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Mint ND 14/06/2014 P-3

TECHNICAL EDUCATION

India joins select nations in Washington Accord

Permanent membership reflects nation's stature in the tech education; India had provisional status since 2007

By Prashant K. Nanda
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NEW DELHI

Ending a seven-year wait, India on Friday became a permanent member of the Washington Accord, an elite international treaty on engineering studies that promotes the movement of engineers across signatory countries that include the US, the UK and Australia.

Permanent membership reflects a country's stature in the technical education space— despite trying for years, India has been a provisional member since 2007.

"In a major boost to technical education and engineering programmes, India on today (Friday) joined a select group of 17 countries who are permanent signatories of the Washington Accord (WA). The meeting of the International Engineering Alliance of WA member countries met in Wellington, New Zealand, this morning and gave India the signatory status with effect from today," the human resource development (HRD) ministry said in a statement.

"India gets permanent membership of the Washington Accord. Congratulations to the team in HRD," minister for HRD Smriti Irani said in a Twitter post.

The ministry said the accord has the charter of promoting mobility and quality assurance of engineers across international boundaries. The charter requires that nations set up suitable accreditation standards, which would ensure a minimum quality of attainment for their engineering graduates.

The Washington Accord was signed by the National Board of Accreditation (NBA), an autonomous accrediting body under the HRD ministry, "with the mandate for accreditation of engineering and other technical programs at all levels in the country and making technical education outcome based".

"This will ensure highest quality assurance standards to be implemented in our technical and engineering programmes and provide global mobility to our engineering graduates," Irani said. "This will substantially enhance their employment opportunities around the world."

The Washington Accord came into force in 1989 with six developed countries as initial members.

Rekha Sethi, director general of All India Management Association, said permanent membership of the accord is a recognition of India as an education destination. "Study in India will now be an acceptable norm worldwide and Indian certification will not be looked down upon by developed countries," said Sethi, who is also a member of NBA.

> Study in India will now be an acceptable norm and Indian certification will not be looked down upon by developed countries

She said greater mobility for engineering talent across the 17 signatory-countries will see better job opportunities opening for engineers. India has over 4,500 engineering colleges admitting over half a million students every year. "Now, we have joined the elite league and it would also lead to brain gain from a broader India point of view. And from students' point of view, Indian institutions would now like to be part of the accreditation process as it will ensure quality and credibility," Sethi said. "A lot of effort has gone to achieve this and now efforts must be made for continuous improvement of our system."

The move follows concerted efforts by the last two HRD ministers, Kapil Sibal and M.M. Pallam Raju, to get India permanent membership. Raju made NBA an autonomous organization, separating it from the All India Council for Technical Education (AICTE), the apex technical education regulator. The accord authorities had sent mentors on at least four occasions since 2009 to assess and help India achieve the status, said a senior HRD ministry official.

On the first visit, the mentors questioned the system of reservation of seats for various sections of society. "The practice of continuous improvement appears to be ad-hoc than systemic... Bureaucratic system ingrained in the system make changes impossible to achieve," said the mentors in a report to the government. *Mint* has reviewed a copy of it.

It also questioned the level of resources available with NBA and asked AICTE to clearly articulate the need for quality. "India has a legacy of leadership in technical education and preparing highly qualified engineers to assume leadership positions throughout the world. The lowering of quality by quota system poses a serious threat to credibility of the quality of engineers for even those who graduate from the prestigious IITs," it had said.

But the mentors were pleased with progress made by Sibal and his senior officials in the ministry in 2012 and the fourth report praised them for their clearer direction and understanding of requirements.

The International Engineering Alliance, secretariat of the Washington Accord, sent a review team in December 2013 and January 2014 to carry out a comprehensive review and audit of NBA's accreditation systems and practices. The team submitted its report in March 2014, the ministry said.

And getting membership was based on this final assessment.

HT.COM ND 14.06.14 P-3

PERMANENT GLOBAL STATUS TO BOOST JOBS

PROUD MOMENT

This will enhance mobility of engineers and professionals

Vanita Srivastava

NEW DELHI: In a major achievement, India becomes permanent Signatory to Washington Accord on Friday paving the way for more global mobility and employment avenues for engineers.

