# Newspaper Clips

## March 19, 2011

**Hindustan Times ND 19/03/2011** P-11

# B-schools can conduct own admissions: SC

**Charu Sudan Kasturi**
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**NEW DELHI:** The Supreme Court has stayed controversial new admission norms for private B-schools for the 2011 academic session, in a major setback to the All India Council for Technical Education (AICTE) and the government.

But the SC also asked the Centre to prepare a formula for setting fees across B-schools and other higher educational institutions, a move that top private B-schools are comfortable with but which will hit cheat institutions. The order effects over 500 private B-schools across India.

The apex court's interim stay means that top private B-schools offering post graduate diplomas in management (PGDM) can conduct their own group discussions (GD) and interviews to pick students this year.

"This is a major victory against the arrogance of AICTE. This was critical for the growth of quality business education in this country," Birla Institute of Management Technology (BIMTECH) director H Chaturvedi said.

A controversial December 28, 2010 AICTE notification had empowered state governments to conduct the admission process for all B-schools in their state.

While B-schools could — till the SC order — pick from one of three entrance examinations from which they would short-list students, state governments would conduct the GD and interview for all students. The AICTE norms — backed by an ambivalent HRD ministry — also allowed state governments to set fees for B-schools.

Hindustan Times ND 19/03/2011 P-19

# Danger: Plutonium in troubled waters

**The Associated Press**
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**TOKYO:** The fuel rods at all six reactors at the stricken Fukushima Daiichi complex contain plutonium — better known as fuel for nuclear weapons. While plutonium is more toxic than uranium, other radioactive elements leaking out are likely to be of greater danger to the general public.

Only 6% of the fuel rods at the plant's Unit 3 were a mixture of plutonium-239 and uranium-235 when first put into operation. The fuel in other reactors is only uranium, but even there, plutonium is created during the fission process.

This means the fuel in all of the stricken reactors and spent fuel pools contain plutonium. Plutonium is indeed nasty stuff, especially damaging to lungs and kidneys. It is also less stable than uranium and can more easily spark a dangerous nuclear chain reaction.

But plutonium, like uranium, is a heavy element that is not easily dispersed in the air. It is the other byproducts of nuclear power generation, such as radioactive forms of cesium and iodine, that are more prone to spread and cause widespread contamination.

**PLUTONIUM BEING LESS STABLE THAN URANIUM CAN EASILY SPARK A DANGEROUS NUCLEAR CHAIN REACTION**

Ed Lyman, a physicist, estimates the fuel in Unit 3 is 5% to 10% more dangerous than the fuel in the other crippled reactors. Still, it is very unlikely to become packed tightly enough to reach what is known as critical mass and start a chain reaction.

The Fukushima Daiichi site has a considerable number of fuel rods on hand, according to information provided Thursday by Tokyo Electric Power Co, which owns the atomic complex: There are 3,400 tons of fuel in seven spent fuel pools within the six-reactor plant.

If plutonium did get out, it wouldn't disappear quickly. Plutonium-239 has a half-life of 25,000 years, meaning it takes that long to lose half of its radioactive potency.

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# Apex body to regulate stem cell research finally in place

Kounteya Sinha | TNN

New Delhi: Stem cell use in the country will now be completely regulated.

Four years after putting in place guidelines for stem cell research, prescribing stringent measures to regulate its use by research and medical institutions, the Union health ministry has finally set up the National Apex Committee for Stem Cell Research and Therapy (NAC-SCRT).

This 12-member committee, headed by Dr Alok Srivastava, haematologist from CMC Vellore, will "review all controversial and ethically sensitive stem cell research proposals" and "oversee, monitor and make policies on stem cell use in India."

The Indian Council of Medical Reseach (ICMR) along with the Department of Biotechnology (DBT) formulated and finalized the guidelines for stem cell use in 2007. According to the guidelines, a NAC-SCRT had to be constituted "to regulate stem cell research in India".

WATCHDOG HERE

NAC-SCRT will examine the scientific, technical, ethical, legal and social issues involving each and every human embryonic stem cell research. All institutions and investigators carrying out research on human stem cells will have to be registered with NAC-SCRT through an Institutional Committee for Stem Cell Research and Therapy (IC-SCRT). All research studies and clinical trials will need prior approval of IC-SCRT and NAC-SCRT.

All new stem lines will be created and all established cell lines from any source, imported or created in India, will also have to be registered with IC-SCRT and NAC-SCRT.

The permissible areas of research include invitro studies on established cell lines from any type of stem cell – hES (Human Embryonic Stem cells), hEG (Human Embryonic Germ Cells), hSS (Human Somatic Stem Cells) or foetal adult stem cells, provided they are registered with IC-SCRT.

