to officials, the consortium of US institutions to help the proposed IIT in Goa will only be finalised once the two countries sign a joint declaration of intent. "The details of how many and which institutions will help IIT Goa and in what capacity will be worked out by the joint work group, which will be set up after India and the US sign the joint declaration," the official said.

There are 13 IITs at present, with as many as eight set up between 2008 and 2011 under the mentorship of the existing institutes during the second term of the Congress-led UPA government.

Most of the newer IITs continue to function out of makeshift campuses and face difficulty attracting faculty of the desired calibre. Despite such issues, the Modi government announced another five new IITs in its maiden budget for 2014-15 soon after taking charge in May. The finance ministry has allocated an initial sum of 500 crore for these institutes this year.

Responding to concerns regarding the proposed IITs against the backdrop of the wobbly infrastructure provided for the ones set up over the past few years, Irani had told ET in an interview earlier this month that she wasn't there to "fix the blame for the past but chart a course for the future".

Doing a UPA

- **Ministry of HRD plans to establish 5 new IITs with foreign help just as the Congress did in '50s and '60s**
- **Proposed IIT in Goa will come up in collaboration with well-known institutions in the US**
- **Partner countries for the rest of the IITs in J&K, Chhattisgarh, Andhra and Kerala will also be identified soon**

IITs in Mumbai, Chennai, Kanpur and Delhi were established in tie-up with erstwhile USSR, West Germany, US and the UK

The finance ministry has allocated an initial sum of ₹500 cr for the institutes this year

IITB takes PM's idea further, to hold 'Smart City Challenge' in 'TechFest'

— By **Staff Repoter**, September 21, 2014 12:08 am

http://freepressjournal.in/iitb-takes-pms-idea-further-to-hold-smart-city-challenge-in-techfest/

Mumbai : Prime Minister Narendra Modi's '100 smart cities' idea has found takers at the Indian Institute of Technology Bombay. The premium engineering institute has announced a 'Smart City Challenge' in partnership with various government bodies, as part of its annual 'TechFest'. A prize of Rs 5 lakh awaits for the best set of the ideas.

Realising that it takes more than engineers to build smart cities, the project has been divided into five domains, viz. Infrastructure, Trade and Commerce, Healthcare, Design and Aesthetics and Policy Making. Entries are being sought from the professionals and students belonging to different fields of expertise. A panel of experts will provide assistance to the participants.

The competition is being conducted in two phases, according to TechFest manager Ayush Bandil. In first phase, preliminary ideas were invited on various urban issues. Subsequently, multi-disciplinary teams will be formed out of the best responses in order to design 10 smart cities. TechFest has recieved around 700 entries.

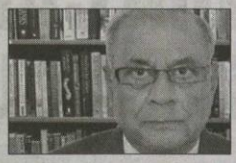
The initiative is said to have been taken up with the vision of bringing together technology, government and the student fraternity to make the cities more efficient, sustainable and liveable. "PM Modi has spoken about the need of new smart cities. 'Smart City Challenge' is such an initiative to engage the youth of the country in the development of their city and prosperity of its citizens", said Aman Mantri of TechFest.

The project is being implemented in collaboration with CIDCO, MMRDA and Delhi Mumbai Industrial Corridor Development Corporation. The prize money is sponsored by National Campaign for People's Right to Information. The last day for the submission of entries is September 24.

Statesman ND 22/09/2014 P-8

Regulated learning

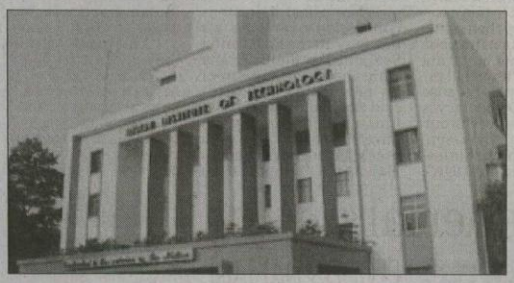
THE PORTENTS ARE OMINOUS. THE UGC HAS INFRINGED UPON THE ACADEMIC AUTONOMY OF DELHI UNIVERSITY, THE INDIAN INSTITUTE OF SCIENCE, BANGALORE, AND THE IITS. THE MEDDLING IN THE AFFAIRS OF IIT KHARAGPUR IS LUDICROUS. SINCE THEIR INCEPTION IN THE 1960S, THE IITS HAVE ALWAYS BEEN KEPT OUTSIDE THE AMBIT OF THE UGC. OUR REGULATORS MUST LEARN HOW TO RESPECT THE AUTONOMY OF INSTITUTIONS THAT ARE IMPARTING HIGHER EDUCATION



MANOJ KUMAR PAL

Going by an official definition, higher education in India begins after the Higher Secondary stage. The most accessible channel is available through one of the nearly 20,000 undergraduate colleges, each affiliated to a university. The colleges offer three-year courses leading to a Bachelor's degree with a major in a branch of basic science, social science or humanities. Thereafter for the Master's degree, students can enter the universities to complete the remaining two years of the system of higher education approved by the University Grants Commission.

More glamorous channels leading to more lucrative career opportunities are offered by the IIMs, IITs, the recently established Indian Institutes of Science Education and Research (IISER), and the state-level engineering and medical colleges. All these institutions have stiff centralised admission tests at the entry point which cannot be scaled unless the student goes through very expensive special coaching. A student's annual fees in these institutions range between Rs one lakh and Rs 15 lakh.



There is a second tier of state-run technical schools and colleges that are not very expensive and have more relaxed entry standards. They provide higher education to a large number of students and train them for a middle-level professional career.

By and large, the majority of students who get themselves admitted to the affiliated colleges and from there to the universities are of a mediocre calibre. However, some rare exceptions of the very best also join this stream because they are genuinely motivated to pursue a career devoted to academic pursuits at the higher level. This trend is noticeable even among IIT entrants; many of them opt for basic science.

Apart from the quality of student input, the state-level colleges and universities suffer from many other maladies: (1) paucity of developmental funds; (2) decline in the number of accomplished faculty members with the best opting for research institutes; (3) lack of good technical staff; (4) lack of imaginative updating of student-level laboratories; (5) political interference. Despite these handicaps the affiliated colleges do provide higher education in basic science and humanities at the least cost to a maximum number of students.

