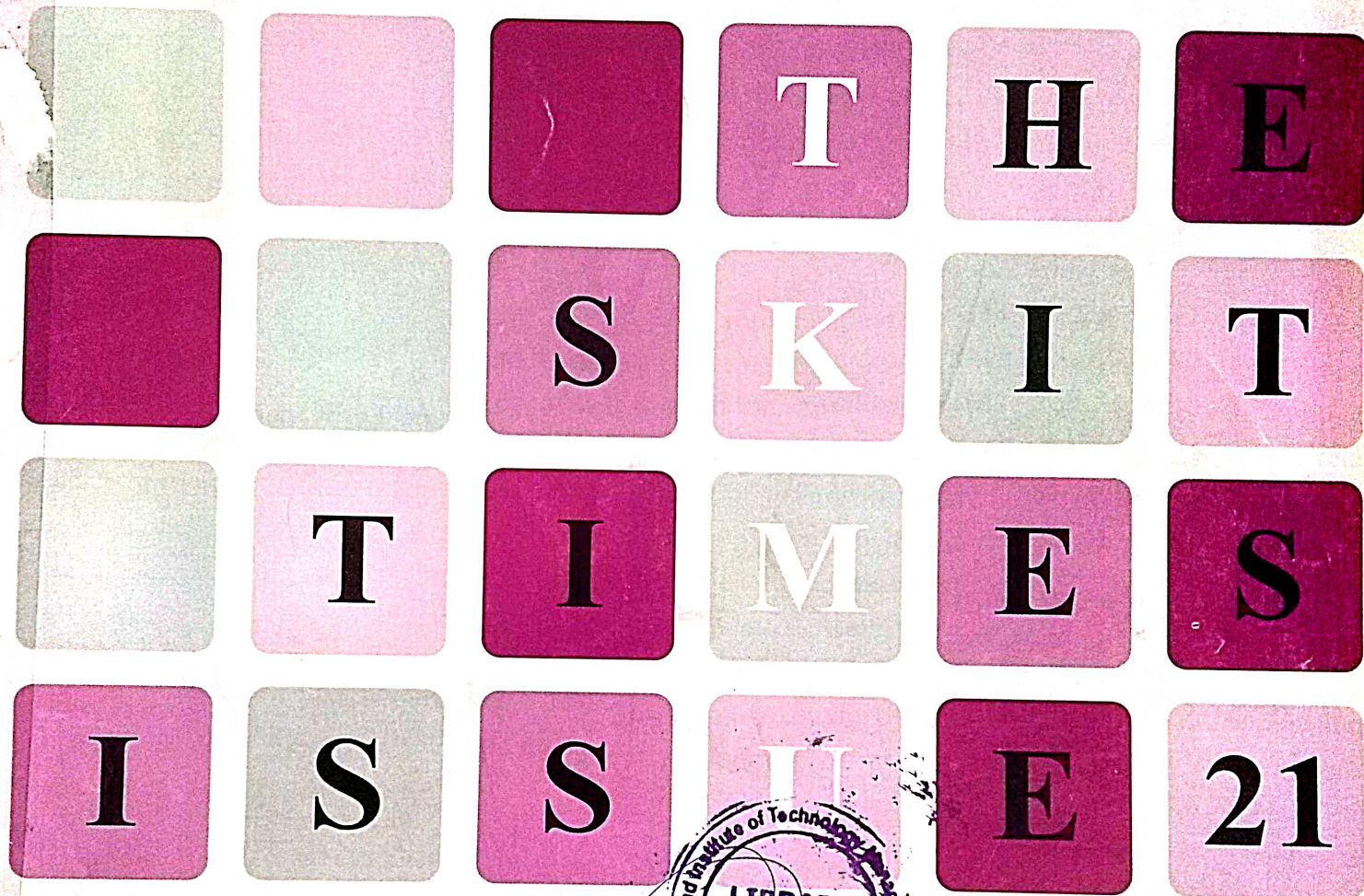




A Quarterly Bulletin of
Swami Keshvanand Institute of Technology, Management & Gramothan



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**OUR MENTOR
& PATH FINDER**

Swami Keshvanand Ji
(1883 - 1972)

VISION

To promote quality education, training and research in the field of engineering by establishing effective interface with industry and to encourage faculty to undertake industry sponsored projects for students.

MISSION

To promote higher learning in advanced technology and industrial research to make our country a global player.