NAC-SCRT will obtain periodic reports from all institutes working with stem cells and undertake surprise site visits as and when required to ensure adherence to standards.

Stem cells are master cells that have the capacity to multiply and regenerate diseased organs. An ICMR official added "The need to monitor stem cell research in India has increased greatly, with a large number of institutions passing off unscientific research as therapy."

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# Vaccine-related deaths treble after closure of govt labs in '08

Arun Ram | TNN

**Chennai:** The number of children dying due to immunization-related complications has more than tripled after the government closed down three public sector vaccine labs in January 2008. The government has no clue about the causes while children continue to die, the latest being that of five infants in Gujarat on Wednesday.

Details given by the Union ministry of health and family welfare in reply to an RTI query filed by Dr KV Babu of Payyanur show that 111 children died in 2008 due to "adverse effect after immunisation (AEFI)". AEFI is a general term that covers various reasons, including bad vaccine quality due to break in cold chain, contamination and complications due to pre-existing conditions of the child.

In 2009, the latest year for which the ministry has given details, 116 children died due to AEFI. In contrast, 32 children lost their lives to AEFI in 2007.

DEADLY DRIP?

The government closed down its three labs — Central Research Institute in Kasauli, BCG Laboratory in Chennai and Pasteur Institute of India in Coonoor — in January 2008, citing the non-compliance of good manufacturing practices. To make up for the demand of 75 lakh vaccines doses of six kinds needed for its universal immunisation programme, the government has been procuring them from private firm.

The ministry has not found anything amiss. "In a country where 25 million children are born every year, it won't be proper to jump into conclusions. We are following the protocol of investigations," health secretary K Chandramouli told TOI.

Experts don't think so. "India is not following the Brighton Collaboration criteria, adopted by WHO to deal with AEFI deaths," said Jacob M Puliyel, head of paediatrics at Delhi's St Stephen's Hospital. The WHO protocol says that an AEFI death should be considered 'certain/very likely' if it occurs immediately after vaccination and if no other disease or drug is found as reason. "Here, we just test the vaccine and say there is nothing wrong," said Dr Puliyel.

Child health and immunisation deputy commissioner Ajay Khera said, "About 20 lakh children under 5 die every year. This converts to approximately 5,000 deaths every day, and hence a few deaths after immunisation cannot be linked to the vaccine.

Times of India ND 19/03/2011 P-3

# Patient's wish is robot's COMMAND

## If the brain-machine interface technology is a success, robots will act according to the thought process of paralytic pateints

Durgesh Nandan Jha | TNN

**New Delhi:** Imagine a robot that can help paralytic patients perform simple tasks like self-feeding, switching on the TV or playing computer games. Scientists at the National Brain Research Center (NBRC) in Manesar, Haryana, are working on a technology called Brain-Machine-Interface (BMI) that uses electrodes to record signals from the brain and decode them in real-time to perform the tasks using a robot.

The research project is being funded by Defence Research and Development Organization (DRDO). Trials on animals will be conducted extensively, said one of the scientists. Such a technology will help paralytic patients who are mostly dependent on attendants.

The BMI technology has three components: First, there is a system to detect and record signals from the brain. Second, a signal analyzer deciphers the recorded signal, and third, an effecter device executes the action based on the output from the signal analyzer.

Professor Neeraj Jain of NBRC, who is working on this project for three years, said they were using electrodes to record the activities of neurons in the brain.

"The toughest part is to decode the signals, and for that we have collaborated with Professor Rangarajan of the Indian Institute of Science (IISc), Bangalore, who has developed a mathematical tool, called algorithm, for the purpose. The program for the robot, to be used for animal trials, has been done by another IISc scientist Ashitava Ghosal," he said.

Dr M C Mishra, chief of AIIMS Trauma Center, said more than 300 spinal injury patients were admitted at the centre every year and that the new technology, if successful, can help these people lead a better life. "Paralytic patients mostly live a vegetative life. They are completely dependent on family members or attendants. The new technology provides hope, but we will have to wait until it materializes in real terms," said Mishra.

The NBRC project on brain-machine interface is a first in the country. Similar researches are being carried out across the globe with limited success on animal models.

There have been human trials in which electrode arrays made from silicon have been used with some success. Experts, however, say the project is not outlandish; it can be achieved. "We have not set any time limit for completion of the project. It is an ongoing process," Jain said.