A large number of privately owned institutions, managed solely by their owners, operate in diverse fields ~ management and commerce, information technology (IT), engineering, medical and basic sciences and humanities too. Some of the glamorous ones have set up campuses with particularly attractive infrastructure; they maintain transparency and claim to provide good education. The academic standard can be mediocre, even low; these institutions are run with the singular motive of earning a profit. A few of them have incurred notoriety in recent years for malpractices; 44 such institutions have been asked to close down by the UGC.

The diverse branches of higher education are funded and regulated by regulatory agencies that are statutorily created with mandates that are often overlapping, even contradictory. Some of the major players are the Ministry of Human Resource Development for the Central universities, IITs and IISERS; the UGC for other universities, the All India Council of Teachers' Education (AICTE), the Medical Council of India (MCI), the Bar Council of India, the National Council of Teachers' Education (NCTE), the Council of Architecture, Distance Education Council and many more depending on specialisation. Disputes have often arisen between the UGC and AICTE, between MHRD and MCI, and very recently between the UGC and the IIT Council.

A few years ago, the National Knowledge Commission (NKC) made a scathing observation ~ "The present regulatory system is flawed in some important respects. The barriers to entry are too high. The system of authorising entry is cumbersome. The system as a whole is over-regulated but under-governed". These authoritative observations can be relied upon while making some suggestions for reform of the present regulatory regime.

In recent years, the government has been anxious to innovate education in natural sciences and technology in order to meet the demands of the 'knowledge economy'. In 2008, Arjun Singh, the then HRD minister, had formed a committee under the chairmanship of Yash Pal. It was asked to review the functioning of UGC / AICTE 'in the wake of changes in higher, technical and professional education in India' and the ability of these agencies to cater to the 'emerging needs of education in keeping with the principles of access, equity, relevance and quality'. The terms of reference also included the need to amend the Acts of the Regulatory Agencies so that 'clashes in assignments / jurisdictions' can be avoided. The committee carried out an exercise in what it called 'Renovation and Rejuvenation of Higher Education'.

Based on arguments on holistic acquisition of knowledge, the committee observed that "coordination amongst agencies that have different views of knowledge and education is extremely difficult, if not impossible. It would, therefore, be necessary to have a single apex body which treats all knowledge areas in an integrated manner." The name 'National Council of Higher Education and Research (NCHER)' for this 'overarching' agency was coined by Yash Pal, who also recommended the abolition of all the present agencies. On 3 May 2010, Kapil Sibal, the first HRD minister in the second UPA government, submitted the NCHER Bill to Parliament. It was clubbed with four other related bills on: (i) accreditation of universities; (ii) educational tribunals; (iii) entry of foreign universities; and (iv) regulation of unfair practices in technical, medical and higher education.

The proposed NCHER is a huge entity with constitutional status, equivalent to that of the Election Commission. It will have four full-time and three part-time Commissioners who will be advised by a collegium of dignitaries, pre-eminently Nobel Laureates, Jnanpith award-winners, national professors, senior members of National Academies etc. They will be the core members with one representative from each of the states and Union Territories acting as ordinary members. The entire collegium is required to meet only once a year to discuss generalities about the status of education and research; to advise the commission on the annual budget proposals; and to appoint a four-member Executive Committee to act as the face of the collegium for the rest of the year. These four persons will advise the commission on the nitty-gritty of decision-making. Clearly, the stress is on formalities, centralisation of power, and efficacy of decision-making behind the facade of integrating 'knowledge'. The romantic theory of the 'holism' of knowledge behind this lofty edifice does not stand any serious scrutiny.

Present trends do suggest that the NCHER Bill will lapse in due course of time and the prime regulatory role will be bestowed on the UGC with further expansion of its jurisdiction and power. Apart from the wisdom of this policy at the cost of the autonomy of educational institutions that forms a major ingredient in the successful education policy of any country, several other relevant issues like the entry of foreign universities; strict accreditation procedure by the National Assessment and Accreditation Committee (NAAC); and the emphasis on 'innovative' skill in the reformed education system deserve closer attention.

Already the portents are ominous. The UGC has infringed upon the academic autonomy of Delhi University, the Indian Institute of Science, Bangalore, and the IITs. The meddling in the affairs of IIT Kharagpur is ludicrous. Since their inception in the 1960s, the IITs have always been kept outside the ambit of the UGC. The commission has suddenly discovered that the IIT Act of 1961 does not 'define' any degree that can be awarded by them. And on the basis of this specious argument, the UGC now wants to inflict a uniform (3+2) system on the IITs as well. The absurdity is obvious ~ once accepted, the conclusion could be that all IIT degrees over the past 50 years are invalid. Our regulators must learn how to respect the autonomy of institutions that are imparting higher education.

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Statesman ND 22/09/2014 P-8

Revamp, don't scrap

While a multiplicity of panels to regulate higher education is to be discouraged, the Higher Education Commission Bill calls for greater reflection than has been manifest since the proposed legislation was crafted. On the face of it, it promises to be another entity, this time to oversee, if not replace, the University Grants Commission (UGC) and the All-India Council for Technical Education (AICTE). It would arguably be a rational proposition to revamp the functioning of the existing regulatory authorities rather than superimpose yet another overarching entity. Implicit in the proposal to put in place a new commission is the knowledge that the functioning of both the UGC and AICTE has hindered rather than helped the search for learning. Will the Higher Education Commission be able to restrain itself from meddling in the affairs of universities and technological centres of excellence? The point of reference is critical as the UGC has in recent weeks come under considerable flak for its disruptive attempt to truncate Delhi University's under-graduate course even after the academic session had begun.

More recently, it has tried to dictate the terms of engagement to IITs that were set up on the basis of legislation, dating back to 1961. If carried to its skewed conclusion, it might have rendered IIT degrees invalid. Mercifully the plan has been put on hold in the face of vociferous protests. It is this sort of interference that must end. The UGC must function in the manner that was long ago mandated... and meddling in campus affairs is not one of them. The parameters are clear enough; it is more than obvious that the UGC has been trying to extend its tentacles at the behest of the political masters. A not dissimilar interference had hobbled the IIMs and IITs during the previous BJP dispensation, with Murli Manohar Joshi as the HRD minister. And it can be achieved without setting up a largely redundant entity that will scan the same ground... resulting almost inevitably in a conflict of interest at the cost of learning.

In the manner of the UGC, the regulatory authority for technical education called the AICTE also needs to put its house in order. More important than supervision by a new entity is the imperative to initiate the revamp within. The AICTE's fundamental lacuna is its opaque character, the reason why private engineering colleges have shrilled for its dissolution. And yet, little or no attempt has been made by successful governments to make its functioning more transparent than it has been. Ergo, the internal re-orientation of both the UGC and AICTE is more necessary than a third commission, essentially playing the role of yet another educational watchdog even if it doesn't supplant the ones that exist. Three commissions are one too many.

