Poor quality students entering IITs: Murthy

NEW YORK: Voicing his displeasure over the quality of engineers that pass out of the IITs, Infosys chairman emeritus N.R. Narayana Murthy said there is a need to overhaul the selection criteria for students seeking admission in the prestigious technology institutions.

Addressing a gathering of former IITians at a ‘Pan IIT’ summit here, Mr. Murthy said the quality of students entering Indian Institutes of Technology (IITs) has deteriorated over the years due to the coaching classes that prepare engineering aspirants.

He said the majority of the students face poorly at jobs and global institutions of higher education. “Thanks to the coaching classes today, the quality of students entering IITs has gone lower and lower.”

Apart from the top 20 percent of students who crack the tough IIT entrance examination and can “stand among the best anywhere in the world,” the quality of the remaining 80 percent left much to be desired.

Coaching classes teach aspirants limited sets of problems, out of which a few are asked in the examinations. “They somehow get through the joint entrance examination. But their performance in IITs, at jobs or when they come for higher education in institutes in the U.S. is not as good as it used to be. “This has to be corrected. A new method of selection of students has to be arrived at.”

Drawing a road map to nut

Overhaul IIT selection criteria: Murthy

New York: Infosys Ltd chairman emeritus N.R. Narayana Murthy on Monday sought an overhaul of the selection criteria for students seeking admission to the IITs. Addressing a meeting of former IITians in the US, Murthy said the quality of students entering the Indian Institutes of Technology (IITs) has deteriorated. “Thanks to the coaching classes today, the quality of students entering IITs has gone lower and lower,” Murthy said.

PRASHANT NANDA •
Narayana Murthy laments falling standards of IITians

Press Trust of India
New York, Oct. 3

Voicing his displeasure over the quality of engineers that pass out of the IITs, Infosys chairman emeritus, Mr N.R. Narayana Murthy, has said there is a need to overhaul the selection criteria for students seeking admission to the prestigious technology institutions.

Addressing a gathering of hundreds of former IITians at the Pan-IIT summit here, Mr Murthy said the quality of students entering Indian Institutes of Technology (IITs) has deteriorated over the years due to the coaching classes that prepare engineering aspirants.

He said the majority of the students fare poorly at jobs and global institutions of higher education. “Thanks to the coaching classes today, the quality of students entering IITs has gone lower and lower,” Mr Murthy said, receiving a thundering applause from his audience.

He said apart from the top 20 per cent of students who crack the tough IIT entrance examination and can “stand among the best anywhere in the world”, quality of the remaining 80 per cent of students leave much to be desired.

Coaching classes teach aspirants limited sets of problems, out of which a few are asked in the examinations. “They somehow get through the joint entrance examination. But their performance in IITs, at jobs or when they come for higher education in institutes in the US is not as good as it used to be. “This has to be corrected. A new method of selection of students to IITs has to be arrived at.”

Drawing a road map to put IITs among the top engineering institutes in the world, Mr Murthy said it has to be ensured that IITs “transcend from being just teaching institutions to reasonably good research institutes” at par with Harvard and MIT in the next 10-20 years.
Quality of IIT engrs falling, says NRN

New York: The quality of engineers turned out by the IITs “is not as good as it used to be”, Infosys chairman emeritus N R Narayana Murthy said on Monday, calling for a change in the selection process to keep out students without strong fundamentals.

“Thanks to coaching classes today, the quality of students entering IITs has gone lower and lower,” Murthy told a gathering of former IITians.

“They somehow get through the joint entrance examination. But their performance in IITs, at jobs or when they come for higher education in institutes in the US is not as good as it used to be.” P 9
80% of IITians are of poor quality: NRN

Coaching Centres Blamed For Grads Faring Poorly At Jobs & Higher Education

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He said the majority of the students fare poorly at jobs and global institutions of higher education. “Thanks to coaching classes today, the quality of students entering IITs has gone lower and lower,” Murthy said, receiving a thundering applause from his audience. He said apart from the top 20% of students who crack the tough IIT entrance test and can “stand among the best anywhere in the world”, quality of the remaining 80% of students leaves much to be desired.

Coaching classes teach aspirants limited sets of problems, out of which a few are asked in the examinations. “They somehow get through the joint entrance examination. But their performance in IITs, at jobs or when they come for higher education in institutes in the US is not as good. This has to be corrected. A new method of selection of students to IITs has to be arrived at."

Drawing a road map to put IITs among the top engineering institutes in the world, Murthy said it has to be ensured that IITs “transcend from being just teaching institutions to reasonably good research institutes” on a par with Harvard and MIT in the next 10-20 years.

“Few IITs have done well in producing PhDs, but in reality, when we compare ourselves to institutions in this country, we have a long way to go,” he said. More emphasis has to be given to research at the undergraduate level and examinations should test independent thinking of students rather than their ability to solve problems.

For this to happen, Murthy said the government has to be persuaded to create institutions that fund research projects. In addition, faculty members should also be evaluated annually on their research performance by an independent panel and be hired on a five-year contractual appointment system instead of the tenure system.

The Infosys mentor also lamented the poor English speaking and social skills of a majority of IITians, saying with Indian politicians “rooting against English”, the task of getting good English speaking students at IITs gets more difficult. “An IITian has to be a global citizen and must understand where the globe is going,” he added.
Experts echo Murthy’s view on IITs

Teachers And Industry Blame Selection Process For Declining Standards

Neha Pushkarana | TNN

New Delhi: The quality of IITians is under fire again. Four months after Union minister Jairam Ramesh slammed IIT teachers for their substandard profiles, Infosys chairman emeritus NR Narayana Murthy has criticized the students graduating from the country’s premier engineering institutes. According to Murthy, the quality of students entering IITs has deteriorated over the years and they often lack skills required by the industry. The sad part is: Murthy’s concern may not be unfounded. IIT teachers and industry experts, too, feel IITians are not formidable anymore. Murthy blamed coaching centres and the current selection process of the IITs for the declining standards. Teachers say they can’t agree more.

A professor from IIT Delhi said, “Think we should blame the pattern of the Joint Entrance Exam because of which the quality of candidates has been compromised. We could pick and choose an aspirant, who had a deep understanding of concepts, through the subjective JEE that was conducted earlier. The multiple-choice questions in the current pattern have made cracking JEE a matter of luck.” IIT officials agree that many students, who score well in JEE, fail to perform during the course. “They manage to clear JEE only because of the coaching institutes that train them in attempting questions correctly. Besides, the reservation has caused further problems for us. Earlier we had 30-40 students in a class. There are over 100 now,” the professor said.

