



AAR MAHAVEER NEWSLETTER

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From the Principal's Desk

The buggy horse has its eyes covered allowing it only to move in one direction, unless the cab driver pulls its head to a side to take a turn. We engineers cannot afford to be like the buggy horse. What I mean is that we should not restrict ourselves to learning just one branch of engineering. It is advantageous to have an idea of an engineering issue to whatever branch it may belong. In other words, we must be **Jacks of all spades and Master of some**. This will help in arriving at the root cause of any technical problem. Similarly, teachers should not restrict themselves to just teaching. There are several other jobs that need to be done for the success of the college. Work in the exam branch or help the institution in AICTE or accreditation work. Write a paper or a text book. Conduct a workshop or a seminar. Confucius said that a journey of a thousand miles begins with the first step. So do take the first step today. Tell the students some thing more than your subject. Teach them physical exercises. Take them on a picnic. Provide the students some thing more than the classroom experience. The teacher becomes the role model for most students by the way he/she dresses and the way he/she conducts himself/herself in the college and outside.

There is a new enthusiasm in the country. Among others, the success of the Mars mission and sharing of Nobel Peace Prize have contributed to it. The goal now is to **Make in India**. This will create jobs for others too. Ashok Leyland will be making electric buses in India. The Tatas and NTPC have come forward to set up power plants in our state. We must also do our bit. A watt-hour saved is a watt-hour generated. Usually we think of individual progress but not collective, of the society as a whole. There is vast scope for improvement in self discipline. A student tears off some papers and drops them on the ground. A tap is opened in the wash room but not closed after use. Power fails and the lab in-charge leaves the college without switching off the AC units. When the power is revived, the units will be running throughout the night in the unoccupied lab. Every employee of the college, be he the principal, or a faculty member or a programmer or an attendant must whole heartedly participate in the **Swach Bharat** movement. It is not just the sweeper's job. Every one must take the liberty to monitor and ensure that the students and staff behave better. In the RPF compound, the board reads: **Every policeman is a citizen in uniform and every citizen is a policeman without uniform**. Similarly, every staff member and every student should feel the ownership of the college. It is not enough if we train ourselves and our students not to waste resources. We must go a step forward and introduce innovative measures and practices. For example, the students may be guided to harvest rain water and to build solar collectors. Each one of us should feel that it is our job, not someone else's. Each one of us is an engine for social change. With this realization, no one can stop India from becoming great.

— Dr. Palanki Balakrishna

In this issue

We begin with the list of college toppers. We present glimpses of Independence Day celebrations. Students share their views with the readers. This is followed by photographs from the Faculty Development Programme on Engineering Education. Then we have photographs from the Run for the Nation event. Then we present the experiences of our staff members in the Kutumba Survey. This is followed by Dasara festivities. G Ramesh has drawn a picture for the occasion. Photographs from the Inauguration of Mahaveer Degree College follow. Finally, we present interesting developments in science, technology and society.

IV B.Tech (2010-14) College Toppers

I Hashmath Sultana (ECE), II Fehmida Bano (ECE), III B. Soundarya (EEE)

Department Rank holders in B.Tech IV-II (2013-14)

CSE: I G. Swetha Reddy, II P. Mounika, III Farriya Naaz

ECE: I N. Priyanka, Hashmath Sultana, II Fehmida Bano, III Kallu Vineela

EEE: I B. Soundarya, II Jamuna Nunavath, III Sravya Kulkarni



Ms. D Vasudha ECE attended two day Professor Summit at JNTUH on 5 and 6 August, 2014. Ms. D Vasudha ECE attended two day Professor Summit at JNTUH on 5 and 6 August, 2014. (certificate shown on the left)

Mr. Vedavyas Gurla, Associate Professor, CSE attended [1] FDP "eLSDM-HD" by Globarena Technologies at JBREC on 5.8.2014. [2] FDP "HP EDUSUMMIT 2014" at Hyderabad on 20.10.2014

Independence Day 2014



Sravanti finds a way to overcome the strong winds and lights the lamp



Lead kindly lights, lead thou me on



Mr. Dhanunjay Reddy unfurls the flag



The little VIP 'Avni' at the function sporting the flag



**Message from Mr. Surender Reddy,
Secretary, Mahaveer Educational Society**



**Mr. K Veeranjanyulu and Mr. G Ramesh, Asst.
Professors, in an appreciative audience**



The kinetic energy behind Independence Day function



.... and the potential energy behind Independence Day function

Five students of IV EEE (with modest economic background but with a great determination to achieve) share their views and experiences:



From left: S. Sushmitha, Tasleem Fathima, P. Akhila, B. Kavitha, K. Rohini

1. S. Sushmitha: People are simply going by what others do or don't do. They are not using their own judgement. This sheep mentality is leading to gradual decline of discipline and sense of responsibility in life and in profession. I want to think on my own and decide what is good and just. I want to go ahead and do it with initiative. Once I do it, it will encourage others to emulate. I want to help my parents by adding to their income. I have learnt tailoring from mother and I am able to help in tailoring. I also enjoy cooking at home. I want to help preserve the environment. I will set an example to others by keeping my class room, my house clean.

