SRMS

College of
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E-NEWS LETTER

SRMSCET & R

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Latest Updates World

Engineers develop tools to share power from renewable energy sources during outages

Researchers have developed an algorithm that allows residential customers to share power from the renewable energy sources in their homes during an outage.

The innovation here is the algorithm's capability to prioritize distribution of power from renewable resources during an outage. The equations take into account forecasts for solar and wind power generation as well as how much energy storage is available, including electric vehicles, batteries and so on. The algorithm combines that information with the amount of energy that the residents are projected to use as well as the amount of energy that a cluster of homes can generate.

The algorithm could also be programmed to include a priority function, based on different parameters. For example, customers who are willing to pay more could get priority to get power during an outage.

Hardware and storage
Researchers investigated what energy storage configuration would work best with their algorithm. Although having energy storage systems in each home leads to optimal performance, most customers preferred to share a community-scale storage

system, which dramatically cut down costs.

"Houses connected together are much more resilient during outages," said Raymond de Califon, a professor of mechanical The algorithms work with existing technology but they require each home to be equipped with circuit breakers that can be remotely controlled--and these devices are not yet widespread. Utilities also would have to install advanced communications methods that allow the power systems in a residential cluster to talk to one another.

In addition, all homes with solar panels are equipped with inverters, which turn the direct current power generated by the panels into alternating current that can circulate on the grid. These are so called "grid following" devices, because they can only connect to the grid. To bring together a cluster of homes, each house needs to be equipped with a "grid forming" inverter, which can connect to similar devices at other residences.

Intelligent Fault Diagnosis in a Power Distribution Network

Fault diagnosis and resolution in a power system network are essential for clearing faults that manifest in an electrical power transmission or distribution network. The process of fault resolution comprises three stages: first, the detection and identification or classification of unusual voltage and current characteristics at the affected portions of the network; next, the location of the incidence of the fault to enable quick access and solution to the problems that arise in the power network; and finally, the fault being cleared within the shortest time possible to prevent damage to unaffected parts of the network. Fault diagnosis and resolution in a power system network are essential for clearing faults that manifest in an electrical power transmission or distribution network. The process of fault resolution comprises three stages: first, the detection and identification or classification of unusual voltage and current characteristics at the affected portions of the network; next, the location of the incidence of the fault to enable quick access and

engineering at the University of California San Diego. "They're also more resilient to price fluctuations. They can do a much better job at sharing resources and it benefits every house." solution to the problems that arise in the power network; and finally, the fault being cleared within the shortest time possible to prevent damage to unaffected parts of the network. Numerous studies have been carried out on the use of intelligent methods for electric fault diagnosis in an electrical system. Some of these methods include expert systems, artificial neural networks, and fuzzy logic. In certain studies, neural network principles were not applied to the power fault diagnostic process. Thus, they lacked the capabilities to learn from data gathered from the electrical network. This was the case where fuzzy logic-based fault identification in an electric power distribution system was studied and proven to produce accurate classifications of fault types. In addition, the fuzzy logic method was used in combination with discrete wavelet transform and resulted in accurate fault identification. In additon the data collected by alarms and protection relays in a power network was analyzed with neurofuzzy techniques. A classification based on input signals into faulty component type with a high degree of accuracy was achieved in spite of corrupted alarm signals. Petri net and neurofuzzy methods were used in for fault location in power lines and sections. The adaptive neurofuzzy inference system (ANFIS) was employed for accurate fault location for transmission lines and underground cables.

A neurofuzzy means of fault classification, location, and power restoration plan in an electric power distribution system was developed. Three ANFIS modules were employed for fault type classification, -coordinates, and -coordinates of the fault location, respectively. The resulting system performed with a high degree of accuracy. However, it has a shortcoming in the level of accuracy of fault type classification which can be improved upon. The robustness and precision of ANFIS were validated by testing the characteristics of the system after the addition of white noise to input data.The accuracy of the fuzzy inference system method of fault diagnosis varies with complementary analytical tools employed to enhance the capabilities of the system. It has been reported 78% accuracy in fault type identification when the fuzzy inference was used to analyze data derived by the wavelet transform method. 91% accuracy was reported in this research for fault detection, while 93% accuracy was achieved for fault location when the first and third harmonic data sets derived from discrete Fourier transform of fault current.