“We do face problems as many times students lack analytical skills. Many of them are not even regular at school while they are preparing for JEE in a coaching centre. So they often fail to perform in the practicals since they do not have any experience,” added SM Ishтика, professor in the department of textile engineering and deputy director, administration, IIT Delhi. No wonder, the students’ employability also goes down. According to job experts, recruiting IITians is generally just a branding exercise for many companies.

“Companies continue to recruit from IITs but many companies now find it better to hire a top performer from a second-grade institute than to hire a medicocrate from an IIT. In fact, one of the new IITs got just 17 companies for campus placements this year. These new institutes may have had the IIT status but the industry is not acknowledging it,” said Vipul Grover, founder, Symbiosis Management Consultants. He added that the cream of any batch usually goes for higher studies or management.

Coaching centres have been successfully running the business of cracking JEE. Teachers say these centres only produce crammers, not potential engineers. Ishтика added that IIT Council’s plan to give weightage to class XII marks for selection to IITs is a step towards encouraging students to stay with schools and not run to coaching centres. “The IIT Council is considering giving weightage to class XII marks along with the JEE score from next year. The Indian Statistical Institute has been approached to devise a moderation policy for all examination boards so that we can work out a formula for selection. This will make students focus more on school,” he said.

However, coaching centres claim credit not criticism. Ajay Antony from TIME coaching centre said, “Attempting multiple-choice questions is not easy. People have a problem with coaching centres only because students flock to them. Such allegations are absolutely unfounded.” CV Kalyan, director, FIITJEE, that sends nearly 3,000 candidates to IITs every year, added, “There is a question paper and coaching centres are able to prepare candidates to crack it. Who is to be blamed? Coaching centres do not force themselves on students. Today, schools are not providing the kind of education we do. If someone wants to curb the coaching centres, make the schools stronger.”

However, students blame exam stress for their poor performance. “Students find it difficult to cope in IIT mainly because of the pressure of exams. In IIT-D, we have exams every 40 days. There is no way we can spend more time on projects and assignments. Besides, the laboratory infrastructure hasn’t improved in the last many years. Quality of students suffers because of lack of world-class facilities,” said Anand Poonia, a third-year student of electrical engineering.
IT graduate sought purpose in politics

OUR CORRESPONDENT
NEW DELHI

Sudheendra Kulkarni, the former political aide of BJP patriarch L.K. Advani, who was arrested for his alleged role in the cash-for-vote scam, wrote his last column from New York for a well-known newspaper. The column talked about the American economic crisis and the ways to overcome it. Perhaps Kulkarni was not aware that a crisis awaited him at home. Or perhaps he did, which why he took a topic far removed from events developing back home.

When Kulkarni was arrested by the Delhi police on his arrival in the capital, he kept his characteristic dignified calm. Kulkarni left the party in 2004, but the BJP was still able to pitch its weight behind him — the Leader of Opposition in the Rajya Sabha Arun Jaitley and Advani visited him in Tihar Jail, indicating the kind of respect he was able to garner.

The party has come out openly in defence of Kulkarni. Spokesperson Nirvella Sihararam said, "The people who are whistleblowers of this scam are being sent to jail, but Congress and Samajwadi Party members, except Amar Singh, who is out with BJP now, have not been asked to appear before the investigating agencies. So the beneficiaries, the people who retained power because of the cash-for-vote scam, are not being questioned. The enquiry is one-sided."

Recalling Kulkarni’s valuable inputs, another BJP leader said that he emerged as a key ideologue of the party. "The party immensely benefited from the intellectual inputs it provided to the leadership on several key issues. It is said that a person of his stature being harassed," he said.

Kulkarni was also part of the process of conceptualisation and implementation of development initiatives of the Atal Behari Vajpayee government like the National Highway Development Project, Prime Minister’s Rural Roads Development Project, National Railway Development Project, National Railway Safety Technology Initiative and National Urban Housing and Sanitation Initiative. He took a keen interest in the implementation of the Ujwal Janani Yojana.

Kulkarni played a key role in drafting the election manifestos of the BJP and the NDA and also several resolutions and publications for them. He was also the man who wrote the then Prime Minister Atal Behari Vajpayee’s speeches.

Kulkarni continued to rise in the BJP. From 1996-2004, he worked as an Officer on Special Duty to Vajpayee and would prepare speeches for the former Prime Minister. During this period, he was also involved in other activities like coordinating the Prime Minister’s Task Force on IT.

He was also a part of the Prime Minister’s Group on Telecom & IT and on infrastructure Development. The Group, interestingly formulated India’s new Telecom Policy in 2001.

But his stock began to dip with the Jinnah incident, rising briefly with his re-entry into the party and going down again with his leaving the party finally in 2009. Still, he continues to be close to Advani. The party is also supporting him for his role in the cash-for-vote scam. Advani had defended Kulkarni as a whistleblower, himself taking the moral responsibility for the sting operation which he said was launched to expose the Congress.

Kulkarni, a civil engineering graduate from IIT Mumbai, joined the BJP in 1996 and remained with the party till 2009.

Sudheendra Kulkarni at Tees Hazari court in New Delhi on Tuesday, PTI

After the BJP’s poll debacle in the 2004 general elections, Kulkarni was appointed a national secretary of the BJP and also as secretary to the then party president L.K. Advani. He accompanied Advani on his visit to Pakistan in June 2005. However, everyone in the BJP and the RSS is not exactly enamoured of Kulkarni. When Kulkarni quit the party after its poll debacle, party spokespersons said it amounted to little. Sources in the BJP said Kulkarni was resentful primarily because of the Jinnah fiasco. It was Kulkarni who had written the speech for Advani in which he praised Jinnah as a secularist in 2005.

Kulkarni was suspended but later brought back in 2009 by Advani to handle the party’s election strategy, although his suspension had not been formally revoked. Kulkarni started his professional career as a journalist with obvious sympathies for the Left. He was also very active in opposing communism and was a member of a now defunct group, journalists against Communalism.

Somewhere around the 1990s, Kulkarni did a political U-turn and became close to the BJP, especially L.K. Advani, after he covered his Rath Yatra. His changed ideology also reflected in his journalistic work. He was appointed as the editor of Blitz in the mid-90s which was also looking to change its ideological viewpoint from Left to Right, as decided by its proprietor Mushtaq Karzenga.