This was decided at a meeting of the International Engineering Alliance, the secretariat of the Washington Accord in Wellington, New Zealand. The meeting had began on June 9 and on the last day on June 13, all the 15 signatory countries voted in favour of India. Besides India, even Sri Lanka was accorded membership to the Accord on Friday.

The 2013 signatories include Australia, Canada, Chinese Taipei, Hong King China, Ireland, Japan, Korea, Malaysia, New Zealand, Russia, Singapore, South Africa, Turkey, United Kingdom and United States.

The membership of Washington Accord is an international recognition of the quality of accreditation processes of undergraduate engineering education and is an avenue to bring undergraduate education at par with international standards. This will help in the mobility of engineering graduates and professionals at an international level.

"This will ensure highest quality assurance standards to be implemented in our technical and engineering programmes and will provide global mobility to our engineering graduates.. Graduates having degrees, which have been so accredited, would have substantial international equivalence of their achievement levels across the signatory nations. This will substantially enhance their employment opportunities around the world," HRD minister Smriti Irani said.

Dr Surendra Prasad Chairman, National Board of Accreditation, India, told HT from New Zealand:"Sri Lanka and India both were admitted into the Washington Accord on Friday. Hence there are now 17 signatories, he said. The Accord, signed in 1989, is an agreement among bodies responsible for accrediting engineering degree programs.

WASHINGTON ACCORD

- Washington Accord is an independent agreement for mutual recognition of accredited engineering programmes, benchmarking standards for engineering education and benchmarking accreditation policies and programmes.
- India's membership will bring undergraduate engineering education at par with international standards
- This will help in the mobility of engineering graduates and professionals at an international level

Deccan Herald ND 14/06/2014 P-1

Engg degrees get a global stamp

Now, India a full member of elite group

NEW DELHI, DHNS: After a seven-year effort, India on Friday finally made its way into an elite group of nations that recognises engineering degrees from its member countries under "Washington Accord".

As a result, landing a plum job in the United States or anywhere in the developed world may become easier for engineers from India as their degrees will now be treated on a par with that of their counterparts elsewhere.

The breakthrough was achieved at a meeting of the International Engineering Alliance in Wellington, New Zealand, where members gave India the status of permanent signatory to the international agreement with effect from Friday. The accord was signed by the National Board of Accreditation (NBA) on behalf of India, which had so far been a provisional signatory to it since 2007. Taiwan, Hong Kong, Ireland, South Korea, Malaysia, New Zealand, Russia, Singapore, South Africa, Turkey, Australia, Canada and Japan are among 16 signatories to the international agreement besides the US and the UK.

"This will ensure highest quality assurance standards are implemented in our technical and engineering programmes and provide global mobility to our engineering graduates," Human Resource Development Minister Smriti Irani said, congratulating the officials of her ministry and those of the NBA. Graduates with degrees that have been so accredited would have substantial international equivalence of their achievement levels across the signatory nations. This will enhance their employment opportunities around the world, she added.

The member nations will recognise only those Indian engineering programmes which are accredited by the NBA, a ministry official said.

The International Engineering Alliance (IEA) secretariat had sent a review team in December 2013 and January 2014 to carry out a comprehensive review and audit of the NBA accreditation systems and practices. "The review team submitted a positive report in March this year. Since then, we were hopeful of getting full signatory status," the official added.

Former HRD minister M M Pallam Raju also congratulated the ministry, saying membership of the Washington Accord would be a good facilitator as it will give greater flexibility to Indian students and bring recognition to their degrees.

Established in 1989, the Washington Accord is an international accreditation agreement for professional engineering academic degrees, between the bodies responsible for accreditation in their signatory countries.

Engineering graduates of accredited programmes in any of the signatory countries are recognised by other signatory countries as having met the academic requirements for entry to the practice of engineering.

World class

- After a seven-year effort, India gets permanent signatory status to the "Washington Accord"
- Indian engineering degrees to be treated on a par with similar certificates from 16 member nations of the agreement. This will increase the employment opportunities substantially
- Member nations will recognise only those programmes which are accredited by the National Board of Accreditation

Pioneer ND 14/06/2014 P-7

Permanent WA membership to globalise Indian degrees

PNS ■ NEW DELHI

India on Friday became a permanent member of the Washington Accord (WA). This would now enable global recognition of Indian degrees and increase the mobility of engineers to the USA and other countries for jobs.