(Source:https://www.sciencedaily.com/releases/2017/09/17 0905145546.html)

Teachers' Day Celebration

Teachers' Day in India is celebrated on 5th September to commemorate the birth anniversary of Dr. Sarvepalli Radhakrishnan. He was a renowned scholar, recipient of Bharat Ratna, first Vice- President and second President of independent India. He was born on 5 September, 1888. As an educationist, he was an advocate of edification, and was a distinguished envoy, academician, and above all a great teacher.   As the common adage goes, the future of a country lies in the hands of its children and teachers, as mentors, can mould students into future leaders who shape the destiny of India. They play an important role in our lives to become successful in career and business. They help us to become a good human being, a better member of the society and an ideal citizen of the country. Teacher's Day is celebrated to acknowledge the challenges, hardships and the special role that teachers play in our lives.

Teachers' Day is one such event for which students and teachers equally look forward to. Teachers' Day is important for the students as it gives them a chance to understand the efforts put in by their teachers to ensure that they get proper education. Similarly, teachers also look forward to Teachers' Day celebration as their efforts get recognised and honoured by students and other agencies as well. Some glimpse of teachers day celebration are

Fresher's Party 2K19

September 6, 2019 was turned out to be a gala day as the 2nd year students left no stone unturned to offer an amusing & joyful fresher party to welcome our freshers of 2K19

Shri Ram Murti Smarak College of Engineering, Technology and Research and College of Law Bareilly organized a fresher's party for their freshers on 6 September to welcome the Batch of 2019. The purpose of this party was to welcome newcomers in a friendly atmosphere and avoid social evils, to encourage their creative impulses to boost their confidence and make every new student feel connected as an integral part of the SRMS family.

The celebration started at sharp 10:30 hour at the Auditorium with the warm and auspicious lamp lighting ceremony done by the Dignitaries and prayers to Goddess Saraswati.   The occasion was graced by the presence of the Chairman Shri Dev Murti ji, Trust Secretary Mr. Aditya Murti, Dean Academics, Trust administrator, Principal of SRMS college of law, Heads of the various different departments along with a welcome address for all the freshers. The Hon'ble chairman Shri Dev Murti ji inaugurated the Event by welcoming the students through his motivational speech.

The audience was kept enthralled for number of hours by mind blowing performances of dances, songs and Rap. There were hit mock-rock dance numbers and various games which entertained all. The main challenging event Mr. and Ms. Fresher, were selected on the basis of their performance in different rounds. First, it was the Introduction Round followed by a Talent Round and then the grand final "Question-Answer" Round with the top few contestants vying for Mr. and Ms. Fresher crown in each course. Once the results were out, it was the stage of achievement for the contestants.

Prateek Nagaich and Kajal from B. Tech I[st] year, Mohd Hilal and Prerna Jain from LLB I[st] year were declared the Mr. Fresher and Miss Fresher of the event. The other awards were given as Mr. Attire and Miss. Attire to Vansh Saxena and Simran Verma, whereas Mr. Versatile and Miss. Versatile title were given to Arpit Singh Srinet and Tanisha Saxena. The Dean Academics Prof. (Dr.) Prabhakar Gupta and Prof. (Dr.) M. M. Jha graced the occasion and declared the results of Mr. And Ms. Fresher Contest.

Fresher's loved the welcome given to them and appreciated the whole-hearted efforts of their seniors and the trust. It is said that a good start signifies a great end, and the freshers could not have asked for a better kick off. Finally the event came to an end leaving behind the enthusiastic & amusing memories,that will be cherised by all.

Oath Ceremony of Verve 2K19

"Celebrate endings, for they precede new beginnings"

With this in mind **OATH CEREMONY** for **VERVE 2019-20** took place on 18th Sept 2019. The function started with the garlanding ceremony of Goddess Saraswati by Chairman Mr. Dev Murti, trust administrator Er. Subhash Mehra, Trust

Secretary Mr. Aditya Murti, Mrs. Richa Murti, Dean Academics Ar. Prabhakar Gupta, Academic Coordinator Mr. M.M Jha ,Dean Student Welfare Mr. Shailesh Saxena and members of Verve.

The stage was set on fire by the dance performance given by Ayush Sharma and Mohd.Akram. The melodious songs was presented by Bharat Shakhya and Rahul prakash.Verve secretary for the session 2018-19, Ms. Arzoo Rehan was invited for her last speech as the secretary of the student welfare association. Her words were beautifully combined together and left everybody awestruck as she spoke all what was the need of the moment.It was followed by a video, which gave a glance to the journey of verve 2018-19 and presented the annual report of the team. After this, the most awaited event took place, the Oath Ceremony.