At Vanasthalipuram, two men are taking care of about 25 children in the age group 1 to 5 years. The children stay with them. The men cook for them and also teach them. The expenditure is being met by a small group of software employees. The employees visit on week-ends and spend time with the children. When I have my own income, I would like to set aside a part of it for such activities.

2. Tasleem Fathima: I was earlier tutoring up to class X, but now I am teaching only upto class VII so that I can get more time for studying my B.Tech subjects. I teach all the subjects - Hindi, Telugu, English, Mathematics, Science, Social Studies and GK. The session lasts two hours every day. Right now I have five students with me.

A rupee saved is a rupee earned. One should cultivate the saving habit. We are able to do this with our own money and resources. But when it is public money, we see a lot of wastage. Our society has been plagued with corruption. Private pockets get filled while public money goes waste in substandard execution of jobs.

3 P. Akhila: I too want to support my family. I have been working as data entry operator at a reputed financial consulting firm during my vacation period and on holidays since my intermediate days. I am concerned about pollution and the lack of cleanliness in several areas. Trash is building up everywhere in the city. It is some times collected, some time not. We all must segregate the waste into vegetable waste, plastic

waste, metal waste and glass waste before discarding. This will facilitate recycling. It is tragic to see people freely spitting every where in modern India. This is tarnishing the image of the country and affecting tourist revenue. I do not hesitate to pick up paper and plastic from the ground and deposit in the trash bin. I am not worried about what people think of me. I just want to do my bit for a better environment. We do not want people who say that the river is dirty. We want people who get down and start cleaning up the river.

4. B Kavitha: I am tutoring two Class X students. I am teaching Mathematics. This has been the case since my I B.Tech days. I am upset by the indifference and negligence in government hospitals. Many people cannot afford to go to private hospitals where things are believed to be better. The doctors seem to be prescribing too many medicines to benefit drug manufacturers instead of the patients. Patient should be told how to build up health by diet and exercise instead of simply swallowing tablets.

5. K Rohini: Rice, wheat, pulses, ground nuts grow in our fields. I am concerned about the wastage of food every where. In social welfare hostels, some time the cooking is so bad that no girl is willing to eat the food and a lot of cooked food goes waste. There is criminal wastage of well prepared food in marriages and other functions. I boldly tell people not to waste, both at home and at college.

What problems do these students foresee in their career and life and how can those be addressed? They had this to say:

1. While the government has been running hostels for students, hostels are also required for working women.
2. Men and women have to work together complimenting their efforts instead of competing against each other.
3. Women should not work against women and learn to act together. Mothers take care of daughter's children while daughter goes for work. Not many Mothers-in-law do it when their daughters in law go for work. A change in attitude is needed. Men have to take up baby care, domestic chores and help working wife.
4. Baby crèches must be mandatory in private institutions too as in government institutions. Maternity leave benefit should be extended to private institutions.

- Dr. Palanki Balakrishna

“Strength does not come from winning. Your struggles develop your strengths. When you go through hardships and decide not to surrender, that is strength” – Arnold Schwarzenegger

PRESERVE IT FOR THE NEXT GENERATION.....