Dear Readers

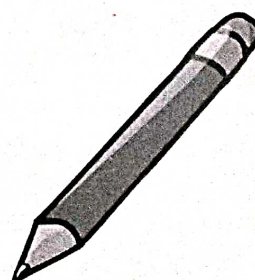
While introducing the topic of Life Sciences to a graduate class recently, I thought I would begin with a series of rather general even rudimentary (one might say) questions on the topic, just to get the students into the loop of the class and to invite them into discussion. As we dilly dallied over the answers, however, I noticed that many of the students were not able to come up with the correct answers to my questions. Some were quite close but most of them seemed confused with the basic concepts themselves-even though all of them agreed that the questions were quite simple; and had to do with rather elementary ideas, concepts.

And so the discussion veered a little bit into why they were unable to answer the questions. Some of the responses that I got were that they had learnt the concepts sometimes ago and had forgotten them since; they had not paid enough attention because it was not their core subject; they knew the answers vaguely but not precisely; they were concentrating on their specializations and not on those peripheral general subjects and so on. These responses, I think, make for an interesting analysis of their learning styles and methods and also point to one of the most common mistakes that students make these days. I asked the students to come up with the answers to these problems / questions themselves. All of them seriously worked on it and carefully expressed their thoughts in the subsequent session.

"Focusing on one problem does not mean that you stop working on others; it only means you are finishing one at a time while working on others", opined one student. Another came up with the view, "I realize now that all are important in life-the degree of importance laid depends on us rather than on the subject." The other student summed up, "while oiling our daily lamps and protecting them from high winds of disturbance, we can't forget our chosen core aspects of life." It is always the core competence that matters, with of course the peripherals getting their due importance with diligence. There can be no core without adequate build up of mantles and crusts. To nurture the aim of our targets, we need nourishment from several other non core aspects to move in the right direction. It is like a space craft shedding its weight in stages, and propelling on its onward journey. The weight discarded is unimportant when shed, but is very important to start with - for the lift off!

As for myself, I realized that teaching involves a good deal of creative management.

Niraja Saraswat
Editor-In -Chief



REPUBLIC DAY CELEBRATION

The institute celebrated the 62nd Republic Day with great fervour and zeal in an atmosphere of patriotism and veneration for the freedom fighters. The celebration began with the tricolour hoisting ceremony.

Mr. K. R. Bagaria, Director, expressed his concern over the deterioration of moral values in the young generation. He also warned that the nation's future would be bleak if the credibility and moral authority of the constitutional institutions were not restored.

Prof. (Dr.) S.L.Surana, Director Academics enumerated three principles of success for any country and its people - technology, innovation and leadership. He expressed his satisfaction with the concrete and significant role of India in technological advancement. He invoked the student community to play a vital role in innovation and articulated his deep concern over the political scenario prevailing in the country.

Lt. Gen. Y.S. Panwar, Director, Human Resource recalled the charismatic leaderships of Nehru and Gandhi. He reminded the audience of glorious triumph of India in the wars of 1965, 1972 and 1999. He emphasized the role of a good leader and urged the students to take active part in political affairs and to raise their voice against injustice. He also inspired the youth to take the initiative and to put our nation on the highest pedestal in the international arena.

Prof. (Dr.) N.K.Banthia, Head, Dept. of Mechanical Engineering said that there are amongst the general masses misconceptions about ideological differences between Nehru and Gandhi. He reminded the students that preserving the independence that was won after a long struggle is even more onerous than attaining it. He also proposed a vote of thanks to the guests and speakers.

The celebration culminated in a cultural programme put up by the students in the praise of the freedom fighters and ended with the distribution of sweets to all.

COMMEMORATED E-WEEK 2011

The Topaz (SKIT - E Cell) celebrated the spirit of entrepreneurship and its development amongst youth in a week long campaign starting from 5-12 February 2011.

This time the theme that instilled energy was Scope of Financial Inclusion and Problems & Solutions of Waste

Management. The inaugural ceremony was marked with the gracious presence of Mr. Robin Dubey as chief guest, Director Mr. K. R. Bagaria, Registrar, Mrs. Rachna Meel, and Director Academics Prof. Dr. S. L. Surana.

The journey continued with a panel discussion by Mr. Naveen Tripathi, Mr. Samdar Singh, Mr. Robin Dubey and Prof. M. L. Bhargava. The sessions of interaction and learning captivated the students for the entire week.

Theme run, start up show case, experts panel discussion, entrepreneur's talks, idea generation contest, B-Plan contest, debates and many more invigorating events made the message of young and budding entrepreneurs audible to everyone. The event not only gave an opportunity to showcase the talent of budding engineers but also honed their professional skills.