Later, the oath ceremony took place for Cultural Heads Ms. Anamta Haroon and Mr. Harshit Rajpoot, Technical heads Mr. Ashutosh Tiwari and Ms.Lalita Kashyap, sports heads Mr. Shispal Singh and Ms.Nisha Singh, Judgement Coordinator Mr.Utkarsh Baranwal, Chairperson Elixir Mohd.Manal Khan, Chairperson Exprimo Mohd. Yaman Ansari, Chairperson Esoterics Mohd.Anas, Chairperson Aaveg Mr. Arpit Singh Chairperson Neophytes Mr. Karan Sharma, Chairperson Raaga Mr. Rahul Prakash, Chairperson Creations Mr. Utkarsh Singh Srinet, Milieu Director Ms. Shifali Saxena , Milieu Dy.Directors Ms.Prachi Varshney and Mr.Roshan Pathak Executive Ms.Amrita Mishra, Ms. Ayushi Rastogi, Ms. Ankita Srivastava, Ms. Prerna Jain, Mr. Gaurav Nainwal, Mr. Ayush chaudhary Mr. Ankit Sharma**.**

President 2k19 spoke her heart out on this occasion. The gathering was later blessed by the words of Chairman Sri Dev Murti. He provided gifts and certificate for top panel of 2k18. The ceremony was ended with a vote of thanks delivered by Secretary Verve 2k19 Mr. Aniket Sharma.

A leader is like shepherd who stay behind the folk letting he most nimble go out ahead, where upon the others follow not realizing that all along they are being directed from behind."
~Nelson Mandela

Vishkarma Pooja 2k19

" May Lord Vishkarma Craft Your Life Divinely , Sculpts It To Perfection And Engineers It To Function Smoothly"

Vishkarma pooja is observed primarily in factories and industrial areas, often on the shop floor. As a mark of reverence the day of worshipping Lord Vishkarma is marked not only by the engineering and architectural community but by artisans, craftsmen, mechanics, smiths, welders, industrial workers, factory workers and others.

They pray for a better future, safe working conditions and, above all, success in their respective fields. It is customary for craftsmen to worship their tools in his name, refraining from using the tools while doing so. Modern electronic servers are also worshipped for their smooth functioning. Going on with the same abstraction and current scenario and to get the blessing of Lord Vishkarma the faculty,student and different craftman celebrated this holy occasion in the workshop of our college.

The event was started inside the college premises where all the faculty members and students were a part of the pooja.

The event began at 9:00 am when Chairman Sir started the pooja alongside many respected dignitaries such as Trust Administrator Er.subash mehra sir and various HOD's of different department. Thereafter, the students also prayed and actively participated in the pooja. The Verve 2K19 President Somya Maniktala and Verve 2k19 Secretary Aniket Sharma

alongside the members of Verve 2k19 were also present for the occasion. The pooja ended with the distribution of prasad at 10:30 am. The college was filled with festival vibes thereafter.

Student Corner

Chandrayaan-2

As India and the world await Chandrayaan-2's soft-landing on the moon, the significance of landmark space mission has been a point of discussion among the scientist community and social media alike.If this mission is successful**,** India will become the fourth country after the US, Russia, and China to conduct a soft landing on the moon and the first country to land close to the lunar south pole on its first attempt.

Chandrayaan 2 is an Indian Space Research Organization (ISRO) mission comprising an orbiter and a soft Lander carrying a rover, scheduled to launch to the Moon in July 2019. The primary objective of Chandrayaan 2 is to demonstrate the ability to soft-land on the lunar surface and operate a robotic rover on the surface. Scientific goals include studies of lunar topography, mineralogy, elemental abundance, the lunar exosphere, and signatures of hydroxyl and water ice.

The Chandrayaan 2 orbiter is a box-shaped craft with an orbital mass of 2379 kg and solar arrays capable of

generating 1000 W power. The orbiter communicates with the Indian Deep Space Network and the lander. The orbiter will have a scientific payload comprising a visible terrain mapping camera, a neutral mass spectrometer, a synthetic aperture radar, a near infrared spectrometer, a radio occultation experiment, a soft X-ray spectrometer and solar X-ray monitor.

The lander, named Vikram, has a mass of 1471 kg (including the rover), and can generate 650 W of solar power. The lander can communicate directly to the Indian Deep Space Network, the orbiter, and the rover. The lander will carry a camera, seismometer, thermal profiler, Langmuir probe, and a NASA-supplied laser retroreflector.The rover, Pragyan (also Pragyaan), is a 6-wheeled vehicle with a mass of 27 kg that runs on 50 W of solar power and can travel up to 500 m at a speed of 1 cm per second. The rover communicates directly with the lander. the rover will hold cameras, alpha-proton X-ray spectrometer, and a laser-induced ablation spectroscopy experiment.