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IIM sets up hi-tech labs for CAT aspirants

Manash Pratim Gohain | TNN

New Delhi: This year, MBA aspirants will get a chance to appear for the Common Admission Test (CAT) in the two state-of-the-art testing laboratories in Gurgaon and Hyderabad. The labs will provide students with an international testing experience. Further, setting up of the facilities — the first in the country — dovetails with plans to take CAT to international shores by enticing foreign B-schools to subscribe to its score. CAT committee officials say the addition of premier institutions to the CAT portfolio has already improved the profile of the entrance test.

The test centre in Gurgaon can accommodate 226 aspirants in a single session. The centre is a highly sanitized one — the candidates have to deposit their belongings in lockers at the waiting area. The entire area has been placed under surveillance. Once inside the lab, candidates will take exactly two minutes to check in, which includes biometric and photo identification.

Seats are assigned in advance. For every four seats, there is round-the-clock video recording. “The labs are designed to test a fairly large group of people in multiple sessions and the centres can be run 24X7. The focus is on security and quality. Right from the waiting area, every move of the candidates is monitored at several levels,” said managing director of Prometric India, Soumitra Roy. IIM aims at a long-term collaboration with Prometric to take CAT to international shores.
Universities need to improve

D. S. Cheema

The Quacquarelli Symonds (QS) World University Rankings 2011 have only confirmed what all of us knew all along. The rankings, which are published every year, have no Indian universities or institutions in the first 200. According to Ben Sower, QS Head of Research, “There has been no (relative) improvement from any Indian institution this year. Universities can no longer do the same things they have always done and expect to maintain their position in a ranking or relative performance.” What it means in simple words is that all initiatives of the government have failed to improve our higher education system and the more we try to change, the more we remain the same.

India has approximately 20,000 colleges and 500 universities, excluding the deemed universities, and many autonomous bodies of higher learning. We take pride in some of our elite institutions, particularly IITs and IIMs, and like people to think that they are world-class. The fact, however, is that our best ranks only at 218 in the world. It is time to take some concrete steps to measure up to the best in the world.

One of the major reasons of our universities being mediocre is that they are unwieldy and unmanageable in sheer number of programmes they offer and number of colleges affiliated/associated with them. The heads of various institutions believe in empire-building rather than quality improving. Most of our Central and state universities boast of number of students on their rolls which on an average runs into lakhs. For example, Panjab University, Delhi University and many others have more than a lakh or a lakh-and-half number of students, whereas average number of students in top 200 universities is not more than 26,000. Therefore, it is almost impossible for a Vice-Chancellor to academically and administratively control such jumbos and the situation results in campus unrest and churning out of poor quality pass-outs. It is often argued that universities need these numbers to survive as they are “poorly” funded by the Centre or states and they are left with no choice but to keep adding more and more campuses outside their location and keep adding programmes that “sell”, through distance-learning mode or otherwise. The upward revision of pay scales of teaching and non-teaching staff has further aggravated the situation of lack of funds. There is no denying the fact that teacher in any higher learning system must be well paid; however, a balanced distribution of all resources, financial and others, is what distinguishes between an able administrator and a run-of-the-mill Vice-Chancellor.

Also, unionism in educational institutions in India has taken its toll. Most of the universities and colleges have very strong student/teacher unions, which, while professing to be working for the well-being of their respective communities, are perceived by the Principals/Vice-Chancellors and parents as major impediment to good governance and hence to academic excellence. University education has become totally meaningless for most of our students. Also, many teachers relate the hours spent in teaching with the money they make. They do not enjoy teaching and take up the job to earn their livelihood. As young children, we were told that the pedagogy is the noblest of professions. Alas, no more. Add to all this a poor infrastructure, lack of suitable academic atmosphere, defective examination system, bookish and uninspiring curriculum, unreasonable admission and attendance rules — a perfect recipe for campus unrest.

It is a fact that most of the Vice-Chancellors are political appointees and lack the requisite academic excellence and administrative experience. Therefore, they run universities as per their whims and fancies. Anyone who may have made it on merit soon gets suffocated and frustrated in an unprofessional atmosphere and prefers to quit.

Paucity of funds for research and appropriate physical and intellectual infrastructure is another reason. We are not a knowledge-sharing society but “knowledge-depressing” society as such universities don’t share their faculty, support other institutions in research or help in building best practises in other colleges/universities. We are shy of copying even time-tested good things, and prefer to commit our own mistakes and learn the hard way.

Some colleges affiliated with different universities have potential for excellence in academics but are constrained by the syllabi which are beyond their control. Autonomy in curriculum for colleges of higher learning, especially in subjects of engineering, management, medicine, etc., is considered vital. Our institutions have failed to create a temper of basic and applied research and problem-solving among the students. Knowledge is useless if it can’t be put to use.

Many states are opening up establishment of private universities to plug the gap between need and availability of institutions for higher learning. However, barring a few exceptions, our universities are not universal in nature, spirit and scope. Most of the universities only coordinate the functioning of colleges affiliated to them and act as examination conduct and degree distribution centres. More “functioning and effective” universities is, no doubt, the need of the hour. However, the way we are expanding in a haphazard manner, higher education system is fraught with the dangers of reducing its credibility still further. Growth always entails problems, such as system becoming unwieldy and succumbing under its own weight. One major problem is with our mindset; we do not want to accept that we are mediocre and need to do something to improve. Self-knowledge and honest assessment is the first step towards any improvement. If we don’t know and acknowledge the problem, there can never be any improvement.
Three immune pioneers share Medicine Nobel

Their achievements are central to vaccine development

PARIS: For centuries, physicians believed that diseases were caused by an imbalance in the “four humours” — blood, phlegm, yellow bile and black bile.

These notions were swept away in the 19th century by the advent of modern medicine.

Bit by bit, it laid bare a realm of microscopic warfare where the body’s complex — but also sometimes flawed — defence fought in close-quarter combat against germs and viruses. The 2011 Nobel Prize for Medicine was awarded to three scientists who have done more than anyone to lay bare the two-tier structure of the immune system.

