Chennai: Five plus. That's the number of hours a large number of children in India are spending on internet and experts say this could be a sign of addiction.

A recent Associated Chambers of Commerce and Industry of India (ASSOCHAM) survey concludes that internet addiction is on the rise in metros, with Mumbai having the most number of children online for hours followed by Delhi, Bangalore and Chennai.

About 52% of children in the eight to 11 age group spent over five hours daily online, chatting and playing games. In the same age group, 30% spent between one to five hours a day on the net while 18% said they didn't surf daily.

The usage was higher among 12-15 year olds, 35% of who fell into the "excessive use" category. Only 10% of these children didn't surf daily; 32% spent up to five hours a day on Internet.

Among 16-18 year olds, only 4% didn't go online daily. While 56% spent more than five hours on Internet, 40% were online for less than five hours. Boys reported excessive internet browsing than girls and all the older children used the net mostly for social networking, chatting and to help them with school work.

Children of working parents were found to be more addicted, due to lack of parental supervision. "It is a problem that arises with urbanisation. With both parents working, children are left unsupervised for long periods and see internet as a friend," said Dr Srikanteshwara, Bangalore's National Institute of Mental Health and Neuro Sciences psychiatry department consultant.

The survey which defined over five hours of daily internet usage as excessive, says this can cause social isolation, insomnia and obesity. It can also affect eyesight and mental health.

"The survey was done to ascertain the extent of internet overuse, especially by children aged eight to 18 as they are most vulnerable," said Dr Srikanteshwara.
US in a fight for future with India, China: Obama

Washington: Slamming Republicans for their two-point economic plan which would cut spending on education, President Barack Obama has said the US is in “a fight for future” with countries like India and China which are not slashing their budget in the key sector detrimental to shaping lives of millions of students.

“Think about it, China isn’t slashing education (budget) by 20% right now. India is not slashing education by 20%. We are in a fight for the future — a fight that depends on education,” Obama said at a White House summit on community colleges.

“Cutting aid for 8 million students, or scaling back our commitment to community colleges, that’s like unilaterally disarming our troops right as they head to the frontlines,” he said. Obama said he strongly disagrees with the economic plan that was released last week by the Republican leaders in Congress, which would actually cut education spendings by 20% as well as affect the healthcare sector budget.

Republicans’ two-point plan is aimed at creating jobs which would freeze tax rates at current rates and cut spending. “It would reduce or eliminate financial aid for 8 million college students. And it would leave community colleges without the resources they need to meet the goals we’ve talked about today,” Obama argued.

“Instead, this money would help pay for a $700 billion tax cut that only 2% of the wealthiest Americans would ever see — an average of $100,000 for every millionaire and billionaire in the country. And that just doesn’t make sense — not for students, not for our economy,” he observed. “We can’t accept less investment in our young people if our country is going to move forward. It would mean giving up on the promise of so many people who might not be able to pursue an education,” Obama said.
Atom-binding tool helps trio win Nobel prize for chemistry

Stockholm: An American and two Japanese scientists won the 2010 Nobel Prize in chemistry on Wednesday for developing chemical methods widely used to make potential cancer drugs and other medicines, as well as slimmed-down computer screens.

Richard Heck, Ei-ichi Negishi and Akira Suzuki were honored for their development four decades ago of one of the most sophisticated tools available to chemists, called palladium-catalyzed cross-couplings.

It lets chemists join carbon atoms together, a key step in the process of building complex molecules.

Their methods are now used worldwide in commercial production of pharmaceuticals and molecules used to make electronics, the Royal Swedish Academy of Sciences said.

Heck, 79, is a professor emeritus at the University of Delaware, now living in the Philippines. Negishi, 75, is a chemistry professor at Purdue University in West Lafayette and 80-year-old Suzuki is a retired professor from Hokkaido University in Sapporo, Japan.

Negishi told reporters in Stockholm by telephone from Indiana that he was excited to be awakened by a call early on Wednesday from the Nobel committee, saying he started dreaming about winning the prize half a century ago.

"The Nobel became a realistic dream of mine when I was in my 20s," he said, adding he would use his third of the $1.5 million award to continue doing research.

"I may have accomplished maybe half of my goals and I definitely would like to work for at least a couple of more years," Negishi said.

Heck said from his home in the Philippines that the importance of his work wasn't clear initially.

"It sort of grew as we worked on it," he said. "As I worked on it longer it appeared it was pretty important and it has developed well since then."

