Department of Mechanical Engineering
R.V.R & J.C College of Engineering, Guntur - 522019

rajeea news

Volume 14 July-December 2015

Formula-E

Imagine 20 state-of-the-art single-seat racing cars, lined up in front of grand-stands and TV cameras. Consider the breathtaking acceleration, the heart-stopping braking, the daredevil overtaking maneuvers. Think of the scream of engines and the tang of fuel at the back of your nose.

Now lose the scream and the tang. This is Formula E, the first automobile racing series based completely on electric cars. Stared in September, Formula E ran on street circuits in 10 cities around the world, showcasing the capabilities of electric cars and helping to burnish their "worthy, but rather dull" . And that is why the races will be held on city street circuits, rather than at dedicated racetracks, Electric cars are for cities; that's their natural habitat, if you like, It's where the technology makes most sense, and that's where we need to show them off"

Half the point of Formula E is to accelerate the development of electric drive trains so that teams will eventually be free to choose any configuration and design of electric motors, batteries, and charging systems. But to get the series moving, this year all teams must use the same car, developed by Spark Racing Technologies, in Burgundy, France. The car has a monocoque chassis and bodywork ,lithium-ion batteries from and a four-speed sequential gearbox (common in race cars, it lets you shift gears without a clutch) , That gearbox will relay power to the wheels via an electronic control unit. The electrical traction systems run at 800 volts, generating enormous amounts of heat. It is channeled away from the cars via water cooling and lightweight heat sinks.

A Formula E race last about an hour, with 10 teams each fielding two drivers. The cars will generally be allowed to use no more than 134 kW of power (180 HP). A certain number of times in the race, however, they will be permitted to boost to 200 kW, reaching speeds of up to 220 kilometers per hour. The cars will race until their batteries are exhausted—about 20 minutes. And then you'll see by far the strangest thing about this race: Rather than swap out the batteries, the drivers will swap cars. Each driver will get out, run 100 meters down the pit lane to the team's garage, jump into the fully charged spare car and race for another 20 minutes while the first car recharges. Then the driver will make another pit stop, run to the first car, and comple[illegible] race.

highlights

- 24.4 lakh worth research projects in progress
- Mrs. Radhika , Asst .Professor awarded Ph.D.
- Dr. Praveen Kumar awarded Young Scientist Award
- Alumni Meet 2015

Inside

Staff room

Seminar Conducted

Prof.Dr. V.Chittaranjan Das and Assoc.Prof.Dr.C.Srinivas conducted a DST Sponsored National Seminar on 'Development of Tools using Biomaterials for Medical Applications' (DTBMA-2015) 18 -19, Sept 2015.

