Newspaper Clips
May 30, 2011

IIT faculty says room for improvement

Kirtika Suneja
New Delhi, May 29

MANY of the IIT faculty that HRD minister Kapil Sibal used as an example to debunk environment minister Jairam Ramesh's comments — that the staff and research at the Indian Institutes of Technologies (IITs) are not world class — partially agree with Ramesh that there is room for improvement.

Countering Ramesh's lament on the premier institutes, Sibal had pointed out that 25% of the IIT faculty are alumni of the institutes, and therefore, must be world class.

FE spoke with some IIT faculty members to gauge their mood. "The number of students at IITs are increasing and the classrooms are small. The increased student intake doesn't lead to constructive interaction with the students at a personal level. If the batch is split into two, then more faculty is required. More-

PREMIER SHOW

Name of IIT	Number of papers in journals	Faculty strength
Kharagpur	1209	537
Bombay	711	487
Madras	836	427
Kanpur	756	345
Delhi	887	417
Guwahati	389	251
Roorkee	590	379

over, there are not high-class amenities," said Mandar Inamdar, who passed out from IIT Bombay and has been teaching there for four years.

At IIT Bombay, 25% of the faculty are B Techs from the same institute with another 60-70% who are M Techs or PhDs from the premier institutes.

Referring to Ramesh's comments,

Inamdar said, "Though it is unfair to make such blanket statements, but it is true that we are not comparable to Massachusetts Institute of Technology and that is because these institutes have been around for a longer time."

Agreeing with Ramesh, a professor from IIT Kanpur says, "Facilities can be improved in the IIT system espe-

cially for experimental work and their autonomy. There needs to be lesser interference (from the government) on decisions that can make us world class. Where will you get world class faculty if you keep adding more IITs?"

This assumes significance as less than 1% of IIT undergraduates pursue Masters or PhD courses within the IIT system and the IIT system produces less than 1.5% of the total engineering graduates in the country but accounts for over 70 % of those pursuing doctoral programmes in engineering and technology.

Same is the case with the newly established IIT Ropar. "25% of our faculty have done their B Tech from some IIT or the other," agrees MK Surappa, director of IIT Ropar.

At IIT Delhi, more than 30% of the faculty in the engineering departments have done their B Tech from the premier schools and almost 70% have received some degree or the other from it.

IIT faculty says ...

"It is pointless to contextualise, especially regarding research, because it all depends on the amount of facilities available and the number of people in each department. However, we should not compare because publications can't be churned out overnight," says Harish Karnick of IIT Kanpur who has degrees from his alma mater as wells as IIT Bombay.

Of the 340-strong faculty at IIT Kanpur, around 60% are from the IITs themselves, and in the computer science department the number is as high as 85%.

Though such statements do

OF THE 340-STRONG FACULTY AT IIT KANPUR, AROUND 60% ARE FROM IITS THEMSELVES, AND IN THE COMPUTER SCIENCE DEPARTMENT THE NUMBER IS AS HIGH AS 85%

affect the morale of those who take serious value to the IITs, as Inamdar says, "We must look at global standards and match up to it by improving ourselves."

RationalExpectations

So Jairam's wrong, big deal

The issue is not whether IITs are doing good research, it's how many people get into IITs

Let's assume environment minister Jairam Ramesh is right when he says the IITs do precious little good research, that they add little value to the students they give degrees to—that is, since the students who get admission to the IITs are top 0.1% of the eligible population, they're bound to be bright. Look at various ratings of Indian universities, and they seem to suggest Jairam is right. IIT-Delhi was among the top 500 universities in the world in 2003 (it was ranked between 451-500) but by 2010, it was nowhere to be seen on the Academic Ranking of World Universities (ARWU) list. IIT-Kharagpur managed to remain in the list but with a fall in the score. China has 16 universities in the top 500 (13 in engineering, 1 in medicine and 1 in social sciences) while India has just 2 (IIT-K is in the 401-500 list while the Indian Institute of Science is in the 301-400 rank). China has 6.8% of the world's top 500 universities and accounts for 19.8% of global population—India's figures are 0.4% and 17.1%, respectively.

Or let's assume Jairam is wrong, as education minister Kapil Sibal has suggested. Sanjay Dhande, director of IIT Kanpur, argued in *The Indian Express* the other day that the IIT faculty had done a pretty good job and listed various IIT work such as the encryption scheme for the Indian navy, e-passport and real-time information on trains. Others, such as Manish Sabharwal who runs India's largest temping firm Teamlease, have argued in *FE* that you can't have research unless the overall economic environment favours R&D and that's beginning to happen only now.

But when you see that just 13,602 students passed the IIT Joint Entrance Examination this year, you see just how much of a non-issue the whole debate

over the quality of the IIT/IIM faculty is. The debate then moves on to how poor the quality of private education—the alternative to the IITs and the IIMs—is and how much of a ripoff it is. Indeed, the more learned will point to 'externalities' that can get captured only by publicly-funded education. Since there's no gain to be made by doing research, they argue, private engineering or management schools will never encourage faculty to concentrate on research. And research, we know, is what made the MITs and Harvards what they are. So, let's not waste time with this private education ripoff, just build top class government institutes—a parallel argument, by the way, is made about corporate hospitals. All of this is probably true, private hospitals like private universities probably over-charge and hugely so, but what is the alternative? If the government had the capacity, both financial and managerial, it would have built the colleges and the hospitals, and life would have been perfect for everyone. But the fact is the government hasn't done it, so there's no reason to suspect it will in the future.

