

## Newspaper Clips July 26, 2013

Indian Express ND 26-Jul-13 P-7

# CVC clears path for picking IIT-Kharagpur director

## Gives clean chit to Prof Chakrabarti in Coalnet scam

ANUBHUTI VISHNOI

NEW DELHI, JULY 25

**T**HE Central Vigilance Commission (CVC) on Thursday finally gave the nod to the HRD Ministry to appoint Prof Partha Pratim Chakrabarti as director of IIT-Kharagpur. Top government sources said the CVC gave the professor a virtual clean chit in the Coalnet scam. Keeping in mind the minor penalty recommended against him, the CVC also asked the ministry to 'advise' the professor to be more careful in future.

Sources said the ministry will follow the CVC advice and formally appoint him as IIT-Kharagpur director. The CVC nod came amid nationwide protests by faculty, alumni and students of the institute. They had also threatened to move court if there was any delay in the appointment process. Chakrabarti's elevation comes just

ahead of the IIT-Kharagpur convocation scheduled for July 27, to be presided over by HRD Minister M M Pallam Raju.

Though an HRD Ministry panel had suggested his name in July 2012, Chakrabarti's appointment ran into trouble over his alleged role in the Coalnet scam that involved computerisation of Coal India and its subsidiaries between 2001 and 2004. Since May 2013, the issue has been pending before the CVC.

Meanwhile, IIT-Kharagpur is likely to send memos to IIT-Patna director Prof A N Bhowmick and Prof R N Banerjee, seeking their reply to charges against them in the scam. Sources said the institute will also set up a departmental inquiry committee.

The CVC had earlier sought action against Bhowmick, Chakrabarti and Banerjee based on CBI recommendations. However, the CBI had recommended

a minor penalty against Chakrabarti on the basis of his response to a query posed by Coal India in 2004.

The HRD Ministry has argued that this was more a result of a 'bona fide mistake'. A section of people, however, believe that Chakrabarti's letter was misleading and amounted to protecting the interests of his other colleagues.

The Pallam Raju-led ministry has backed Chakrabarti, disagreeing with the minor penalty clause that calls for a censure or holding back one increment. It pointed out that it was Bhowmick and Banerjee who entered into the contract to outsource Coalnet computerisation and Chakrabarti neither had a role in this process nor was he a beneficiary. IIT-Kharagpur too backed Chakrabarti. The Board of Governors twice gave clean chit to him. The ministry had on May 7 submitted its report to CVC, favouring his appointment.

Hindustan Times ND  
26-Jul-13

P-15

## PP CHAKRABARTI SET TO BECOME IIT-KGP DIRECTOR

**Vanita Srivastava**

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**NEW DELHI:** A major hurdle for the appointment of PP Chakrabarti as IIT-Kharagpur director was overcome on Thursday after the Central Vigilance Commission (CVC) cleared him in the Coalnet scam.

According to sources, the CVC, however, advised issuance of a suitable administrative warning to Chakrabarti that he be more careful in the future.

The ministry is likely to send the clearance letter to the President on Friday after which the appointment will be formalised. "The matter had been pending for a year. We hope he gets his appointment letter at the earliest," said Rajendra Singh, general secretary of IIT Teachers' Association, IIT-Kharagpur.

The students in protest, had planned a silent march on July 27 before their convocation.

In July 2012, the HRD ministry had constituted a search-cum-selection committee which selected Chakrabarti as the next director of IIT-Kharagpur. But the appointment had been pending a CVC clearance in a case of alleged procedural irregularities.

Times of India ND 26-Jul-13  
P-17

## CVC nod for new IIT-Kgp director

**A**fter months of wrangling, P P Chakraborty has been cleared for the post of IIT-Kharagpur director. The CVC's nod came on Thursday. Chakraborty had got the nod last year, but it was later found that he was among the IIT professors accused by the CBI of outsourcing work given to the IIT.

**Akshaya Mukul**

Millennium Post ND 26 July 2013 P-5

## Top court transfers to itself pleas on IIT admission from AP HC

**NEW DELHI:** The Supreme Court on Thursday directed transferring to its bench all petitions relating to admissions in Indian Institute of Technology pending in the Andhra Pradesh High Court.

‘The transfer petition is allowed,’ a bench comprising Chief Justice P Sathasivam and Justice Ranjan Gogoi said.