The breakthrough came at a meeting of the International Engineering Alliance (IEA) in Wellington, New Zealand, where the members voted to induct India as a permanent member of the select group of 17 countries which are permanent signatories to the accord. The charter of WA requires that nations set up suitable accreditation standards, which would ensure a minimum quality of attainment for their engineering graduates.

The degrees awarded by Indian institutions accredited by the National Board of Accreditation (NBA) would be recognised by all WA member nations. The Accord was signed in 1989 as an international agreement among bodies responsible for accrediting engineering degree programmes.

HRD Minister Smriti Irani congratulated the officials of her ministry and NBA and said that this will ensure highest quality assurance standards to be implemented in our technical and engineering programmes and provide global mobility to our engineering graduates. "Graduates having degrees, which have been so accredited, would have substantial international equivalence of their achievement levels across the signatory nations. This will substantially enhance their employment opportunities around the world," she said.

The accord requires that member nations set up suitable accreditation standards which would ensure a minimum quality of attainment for their engineering graduates. India, which has been a provisional member of WA since 2007, was working for several years to become a permanent member.

Dainik Tribun ND 14.06.14 P-2

अब भारतीय डिग्री को भी विश्व स्तर पर मान्यता!

भारत बना 'वाशिंगटन अकॉर्ड' का सदस्य ■ तकनीकी प्रोफेशनल्स को बढ़ावा

अदिति टंडन/ट्रिब्यून
नयी दिल्ली, 13 जून

तकनीकी शिक्षा प्राप्त भारतीय विद्यार्थियों को विश्व के 17 बड़े देशों में नौकरी मिलने का रास्ता साफ हो गया है। इनमें अमेरिका और ब्रिटेन शामिल है। अभी तक इन लोगों को ऐसी मान्यता नहीं मिली थी।

कई वर्षों के संघर्ष के बाद भारत को वाशिंगटन एकॉर्ड में स्थायी स्थिति मिली है। इसके तहत हुए करार में वैश्विक स्तर पर भारत के क्षेत्रीय स्तर के इंजीनियरों को पढ़ने और नौकरी पाने का मौका मिलेगा। इंजीनियरिंग में विभिन्न संस्थानों से चार साल का कोर्स करने के बाद भी विद्यार्थियों को विश्व के एक बड़े भाग में मान्यता नहीं मिल पाती थी।

2007 से वाशिंगटन अकॉर्ड (समझौता) का अस्थायी सदस्य भारत कई साल से स्थायी सदस्य बनने के लिए काम कर रहा था।

न्यूजीलैंड, वेलिंगटन में इंटरनेशनल इंजीनियरिंग अलायंस की बैठक में यह फैसला हुआ जहां सदस्यों ने सेलेक्ट ग्रुप के स्थायी सदस्य के तौर पर भारत के पक्ष में मतदान किया।

"अब मान्यता प्राप्त डिग्री से दुनिया भर में भारतीय ग्रेजुएट्स का रोजगार अवसर बढ़ेगा।"
— स्मृति इरानी

कहां-कहां मिलेगी नौकरी

इस करार के बाद अब अपने-अपने क्षेत्रों में इंजीनियरिंग किये विद्यार्थियों को देश नौकरी देंगे। जिन देशों में यह करार लागू होता है उनमें अमेरिका, ब्रिटेन, आस्ट्रेलिया, कनाडा, जापान, कोरिया, न्यूजीलैंड, सिंगापुर, साउथ अफ्रीका, टर्की और रूस शामिल हैं।

"मंत्रालय को बधाई... मंत्रालय की 7 साल की कोशिशों के बाद भारत को वाशिंगटन अकॉर्ड की स्थाई सदस्यता मिली है।"
— पल्लम राजू

Obama names IIT alumnus Dr Sethuraman Panchanathan to Science Foundation board

http://economictimes.indiatimes.com/news/politics-and-nation/obama-names-iit-alumnus-dr-sethuraman-panchanathan-to-science-foundation-board/articleshow/36534401.cms

WASHINGTON: US President Barack Obama plans to appoint a Madras University graduate and alum of the Indian Institute of Technology as a member of the National Science Board of National Science Foundation.

The proposed appointment of Dr Sethuraman Panchanathan, Senior Vice President of the Office of Knowledge Enterprise Development at Arizona State University (ASU), was announced by the White House Friday with 15 other key administration posts.