Indian Express ND 22/09/2014 P-10

Stop and step back

Time HRD ministry realised higher education needs greater autonomy, not centralisation

THE ministry of human resources development has circulated a draft bill to central universities, proposing to bring greater uniformity in governance structures. The bill is reportedly based on the recommendations of the A.M. Pathan Committee that suggested, among other things, the abolition of the post of chancellor and creation of a Council of VCs headed by the HRD minister. The report has also recommended the creation of a Central Universities Recruitment Board that will make some centralised appointments and a common admission test. Many of these proposals may be problematic.

Higher education in India is subject to an exceptional degree of regulation. Not only can educational institutions not be profit-making, they have to follow UGC norms pertaining to infrastructure, teacher appointments and curriculum. This regulatory framework has been criticised by many as being too centralised. In developed countries, universities have become centres of excellence by innovating their own governance and accountability structures. Their strong alumni networks, for instance, are the outcome of a dynamic evolution process rather than a centrally planned system. The HRD ministry's response to the existing low standards in higher education seems to be to propose even greater centralisation.

Many sectors in India have witnessed innovation, and subsequently, global competitiveness, once the state has withdrawn restrictions. A similar approach is required in education. India's overly regulated framework of higher education has resulted in a situation where not even one university features in the top 200 in the world. The US alone has 51. The government's response is to propose an Indian system of rankings keeping in mind the "Indian situation". In a rapidly globalising world, this insular approach is bound to hurt learning outcomes even more. To become global centres of research and educational excellence, our universities need to adopt globally successful structures of governance and accountability. This requires less centralisation and space for greater financial and functional autonomy. The HRD ministry should move to a framework that promotes innovation and competition, and at the same time, protects students as consumers of higher education.

Dainik Jagran ND 22/09/2014 P-8

प्राथमिकता से दूर शिक्षा

विकसित भारत का सपना साकार करने के लिए शिक्षा को राष्ट्र की प्राथमिकता बनाने की जरूरत पर बल दे रहे हैं प्रो. सुबोध धवन

डॉ. अब्दुल कलाम का व्याख्यान समाप्त होने के बाद एक दस वर्ष की बच्ची उनके पास ऑटोग्राफ लेने आती है। वैज्ञानिक कलाम उस बालिका से पूछते हैं, 'तुम्हारे जीवन की अभिलाषा क्या है' बच्ची सरलता से जवाब देती है, 'मैं विकसित भारत में रहना चाहती हूं।' दार्शनिक कलाम अपने विचार 1998 में 'इंडिया-2020' पुस्तक में प्रकट करते है और पुस्तक उस बच्ची को समर्पित करते हैं। पुस्तक में कलाम साहब उन रास्तों का जिक्र करते हैं जिन पर चलकर भारत 2020 तक विकसित देशों की श्रेणी में आ सकता है। वह प्रत्येक नागरिक को समान गुणवत्ता वाली शिक्षा एवं समान स्वास्थ्य सेवा के पक्षधर हैं। वह चाहते हैं कि सरकार सभी नागरिकों को यह सुविधा मुहैया कराए और वह भी सस्ती दर में। पुस्तक आने के पंद्रह वर्षों के बाद संयुक्त राष्ट्र ने अपनी वार्षिक रिपोर्ट 'मानव विकास 2013 : दक्षिण का उदय' में स्वीकार किया है कि आने वाला वक्त दक्षिण के राष्ट्रों का है। अब दक्षिण के राष्ट्र, विशेषकर चीन, भारत और ब्राजील विश्व के आर्थिक विकास में महत्वपूर्ण भूमिका निभाएंगे। रिपोर्ट के मुताबिक 2020 तक तीन विकासशील देशों-चीन, ब्राजील और भारत की कुल जीडीपी कनाडा, फ्रांस, जर्मनी, इटली, इग्लैंड और अमेरिका की कुल जीडीपी को पार कर जाएगी। यह विपरीत परिस्थितियों में विकासशील देशों की जीवटता और उसके नागरिकों के संघर्ष करने की क्षमता को दर्शाता है।

दुर्भाग्य से भारत में पिछले दशक के आर्थिक विकास में निजी क्षेत्र ने तो अपना योगदान दिया, परंतु सरकार ने 'पूंजी संकट' के चलते न तो ढांचागत क्षेत्र में और न ही सामाजिक क्षेत्र में जैसे शिक्षा एवं स्वास्थ्य सेवाओं में अपेक्षित निवेश किया। जब देश में शिक्षा नीति पर सकारात्मक बहस की जरूरत है तब मीडिया मानव संसाधन मंत्री की योग्यता पर व्यर्थ में चर्चा कर रहा है। किसी कैबिनेट स्तर के मंत्री की योग्यता पर उठाया गया प्रश्न मौलाना अब्दुल कलाम आजाद की याद दिलाता है। मौलाना आजाद की संपूर्ण शिक्षा गैर पारंपरिक ढंग से हुई। वह कभी भी स्कूल या विश्वविद्यालय पढ़ने के लिए नहीं गए। उन्होंने बहुत हीं योग्य शिक्षकों के द्वारा अरबी, फारसी और उर्दू में महारत हासिल की। मात्र बारह वर्ष की आयु में मौलाना ने उर्दू में एक जर्नल शुरू करके हिंदुस्तान ही नहीं पूरे अरब क्षेत्र में अपनी काबिलियत का लोहा मनवाया। डिस्कवरी ऑफ इंडिया में नेहरू ने मौलाना आजाद के बारे में लिखा था-'अल-हिलाल नामक जर्नल अत्यंत मेधावी, चौबीस वर्षीय युवक द्वारा प्रतिपादित किया गया था। उन्होंने काइरो के अल-अजहर विश्वविद्यालय से अपनी पढ़ाई की।' बाद में मौलाना की मत्यु पर 24 फरवरी 1958 को संसद में बयान देते हुए नेहरू ने अपनी गलती को सुधारते हुए कहा, 'मौलाना आजाद के विषय में एक भ्रम धीरे-धीरे पुख्ता होता गया कि वह काइरो गए और उन्होंने अल-अजहर विश्वविद्यालय में पढ़ाई की। मैं स्वयं गलतफहमी का शिकार हुआ। यहां मैं साफ कर देना चाहता हूं कि मौलाना पढ़ने के लिए कभी भी काइरो नहीं गए।' यह नेहरू की विनम्रता थी जिसने सच्चाई को बेबाकी से स्वीकार करने की ताकत दी।