The petition was filed by the organising chairman of Joint Entrance Examination (JEE) (advanced) 2013, IIT-Delhi, seeking that all petitions pending in the Andhra Pradesh High Court on admissions to IIT be shifted to the apex court.

An advocate associated with the matter said there are more petitions pending in other High Courts and applications would be filed for their transfer also to the apex court.



Hindustan Times ND 26-Jul-13 P-15

# We will analyse JEE 2013 results for next year: Raju

**Vanita Srivastava**

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**NEW DELHI:** The government will make a detailed analysis of the results of the Joint Entrance Exam (JEE) 2013 to see whether the goals for which the format was changed have been met, HRD minister Pallam Raju said.

“We will certainly do an analysis of the 2013 results to assess whether we have achieved the goals we wanted to by changing the format — whether more children from rural areas had benefitted due to the weightage given to the school grades, whether more girls have been able to get admission or whether coached students have retained their edge. Let us do a detailed analysis and see whether we have actually balanced. Only after that we can arrive at a conclusion whether a change is required next year or not,” Raju told HT.

The pattern for the JEE exam for admission to IITs was changed this year to a two staged exam — JEE (mains) and JEE (advanced). Only the top 1.5 lakh students from JEE (mains) were allowed to appear for the JEE (advanced).

Till last year there was a sin-

gle exam for admission to IITs.

Admitting that 79 students had been denied admission to IITs because of ‘confusion’ in the cut-offs, he said, “I would have been equally concerned if it had affected just one student. But the matter is now in the court.”

## JAB MEET TO DISCUSS JEE 2014 PATTERN

The Joint Admission Board (JAB) will meet on August 18 to discuss the pattern that should be adopted for JEE 2014. Following this, the IIT Council chaired by HRD minister is likely to meet on September 3 to take a final decision for next year.

The JAB is a body which looks after the admission process for IITs. The meeting chaired by IIT Delhi director RV Shevgaonkar hopes to come up with a solution to the problems faced under the new pattern.

It will also discuss whether a two stage exam is required or not and also whether the 20 percentile eligibility should continue for 2014. A detailed report on JEE 2013 will be discussed.

JAB will give its inputs to the IIT Council meet on September 3, which will finally decide on next year’s pattern.

## Muddle over NIT seat allotment

**NEW DELHI:** After merit violations and tech glitches, students taking admission to National Institutes of Technology (NITs) faced another setback on Tuesday when the seats they were allotted to were changed without prior notice.

“My daughter was first allotted NIT Allahabad, but when I reached the reporting center at Allahabad I was told that it was changed to IIIT Gwalior. When I reached Gwalior station and checked on the net her seat had once again been changed to Allahabad,” said Sanjay Seth, a parent. Several other students faced similar problems when they reached the reporting centers

Another parent added, “There has been no transparency in NIT admissions this year. The rules... have been violated.” **HTC**

Asian Age ND 26/07/2013 P-4

# SC transfers to itself pleas on IIT admission from AP HC

AGE CORRESPONDENT  
NEW DELHI, JULY 25

The Supreme Court on Thursday directed transferring to itself all petitions relating to admissions to the Indian Institute of Technology (IIT) pending in the Andhra Pradesh high court. A bench comprising Chief Justice P. Sathasivam and Justice Ranjan Gogoi allowed the

transfer petition filed by the organising chairman of JEE (advanced) 2013, IIT-Delhi. The plea sought that all petitions pending in the AP HC on admissions to IIT be shifted to the top court. An advocate associated with the matter said there are more petitions pending in other high courts and applications for their transfer will also be filed before the top court.

Pioneer ND 26-Jul-13 P-6

## Apex court rejects review plea against AICTE verdict

MBA, MCA courses do not need prior approval from council

NEW DELHI: A Supreme Court verdict that it is not mandatory for affiliated colleges of a university to take prior approval from the All India Council for Technical Education (AICTE) to run MBA and MCA courses has attained finality with the rejection of a plea seeking its review.

The apex court had ruled that the MBA course was not a

technical one. Though the MCA was a technical course, the AICTE's role could be advisory only, the court had added.

The apex court's April verdict got a stamp of approval on Tuesday when a bench of Justices B S Chauhan and V Gopala Gowda, which had delivered the judgment, declined the review petition.