Research Paper Publications

- B.Supraja, Dr. B.Ram Gopal Reddy, Assoc. Professor,published a paper on 'Effect of Tool Geometry and Process Parameters on Mechanical Properties and Micro Structure of Various dissimilar Aluminium Alloys Welded by Friction Stir Welding – A Review' in the International Journal of Engineering Technology, Management and Applied Sciences (IJETMAS), Vol. 3(4), ISSN 2349-4476, pp316-328, July 2015.
- B.Sailaja, Dr. B.RamGopal Reddy, Associate Professor, published a paper on 'Effect of Process Parameters on Mechanical Properties of Friction Stir Welding – A Review' in International Journal of Innovative Research in Science, Engineering and Technology(IJIRSET), Vol. 4(10), ISSN 2347-6710, 9818-9822,July 2015.
- M. Lakshmi Aparna, Dr.G. Chaitanya, Assoc.Prof, K.Srinivas, Professor, Jetti Appa Rao published a paper on 'Fatigue Testing of Continuous GFRP Composites Using Digital ImageCorrelation (DIC) Technique a Review' in the journal of ELSVIER Materials Today: Proceedings 2 -2015,pp 3125 – 3131 ,July 2015.
- Dr.G.Srinivasa Rao published a paper on 'Optimization of Machinability Properties on Aluminium Metal Matrix Composite prepared by In-Situ Ceramic Mixture Using Coconut Shell Ash-Taguchi Approach' in International Journal of Conception on Mechanical and Civil Engineering, Vol:3, Issue-2:. ISSN: 2357-2760 pp: 17-21, Aug 2015.
- Reddy Sreenivasulu,Asst.Prof. and Dr.G.Chaitanya, Assoc.Prof, published a paper on 'Solar-electric hybrid eco-friendlyquike' in AKGEC- International Journal of Engineering and Technology (ISSN: 0975-514) published in Volume 6, No 2, pp17- 22,during July-December 2015.
- A. BabiReddy and Reddy Sreenivasulu, Asst. Professor published a paper on 'Design and Vibration mode analysis of a crankshaft for a Four stroke single cylinder petrol engine', in AKGEC- International Journal of Engineering and Technology Vol.6, ISSN: 0975-9514, No2, pp 50 – 61, during July-December 2015.
- Dr.G.Chaitanya and Reddy Sreenivasulu, published a paper on'Analysis of Non-circular members subjected to twisting loads: A finite difference approach',in Independent Journal of Management & Production Vol. 6, No 3, ISSN: 2236-269X, pp 803-812,during July-Sept 2015.
- R.Madhu Kumar, Dr.N.V.V.S.Sudheer, Assoc Prof.published a paper on 'Performance of 2-stage PVC hot Cascade Type Ranque-Hilsch Vortex Tube' in International Journal of Engineering Science & Management Research,2(9) ,pp-111-117, Sept 2015.

Staff room

- Ms.S.Radhika, Asst.Prof.,Srinivasa Rao.Ch, D.Swapna ,Asst.Prof.,published a paper on 'Few Aspects in Deep Drawing Process' in Journal of Materials & Metallurgical Engineering , Volume 5, Issue 3, ISSN: 2231-3818,2015, Nov2015.

- Dr.G.SrinivasaRao published a paper on 'Modelling Of Cutting Speed For AISI 52100 Steel In Wedm By Design of Experiments', in BLB International Journal of Science and Technology Special Issue, pp:215-221, Nov 2015.

- Dr.G.SrinivasaRao published a paper on 'Modeling And Optimization of Tool Parameters In The Presence of Variable Process Conditions Using Taguchi Robust Design' in Journal of Machining and Forming Technologies, Vol.6 No 5-4: ISSN:1947-4369, pp: 131-145,Nov 2015.

- Dr.C.Srinivas published a paper on 'Integrated Production- Inventory –Distribution Optimization in a Multi-Echelon Supply Chain' in the journal Manufacturing Technology Today, Vol-14, Issue-12,ISSN: 0972-7396. pp 16-21, Dec 2015.

- Mr.K.Balaprasad,V.Tarachand Asst.Professors published a paper on 'Experimental Investigation on Performance of Diesel Engine by Using Fish Oil And Mahua Oil' in Journal of Sustainable Manufacturing and Renewable Energy, ISSN: 2153-6821; Vol:3; No:1-2, pp:71-83,Dec 2015.

- Dr. N. Govind ,Assoc Prof,Anil Kumar G, Prof. Ravindra K,Prof.V.Anand Kumar published a paper on 'Development of Software Using Matlab for Design Optimization of Brake for Minibike' in IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) ISSN: 2278-1684, Vol 12 Issue 6, pp 24-29, Dec 2015.

