

## Newspaper Clips

October 24, 2012

HT New Delhi

# Success stories: husk remover, wet grinder...

The success rate is higher when inventors are supported by facilitators

There have been many innovations which have been converted into marketable products. For some, technology transfer took place with the assistance of Technology Business Incubators (TBIs).

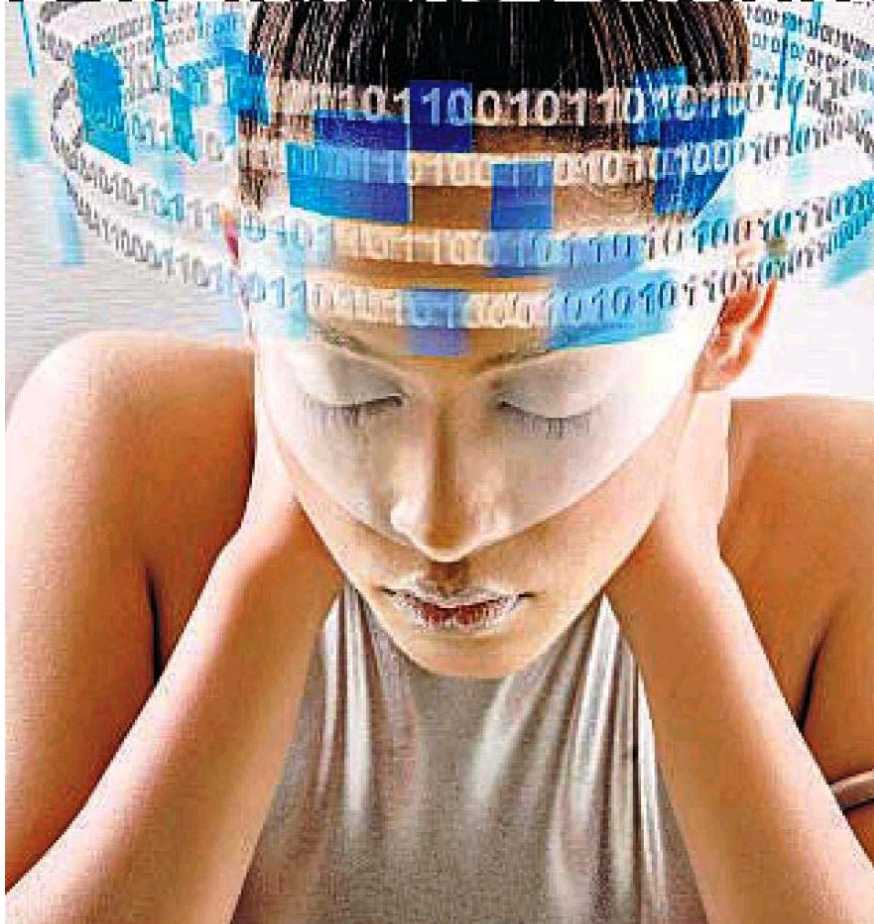
Experts agree that TBIs are a great support when it has come to hand-holding in identifying the market, conducting market research, assessment of business potential, structuring and negotiating deals for technology transfer.

“Out of all the innovations that are reaching TBIs, 50% of them are being converted into successful marketable products,” says Anil Wali, director, FITT, IIT Delhi. Some of the innovations by IIT, Delhi researchers that have been converted into cost-effective products are odourless/waterless urinal trap, decorticator (husk remover) of hard nuts,

canal lining products etc.

Lovely Professional University, which developed a medicine for colon cancer, has signed an MoU with a pharmaceutical company for its manufacture. Vellore Institute of Technology’s TBI helped the creator of a “wet grinder” fetch good compensation by transferring the technology to a manufacturer in Chennai.

## FEW TAKERS FOR INNOVATORS



### MAKE YOUR IDEA WORK

**1** First of all you need to build a model of the innovative idea so that it will explain how your concept can be transformed through technology into a usable product.

**2** For the next step, you need to identify whether your innovation requires inputs from experts of various technologies. You have to partner with such people.