In a televised news conference from Hokkaido University, Suzuki said he was honored by the prize and hoped that it would inspire Japanese youngsters to explore chemistry.

"To my disappointment, not many young people seem to be interested in science, especially chemistry," said Suzuki. AP
Noise in office can be deadly for your heart

London: Constant noise at workplace can significantly increase your risk of serious heart problems and also make you weigh and smoke more, says a new study published in the British Medical Journal.

Researchers have found that working in a consistently noisy environment more than doubles the risk of serious heart problems — in the under-50s, the risk increases to fourfold, and young male smokers are particularly affected by noise.

For the study, the researchers studied more than 6,000 employees over a five-year period, dividing them into those who endured persistent loud noise at work for at least three months and those who did not.

They found that those in noisy environments tended to weigh and smoke more than those who worked in quiet offices.

Among workers under 50 the link with noise was particularly strong. They were between three and four times as likely to have angina or coronary artery disease or to have had a heart attack.

"Loud noise day after day may be as strong an external stressor as sudden strong emotion or physical exertion, the effect of which is to prompt various chemical messengers to constrict blood flow through the coronary arteries."

"This study suggests that excess noise exposure in the workplace is an important occupational health issue," British newspaper the Daily Mail quoted the researchers as saying.

June Davison of the British Heart Foundation said, "Some people find sustained noise very taxing and stressful and that could explain this link between noisy workplaces and an increased risk of heart disease. "For people who already have heart disease, occasionally stress can trigger chest pains or even a heart attack."
Slouching? Smart chair to give warning

Berlin: Getting back pain from sitting still for too long or in a bad position could be a thing of the past thanks to a chair developed by a German scientist which makes noises to tell users when they need to move.

Risto Koiva invented the “Intelli Chair” after researching “sonification” — the use of noise to convey information — with his colleagues at Bielefeld University in northwestern Germany.

“Four touch-sensitive sensors in the seat of the chair and another four in the back of the chair detect how the user is sitting,” Koiva said in a statement.

“The data they collect is sent to a computer via a bluetooth module.”

If the chair detects that its occupant is sitting in the wrong position or has remained seated for too long, it makes a noise to tell the user it is time to change position.

Physicist and computer scientist Thomas Hermann said the Intelli Chair was mainly intended for use in a home office, but could be useful elsewhere.

“It could be used in school class rooms, or in big offices to optimise workflows by determining when employees need to take a break,” the 40-year-old said. Experts agree the chair is perhaps the most important component of a healthy working environment. AGENCIES

Naac will grade teachers too

Vadodara: It’s time teachers in all colleges and universities in the country pull up their socks and make the best use of the blackboard and chalk. Teachers, who have been assessing students, may soon be graded too. Until now, it was only the universities and colleges that were accredited by the National Assessment and Accreditation Council (Naac), but the body will soon start giving grades or accreditation to the teachers as well.

The idea was floated by the vice-chancellor of University of Rajasthan professor A D Sawant to Naac. The idea has struck a chord with Naac and it plans to discuss its implementation during a meeting in Bangalore on November 30. “I had made a presentation to NAAC on the need to start accreditation of teachers in higher education institutions. They liked the idea and will discuss ways to implement the same in colleges and universities,” said Sawant during his visit to the city to attend the two-day western zone vice-chancellor conference hosted by M S University.

If the idea gets implemented, teachers’ performance will be assessed and they will be graded accordingly. “Just like universities are accredited by a committee instituted by NAAC, teachers too will be assessed. Committee members will take stock of the entire teaching career and contributions made to both university and society,” said Sawant, who will be attending the Bangalore meeting.

Talking about the parameters that will be assessed, Sawant said that research, impact of the research, contribution in forming curriculum, conducting examination and attending international and national conferences will be looked into. “The committee will take into account the overall results of the class, projects given to students, innovative experiments, the teachers’ relationship with students as well as the extension of their services to the society,” said Sawant.

Highlighting the benefits of teachers’ accreditation, Sawant said that it will serve two purposes — that of motivating teachers to perform and helping teachers get promotions based on their grades.
US linguists find ‘hidden’ language in Arunachal

Koro Could Be The Latest Addition To The 6,909 Known Tongues

Chidanand Rajghatta | TNN

Washington: Say “kaplaye” to a hidden language that’s emerged from remoteness of India’s famed diversity — the word means “hello” in Koro, a previously unknown language that linguists say they have identified and recorded in Arunachal Pradesh.

