Newspaper Clips
June 26, 2014

Deadline over, 17K aspirants fill in IIT forms

http://timesofindia.indiatimes.com/City/Mumbai/Deadline-over-17K-aspirants-fill-in-IIT-forms/articleshow/37219569.cms

MUMBAI: The online process of filling options for admission to the Indian Institutes of Technology closed on Wednesday. In all, 17,329 candidates filled in their options of courses and colleges, but 733 did not fill any choice.

A total of 18,077 candidates had made the cut in the JEE (Advanced) and were eligible to fill choices for admission to the IITs, but 15 of them did not sign up. "We have called more students this year," said JEE (Advanced) chairman M K Panigrahi.

The deadline for filling choices was extended till 10am on Wednesday as the server crashed on Tuesday. The server, hosted by IIT-Kharagpur, crashed at 10.30am but was fixed by 6pm. While authorities attributed the crash to a "technical snag", others said the server could not handle the excessive traffic.

IIT aspirants worried

Vithika Salomi, TNN | Jun 25, 2014, 06.35AM IST http://timesofindia.indiatimes.com/Home/Education/Entrance-Exams/IIT-aspirants-worried/articleshow/37157334.cms

PATNA: Hundreds of Indian Institute of Technology (IIT) aspirants were in a worried lot on Tuesday as the joint online choice-filling and seat allocation portal for admission to the IITs was inaccessible almost the whole day.

They breathed a sigh of relief only after the website — http://jeeadv.iitkgp.ac.in/ — read an 'appropriate compensation for the down time'. The deadline has been extended up to 10am on June 25.

June 24 was the last date for students to take part in the central counselling process for admission to the IITs, according to the guidelines. However, a notice on the website which was accessible again around 4:30pm on Tuesday, half an hour before the deadline for filling up the choices, read, "Due to technical problems in the JEE (Adv) — 2014 Server on 24 June 2014, the deadline of Online Choice Filling has been extended up to 10am of 25th June, 2014 for appropriately compensating for the down time."

Delhi Public School (DPS), Patna, student Ayush Ranjan Keshav, whose OBC rank in JEE (Advanced) was just over 3,200, had to make some changes in the choices in his form. "Even on Monday, the website was unreachable for most part of the day. The same glitch was there on Tuesday," Keshav said adding that he tried to contact authorities at IIT Kharagpur, Guwahati, Delhi and Patna, but to no avail. TOI's attempt to contact IIT, Patna, officials didn't bear any result either.

He added that many of his friends with eligible all India ranks also said the site has been down from 11.30am on Tuesday. Candidates claimed they had been experiencing problems from Saturday. On Saturday, clicking on the link led to a black page with the message, "Site is down for maintenance (till 6.30pm). Will be up again." The site became functional again at the said time.

IIT-Kharagpur, the organizing IIT for this year's JEE (Advanced), opened the page for candidates successful in the test to

upload their choices at 9am last Friday. Within 12 hours, the system appeared to face problems. Coaching institutes and IIT faculty insist the counselling process is as important as taking the test and care should be taken to fill in as many choices as possible to remain in the race for admission to the 16 Indian Institute of Technologies (IITs).

TNN | Jun 26, 2014, 04.48 AM IST

INDIA, NZ ANNOUNCE JOINT RESEARCH GRANTS

http://paper.hindustantimes.com/epaper/viewer.aspx

New Zealand (ENZ) and the Indian University Grants Commission (UGC) have jointly announced seven collaborative research projects between New Zealand and Indian universities to enhance bilateral cooperation and develop stronger links between higher education institutions. The joint research grants, which are worth New Zealand $460,000, are an initiative of the India New Zealand Education Council, which seeks to enhance bilateral tertiary education cooperation between New Zealand and India. The winning themes range from research into health and migration patterns in the South Pacific to managing India New Zealand institutional challenges and the impact of climate change.

Some of the research grant awardees include collaborations between University of Waikato and Jamia Millia Islamia University; University of Auckland and Anna University; University of Otago and University of Delhi; University of Auckland and University of Calcutta; University of Canterbury and University of Delhi.

Hindustan Times ND 26/06/2014 P-1

Start admissions today: UGC to DU

HT Correspondents
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NEW DELHI: Even as the logjam continued, the University Grants Commission (UGC) Wednesday issued a fresh ultimatum to Delhi University to start the admission process and submit a compliance report by Thursday forenoon.

In the letter addressed to the DU registrar, the commission made it clear that admissions should take place for the three-year undergraduate programme and not FYUP.

The university too finally ended its silence on the matter, but refused to clarify whether or not it was reverting to a three-year course and starting admissions, leading to more confusion.

DU's response was to an independent committee and its suggestions.

"The University of Delhi has received today a document, from some eminent citizens, outlining concrete suggestions for the solution of the current situation as it exists. While welcoming this initiative, the university is examining in detail the document and is working with the expectation that the admission process shall be able to commence soon," the statement said.