It is obviously true that a Manipal University can't compete with an IIT, just as it's clear that a for-profit University of Phoenix can't compete with a Harvard when it comes to the standard of learning, the quality of faculty, the kind of alumni. But while pouring

scorn on the University of Phoenix, let's keep in mind that, after being set up in 1636, there is just one Harvard and it has a total of 21,000 students. Phoenix was set up in 1976, has 200 campuses and nearly 5 lakh students.

SUNIL JAIN

In an ideal world, every Indian who wants to be an engineer should go to an IIT, but for now India's needs are a lot more basic. They're not even about just education, they're about just making Indians job-ready to begin with—the under-two-year-old National Skills Development Corporation goal is to skill/upskill 500 million Indians by 2022, for instance. Or take the numbers put out by Columbia professor Arvind Panagariya the other day at the NCAER. According to Panagariya, a greying OECD will have 35 million less persons in 20-49 age group by 2025, China will have 63 million less. The gap, and more, will be made up by India which will add 139 million persons in this age group. Perfect, you'd think, there's a gap in the world and there's a supplier to make good the gap.

Not so fast! Just 13% or so of the 113 million persons India has in the 20-24 age group actually go to college—for China, the comparable gross enrolment ratio is 23%. So the world needs 100 million or so well-educated persons more in 2025 (assuming, incorrectly, that the demand for more educated people doesn't rise) but, at current GERs, India can

Three lakh Indians study abroad as there aren't enough good colleges here, and spend $6-8 bn a year in tuition and other costs—that's more than India's higher education budget. The IIT debate's really a side-show

supply only 18-20 million. That's hardly going to help either the world or India. Certainly, India's 8-9% GDP dream is going to be history without a lot more people getting a basic education, through distance learning at Sikkim Manipal University or Punjab Technical University if need be. Wage rates for semi-skilled and uneducated painters are already up to around ₹450 per day in metros like Delhi or around $3.3 per hour on a PPP basis compared to $8 in the US—without a significant increase in productivity that only education brings, you can pretty much start writing off India's growth story.

If India needs to raise its game, it needs to improve education all around, not just concentrate on the IITs and the IIMs. You have to read the Annual Status of Education Report to know just how broke the schooling system is—only 53.4% children in the fifth standard in rural India can read a second standard level text; the proportion of first standard children who could recognise numbers from 1-9 declined from 69.3% in 2009 to 65.8% in 2010; children in the fifth standard who could do simple division problems also dropped from 38% in 2009 to 35.9% in 2010. And yet, instead of encouraging people to set up more schools—public, private, not-for-profit, for-profit, how does it matter?—we're trying our best to kill private schools thanks to the onerous Right to Education Act which specifies the size of rooms in schools as well as the salaries to be paid to teachers. As a result of what we've done to restrict growth on one ground or the other, while the private education business is estimated at around $40bn today, the amount spent by Indian students abroad is around $6-8bn! Imagine what we'd do for education, and India, if that kind of money was spent here instead.

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Ministers must speak as one: Constitution

Dhananjay Mahapatra | TNN

New Delhi: Article 75 of the Constitution says the council of ministers headed by Prime Minister shall be collectively responsible to Lok Sabha. It intended to make the ministers speak in one voice, for the framers of Constitution were aware of the saying "united we stand, divided we fall".

Environment minister Jairam Ramesh probably breached that discipline by commenting on India's premier technology and business management institutes — IITs and IIMs. He said the faculty there was not world class, though the students were. It was more like a common man's comment on any topic under discussion, lacking in conviction and force.

Ramesh's comments saw HRD minister Kapil Sibal defending the elite institutions even as a debate raged over their standards. Sibal could have got even by questioning the quality of environment impact assessments done under Ramesh's ministry and the flip flops over Posco and other issues. But he did not. Being a lawyer of repute, he must have understood the grave dimensions of a situation that could arise from breach of a constitutional mandate and embarrass the PM.

The collective responsibility of the council of ministers was founded on the desire to provide the people of the country good administration through more work and less talk. For, people's goodwill is vital to the functioning of a government.

If ministers start speaking out of turn and comment on topics falling in other's domain, then it would lead to confusion, which is a serious impediment to efficient administration.

In 1977, the Supreme Court in the State of Rajasthan vs Union of India case had said, "It is axiomatic that no government can function efficiently and effectively in accordance with the Constitution in a democratic set-up unless it enjoys the goodwill and support of the people."

If collective responsibility casts a duty on the council of ministers, it is equally applicable to the opposition parties, who have an important role to point out the mistakes in governance and take genuine issues of the public to Parliament.

But the main opposition party BJP appears to be keen on scoring self- goals rather than cornering the government over its mistakes. It succeeded in forcing a reluctant government to concede a JPC inquiry into
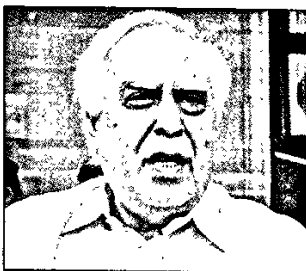
Union ministers Kapil Sibal and Jairam Ramesh recently differed on quality of IIT faculty

the 2G spectrum scam.