They are Bruce Beutler of the U.S., Jules Hoffmann, born in Luxembourg but a naturalised French citizen, and Ralph Steinman of Canada. Working separately, they discovered key secrets in “innate” immunity, our first-line response to pathogens, and its dovetailing with the second-line defence known as “adaptive”, or acquired, immunity.

Their achievements are central to vaccine development, which depends on priming the immune system to target pathogens, and to new treatments against cancer, a process in which tumorous cells proliferate unchecked.

“It’s very important work, which has opened not only our understanding of the immune system but also led to some practical new ways to target immune responses, including more potent vaccines,” said Seth Berkley, head of the GAVI Alliance, which promotes immunisation in poor countries.

In a case with few parallels in medical history, Mr. Steinman harnessed this knowledge to design an experimental drug to treat his own pancreatic cancer, said Rockefeller University in New York on Monday.

Mr. Steinman died on Friday at 68, just three days before the announcement. But the drug extended his life by four years after diagnosis, beating the odds for a disease where patients often die within months. The immune system can be described as an intricate and dynamic network of millions upon millions of cells, each with their speciality.

Mr. Beutler and Mr. Hoffmann identified receptor proteins that trigger the molecular cascade which is the innate immune system. This defence is a generalised call to arms, mustering platoons of immune cells to initiate inflammation, a chemical process that seeks to establish a physical barrier against penetration beyond the microbe’s entry point.

The next line of defence, the innate system, is slower to respond but more adaptive.

It teaches immune cells through a process called antigen presentation to recognise and remember the specific intruder for future alerts.

Mr. Steinman’s work found that so-called dendritic cells regulate the function of the body’s natural “killer cells”, called lymphocytes. — AFP
Nobel comes 3 days too late for scientist

A SCIENTIST who won the Nobel prize for medicine on Monday for work on fighting cancer died of the disease himself just three days before he could be told of his award, and after using his own discoveries to extend his life.

Canadian-born Ralph Steinman, 68, had been treating himself with a groundbreaking therapy based on his own research into the body's immune system but died on Friday after a four-year battle with pancreatic cancer. His colleagues at Rockefeller University in New York called it a bittersweet honour.

The Nobel Committee at Sweden's Karolinska Institutet, which does not make posthumous awards, said it was aware of Steinman's death, but it appeared that it had not known before making its announcement. It is likely that Steinman died without being aware he had won science's ultimate accolade, along with American Bruce Beutler and Jules Hoffmann of France.

Swedish officials on the Nobel Committee were rushing to try to clarify what secretary general Goran Hansson, called a unique situation, because he died hours before the decision was made. Hansson told Swedish news agency TT the panel would review what to do with the prize money, due to rules against posthumous awards. But it would not name a substitute winner.

"He died hours before the decision was made"

The Nobel Foundation has recognised Ralph Steinman for his seminal discoveries concerning the body's immune responses, said Rockefeller University president Marc Tessier-Lavigne. "But the news is bittersweet, as we also learned this morning from Ralph's family that he passed a few days ago after a long battle with cancer," he added.

The institution said in a statement: "Steinman passed away on September 30. He was 68. He was diagnosed with pancreatic cancer four years ago, and his life was extended using a dendritic-cell based immunotherapy of his own design."

Alexis Steinman, indicating that her father had not known on his deathbed of the impending decision in Stockholm, said: "We are all so touched that our father's many years of hard work are being recognised with a Nobel Prize. He devoted his life to his work and his family and he would be truly honoured."

Beutler and Hoffmann, who studied the first stages of the body's immune responses to attack in the 1980s, shared the $1.5 million award with Steinman, originally from Montreal, whose discovery of dendritic cells in the 1970s is a key to understanding the body's next line of defence against disease.

"This year's Nobel laureates have revolutionised our understanding of the immune system by discovering key principles for its activation," the award panel at Sweden's Karolinska Institute said in a statement in Stockholm. Luxembourg-born Hoffmann, 70, conducted much of his work in Strasbourg. They were supposed to share half the 10 million Swedish crowns ($1.46 million) of prize-money. The rest should have gone to Steinman, though the unusual circumstances leave its fate now in some doubt.

Reuters
IN-HOUSE MECHANISM: A picture taken of an image seen at a television screen at the Nobel Assembly in Stockholm on Monday. - PHOTO: AFP

Nobel Committee not to name substitute winner

Smriti Kak Ramachandran

STOCKHOLM: Within a few hours of the announcement by the Nobel Prize Committee that Canadian scientist Ralph Steinman would share the prize in Physiology / Medicine with Bruce A Beutler and Jules Hoffmann, it became known that Mr. Steinman had passed away three days ago. His demise has put the Nobel Committee in a fix because the prize cannot be awarded posthumously, unless death has occurred after the announcement of the prize.

 Officials on the Nobel Committee said that it was a “unique situation, because he died hours before the decision was made.” Now the panel would review what to do with the prize money. However, it was made clear that the committee would not name a substitute winner.

Here at the Karolinska Institute in Sweden, where a 50-member panel decides the winner/s, excitement was palpable. On the first Monday of October, the Assembly, as it is known, meets and votes for the winner/s.

Harriet Wallberg Henriksson, president of the Karolinska Institute, where the decision is taken, said that it takes months to evaluate and choose the winner/s.

"By December-January we invited nominations. And each year several hundreds of nominations are accepted, which are then evaluated deeply and thoroughly by our own committee and also by some professors who we choose," said Ms. Henriksson.

In September, the Assembly begins to discuss the most eligible entries and starts the process of shortlisting. "The Assembly comprises professors who are elected to it, and they stay on till retirement," she said.

After the Assembly has voted and chosen the name/s, the Secretary of Nobel Assembly is mandated to call and inform the winner/s. "Sometimes nominations are to be made over and over again, over years, they may take months or years to evaluate the work nominated. It is a long, thorough process," Ms. Henriksson added.

AFP reports:

Mr. Steinman (68) died of pancreatic cancer, according to Rockefeller University in New York where he worked. "We just got the information. What we can do now is only to regret that he could not experience the joy," said the Nobel Committee. "We don't name new winners, that was our decision," it said.

"How it will be done in practice to hand out the prize is what we will have to investigate," it said, adding, "we are examining the rules".
Faster than the speed of light

NEUTRINOS AND RELATIVITY

What does an experiment that seems to contradict Einstein's theory of relativity really mean?