The committee suggested that the university revert to the three-year programme, but can also have a fourth year for an 'honours with research degree'. It also advised that the B Tech programme be left untouched except for a reduction in the number of foundation courses.

It is noteworthy that the UGC has also set up a committee to break the impasse and to suggest ways to revert to the three-year system. Despite daily reminders from the commission, the university has refused to reply to it. It has, so far, not said anything to the colleges either, but decided to speak up after receiving a plan from the independent committee.

The UGC had on Tuesday sent another communication to DU, directing it to immediately issue letters to colleges for admitting students to the 3-year programme. But on Wednesday there was no response from the varsity

Fifty-seven of the sixty-four city colleges had on Tuesday agreed to go back to the three-year course. But, institutes maintain that they will not be able to start admissions without getting a schedule from the university.

DRAMA CONTINUES

- UGC asks DU to commence admission process and file compliance report on Thursday
- Admissions must take place under three-year programme and not FYUP, says UGC
- DU has, so far, not responded to several directives on the matter from UGC
- Admissions were expected to begin on June 24, but have been in limbo because of the deadlock
- 57 of the 64 city colleges have agreed to revert to the three-year undergraduate course

Indian Express ND 26/06/2014 P-10

Strings pulling strings

Delhi University fiasco reveals the toxic relationship between the HRD ministry, UGC and universities

ADMISSIONS to Delhi University have been put off, and tens of thousands of students are waiting for a resolution to the clash between the university and the University Grants Commission, which has ordered a rollback of the four-year undergraduate programme adopted recently. The question is not about the merits of the FYUP — this newspaper believes that a semester system that offers cross-disciplinary learning, flexibility and the capacity to choose both abstract and applied learning is an idea that should be encouraged, despite the inevitable teething troubles.

The crux of this controversy, as it is playing out now, is the working relationship between the UGC and a premier public university. Should the UGC, whose task is to coordinate and regulate higher education, arbitrarily intrude into the university's decision-making? The FYUP had been subject to much consultation with faculty, students and parents, it had been approved by the university's academic and executive councils. The UGC may have played a role in reducing the friction, but it is not its role to summarily order a university to abandon an innovation it has invested in. This is a travesty of the very concept of higher education governance. Accountability for an autonomous public university should not flow from a group of education apparatchiks, it should arise from competition, reputation, peer professional standing, etc. What's even more disturbing is the lack of autonomy within the UGC itself — its self-conception seems that of the government's little helper, rather than that of an independent regulator.

While the HRD ministry has claimed that it refuses to intervene in a matter between the UGC and DU, that claim is belied by the fact that the BJP had committed to rolling back the FYUP in its manifesto. It is an explicit political commitment that the HRD ministry is now carrying out, as made evident by the UGC's own flip flops. It tacitly endorsed the FYUP during the UPA years, citing an Education Commission report of 1964-66 to assure DU that the duration of academic programmes may vary between universities or within them, and even between disciplines. Now, with a change in the political regime, it issued an advisory to DU, which soon became an order after directions from the Centre. What transpired between the UGC and DU had everything to do with, at the very least, the UGC's conviction that it was obliged to jump to the HRD ministry's wishes. This is the most grim lesson from this incident, and it does not augur well for academic freedom.

Death by degrees

The battle over Delhi University's four-year programme has much more at stake than mere academics

The ongoing controversy over scrapping Delhi University's Four-Year Undergraduate Programme (FYUP) and the resultant stand-off over admissions reflect poorly on all the parties concerned. Worse, it puts the future of lakhs of students — those seeking admission to this year's programmes at India's premier university, as well as the over 55,000 students who are already part-way through the FYUP — at risk. The human resources development ministry, which used its might to push through the FYUP programme last year and is now using the same muscle to scrap it, must bear a bulk of the blame. However, the actions of the supposedly autonomous University Grants Commission (UGC), Delhi University's Vice-Chancellor Dinesh Singh, as well as its politicised teaching staff, deserve the strongest condemnation. Academics are expected to resolve differences through dialogue and discussion, not intrigue and street action.

Any resolution now attempted needs to bear in mind some key issues. First, the idea of the FYUP is not inherently flawed. The option of exiting after a two-year tertiary programme which will equip students with basic skills required in a variety of jobs without necessarily adding academic specialisation in areas that are unlikely to find widespread application outside the world of academics has the potential of addressing India's growing skills shortage in the labour market. Critics have rightly pointed out the huge shortfalls in the programme as it was implemented — the foundation courses were laughably basic, and the colleges simply did not have the physical or academic infrastructure to cope with the additional load. However, the solution was to try and improve the shortcomings, not dumping it unceremoniously.

More disturbing is the politicisation of higher education. The UGC is supposedly autonomous but is in fact a rubber stamp for the political dispensation in power. Politicisation of appointments of vice-chancellors, chopping and changing courses and programmes at the behest of political whims and fancies, and an increasing recourse to courts or street politics over issues which need to be settled through consultation, have all combined to erode the quality of higher education and undermine the few centres of excellence which do exist. It is no coincidence that many top politicians are majorly invested in the education business. But allowing political capture of higher education puts the future of our society at peril. "Upon the education of the people of this country, the fate of this country depends," said British Prime Minister Benjamin Disraeli while arguing the case for appointment to the British Civil Services on the basis of competitive examinations, thus changing the equation from patronage to educational merit as the route to success. It is a dictum which the current day inheritors of his legacy in India will do well to remember.