A curative petition, however,

can still be filed for reversal of the order.

"We have considered the averments in the review petitions. Having regard to the facts and issues involved, in our opinion, no case for review is made out. There is no error in the impugned order. Hence, the review petitions are dismissed," the bench said in its brief order following in-chamber hearing.

The AICTE, regulator for higher technical education, wanted a review of the verdict which was passed on a bunch of appeals filed by some affiliated colleges under Bharathi-

dasan University and Manonmaniam Sundaranar University in Tamil Nadu.

The colleges had challenged an order passed by the Madras High Court, which according to them, wrongly interpreted the provisions of the AICTE Act, 1987, and held that even though the university was not required to take permission from the AICTE to run MCA and MBA courses, the affiliated colleges are required to do so.

"As per definition of 'technical education' under Section 2(g) of the AICTE Act and non production of any material by

the AICTE to show that MBA course is a technical education, we hold that MBA course is not a technical course within the definition of the AICTE Act," the bench had said.

With regard to the MCA course, it had said: "The same is a technical education and therefore, it comes within the definition of technical education but for its proper conduct of courses and regulation the role of AICTE must be advisory and for the same, a note shall be given to the UGC for its implementation by it but not the AICTE." The bench had fur-

ther said the role of AICTE vis-à-vis universities is only advisory, recommendatory, and one of providing guidance and has no authority empowering it to issue or enforce any sanctions by itself.

The court had found merit in the arguments then advanced by the colleges that the AICTE regulation 2000, bringing MCA and MBA courses within its purview of the definition technical education, could not be given effect to since it had not been placed before the Parliament.

DN News Service

Jansatta ND 26-Jul-13 P-8

# आइआइटी दाखिले से जुड़ी लंबित याचिकाओं पर सुनवाई अब सुप्रीम कोर्ट करेगा

जनसत्ता ब्यूरो

नई दिल्ली, 25 जुलाई। सुप्रीम कोर्ट ने भारतीय प्रौद्योगिकी संस्थान (आइआइटी) में प्रवेश को लेकर आंध्र प्रदेश हाई कोर्ट में लंबित सारी याचिकाएं गुरुवार को अपने यहां मंगा लीं। मुख्य न्यायाधीश पी सदाशिवम और न्यायमूर्ति रंजन गोगोई ने संयुक्त प्रवेश परीक्षा (जेईई-एडवांस्ड) 2013 दिल्ली आइआइटी के संयोजक अध्यक्ष की स्थानांतरण याचिका पर यह आदेश दिया। अदालत ने कहा कि स्थानांतरण याचिका को मंजूरी दी जाती है। इस याचिका में अनुरोध किया गया था कि आंध्र प्रदेश हाई कोर्ट में लंबित सारी याचिकाएं सुप्रीम कोर्ट में स्थानांतरित करने का आदेश दिया जाए।

इस मामले से जुड़े एक वकील ने बताया कि कई याचिकाएं दूसरे हाई कोर्टों में भी लंबित हैं और इन सभी को शीर्ष अदालत में स्थानांतरित करने के लिए जल्द ही एक अर्जी दाखिल की जाएगी। इससे पहले 12 जुलाई को शीर्ष अदालत ने आंध्र प्रदेश हाई कोर्ट में भारतीय प्रौद्योगिकी संस्थान में प्रवेश से संबंधित सारी कार्यवाही पर रोक लगा दी थी। हाई कोर्ट ने इस संस्थान को निर्देश दिया था कि चार रिक्त सीटों को भरा नहीं जाए। ये सीटें पहले प्रदेश के छात्रों को देने की

पेशकश की गई थी, लेकिन बाद में अपेक्षित फीसद नहीं होने के आधार पर उन्हें इससे वंचित कर दिया गया था।

न्यायमूर्ति केएस राधाकृष्णन और न्यायमूर्ति पिनाकी चंद्र घोष ने इस मामले में उन छात्रों से जवाब तलब किया था, जिनकी याचिका पर आठ जुलाई को हाई कोर्ट ने आदेश दिया था। बाद में 11 जुलाई को न्यायमूर्ति एचएल दत्तू और न्यायमूर्ति दीपक मिश्रा की खंडपीठ ने 12वीं की परीक्षा के अंकों और जेईई के आधार पर सरकारी सहायता प्राप्त इंजीनियरिंग कालेजों में प्रवेश के लिए छात्रों की मेरिट सूची से संबंधित नीति को चुनौती देने वाली याचिका पर कोई भी अंतरिम आदेश देने से इनकार कर दिया था।