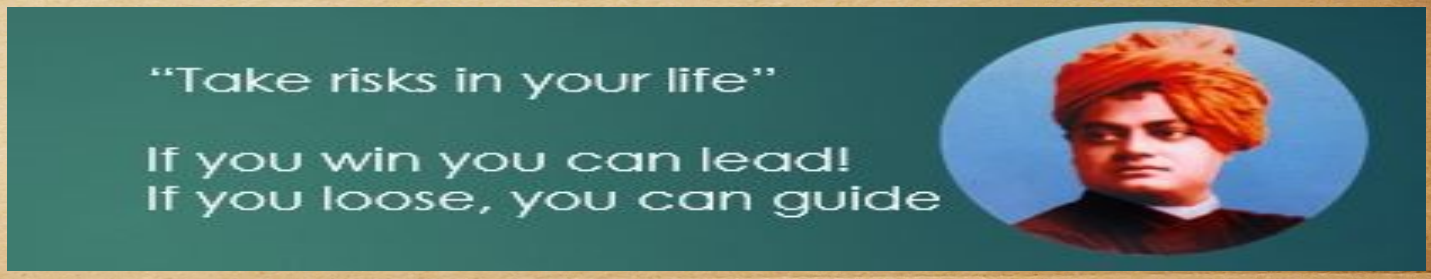
- Mr.C.Tara Sasanka, Asst.Prof.and Professor.K. Ravindra. published a paper on 'Implementation of VIKOR Method for Selection of Magnesium Alloy to Suit Automotive Applications' in the International Journal of Advanced Science and Technology, Vol.83 (2015), ISSN: 2005-4238 pp.49-58 ,Dec 2015.

- Raffi Mohammed and Dr. B.Ram Gopal Reddy, Associate Professor, published a paper on 'Effect of Epoxy modifiers (Bagasse fiber / Bagasse ash / Coal powder /Coal Fly ash) on mechanical properties of Epoxy / Glass fiber hybrid composites' in International Journal of Applied Engineering Research, ISSN 0973 -4562, Vol. 10(24), pp. 45625-45630, Dec 2015.

Paper Presentations in Conferences

- Mr.Y.N.V.Sairam, Asst.Prof. presented a paper on 'Sliding Wear Behavior of WC-Co Coatings on Mild Steel Substrate' at a National Conference on emerging trends of advanced functional materials(NCAFM 2015) organized by Dept of Physics, KLU, during 3-4 Sept, 2015.

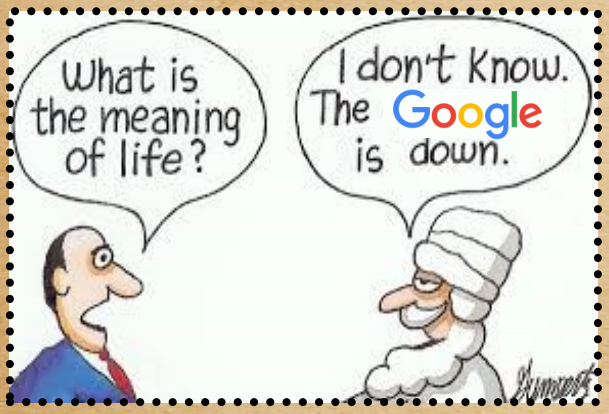
- Ms.D.Swapna and Ms.Radhika, Asst.Professors presented a paper on 'Deep Drawing Process: A



Conferences/ Workshops Attended

- Mr.D.Kondal Rao, Asst.Prof. attended a short term course on 'Mechatronics Integrated Technologies for Intelligent Machines' organized by Dept. of Mechanical Engg, IIT Madras, during July 27-31, 2015

- Dr.G.Chaitanya,Assoc.Prof.,Reddy Srinivasulu,Asst.Prof.attended a one - day National Workshop on 'Optimization Techniques with MATLAB', organized by Department of Mathematics, VR Siddhartha Engineering College on Aug. 31, 2015.



- Professor.G.Srinivasarao and Dr.C.Srinivas, Assoc.Prof.participated in first Annual Chapter Convention of Quality Concepts with the theme 'Make In India-A Vision Through Quality Concepts' organized by Quality Circle Forum of India, held at Tirupati during 28-29 Sept. 2015.

- V.Tarachand,Asst.Prof.participated in a one week FDP in 'Teaching Methodology for Classical Thermodynamics'organized by Department of Mechanical and Aerospace Engineering, at Lakireddy Balireddy College of Engineering, during 23-28 Oct,2015 .

- Professor.G.SrinivasaRao participated in a'National Conference on Product Design and Manufacturing (NCPDM-2015)', organized by Motilal Nehru National Institute of Technology, Allahabad, during 21-22 Nov, 2015.