Times of India ND 26/06/2014 (Times Engineering) P-1

Engineering Success

Times Group partnered with i3 Research Consultants to conduct its first Engineering College 2014 survey to determine the top engineering colleges in India.

RESEARCH METHODOLOGY

The objective of this research was to arrive at a list of top engineering institutes in India. The study had two major modules: Perceptual rating survey and Factual survey.

In the first module, based on convenience sampling, a structured questionnaire was administered to selected respondents to arrive at a ranking and rating of engineering colleges in India. The initial list had over 600 engineering colleges, though each respondent was asked to give ratings for only those colleges that he/she was aware of and a maximum of 20 colleges to avoid investigation fatigue to ensure quality data.

A sample survey of 1,500 was conducted in select cities of Class-A (Delhi-NCR, Mumbai, Chennai, Kolkata, Bangalore, Hyderabad and Ahmedabad) and Class-B (Chandigarh, Pune, Indore, Jaipur, Lucknow, Bhubaneswar and Ranchi).

A geographical spread of the sample was ensured by multiple starting points spread across the city.

There were two main respondent categories who were interviewed to evaluate an engineering institute, those who had the experience of such institutes (Experiential) and those who were searching, aspiring for engineering and evaluating these school (Perception). The respondent categories included:

EXPERIENTIAL

- Engineering college faculty
- HR consultants who hire from engineering colleges
- Alumni of an engineering college

PERCEPTUAL

- Students aspiring to take admission in an engineering college
- Parents of students aspiring for admission in an engineering college
- An extensive five-week fieldwork was conducted beginning the first week of May 2014

For more detailed information about the Engineering Institute survey, log on to: www.times-engineering-survey.com

Continued on page 2

TOP 100 Engineering Institutes IN INDIA

Engineering Institute Survey: Rank 1-50

RANK	INSTITUTE/ ENGINEERING
1	IIT Kharagpur
2	IIT Guwahati
3	IIT Kanpur
4	IIT Bombay
5	IIT Delhi
6	Delhi College of Engineering - New Delhi
7	SRM Institute of Science and Technology - Chennai
8	IIT Roorkee
9	IIT Madras
10	NIT Durgapur
11	Visvesvaraya National Institute of Technology (VNIT) - Nagpur
12	BMS College of Engineering - Bangalore
13	International Institute of Information Technology (IIIT) - Pune
14	Veermata Jijabai Technological Institute (VJTI) - Mumbai
15	BITS - Pilani
16	BIT, Mesra - Ranchi
17	IT-BHU - Varanasi
18	Vishwakarma Institute of Technology (VIT) - Pune
19	Amity School of Engineering & Technology - Noida
20	Sardar Patel College of Engineering - Mumbai
21	Manipal Institute of Technology - Manipal
22	Maharashtra Institute of Technology - Pune
23	College of Engg, Anna University - Guindy
24	NIT - Suratkal
25	Jawaharlal Nehru Technological University (JNTU) - Hyderabad
26	SASTRA - Thanjavur
27	Jamia Millia Islamia - New Delhi
28	Vellore Institute of Technology - Vellore
29	LD College of Engineering - Ahmedabad
30	IIT Gandhinagar
31	National Institute of Engineering - Mysore
32	Nirma Institute of Technology - Ahmedabad
33	D Y Patil Group's: Ramrao Adik Institute of Technology - Navi Mumbai
34	International Institute of Information Technology (IIIT) - Hyderabad
35	NIT - Rourkela
36	International Institute of Information Technology (IIIT) - Bangalore
37	NIT -Patna
38	Manav Rachna College of Engineering, Faridabad
39	SSN College of Engineering - Chennai
40	Mumbai University Inst of Chemical Tech - Mumbai
41	Govt. College of Engineering - Pune
42	Graphic Era Institute of Technology (GEU)- Dehradun
43	M.S. Ramaiah Institute of Technology - Bangalore
44	R.V. College of Engineering - Bangalore
45	Guru Nanak Dev Engineering College - Ludhiana
46	MIT College of Engineering, Pune
47	Netaji Subhas Institute of Technology - New Delhi
48	College of Engineering - Trivandrum
49	NIT Jamshedpur
50	Kalinga Institute of Industrial Technology - Bhubaneswar