In 1987, physicists were feeling pretty smug about their subject. They thought they understood it really well, and that the future would just be one of ever more precise measurements. They could not have been more wrong. The next three decades turned physics on its head, with the discovery of electronic, atomic nuclei, radioactivity, quantum theory, and the theory of relativity. But the most interesting development was a strange observation made that year by two researchers called Albert Michelson and Edward Morley that the speed of light was constant, no matter how fast the observer was travelling.

Some physicists are wondering whether their subject has just had another Michelson-Morley moment. On September 23, researchers at CERN, Europe's main physics laboratory, announced that subatomic particles called neutrinos had apparently sped from the lab's headquarters near Geneva, through the Earth's crust, to an underground detector 735 km (457 miles) away around 60 billionths of a second faster than light would take to cover the same distance. The difference in speed is tiny, but the implications are huge.

As everybody knows (and with access to Wikipedia, it is fast as possible), relativity, a theory devised by Albert Einstein, is the basis of the theory of relativity that they could use to predict the whole thing open. This would be such a thing. Their cautious in the face of the result—the public statements that it is probably explained by experimental error, even though the researchers involved had been over their equipment with a fine-tooth comb—is understandable. No one wants to get egg on his face by having missed something obvious.

A theory of everything

If the result is true, though, it does change everything. In particular, the likely explanation is that the neutrinos are taking a short-cut through one of the extra dimensions which string theory postulates are hidden among the familiar four of length, breadth, height and time. Measured along this fifth-dimensional route, Einstein might well be right. (It would not take much for that to be the right answer so that he did not know the whole story.) Indeed, moving beyond five dimensions in this way would allow physicists to try to integrate Einstein's work with quantum theory, the other great breakthrough of 20th-century physics, but one which simply refuses to make sense with relativity. A unified theory of everything, including perhaps as many as 11 dimensions, would then beckon.

That is a lot to hang on a single, unconfirmed observation. But then, in 1897, no one could have foreseen the consequences of the Michelson-Morley experiment. If a glitch is found in CERN's result, the whole thing will rapidly be swept under the carpet and forgotten. If there is no glitch, an astonishing future of understanding beckons.

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Science as the Foreign Jamaai

India's policy establishment neglects basic science and technology at its own peril

KIRAN KARNIK
INDEPENDENT STRATEGY & POLICY ANALYST

Science and scientists are now like the foreign jamaai in the traditional Indian household: treated well and showcased to outsiders, but never really integrated into the larger family. Immediately after Independence, Nehru provided a great thrust to science, with rationalism and the 'scientific temper', a key pillar of the new India which he sought to create. He accorded scientists special respect and many of them had direct and unhindered access to him. Subsequent prime ministers - particularly Indira Gandhi - continued this tradition till the 1980s.

Over the last two decades, India's achievements in space and nuclear technology have won much acclaim, and its phenomenal success in IT has led to its global recognition, however exaggerated, as a technological powerhouse. Today, the world has become dependent on technology, which increasingly drives the global economy. India itself is transitioning into a knowledge economy. Despite this, the government seems to be less enthusiastic, and its commitment to S&T appears lukewarm. One indication is the proportion of the country's GDP spent on S&T. Two decades ago, it was decided that this should be at least 2%; today, it stagnates as it has for years, at under 1%.

Scientists no longer have the privileged position that they enjoyed in the past, and the bureaucracy often calls the shots in many matters related to science. Politicians talk about the importance of science, but increasingly this seems like mere lip service. Even as the S&T establishment has grown in size, its relative importance has shrunk. This is analogous to the position of India in global science: absolute growth, but relative decline. Some countries like China and South Korea have hugely raised their share in global science publication, while India has fallen far behind.

India is now the world's capital for frugal engineering with examples like low-cost refrigerators, medical equipment, and cars. However, the under-motivating of basic science to support these technological and design innovations is weak and getting weaker.

This is why many looked at the Twelfth Five-Year Plan with great anticipation. One hoped that it would impart a new impetus to science and integrate S&T into core areas of development. Just about a year ago, the Scientific Advisory Council to the Prime Minister brought out a vision document outlining steps to make India a global leader in science, emphasising the vital role of S&T in the context of India's developmental goals. The expectation was that this exercise would be taken further, in a concrete manner, in the years ahead.

In this context, the Planning Commission's approach paper to the Plan is a disappointment. S&T could well have been the central core of the 12th Plan, instead of an add-on. While a separate chapter on innovation is a welcome step, it has practically no linkage with the one on S&T. In the education chapter, there is next to nothing on enhancing research in universities, or the need for a huge increase in the number of high-quality doctorates in S&T, or the acute shortage of faculty in science and engineering. While the approach to innovation is fairly comprehensive, education and S&T are in silos, reflective of the actual position.

Science is global, but the S&T chapter does not place Indian science in the global context. It notes, again, the need to raise R&D expenditure to 2% of the GDP from the present 0.9%; but of the incremental 1%, it wants private R&D to contribute three-fourths. Apart from the impracticality of expecting such a large increase in private sector R&D, this raises doubts about the government's own commitment to R&D.

Since private R&D is likely to be concentrated at the delivery end of the research-development-engineering chain, science will again get a short shrift. So-called 'small science,' done typically in the universities, gets no mention, though it is this, around the world, which is the foundation of bigger science and of technology. This is also, typically, the breeding ground for innovation and breakthrough technologies.

There is no mention of the policy regarding technological self-reliance in strategic sectors: has this goal been abandoned? The growing strategic importance of electronics, high-performance computing and communication needs recognition. The need to liberate S&T institutions from the stranglehold of bureaucratic procedures - including those affecting recruitment and investments - and to give greater freedom and autonomy to research institutions is downplayed. Bureaucracy is one reason why Indian scientists do so well abroad, but not in India.

The S&T chapter in the approach paper misses many key areas. It could have broken new ground and identified more specific policy directions, especially with regard to energising science research in universities, redefining the role of government R&D establishments and integrating S&T into mainstream development efforts. The needs of mission-oriented efforts, say, in strategic sectors, industry-led R&D, and basic science are quite distinct, and need different approaches.

India's industry has a dismal record of R&D; but market compulsions are changing that, and some fiscal incentives can stimulate investments. Government commitment, though, seems to be trending in the opposite direction. There is need to recognise that development, economic growth and geopolitical power are dependent on S&T capabilities; the government must, therefore, invest far more in S&T, and completely overhaul the machinery of managing science.
Met to shift monsoon dates

Study Shows Onset-Exit Dates Have Changed Over 60 Years

Neha Lalchandani | TNN

New Delhi: Armed with exhaustive data on rainfall from several more stations in the past 30 years, the Indian Meteorological Department is working on an analysis that will see a change in the date of monsoon onset and withdrawal over the country. Since 2006, the monsoon's retreat has been commencing between September 21 and September 30 against a normal date of September 1.