NATIONAL WORKSHOP ON LATEST ADVANCES IN RF & DIGITAL TESTING



Dept. of Electronics and Communication organized a workshop on Latest Advances in RF and Digital Technology on 14 February 2011. The thrust area of the conference included a discussion on current and emerging technologies in the field of RF & Digital Testing, latest design and developments in RF module as well as covering the RF system requirements for cellular and IEEE 802 connectivity power amplifiers.

RAD WORKSHOP ORGANISED

Department of CS/IT organized a workshop on IBM Tool - RAD for 2012 batch students from 19-22 January 2011. The workshop was conducted by the representatives of IBM. A certification exam was also held on 7 March 2011.

RECRUITMENT DRIVES

SKIT T&P Cell guarantees enhanced skills, hands on training, right corporate exposure and wide learning. Hence, it is a matter of the utmost satisfaction that our students, under the guidance of Prof. M.L. Bhargava, Adviser, performed exceedingly well during the following campus drives held from November 2010 to February 2011.

Name of the Company : Tata Consultancy Services
Company Location : Delhi
Number of Selections : 200
Date : 20 December 2010

Name of the Company : Secure Meter
Company Location : Udaipur
Number of Selections : 6
Date : 16 December 2010

Name of the Company : Solution Digitas
Company Location : Delhi
Number of Selections : 4
Date : 13 January 2011

Name of the Company : Info Objects
Company Location : USA
Number of Selections : 3
Date : 29 January 2011

Name of the Company : Birla Soft
Company Location : Noida
Number of Selections : 2
Date : 24 December 2010

Name of the Company : Aurion Pro
Company Location : Mumbai
Number of Selections : 2
Date : 30 January 2011

EXPERT LECTURE

Mr. B. L. Gupta, Executive Director (Technical) RSRTC, Jaipur delivered a lecture to students of Mechanical Engineering on maintenance management. In his lecture he covered topics like preventive maintenance, planning and scheduling, root cause analysis, maintenance engineering, equipment knowledge and operations and maintenance partnership.

FACULTY DEVELOPMENT PROGRAMME: UPGRADING EDUCATOR'S PROFESSIONAL SKILLS BY CIEED INDIA

With an objective to produce an able pool of educators equipped with theoretical knowledge and practical competence a Faculty Development Programme (FDP) was conducted over three days from 17-19 January 2011. The programme was conducted by CIEED India. 30 faculty members attended the programme and got abreast of analytical, critical, innovative and latest approaches in the teaching learning process.

FACULTY DEVELOPMENT PROGRAMME MISSION 10X ORGANIZED

To bridge the gap between industry required employability skills of engineering graduates and those provided by the use of existing teaching methodology in majority of engineering institutes, a two days faculty development programme, 'Mission 10X' was organized jointly by Wipro Ltd. and SKIT. The programme covered content updating, particularly in new technologies, use of innovative instructional methods and approaches, design and development of learning resources.



NATIONAL PHARMACY WEEK-2011

National Pharmacy Week-2011 was celebrated between 16-19 February 2011 with great fervor and zeal. Mr. S.C. Pant, Controller of Examination, Rajasthan University and Mr. Ajay Pathak, Controller of Drugs inaugurated the event.

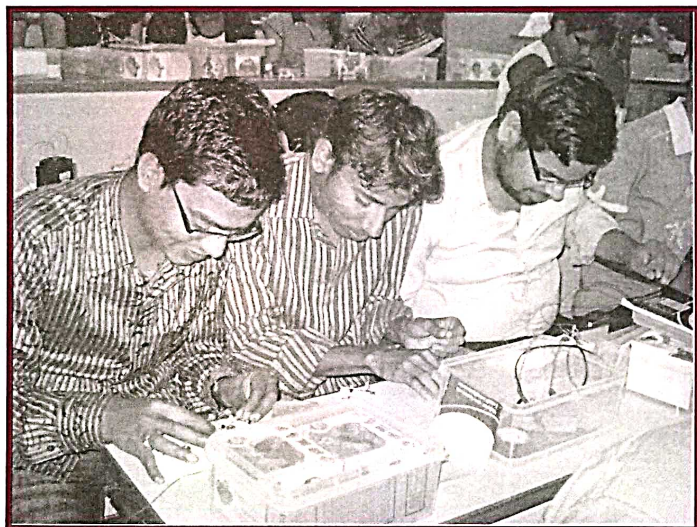
The extravaganza included various activities stimulating the capability of the budding pharmacists in multifarious fields. During the event, a free medical health check-up camp was also organized.