Chandrayaan 2 was launched on 22 July 2019 at 9:13 UT (2:43 p.m. Indian Standard Time) from Satish Dhawan Space Center on Sriharikota Island on an ISRO Geosynchronous Satellite Launch Vehicle (GSLV) Mark III. The lander-orbiter pair went into an initial elliptical (170 x 40400 km altitude) Earth parking orbit, followed by a trans-lunar injection on 14 August. The pair entered lunar polar orbit on 20 August. The lander and orbiter separated on September 2. The orbiter evolves into a 100 km altitude circular polar orbit and the Vikram lander will maneuver into a 30 x 100 km orbit and then land on the surface in the high latitude areas near the south pole, between two craters, Manzinus C and Simpelius N, on 7 September between about 1:30 and 2:30 a.m. Indian local time (Sept. 6, 20:00-21:00 UT). The orbiter portion of the mission is planned to last 1 year. The rover will be deployed using a ramp shortly after landing. The lander and rover portions of the mission are planned for 14-15 days, one period of lunar daylight.

(Source: https://www.isro.gov.in/chandrayaan2-home)

Tale of two lunar missions		
A look at how Chandrayaan-2 is different than its predecessor		
	Chandrayaan-1	Chandrayaan-2
Launch year	October 2008	July 2019
Launch vehicle	PSLV [C11, light lift vehicle]	GSLV MkII [far more powerful]
Spacecraft size	1,380 kg	3,850 kg
Mission & life	Orbiter 1 year [failed 4 months prematurely]	Orbiter 1 year; lander and rover 14 earth days
Cost	₹540 crore	₹978 crore
Payloads	11, Indian & international	14 Indian [many same as on CY1] 1 from NASA 8 on orbiter 4 on lander 2 on rover
What it achieved	Detected presence of water	Aims to be first country to land on and explore the lunar south pole
Specialty	Crashed the tri-coloured Moon Impact Probe near the southern lunar hemisphere	Will try to safely place the Vikram lander near the south pole

The GSLV MkII launch vehicle

Shraddha Kasaudhan
CS-2016

BIG DATA Analytics

Big data analytics examines large amounts of data to uncover hidden patterns, correlations and other insights. With today's technology, it's possible to analyse your data and get answers from it almost immediately – an effort that's slower and less efficient with more traditional business intelligence solutions. The concept of big data has been around for years; most organizations now understand that if they capture all the data that streams into their businesses, they can apply analytics and get significant value from it. But even in the 1950s, decades before anyone uttered the term "big data," businesses were using basic analytics (essentially numbers in a spreadsheet that were manually examined) to uncover insights and trends The new benefits that big data analytics brings to the table, however, are speed and efficiency. Whereas a few years ago a business would have gathered information, run analytics and unearthed information that could be used for future decisions, today that business can identify insights for immediate

decisions. The ability to work faster – and stay agile – gives organizations a competitive edge they didn't have before.

Big data analytics helps organizations harness their data and use it to identify new opportunities. That, in turn, leads to smarter business moves, more efficient operations, higher profits and happier customers. Big Data Analytics is considered beneficial for the industry due to following reasons which made it more impactful ,the reasons are as follows:-

Cost reduction:-Big data technologies such as Hadoop and cloud-based analytics bring significant cost advantages when it comes to storing large amounts of data – plus they can identify more efficient ways of doing business.

Faster, better decision making: - With the speed of Hadoop and in-memory analytics, combined with the ability to analyze new sources of data, businesses are able to analyze information immediately – and make decisions based on what they've learned.

New products and services: - With the ability to gauge customer needs and satisfaction through analytics comes the power to give customers what they want. Davenport points out that with big data analytics, more companies are creating new products to meet customers' needs.

(Source: https://www.usscoltresearch.co.uk/bigdata analysis)

Aniket Sharma
Cs-2017

God Casted in Hell

On a weekend last month, I went to my aunt's place because she and my mother had to go shopping and it being a Sunday, my four year old brother was home, so I had to babysit or look after him.

The weather was all cats and dogs that day, so there was no electricity and thus my bro couldn't watch cartoons on TV and he was totally bored. So I came up with an idea, I asked him to bring his colourbook and crayons and then we started letting the Picasso inside us, out on the figures.