- Dr.K.Praveen Kumar and Dr.N.Govind, Assoc. Professors attended a two day UGC Sponsored National Seminar on 'Advances in Metal Matrix Nano-Composites (AMMNC-2015)'conducted by the Dept.of Mechanical Engg, ANU, during Dec 11 -12, 2015.

Research Projects in Progress

- Dr.K.Ravindra, Professor and HoD was granted with a twelve lakh worth AICTE-RPS research project on 'Development of High Strength Polymer Matrix Composites Reinforced with Metallic Glass Particulates' in 2014.Another UGC-MRP 4 Lakh worth research project of Professor K.Ravindra on 'Fabrication and Characterization of Nano Al_2O_3 reinforced Magnesium Metal Matrix Composites' received in 2014.

- Dr.K.Ravindra was granted with a forty thousand worth, Institution of engineers UG2015029 Project 'Design and Fabrication of 3D Printer'. This project is also in progress.

PhD. Awarded:

Ms.S.Radhika, Assistant Professor, was awarded Ph.D for her thesis on 'Multi-Objective Optimization of Master Production Scheduling using Evolutionary Metaheuristic Techniques' by Andhra University, Visakhapatnam, in December 2015.

Honours

The Institution of Young Engineers, (Vijayawada–Local Center) conferred 'Young Engineer Award' on Dr. K. Praveen Kumar, Associate Professor on Mechanical Engineering, on 15th September, on the occasion of the 48th Engineer's Day, in commemoration of the 155th birth anniversary of Engineering Wizard, Bharat Ratna Sir Mokshagundam Visvesvaraya.

Faculty Recruitment

A total of 12 Post Graduate faculty were recruited as Assistant professors till date.

A.Babi Reddy, P.Rakesh Chowdary, Ch.Anusha, G. Kartheek, P.Koteswara Rao Chowdayr, P.Santhi Priya, P.Yamini, S.Praneeth Babu, P.Sravani, A.Rajesh, M.Sobhan Babu, B.Saida Rao (from top left)

Faculty Relieved

Sri. G.Veerabadhra Rao, Associate Professor, has been relieved from services

Solve this SuDOKu

1	**2**				**4**		**8**	**6**
5					9			4
				3		2		
2		6		1		4		3
			7		6			
	7			8		9		1
						8	3	
3		7	8		2	1		
	4	1			7		9	

Exciting challenges ahead for engineers

Engineering offers some very interesting and challenging years ahead and engineers can surely take pride in the professional path they've taken. The industry has been pivotal in shaping India's industrial capabilities and making ours one of the world's premier economies. More significantly, engineering's accomplishments over the past century have transformed the world and improved our standard of living. There is a lack of appreciation by most young people of the tremendous value of an engineering undergraduate education, no matter what alternative career one eventually might wish to pursue, such as Medicine, Law, or Business. Half of Fortune 500 CEOs are engineers. But all of that is in the past and the present. Let us take a look at the future.

The world around us is changing, and so is engineering, and engineering education. Engineers need to be part of the change process. Any restructure in engineering education must aim to meet the challenges of a greater knowledge base and emerging technologies, develop depth in management and creativity in problem-solving, as well as understand the risks and uncertainties of the times. It is evident that the exploding body of science and engineering knowledge cannot be accommodated within the context of the traditional four-year degree. Completing a degree course is only one step towards a career in engineering.

"Education is the most powerful weapon which you can use to change the world"
– Nelson Mandela
(1918-2013)

The future for engineering is bright. There are many exciting and demanding challenges ahead for engineers. In the energy field, there are alternative or advanced electricity generation technologies. There is also the exciting prospect of moving towards a hydrogen economy. n Medicine, there will continue to be new medical testing and treatment equipment, such as prosthesis integration with the human neural system and medical application of nanotechnology in order to limit invasive treatments. In the environmental area, there is the challenge of limiting or reversing the impact of human existence in an economically viable way. And there is the challenge of advancing the standard of living in Third World countries to that of First World standards, in a sustainable and environmentally sensitive manner.