GYM ESTABLISHED

Fitness fanatics are set to benefit from the newly established Gym in SKIT premises. It will provide fitness equipment and space which will increase the sports opportunities on offer and include a fitness hub at the college.

ROBOTICS WORKSHOP HELD

Department of Electrical Engineering, SKIT in collaboration with Kaizen Robionics organized a Robotics Workshop on 5-6 March 2011. During the workshop, A Carry Away Robotic Kit was given to each student and a series of interactive lectures was conducted by the experts. Each student designed different projects like Color Sensor Robot, Obstacle Sensor Robot, and Collision Avoidance Robot etc. Using their own Carry Away Robotics Kit. The kits, given to the students, were flexible enough to be applied for other projects/applications. The workshop was followed with the certificate distribution. Every student was also given a life time technical assistance card and study material.



The workshop proved to be a milestone for the students who are interested in the field of Robotics, a technology which has caught pace in recent years. The workshop was organized under the supervision of Mr. Sarfaraz Nawaz, Reader, Dept. of Electrical Engineering.

PROF. (DR.) N. K. BANTHIYA, Head, Dept. of Mechanical Engineering was invited as a resource person & panelist for a National Seminar, on 'Building Quality Assurance in TVET: Trends and Perspectives jointly organized by National Institute of Technical Teachers' Training and Research and Colombo Plan Staff College, Manila on 23 December 2010.

MEMORY ENHANCEMENT SEMINAR

A Memory Enhancement Seminar was conducted on 1 February 2011. The one hour long seminar was addressed by Dr. Kaushal Sharma - a prodigy in the field of memory enhancement. He left the audience spellbound with his demonstration of ways to consume and retain vast amounts of information. Over 150 students and faculty members attended the seminar.

WORKSHOP ON ADVANCED ELECTRONIC DRIVES AND CONTROL SYSTEM

Dept. of Electrical Engineering organized a workshop on 'Advanced Electronics Devices and Control System' on 5 January 2011. It was conducted in association with VI Micro System Pvt. Ltd., Chennai. The workshop proved a forum for interdisciplinary discussions of new ideas, research development applications and the latest advances in the field of power electronics and adjustable speed drives.

CARVING A NICHE IN SPORTS

SKITians have been in the forefront to participate in sports and win laurels. Some remarkable accomplishments are as follows:-

1. The basketball team stood III in a basketball tournament held at LNMIIT from 11-13 February 2011.
2. An intra college basketball tournament was organized in December 2010. Students of the Dept. of Electronics and Communication grabbed the First Prize and the Dept. of Mechanical Engineering was declared as the runner up.

Best Player Award: Arpit Nathawat (1st Year)

Upcoming Player Award: Nishant (1st Year)

The tournaments were successfully coordinated by Mr. Hiralal Chaudhary, Incharge, Dept. of Sports and Physical Training.

3. The badminton team of SKIT stood II in an inter college tournament held at Shankara Engineering College from 9-11 March 2011.

SPIRITUAL ORIENTATION PROGRAMME

The SKIT Spiritual Club organized a session for the faculty and staff members on 23 February 2011. In the session, His Holiness Shri Dharmeshji emphasized the need of restructuring 'New India' that should be supported with age old Indian traditions. He also highlighted the indispensable role of teachers in shaping the students' lives. He applauded the cultural and spiritual heritage of India and stressed that it should not only be accepted and retained but also inculcated in our young generation, so that the country could touch greater heights. He also warned that the knowledge without philosophy is fanaticism and one must refrain from it.

EXCELLENT PERFORMANCE BY TOASTMASTERS CLUB, SKIT

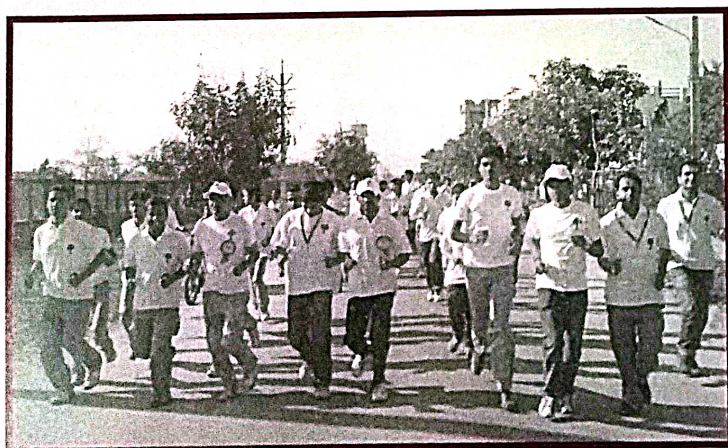
SKIT Toastmasters Club has distinguished itself with enviable achievements in the various recruitment drives held during the months of December 2011 and January 2011.