जरूरी काम

- प्रधानमंत्री के सपनों को साकार करने के लिए मानव संसाधन मंत्रालय को आगे आना पड़ेगा और कम से कम प्रत्येक बच्चे को माध्यमिक स्तर तक शिक्षा देनी होगी

नेहरू को सार्वजनिक क्षेत्र पर अत्यधिक विश्वास था। इसीलिए प्राथमिक, माध्यमिक से लेकर उच्च एवं व्यावसायिक शिक्षा तक सरकार ने अपने अधीन रखे। शिक्षा की गुणवत्ता बनाए रखने के साथ-साथ कोशिश हुई कि शिक्षा सस्ती रहे और सबको सुलभ रहे, परंतु सरकार की प्राथमिकता उच्च एवं व्यावसायिक शिक्षा के मुकाबले प्राथमिक शिक्षा पर कम रही। सबको शिक्षा देने का लक्ष्य तो रखा गया, लेकिन निम्न वर्ग तक शिक्षा प्रसारित न हो सकी। अस्सी के दशक के अंतिम वर्षों में 'ऑपरेशन ब्लैक बोर्ड' ने समाज के सभी वर्गों का रुझान शिक्षा की ओर पैदा किया। नब्बे के दशक की शुरुआत उदारीकरण के दौर से हुई। पूंजी संकट से ग्रस्त सरकार ने सभी क्षेत्रों के साथ-साथ शिक्षा से भी अपने कदम पीछे खींच लिए। निजी क्षेत्र को शिक्षा में लाभ कमाने का अवसर दिखाई दिया। इन विद्यालयों में शिक्षा के स्तर की कमी थी। उसे पूरा करने के लिए कोचिंग सेंटर पटल पर उतरे। बेरोजगारों की सहायता से कोचिंग सेंटर शुरू हुए और आज उनकी भारत की नव पीढ़ी पर पकड़ है। उदारीकरण के तकरीबन ढाई दशक बाद शिक्षा में निजी क्षेत्र के आने के बाद शिक्षा महंगी हो गई। इसी तरह सरकारी विद्यालयों के स्तर में गिरावट आई, कोचिंग सेंटर का वर्चस्व बढ़ा और इस क्षेत्र में शिक्षा माफियाओं का दखल भी बढ़ा। इस वर्ष 15 अगस्त को लाल किले की प्राचीर से प्रधानमंत्री मोदी ने राष्ट्र के नौजवानों को हुनरमंद होने का आह्वान किया। स्किल डेवलपमेंट और स्किल्ड इंडिया प्रधानमंत्री का मिशन है। नौजवानों के लिए प्रधानमंत्री का दूसरा सपना 'डिजिटल इंडिया' का है। डिजिटल इंडिया का तात्पर्य है देश के प्रत्येक गांव में ब्रॉडबैंड की सेवाएं पहुंचाना और गांव में भी डिस्टेंस एजूकेशन के जरिये अच्छी शिक्षा देना और टेलीमेडिसिन के जरिये गरीबों को दवा मुहैया कराना।

प्रधानमंत्री के सपनों को साकार करने के लिए मानव संसाधन मंत्रालय को आगे आना पड़ेगा और कम से कम प्रत्येक बच्चे को माध्यमिक स्तर तक शिक्षा देनी होगी। भारत में केवल 40 फीसद लोग ही माध्यमिक विद्यालयों तक पढ़ने पहुंच पाते हैं, जबकि सभी विकसित देशों में 95 फीसद से ज्यादा लोग माध्यमिक तक की शिक्षा ग्रहण करते हैं। इसके लिए वहां की सरकारें राष्ट्रीय आय का 5 फीसद या उससे अधिक खर्च करती हैं। तमाम विकासशील देशों ने भी शिक्षा पर खर्च बढ़ाकर अपनी जनसंख्या को शिक्षित किया है। इनमें समाजवादी देशों के अलावा विकासशील देश जैसे चिली, मलेशिया व श्रीलंका भी शामिल हैं। भारत अपनी आय का महज 3.3 फीसद शिक्षा पर खर्च करता है, जिसे बढ़ाना होगा। मोदी जनता की अपेक्षाओं पर खरा उतरने के लिए जी-जान से प्रयास कर रहे हैं। उनके सहयोगियों को भी कदम मिलाकर साथ चलना होगा। तभी विकसित भारत का निर्माण संभव होगा, जिसका ख्वाब उस छोटी सी बच्ची ने देखा था और अब्दुल कलाम को बताया था। अब भारत आगे बढ़ चुका है।

(लेखक रुहेलखंड विश्वविद्यालय, बरेली में प्राध्यापक हैं)

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Hindustan Times ND 22/09/2014 P-7

Cambridge-India fellowship coming soon

Vanita Srivastava
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NEW DELHI: To open new avenues for partnering and bolstering research in various fields, the vice-chancellor of the University of Cambridge has said a new Cambridge-India Fellowship will be announced soon.

"We plan to soon announce a Cambridge-India Senior fellowship for scholars above the post doctoral level. This will entail spending a portion of time at Cambridge University,

Prof Leszek Borysiewicz, VC, Cambridge University. HT

but nearly 60% on the ground in India. I hope this will start from next year," Prof Leszek Borysiewicz, who is on a visit to India, told HT.

Regarding the new programmes lined up for India, he said, "There are 270 active projects with India. After collaborating in drug discovery, we are now working on partnering in new areas like plant science, food security, nano science, arts and humanity."

Maintaining that the number of Indian students at Cambridge University had remained fairly stable over the last few years he said: "I have always spoken against the immigration curbs. But at Cambridge University, this has not had any affect. We have more than 250 Indian students and the number has remained fairly stable."

Observing that the ranking of universities did not mean much to him he said: "The league tables can be quite artificial. They look at different parameters. We have to be careful in interpreting them."

However, Prof Borysiewicz ruled out opening any campus of Cambridge University in India.

Hindustan Times ND 22/09/2014 P-1

Wake-up call before Mars D-day

Vanita Srivastava
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NEW DELHI: The Mangalyaan's 300-day long, 680-million-km journey is coming to an end and the crucial tests that could make or break the mission begin now.