Engineering Institute Survey: Rank 50-100

RANK	INSTITUTE/ ENGINEERING
51	Jiwaji University - Gwalior
52	NIT Warangal
53	Rizvi College of Engineering, Bandra - Mumbai
54	Sardar Vallabhbhai National Institute of Technology (SVNIT) - Surat
55	NIT Jalandhar
56	IIT Hyderabad
57	Indian School of Mines - Dhanbad
58	Vishwakarma Government Engineering College, Ahmedabad
59	ITM University, Gurgaon
60	BIT Sindri
61	Vasavi College of Engineering - Hyderabad
62	Government Engineering College, Surat
63	Indian Institute of Information Technology (IIIT) - Allahabad
64	Bharati Vidyapeeth, Pune
65	Jawaharlal Nehru Technological University (JNTU) - Kakinada
66	Jadavpur University, Faculty of Engg & Tech - Calcutta
67	Bangalore Institute of Technology - Bangalore
68	NIT Kozhikode
69	Jawaharlal Nehru Technological University (JNTU) - Anantpur
70	S.J. College of Engineering - Mysore
71	University Visvesvaraya College of Engg. - Bangalore
72	Dhirubhai Ambani IICT - Gandhinagar
73	P.E.S. Institute of Technology - Bangalore
74	IIT, Bhubaneswar
75	IITM - Delhi
76	Haldia Institute of Technology, Haldia
77	GNIT - Delhi
78	K.L. College of Engineering - Veddeswaram
79	Cummins College of Engg for Women - Pune
80	Punjab Engineering College - Chandigarh
81	JIS College of engineering - Kolkata
82	Orissa University of Agriculture and Technology, Bhubaneswar
83	Medi-Caps Institute of Technology and Management- Engineering, Indore
84	Rustamji Institute of Technology, Gwalior
85	Government School of Engineering and Technology, Vikram University, Ujjain
86	Amity School of Engineering & Technology, Lucknow
87	Institute of Engineering and Science, IPS Academy, Indore
88	Institute of Engineering and Technology, Indore
89	Narsee Monjee Institute of Management Studies, Mumbai
90	Government College of Engineering, Amravati
91	KJ Somaiya College of Engineering, Mumbai
92	Lakshmi Narain College of Technology, Indore
93	S.G.S. Institute of Technology & Science - Indore
94	Xavier Institute of Engineering, Mumbai
95	Maharastra Academy of Naval and Training MANET - Pune
96	Shri Ram Institute of Technology, Jabalpur
97	Bhilai Institute of Technology, Durg
98	Atharva College of Engineering, Malad - Mumbai
99	Maulana Azad National Institute of Technology (MANIT) - Bhopal
100	Shri Ramdeo Baba K.N. Engineering College - Nagpur

Engineering Institute Survey: Rank 1-50 (Private)

RANK	INSTITUTE/ ENGINEERING
1	SRM Institute of Science and Technology - Chennai
2	BMS College of Engineering - Bangalore
3	BITS Pilani
4	BIT, Mesra - Ranchi
5	Vishwakarma Institute of Technology (VIT) - Pune
6	Amity School of Engineering & Technology - Noida
7	Manipal Institute of Technology - Manipal
8	Maharashtra Institute of Technology - Pune
9	SASTRA - Thanjavur
10	Vellore Institute of Technology - Vellore
11	National Institute of Engineering - Mysore
12	Nirma Institute of Technology - Ahmedabad
13	D Y Patil Group's: Ramrao Adik Institute of Technology - Navi Mumbai
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15	SSN College of Engineering - Chennai
16	Graphic Era Institute of Technology (GEU)- Dehradun
17	M.S. Ramaiah Institute of Technology - Bangalore
18	R.V. College of Engineering - Bangalore
19	Guru Nanak Dev Engineering College - Ludhiana
20	MIT College of Engineering, Pune
21	Kalinga Institute of Industrial Technology - Bhubaneshwar
22	Rizvi College of Engineering, Bandra - Mumbai
23	ITM University, Gurgaon
24	Vasavi College of Engineering - Hyderabad
25	Bharati Vidyapeeth - Pune
26	Bangalore Institute of Technology - Bangalore
27	S.J. College of Engineering - Mysore
28	Dhirubhai Ambani IICT - Gandhinagar
29	P.E.S. Institute of Technology - Bangalore
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32	GNIT - Delhi
33	K.L. College of Engineering - Veddeswaram
34	Cummins College of Engg for Women - Pune
35	JIS College of Engineering - Kolkata
36	Medi-Caps Institute of Technology and Management- Engineering, Indore
37	Amity School of Engineering & Technology, Lucknow
38	Institute of Engineering and Science, IPS Academy, Indore
39	Narsee Monjee Institute of Management Studies, Mumbai
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43	Maharastra Academy of Naval and Training MANET - Pune
44	Shri Ram Institute of Technology, Jabalpur
45	Bhilai Institute of Technology - Durg
46	Atharva College of Engineering, Malad - Mumbai
47	Shri Ramdeo Baba K.N. Engineering College - Nagpur
48	Bharati Vidyapeeth College of Engineering, Navi Mumbai - Mumbai
49	Indira College of Engineering - Pune
50	PCMC College of Engineering - Pune

Times of India ND 26/06/2014 P-19

Cosmic bling: An Earth-sized 'diamond' discovered in space

Washington: Astronomers have discovered an Earth-sized 'diamond' about 900 light-years away in space, which is possibly the coldest, faintest white dwarf star ever detected. This ancient stellar remnant is so cool that its carbon has crystallised, forming — in effect — an Earth-size diamond in space. The object is likely the same age as the Milky Way, approximately 11 billion years old.