Achievements:

- 20 members out of 22 members have been placed in renowned companies like TCS, Infogain, and Wipro (BPO) etc. This reflects the pivotal role of Toastmasters Club in shaping students' career & fetching fabulous placements.
- Mr. Vineet Jain, Area Governor, Division I3, Toastmaster International, USA was bestowed with the award of Distinguished Toastmaster on 15 February 2011.
- Prof. (Dr.) Pramila Bafna, Happy Garg and Akshay Jain have finished their modules for the second highest level award- 'Advanced Communicator Award in Gold' conferred by Toastmasters International, USA.
- SKIT Toastmasters Club has again been selected as 'Presidential Distinguished Toastmasters Club' consecutively for the 3rd year after the completion of 9 out of 10 goals.

According to Area Governor of Division I3, Mr. Vineet Jain and Mentor Prof. (Dr.) Pramila Bafna, the club has become one of the most effective tools for the overall development of students' communication and leadership skills.

MARATHON RUN AND TREE PLANTATION PROGRAMME



To instill awareness about environment and to conserve the mother nature, Eco-Friends Club organized a Marathon run and tree plantation programme on 11 March 2011. Lt. Gen. Y.S. Panwar, Director, Human Resource initiated the wave. Prof. Dr. Archana Saxena, President, Eco Friends club stressed on the importance of plantation and urged the students to contribute their efforts to make earth a better place to live in.

STUDENT LEADERSHIP SEMINAR (SLS)-2011

A student leadership seminar (SLS)-2011 was organized by SKIT ASME student section from 26-28 February 2011 which was sponsored by American Society of Mechanical Engineers (ASME).



The chief guest for the inaugural function was Mr. Dinakar Murthy Krishna (Plant Head, Mico Bosch, Jaipur) and the guest of honor was Dr. G.S. Dangayach (Associate Professor, Mechanical Engineering Department MNIT, Jaipur). The programme also witnessed some esteemed speakers from all corners of India including Dr. B.D. Agarwal (Visiting Professor, IIT-Gandhinagar), Dr. N.K. Banthiya (HOD, Mechanical Engineering Department, SKIT Jaipur), Shree Ananth Sesa Dasa (Vice President, Akshya Patra foundation, Rajasthan), Mr. Madhukar Sharma (Manager, ASME-India).

Participants from all over India took part in various events like old guard technical oral presentation, old guard technical poster competition, old guard technical web page competition, CAD competition, student design competition. Vishal Vijayvergiya (Final Year, Mech., SKIT) got the 1st prize in Old Guard Technical Poster Competition. Student sections of IIT-Delhi, IIT-Roorkee, BITS-Pilani, BITS-Pilani GOA CAMPUS, PSG-Coimbatore, ZHCET-Aligarh, UPES-Dehradun and LIMAT-Faridabad also participated in SLS-2011.

The important part of SLS-2011 was the elections of Student District Operating Board (SDOB), India. Elections for the three posts: SDOB-Vice Chair, SDOB-Programme in-Charge, SDOB-Communication In Charge were also held. Rishabh Sharda (III year, Mech. SKIT ASME Student Section) was elected as SDOB-Programme In Charge-India.

SLS-2011 was successfully coordinated by Vishal Vijayvergiya (Chair SKIT ASME Student Section) and Yatish Kumar (Vice Chair SKIT ASME Student section).

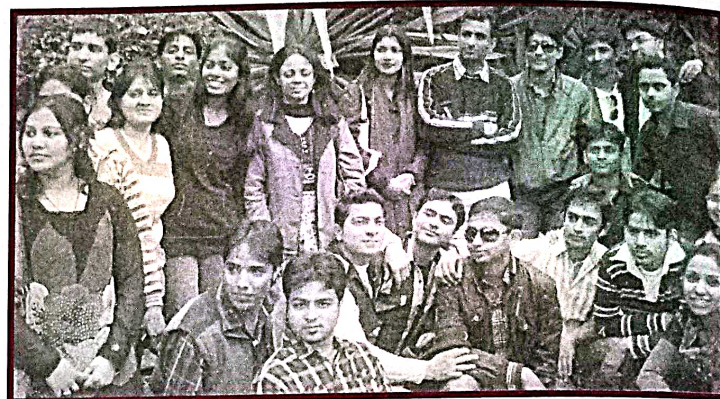
TEN DAYS CAMP ORGANIZED

The SKIT unit of NSS, realizing its duties of Gramothan has organized a ten days special camp from 1-10 March 2011. The camp provided the platform to synchronize and synergize learning with the demands of contemporary society. The camp included various activities on tree plantation, environment protection, cleanliness and donation for leprosy patients. During the camp, the students of SKIT visited various schools of Jagatpura and guided the students about the importance of education. The camp was successfully coordinated by Mr. Mukesh Arora, President, NSS unit, SKIT.