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1 People who suffer a spinal injury or a paralytic stroke can't move their body but they are mentally sound. Even for small chores, they have to depend on others

2 Scientists at NBRC are developing a technology which may enable such patients to move a robot just by their thoughts

### HOW WILL IT WORK

The technology has three parts.
1. A system to read brain signals.
2. Signal analyzer & 3. A robot to do the work

3 Disabled person will wear a cap similar to EEG. His head will be surrounded by electrodes, which will monitor the brainwaves

4 The activity of the brain will be converted into electronic signals and passed on to signal analyzer

5 The signal analyzer translates these signals and interprets the patient's wishes into commands for the robot

6 After recieving the signal, the robot does the particular activity which the disabled person had wished for

Times of India ND 19/03/2011 P-8

# 'Supermoon' to brighten sky tonight

Amit Bhattacharya | TNN

**New Delhi:** It has been dubbed an 'extreme supermoon' and you get to see it tonight. The full moon on Saturday will swing closer to earth than it has in the past 18 years. For weeks, fears have been raised about the event causing earthly disasters but astronomers have dismissed these as scaremongering and are urging people to enjoy the spectacle.

Saturday will be ideal for watching the big moon. The moon rises just before dusk, at 6.16pm, and will reach its perigee — the closest distance in the moon's orbit around earth — at 11.41pm. At that time, it'll be around 30% brighter and will appear to be more than 16% bigger than full moons that occur when the satellite is at its farthest point.

Though moon passes through its perigee every 27 days, Saturday's event is special for two reasons. One, the perigee is coinciding with a full moon and two, the satellite will be closer to earth than usual.

These reasons have combined to create a major frenzy around the event, with some western astrologers saying the unusual closeness of the full moon will trigger disasters like an earthquake, tsunami or a volcano. Terms like moonageddon have been floating in cyberspace. The hysteria peaked after the earthquake and tsunami hit Japan last week.

Scientists have rubbished such claims. Said N Rathnasree, director of Delhi's Nehru Planetarium, "Lunar perigee occurs every month, and for every earthquake in history, a lunar perigee can be found within a few days of its occurrence. When the magnitudes of these major earthquakes are checked against the perigee distance for the nearest perigee to the earthquake, no correlation of any kind has been found in these studies."

She said if the closeness of the moon was in some way responsible for earthquakes, then a correlation would have been expected. But none was found.

The planetarium has organized a public skywatch on Saturday, with visitors getting to look at the moon through telescopes and watch a live planetarium show with full dome visuals. The programme begins at 5pm and goes on till 8.

Students working with the planetarium are also compiling a 100-year data on earthquakes and the distance of the moon from earth. They will check whether any kind of a correlation exists between the lunar perigee and earthquakes.

## Big, Bright & Beautiful

**What Is Perigee?** Due to its elliptical orbit, the distance between earth & moon is ever changing. **When moon is closest to earth, it's at perigee, and when farthest, it's at apogee. Tonight, perigee is closer than usual & coincides with a full moon**

- Time of closest distance (perigee): **11.41pm**
- Moon will be closest to earth since **March 8, 1993**
- The next apogee full moon appears on **Oct 12, 2011**

# Times of India ND 19/03/2011 P-17

## Tata wants IISc to do more

Ratan Tata would like Indian Institute of Science (IISc) to focus more on research that has a connect with the masses, that is, work that's utilitarian. This was the message the chairman of the Tata Group conveyed to the top brass of India's premier science institution at a closed-door meeting on Thursday. TNN

Times of India ND 19/03/2011 P-19

# Into the unknown: For first time, spacecraft closes in on Mercury

**Washington:** For the first time, Earth has a regular orbiting eye-in-the-sky spying on the solar system's smallest and strangest planet, Mercury.

Nasa's spacecraft called Messenger successfully veered into a pinpoint orbit on Thursday night after a 6 1/2-year trip and 7.8 billion km and tricky manoeuvering to fend off the gravitational pull of the sun. It is the fifth planet in our solar system that NASA has orbited, in addition to the Earth and the moon.

Messenger is in orbit that brings it as close as 190km above the planet's surface. Mercury is not only difficult to get to, but it's has some of the most extremes in the solar system.

**FINAL FRONTIER**

Temperatures there swing wildly by 1,100°.

Messenger, which cost NASA $446 million, was launched in 2004. Next month it should start transmitting pictures. "This is when the real mission begins," Messenger chief scientist Sean Solomon said. "We are really ready to learn about one of Earth's nearest neighbors for the first time." AP

Times of India ND 19/03/2011 P-19

# UFO? No, it's world's first flying saucer

© Sung-Il Kim/Corbis

**London:** An aircraft created by scientists in Iran is, they claim, the world's first flying saucer.

The unmanned spaceship, called the Zohal or Saturn in English, is designed for "aerial imaging" but can be used for "various missions".