A report on India's climate profile by IMD director-general Ajit Tyagi and Dr S D Attri reveals that between 1941 and 2000, there has been a slight shift in monsoon activity with late onset and late withdrawal and a general increase in duration by about a week. As IMD set specific criteria for onset and withdrawal four-five years ago, making it mandatory for all conditions to be met before they declare onset or withdrawal, the withdrawal date has shifted by two-three weeks.

"As we have started following the criteria, we have new dates for onset and withdrawal. We will have to test these against the normal, work out variability and see if changes are required. The process has started but it may take a year or so," said Tyagi.

Between 1971 and 2000, Jammu and Kashmir saw a standard deviation of 14 days in the onset from the normal date. West and northwest India have seen onset delayed by an average of 1.5 weeks. Withdrawal dates have also shifted by about one to 1.5 weeks. "A general late onset suggests a shift in the monsoon activity. The duration of the southwest monsoon has also been found to be higher in all meteorological sub-divisions in the past 60 years," said Tyagi.

Dr M Rajeevan, scientist and monsoon expert with the National Atmospheric Research Laboratory, said it was high time that IMD proposed such changes. "The dates for monsoon activity were set several years ago and there has been a marked change in circulation, dates etc that should be updated. For instance, onset of monsoon has been steadily getting delayed over the eastern parts of central India. Such changes are due to a natural variability and not a result of global warming," he said.

Officials also said a change had also been recorded in the total rainfall across various regions with east getting lesser and west getting more rainfall. However, there had not been a significant change in the overall rainfall for the country.

In June, west and southwest India have recorded a significant increase in rainfall while central and eastern parts have shown a significant decrease. In July, central and peninsular India have shown a decrease while northeast India has shown a significant increase.

August has shown a significant increase in rain over Konkan, Goa, Marathwada, Madhya Maharashtra, Vidarbha, west Madhya Pradesh, west UP and Telengana while September has shown a decrease in average rainfall over Vidarbha, Marathwada and Telengana and an increase for sub-Himalayan West Bengal.
आईआईटी में नहीं आ रहे अच्छे छात्र: मूर्ति

वर्तमान में आईआईटी के छात्रों के समेत में बदलाव की जरूरत पर जोर दिया गया है।

आईआईटी के छात्रों की भर्ती की अंतिम तिथि 31 जुलाई को है। अधिकारी कहा कि इसमें सुधार की जरूरत है। इसलिए जो प्रोफेसरों की फील्ड में नहीं है उन्हें पूरी तरह से उचित पॉजिशन से दूर रखा गया है।

भारतीय प्रौद्योगिकी संस्थाओं (आईआईटी) के छात्रों के लिए एक खास संदेश है। इनमें से कई को जीवन में महत्वपूर्ण भूमिका निभाने के लिए उन्हें तैयार करने की जरूरत है।

राष्ट्रीय संस्थाएं के प्रमुख कृतियाँ इनमें से कई काफी अच्छी हैं। इनमें से कई को जीवन में महत्वपूर्ण भूमिका निभाने के लिए उन्हें तैयार करने की जरूरत है।

आईआईटी के प्राप्तव्यों के समेत में बदलाव की जरूरत पर जोर दिया गया है।
कोचिंग संस्थानों की वजह से गिर रहा है आईआईटी छात्रों का स्तर : मूर्ति

न्यूयर्क, 3 अक्टूबर (भाषा)। भारतीय प्रौद्योगिकी संस्थानों (आईआईटी) से निकलने वाले इंजीनियरों की गुणवत्ता पर असंतोष जताते हुए इन्फोसिस के मानद चेयरमैन एन.आर. नारायण मूर्ति ने कहा है कि छात्रों के चयन की प्रक्रिया में आमलापूर्वक बदलाव की जरूरत है। मूर्ति ने यह नौ ‘पैन आईआईटी’ सम्मेलन में सैलों पूर्व आईआईटी छात्रों को संबोधित करते हुए कहा कि इस कारण के बाद हवाई में आईआईटी में दाखिला लेने वाले छात्रों को गुणवत्ता में नकारात्मक आई है। इसकी वजह इंजीनियरिंग की पढ़ाई करने वाले कोचिंग संस्थानों है। कोचिंग संस्थानों से निकले ज्यादातर छात्रों का प्रदर्शन नीकरी के दौरान काफी खराब रहता है।

मूर्ति ने कहा कि आईआईटी में दाखिला लेने वाले छात्रों के स्तर में लागतार गिरावट आ रही है। इसके लिए कोचिंग कक्षाओं को ‘प्राक्तन’ दिया जाना चाहिए। उनकी इस व्याख्या के बाद पवन मौजूद लोगों ने जमकर ताली बजाई। उन्होंने कहा कि शीर्ष 20 प्रीस्कूल छात्रों का प्रदर्शन तो अच्छा रहता है, जबकि 80 प्रीस्कूल छात्रों का प्रदर्शन काफी खराब रहता है। यह यह है कि कोचिंग कक्षाओं में छात्रों को सीमित बारें में ही शिक्षा दी जाती है। इसमें से कुछ सक्रिय परीक्षा में पूरे जाते हैं। उन्होंने कहा कि ऐसे छात्रों को प्रदर्शन प्रेम दिखाया पाया जाता है। इसके बाद प्रेम प्रेम दिखाया पाया जाता है।

पर आईआईटी में दाखिला और नीकरी के दौरान उनका प्रदर्शन काफी खराब रहता है। इसमें सुधार की जरूरत है। आईआईटी में छात्रों के चयन की प्रक्रिया बदली जानी चाहिए।

आईआईटी को दुनिया के शीर्ष इंजीनियरिंग संस्थानों में शामिल करने के लिए बोझना का खाता खींचते हुए मूर्ति ने कहा कि ये सीरीज शिक्षा संस्थान ही नहीं, अच्छे अनुसंधान संस्थान भी होने चाहिए। तभी अगले 10 से 20 साल में हम हावर्ड और पूर्व आईआईटी के बीच अंतर बना पाएंगे।