**3** You also need to prepare a business plan around the idea. You can approach bodies like FITT at IIT Delhi which encourage people to formulate a viable business plan.

**4** The next step is to approach an angel investor or business incubators. The advantage of approaching FITT is that the experts screen the proposals and help you find a place in an incubation centre.

**5** An incubation centre provides opportunities for an early assessment of innovative technologies by identifying their market potential and provides the required support (marketing, operational and financial support). It facilitates commercialisation by providing an opportunity for individuals who have developed innovative products/prototypes and are not in a position to take it to the market on their own and are willing to transfer the technology.

HT, New Delhi

# JEE: Prepare, plan and act

## No need to fret; chart your course for success

Ramesh Batlish

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As IIT-Joint Entrance Examination (JEE) is about six months away, it's time for you to gear up. The new selection system gives importance to Class 12 board marks as well, hence one must prepare for both the exams simultaneously. The student must practice all NCERT problems, while brushing up JEE chapters. For better preparation, one can join a test series programme. These tests not only check an individual's level of preparation for the JEE but also make him/her aware of one's command over the subject, strong and weak areas and writing speed. Here are a few tips that can help you make a mark:

### Time management

While dealing with exam pressure, time management plays a crucial role. Here are some tips

- Divide six months aptly for the three subjects
- Prepare a chapter-wise and topic-wise revision schedule
- Create short notes, list all formulas and points to remember. This will help in quick revision

### Correct methodology

The correct approach for those taking the exam for the first or second (last) time is to stick to one source and not refer to a multitude of books/study material available in the market. For example, an engineering student must prepare all topics covering physics, chemistry and mathematics from the Central Board of Secondary Education (CBSE) syllabus of Class 11 and Class 12 for JEE (main). However, for architecture, one has to additionally prepare for the aptitude test and drawing test.

### Month-wise planning

November-February:

One can utilise time for JEE preparation by focusing on each chapter separately.

**March:** Keep this month mainly for board exams, except for certain days when you can solve papers for IIT-JEE.

**April:** As JEE (mains) is scheduled for April 07, 2012 one can only revise formulae and take mock tests.

**May:** For those who will clear JEE (mains) are advised to take reputed JEE (advanced) mock tests.

All subjects — physics, chemistry and mathematics — are equally important, thus one must devote at least two-three hours to each subject on a daily basis. It's the quality of time spent on self-study that matters, not quantity. It is advisable to take a minimum of 20 mock tests (based on the new pattern) from a reputable source and solve at least last five years' IIT-JEE papers.

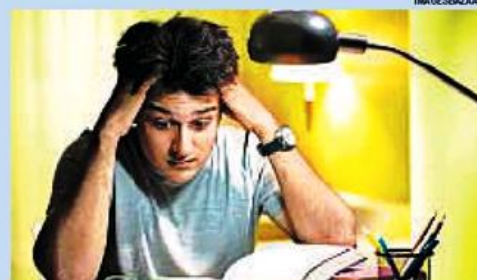
### Important topics

The syllabi of Class 11 and 12 contribute about 45% and 55% of IIT-JEE question papers, respectively. While preparing, put more stress on the following topics.

**Mathematics:** Quadratic equations and expressions, complex numbers, probability, vectors, matrices in algebra; circle, parabola, hyperbola in coordinate geometry; functions, limits, continuity and differentiability, application of derivatives, definite integral in calculus.

**Physics:** Mechanics, fluids, heat and thermodynamics, waves and sound, capacitors and electrostatics, magnetics, electromagnetic induction, optics and modern physics.

**Chemistry:** Coordination chemistry and chemical bonding in inorganic chemistry, electrochemistry, chemical and ionic equilibrium, mole concept in physical chemistry and



organic chemistry.