"It's a really remarkable object. These things should be out there, but because they are so dim they are very hard to find," said David Kaplan, a professor at the University of Wisconsin-Milwaukee. Kaplan and his colleagues found this stellar gem using the National Radio Astronomy Observatory's Green Bank Telescope and Very Long Baseline Array, as well as other observatories. White

SPARKLING FIND

dwarfs are very dense end-states of stars like our Sun that have collapsed to form an object approximately the size of Earth. Composed mostly of carbon and oxygen, white dwarfs cool and fade over billions of years.

Pulsars are rapidly spinning neutron stars, the super-dense remains of massive stars that have exploded as supernovas. As neutron stars spin, lighthouse-like beams of radio waves, streaming from the poles of its powerful magnetic field, sweep through space. When one of these beams sweeps across Earth, radio telescopes can capture the pulse of radio waves.

The pulsar companion to this white dwarf, dubbed PSR J2222-0137, was the first object in this system to be detected. It was found using the GBT by Jason Boyles, then a graduate student at West Virginia University in Morgantown. PTI

Hindustan Times ND 26/06/2014 P-9

Students devise way to repair and reuse CFLs for just ₹1

COST EFFECTIVE A cheaper alternativ, it will also help reduce pollution of e-waste

Soumya Pillai
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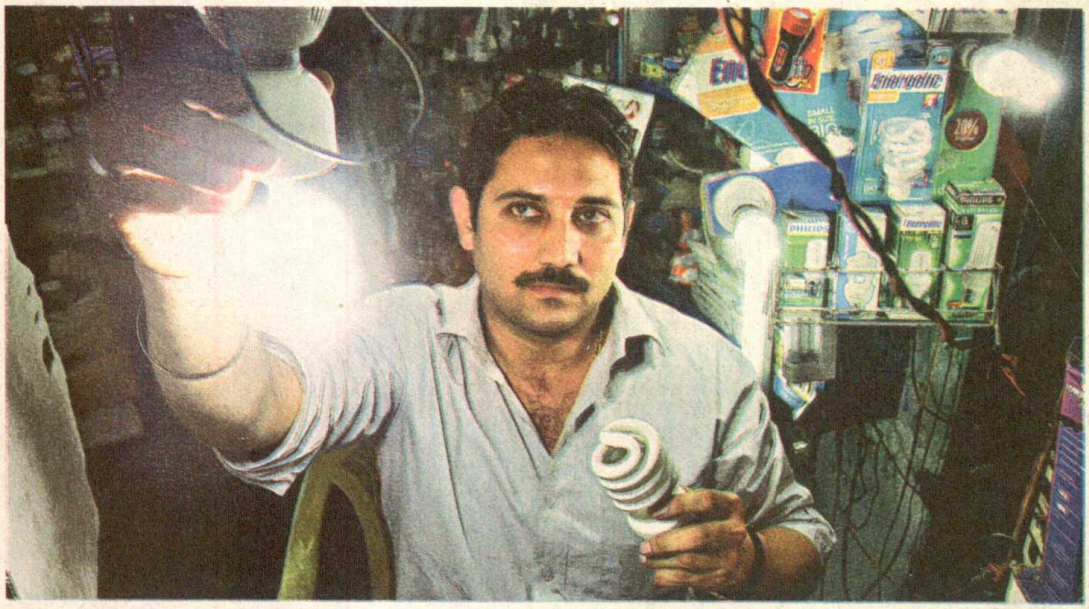
NEW DELHI: A group of young engineers have formulated an environment friendly way of reusing compact fluorescent lamps (CFL) used in households at a cost of ₹1.

Led by engineers Shubham Manocha, 19, and Shivinder Singh Chandok, 20 — students of National Power Training Institute — the project 'Prajwal' aims at mobilising the Resident Welfare Associations of various colonies of the city to collect used CFLs. The students will repair and return the CFLs to the RWAs.

This means that instead of disposing of these lamps after use, consumers will now get a chance to use them again.

This would not only be a cheaper alternative but will also help in reducing the number of such lamps buried in landfills every year in the capital.

"This project is not only an environment friendly way of reusing bulbs but through this initiative we have also created employment for the youth, women and disabled individuals who cannot find viable work opportunities in the market. We have trained them to repair these bulbs so that they will be able to be a valued resource to the society," said Manocha.



The student initiative involves 'micro electricians' trained to repair faulty CFLs. This will create employment for the youth, women and disabled individuals, they say. RAJ KRAJ / HT PHOTO

With the help of these 'micro electricians', these students aim at creating a market for second-hand bulbs.

"We want to make these available at low rates such that even people from lower economic backgrounds will be able to afford them. These repaired bulbs work for almost as long a new bulb would," assured Chandok.

In India, more than 300 million CFLs end up in landfills each year and take thousands of years to decompose.