More recently, its robust constitutional arguments forced the government to reject governor H R Bhardwaj's report recommending dismissal of the B S Yeddyurappa government. Congress spokespersons maintained a brave front before television cameras but found their logic pale before the authoritative judgment of the apex court in S R Bommai case, which had said that if a chief minister enjoyed majority on the floor of the House, it would be inadvisable for the Centre to exercise powers under Article 356, even if the governor so recommends.

LEGALLY SPEAKING

Hardly had the dust settled over Bhardwaj's report, internal bickering within the BJP came out in the open with a senior leader casting doubts about another's role relating to continuance of Bellary's Reddy brothers in the BSY cabinet. Congress got a perfect opportunity to laugh at the predicament of senior leaders in the principal opposition party.

This happened because one of the BJP leaders forgot the code of collective responsibility. It is equally applicable, if not constitutionally, to the opposition party, which is also indirectly responsible for ensuring good governance.

And when there are repeated breaches in collective responsibility, there is bound to be failure in governance resulting in people rushing to courts, even for implementation of policies framed by the government.

In State of Karnataka vs Ranga Reddy, the Supreme Court had warned three decades back, "There is another stark possibility — the administration sliding back from the progressive constitutional values to protective private interests; and then the courts may activate the 'welfare jurisprudence' of the Constitution by appropriate commands."

Business Standard ND 30/05/2011

P-16

Old ties

Apparently Steve Ballmer's association with the Indian Institute of Technology dates back to his very first day at work in Microsoft. The first assignment that Ballmer got from Bill Gates was to sift through a pile of letters that an IITian had written over one-and-a-half years expressing his desire to work with the company. Touched by the writer's perseverance, Ballmer hired an IITian on his first recruitment drive.

BY MIKE FLANAGAN

MINT ND 30/05/2011 P-30

The hard road to quality

A week after minister for environment and forests Jairam Ramesh put a question mark on research in Indian Institutes of Technology (IITs) and Indian Institutes Management (IIMs), the government is contemplating one of the many steps that are required to push universities on the road to quality.

As reported in *Mint* on Monday, the government may agree to an automatic 10% increase in the fee payable by students who attend the 450-odd universities under state control. This is a modest proposal. But even this minimal raise, if implemented, would be a welcome step.

Today most universities are nothing more than a combination of degree-distributing and salary-disbursing machines. Research—leave aside the quality question—is simply not a priority. There are, no doubt, some spots of excellence, but these are isolated examples in an otherwise desolate academic environment. There are many caus-

es for this state of affairs, but two can be singled out easily.

For one, research output depends a lot on the demand for it. In this case, there has hardly been any—from the private sector (that prefers to shop for technology and scientific solutions abroad) and from the government alike. This goes a long way to explain why our best—the IITs and IIMs—produce excellent undergraduates, but the quality of their PhDs is so poor. This has been changing of late,

but comes at a time when universities are hardly prepared for meeting these demands, however modest they may be.

At the same time, it is often held that universities are perhaps the single-most important route to social mobility for the vast number of Indians. If this aspiration is understandable, it has also led to questionable practices. For one, in almost all universities, it has led to a lowering of admission standards. Instead of being tightened to enable only the best and the brightest to gain entry, the floodgates have been opened for one and all. Once this hap-

pened, it became impossible to enforce a higher, more realistic, fee structure. Misplaced calls for egalitarianism—often only the shell of it, for our university graduates are hardly employable—put an end to it. The result has been that after paying salaries, there is hardly any money left for research, unless it comes from elsewhere.

The plans to raise fee could still come unstuck as the Central Advisory Board of Education may reject it. If only for the sake of quality, it should not.

Should students pay more? Tell us at views@livemint.com

Financial Express ND 30/05/2011 p-11

INTERVIEW

'Research should be the focus in universities'

The Institute for Technology Research and Innovation (ITRI) was created in 2008 to play a key role in Deakin University's cutting-edge research activities. Last year, The Energy and Resources Institute (Teri) and Deakin University entered into a MoU to establish the Teri-Deakin Nano Biotechnology Research Centre in the field of nano biotechnology in India. In an interview with FE, **Professor Peter Hodgson,** *director, ITRI, speaks about Deakin's journey in India. Excerpts:*

What is your India research initiative all about?

In 2009, we formed the Deakin India

Research Initiative (DIRI), which is responsible for supporting collaborative research programmes and higher degrees by research for students largely based out of India and jointly supervised by an Australian and an Indian supervisor.

What is DIRI vision?

DIRI is an expansion of Deakin University's development of research models that bridge the gap between academia and industry. Discus-

sions with organisations in India have highlighted how bridging this gap will be a major factor enabling the rapid increase in manufacturing and knowledge industries needed for growing Indian economy. Deakin has formed research partnerships with some of India's leading companies, research institutes and universities.

What is your take on the excellence at IITs? We know that IITs rank high in,

say, the salary packages the students receive, but they don't rank so high in, say, research. What lacks?

Getting into the IITs gives you an assurance of a good career and most students stick themselves to a BTech degree, which gives them a high paying job. Some do Btech plus Mtech, and very few proceed to do a degree in research. But this should not be the case. In some of the finest institutes in the world, students are more concerned on publications, patents, etc. In Indian institutes of technical excellence, students are more concerned about getting jobs. But I believe this should and will change over time.