As they say, practice makes a man perfect. Practise as much as you can for JEE. Generally one must keep in mind the following things while preparing:

- Always start from the basics
- Don't refer to solutions till you get the right answer
- Avoid leaving the question midway because one must know till what level their concepts are clear
- Always take a conceptual approach and understand the question properly. Never cram.
- Spare some time to relax
- Study on a regular basis
- Sleep for at least six hours a day to freshen up your mind
- Never lose your self-confidence
- Keep in touch with

intelligent students of your class or coaching centre to get that extra edge

- Make it a point to appear in competitive exams like Olympiads, KVPY, SAT, advanced placements etc to improve your aptitude and analytical ability
- Prepare as per prescribed syllabi of the exam. Don't over-stress yourself
- Whenever you complete a chapter or topic, go through that topic again from NCERT books as this would prepare you for the boards as well
- Problem-solving should be more qualitative than quantitative
- If one has the right attitude, then even an average student can clear it successfully

The author is FIITJEE head, Noida

HT Mumbai

# All you need to know about GATE

## Here's the low-down on the pattern and why it helps to take this test

Prudhvi Reddy

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The Indian Institute of Technology Bombay, the organising institute for the Graduate Aptitude Test in Engineering 2013, recently brought out the GATE notification, that introduces some changes in the implementation, scores, exam fee etc. Out of 21 papers in GATE, 15 will be conducted online this year.

This is in line with gradually shifting the test towards the online mode. Four papers were given online in 2011, and six in 2012. This should not be seen as a hurdle by students as most of them are comfortable with the online medium, or have attempted online tests like BITSAT and All India Engineering

Entrance Examination after Class 12. Also, they will have access to the actual GATE interface with sample questions, many weeks before the actual test. The six papers that have nearly 90% of the total applicants — computer science, electronics and communication engineering, electrical engineering, mechanical engineering, production and industrial engineering and instrumentation engineering — are still conducted in the offline mode on the second Sunday of February, as usual. Also, this year, female candidates are exempt from paying the application fee, which is ₹200 for general/OBC-NC category, male applicants and ₹600 for SC/ST/PD/male applicants.

Till GATE 2012, the formula used for GATE score calculation

took into account the average and standard deviation of marks scored by all students. Under the new formula to be used from this year, the average and standard deviation terms do not refer to the entire population, but to specific ability levels (qualification marks and top 0.1% of students). The two-year validity of GATE score is still intact.

A single online interface will be provided for most applicants' interaction with the GATE office, including application, fee payment, status checking, admit cards, result checking, queries and other issues. Also, in addition to sending a recent photograph of an applicant with a signed application, soft copies of the photograph and signature must be uploaded while filling the GATE online application.

This all-India test conducted jointly by the Indian Institute of Science and seven IITs (Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and

Roorkee), primarily checks the candidates' comprehensive understanding of various undergraduate subjects in engineering and technology.

Over the past few years, the number of GATE aspirants has been increasing rapidly. It has more than quadrupled from 1.8 lakh applicants in 2008 to 7.7 lakh in 2012. This growth is primarily due to the multiple benefits GATE offers in addition to the opportunity to pursue higher education.

With the introduction of the aptitude section from 2010, focused preparation for the test comes handy in other exams of public sector undertakings such as CIL, SAIL and GAIL as well as in campus recruitment interviews. Test scores are considered as a merit criterion by organisations such as Powergrid, BHEL, IOCL and NTPC, for recruitment of executive and management trainees. Also, the scores are accepted by premier institutions like Council of Scientific and Industrial Research



and Bhabha Atomic Research Centre for selecting students with a penchant for research.

The three-hour test has 65 questions (30 of one mark and 35 of two marks) carrying a total of 100 marks with questions from core subjects, engineering maths and general aptitude. Questions from the core engineering subjects far outweigh the other two areas with 70% weightage. But

general aptitude and engineering maths, with 15 marks each, play a vital role in maximising the score. A good performance in aptitude and maths ensures the minimum qualification marks in GATE. Offline papers have only multiple choice type questions. But online papers will have numerical answer type questions, in addition to multiple choice questions, which account for 15 marks. In

these questions the answer will be a specific number instead of an answer choice.