1960



1980

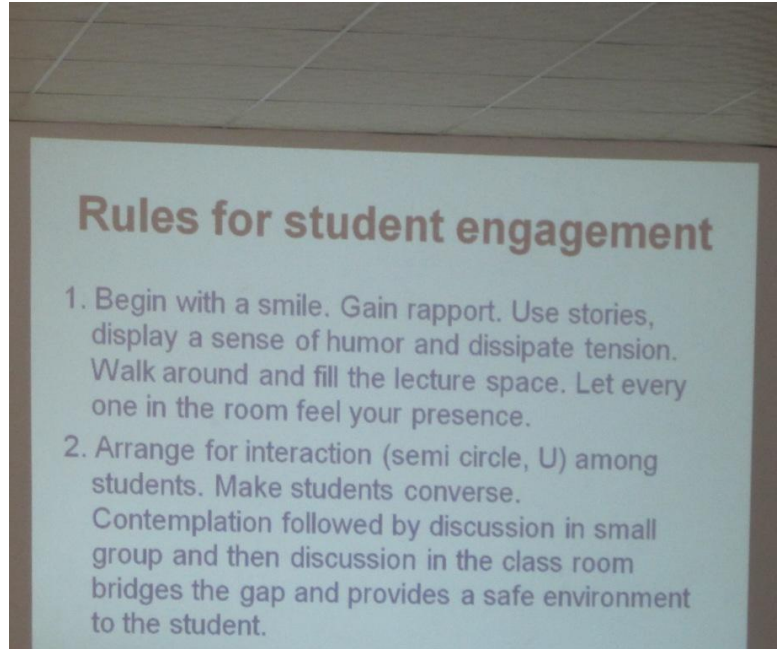


2013

Faculty Development Programme at AARM, 27.09.2014
“Teaching Engineering Students”



Principal AARM & programme director



Just one of the 196 slides



Professor Appa Reddy shares his rich experience



Dr. Asha Lata has a strong point to make



Some of the participants in the Faculty Development Programme of 27.9.2014

<p>Teacher' redefined as designer of Learning experiences, Learning processes and Learning environments</p>	<p>People learn and retain 20% of what they hear 30% of what they see 50% of what they see and hear 70% of what they say and 90% of what they experience directly or practice doing.</p>
<p><i>Tell me and I will forget</i> <i>Show me and I will remember</i> <i>Involve me and I will understand</i> <i>Step back and I will act</i></p>	<p><i>The mediocre teacher tells</i> <i>The good teacher explains</i> <i>The superior teacher demonstrates</i> <i>The great teacher inspires</i></p>
<p><i>Twameva maataa cha pitaa twameva</i> (Oh Guru!) You are my Mother, You are my Father <i>Twameva bandhuscha sakhaa twameva</i> You are my nearest Kin, You are my dearest Friend <i>Twameva vidya dravinam twameva</i> You are my Wisdom, You are my Treasure <i>Twameva sarvam mama deva deva</i> You are my Everything, You are my God of Gods</p>	

Run for the Nation (11.09.2014) as part of the celebrations of 151st Birth Anniversary Year of Swami Vivekananda



Mr. Sudershan Reddy, Chairman, Mahaveer Educational Society, about to inaugurate the Run



Ms. K. Pramitha IV ECE and Mr. Chinthalacheruvu Saidaiiah, Physical Director



**Ms. K. Swapna, Asst. Professor, H&S
Ms. G. Umadevi, Librarian**



Enthusiasm, anticipation and cheer before the flag off with Secretary in the forefront



Mr. Surender Reddy welcoming the participants in the Run



- inserted by Pallavi Joshi, Asst. Professor, H&S



**Navaneetha, Radhika, Kalpana, Andal, Yashoda
celebrating Bathukamma Festival**

“The most powerful weapon on earth is the human soul on fire” – Ferdinand Foch (1851-1929)

***“Seek freedom and become captive of your desires. Seek discipline and find your liberty”
– Frank Herbert (1920-86)***

***“Every great dream begins with a dreamer. Always remember, you have within you the strength, the patience, and the passion to reach for the stars to change the world”
– Harriet Tubman (1822-1913)***

***“Think little goals and expect little achievements. Think big goals and win big success”
– David Joseph Schwartz (1927-87)***

***“The greatest test of courage on earth is to bear defeat without losing heart”
– Robert Green Ingersoll” (1833-99)***

“You are never too old to set another goal or to dream a new dream” – C S Lewis (1898-1963)

“If you love those who love you, what credit is that to you? For even sinners love those who love them. And if you do good to those who do good to you, what credit is that to you? For even sinners do the same” – Jesus Christ (6 BC-30 AD)

“Intense love does not measure, it just gives” – Mother Teresa (1910-1997)

Dasara Puja and Ayudha Puja (Worship of the Engineer's Tools) 2014



Mr. Sudershan Reddy, Chairman, seeking the blessings of the Goddess on Durgashtami Day on behalf of all the colleges in Mahaveer Educational Society





Mangala Haarathi song by Staff members led by Pavithra



Every one has a share of the blessings of Mata Durga Bhavani



- art by G. Ramesh, Assistant Professor, ECE



**Our staff members drafted for the survey
Mamatha, Uma Devi, Shilaja, Chandrika, Pavithra, Pallavi, Syamala,
Mallesh, Shesha Saina Reddy**