Even if they start decomposing, environmentalists across the globe have raised their concerns that these bulbs leave behind huge mercury footprints.

These poison the soil and the surrounding environment.

"A healthy way would be to reuse these bulbs and reduce the burden on Delhi's landfills," said Shalini Bhal, environmentalist, who works with Jawaharlal Nehru University.

Record increase in girl students at IIM-L

http://paper.hindustantimes.com/epaper/viewer.aspx#

LUCKNOW: The efforts of the Indian Institute of Management, Lucknow (IIML), to increase intake of women students have borne fruit. This year there has been a record increase in the number of its women students. Out of the 453 candidates who entered the portals of IIM-L, 243 are men and 210 women. This was for the first time the fair sex breached the 200 mark. Last year, 172 female candidates got admission against 280 males. Prior to that, 166 girls (37%) were inducted against 287 boys.

This year, 46% girls have been inducted into the Post Graduate Programme in Management (187) and 52.27% (23) in PGP Agri Business Management.

This year, out of total 409 PGP students that were inducted, 187 are females and 222 males. But in Agri Business Management (ABM), this year there will be more female students than male, for the total strength of ABM is 44, of which 23 are girls and 21 boys.

Devi Singh, director, IIM-L said, "I ' m happy t hat t he number of girl students has increased in a decade. I remember the number of girls was just 10% in 2004-05 batch. Now it has increased to 46%. The girls are almost catching up with the boys."

According to Singh, the focus this year during admissions in the PG programme was to ensure diversity without compromising on merit. "We started this and now a number of other IIMs are following a similar trend. In a way, IIM-L has set an example for others," Singh said.

THE TREND

Year	Number of girl students
2014	210
2013	172
2011	166

The majority of the students still have an engineering background (74.8% in PGPM and 65.90% in PGP ABM), but their percentage has come down compared to the previous years. The PGP class will have 103 non-engineering students. In 2012, engineering students were as high as 325 and in two years, the number has come down to 306. IIM prefers students from diverse streams so that students may lear n from each other about different dynamics and their approach to solve problems. This year, 151 students are freshers and do not have any work experience. About 99 of them carry over two years of experience and 93 students have experience between 13 to 18 months.

50:50 weightage given to HSC, JEE percentiles for engineering seats

Vishwas Kothari,TNN | Jun 26, 2014, 03.29 AM IST

http://timesofindia.indiatimes.com/City/Pune/5050-weightage-given-to-HSC-JEE-percentiles-for-engineering-seats/articleshow/37216018.cms

PUNE: The state government has decided to give 50:50 weightage to the percentile scores in the Joint Entrance Exam (JEE-Main) and the Std XII board exams to prepare the final merit list for allotment of first-year engineering degree course seats through the centralized admission process (CAP) this year.

"Normalization of marks scored in the Std XII physics, chemistry and mathematics papers by students from different education boards (CBSE, ISC, state board, etc) will be done on the basis of the percentile formula devised by the Indian Statistical Institute, Kolkata," said a government resolution (GR) issued by the department of higher and technical education on Tuesday.

Director of technical education (DTE) S K Mahajan, who is the competent authority for the engineering CAP, told TOI on Wednesday, "An average figure will be calculated from the percentile scores in the JEE (Main) and the Std XII board exams, which will form the basis for the final merit list."

"We have received details about the normalization formula required for calculating the percentile scores and we will release the composite score calculation method, with suitable illustrations, for the understanding of engineering aspirants on our official website (www.dtemaharashtra.gov.in/fe2014) on Thursday," he said.

Experts in engineering education feel that the percentile system would result in fair allotment of seats; it would ensure equivalence and there would be no cut-offs in terms of aggregate percentage for closure of admission at a given engineering institution.

On October 31, 2012, the government had announced its decision to join the all-India single entrance test, called the JEE (Main), from 2014-15 to carry out admissions to engineering colleges in the state. Through a government resolution on March 4, 2014, the government had declared that it would give 50:50 weightage to the JEE (Main) and the Std XII board scores.

However, there were concerns about engineering aspirants from the state board being at a disadvantage compared to their counterparts from the CBSE, ISC and other boards, due to higher scoring by the latter. Eventually, it was decided to evaluate the Std XII scores of students from different education boards on the basis of the normalized percentile method devised by ISI, Kolkata.

Through its latest GR, the government has modified its decision to give 50:50 weightage to the JEE (Main) and Std XII board exam scores and has now opted for 50:50 weightage to the percentile scores and the average of these scores to prepare the final merit list.

Higgs particles decay to fermions

http://www.thehindu.com/sci-tech/science/higgs-particles-decay-to-fermions/article6148380.ece

AP The latest piece of evidence to fall in place is the decay of Higgs boson to fermions.

TOPICS

science and technology

science (general)

Some discoveries happen instantly while others happen in stages, keeping the celebrations going as the truth unravels itself bit by bit. The latter is the case with the discovery of the Higgs particle.