Unlike the civil services exam in which only 50% of applicants

finally appear on D-day, nearly 90% take the GATE. This gives a glimpse into the competition in it.

GATE questions test the applicant's grip on basic concepts and the ability to apply them in problems. As per the IIT notification, broadly, they can be categorised into four types — recall, comprehension, application and analysis and synthesis. Most of the recall-based questions will be in the one-mark category. Thorough knowledge of fundamentals and extensive practice are the only two factors that can bring success.

Candidates should plan their preparation strategically, by attempting previous papers and analysing the weightages for various topics. Solve old papers and analyse the relative weightages for various topics across the years. This will help in planning the preparation optimally.

The writer is course director for GATE at T.L.M.E. (Triumph Institute of Management Education)

HT Bhopal

## IIT KHARAGPUR TO ORGANISE KSHITIJ IN FEB

**BHOPAL:** IIT Kharagpur will host its annual techno-management fest- Kshitij- from February 1 to 4, 2013. Engineering students from any part of the country can take part in it.

To participate in the fest the students need to register on the website, [www.ktij.in](http://www.ktij.in). It recorded a whopping 8 million hits last year, says a press release. As per the release, Kshitij offers a national-level platform for the students to showcase their technical and managerial prowess in over 40 events encompassing 9 diverse genres. The release says the association of globally-reputed organisations like ACM, ASME, IMechE, IEEE and ASHRAE with flagship events stands testimony to the outstanding quality of participation in the fest.

ACM certifies the popular night-long coding competition 'Overnite' while the aircraft designing competition 'Laws of Motion' is backed by IMechE (Institution of Mechanical Engineers). These events are sponsored by the likes of Facebook, Google, IBM, Tata and Barclays Capital, among other noted Fortune 500 companies.

In the event 'B Plan', the budding entrepreneurs can submit the executive summary of their business idea and receive huge incubation from angel investors and venture capitalists to kick-start their dream venture.

Apart from events, Kshitij organises guest lectures featuring eminent personalities from the world over. In the past, dignitaries like Nobel laureate Sir James Mirrlees, co-founder of Wikipedia Jimmy Wales, inventor of the USB Ajay Bhatt as well as acclaimed actor Nasseruddin Shah have addressed the students. **HTC**

Mint ND 24/10/2012

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**NATION**

## '30% enrolment goal in higher education'

**Pulwama (Jammu and Kashmir):**

Union human resource development minister Kapil Sibal on Tuesday said private educational institutions would have to play a key role to achieve the target of 30% enrolment in higher education by 2020 at national level.

"When we will have maximum number of students passing out from schools, the enrolment ratio will increase. We have set a target of 100% retention in schools by 2020," Sibal said at a function near Srinagar. **PTI**

वैज्ञानिकों ने एक ऐसी तकनीक विकसित की है जो सौर ऊर्जा से ऐसे रसायन पैदा करेगी जो बिजली और ईंधन बनाने में कारगर है

# ईंधन और बिजली उत्पादन में मदद करेगी सौर ऊर्जा

एजेंसी • मेलबर्न

कुछ दिन पहले ब्रिटिश वैज्ञानिकों ने हवा से पेट्रोल बनाने की तकनीक का सफल परीक्षण किया था और दावा किया था कि इससे प्राकृतिक रूप से मिलने वाले ईंधन की जरूरत को थोड़ा सीमित किया जा सकता है। अब वैज्ञानिकों ने ऐसी तकनीक विकसित की है जो सौर ऊर्जा की मदद से ऐसे रसायन पैदा कर सकती है जिनको संचित कर बिजली और ईंधन तैयार किया जा सकता है।

यह नई टेक्नोलॉजी फोटोसिंथेसिस का अनुकरण करती है। यह प्रक्रिया पौधों में होती है जो सूर्य की रोशनी और पानी को इस तरह से मिलाते हैं जिससे संचित करने योग्य ईंधन तैयार हो सकते हैं। इसी प्रक्रिया के विकसित रूप में मानव निर्मित सामग्री का इस्तेमाल होगा और काफी ज्यादा फायदे इससे होंगे। इसमें रसायनों को जरूरत पड़ने तक स्टोर भी किया जा सकता है जो मौजूदा सौर ऊर्जा तकनीक में काफी कठिन है। आरएमआईटी यूनिवर्सिटी