With just 48 hours left before the spacecraft enters Mars' orbit, scientists of the Indian Space Research Organisation (Isro) on Monday will briefly fire-up its liquid engine and conduct final trajectory corrections.

M Annadurai, programme director at Isro, told Hindustan Times: "The test firing is like a trial. The dormant engine has to be brought back to life. It is a challenge but if one is prepared well for the exam, the confidence for success is higher."

The nail-biting prelim begins at 1430 IST when the craft's 440 Newton Liquid Apogee Motor engine, which has been idle for 300 days, will be fired up for four seconds. The fourth and final trajectory corrections will also be made.

"The engine will be fired for nearly 4 seconds and almost half a kg of fuel will be needed for this operation," says Koteshwar Rao, scientific secretary, Isro.

If the engine passes the test, then on September 24 it will be put in action along with eight thrusters to slow down Mangalyaan so it can be injected into a safe orbit around the Red Planet.

CONTINUED ON PAGE 6

Wake-up call...

But if the engine fails the trial run, the eight thrusters will be fired up for a longer time to bring the spacecraft into Mars orbit on Wednesday. "We are confident the engine will work. But just in case it doesn't, we have a Plan B that involves firing the eight thrusters for a longer time but this will need more fuel," added Rao.

Isro launched the Mangalyaan on November 5 to find evidence of life on Mars. If the spacecraft makes it, India will be the fourth after US, Russia and Europe to reach the Red planet. Once in orbit, the craft's five payloads will take pictures and collect data for the next six months.

Probes to Mars have a high failure rate. Of the 51 missions so far, only 21 have succeeded. A similar mission by China failed in 2011..

Economic Times ND 22/09/2014 P-17

GLOBAL CITIZEN

Germany Preferred for Higher Studies

Ishani Duttagupta

It's that time of the year when Indian students are packing their bags and boarding flights to overseas campus destinations. And this year, there are many more science, engineering and technology students headed for Germany than previous years. The German government's efforts, through the German Academic Exchange Service, or DAAD, over the past few years to attract more students from India for higher education is paying off with more and more young Indians choosing Germany over more expensive destinations.

"With our network across India, we conduct information sessions at different universities and research centres. DAAD also offers very comprehensive scholarship programmes and helps Indian and German universities to establish collaboration arrangements," a DAAD spokesperson in Delhi said.

With over 1,600 programmes being offered in English by German universities, Indian students are now more at home there. But the biggest attraction is the fact that by virtue of being funded by the government, higher education in Germany is free or comes at a very small tuition fee – around Euro 500 per semester. According to DAAD, all students – foreign and domestic – have to only pay semester contribution ranging from Euro 50 to 250, depending on the university and the benefits provided. Apart from the tuition fees, if any, a student requires about Euro 700 (apprx Rs 55,000) per month for housing, food, clothing, study material and other expenses. According to industry estimates, approximate annual cost of higher education works out to around $6,285 in comparison to $35,705 in the US and $30,325 in the UK.

Little surprise then that in 2013-14, there were 9,619 Indian students enrolled in German institutions of higher education, up from the previous year by over 2,000. Since 2010, the numbers have almost doubled.

But it's not just about lower costs – Germany's group of top nine tech universities – TU9 – attracts many Indian students for post-graduate courses from top technology colleges such as the IITs. The TU9 network includes global leading institutes – RWTH Aachen, TU Berlin, TU Braunschweig, TU Darmstadt, TU Dresden, Leibniz Universität Hannover, Karlsruhe Institute of Technology, TU München and Universität Stuttgart. "Germany is a great place to study technology, especially automobile engineering, both at the undergraduate and master's level," says Mumbai-based education consultant Karan Gupta.

Besides, unlike the UK, graduates and post-graduates from German universities can stay back in the country after completion of their academic courses. In a bid to attract talent from across the world, the German government has simplified entry and residence rules for highly-qualified workers. In comparison, it is next to impossible to stay back and work in the UK after studying without job offers in hand.

"Germany is indeed emerging as an attractive destination for Indian students because the country is strong in both economy and education. German universities are counted among the best in the world. The affordability factor also attracts Indian students to Germany. Major companies with strong European operations, in fact, prefer to hire students from German campuses rather that US or UK," says Rohan Ganeriwala, co-founder & director, Collegify, an overseas education consultancy firm.

Financial Chronicle ND 22/09/2014 P-10

Cambridge University plans senior fellowships in India

PRESS TRUST OF INDIA

New Delhi

LOOKING to deepen its engagement with India, Cambridge University plans to soon start senior fellowship programme where the participants would spend a significant part of their time in the country.

UK-based University of Cambridge, one of the oldest in the world, already has about 270 active projects in India.

"Discussions are on for Cambridge India senior fellowships that would allow people to engage with Cambridge while based here in India and helping Cambridge work on projects," Cambridge University vice-chancellor Leszek Borysiewicz told PTI.

Among others, St John's College that comes under the university has Dr Manmohan Singh Scholarships. The former PM is an alumnus of the university.

"We will be looking at the establishment of five-year fellowships, a quite senior level, and for individuals to spend a period of time in Cambridge. It would be above PhD (level).

"They (those getting fellowships) will spend more than 60 per cent of time actually on the ground working in projects, supporting them here (India) and contributing to projects here," Borysiewicz said.

Responding to a query on whether these fellowships would start next year, he said, "I sincerely hope so". Besides, the university is looking for new alliances in India especially in the areas of plant sciences and food security.

"I am also looking to establish partnerships in arts and humanities. With every partnership we do, what we are looking for is complementarity," the vice-chancellor said.

Describing India as an incredibly vibrant country, he said the partnerships being forged with Indian institutions are really important for the university.

Education ties

- Those getting fellowships will spend more than 60% of the time actually on the ground
- Senior fellowships would allow people to engage with Cambridge while based in India
- UK-based University of Cambridge already has about 270 active projects in India

Financial Express ND 22/09/2014 P-12

A vision for vocational education

Transformation will happen only when vocation education won't be the last resort of students opting for it

KAMINI PRASAD

Ask a parent how she wants to see her child when she is 20 years old, and the most likely options the parent would suggest is a doctor, an engineer or an MBA. It is a myth, an overrated perception, that only these three professions can offer stable income. This leads to children becoming a jack of few trades and master of none. They never excel in these fields as they either are not interested or don't have an aptitude for the same. Their chances of keeping up to the expectations of their parents nullify. Then comes a time when they realise that only vocational education can make them stand in the competitive corporate world.