When we were done colouring Mickey Mouse, I turned over the page and there came another picture.
"Who's this?" my brother asked.
"This is lord Ganesha" I replied.
But kids are never satisfied with this little. They always want to know more. Kids, they are full of questions.
"What does he do?" he asked.
"He judges people, after we've done our time on Earth, he sends the good people to heaven, which is a place full of fun..."
"Like Disney Land?" my brother interrupted, with glitter in his eyes.
"Like Disney Land!" I replied, "And he sends the bad people, to hell, where he punishes them" and I thought we were done here, till he asked me a question one last time which I couldn't answer.
"If he does something wrong, does he go to hell too?" he asked, in the most innocent, curious and childish tone or accent, which was natural. I was wonderstruck! I had no words, I was clueless and helpless and he looked deep into my eyes, searching for an answer but then lost the interest after a couple of seconds and went back to colouring Mooshak Raj at the foot of Lord Ganesha. But this question of his, rose a hundred questions in my mind, seems like grown-ups are full of questions too, we have just mastered the art of neglecting better. I wondered, who's responsible for the demise of a hard working man, just trying to provide for his family, when he was making a return to his home after a long day of work at a construction site when a flood came roaring and he died drowning. Who's responsible for the suicidal state of his wife and the helpless state of his children? Parvati asked Shiva to grant another life to her son when he laid dead and what about the mothers of thousands of children who were praying to God, you see the irony? Who were praying to God and Earth shaked and their school buildings collapsed and those innocents died a death they surely did not deserve. Do the mothers of those children, not deserve them? Who's to be held responsible for the miseries of the grieving mothers and the broken fathers? Who's responsible for plagues and a hundred more calamities that ruin the lives of masses.

If there's a hell, I'm surely gonna be there and if God's a man of his word, he'd be there too and I want a room next to his or in his aisle at least, I want to know what punishment does he deserve for the miseries he has doomed upon us since the beginning of time.

Prateek Nagaic
CS-19

Faculty Corner

ENTERPRISE COMPUTING

Enterprise computing is a term that refers to a myriad of information technology (IT) tools that businesses use for efficient production operations and back office support. Some business software development firms have designed integrated IT systems that assist users throughout the company to perform numerous functions, and these systems are often touted as enterprise IT computing tools. Whether one defines enterprise IT computing as a single computing system or as an integrated suite of IT tools, it is apparent that most businesses are heavily dependent on IT products to help them to maintain market share, identify opportunities for growth and avoid risk. Here are some examples of enterprise IT computing tools that are commonly used by businesses that operate in a variety of industries, according to the Houston Chronicle.

- Enterprise Resource Planning Systems- Enterprise resource planning (ERP) systems help business professionals to gather, collect, retrieve and analyze data from numerous business functional areas. For example, data that is associated with the acquisition of raw materials for production is often stored within ERP systems. Subsequently, business professionals who include analysts as well as executives can access the data in support of product planning activities. ERP systems are designed to give real time, consolidated views of core business activities like engineering, accounting, finance, human resources, marketing and production. Modern ERP tools integrate with other enterprise systems to receive and provide data for enhanced business analytics.

- Customer Relationship Management Systems- Satisfied customers are at the heart of growing businesses, and savvy business leaders realize the value of IT systems that help companies to engage customers, anticipate their needs and quickly respond to their concerns. Customer relationship management (CRM) systems collect data from transactions, social media interactions and other feedback mechanisms. The collected data is used by market research analysts, brand managers and sales managers to guide pricing strategies, suggest modifications of products or packaging and identify new markets for existing products.

- Integrated Supply Chain Management Systems- The activities involved in acquiring materials, manufacturing goods, storing and distributing them for sale to end users are complex and require a great deal of coordination. Enterprise IT computing tools like supply chain management (SCM) systems help logistics managers to deliver undamaged goods to domestic and international centers in appropriate amounts and at the right times. SCM systems provide supply chain managers with up to the minute information that they need to monitor product inventory levels, order supplies and track shipments. These systems are often integrated with other enterprise IT computing tools like CRM applications, and supply chain managers can use these tools to provide customers with accurate information about shipped orders and product quality concerns.

- Product Lifecycle Management Systems- Product lifecycle management (PLM) systems help engineers and business leaders to coordinate the design, development, testing, production, maintenance and disposal of products that are generated by organizations. Before PLM systems gained popularity, engineers and other business professionals used individual applications to generate product designs that they usually stored locally on their company desktop computers. Today's engineers and business professionals are able to access product design documents that are configuration managed and available to those with appropriate permission credentials. PLM systems enable companies to identify design efficiencies within their portfolio of products, determine suitable alternatives for raw materials as a function of risk management and even quickly locate company assets that have expertise for specialized development efforts.
(Source: https://www.businessresearchguide.com)

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