"Our nation will be greatly served by the talent and expertise these individuals bring to their new roles. I am grateful they have agreed to serve in this Administration, and I look forward to working with them in the months and years ahead," Obama said.

At over thirty, the Obama administration has more Indian-Americans working at high places than in any other previous administration.

Panchanathan, who has held his current position at ASU since 2011, previously worked as a Data Communication Engineer for International Software India Limited in Chennai, India in 1986.

He received a BSc from the University of Madras, a BE from the Indian Institute of Science, an MTech from the Indian Institute of Technology, and a PhD from the University of Ottawa, Canada.

Panchanathan has held a number of positions at Arizona State University since 1998.

He has been a foundation chair professor in Computing and Informatics since 2009 and a founding Director of the Centre for Cognitive Ubiquitous Computing since 2001.

Panchanathan founded the ASU School of Computing and Informatics in 2006 and the Department of Biomedical Informatics in 2005.

Prior to working for ASU, Panchanathan served at the University of Ottawa as a founding Director of the Visual Computing and Communications Laboratory from 1990 to 1997.

He worked as Associate Professor in the Department of Electrical and Computer Engineering from 1994 to 1997, and Assistant Professor from 1989 to 1994.

Indian scientist elected to UN entity on ocean affairs

Press Trust of India | United Nations | June 13, 2014 11:13 am

He secured support of all the 111 members present and voting. His term in the CLCS will be till June 15, 2017.

http://indianexpress.com/article/world/indians-abroad/indian-scientist-elected-to-un-entity-on-ocean-affairs

Indian scientist Rasik Ravindra has been unanimously elected as member of the UN's body focussed on oceans and law of the sea.

Ravindra, India's candidate for member of the Commission on the Limits of Continental Shelf (CLCS), was elected during the 24th Meeting of States Parties of the United Nations Convention on the Law of the Sea here on Thursday.

He secured support of all the 111 members present and voting. His term in the CLCS will be till June 15, 2017.

The election, in which there were seven contenders, was to fill the vacancy in the CLCS following the resignation of Indian scientist Rajan Sivaramakrishnan in February this year.

Ravindra is one of India's highly qualified scientists and has extensive experience in different spheres of geosciences. He has served as Director of National Centre for Antarctic and Ocean Research (NCAOR)

from 2006-2012 and has been a professional geologist with the Geological Survey of India from 1971 to 2005.
He has extensive experience spanning over four decades in different spheres of geosciences including geological investigations in the terrains of Antarctica, Bhutan and India.
As NCAOR's director, he had been responsible for conducting the marine geophysical surveys and analysing the results for establishing the outer limits of the continental shelf of India.

Anatomy of a CEO: Over 75% of Indian CEO graduated from IITs, IIMs: QlikView

http://www.financialexpress.com/news/anatomy-of-a-ceo-over-75-of-indian-ceo-graduated-from-iits-iims-qlikview/1260054

Qlik, a leader in user-driven Business Intelligence (BI) tools, has launched a new QlikView application that unveils the anatomy of a Chief Executive Officer (CEO) based in Asia Pacific including India.
The interactive application called 'Where Do APAC CEOs Come From' has been built using the QlikView Business Discovery platform. Here are some insights:
The analysis reveals that the typical CEO in India, for example, is male, around 56 years old, and with a degree from a local university, which is either the Indian Institute of Technology (IIT) or the Indian Institute of Management (IIM).
Where women execs, globally, are concerned, the app shows that they represent around 10% of all board-level positions worldwide even though they make up over 40% of the global work force.
However, a starker statistic that is revealed is that only 3.2% of the 250 CEOs across Asia Pacific are female - India leads the pack with four female CEOs out of 50, but there is continuing lack of gender diversity in the boardroom.
Change may be underway however, with India recently passing legislation that mandates that corporations' boards of directors include at least one female member.
Phillip Beniac, Regional Vice President for Qlik Asia Pacific and Japan, said, "What this QlikView application provides is a fun way to gain insights into the 'key ingredients' that go into the making of a CEO. At the same time, it helps us drill deeper and ask important questions. For example, where are we in terms of gender diversity in the boardroom and where should one pursue an education to stand a fighting chance of becoming a CEO?"
As far as education and career experience of typical Indian CEO is concerned, from Anshu Jain at Deutsche Bank to Rajeev Vasudeva at professional services firm Egon Zehnder, there are 13 Indians who are today CEOs of major global corporations.