Ask school-going children about their aspirations and no one will be interested in becoming an auto mechanic, a plumber, a mobile handset repairer or even an accountant. Although the industry recognises the importance of vocational education, few premier institutes have designed their curricula in a way that students get on-the-job training. The challenge in the space of skills and vocational education is huge. It is surprising that children who require skills don't desire them. There are two reasons for this. First, vocational education or skills have no social standing when compared to professional education. Second is the social stigma, a skilled professional is not compared fairly with a person in a white-collar job.

Moreover, students don't want to take up the road less traversed. With academic qualification, it is easier for students to pursue Master's or go for research-oriented academic programmes, but with vocational education, vertical growth of skill-holders is at stake. They may excel in the skill, but then they need to acquire a degree to grow in the profession. This is a space which students just don't understand as to what can they do to acquire a better qualification or vertical mobility. Hence, students first go for mainstream education and then learn fashion designing or IT skills with not-so-focused approach in enhancing vocational skills.

Another aspect is the absence of industry linkage. There is no clear mandate from job providers on the industry requirements of skills and there is no clear growth trajectory. This lack of clarity affects our skill solutions as it becomes difficult to measure the results. There are a large number of candidates working in the unorganised sector where we have yet to establish a clear connect between skill acquisition and the role. There has to be a clarity as to where will the skilled candidates be placed on completion of a programme and what is the assurance that the industry will not disown them?

It is not that the government is not taking any steps when it comes to eliminating or reducing the challenges being faced in the vocational education domain. The government has listed the National Vocational Education Qualification Framework (NVEQF) which addresses some existing challenges. One, it brings parity with formal education by defining various levels and making level 1 equivalent to class 9 and so on and so forth till level 10. So, the first step is defined. The second step is vertical mobility. Under this framework, a student who pursues vocational education will have the flexibility to move into mainstream education and vice-versa. So, that also gets addressed. When it comes to all the efforts getting wasted for lack of industry linkages, sector skill councils have been set up, which along with industry recommendation are setting up National Occupational Standards (NOS). These standards and educational framework have set the ground by standardising educational and industry requirements. But even when the groundwork is done, NVEQF is yet to get integrated into the practices of schools and higher educational institutions. So, there has to be a defined timeframe for the implementation.

Then, awareness amongst the target profile needs enhancement. Even the stakeholders need to be equipped with new norms which would be implemented by the industry, and parents need to be addressed regarding the improvisation in the vocational educational sector. Lack of awareness is leading to roadblocks in the implementation of the processes.

Association with sector skill councils has helped us in creating industry linkages and in creating awareness. It is up to the stakeholders to see that the implementation goes on well. In pockets, I would say things are progressing. So, in partnership with the National Skill Development Corporation (NSDC), we've been doing vocational programmes in 25 schools of Himachal Pradesh and there are other initiatives also that have been taken up.

However, much more is needed and I am quite sure the success of these campaigns will be measured only when the industry starts recognising and rewarding the competency certificates that are issued to the students and when they finally start accepting skilled candidates in relevant industries. That's how success can be measured. Transformation will happen when vocation education won't be the last resort of students opting for it.

We hope the day comes soon when the country as a whole gets benefited because we are talking of a demographic dividend which needs to be actualised.

The author is COO, Professional Education & Training, Centum Learning Ltd

Business Standard ND 22/09/2014 P-2

START-UP CORNER • TRACKING EMERGING INDIA

Smart science, smarter business

In trying to innovate in the dermatological space, Vyome Biosciences faces a challenge that it believes it can benefit from, writes **Arijit Paladhi**

Researchers engaged in their work at the Vyome Biosciences facility in New Delhi

The building housing Vyome Biosciences in the Patparganj area of Delhi looks non-descript, belying the activities of the 35-member team inside. At the office, scientists inoculate product molecules on petri dishes of fungi and bacteria inside the aseptic enclosure of a Laminar Air-Flow Chamber.

Seeking to increase the efficacy of product molecules, the bio-pharmaceutical start-up is generating huge interest in the dermatology segment. Since its conception, it has recorded about $12 million in investment, the latest about a month ago, though it hasn't generated any revenue yet.

"For decades, there has not been much focus on novel product development in acne and dandruff. It's an untapped area, with a global market worth billions. This is the segment Vyome will cater to with its prescription (Rx) and over-the-counter (OTC) products," says Alok Samtaney, investment director, Sabre Partners, which has led an investment of about $8 million (₹50 crore), along with co-investors Kalaari Capital, Aarin Capital and Navam Capital, in a recent series-B funding in the company.

The dermatology sector is estimated at $20-25 billion, with products for acne and dandruff accounting for a considerable chunk of that.

The beginning

In 2009, at the Young Investigator Meeting in Boston, an annual event offering opportunities to young researchers to work in and for India, Rajesh Gokhale and Shiladitya Sengupta got talking. "The discussion moved to how there was a systemic lack of innovation in the dermatology space for decades now. Somehow, that nascent idea fructified through the next year or so," says Sengupta, chairman of the Board of Directors at Vyome and assistant professor of medicine at Harvard Medical School.

In 2010, Vyome Biosciences was founded by Shiladitya Sengupta, Rajesh Gokhale and Rajeev Mantri. Rajesh Gokhale, the co-founder and director of the company, is also the director at Institute of Genomics and Integrative Biology, New Delhi; earlier, Mantri, also co-founder and director at Vyome, had worked at New York-based Lux Capital. N Venkat, former chief executive at Emami and president at Cavin Kare, Shantha Biotech and Aurobindo Pharma, was brought on board in 2013.

The pre-series A-funding involved a lot of bootstrapping, with Sengupta's father assembling furniture for the office, which was an ex-gutkha factory. The seed investment of $1 million came from Navam Capital, funded by Mantri's family-run, Kolkata-based investment firm GPSK Investment Group.

In 2012, through series-A funding, the company raised $3.3 million from Kalaari Capital (formerly known as IndoUS Venture Partners), Aarin Capital and Navam Capital.

With five platform technologies patented and a couple of OTC drugs recently concluding clinical trials, licensing and revenue generation is the next step. "Once licensing of the Rx and OTC products happens, revenue will start flowing. We're expecting OTC licensing in a few quarters. Rx products are still a few years down the line, as it takes longer to develop these," says Venkat, chief executive of Vyome.

Though Vyome is the first innovation-oriented company in the dermatology sector in India, it is one of the many on a global scale. Others in this space include Galderma, Allergan, Pfizer, GSK, Merck, Roche and Sanofi.