At a time of rapid globalization, when languages are dying at the rate of one every fortnight, Koro could be the latest addition to the 6,909 known tongues recorded in “Ethnologue”, a journal that chronicles languages of the world. The hitherto unrecognized vernacular, initially mistaken for a dialect of a language called Aka because of the cultural similarities of its speakers, was identified during a 2008 expedition conducted as part of National Geographic’s “Enduring Voices” project.

In a conference call in Washington DC on Tuesday, researchers who stumbled on the latest hidden language said Koro, spoken by only 800-1,200 people, could soon face extinction in the same way as Bo, the Andamanese language, whose last speaker died earlier this year.

Younger speakers are abandoning Koro for more dominant and widely used languages like English or Hindi, the researchers said, citing the example of a father, Katia Yame, who was a torchbearer for the language, while his son, Sunil Yame, had taken to Hindi.

But when they sat down to record the ‘dialect’ they found it had a different word for everything. “It is a distant sister language but quite distinct... like English and Russian,” Harrison, who has documented dying languages in his book “The Last Speakers”, said.

In terms of classification, Koro belongs to the Tibeto-Burman language family, a group of some 400 languages of which more than 100 are spoken in India alone. The researchers said Koro had not been included in the Indian census or in any study of languages in India. In part, this may be because the area is isolated and not much linguistic work has been done here; even Indian nationals need special permits to visit the region.

The researchers said they will be publishing their findings in the journal “Indian Linguistics” and hope to have it listed in “Ethnologue”, which continues to document new hidden languages ever as half of the world’s 6,909 languages are considered endangered and expected to die in this century.

“We hope it will be accepted in Indian and international charts,” Anderson said, adding that the demise of Bo had highlighted the fragility of languages and identified India as a language hotspot.

An area is considered a language hotspot when it has a high degree of language diversity with high endangerment and low level of scientific record.

The researchers said endangered languages need technological support (they plan to put Koro on YouTube) or their survival, so that knowledge base on everyday from medicine to cuisine passed down through the language could be preserved. Koro, incidentally only has no oral tradition; no script.

“New languages are noticed and documented from time to time; it is rarely considered to be newsworthy,” Harrison said. “But we are in the middle of a language crisis. Unless the trend is reversed, we will lose our diversity in the next century.” “Preserving languages contributes to human history,” he added.
Uranium to fuel cars soon: Scientists

Asian News International  
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WASHINGTON: Scientists have discovered a new form of uranium that could lead to a nuclear power plant small enough to fit in your car and eventually even power it. Scientists from the Los Alamos National Laboratory have created a long-sought molecule known as uranium nitride. Besides offering cheaper and safer nuclear fuel, the new molecule could extract more energy from fossil fuels, making cars more fuel-efficient, and could also lead to cheaper drugs.

"Actinide nitrides are candidate nuclear fuels of the future," Discovery News quoted Jaqueline Kiplinger, a scientist at the Los Alamos National Laboratory who led the team of researchers on the recent Nature Chemistry paper, as saying.

"But they can also break carbon-hydrogen bonds, which are very strong. Uranium nitride rips the hydrogen atoms off a carbon atom — no easy task."

If the two atoms could be split apart without losing all that energy, gasoline could be used much more effectively not only to fuel a car, but also to improve a whole variety of petroleum-related products, from plastics to drugs.

Unfortunately the new molecule is destroyed when it rips hydrogen atoms off a carbon atom. For uranium nitride to become commercially viable, it would have to knock one hydrogen atom after another and not destroy itself in the process.
A test for CAT

Last year, the first computerised IIM admission test was a fiasco because of technical glitches. HT took a mock test recently to check if the rough edges have been ironed out

The atmosphere was grim and the mood heavy among the students at the Indian Institute of Management as they were in an intensive revision mode. The stakes were high - the institute had already seen a drop in applications. The last time the test was held, in 2009, the computerised section of the test was marred by technical problems, and the students were forced to take the test on paper.

This year, the Indian Institute of Management and the Institute for Management and Development held a mock exam on Sunday to give students a feel of what the real test would be like. The students were divided into groups of six and were given a list of questions to solve. The test was designed to mimic the actual exam format as closely as possible.

The students were given a mock test paper and were instructed to solve it within a certain time limit. They were also given a computer to work on. The instructions were read out loud by the proctor and the students were allowed to ask questions if they had any doubts.