Some staff members were called on 16th August for a meeting by State Govt representatives to assign duties for the survey. The staff members narrated their experiences to the editor:

Experience 1: They said that food would be provided. So on Sunday we went without carrying food. We had to report by 8 am. But we were not given any thing and from the next day onwards we brought our own food packets. We pasted slips on several households on Sunday. On Monday we verified that the forms were available for all the houses. Where required, new forms were made available. On Tuesday, we were asked to report at 8 am, but transport was not available as RTC buses etc were off the road. We had to pay huge amounts from our pocket and reach the venue with great difficulty. Toilet facility was not available in most areas and the residents were not allowing us to use their toilets. The remuneration promised to be paid on the spot but this did not happen. One enumerator mother tongue was Malayalam. She did not know Telugu and Urdu. The residents did not know English. So she faced difficulty in understanding and entering the data.

Experience 2: Our experience was pleasantly different. The associate enumerator was very considerate and arranged for food. He also picked up and dropped back on his own scooty. On another occasion, he sent his son to drop. He also made the payment of remuneration at the residence of the person the next day. Some nearby students came on their own and helped in recording details. At some places, she was offered coffee. At one place they offered lunch, but she did not take, being alone. The enumerator belonged to Customs Dept. He was most helpful.

Experience 3: Our team leader was from the Dept of Technical Education. On the whole, it is a rewarding experience. On 19th the team members could travel by RTC bus on the ring road. We were afraid to go alone to interior parts of the city. At a few places residents were irritable, but the majority were cooperating.

Experience 4: Our team leader was a superintendent in the Department of Technical Education. Two of us visited one house. Together we covered 60 houses per day. Food and transportation were not provided but remuneration was given on the last day as per the bill prepared. Some residents were complaining that

enumerators did not visit them. They said they would complain to authorities. This left some bitter taste. We told them that we would come on the next day and covered them the next day. One resident offered a cold drink. We could reach home only by 11 pm. We used MMTS for part of the distance and then walked back to home.

Experience 5: Enumerator is from Exam Branch, State Board of Technical Education and Training. He was courteous. He paid us as per bill. As the area covered is near my home, I did not have food problem. The people were not that educated, but they were courteous and offered tea. Fatigue remains even after two days after the enumeration got over. People kept ready the papers and they were cooperative. They asked us to be seated for noting down the information. The problem was that from the government side: there was no arrangement for food. We depended on the kindness of the citizens.

On the whole, we have learnt some thing new - how to deal with unknown and different kinds of people of different ages and backgrounds. The entire operation suffered from inadequate planning. Books were not available in required numbers. Each book has 40 pages, corresponding to 40 houses. We could cover more than 30 houses each.

Would you like to go again if there is another enumeration? The unanimous reply was “No!”



**Women in a public library in Afghanistan before the Taliban took control
and banned women's education and western clothes**

– inserted by G. Uma Devi, Librarian



Monitor display welcoming the freshers to the Degree College on 2.9.2014



Freshers get started with the learning process



Mr. Sudershan Reddy, Chairman, Mr. Surender Reddy Secretary and Mr. Dhanunjay Reddy Joint Secretary, Mahaveer Educational Society inspecting the computer lab at the newly established Mahaveer Degree College.

From Far and Near

Achievement Extra-ordinary

India is the fourth space power after US, EU and Russia to send a craft to Mars. It is the first time an agency succeeded with its very first Mars mission. Only 21 out of 51 Mars missions have succeeded in the world. The cost of the mission is a fraction of that in the developed world. MOM carries five instruments, including a colour camera and methane sensor to study the Martian surface and atmosphere. Two days earlier the US achieved a similar fete.

Noiseless Nozzles

Researchers at IISc Bangalore have come with a new design of aircraft jet engine nozzle that is less noisy than the conventional nozzle. In the conventional cone shaped nozzle, the exhaust is released with massive momentum, carrying huge energy and creating noise. But the new nozzle, (shaped like petals) allows the exhaust to spread and get assimilated quickly into the cold atmosphere. The device makes the aircraft quieter and engine performance better.

New filter

A low-cost water purification membrane capable of filtering out objects greater than one micron size and also killing *E. coli* bacteria has been developed by I I Sc and Steer Engineering Pvt. Ltd, Bangalore. The novel membrane with pores as small as 0.57-0.68 microns was developed by mixing two polymers — polyethylene (PE) and polyethylene oxide (PEO) at 180 degree C. Unlike PE, PEO is water-soluble and the two polymers are immiscible. Tiny holes came into being once the water-soluble polymer was removed. Going further, the researchers rendered the membrane antibacterial against *E.coli*. For this, graphene oxide (GO) was mixed with PE and PEO and the graphene oxide was made functional with amine groups.