INDUSTRIAL TOURS

To prepare students for global workplaces, illustrate theoretical concepts, make abstract topics/concepts more concrete, industrial tours have been conducted by various departments. Visits include a range of senior executives covering leadership behaviour, policies and systems, organization culture, innovation, sustainability.

- **Organized by:** Dept. of Electrical Engg.
- **Places:** Haridwar & Rishikesh
- **Date:** 29 January 2011 - 2 February 2011
- **Industries visited:** Rajaji Hydro Power Plant BHEL, Haridwar & Mahindra and Mahindra
- **For:** 2012 Batch
- **Organized by:** Dept. of Pharmacy
- **Place:** Jaipur
- **Industry:** ELCON Pharmaceutical Ltd. & SCORTIS Pharmaceutical Ltd.
- **Date:** 2 January 2011
- **Organised by:** Dept. of Electronics and Communication
- **Places:** Amit India Ltd., Jay Bee Transformers, Punjab Communication Ltd., Aksh Optical Fiber Ltd., Chandigarh
- **Date:** 21 - 27 February 2011
- **For:** 2012 Batch
- **Organized by:** Dept. of Mechanical Engg.
- **Places:** RSRTC Central Workshop, Ajmer & Saras Dairy, Jaipur
- **Date:** RSRTC Central Workshop, Ajmer- 4 February 2011
Saras Dairy, Jaipur- 22 October 2010
- **For:** 2012 Batch
- **Organized by:** Dept. of Computer Science
- **Place:** Chandigarh
- **Industry:** CSIO- Central Scientific Instrument Organization
- **Date:** 27 February - 5 March 2010
- **For:** 2012 Batch



- **Organized by:** Dept. of Management Studies
- **Place:** Rudrapur, Uttranchal
- **Industry:** Ashok Leyland, Hewlett Packard, Voltas Limited
- **Date:** 11-16 February 2011

BOOK PUBLISHED

Title: Reliability and Maintenance Engineering

Author: Mr. S. B. Bheem, Reader, Dept. of Mechanical Engineering

Ph.D. THESIS SUBMITTED

- Mrs. Niraja Saraswat, Sr. Lecturer, Dept. of English submitted her thesis on 'Victorian Drama and an Analysis of Women in Shaw's Plays' on 3 January 2011 under the supervision of Dr. Nupur Tandon, Associate Professor, MNIT, Jaipur.
- Mrs. Sangeeta Gupta, Sr. Lecturer, Dept. of Mathematics submitted her thesis on 'A Study of Special Functions and Integral Transforms with Applications in Statistics and Fractional Calculus' under the supervision of Prof. (Dr) Mridula Garg Dept. of Mathematics, University of Rajasthan, Jaipur.

A Smile

A smile costs nothing but gives much. It enriches those who receive without making poorer those who gave it. It takes but a moment, but the memory of it lasts forever. A smile creates happiness in the home, fosters goodwill in the business, brings rest to the weary, cheer to the discouraged, sunshine to the sad and is nature's best antidote for trouble. Yet it cannot be bought, begged, borrowed or stolen, for it is something that is of no value to anyone until it is given away. Some people are too tired to give a smile. Give them one of yours, as no one needs a smile so much as one who has none to give.

Mr. Vinod Kumar Suthar
Lecturer, Dept. of Computer Science

LAURELS WON BY SKITIANS (2010-2011)

SKITians have showcased their multifarious abilities by participating in a wide and diversified range of extra curricular activities.