Ganesh Chandra

ONE WORLD, MANY SKILLS

PROFESSIONALS CAN NO LONGER CLIMB UP THE SUCCESS LADDER WEARING BLINKERS. TODAY, YOU NEED MORE TO IMPRESS YOUR EMPLOYERS. THE NEED OF THE HOUR IS TO DIVERSIFY, SAYS TIRNA RAY

The world is changing and it is changing fast. You may be hard working, diligent and a thorough professional, but you need to have a range of added skills to be able to glide across departments. Gone are the days, when professionals could afford to wear blinkers and climb up the success ladder. Today, you need more to impress your employers. The need of the hour is to diversify.

Sougata Ray, dean, Indian Institute of Management Calcutta (IIM-C), points out that we are passing through a dynamic phase where the future will be characteristically different from the past. In such a situation, there is always an inherent tension as to what kind of learning is more valuable — a narrow specialisation, a broad-based one or a multi-specialised approach.

Narrow specialisation works well in a stable environment where one can anticipate the future with reasonable certainty. But in an ever-changing and unpredictable environment, being a one-tail pony is risky and of limited value.

In such a scenario, Ray adds, organisations too typically diversify their portfolio by having a presence in multiple areas.

An ever-changing business environment makes it imperative for any professional course to diversify. In fact, with this in mind,

G Ramaswamy, president, Institute of Chartered Accountants of India (ICAI), says that its chartered accountancy course is conducted on a dynamic platform to ensure that all potential members are updated on the ever-growing field of knowledge to cope with the information explosion in a technology-driven environment.

Most industry representatives and academics agree that there is a need for 'umbrella skills,' which secures your position in the job market. For example, according to Akhil Saxena, centre head, National Institute of Design, Post Graduate campus, Gandhinagar, design as a subject is not just skill-based, but a field that merges with many others.

NID's focus, he adds, is on design thinking. The sensibilities incorporated within the academic structure entail that a graduate is equipped with the detailed understanding of his or her metier.

This ultimately means that the student is able to translate the question into tangible, applicable solutions — whether it is for a design client or for a client from another field.

MULTIPLE ROLES

As a person aspires to grow, the only differentiator is one's exposure to the various streams of his domain. For instance, "An HR professional today needs to play roles of an HR generalist, HR business partner, staffing, HR operations, compensation and benefits and talent management, to mention a few," reiterates Pramath Nath, global talent manager, Hewlett Packard (CASS & Finance), Bangalore.

Real-life problems are never straight jacketed in any discipline. Stressing on the increasing need for diversification, RK Shevgaonkar, vice-chancellor, University of Pune, and professor of electrical engineering, IIT Bombay, says, "It is,

therefore, essential to develop a multi-disciplinary approach, which needs knowledge of multiple fields."

While professionals need to diversify, so do disciplines. As Ranbir Singh, vice-chancellor, National Law University, Delhi, points out, professional courses should diversify to reach out to underprivileged students. This would help in creating a new generation of lawyers at the grassroots level as agents of social change.

Pinaki Dasgupta, professor, The Indian Institute of Foreign Trade (IIFT), reasons that one of the rationales for disciplinary-diversification is that physical distance should not be a constrain in case of programme delivery. This calls for looking at online education as an alternative platform.

THE FLIP SIDE

The other side of over-diversification is that an organisation may spread its resources too thin and become a Jack of all trades and master of none. In that case, when Jack faces tough competition in each of these areas from entities, which are focused and highly competitive, Jack may lose out in every area due to lack of specialised resources. Therefore, Ray adds, a healthy balance between narrow speciali-sation and broad-based education is important.

On a concluding note, a large number of professionals dabbling in a range of areas feel that though varied skills and flexibility are important. It is imperative to have a core area of specialisation, which serves as an anchor when it comes to the job market.

(Inputs from Rajani Yadav in Kolkata, Bindu Prashanth in Ahmedabad, Veena Aruldass in Pune and Geetha Rao in Bangalore)

A NARROW SPECIALISATION WORKS WELL IN A STABLE ENVIRONMENT WHERE ONE CAN ANTICIPATE THE FUTURE WITH REASONABLE CERTAINTY. AN EVER-CHANGING BUSINESS ENVIRONMENT MAKES IT IMPERATIVE FOR ANY PROFESSIONAL COURSE TO DIVERSIFY

Beautiful friendships

Why corporate universities and business schools are a perfect fit

Michael Stanford

"Louis, I think this is the beginning of a beautiful friendship"—Rick Blaine, to Captain Louis Renault, in Casablanca

I think of Humphrey Bogart's closing line in *Casablanca* whenever I read somewhere that the rise of corporate universities poses a serious threat to B-schools. We first heard this prediction when corporate universities became popular in the mid-1990s, and we've been hearing it ever since. But the prediction doesn't stand up to a careful examination of what makes corporate universities and B-schools successful, and it certainly doesn't stand up to the facts. There has been no greater opportunity for the flexible and innovative B-school than the growing tendency of organisations to place responsibility for organisational learning in the hands of a high-profile and centralised team of professionals. The B-schools that recognise and act on this opportunity will find that many of their closest partnerships and most beautiful friendships are with corporate universities.