The hardline Fars news agency illustrated its story with a photo of a flying saucer, similar to one appearing in a 1950s Hollywood B-movie, hovering over an unidentified wooded landscape. The reports gave no indication of the spaceship's size.

But they indicated it was small by claiming, somewhat bizarrely, that it can also fly indoors.

"Easy transportation and launch and flying, making less noise, are some of the advantages of the device," the Daily Mail quoted ISNA, Iran's students' news agency, as saying in its report. "The device belonging to the new generation of vertical flyers is designed for aerial photography."

"It is equipped with autopilot, image stabiliser and GPS and has a separate system for aerial recording with full HD quality."

**SKY'S THE LIMIT:** Iran says the spacecraft, called Zohal or Saturn, is designed for aerial imaging but can be used for other missions as well

The flying saucer was reported to have been unveiled at an exhibition of "strategic technologies" attended by Iran's supreme leader, Ayatollah Ali Khamenei. ANI

Times of India ND 19/03/2011 P-19

# Quartz deposits hold key to predicting earthquakes

## Mineral May Be Behind Continental Tectonics: Scientists

**Salmon (Idaho):** Underground quartz deposits worldwide may be behind earthquakes, mountain building and other continental tectonics, a discovery that may aid in predicting tremblers, according to a study released on Wednesday.

The findings by Utah State University geophysicist Anthony Lowry and a colleague at the University of London, published on Thursday in the journal Nature, may solve a riddle of the ages about the formation and location of earthquake faults, mountains, valleys and plains. "Certainly the question of why mountains occur where they do has been around since the dawn of time," Lowry said.

He and research partner Marta Perez-Gussinye examined temperature and gravity across the western United States from a movable network of seismic instruments to describe the geological properties of the earth's crust. The scientists discovered that quartz crystal deposits are found wherever mountains or fault lines occur in states like California, Idaho, Nevada and Utah.

**EARLY WARNING:** The finding may solve the age-old riddle about the formation and location of faults, mountains, valleys and plains

The geoscientist said the breakthrough came after repeated testing revealed a correlation between quartz deposits and geologic events that was "completely eye-popping".

Using newly developed remote sensing technology known as Earthscope, Lowry and Perez-Gussinye found that quartz indicates a weakness in the earth's crust likely to spawn a geologic event such as an earthquake or a volcano. Quartz also may account for the movements of continents known as continental drift or plate tectonics.

For example, the massive earthquake last week in Japan pushed the island nation 8ft closer to the continental United States as the Asiatic tectonic plate slid under the North American plate.

The team linked rock properties to movements of the earth, explaining how quartz contains trapped water that is released when heated under stress, allowing rocks to slide and flow in what Lowry termed a "viscous cycle". The theory could aid scientists in assessing the likelihood and strength of earthquakes areas deemed geologically inactive. The research also may provide clues to everything from safe siting of nuclear power plants to the structural demands of large dams. REUTERS

Financial Express ND 19/03/2011 P-9

## Data Drive

### 1. India has the highest number of higher education institutes in the world, outnumbering China by nearly seven times

*Number of higher education institutions (2010*)*


### 2. Yet India has no universities in the top 200 in the world; China has 6

*World university rankings*

| | Times Higher Education, '10 | Quacquarelli Symonds, '10 |
|---|---|---|
| Singapore | 2 | 2 |
| Hong Kong | 4 | 5 |
| Japan | 5 | 10 |
| India | 0 | 1 |
| Russia | 0 | 1 |
| Brazil | 0 | 0 |
| China | 6 | 6 |
| Canada | 9 | 10 |
| UK | 29 | 30 |
| US | 72 | 53 |

### 3. The Plan to Non-Plan expenditure ratio has increased; States account for a larger share of education spending than the Centre

*Total Central Government expenditure on higher education (₹ cr)*


### 4. But India must raise its expenditure on education as a % age of GDP, given its smaller GDP relative to China & the US

*Public expenditure on higher education as a % of GDP**


### 14. Distance education improves access & reduce costs, making it feasible to reach students with diverse interests & backgrounds

*Number of institutions offering distance learning*


# Varsity blues

Quality over quantity. That's a refrain drilled into us since childhood. Yet data on the higher education sector in India reveals indicators to the contrary. Even though India has 26,478 higher education institutions, four times that of the US, Indian universities figure nowhere in global rankings, finds the Edge 2011 report by Ernst and Young. This is despite the funding provided by the central and state governments, which has seen a compound annual growth rate of 29.6% to reach ₹196.2 crore in 2009-10. But relative to other emerging as well as developed counties, India's ratio of education spending to GDP is lower, and that too on a smaller base.