But the future will have major complications. The nature of engineering, or at least engineering performance, is changing dramatically with challenging new technologies to be deployed in increasingly demanding environments . Further, globalization is not limited to the engineering and construction industry. Boeing has outsourced engineering and manufacturing of its 7E7 special composite wings to Japan and a portion of the fuselage to Italy. General Electric has Jack Welch's "70:70:70 rule." That is: 70 per cent of business processes, including engineering, are to be outsourced. Of this, 70 per cent is to be sent offshore, and of this, 70 per cent will be sent to India. GE is also looking at India as a manufacturing hub

So what impact will these changes have on the role of Indian engineers of the future?

Indian engineers can play a leadership role in this global transformation. To do so, they must continue to be innovators, remaining in front on important new commercial technologies. They must retain the ability to pioneer first-of-a-kind products and facilities. Innovation will be the single most important factor in determining India's success throughout the twenty first century .

Young engineers must be forward thinkers who are visionaries. More than ever, they must help to shape issues and define challenges that must be addressed, not merely detailing concepts developed by others. They must be communicators and teachers. Youngsters have to prepare for this new broader role along with technical competence, effective communications, especially cross-culturally. They need to know the world and the other people who work in

Academic performance

Year	Total Appeared	Total Pass	Pass %
IV/IV B.Tech(VII Semester)	192	175	91.94
III/IV B.Tech(V Semester)	214	187	87.38
II/IV B.Tech(III Semester)	211	155	73.46
I/IV B.Tech(II Semester)	176	131	74.43
I/IV B.Tech(I Semester)	174	115	66.09

1	2	9	5	7	4	3	8	6
5	3	8	6	2	9	7	1	4
7	6	4	1	3	8	2	5	9
2	8	6	9	1	5	4	7	3
9	1	3	7	4	6	5	2	8
4	7	5	2	8	3	9	6	1
6	5	2	4	9	1	8	3	7
3	9	7	8	6	2	1	4	5
8	4	1	3	5	7	6	9	2

Fresher's day

The students of 2/3/4 years had made a warm welcome to the freshman into the college on the occasion of Fresher's day celebrated in a pleasant manner making the newbies comfortable giving a good start to their engineering odyssey.

Awards and Honors

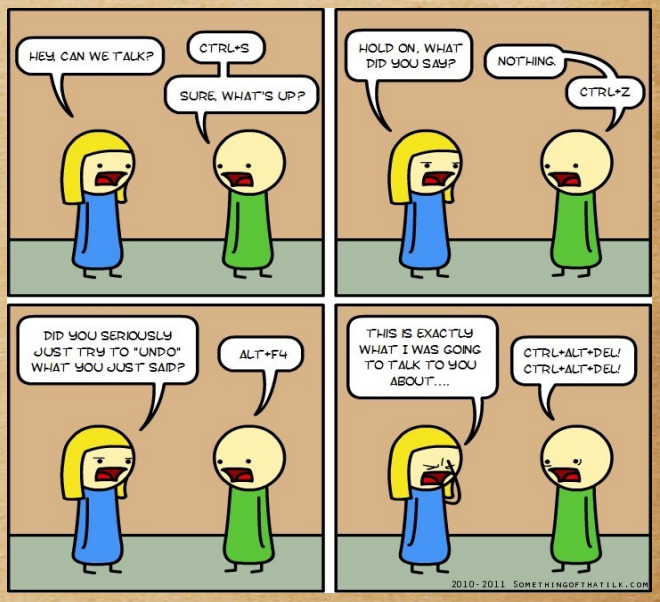
In the memory of Former President of India, Late. Dr. A.P.J.Abdul Kalam, the Govt. of A.P declared Pratibha Puraskar Awards—2015 for who have excelled in different fields of academic activity at the district level, in different categories.