Those who predicted the downfall of B-schools at the hands of corporate universities usually based their reasoning on two assumptions: that corporate universities would only want highly customised development experiences for their participants, and that B-schools would always be too focused on their academic agendas to provide such customised support.

The prophets of doom also misjudged the power of corporate universities to shape the B-school agenda. And they underestimated the ability of B-schools to respond to the needs of their influential and sophisticated corporate university clients. In the end, both assumptions have proved wrong: corporate universities want many different things, and more than a few B-schools have done an excellent job responding to their needs.

Corporate universities reflect a serious commitment to organisational capability-building. When an organisation develops a corporate university, it almost always does so because it believes that organisational learning is worthy of serious investment. Since it is not always clear to B-schools where organisational learning sits on a

CEO's agenda, or the extent to which a successful partnership with the client will depend on convincing important internal stakeholders that learning and development can be a powerful competitive tool, the existence of a corporate university can be a reassuring sign of commitment.

Most corporate universities have a clear sense of purpose and have created a set of learning and development activities that are consistent with that purpose. When we work with a corporate university, we understand very quickly what their agenda is and how our partnership with them serves that agenda.

Corporate universities are expected to add value to the organisation in real and measurable ways. This expectation puts pressure on the corporate university to focus only on the most impactful activities, and to search for new ways to help the business perform better. Corporate universities understandably transfer this pressure to their partners, which means we must also always innovate to serve them more effectively. Corporate universities force us to innovate, and innovation is a very healthy thing for the B-school world.

We have had the great pleasure of developing close partnerships with many corporate universities, and through our experience we have learned a few things about what it takes to make a successful partnership. Keeping in mind that the partnerships we've built are as varied as the organisations with which we work, I would describe the strongest partnerships as being remarkable for reasons of compatibility, motivation, a sense of adventure and fun.

Compatibility means there is a strong fit between the needs of the corporate university and our own capabilities at IMD. Since corporate universities have many different requirements and we can be an effective partner for only some, it is not always obvious that we can help the corporate universities that come to us for support. We have learned that it is best for us to work only with the partners with whom we have a natural and obvious alignment. We've also learned that compatibility is more than just thematic alignment: it is a question of chemistry.

Motivation refers to the sources of our energy and inspiration. When both partners are motivated by a higher purpose—

for example, by the real possibility of improving the performance of the business and the lives of the organisation's leaders—we can be confident that we will always find the energy we need to create and execute truly transformational work. Other motivations play their part: CLOs are often eager to advance the organisation's learning agenda, to build strong personal brands and fulfilling careers, and to continue to learn.

Energy also comes from a sense of adventure, a feeling that we are working together to explore new worlds, to create brighter futures for the leaders with whom we work, and to achieve significant and meaningful change. All worthwhile adventures are uncertain and many of our most compelling partnerships begin on risky terrain. This uncertainty leaves us free to write our script together, confident that we'll come to a happy ending despite the inevitable highs and lows, unexpected difficulties and welcome victories.

Finally, a great partnership is one in which there is genuine joy in working together. Partnerships in which we share a sense of playfulness and a willingness to explore ideas and create new things together are often those in which both partners can bring the best of themselves to the adventure, unconstrained by old ways of thinking. Focus is important, and so is a respect for the seriousness of the business goals we need to achieve together. But enjoying the challenge of our work together is just as important, and perhaps the most critical ingredient to a long-lasting partnership. There are other contributors to a successful partnership. Trust in each other, commitment to our shared goals, and recognition of the impact of our work on the careers of our learning partners all matter. But strong compatibility, being motivated by the transformational work we can do together, and approaching the partnership as an adventure that we should both deeply enjoy are what makes a partnership beautiful.

The author is executive director of IMD's Partnership Program business, and serves on the Boards of the University Consortium for Executive Development and the International Consortium for Executive Development Research

'Digital ant' army to make computers virus-proof

Houston: Inspired by how ants protect their colony when it is threatened, computer experts are currently testing a programme which they say could offer foolproof protection against virus attacks.

When an ant comes across an intruder, other members of the colony help it and deal with any unwelcome visitor. This sort of "swarming intelligence" is currently being tested for use in software by a team at Wake Forest University in North Carolina in partnership with Pacific Northwest National Laboratory (PPNL).

Errin Fulp, a professor of computer science at Wake Forest University, is training an army of "digital ants"

> A computer science professor is training an army of 'digital ants' to turn loose into the power grid to seek out computer viruses trying to wreak havoc on the system

to turn loose into the power grid to seek out computer viruses trying to wreak havoc on the system.

If the approach proves successful in safeguarding the power grid, it could have wide-ranging applications on protecting anything connected to SCADA (Supervisory Control and Data Acquisition) networks, computer systems that control everything from water and sewer management systems to mass transit systems to manufacturing systems.

Fulp is working this summer with scientists at Pacific Northwest National Laboratory (PNNL) in Richland, Washington, on the next steps in the digital ants technology, developed by PNNL and Wake Forest over the last several years.

The approach is so promising that it was named by Scientific American magazine last year as one of the "ten technologies that have the power to change our lives." PTI

Times of India ND
30/05/2011 P-17

Oz girl solves mystery of universe's missing mass

Melbourne: Astrophysicists have for long baffled with the universe's "missing mass" puzzle. Now, an Australian student claims to have finally cracked the scientific conundrum.