DU sees drop in foreign candidates for PG courses, maximum applicants from Tibet

HT Correspondent
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NEW DELHI: After a steady increase in the number of applications from foreign students to Delhi University in the past few years, this year has seen a slight decrease. This is despite the university having extended the last date for application twice.

While last year the university received more than 2,500 applications, this year the number has dropped to 2,098.

The drop, however, is not considerable in case of application for undergraduate courses. In fact, there is a slight increase in the number of applications.

WHILE LAST YEAR THE UNIVERSITY RECEIVED MORE THAN 2,500 APPLICATIONS, THIS YEAR THE NUMBER HAS DROPPED TO 2,098

Where 1,038 applications were received in 2013, the number has gone up to 1,100.

At present, the University has students from over 80 countries. Majority of the students come from neighbouring countries such as Bangladesh, Afghanistan, Bhutan and from countries such as Korea, Thailand, Russia and from the African continent.

The highest number of applications — 536 — has been from candidates from Tibet. This is followed by Nepal with 379 applicants. The university has also received applications from 22 Americans, 51 Chinese, 56 Iranians and one candidate from North Korea.

The university has an English Language Proficiency Course, introduced last year. The course is part-time and is mandatory for all international students.

A large number of candidates have also applied through the Indian Council for Cultural Relations (ICCR) fellowship programme held each year.

The reputation and affordability of the university are the main attractions for the students of foreign nationality.

The most popular course with these students is B Com, followed by English and Political Science.

A number of students also come to the university to pursue courses in Hindi, Sanskrit and Buddhist studies each year.

Admission procedure for the foreign aspirants is based purely on merit and they are required to have completed 12 years of schooling at the time of application.

Millennium Post ND 14/06/2014 P-1

FYUP roll-back imminent as UGC asks DU to review it

DHIRENDRA KUMAR

NEW DELHI: In a huge set back to Delhi University, the University Grants Commission (UGC) has asked the varsity's vice-chancellor Dinesh Singh to review the controversial Four-Year Undergraduate Programme (FYUP). The move, which could come as a shot in the arm for the National Democratic Teachers' Federation (NDTF) and student bodies demanding its roll back, was taken at a commission meeting here on Friday.

Sources said, 'The members felt that the programme was in violation of the national policy on education which follows the 10-plus 2-plus 3 pattern'. The UGC


Smriti Irani

officials present at the meeting said that while the Delhi University is an autonomous body, but it has to obtain permission from the competent authority for the programme which in this case is the President (Visitor) itself.

The programme, the officials said, stands to jeopardise the future of the students and hence UGC has decided to ask DU to review the FYUP 'immediately'. The commission had, last year, on the advice of the HRD ministry, constituted an advisory committee to monitor the progress of the implementation of FYUP. Voices against FYUP got shriller soon after the Narendra Modi-led NDA government came to power and Smriti Irani became HRD minister. Irani had protested against the implementation of FYUP.

NDTF founder member Inder Mohan Kapahy, who had met Irani on 2 June for over an hour, had said that the minister had assured action within a fortnight. 'It's a matter of a few more days before the fate of FYUP is decided,' the NDTF leader had said.

Times Of India ND 14/06/2014

P-8

DUTA now knocks on President's door for a rollback

TIMES NEWS NETWORK

New Delhi: To nudge the authorities towards a rollback of the four-year undergraduate programme once again, Delhi University Teachers' Association has written to the Visitor, President Pranab Mukherjee, asking him to, as DUTA chief Nandita Narain puts it, "intervene and annul Delhi University ordinances pertaining to FYUP."

National Democratic Teachers' Front and ABVP members have met all the seven BJP MPs and have been promised support.

With the exception of one (AAD-Aditya Narayan Mishra), representatives of all teacher groups have joined the movement. Indian National Teachers Congress has also joined hands with Democratic Teachers' Forum, Academics for Action and Development (Rathi) and NDTF. "This covers the entire spectrum of opinion," remarks Inder Mohan Kapahy of NDTF.