उन्होंने सुझाव दिया कि पूर्व न्यायाधीश सन ने अनुसंधान पर विशेष जोर दिया जाना चाहिए। परीक्षाओं में स्थान लेने को क्षमता ही नहीं महत्त्व प्राप्त करता है एवं इसके बजाय क्रमांक चाहिए।

उन्होंने यह कहा कि आईआईटी में बेहतर अनुसंधान के लिए भारत सरकार को ऐसे संस्थान बनाना चाहिए जो शीर्ष परिचयक कोशिश कर सके। इसके साथ ही एक स्वतंत्र समिति सालाना आधार पर फैक्टरी अवलोकनों के शोध प्रदर्शन की सीमित भी करे। इन्फोसिस के मानद चेयरमैन एन.आर. नारायण मूर्ति ने आईआईटी छात्रों की अनुपूर्वी बोलने की क्षमता पर भी सवाल उठाया।
गिर रहा है आइआइटी छात्रों
का स्तर: नारायणमूर्ति

‘हल के गुर्गों में आइआइटी में
दाखिला लेने वाले छात्रों की
गुणवत्ता में काफी निराशत आई है।
इसकी वजह इंजीनियरिंग की पढ़ाई
करने वाली कोचिंग काशाएं हैं।
उन्होंने कहा कि शीर्ष 20 प्रतिशत
छात्रों का प्रदर्शन तो अच्छा रहता है,
लेकिन रोज 80 पॉसिडो क्षात्रों का
प्रदर्शन काफी खराब रहता है।

उन्होंने इस बात पर वहां उपस्थित
आइआइटी के सैकड़ों पुर्वां
छात्रों ने जमकर तालियां बजाए।
मूर्ति ने कहा, कोचिंग काशाएं में
छात्रों को सीमित दायरे में ही शिक्षा दी जाती
है। इसमें सुधार की जरूरत है।
आइआइटी में छात्रों के चयन की
प्रक्रिया बदली जानी चाहिए।
मूर्ति ने कहा कि यह सिर्फ़ शिक्षण
संस्थान ही नहीं बल्कि अन्यके
अनुसंधान संस्थान भी होने चाहिए।
तभी अगले 10 से 20 साल में ये
हार्वर्ड के बरबार पहुंच पाए।

न्यूयॉर्क, प्रेट्ट: भारतीय प्रौद्योगिकी
संस्थान (आइआइटी) से उत्तरी
होकर इंजीनियर बनने वाले छात्रों
की गुणवत्ता पर सॉफ्टवेयर कंपनी
इंफोसिस के पूर्व अध्यक्ष एनआर
नारायणमूर्ति ने असंतोष जताया है।
उन्होंने छात्रों की चयन प्रक्रिया में
बदलाव की आवश्यकता पर जोर
dिया है। साथ ही आइआइटी छात्रों
की अंग्रेजी भाषा बोलने की क्षमता
पर भी सवाल उठया।

मूर्ति ने कहा, ‘पैन आइआइटी’ सम्मेलन को
संबोधित कर रहे थे। उन्होंने कहा,
80% आईआईटी इंजीनियरों
की क्वालिटी गिरी : मूर्ति

प्रेट्ट • न्यूयर्क

इंफोसिस के सेवानिवृत्त चेयरमैन नारायण मूर्ति ने भारतीय प्रौद्योगिकी संस्थान (आईआईटी) से निकल कर आने वाले इंजीनियरों की गुणवत्ता पर अपनी नाराजगी जाहर की है। उन्होंने कहा कि आईआईटी में प्रवेश के इच्छुक उम्मीदवारों के लिए चयन-प्रक्रिया में आमूल-जूल बदलाव की जरूरत है। वे न्यूयर्क में दो दिनों के पैन-आईआईटी सम्मेलन के दौरान आईआईटी के सौकड़ों पूर्व छात्रों को संबोधित कर रहे थे।

उनका कहना था कि पिछले कुछ वर्षों के दौरान आईआईटी की विभिन्न शाखाओं में प्रवेश लेने वाले छात्रों की गुणवत्ता में लगातार गिरावट आई है। उन्होंने कहा कि आईआईटी की प्रवेश परीक्षा में उत्तीर्ण करने वाले शीर्ष 20 फीसदी छात्र पूरी दुनिया में बेहतरीन होते हैं। लेकिन, बाकी 80 फीसदी छात्रों की गुणवत्ता में लगातार गिरावट आई है। ऐसा इंजीनियरिंग में प्रवेश के इच्छुक उम्मीदवारों के लिए चलाई जा रही कोचिंग क्लासेज की वजह से हुआ है।

छात्रों की गुणवत्ता में लगातार गिरावट आई है ऐसा इंजीनियरिंग में प्रवेश के इच्छुक उम्मीदवारों के लिए चलाई जा रही कोचिंग क्लासेज की वजह से हुआ है। उन्होंने कहा कि कोचिंग क्लासेज को ध्यानदायक देना चाहिए, कि उनकी वजह से आईआईटी में प्रवेश लेने वाले छात्रों की गुणवत्ता बद से बदतर होती गई है।
गिर रहा है आईआईटी के छात्रों का स्तर : मूर्ति

न्यूयॉर्क | भाषा

दुनिया के छोटे के इंजीनियरिंग संस्थानों में शामिल आईआईटी से निकलने वाले छात्रों की गुणवत्ता पर एन आर नारायण मूर्ति ने सवालिया निशान खड़ी कर दिया है। इन्फोसिस के मानद चेयरमैन ने छात्रों के स्तर पर असंतोष जताते हुए चयन प्रक्रिया में आमूलचूंल परिवर्तन की जरूरत बताया है। उन्होंने गुणवत्ता में आमूलचूंल के लिए कोचिंग संस्थानों को जिम्मेदार ठहराया है।

मूर्ति ने यहाँ पैन आईआईटी समिति में सैकड़ों पूर्व आईआईटी छात्रों को संबोधित करते हुए कहा कि हाल के वर्षों में आईआईटी में प्रवेश पाने वाले कोचिंग पर गरजे

- पास करने वाले 80 फीसदी छात्रों का स्तर बेहद खराब
- कोचिंग में छात्रों को सिर्फ प्रवेश पाने भर का ज्ञान दिया जाता है