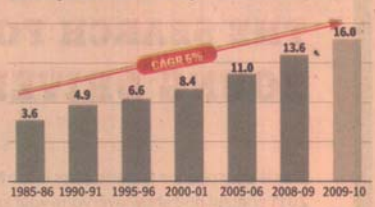
A big positive that has emerged over the past decade is the increase in gross enrolment rates. Although still much below global averages, there are 16 million students currently pursuing higher education. That said, the supporting academic infrastructure is severely lacking, with 24% of the faculty at universities without PhDs, only six computers and a fourth unfilled faculty positions. This, in turn, feeds into the quality of education imparted by these institutions—only 11% of universities and colleges meet curriculum, research, learning and teaching evaluation, student-teacher ratios and such criteria to qualify for a top grade rating. In fact, the student-teacher ratios, at 22, the highest in the world after Sub-Saharan Africa, are being put under further pressure by faster growth in student enrolment rates than faculty hiring—another question mark on the quality of education imparted.

This poses the question about what can be done to improve delivery and quality. Enhancing the use of technology, where India ranks 59th compared to the Republic of Korea that ranks 10th, will bolster educational standards. IIM-Ahmedabad operates virtual classrooms via which students across the country can interact using ICT-enabled tools for audio, video and other learning mechanisms.

Another strategy is to provide distance learning, although, again, the quality of education comes into question given the calibre of students who apply to such programmes. But then some education is better than none at all.

### 5. Nearly half the 16 million students in higher education have joined over the last decade

*Historical growth in enrollments in higher education in India (in mn)*

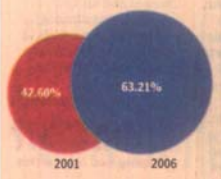



### 6. Even so India's gross enrolment ratio is still less than half the global average and a fourth of the average for developed countries

*Gross Enrolment Ratio for higher education (2007); *for 2010*


### 12. Yet the private sector accounts for 63% of all higher education institutions

*Unaided private higher education institutes as a percentage of total institutes*



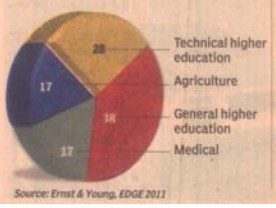

### 13. Ranks poorly in IT readiness. Must recognise the importance of ICT in improving the quality and delivery

*Information Communication and Technology (ICT) rankings*

| Country | Network readiness Index (Overall) | Readiness | Usage |
|---|---|---|---|
| US | 3 | 6 | 5 |
| Republic of Korea | 11 | 7 | 10 |
| UK | 15 | 24 | 13 |
| China | 46 | 36 | 48 |
| India | 54 | 40 | 59 |
| Brazil | 59 | 58 | 41 |
| Russia | 74 | 67 | 82 |

### 11. Government outlay for higher education rose 10 percentage points in the XI th Plan

*Central govt spending on higher education (2009)*




Source: Ernst & Young, EDGE 2011

### 10. India has the highest student-teacher ratio, save Sub-Saharan Africa

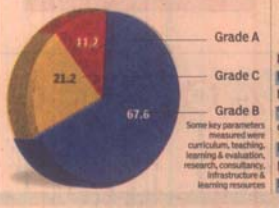
*Student-teacher ratios across the world (2008)*


### 9. Made worse by student enrolment growing at a faster pace than faculty appointments

*Growth in faculty (in million)*


### 8. Only 11% of universities & colleges meet the criteria to qualify for a Grade A rating

*NAAC grading of universities and colleges (2010) (%)*




### 7. Academic infrastructure is severely lacking, with the average university owning only 6 computers and a high number of teachers without PhDs

*NAAC grading: Determinants of quality and quality gaps in universities*

| | Avg. of universities | Benchmarks (Grade A universities) | Quality gap |
|---|---|---|---|
| No. of faculty members with PhD degrees | 158 | 432 | 274 |
| No. of sanctioned faculty positions | 287 | 432 | 145 |
| No. of filled faculty positions | 220 | 329 | 109 |
| % teachers without PhD degree | 24 | 0 | 25 |
| % of faculty positions vacant | 25 | 0 | 432 |
| No. of teaching departments | 29 | 34 | 5 |
| No. of computers | 6 | 11 | 5 |
| No. of teachers/dept | 8 | 10 | 2 |