Physicists knew that universe contained more mass than was visible in planets, stars and other objects — but didn't know where to find it. They estimated about half the mass required to keep the universe functioning as it does was "missing". Now, 22-year-old Amelia Fraser-McKelvie, an aerospace engineering student has discovered the missing material.

She conducted a targeted X-ray search of vast structures known as "filaments of galaxies". Her analysis of material confirmed that mass was present in the filaments. "If we're looking long distances from Earth we're detecting mass, but if we're looking closer to Earth we only see about half the mass that we're expecting to see. This is called the missing mass problem. People have theorized that this mass has settled in filaments that extend between galaxies, so we tested & confirmed this prediction," she said. PTI

Hindu ND. 30.05.11,
P-3

New president for IIT Alumni Association

NEW DELHI: Yatinder Pal Singh Suri has been unanimously elected president of the Indian Institute of Technology (IIT) Kharagpur Alumni Association for the North India region.

Mr. Suri is at present working as India head of a Finland-based stainless steel maker. This apart, he is also member of various committees of FICCI, CII and All India Management Association and other bodies.

SECURING FUNDS

University fees may rise every 3 years

Govt to push for 10% periodic hike; proposals to be placed before apex education body, state ministers on 7 June

BY PRASHANT K. NANDA
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NEW DELHI

The Central government will push for a 10% hike in university fees every three years in a bid to nurse these institutions to financial health—a move that could have a far-reaching impact on India's resource-strapped higher education system.

The move, which is likely to face strident opposition from students as well as rival political parties, follows a government-appointed panel's recommendation of an increase in fees charged by the Indian Institutes of Technology (IITs). Fees at colleges that have government funding are nominal and increases are rare, given that such moves are fraught with political risk.

Universities are the key to higher education in India with over 80% of around 15 million students pursuing courses under the system. The proposals on increasing college fees will be introduced at two meetings—one of state education ministers and another of the Central Advisory Board of Education, the apex education body that helps the Central government formulate policies. Both meetings are to be held in Delhi on 7 June.

"Central and state universities may be statutorily required to adopt revision of fee structure payable by the students by at least 10% for every three-year period," said the agenda note for both the meetings, a copy of which has been reviewed by *Mint*.

Since a majority of the universities in the country are under the control of the states, local governments have to be taken on board for the move to succeed, said two senior officials of the human resource development (HRD) ministry, who didn't want to be named.

There are some 525 universities in India, of which 450 are funded by the government. Of these 450, only 40 are Central universities and the rest are state universities.

"A couple of months back, a meeting of vice-chancellors had suggested a fee hike look-ing at the current financial condition of the universities," said one of the officials.

He rejected the notion that fee increases would add to the financial woes of families labouring under rising inflation. "Looking at the current situation, a 10% hike is unlikely to burden families as university education is not very expensive," he said.

A student pays on average between ₹6,000 and ₹12,000 as annual tuition fee. Authorities say this is too low. Universities can charge market rates for so-called self-financing courses, where there is no government aid involved. For example, a self-financing course on corporate finance at Orissa's Utkal University costs students at least ₹40,000 a year.

"Universities are getting less than 10% of their revenue from student fees and this can be increased up to 15%," said the second ministry official.

A 10% fee hike may not look like much in bigger cities such as Delhi or Mumbai but would pinch students in smaller towns, said Gayatri (who uses only one name), a student at Utkal University.

"When your father is earning ₹5,000-6,000 a month, a 10% increase in the course fee is definitely going to impact the family budget," she added.

"These days the common man is the worst sufferer," said Gayatri, whose father works in a small business in Orissa. "Whether it is food or fuel prices, it's the common man who has to accommodate" the increases.

Syed E. Hasnain, former vice-chancellor of University of Hyderabad, said some universities are charging just a few hundred rupees per course for a semester, which is irrational.

"When the demand for education is growing, you cannot be irrational. A 10% hike every two or three years will help universities get some amount of extra funds," he said. "And in five years time the course fee will be rational."

Instead of a one-size-fits-all solution, the fee hike should be left to individual universities, he said. "If a student in a metro can afford a car to come to classes, why can't he afford ₹30,000 per semester to study a course which has a lot of market demand."

The Anil Kakodkar panel set up by the HRD ministry had

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>OurView: The hard road to quality >P30

University fees may rise every 3 years

suggested a sizable fee increase at the IITs to make them more financially independent. Currently, an IIT student pays around ₹50,000 per year in tuition fee.

"The committee has suggested that the tuition fees should be between ₹2-2.5 lakh per year per student," the panel said in its report in the second week of May. "This would be reasonable considering the high demand for IIT graduates and the salary that an IIT B. Tech is expected to get."

The IIT council will take a final call on the suggestion. The committee has also suggested that there should be a special loan facility for IIT students to help cover their expenses.

As far as the proposal on higher education fee increases is concerned, the ministry will also ask state governments to be "liberal" in funding state universities to improve the quality of teaching and research. Funding is seen as the most crucial aspect of higher education.

While demand for education has increased enormously in recent years, the Central government expenditure on it is less than 1% of the gross domestic product (GDP), according to official data. The ministry proposes to discuss this issue at both the meetings and is likely to press for higher education funding to be raised to 1.5% of the GDP.

According to the agenda, both the meetings will also discuss performance-linked incentive grants for university professors and evaluation of teachers to improve the quality of education and create a sense of accountability.