By evening, some INTEC and DUTA executive members objected to the statement, claiming that all members of the executive hadn't been informed. Vinay Kumar Singh says, "I just came to know that DUTA addressed the press. How is this authentic if it's done without a meeting of the executive?" DUTA members claimed that the campaign—indeed all statement and events—have been organized following resolution of the general body meeting in January, and what individual groups thought was immaterial.

The teachers are irked by the argument that the institution's "autonomy" will protect it from any intervention by the HRD ministry. DUTA reminds that the Visitor is, in fact, permitted to disallow changes to the ordinances and that even the Centre can, intervene through UGC. "Can the university refuse to implement reservation because it's autonomous?" asks Narain. DUTA members pointed out that the Centre can order scrapping of the executive council. "DU's autonomy will be preserved through the exercise of this power," argues Kapahy.

DU spokesperson Malay Neerav said, "It is categorically stated that all rules related to the introduction of undergraduate programmes have been have been adhered to by all statutory bodies." Student organizations like ABVP protested near the VC's residence on Thursday night.

Times Of India ND 14/06/2014 P-19

Supersonic car set for 1,609kmph dash

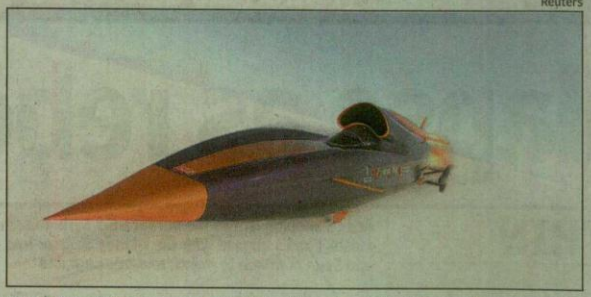
Cockpit Of The Vehicle Unveiled Ahead Of Attempt To Break Land Speed Record

Kounteya Sinha | TNN

London: The world's first supersonic car, which can run at 1,609kmph (1,000mph), has finally taken shape. The cockpit of Bloodhound SSC, the most advanced fusion of space, aeronautical and Formula 1 engineering ever attempted, was unveiled on Friday in Bristol.

The state-of-the-art carbon fibre monocoque has been tailored to the needs of driver Andy Green as the car aims to set the fastest land speed record in history in the South African desert in 2015 and 2016. Hand crafted using five different types of carbon fibre and two different resins, the monocoque has taken more than 10,000 hours to design and manufacture. Sandwiched between the layers of carbon fibre are three different thicknesses of aluminium honeycomb core which provide additional strength.

Reuters



The carbon-fibre structure of the Bloodhound weighs 200kg and bolts directly to the metallic rear chassis carrying the jet, rocket and racing car engine

The structure weighs 200kg and bolts directly to the metallic rear chassis carrying the jet, rocket and racing car engine. The carbon front section will have to endure peak aerodynamic loads of up to three tonnes per square metre at 1,000mph as well as the considerable forces generated by the front wheels and suspension. It will also carry ballistic armour to protect the driver should a stone be thrown up by the front wheels at very high speeds.

The roof of the cockpit has been designed to create a series of shockwaves that will channel the air into the Eurojet EJ200 jet engine. If supersonic air reaches the jet engine fan blades, the airflow will break down and the engine will 'choke'.

This can generate huge changes in pressure that could damage both the jet engine and the car. Hence, Bloodhound is using shockwaves over the canopy to slow the airflow from over 1,000mph to just 600mph in a distance of around one metre.

Deflecting winds travelling five times faster than a hurricane will, however, cause additional noise and vibration to be transmitted into the cockpit.

The sound levels expected in and around Bloodhound are being carefully evaluated.

The cockpit is positioned in front of three incredibly loud motors: the jet, a cluster of hybrid rockets and the racing car engine that drives the rocket's oxidiser pump. Collectively they will generate a noise level estimated at 140 decibels. Much of the noise will be directed backwards, away from the driver, and above 750mph. The car will out-run its own sound waves. However, the project's engineers still anticipate that shockwave and jet intake noise levels may produce over 120 decibels inside the cockpit. Andy will wear an in-ear communications system specially made by Ultimate Ear to protect his hearing and to ensure that he can communicate.

Times Of India ND 14/06/2014 P-19

Earth's largest water reservoir found

Kounteya Sinha | TNN

London: A massive reservoir of water three times the size of the Earth's oceans has been located hundreds of miles underneath the surface of the planet.