HINDUSTAN ND 26-Jul-13 P-9

# जेईई के मामले सुप्रीम कोर्ट सुनेगा

नई दिल्ली। सुप्रीम कोर्ट ने आईआईटी में प्रवेश को लेकर आंध्र प्रदेश उच्च न्यायालय में लंबित सभी याचिकाएं अपने यहां स्थानांतरित करवा लीं। मुख्य न्यायाधीश पी. सदाशिवम और रंजन गोगोई की पीठ ने 'जेईई (एडवांस्ड), 2013 (दिल्ली आईआईटी)' के संयोजक की स्थानांतरण याचिका पर यह आदेश दिया।

इस याचिका में अनुरोध किया गया था कि आंध्र प्रदेश हाईकोर्ट में लंबित सारी याचिकाएं शीर्ष न्यायालय में स्थानांतरित करने का आदेश दिया जाए। इस प्रकरण से संबद्ध एक वकील ने बताया कि कई याचिकाएं दूसरे उच्च न्यायालयों में भी लंबित हैं और इन सभी को शीर्ष अदालत में स्थानांतरित करने के लिए शीघ्र ही एक अर्जी दाखिल की जाएगी। इससे पहले, 12 जुलाई को शीर्ष अदालत ने आंध्र प्रदेश उच्च न्यायालय में आईआईटी में प्रवेश से संबंधित कार्यवाही पर रोक लगा दी थी। उच्च न्यायालय ने इस संस्थान को निर्देश दिया था कि चार रिक्त सीटों को भरा नहीं जाए। ये सीटें पहले प्रदेश के छात्रों को देने की पेशकश की गई थी, लेकिन बाद में अपेक्षित प्रतिशत नहीं होने पर उन्हें इससे वंचित कर दिया गया था। (वि.सं.)

# Centre seeks IIT-Kgp response on Nadar row

DEEPAK KUMAR JHA ■  
NEW DELHI

The Centre has trained its guns on IIT-Kharagpur chairman Shiv Nadar — the HCL founder — who is facing allegations of 'conflict of interest'. On the other hand, there is an increasing demand, especially from ex-IITians, for appointment of a tainted professor as institute director.

The PMO and HRD Ministry have sought "specific comments" from IIT-Kgp on allegations against Nadar. It assumes significance as it comes just ahead of Union HRD Minister MM Pallam Raju's visit to the institute for its convocation on Saturday and amid 'pressure' from various quarters — including a section of the corporate sector — to appoint Prof PP Chakraborty as director. Chakraborty has been



**Sources said IIT-Kgp has been asked about Nadar's business interests with the institute and his firm's association with Kota-based IIT coaching centre, Resonance**

indicted in the CoalNet Scam by the CBI and CVC.

Sources said IIT-Kgp has been asked about Nadar's business interests with the institute for over decades and his firm's association with Kota-based IIT Coaching Centre, Resonance.

The Ministry has also reminded about the reply status on CVC and Central Information Commission's clarification over the controversy in May.

The Pioneer had, on May 13, first reported Nadar's

alleged 'nexus' with IIT and how his software company is being benefited due to his position. Nadar was nominated chairman of the board of governors by the then Visitor, President Pratibha Patil.

The Centre has taken cognizance of the complaint, which highlights the emerging nexus amongst HCL business tycoons and 'tainted' academic administrators.

"HCL has been working with IIT-Kharagpur for profits for decades and supplying com-

puters, networking and accessories. Shiv Nadar is also running institutes and a university, besides his company's association with an IIT-JEE coaching institute at Kota in Rajasthan," noted the professors' complaint to the Visitor, CVC, PMO and HRD Ministry.

The complainant also pointed that Nadar has been allegedly shielding CBI-indicted IIT dons — former Registrar Dr Gunasekaran, Prof AK Bhowmick, IIT-Patna director and Professor PP Chakraborty, who is director-select of the institute.