The test was conducted in a computer lab and the students were given a list of instructions to follow. They were required to solve the questions and submit their answers online. The proctor monitored the test and ensured that the students were following the instructions correctly.

The test was a success and the students were happy with the experience. They found the test to be a good simulation of the actual exam and said that it helped them prepare better for the real thing.

The students were also given a chance to ask questions and express their doubts to the proctor. The proctor was helpful and tried to answer all the students' questions.

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DU likely to get first woman V-C

Charu Sudan Kasturi
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NEW DELHI: If all goes well, Delhi University (DU) may soon get its first woman vice-chancellor. According to sources from the selection panel, the race for a new VC has boiled down to a contest between two veterans — Meenakshi Gopinath, principal of Lady Sriram College, and South Campus Director Dinesh Singh.

A human resource development ministry selection panel has shortlisted the names of Singh and Gopinath, besides VC Syed Hasnain of Hyderabad University and BS Chimni of Jawaharlal Nehru University (JNU), for the top post.

The four names were finalised after several meetings on Monday, sources said. The government is likely to announce a new VC soon, especially after the intense opposition in recent weeks from within the university community faced by the outgoing VC, Deepak Pental.

Sources in the office of the President — the Visitor to DU whose approval is must for the new VC’s appointment — confirmed that the HRD ministry is yet to send them the list of four candidates. This suggests that HRD minister Kapil Sibal may not have officially given a go-ahead to the government’s choice from among the four candidates.

Although HRD ministry officials refused to comment, administrative credentials of the four left in the race suggest that Singh and Gopinath have a definite edge.

Singh alone has the experience of handling the administration of various colleges and university departments.

Gopinath, on the other hand, is an eminent administrator and is the only woman candidate to be shortlisted.

If selected, she will become the first woman VC of India’s biggest university — another feather in the cap of a government that gave India its first woman President and first woman Speaker.
SOLAR RESEARCH

Study casts doubts on greenhouse heating

Earth should have cooled not heated up between 2004 and 2007, according to accepted models

BY JACOB P. ROSENF
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Science

In data-based research that can influence the understanding of climate change, scientists have raised doubts about accepted theories on the extent to which solar activity heats up the earth’s atmosphere.

Solar activity, astronomers have long held, waxes and wanes over roughly 11-year cycles. Increased activity heats up the earth’s atmosphere at a faster rate.

But a new analysis published in the journal Nature by scientists from Imperial College, London, using satellite data of solar radiation between 2004 and 2007, says that solar models that relate solar activity and Earth’s temperature are accurate. Earth’s climate should have cooled in these years.

Observations, on the other hand, say that over the past decade, temperatures on Earth have steadily increased and are believed to be the key drivers of long-term and large-scale changes in climate.

While many scientists and multilateral bodies such as the United Nations’ Intergovernmental Panel on Climate Change (IPCC) hold that the release of industrial gases into the atmosphere is mainly responsible for the rise in temperature, the extent to which solar activity influences the process is not clear. Estimates on the role of solar activity in raising temperatures on earth range from 2% to 35%.

It is only since 1970 that scientists have been able to observe the solar radiation spectrum via satellites and model how each radiation affects various levels of the atmosphere.

The study also says that key kinds of radiation differently affect various layers of atmosphere.

“These observations were made during the declining phase of the previous solar cycle,” said Joanna Haigh, an atmospheric physicist at Imperial College and the lead author of the study.

In a telephone interview, Haigh said her team’s observations could be a one-off case. It will take more than a decade—when solar activity is waning again—before the same measurements can be made and compared.

“But if this is not an anomaly and a trend,” she added, “it could significantly alter our understanding of how solar variability affects earth’s climate.”

The study also found that key kinds of radiation—ultraviolet, infrared and visible—differently affect various layers of the atmosphere and didn’t, as was supposed, heat at the same temperature.

Current models that extrapolate climate trends into the future do account for solar variability, but don’t account for how different wavelengths of radiation affect sections of the atmosphere.

“There’s a lot more complexity that isn’t being accounted for in current IPCC models,” said Haigh.

She added that despite the anomalous observations, “Fluctuations in solar radiation was unlikely to significantly account for global warming.”

According to a research paper by the Stanford Solar Center, the variation in energy emitted by the sun during the 11-year cycle is only about 10%. Past studies have said that when the solar cycle is at a maximum, it puts out a larger percentage of high-energy radiation, which increases the amount of ozone in the upper atmosphere.