छात्रों की गुणवत्ता में काफी गिरावट आई है। उन्होंने कहा कि ज्यादातर ऐसे छात्रों का प्रदर्शन नौकरी के दौरान बेहद खराब रहता है।

मूर्ति ने कहा, आईआईटी में आने वाले छात्रों का स्तर लगातार नीचे गिरता जा रहा है। उन्होंने तंज कसा कि इसके लिए कोचिंग कक्षाओं को धन्यवाद दिया जाना चाहिए।
भूकंप की पूर्व सूचना देगी आईआईटी की नई प्रणाली

अहमदाबाद (एजेंट)। भारतीय प्रौद्योगिकी संस्थान (आईआईटी गांधीगर) के शोधकर्ता भूकंप की पूर्व सूचना देने वाली परियोजना पर काम कर रहे हैं। यह संस्थान अमेरिका के कैलिफोर्निया इंस्टीट्यूट ऑफ टेक्नोलॉजी (सीआईटी) के साथ मिलकर भूकंप की पूर्व सूचना देने वाली इस प्रणाली पर काम कर रहा है। किसी भी कलनपत्ती दरवाजे सेंसर होते हैं, जो भूकंप आने से पहले उसे भांप लेते है।

आईआईटी, गांधीगर के परियोजना प्रभावी प्रॉफेसर गिरीश सिंह ने कहा कि इस परियोजना का उद्देश्य भूकंप की वृद्धि से संचालनोत्स्वर्थ स्थान पर एकलेटिक्स नामक कुछ छोटे उपकरणों का एक नेटवर्क स्थापित करना है, जो धरती के कूप को भांप सकते हैं। इस परियोजना पर संचालन के साथ बीटिक अंतिम वर्ग के दो छात्र भी काम कर रहे हैं।

इसमें एक छात्र विभागीय प्रशासन ने कैलिफोर्निया इंस्टीट्यूट ऑफ टेक्नोलॉजी (सीआईटी) का नेटवर्क बनाया। वह इस परियोजना के लिए अपने नए चौंक देने वाले सेंसर भी उपयोग कर रहे हैं। इसमें इंजिनियरिंग के टूटी-टकेट के लिए प्रौद्योगिकी के कस्टमर भी भाग कर रहे हैं।

एक छात्र विभागीय प्रशासन ने कैलिफोर्निया इंस्टीट्यूट ऑफ टेक्नोलॉजी का नेटवर्क बनाया। वह इस परियोजना के लिए अपने नए चौंक देने वाले सेंसर भी उपयोग कर रहे हैं।
तबाही से आगाह करेगी IIT
भूकंप की पूर्व सूचना देगी आईआईटी की नई प्रणाली

अहमदाबाद। गांधीनगर के भारतीय प्रौद्योगिकी संस्थान (आईआईटी) के शोधकर्ता भूकंप की पूर्व सूचना देने वाली परियोजना पर काम कर रहे हैं। यह संस्थान अमेरिका के कैलिफोर्निया इंस्टीट्यूट ऑफ टेक्नोलॉजी (सीआईटी) के साथ मिलकर भूकंप की पूर्व सूचना देने वाली इस प्रणाली पर काम कर रहा है।

जिसमें किफायती दर वाले सेंसर होंगे, जो भूकंप आने से पहले उसे भांप सकेंगे। आईआईटी, गांधीनगर के परियोजना प्रभारी प्रोफेसर गिरीश सिंघल ने कहा कि हमारी परियोजना का उद्देश्य भूकंप की तृप्ति से संबंधित शृंखला पर एक्स्केलरेटर नामक छोटे उपकरणों का एक नेटवर्क स्थापित करना है, जो धरती के कपन को संभावित भांप संभालेंगे। यह उपकरण केंद्रीय सर्वर को भी आकड़े देंगे। सिंघल ने कहा कि किफायती दर वाले यह सेंसर भूकंप की तृप्ति से संबंधित भांप करेंगे। इस परियोजना से आपको समय काफी मदद मिलने वाली है। विशेषज्ञों के मुताबिक, भूकंप में भूकंप आता है तो उसे अहमदाबाद बढ़ाने में कुछ निष्क्षण लगे और पूर्व चेतावनी प्रणाली से चट्टा तत्कालिक उपयोग के लिए सतर्कता जारी रखने में मदद मिलेगी। इस परियोजना द्वारा सिंघल के साथ बीते अंतिम वर्ष के दो छात्र भी काम कर रहे हैं।
इलेक्ट्रॉनिक्स कारोबार
400 अरब डॉलर का होगा

नई दिल्ली (वार्ता)। सरकार ने इलेक्ट्रॉनिक्स उत्पादों के स्वदेशी निर्माण को बढ़ावा देने के लिए वर्ष 2020 तक 100 अरब डॉलर के निवेश और 400 अरब डॉलर के कारोबार का महत्वाकांक्षी लक्ष्य तय करते हुए सोपवार को राष्ट्रीय इलेक्ट्रॉनिक्स नीति का मसौदा जारी कर दिया।

केंद्रीय संचार एवं सूचना प्रौद्योगिकी मंत्री कपिल सिब्बल ने यह मसौदा जारी किया। इसमें देश की आवश्यकताओं को पूरा करने और अंतरराष्ट्रीय बाजार में भारतीय हिस्सेदारी बढ़ाने के लिए वैश्विक प्रतिस्पर्धात्मक इलेक्ट्रॉनिक्स प्रणाली तथा डिजाइन निर्माण के साथ ही नैनो इलेक्ट्रॉनिक्स उद्योग का निर्माण करने पर बल दिया गया है।

स्वदेश निर्मित मोबाइल फोन, सिम कार्ड आदि इलेक्ट्रॉनिक्स उत्पादों को बाजार में वरीयता देने का प्रस्ताव है। मसौदे में इलेक्ट्रॉनिक्स प्रणाली एवं प्रेस कॉन्फ्रेंस में संचार एवं आईडी मंत्री कपिल सिब्बल। बीबी यदव

■ राष्ट्रीय इलेक्ट्रॉनिक्स
नीति का मसौदा जारी
डिजाइन निर्माण क्षेत्र के लिए 10 वर्ष की चिंता का विवाद के साथ ही विशेष वित्तीय प्रोत्साहन पैकेज दिए जाने का उल्लेख भी किया गया है। इस उद्योग को बढ़ावा देने के लिए इलेक्ट्रॉनिक्स विकास कोष की स्थापना की जाएगी।