The CVC had, in February this year, directed the HRD Ministry and IIT-Kgp for penalising Bhowmick and Chakraborty. But the Nadar-chaired board exonerated Chakraborty from all charges in order to facilitate his appointment as director.



Mail Today ND 26-Jul-13

P-5

## Muddle over NIT seat allotment

**NEW DELHI:** After merit violations and tech glitches, students taking admission to National Institutes of Technology (NITs) faced another setback on Tuesday when the seats they were allotted to were changed without prior notice.

“My daughter was first allotted NIT Allahabad, but when I reached the reporting center at Allahabad I was told that it was changed to IIT Gwalior. When I reached Gwalior station and checked on the net her seat had once again been changed to Allahabad,” said Sanjay Seth, a parent. Several other students faced similar problems when they reached the reporting centers

Another parent added, “There has been no transparency in NIT admissions this year. The rules... have been violated.” **HTC**

## Indians hit as US varsity to shut down

**THE University of Northern Virginia has been ordered to shut down with immediate effect, leaving a large number of Indian students stranded and jeopardising their academic career.**

The State Council of Higher Education for Virginia in an order dated July 16, which was made public last week, said the University of Northern Virginia, which calls itself the most popular American university for students from India, must cease operations immediately as a post-secondary institution.

### Significant number of students from India

Given that the University of Northern Virginia (UNV) has a significantly large number of foreign students, mostly from India, the State Council of Higher Education for Virginia has asked these students with F-1 visas to approach the Department of Homeland Security with issues related to immigration and optional practical training.

The now closed university has been asked to provide information regarding students' academic and financial records.

UNV, which was once run by a chancellor who reportedly maintained a sex dungeon, was raided by the FBI and the Immigration and Customs Enforcement in July 2011. At that time the university had more than 2,000 students, majority of them being Indians.

Last week, there were some 500 students, with a significant number of them from India. **PTI**

# Travel time, urban mess increasing pollution: Study

**Darpan Singh**

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**NEW DELHI:** Every time the detours near Nehru Place fly-over in south Delhi prompt you to drive instead of walk, around 400 times more carbon emissions are produced.

The government may be gloating over the massive car-centric infrastructure it is creating in the Capital but the spree and the overall city design has turned Delhi into an urban sprawl, leading to increased distances. This has promoted wrong travel choices, resulting in more congestion and pollution, experts at the Centre for Science and Environment said.

Flyovers, signal-free corridors and foot overbridges obstruct and destroy movement patterns needed to promote walkers, cyclists and public transport. Detours caused by these car-centric infrastructure increase pollution because small walkable trips are replaced by

## PROBLEMS & SOLUTIONS

- Urban sprawl leads to increased distances, car use, congestion and pollution. Compact city design will promote walking, cycling, public transport and reduce pollution
- Car-centric infrastructure

destroys movement patterns needed for non-motorised transport. There is a need to improve walking, cycling and para transit access to public transport nodes

longer trips, mostly on motorized vehicles, the experts said.

They also warned that investments in the Metro system and buses would be wasted as the city's design did not promote walking and cycling.

Delhi government's own estimation shows vehicular emission accounts for half of the carbon dioxide level in the city. An IIT Delhi study shows the emissions may increase by 526% by 2030.

Speaking at an event on transport and climate, Sunita Narain, CSE director general,

said, "How we design our cities decides how we travel. Getting the design right is the key."

CSE's executive director for research and advocacy Anumita Roychowdhury chipped in by saying that places in compact cities could be covered by walking, cycling or on a bus. "Urban sprawls require cars," Roychowdhury said.

Delhi has a population of about 17 million; about 1% of them live in Lutyen's zone. This has been pushing growth to periphery and increasing distances and car dependency.

# Traffic in chaos as cities shrink space

**RASHME SEHGAL**  
NEW DELHI, JULY 25

With Indian cities getting bigger, the average travel distance within the city space is rising rapidly causing increasing congestion and air pollution. Specific studies done across cities confirms how transportation is contributing to rising carbon dioxide levels. Already, transportation in Delhi is contributing to half the carbon dioxide in the city. A recent IIT Delhi study has concluded that if this trend is not halted, emissions will increase by 526 per cent by 2030.

The Centre for Science and Environment invited

experts to showcase global good practices. Fabio Duarte, professor at the graduate programme of urban management in Curitiba, Brazil, emphasised how the successful implementation of BRT programme helped transform transportation in the city.