The latest piece of evidence to fall in place is the decay of Higgs boson to fermions. The CMS collaboration, in a paper published online in *Nature Physics*, declares the "evidence for direct decay of the 125 GeV Higgs boson into fermions." Similar observations have also been reported by ATLAS experiment in a note put up on their website.

This discovery complements the earlier experiments in which the Higgs was seen to decay into bosons such as pairs of W, Z and photons.

The paper describes the CMS collaboration's analysis of some events from their data in which the Higgs boson decays into tau-lepton pairs; they have also seen events where the Higgs decays into b quark and anti-b quark pairs.

“These measurements find evidence for Higgs coupling [by decay] to fermions. In the Standard Model, the Higgs also gives mass to the fermions in addition to the weak gauge bosons.

A consequence of this is that the [strength of the] Higgs coupling to the fermions is proportional to its mass, which the measurements are confirming,” says Shrihari Gopalakrishna, particle physicist at the Institute of Mathematical Sciences, Chennai.

Standard Model

The Standard Model is a longstanding theory that describes electromagnetic, weak and strong interactions by invoking an internal symmetry called the gauge symmetry. Related to this symmetry are the gauge particles, which mediate the corresponding interaction.

The photon is an example of a gauge particle: it mediates the electromagnetic interaction. Its masslessness is responsible for the long range of the electromagnetic force. On the other hand, the gauge particles mediating the weak interactions need to be massive, since the corresponding force has a short range. It was in this context that the Higgs mechanism was postulated in 1964 to give the weak gauge bosons their mass. The associated Higgs particle would decay into massive W and Z bosons which are the gauge particles for weak interactions.

This was exactly the nature of the interactions observed in late 2012, following which it was declared that the Higgs had been discovered. However, in the Standard Model, the Higgs is also responsible for giving mass to the matter particles, which are fermions. The latest results from CMS and ATLAS are preliminary evidence for this, as tau-leptons are fermions, unlike the gauge particles, which are bosons.

Statistical significance

At a statistical significance of 3.8 sigma, which the CMS paper in *Nature Physics* reports, the process of Higgs going to tau-anti-tau is pretty good evidence, and further work may be needed to ensure the same for the b-anti-b processes.

One reason it has taken so long to find these events is that b–anti-b pairs are produced in large numbers through other interactions, as well.

A sensitive experiment and ensuing analysis were needed to see the signal over the dominating background noise.

“This [result] is close to the prediction of the Standard Model and puts a constraint on physics beyond the Standard Model, but it does not rule out physics beyond the Standard Model. This is a milestone for experimentalists,” says V. Ravindran, particle physicist from the Institute of Mathematical Sciences, Chennai.

Less mass

Interestingly, the observed Higgs particle has a mass less than what is predicted by the Standard Model. Dr. Gopalakrishna says: “The Standard Model fails to explain why the Higgs boson mass is light enough to have been observed at the Large Hadron Collider. Many proposals for physics beyond the Standard Model have been made in order to explain this shortcoming. So far, the LHC has not found any direct or indirect evidence for the presence of such new physics, which makes us wonder if we are missing some important piece of the puzzle. The upcoming higher energy run of the LHC to begin early next year should tell us more.”

Designs for Mumbai's future

http://www.mid-day.com/articles/designs-for-mumbais-future/15404189

Catch the latest design innovations from the graduating batch of the Industrial Design Centre at IIT Bombay at their annual Design Degree Show 2014

An emergency medical responder designed to beat the traffic and provide on-the-spot medical assistance, an app that helps the hearing-impaired take music lessons, a stove that works using rice husks, and a new design for the Indian Railways sleeper coaches.

A mobile app that helps in learning scripts

These are part of the 150 designs that will be showcased by graduating students of the Industrial Design Centre (IDC) at IIT Bombay, as part of the Design Degree Show (DDS), the annual college festival of IDC.

This robot can grasp commands

http://timesofindia.indiatimes.com/tech/computing/This-robot-can-grasp-commands/articleshow/37125849.cms

A team from Cornell University led by an Indian scientist is teaching a robot to understand instructions in its 'language' from various speakers, account for missing information and adapt to the environment.

LONDON: A team from Cornell University led by an Indian scientist is teaching a robot to understand instructions in its 'language' from various speakers, account for missing information and adapt to the environment.

Ashutosh Saxena, assistant professor of computer science at New York's Cornell University, has developed a software that translates human sentences — such as "Fill a pan with water, put it on the stove, and heat the water. When it's boiling, add the noodles" — into robot 'language'. The robot will also be smart enough to fill in the missing steps.
Saxena's robot is equipped with a 3D camera which scans its environment and identifies the objects in it using the software. The robot has also been trained to associate objects with their capabilities. For example, it knows that a pan can be poured into or poured from; stoves can have other objects set on them and can heat things.
Saxena's team used techniques called machine learning to train the robot's computer 'brain' to associate entire commands with flexibly defined actions.
The computer is fed animated video simulations of the action — created by the scientists in a process that's similar to playing a video game — accompanied by recorded voice commands from several speakers.