Name	Year, Branch	Event	Position	Organizer
Prateek Gupta	III B.Tech., ME	Nautical Miles	V Prize	Neuron'10 MNIT, Jaipur
Vibhuti Mangal	III B.Tech., CS	Nautical Miles	V Prize	Neuron'10 MNIT, Jaipur
Ankit Agarwal	III B.Tech., CS	Nautical Miles	V Prize	Neuron'10 MNIT, Jaipur
Ankit Agarwal	III B.Tech., CS	Sand Castle	I Prize	Blitzschlag'11 MNIT, Jaipur
Vibhuti Mangal	III B.Tech., ME	Sand Castle	I Prize	Blitzschlag'11 MNIT, Jaipur
Debojyoti Naru	II B. Tech., EE	Dhun	II Prize	Blitzschlag'11 MNIT, Jaipur
Rishi Suhanshu Pandey	IV B.Tech., ECE	Stage Play	I Prize	Blitzschlag'11 MNIT, Jaipur
Rishi Suhanshu Pandey	IV B.Tech., ECE	Dramebaaz Hoshiyar	I Prize	Blitzschlag'11 MNIT, Jaipur
Anang Sharma	III B.Tech., ME	Quark 2011	II Prize	BITS,Goa
Shashank Mishra	I B.Tech.	Paper Presentation	IV Prize	Aayam'11 Gyan Vihar University, Jaipur
Hitesh Nehra	I B.Tech.	Bing Wing (S.D.)	II Prize	Aayam'11 Gyan Vihar University, Jaipur
Himanshu Lakhyani	I B.Tech.	Bing Wing (S.D.)	II Prize	Aayam'11 Gyan Vihar University, Jaipur
Gournika Malhotra	II B.Tech., CS	All India Essay Writing Event 2010	II Prize	Shri Ramchandra Mission and UN Information Centre, Delhi

RESEARCH PAPERS PUBLISHED

Title: Chemistry of the Thizolidinone Alone or along with Thiourea Substituted Cyanato and Thiocyanato Complexes.

Published: Oriental Journal of Chemistry, Vol. 26, Issue 04

Author: Prof. (Dr.) Archana Saxena (Dept. of Chemistry)

Title: Effect of Exhaust Gas Recirculation (EGR) on Performance, Emission, Deposits and Durability of a Constant Speed Compression Ignition Engine

Published: International Journal of Applied Energy

Author: Mr. Deepak Agarwal (Reader, Dept. of ME)

Title: Two-dimensional Heat Transfer in MHD Fluid Flow Over a Highly Porous Layer

Published: AMSE Periodicals: Mod. Meas. & contrl.B (France), Vol. 78, Issue 9, 3-4.

Author: Dr Reema Jain (Reader, Dept. of Mathematics)

Title: Application of Fractional Derivative Operator in the Derivation of Bilateral Expansions Concerning Certain Special Functions

Published: Ganita Sandesh, Vol. 24, No. 1, pg.87-94, 2010

Author: Prof. (Dr.) Amber Srivastava (Dept. of Mathematics)

Title: Some New Families of Generalized Euler and Genocchi Polynomials

Published: Taiwanese Journal of Mathematics, Vol. 15, No. 1, pp.283-305, 2011

Author: Mrs. Sangeeta Gupta (Sr. Lecturer, Dept. of Mathematics)

Title: Radiative Flow with Variable Thermal Conductivity over a Non-isothermal Stretching Sheet in a Porous Medium

Published: International Journal Contemp. Math. Science Vol. 5 (54), 2685-2698, 2010

Author: Mrs. Archana Rai (Sr. Lecturer, Dept. of Mathematics)

"It is by teaching that we teach ourselves, by relating that we observe, by affirming that we examine, by showing that we look, by writing that we think, by pumping that we draw water into the well."

Henri -Frederic Amiel

RESEARCH PAPERS PRESENTED

Title: Effect of La-content on the Hydrogenation Properties of the $Ce_{1-x}La_xNi_3Cr_2$ ($x=0.2, 0.4, 0.6, 0.8, 1$) Alloys

Conference: International Conference on Renewable Energy 2011

Date: 17-21 January 2011

Venue: University of Rajasthan, Jaipur

Author: Prof. (Dr.) R. K. Jain (Dept. of Physics)

Title: Occurrence of Anti-viral Drug in Environment and Their Detection Techniques

Date: 22-24 December 2010

Venue: University of Rajasthan, Jaipur

Author: Prof. (Dr.) Sangeeta Vyas (Dept. of Chemistry)

Title: Bio-Plastic

Date: 22-24 December 2010

Venue: Shree Balaji College of Engineering and Technology, Jaipur

Author: Prof. (Dr.) Archana Saxena (Dept. of Chemistry)

Title: Photonic Crystal Waveguide in Slow Light Dispersion Seminar National Conference on Innovative Developments in Electronic Arena (IDEA 2011) organized by IEEE and ISTE

Date: 19-20 February 2011

Venue: Arya Institute of Engineering and Technology

Author: Mr. Anoop Singh Poonia (Head, Dept. of ECE)
Mr. Mukesh Arora (Sr. Lecturer, Dept. of ECE)
Mr. Jitendra Gautam (Lecturer, Dept. of ECE)