The model predominant among other smaller global players involves developing a new product to any stage — from phase I to phase-III, while bearing all the risk — and subsequently cashing out or being acquired by a larger player.

The business model entails a recursive loop of investment — licensing or partnership, product release and subsequent royalties.

"The first few years involve investment in developing platforms, products and technologies which have a value inflexion point for a licensing opportunity. Other products also reach development stage, in parallel. Therefore, it becomes a recurrent cycle of products, platform maturity, licensing and royalties," says Venkat.

Investors and analysts say it is usual for drug research companies to see large investments being sunk before recovery. Experts say costs of $6-11 million are common in developing a new product to the second phase of clinical trials.

Focus

"It's exciting to be a part of knowledge monetisation. We're combining genomics and nanotechnology to create wealth," says Raghunath Mashelkar, former director-general of the Council of Scientific and Industrial Research and part of Vyome's board of directors.

Vyome sounds upbeat about its new technology being subsumed by global consumer product brands or pharma companies. "The acne or dandruff products you see today are palliative in nature. For instance, they remove dandruff flakes instead of acting on the fungi, which continues to proliferate and facilitate flake regeneration. Our research scientifically targets the fungi. It's the science that will help us grow," says Sengupta.

The road ahead

For any innovation-driven biopharmaceutical company, scalability is a challenge, due to a multitude of factors that can stymie innovation. With two OTC products, which it hopes to license out a few quarters down the line, and a couple of Rx products in the pre-clinical stages, Vyome is looking at potential suitors by early 2016.

"It's premature to close any possibilities at this stage. However, as of now, our plan entails developing technology and licensing it to major brands. Beyond that, we will see what the future brings," says Mantri.

For Vyome, the primary challenge is the seeming lack of innovation in the dermatology sector for it to innovate and build upon. Paradoxically, this is also something it stands to gain from. If it can, that is.

EXPERT TAKE

Vyome Biosciences has a dynamic scientific team, one of the primary reasons why it can succeed. In Sengupta and Gokhale, it has two scientists who understand the science they're applying to developing products. When you start developing a product from scratch, innovation-based product development is a tricky and long-drawn business proposal. What Vyome is doing is re-purposing extant molecules and improving their delivery mechanism to sites, which is smart science. However, there are challenges in the transition from successful clinical trials to product delivery. Due to paucity of innovation in the global dermatology sector, it is now a market waiting to be tapped into. With both OTC and prescription products on the anvil, the company's science will be the key driver for growth and scalability.

***Shekhar Mitra** is former senior VP of global R&D at P&G. He also serves on the scientific advisory board of Vyome Biosciences*

FOUNDERS' BACKGROUND

Shiladitya Sengupta
Assistant professor of medicine at Harvard Medical School, serial entrepreneur and has co-founded four companies. One of his ventures, Cerulean Pharma, debuted on NASDAQ earlier this year

Rajesh Gokhale
Director at Institute of Genomics and Integrative Biology. Recipient of the Infosys Prize in life sciences for his discovery of crucial enzymes which are necessary for the synthesis of the bacteria Mycobacterium tuberculosis

Rajeev Mantri
Executive director at Navam Capital. Been a columnist for *The New York Times, Wall Street Journal, Forbes* and *Mint*

N Venkat
Former CEO at Emami and ex-President at Cavin Kare, Shantha Biotech and Aurobindo Pharma. Philosophical musings interest Venkat and he likes delving into Indian philosophy

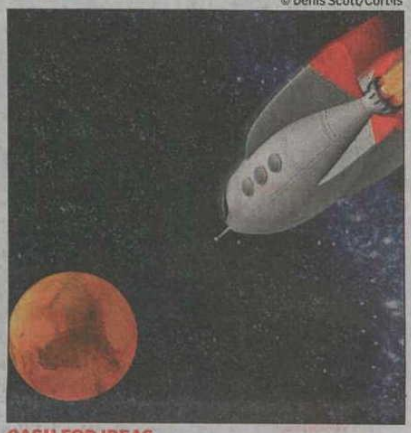
Times of India ND 22/09/2014 P-15

Nasa launches $20,000 Mars challenge

Washington: Attention, space enthusiasts! Nasa is offering a $20,000 prize to anyone who can come up with a design idea for small science and technology payloads that could also provide the necessary weight to balance spacecraft entering the Martian atmosphere.

"Nasa is committed to engaging the public, and specifically the maker community through innovative activities like the Mars Balance Mass Challenge," said Nasa chief technologist David Miller.

The Mars Balance Mass Challenge seeks design ideas for small science and technology payloads that could potentially provide dual purpose as ejectable balance masses on spacecraft entering the atmosphere of the Red planet.



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CASH FOR IDEAS

The payloads will serve two roles: perform scientific or technology functions that help us learn more about the Red planet, and provide the necessary weight to balance planetary landers.

Submissions are due by November 21. A winner will be announced in mid-January 2015 and receive an award of $20,000, Nasa said.

The United States space agency has also launched a new website Nasa Solve which it said is a 'great way for members of the public, makers and other citizen scientists to see all NASA challenges and prizes in one location'. PTI

Gen-next spacesuits to resemble a second skin

MIT scientists are working on a gen-next spacesuit that will be a snug, flexible outfit that automatically tightens up to a proper fit at the touch of a button. Instead of climbing into a conventional, bulky, gas-pressurized suit, an astronaut may don the lightweight, stretchy garment, lined with tiny, muscle-like coils. They would then plug in to a spacecraft's power supply, triggering the coils to contract and shrink-wrap the garment around their body. The skin-tight, pressurized suit would not only support the astronaut, but would give much more freedom to move during planetary exploration. PTI

Times of India ND 22/09/2014 P-12

Mars orbiter faces crucial test today

KEY ENGINE IDLE FOR 9-PLUS MONTHS

- Main liquid engine of the spacecraft is **idling since Dec 1.** Scientists to check if it can restart for **Sept 24 orbit-insertion exercise**
- Engine has to fire **for 24 minutes on Sept 24** to put the spacecraft in the desired Martian orbit
- **If it doesn't fire, scientists invoke Plan 'B'.** They will fire eight thrusters, which have very less power, for a much longer duration
- Of the **51 Mars missions** by various countries, only **21 have been successful**

"The difference between success and failure is very thin. One might have scored 10,000 runs, but the next match always comes with some tension.
K Radhakrishnan | ISRO CHAIRMAN

Arun Ram & Chethan Kumar | TNN

Chennai/Bangalore: India's Mars Orbiter Mission (MOM) will face the first test of its last manoeuvre around 2.30pm on Monday, when the main liquid engine of the spacecraft is expected to fire for four seconds.