Political & Business Daily ND 5/30/2011   p1

Mumbai institute ranks 4th in the world

PBD BUREAU

MUMBAI, MAY 29

INSTITUTE of Chemical Technology (ICT) based in the metropolis has been placed number four in the world by an annual survey on the research standards of engineering and technology institutes. Coming in the wake of the controversy triggered by Union Minister Jairam Ramesh through his controversial comments about the standard of IITs and IIMs the institute has proved that Indian education is not lagging behind.

"Prof Jude Sommerfeld of Georgia Institute of Technology, USA has been publishing annual surveys on research standards of engineering and technology institutes in the world and his survey published this year shows that the ICT stands number one in India and number four in the world," ICT director and vice-chancellor, Prof GD Yadav told PTI here.

The ICT has on its roll 537 full time Ph.D. students with full fellowships and 319 Masters students. This itself is a record. The ICT publishes more than three international peer reviewed papers per faculty. ICT's impact per dollar spent has been the highest in the world. The institute has published papers in all leading journals in the world and has citations of more than 33,000 with very high h-index, Yadav said.

The 79-year-old institute, earlier called University Department of Chemical Technology, has produced many industrialists, academics, bureaucrats, Padma awardees, secretaries to Government Departments, directors of CSIR labs and over 500 first generation entrepreneurs.

All these achievements are in spite of not getting even a paltry of funds in comparison with IITs, Yadav said.

"Lack of adequate funds is cited as a reason for meager research output by IITs vis-a-vis the Western universities. In comparison, the ICT receives only salary grant of its employees from the Maharashtra Government and in that too about 50 per cent is released on adhoc basis," Yadav said.

Economic Times 30/05/2011 P-10

'वर्ल्ड क्लास का तमगा न सही, सिक्का तो चल रहा हमारा'

IIT-IIM का लक्ष्य देश में इंजीनियरों और प्रबंधकों से जुड़ी मांग पूरी करना है, न कि ग्लोबल टैलेंड प्रतिस्पर्द्धा में शामिल होना

देबाशीष चटर्जी

हमारे आईआईटी और आईआईएम क्या विश्वस्तरीय संस्थान हैं? नहीं, और उन्हें ऐसा होने की जरूरत भी नहीं है। आईआईटी और आईआईएम की स्थापना बेहतरीन इंजीनियर और मैनेजर बनाने के लिए की गई थी, न कि वैश्विक स्तर पर प्रतिभाशाली लोगों को अपने साथ जोड़ने के लिए।

शिक्षा में 'वर्ल्ड क्लास' का मतलब होता है, प्रवेश और चयन प्रक्रिया, पाठ्यक्रम और शिक्षण, शोध, सीखने की प्रक्रिया की गुणवत्ता और इसके तौर-तरीके, इंफ्रास्ट्रक्चर की गुणवत्ता, विद्यार्थियों की संतुष्टि और असल मायने में वेल्यू एडीशन के मोर्चे पर दुनिया के संस्थानों के मुकाबले हमारे संस्थानों का उल्लेखनीय प्रदर्शन।

इस परिभाषा के लिहाज से आईआईटी और आईआईएम का आकलन उनकी पृष्ठभूमि में करना होगा। इस पृष्ठभूमि के बिना 'वर्ल्ड क्लास' का बिल्ला चस्पा करना बेमतलब है। आईआईटी और आईआईएम को सरकार ने सार्वजनिक पूंजी से स्थापित किया है और इन्हें राष्ट्रीय महत्व के संस्थानों के

रूप में देखा जाता है, जिन्हें ऐसे इंजीनियर और मैनेजर बनाने हैं, जो देश में इंजीनियरों, तकनीशियनों और प्रबंधकों से जुड़ी मांग पूरी कर सकें। बतौर संस्थान उन्हें ऐसे देश में क्षमता विकास का काम करना था, जिसे उपनिवेशवादियों ने लूट लिया था। अपनी स्थापना के समय से ही इन संस्थानों से ऐसी अपेक्षा नहीं की गई थी कि ये वैश्विक स्तर पर प्रतिभाओं को आकर्षित करेंगे। बावजूद इसके, चयन के मोर्चे पर आईआईटी और आईआईएम का दुनिया में कोई सानी नहीं है और आंकड़े इसके गवाह हैं।

इन संस्थानों से निकलने वाले छात्र बड़ी संख्या में इन्हीं संस्थानों में बतौर फैकल्टी जुड़ते हैं। ऐसे में कोई यह कैसे कह सकता है कि वही विश्वस्तरीय छात्र इन्हीं संस्थानों में शिक्षक बनकर खराब हो जाते हैं? इस सवाल का जवाब इन संस्थानों की संरचना में है, जिसकी वजह से इन नॉलेज श्रमिकों की सही प्रतिभा का इस्तेमाल नहीं हो पाता है।

यह बात सही है कि आईआईटी और आईआईएम अग्रणी शोध संस्थानों के रूप में नहीं उभर सके हैं। इस समय ज्ञान के क्षेत्र में नई पहल करने के बजाय वे बाजार की जरूरत

66

इन संस्थानों से निकलने वाले छात्र बड़ी संख्या में इन्हीं संस्थानों में बतौर फैकल्टी जुड़ते हैं। ऐसे में कोई यह कैसे कह सकता है कि वही विश्वस्तरीय छात्र इन्हीं संस्थानों में शिक्षक बनकर खराब हो जाते हैं