The increased ozone warms the upper atmosphere and the warm air effectually wins all the way from the stratosphere—the atmospheric layer at 6-30 miles from earth. Changes in wind strength vary lead to different climate patterns around the globe.

Balade Garcia, atmospheric scientist at the National Center for Atmospheric Research in Boulder, US, said it was too early for researchers to revise their solar variability theories and models.

Several independent observations over 20 years had been out the mechanism between solar variability and climate, he said, and more observations are needed to cancel the effects of “instrument drift,” when satellites give erroneous readings as they wobble out of orbit.
US varsity keen on partnering with innovation universities

By Prashant K. Nanda
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NEW DELHI

India’s plan to enlist international institutes to partner its proposed innovation universities has received a boost, with the University of Illinois from the US expressing interest.

The university’s interim chancellor Robert A. Easter and three of his colleagues, including assistant vice chancellor for public engagement Pradeep Khanna, met human resource development (HRD) minister Kapil Sibal on Monday to discuss a partnership, according to two ministry officials.

India has decided to set up 14 innovation universities, which will be research-oriented campuses that will not be controlled by the University Grants Commission (UGC), the university regulator. Each university will have a theme to focus on.

“Illinois University is interested for partnering with an innovation university with bio-science and agriculture (as its focus theme),” said one of the two officials cited above.

The official, who didn’t want to be named, said although Sibal had received some positive signals from US educational institutes during his visit to that country last month, this is the first time that a leading university had sent a delegation to India to discuss the proposal.

The second official said foreign collaboration and funding will “boost higher education through a research-oriented mindset”, adding that Easter was told to be in touch with the government’s department of biotechnology for a detailed discussion. He also didn’t want to be named.

As reported by Mint on 3 August, the draft bill to set up the innovation institutions allows each university to set its own policy to attract faculty members from India and abroad and hire them directly, offering wages and perks that it deems fit.

The proposed innovation universities will have the potential to develop into leading research hubs, making them attractive to foreign educational institutions, said Narayanan Ramaswamy, executive director (education) at consulting firm KPMG India.

“Hence, these are the right place to invest (in),” he said.
Graphene: a novel material with myriad uses

Graphene is an ultimately thin, mechanically very strong, transparent, flexible conductor, and can be used in touch screens, light panels and solar cells

But graphene is also more flexible than silicon, and is very stretchable.

The thermal and electrical conductivity is very high, and it can be used as a flexible conductor. For instance, the electrical conductivity is considerably higher than that of silver.

Different forms

Graphene can exist in several different forms. The most common form of carbon is graphene, which consists of stacked sheets of carbon with a hexagonal structure. Under high pressures, diamond is formed.

A new form of molecular carbon is the so-called fullerenes. The most common, called C60, contains 60 carbon atoms and looks like a football (soccer) ball made up of 20 hexagons and 12 pentagons. This allows the fullerene to be used as a form of a sphere. The discovery of fullerenes was named the Nobel Prize in Chemistry in 1996.

Another type is a filament known as carbon nanotubes. Carbon nanotubes have been known for several decades, and the single walled nanotubes were given a Nobel Prize in Chemistry in 1991. A related type are two-dimensional carbon nanotubes, which have been known for several decades, and the single walled nanotube was given a Nobel Prize in Chemistry in 2004. These electronic and mechanical properties of metallic single walled nanotubes have many similarities with graphene. It was well known that graphene consists of benzenoid carbon sheets that are stacked on top of each other, but it was believed that a single such sheet could not be produced in isolated form.

What is graphene?

The electronic structures of graphene, a single layer of carbon which is a hexagonal honeycomb lattice, are rather different from those of two-dimensional materials. The Fermi surface is characterized by it being double layered. The electronic structure of the Fermi surface is clearly visible in the optical excitations of graphene.

But in 2008, the two scientists showed that one can make graphene from 20 hexagons and 12 pentagons, which give the fullerene the form of a sphere. The discovery of fullerences was named the Nobel Prize in Chemistry in 1996. A novel type of one-dimensional carbon nanotube, carbon nanotubes, have been known for several decades, and the single walled nanotubes were given a Nobel Prize in Chemistry in 2004. These electronic and mechanical properties of metallic single walled nanotubes have many similarities with graphene. It was well known that graphene consists of benzenoid carbon sheets that are stacked on top of each other, but it was believed that a single such sheet could not be produced in isolated form.

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