Affordable Smart Cane for the blind

Visually impaired persons find obstacles on the way by tapping with a cane. They cannot detect items above the knee level and the cane's reach is only about a meter. Researchers at IIT Delhi have designed, fabricated and field tested a device that can be fitted to the cane for the visually impaired. Using ultrasonic ranger and vibrator, the device can detect obstacles at any level and in a range of three meters and 360 degrees. Distance information is conveyed to the user through vibratory patterns that vary incrementally with changing obstacle distance.

Now ATMs for water!

Thanks to water ATMs, many otherwise arid villages in Rajasthan have 24 x 7 access to drinking water at the swipe of a prepaid card — at 20 litres for Rs.5. Under Cairn India's "Jeevan Amrit Project," 22 kiosks with reverse osmosis (RO) plants have been installed to provide safe drinking water in some villages to benefit 22,000 people. In PPP model, Cairn India has partnered with the Rajasthan government's Public Health Engineering Department, Tata Projects and the respective village panchayats to provide drinking water to the local community. With the revenue earned the village's water committee meets the running expenses of the RO plant, such as salary of the operator, electricity and maintenance. The surplus money is used to undertake developmental work in the village.

Infrared road repair

Infra red rays are invisible radiant energy with longer wave lengths (700 nm to 1 mm) than those of visible light. No contact or medium is needed for the energy transfer from infrared rays. Pot holes in the road make driving a nightmarish experience. Greater Hyderabad Municipal Corporation now wants to use infrared road repair technique. It is fast, simple and less expensive (40% of the cost). In contrast to traditional techniques,

the infrared road repair system recycles the existing asphalt completely (and with minimum use of energy) into a new surface. The system works by heating the road surface with infrared heat. The asphalt is gently heated to a depth of 50 -75 mm over 8 – 10 minutes. Once the surface has reached a temperature between 130 and 150 C, the unit is then pulled forward to begin heating the next patch. Whilst this happens, the softened asphalt is raked around and rejuvenation liquid, which is a water-based emulsion. It makes use of a setting agent, binder and anti-slip coating. This new surface is in level with surrounding asphalt. It is also of the same quality and durability. There are no disposal costs for used asphalt, as it is recycled in-situ. The joint between old and recycled asphalt is seamless and creates a neat surface around iron ware and street furniture. The average repair time of a small patch is 20 minutes.

Transmission Trends

With the rise in global temperature, alternatives to fossil fuels are under development for power generation. In parallel, transmission losses need to be minimised. Upto a distance of about 800 km, transmission by AC (proposed by Tesla) is economical. Conventionally, high voltage AC has been used for power transmission to save on losses which are dependent on the magnitude of the current. Beyond 800 km, DC is economical (proposed by Edison). The need for transmission over long distances has arisen since power is generated through offshore windmills where wind speeds are high and solar power from deserts where sun shines brightest for most of the year. Usually these places are far off from cities where energy is needed. Hence power has to be transferred efficiently through super grids. Carbon nano tubes have exceptionally high conductivity even at normal temperatures. Hence cables made of carbon nanotubes have the potential to transmit power without losses. 65 cm long demonstration cable has been made using carbon nanotubes. On the other hand, hybrid cables which are made of a composite of carbon nanotubes and copper are expected to be commercially available soon. In another development, electricity is first converted to light, transmitted through optical fibre cable and converted back to electricity at the other end by photovoltaic cell. In parallel, efforts are on to transmit light through air or space avoiding optical fibre cables.

Electricity from moving bullocks

The simple machine, developed by Hyderabad based Maddox Infrastructure Pvt. Ltd, generates power within minutes as a result of the mechanical energy provided by the moving bullocks. A pair of bullocks are tied to a yoke connected to the machine and the bullocks turn the machine exactly as in an oil mill. The electricity thus generated, not only provides power for devices like fans and lights, but can also run a 5 HP motor.

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Mahaveer Educational Society

Chairman: Sri. S. Sudershan Reddy garu, Secretary: Sri. S Surender Reddy garu.

A A R Mahaveer Engineering College

Vyasapuri, Bandlaguda, Keshavgi PO, Hyderabad 500005.

www.aarm.ac.in, principal.8p@gmail.com

Principal and Newsletter Editor: Dr. Palanki Balakrishna

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