Indian Space Research Organization (Isro) scientists loaded the commands last week to test if the engine, which has been idling for close to 300 days after it left the Earth's orbit on December 1 last year, is in good shape. For this 440Newton engine has to fire for 24 minutes on September 24 to put the spacecraft in the desired Martian orbit.

What if it doesn't? That wouldn't be the end of the mission, but the alternative would not be a perfect end to the ambitious project. Plan B is to fire the eight thrusters originally meant for altitude control and orientation. Since these thrusters have less power (22Newton), they will have to be fired for a much longer duration, and yet the orbit achieved through this exercise would not be ideal to carry out studies of the red planet's atmosphere and morphology.

"The difference between success and failure is very thin," Isro chairman K Radhakrishnan told **TOI**. "If the main engine fires, we will be able to get into a Martian orbit with a periapsis (closest point to Mars) of 423km and an apoapsis (farthest point) of 80,000km. Plan B will also help us get into an orbit, but at this point we don't know how close that would be."

The 440N liquid engine was last fired on December 1 to slingshot the spacecraft from an Earth orbit to the Martian trajectory. The spacecraft authorization committee earlier this month decided to carry out the four-second test to ensure that the long duration of idling hasn't affected the engine that carries corrosive fuel. "Those will be the longest four seconds (when the engine is to test-fire). Uncertainty is part of every space project, but we are confident to the core."

This confidence stems from the thorough tests the engine and the thrusters were made to undergo on ground before PSLV-C25 lifted off with MOM from Sriharikota on November 5 last year. "We did ground tests to check if the engine can re-ignite after a month of idling. It did. Here it has been idle not for a month, but for ten months, but we are fairly confident of its performance. It was the same engine used for Chandrayaan," said Radhakrishnan.

But Isro scientists are awake to eventualities. "Some concerns are with the fuel and oxidiser circuits which are crucial for the restarting of the engine," he said. Keeping this in mind, Isro, for the first time, has put in place parallel fuel and oxidiser circuits so that supply of fuel and other agents to the engine and the thrusters is not affected at any time.

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Mars, here comes India

Our fingers are crossed as our space scientists prepare to wake the hibernating engine from safe mode on *Mangalyaan* on Monday. They can rest assured that it is only for good luck that we make the gesture since we have implicit trust in their technological capabilities, which are nearing their apotheosis in putting the Mars Orbiter Mission in place around the Red Planet. It is a moot point whether the height of Indian achievement in the last several thousand years will come to be represented by the Orbiter circling Mars or the composing of the Upanishads.

The cost at which our engineers have pioneered space exploration — the standing joke is the Indian Mars mission cost less than the making of *Gravity*, the most recent award-winning movie on space travel — is a feather in their caps. The picture of a rocket travelling to the launch pad in Thumba on a bicycle will remind us of the most humble beginnings of India's ambition to become a space power. On Wednesday, *Mangalyaan* will join Nasa's Maven (Mars Atmosphere and Volatile Evolution Orbiter), which should have synched perfectly into Mars orbit some time on Sunday after a 10-month and 442-million-mile journey.

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While Maven will be devoted to studying the upper atmosphere of Earth's neighbour to understand how the Martian climate changed from an assumed life-supporting presence of flowing water and minerals that will form only in water, *Mangalyaan* will also be checking for methane in the Martian atmosphere since that gas is known to indicate that life may be supported. How satisfying would it be to know that we are not alone in this Universe even if an alien is probably far different from the standard dimensions of life as we know them?

The argument over whether a developing country like India can afford space exploration is too narrow-minded. The importance of a scientific temperament cannot be overstated. The fact that so many countries are reaching out to space to understand more of how we came to be as an intelligent life form should be ample proof of the importance of mankind's exploration of the limits of its knowledge and curiosity about celestial wonders. And then there is, of course, the theory that Mars is possibly the next most habitable planet if ever we have to abandon Earth.

If by studying Mars we can form some idea of how to deal with climate change — a planet that once possessed flowing water is today cold and dry because gas escaped from its atmosphere — then maybe science can help man live better on his own planet. Little wonder then that our eye will, figuratively, be on the sky over the next few crucial days as we wait for Isro to say that it has, once again, executed its mission to perfection.

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Computers to get faster, greener

London: Faster, smaller, greener computers, capable of processing information up to 1,000 times quicker than currently available models, could be made possible by replacing silicon with phase-change materials, according to a new study.

Researchers found that the present size and speed limitations of computer processors and memory could be overcome by replacing silicon with 'phase-change materials' (PCMs).

PCMs are capable of reversibly switching between two structural phases with different electrical states — one crystalline and conducting and the other glassy and insulating - in billionths of a second.

Modelling and tests of PCM-based devices showed that logic-processing operations can be performed in non-volatile memory cells using particular combinations of ultra-short voltage pulses, which is not possible with silicon-based devices. In these new devices, logic operations and memory are co-located, rather than separated, as they are in silicon-based computers. These materials could enable processing speeds between 500 and 1,000 times faster than the current average laptop, while using less energy.

The processors, designed by researchers from the University of Cambridge, the Singapore A STAR Data-Storage Institute and the Singapore University of Technology and Design, use a type of PCM based on a chalcogenide glass, which can be melted and recrystallized in as little as half a nanosecond using right voltage pulses. PTI

SMALLER TOO

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Electric car sets world speed record

Washington: An ultra-light electric car built by students at a US university has set a new land speed record in its class, besting the previous mark by nearly 80kmph.

Electric Blue, an E1 streamliner designed and modified by more than 130 Brigham Young University (BYU) students over the past 10 years, averaged 330kmph on two qualifying runs this month. The new mark obliterates the previous record, 250kmph, which was set by the same BYU car in 2011.

"When we set the record three years ago we felt like we left a lot on the table," said BYU student and team captain, Kelly Hales.

"On paper we thought we could get 322kph but we never had the conditions just right - until now," said Hales.

The car notched the record this month in front of approximately 180 teams and their cars at the Bonneville Salt Flats in northwestern Utah.

Jim Burkdoll, president of the Utah Salt Flats Racing Association, drove the car to set the record, which was certified by the Southern California Timing Association. Electric Blue is called a streamliner because it has a long, slender shape and enclosed wheels that reduce air resistance. PTI