## कैसे काम करती है तकनीक

यह नई टेक्नोलॉजी फोटोसिंथेसिस का अनुकरण करती है। यह प्रक्रिया पौधों में होती है जो सूर्य की रोशनी और पानी को इस तरह से मिलाते हैं जिससे संचित करने योग्य ईंधन तैयार हो सकते हैं। इसी प्रक्रिया के विकसित रूप में मानव निर्मित सामग्री का इस्तेमाल होगा और काफी ज्यादा फायदे इससे होंगे। इसमें रसायनों को जरूरत पड़ने तक स्टोर भी किया जा सकता है जो मौजूदा सौर ऊर्जा तकनीक में काफी कठिन है।

स्थित स्कूल ऑफ एयरोस्पेस, मैकेनिकल एंड मैनुफैक्चरिंग इंजीनियरिंग के रिसर्च एसोसिएट प्रोफेसर सायुहिरो ताकिबाना ने 'सोलर टू केमिकल एनर्जी कन्वर्जन' नामक यह प्रक्रिया तैयार की है। ताकिबाना के मुताबिक परंपरागत ईंधन से होड़ ले सकने वाले हाइड्रोजन जैसे मोलेक्यूलर फ्यूल ईंधन तैयार करने में सक्षम

उपकरण बनाना अब भी सबसे बड़ी चुनौती है। तकनीक आधारित प्रक्रिया से तैयार ईंधन की लागत को व्यावहारिक बना पाना बड़ी ही चुनौती है। नई प्रक्रिया को ज्यादा प्रभावी बनाने में नए नैनो-मैटेरियल्स का विकास काफी महत्वपूर्ण साबित होगा। इसके अलावा चार्ज ट्रांसफर रिएक्शन प्रक्रिया का प्रभावी नियंत्रण

भी बहुत अहम होगा। साथ ही उपकरणों के ढांचे में सुधार भी जरूरी है। ताकिबाना का कहना है कि नैनोटेक्नोलॉजी के क्षेत्र में हालिया विकास इस बात की उम्मीद जगाता है कि गैर-परंपरागत तरीके से तैयार ईंधन की प्रक्रिया को आसान बनाने और लागत को वाजिब बनाने में सफलता मिल सकती है। उन्होंने कहा कि उनका अगला लक्ष्य एक ऐसा सोलर वाटर स्प्लिटिंग सिस्टम लगाना है जो केवल सूरज की रोशनी और समुद्र के पानी से संचालित हो। उन्होंने का कि सौभाग्य से ये दोनों ही संसाधन धरती पर आसानी से उपलब्ध हैं।

आरएमआईटी के प्लेटफॉर्म टेक्नोलॉजीज रिसर्च इंस्टीट्यूट के डायरेक्ट प्रो. सिंचुओ यू ने कहा कि ताजा शोध काफी महत्वपूर्ण है, लेकिन यह चुनौती अब भी बनी हुई है कि प्रयोगशाला में किए हुए प्रयोग को वास्तविक रूप में कैसे इस्तेमाल किया जा सकता है। सौर ऊर्जा से इस तरह ईंधन काफी महत्वपूर्ण साबित हो सकता है। यह अध्ययन नेचर फोटोनिक्स नामक जर्नल में प्रकाशित हुआ है।

Indian Express ND 24/10/2012

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TECH WAR

APPLE INC WILL SELL ITS NEW 7.9-INCH IPAD MINI FOR \$330 AND UP HIGHER THAN SOME INDUSTRY OBSERVERS HAD EXPECTED

## Apple Inc, facing competition, introduces a smaller iPad

BRIAN X CHEN  
SAN JOSE, CALIFORNIA,  
OCTOBER 23

STEVE Jobs once derided tablets with smaller screens, saying they would need to include sandpaper so people could sand down their fingertips to use them. But that didn't stop his company from shrinking the iPad.