Researchers from Northwestern University and the University of New Mexico provided the first ever evidence for potentially oceans worth of water deep beneath the US. Though not in the familiar liquid form — the ingredients for water are bound up in rock deep in the Earth's mantle — the discovery may represent the planet's largest water reservoir.

The presence of liquid water on the surface is what makes our 'blue planet' habitable, and scientists have long been trying to figure out just how much water may be cycling between the Earth's surface and interior reservoirs through plate tectonics.

Northwestern University geophysicist Steve Jacobsen and University of New Mexico seismologist Brandon Schmandt have found deep pockets of magma located about 400 miles beneath North America, a likely signature of the presence of water at these depths.

The discovery suggests water from the Earth's surface can be driven to such great depths by plate tectonics, eventually causing partial melting of the rocks found deep in the mantle.

© Digital Art/Corbis

WET PLANET: Earth's 'underground oceans' could have three times more water than the surface

"I think we are finally seeing evidence for a whole-Earth water cycle, which may help explain the vast amount of liquid water on the surface of our habitable planet," Jacobsen said. "Scientists have been looking for this missing deep water for decades."

Scientists have long speculated that water is trapped in a rocky layer of the Earth's mantle located between the lower mantle and upper mantle, at depths between 250 miles and 410 miles.

Jacobsen and Schmandt are the first to provide direct evidence that there may be water in this area of the mantle, known as the 'transition zone', on a regional scale.

For the full report, log on to www.timesofindia.com

Times Of India ND 14/06/2014 P-9

Illiterate saas helps bahu clear UPSC

Odisha woman overcomes polio, passes civil services exam

A 31-year-old differently abled woman from Odisha's Kantabanji has secured 527th rank in the civil services examination in her first attempt. Sarika Jain, who suffers from polio in her right leg, credits her positive thinking for her success. "Physical disability is no disincentive," she said. "I have been preparing for the last two years and had taken six-month coaching in Delhi." Jain is commerce graduate and hopeful of getting into IAS because of reservation for physically handicapped people. "It is a dream come true. Somewhere in my heart I felt guilty that my daughter was affected by polio when she was just two-year-old in 1985. But by cracking the IAS, she has proved herself and made us proud," Sadhuram, Sarika's father, told **TOI**. TNN

Piyush Mishra | TNN

Ahmedabad: For an Ahmedabad woman who has cracked the UPSC exam this year, her mother-in-law has been the unfailing source of support and inspiration. This mother-in-law has dared to breach community restrictions to help her daughter-in-law triumph in the exams.

Shakuntala Vanzara was born to a nomadic tribe which did not allow girls to go to school. Hence she is illiterate but made a promise to herself that girls in her family would get the best education. She has fulfilled her mission — while her daughter Manjita Vanzara is a deputy superintendent of police, her daughter-in-law Sudhambika Vanzara cleared the UPSC exam on Thursday. Sudhambika belongs to Karnataka and secured the 1,061st rank.

Sudhambika is an engineer and when she married in the Vanzara family she wanted to help her mother-in-law with household chores but Shakuntala encouraged her to prepare for the civil services exams.

"Whenever I used to enter the kitchen, my mother-in-law would send me back to the library to study," said Sudhambika who wants to work for corruption-free governance.

Shakuntala had a tough time educating her daughters. She faced resistance from the elders of her community and also from the members of her extended family. But she continued to encourage her daughters and helped them achieve their dreams.

"I am a daughter of a farmer and still look after farms and cattle," said Shakuntala. "Over the years, I realized how much I have lost because of being illiterate and I did not want any of the women in my family to suffer."

Shakuntala has two daughters, one is married and settled in Mumbai and while Manjita lives with her. As for Sudhambika, she gives her husband credit for the achievement, as does Shakuntala to her husband.

"My husband is progressive in his thinking and supported my decisions regarding the education of my daughter as well as my daughter-in-law," said Shakuntala whose husband K G Vanzara retired as the additional secretary and director, OBC/Minority Welfare.

Sudhambika's husband, Himmat Vanzara, owns a showroom of musical instruments. "My husband sacrificed a lot for me. I could not have asked for a better life partner," said Sudhambika who is a folk singer and dancer from the Banjara community of Shimoga, Karnataka.