"The success of Curitiba BRT has not been a matter of buses but of combining urban development with transportation planning," said Mr Duarte.

S.S. Bajaj, vice-chairman, Naya Raipur Development Authority, highlighted how this new Greenfield city was being developed to ensure sustainable mobility for a



projected population of 50 lakh people.

Li Minwel, an engineer with the Beijing Transportation Research Centre in China, described the strict decongestion measures taken to cut down the number of new vehicles plying in the city. New car licences are issued only for a period of six months

to be renewed every three months, he pointed out.

The example of California was also cited on how to per capita emissions are to be reduced by 7 per cent by 2020 and 15 per cent by 2035. California's 18 Metropolitan Planning Organisations were asked to develop a regional strategy for reducing vehicle miles travelled and those regions which complied received additional funding.

The CSE said one of the difficulties with Delhi was that it had sparsely populated central core, compared to other prominent global cities, forcing its middle-class to live at the periphery increasing

travel distances and car dependency. Citing specific examples of how infrastructure like flyovers and signal-free corridors impacts travel distances, a CSE assessment shows how a walking trip replaced by a car trip near Nehru Place flyover because of the detours increased CO2 emissions by 434 gram/person trip.

In Gurgaon, replacement of direct walking access to Metro station at Iffco Chowk or MG Road increased walking distance by 800 metres. If replaced by a motorable trip, it increased the travel distance by 4 to 5 times and the resultant CO2 emissions went up to 504 gram/person trip.

**HIRING | TREND**

**■ Infy, TCS and IBM still remain favourites among IT students**

# For aspirants, it's brand over salary

New Delhi, July 25: When it comes to employment, many aspirants give more weightage to the brand image of a company and job profile than the salary package, a survey shows.

The survey by Firstnaukri.com, a portal for campus hiring, also found that BE/B.Tech IT students prefer IBM for employment, followed by TCS and Infosys. "Job profile and brand image of the company continue to rule the choice in comparison to salary package during placements," according to the survey.

The findings are based



on questions e-mailed to jobseekers registered with the portal. It covered BE/B.Tech, BBA, BCA, B.Sc, non-IT engineers,

finance and computer science graduates and post-graduate students.

"Infosys, TCS and IBM still remain the big giants

in campus placements for IT students. It is interesting to note that the students are keener for a good job profile rather than a fat salary package," Firstnaukri.com Business Head Deepali Singh said.

For non-IT engineers, the Defence Research and Development Organisation (DRDO) and L&T are the most preferred brands, followed by Tata Motors and Tata Steel, the report said.

Among MBA and MCA students, it said that Coca-Cola and Bharti Airtel emerged as the preferred employers, fol-

lowed by Pepsi and Samsung.

Meanwhile, according to another global study from human capital solutions firm CareerBuilder, revealed that companies around the world have at least one thing in common: difficulty filling in-demand jobs as organisations struggle to find qualified candidates.

In India, the positions that take the longest to fill include — IT manager/network administrator, computer programmer, accountant, engineer, administrative assistant/ and marketing professional. — PTI

Statesman ND 26-Jul-13 P-12

# Employment short circuit

AFTER COMPLETING ENGINEERING COURSES, ESPECIALLY IN ELECTRONICS, STUDENTS ARE FACED WITH A DEARTH OF JOB OPPORTUNITIES, SAYS  
**AAKASH CHAUDHURY**

**W**e all know that engineering has many divisions and students exercise their freedom to join any stream, after which confusion ensues between them and their parents. For example, these days the trend is that most students blindly take up electronics and communications. Since most parents observe ongoing market trends and make decisions for their children, they have started reckoning that computer science is superior to civil engineering. Instead of doing a little research or listening to industry experts, parents go by word of mouth and make conclusions, impacting their children's lives in the long run.

Due to global recession and the Satyam scandal, most people were caught between opting for computer and electronics engineering. Parents were seemingly worried about their daughters as to what course would best suit them. Isn't it better to discuss the latest trends in engineering and then leave the ball in their children's court?