Aussie scientists' time travel breakthrough

http://www.stuff.co.nz/technology/60121651/aussie-scientists-time-travel-breakthrough.html

FLUX CAPACITOR: Australian scientists use light particles to simulate a key process that shows time travel may be possible.

A group at University of Queensland physicists have used light particles to simulate a key process that indicates how time travel might be possible despite well-known clashing theories.

Led by PhD student Martin Ringbauer, the research will add to the study of how time travel could be possible and how core scientific theory quantum mechanics might change in new environments.

The team was able to send single particles of light, known as photons, along a path in space-time that returns the travelling object to the same point at an earlier time, known as a closed timelike curve.

"This research is certainly not a demonstration of time travel or proof it's possible. We were starting from the point to discover what would happen if it was possible," Ringbauer told Fairfax Media.

Ringbauer says the intriguing issue at the heart of this research was not the science-fiction potential but the insights time travel might give in the incompatible relationship between successful scientific theories: Einstein's general relativity, and quantum mechanics.

While time travel is possible in Einstein's theory of general relativity with closed timelike curves, it seems to cause several deal-breaking paradoxes in the real world.

One such issue that even the unscientific can understand is the "grandfather paradox", in which the person embarking upon a time travel mission could prevent their grandparents from meeting, blocking their eventual birth and therefore the opportunity to ever take the trip.

"Quantum systems can exist in a mixture of existing and non-existing states. In the classical state, you can either exist or not, but quantum systems can operte in both which resolves the paradoxes and time-travel can be formulated in a self-consitent way," Ringbauer said.

Unfortunately for those mulling over which key historical moment they're keen to hit up first, the classical state is physical objects, such as humans.

"We've not made any comment about the macroscopic case, which presents many paradoxes which makes it implausible."

Another issue for aspiring century skippers is the existence of closed timelike curves, which are possible but as yet only in theory with extreme gravitational effects such as blackholes which could skew the quantum physics rules.

The **study has been published** in academic journal Nature. The scientists involved were Matthew A Broome, Casey R Myers and Andrew G White.

University of Queensland physics professor Tim Ralph told **The Spectator** the study provides insights in to where and how nature may behave differently from how current theories predict.

"The properties of quantum particles are 'fuzzy' or uncertain to start with, so this gives them enough wiggle room to avoid inconsistent time travel situations," he said, adding there were situations where standard quantum rules did not apply, such as near black holes.

The team used mathematical equivalence to map the journey of two different photon pathways travelling along a closed timelike curve.

The first photon travelled trough a wormhole into the past. It then interacted with a photon simulated to stand in as the first's older version.

A second photon was sent through normal space-time and interacted with a photon that was forever trapped in the closed timelike curve.

IIT-B to give Ajanta caves a hi-tech makeover

Thursday, 26 June 2014 - 7:15am IST | Agency: DNA http://www.dnaindia.com/mumbai/report-iit-b-to-give-ajanta-caves-a-hi-tech-makeover-1997854

The rich history of the 2,000-year-old Ajanta caves near Aurangabad will soon get a hi-tech touch, thanks to IIT Bombay. Its ambitious multi-disciplinary project includes restoration of the architecture and sculptures of the UNESCO world heritage site, reconstruction of its paintings, and its development as a hot spot for tourists with the help of locals.

The Industrial Design Centre (IDC), one of IIT-B's most dynamic departments, is spearheading the project along with the Archaeological Survey of India (ASI). Data collection and research work began a month ago.

There are around 30 rock-cut caves in Ajanta dating from the 2nd century BC to around 480 AD. Touted as the finest surviving examples of Indian art and painting, the caves will also exhibit classical texts on aesthetics and art like the Vishnudharmottara Purana, estimated to have been compiled around the 7th century AD.

Prof BK Chakravarthy, IDC head and coordinator of the project, told dna, "The project demands the involvement of the Earth sciences, geo-informatics and civil engineering which can look into the geographical structure of the caves. Chemical engineers will be needed to minimise the deterioration of colours, and digital technology will be required for archiving and reconstruction of the paintings, sculptures and architecture."

The IDC team will also create a knowledge database on the caves for tourists, students and professionals.

The phase-wise project will also incorporate the local communities and the arts and crafts tradition of the region. To woo tourists, a palki has been designed to ferry them to the caves.

The seed fund for the project has been provided by the ministry of human resource development. However, the total cost of the project is yet to be finalised. "While the Centre will fund a major chunk, we will rope in a few corporate partners to share the cost," said Prof Chakravarthy.

The team hopes to wrap up the project in 3 years. Ultimately, they aim to bring all Buddhist, Jain and Hindu caves across the state, like Bhaja, Kondane, Pitalkhora, Nashik, Ellora and Elephanta, under one ambit.

IDC wants to tech up Mumbai too

The IDC is also working on a Mumbai Transformation project, aimed at making life easier for its residents. This includes modification of bus shelters with water fountains and stink-free bio-toilets, cycle lanes, barrier-free footpaths, a public information system, etc. It wants to help the BMC bring transparency and ease in citizen services.