Unveiled Tuesday, Apple's new iPad Mini is smaller and lighter than its predecessor. Its screen is 7.9 diagonal inches, making its surface area significantly smaller than the current 9.7-inch

iPad. It weighs about two-thirds of a pound.

The company is selling the lowest-priced Mini for \$330, about \$130 more than similarly sized tablets from competitors.

Apple also introduced an upgrade for its iPad, which includes a faster processor and the new Lightning connector. It also showed new laptop and desktop computers. Phil Schiller, Apple's vice president for marketing, said the smaller, lighter tablet would be a good fit for people who want something more portable than the 1.44 pound iPad.



Apple senior vice-president of worldwide marketing Philip Schiller introduces the new iPad mini during an Apple event in San Jose, California on Tuesday.

"The iPad is the top-selling tablet in the world, but we're not taking our foot off the gas," said Tim Cook, Apple's chief executive, at a press conference here. The introduction of a smaller iPad is a bit of a shift for the company. In a call with investors, Jobs once said 7-inch tablets from competitors like Samsung and Research In Motion were "tweens" that were too big to compete with a smartphone and too small to compete with an iPad. The new iPad Mini is slightly larger than 7 inches, but can still fall into that category.

But with all the action in the

technology market, smaller tablets have become impossible to ignore. Google, Apple's fiercest competitor, recently released its 7-inch Nexus 7 tablet for \$200. And Amazon recently introduced seven new Kindles, including a 7-inch tablet for \$160 and an 8.9-inch tablet for \$300. Barnes and Noble's Nook tablet, which starts at \$200, has also sold well. Combined, the three companies have sold about 15 million of these smaller, cheaper tablets, according to estimates by Forrester.

Apple recognises it now has more real competition. At the

event, Schiller actually did a side-by-side comparison of the Mini to a Google Nexus 7 tablet.

He said that other companies had tried to make smaller tablets, but that they were inadequate. He noted that the iPad Mini was thinner, lighter and more durable than Google's tablet, and still had a bigger screen.

"Others have tried to make tablets smaller than the iPad but they've failed miserably," Schiller said at the press conference here while showing screenshots of apps running on the Nexus 7 and iPad Mini side by side.

Business Line ND 24/10/2012 P5

# Microsoft gives a peek at new Windows, tablet

**Agence France-Presse**

*Shanghai, Oct 23*

US computing giant Microsoft on Tuesday gave an early peek to the key Chinese market of its new tablet computer and Windows 8 software, promising a "fast and fluid" operating system.

Microsoft will launch Windows 8 and the Surface tablet computer, designed to compete with Apple's popular iPad, in the US on Friday. The launch of the two products in China is the same day.

Windows remains the dominant platform for personal computers, but it has lost ground to Apple and Google in newer devices which use rival operating systems.

"With Windows 8, we introduced this fast and fluid experience that works across a broad range of different types of PCs (personal computers)," said Steven Sinofsky, president of Microsoft's Windows division.

"Windows 8 seamlessly moves between a world of touch-only tablets to laptops that have touch screens to desktops and to portable computers without touch screens,"

he said in a speech to the media in Shanghai.

Microsoft's new tablet was designed to be a platform for Windows, Sinofsky said, as he compared the challenger to Apple's iPad.

"Even though it's bigger than an iPad, it's actually lighter in your hand because of the way the physics of the design work," he said.

The Surface has a full-sized USB port unlike the iPad, a built-in stand and a cover which doubles as a keyboard, he said, ticking off the features.

The tablet runs the new Windows RT, a form of Windows 8, and comes with Microsoft Office 2013, he added.

It is not Microsoft's first foray into the tablet market. In 2000 the company unveiled a prototype tablet PC and shortly after began licensing its specifications to various manufacturers.

Some who have tested Windows 8 complain about the change from earlier versions of Windows, which could force users to relearn how to operate their computers, the *New York Times* reported Sunday.