Let us start with civil engineering, for which almost every college has an impressive infrastructure in terms of faculty and laboratories. In reality, this domain is not easy and demands warrant visits and overseeing construction management. Mechanical engineering comes with similar issues, too. On the other hand, electronics and electrical engineering are very job-oriented courses. The bone of contention lies in the fact that most colleges in this field lack sufficient infrastructure. Moreover, after finishing these courses, students are faced with a dearth of employable companies. At last we are left with computer engineering and Information Technology.

Although providing infrastructure for these courses is a cakewalk, students face difficulties try-

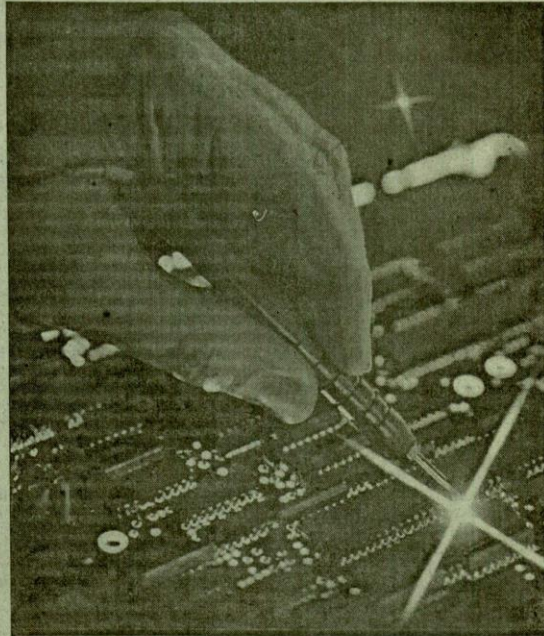
ing to catch up with the syllabus if the college is not equipped enough.

Another hindrance is that when top companies like Google and Microsoft come for campus interviews, they don't hire from any other field apart from computer science or IT.

Regrettably, even after studying electrical engineering or electronics, most candidates have to work for hardcore software companies. The sad part is that some software companies don't even agree to interview them.

Beside the above mentioned courses, there are many other branches of engineering that girls can venture into, namely:

✎ **Aeronautical or Aerospace engineering.** This is a specialised and improved branch of mechanical engineering that involves learning about design and construction of airplanes or spacecraft. This course demands a good understanding of basic mathematics and physics because a lot of funda-



mental principles are extensively applied in flight technology.

Usually students opt for a Master's in aerospace engineering. If you belong to India and aim to work for organisations like the National Aeronautics and Space Administration, you would need to be very persistent. However, there are other companies you could work with also. These are the Indian Space Research Organisation, Defence Research and Development Organisation and Hindustan Aeronautics Limited. There are few private companies like Boeing and General Electrics that offer jobs in this field.

✎ **Biotechnology:** This involves using technology in biological research and study. Bioengineering and bioinformatics are specialised domains of biotechnology. At the BTech and Master's lev-

el, students learn about basic principles of biology and engineering. They learn about using technology — especially modern devices — to create certain conditions for biological experiments. Biological subjects related to cells and proteins are taught extensively. Biotech is basically using technology for improving the speed of biological research and not developing devices.

Most biotech students go for higher studies abroad and work in well-established laboratories. They are also open to work for domestic and international pharma industries. Ranbaxy, Dr Reddy's Laboratories, Cipla and GlaxoSmithKline and other government funded research labs offer immense scope for students.

✎ **Chemical Engineering:** This involves all common engineering subjects in the first year. From the second year, the specialised courses include fluid mechanics, chemical thermodynamics, chemical kinetics, surface science, catalysis and reaction engineering. Till the final year students will read about chemical processes, topics like chemical reactors, chemical thermodynamics and experimenting with latest technology and devices.

Although it isn't considered a very integral part of engineering, it has a lot of potential for growth. This sector's importance has risen in recent days because of ongoing environmental issues. Jobs in companies like Schlumberger, Shell, Aramco and other West Asian concerns make it a prosperous choice for students. Some leading companies in India are the Oil and Natural Gas Commission, Reliance Industries Limited, Essar Oil Limited, Gujarat Gas Company Limited, Indo Gulf Fertilisers Limited and Coromandel Fertilisers Limited.

All of these courses have ample scope in teaching, lab experiments and indoor jobs that are suitable for women. On the flipside, in courses like civil, mechanical and petroleum engineering, women are required to move out of their comfort zones and work in peace.

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