25 students of R.V.R & J.C bagged these awards of which two were presented to Ms. C.Anusha and Ms. T.Yamini, students of M.Tech (Machine design)

ENGINEER'S DAY

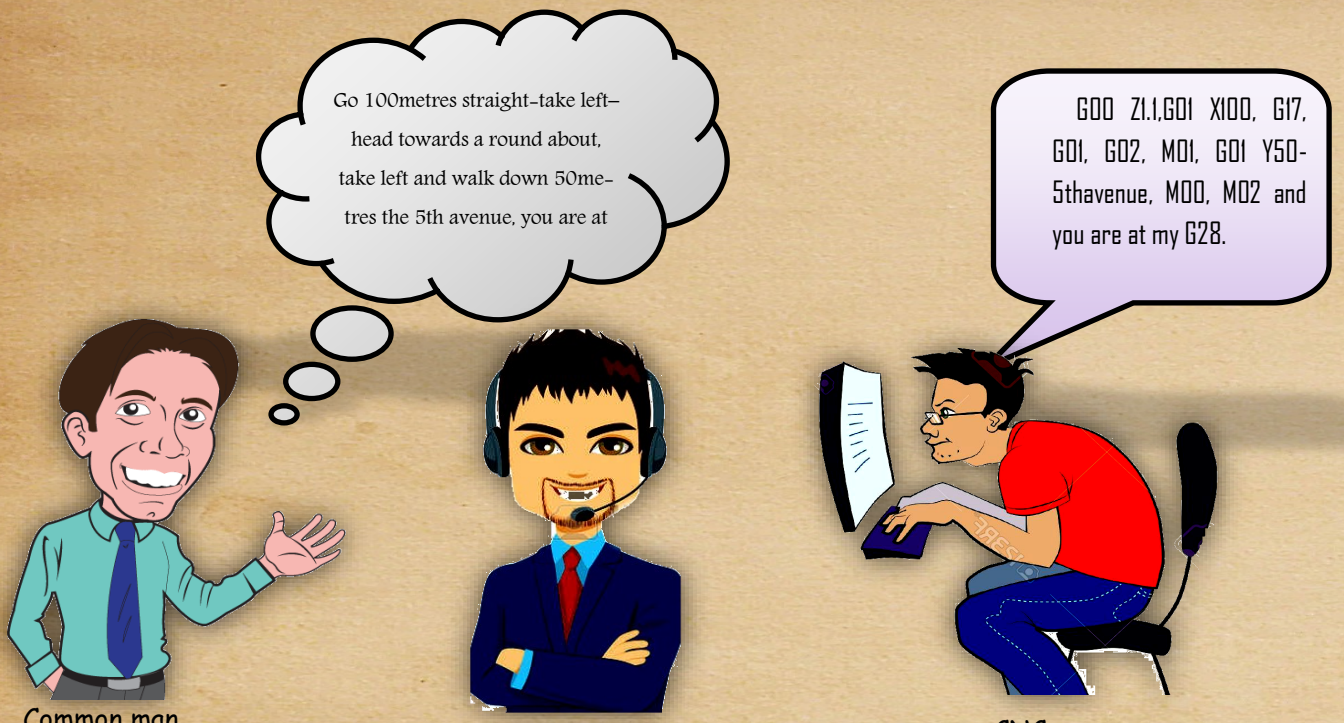
Student explains her model at the exhibition

The college had celebrated the Engineer's Day on the 15th September , the of the Indian engineering marvel, Bharat Ratna, Sir Mokshagundam Visveswaraya. The students of Mechanical Engineering from 2nd and 3rd year took an active participation and exhibited variety of models in the Technical Expo and bagged various prizes.



Alumni Reunion 2015

The RAJCEAA reunion, on 19th December brought 214 former students from all departments, back to the college campus to meet old friends and find out how RVRJCCE developed over the years. The alumnus of the Mechanical engineering shared their experiences at



To start, press [1] and walk straight 100 meters, press [4] to take left, go straight press [0] for circle and press [4] to take left and press [1] to go straight 50 meters the 5th avenue, you are at my home. Press [7] to repeat, [8] to quit

Editorial Board