99

के हिसाब से इंजीनियर और मैनेजर बनाने की मांग से ज्यादा प्रेरित हैं। दरअसल, आईआईटी और आईआईएम में प्रदर्शन और इनाम का ढांचा ऐसा है, जिससे वास्तविक नॉलेज तैयार करने की दिशा में प्रेरणा नहीं मिलती है। हमारा मौजूदा लक्ष्य शोध, लर्निंग और शिक्षण में वैश्विक स्तर का बेंचमार्क तय करने का है ही नहीं। क्या हमारे पास ऐसी संस्थागत और इंस्ट्रक्शनल लीडरशिप है, जो आईआईएम के उस विरोधाभास को खत्म कर सके, जिसमें वैश्विक स्तर का यह प्रतिस्पर्धी स्कूल अभी भी स्थानीय भू-

राजनीतिक रुचियों और संवेदनशीलता को पहले ध्यान में रखकर काम करता है?

इन सवालों का जवाब सिर्फ 'वर्ल्ड क्लास' या ऐसे दूसरे जुमले उछालने भर से नहीं मिल सकता है। हमें बहुत ही गंभीरता से विचार करना होगा कि हम सर्वश्रेष्ठ लोगों के संस्थान में मध्यम दर्जे की प्रतिभाएं क्यों पैदा कर रहे हैं? यह सवाल वैसा ही है कि इतने सारे अमीरों के रहते भारत गरीब देश कैसे है? संपत्ति की तरह ही अकादमिक प्रतिभा भी व्यक्तिगत, सामाजिक-राजनीतिक और राष्ट्रीय सीमाओं में कैद होने पर नहीं निखर सकती है। क्या सचिन तेंदुलकर को सिर्फ भारतीय पिचों पर खेलने को मजबूर करते तो वह विश्वस्तरीय खिलाड़ी बन पाते?

मेरी नजर में विश्वस्तरीय संस्थान वह है, जो सीखने वालों को वेतन और इंक्रीमेंट जैसी चीजों से आजाद कर बड़े फलक पर काम करने के लिए प्रेरित करे। माननीय मंत्री महोदय, हमारे छात्र बाहर गए हैं और वहां उन्होंने अपना सिक्का चलाया है। क्या उनके शिक्षक कमतर हो सकते हैं?

(लेखक आईआईएम-कोझिकोड के डायरेक्टर हैं)
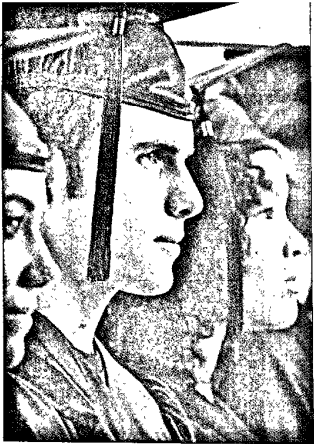
MAHAMEDHA ND.30.05.11, p-14

देश में और अधिक आईआईटी खोलने की है जरूरतःनासकॉम

बैंगलूर (ए)। सूचना प्रौद्योगिकी क्षेत्र की देश की प्रमुख संस्था नासकॉम के अध्यक्ष सोम मित्तल ने भारतीय प्रौद्योगिकी संस्थान (आईआईटी) और भारतीय प्रबंधन संस्थान (आईआईएम) की प्रशंसा करते हुए कहा है कि संस्थान के छात्रों को बहुराष्ट्रीय कंपनियां नियुक्त करने भारत आती है।

श्री मित्तल ने कहा कि देश में कुछ बहुत अच्छे संस्थान हैं जिसका उदाहरण आईआईटी और आईआईएम है। बहुत सारी अंतरराष्ट्रीय कंपनियां यहां के पेशेवर छात्रों को नियुक्त करने भारत आती हैं।

यह अपने आप में एक उपलब्धता है। उन्होंने कहा कि देश में अभी और आईआईटी खोलने की आवश्यकता है यहां ज्यादा शिक्षक नियुक्त करने चाहिए और अधिक शोध होना चाहिए। उन्होंने कहा कि शिक्षकों की संख्या बढ़ाने के साथ-साथ शिक्षा की गुणवत्ता बढ़ाने पर भी ध्यान देना चाहिए।

उन्होंने कहा कि गत वर्ष 10 लाख छात्रों ने विभिन्न इंजीनियरिंग कॉलेजों में दाखिला लिया था लेकिन इसमें से सिर्फ छह लाख छात्र ही सफल हुए। श्री मित्तल ने कहा कि तेजी से बदलती तकनीक के साथ पाठ्यक्रम में भी बदलाव लाना चाहिए ताकि शिक्षण गुणवत्ता ठीक हो सके।

लेकिन इन सबके लिए अधिक संख्या में शिक्षकों की नियुक्ति और अधिक शोध कार्य बेहद महत्वपूर्ण हैं। उन्होंने कहा कि सूचना प्रौद्योगिकी क्षेत्र की कई कंपनियां नियुक्ति के लिए आई और अपने काम के अनुसार छात्रों को लेकर आई। इससे पता चलता है कि यहां हर प्रकार के छात्र हैं और उनकी नियुक्ति करने में कंपनियों को सहूलियत होती है।