Title: Wireless and Network Security

Seminar: National Conference on Innovative Developments in Electronic Arena (IDEA 2011) organized by IEEE and ISTE

Date: 19-20 February 2011

Venue: Arya Institute of Engineering and Technology, Jaipur

Authors: Mr. Anoop Singh Poonia (Head, Dept. of ECE)
Mr. Mukesh Arora (Sr. Lecturer, Dept. of ECE)
Mr. Jitendra Gautam (Lecturer, Dept. of ECE)

Title: Solution of Space Time Fractional Fokker Plank Equation by Homotopy Analysis Method.

Seminar: 12th International Conference of International Academy of Physical Sciences

Date: 22-24 December 2010

Venue: University of Rajasthan, Jaipur

Author: Mrs. Sangeeta Gupta (Sr. Lecturer, Dept. of Mathematics)

Title: Attitudinal Challenges in Learning English as a Second Language: Problems and Remedies

Seminar: Confluence II, International Seminar on English Language

Date: 26 February 2011

Venue: Tulsiramji Gaikwad Patil College of Engineering and Technology, Nagpur

Author: Mrs. Niraja Saraswat (Sr. Lecturer, Dept. of English)

Title: Study of Chelate Formation of Palladium(II) with Eriochrome Cyanine

Conference: National Conference on Emerging Views in Advanced Chemistry

Date: 17-19 December 2010

Venue: Department of Chemistry, M.L.V. Govt. College, Bhilwara

Author: Dr. Sharda Soni (Sr. Lecturer, Dept. of Chemistry)

Title: Electrochemical Study of Gallium III with L-Glutamine at DME

Conference: 12th International Conference of International Academy of Physical Sciences

Date: 22-24 December 2010

Venue: University of Rajasthan, Jaipur

Author: Mrs. Vinita Sharma (Reader, Dept. of Chemistry)

Title: Variable Viscosity Effects on Radiative MHD Mixed Convection Past a Vertical Surface in Porous Medium with Heat Sink

Conference: 12th International Conference of International Academy of Physical Sciences

Date: 22-24 December 2010

Venue: University of Rajasthan, Jaipur

Author: Mrs. Archana Rai (Sr. Lecturer, Dept. of Mathematics)

Title: Radiative Heat Transfer in a MHD Fluid Flow with Variable Thermal Conductivity over Stretching Sheet in a Porous Medium

Conference: ACME National Conference on Recent Trends in Engineering and Mathematical Sciences 2011

Date: 24-26 February 2011

Venue: ACME College, Hariyana

Author: Mrs. Archana Rai (Sr. Lecturer, Dept. of Mathematics)

CONFERENCE / WORKSHOP ATTENDED

Conference: International Conference on Emerging Interfaces of Physical Sciences
Venue: University of Rajasthan, Jaipur
Duration: 03 days (22-24 December 2010)
Attended by: Dr Reema Jain (Reader, Dept of Mathematics)

Workshop: Faculty Development Programme on Entrepreneurship
Venue: EMI campus, Jaipur
Duration: 15 days (15-27 November 2010)
Attended by: Dr Reema Jain (Reader, Dept of Mathematics)

Workshop: Soft Skills Campus Connect Programme
Venue: Infosys Campus, Chandigarh
Duration: 3 days (19-21 August 2010)
Attended by: Prof. (Dr.) Sangeeta Vyas (Dept. of Chemistry)
Prof. (Dr.) Archana Saxena (Dept. of Chemistry)

Seminar: National Seminar on Recent Developments in Fluid Dynamics and 14th Prof. P. D. Verma Memorial Lecture
Venue: University of Rajasthan, Jaipur
Duration: 2 days (August 2010)
Attended by: Mrs. Archana Rai (Sr. Lecturer, Dept. of Mathematics)

TEACHER

O dear teacher! Behold thy family
And thee radiate thy love
With such potential and effectiveness
That we feel fortified, regenerated & illuminated.....

Thy have the power to heal life
To generate peace and happiness and confidence
To face anguish and replace it
By true happiness, the happiness that is
Found in thee and never feds.

O Sir! O marvelous teacher
Penetrate all our feeling
And transfigure it till
Thee live in us, through us...

Rishabh Joshi
B. Tech., I, CSE

LIFE

It is not very easy,
To keep yourself busy.
When you have something else in mind,
Some situations are not very kind.
It is not very easy to ignore,
The things you want no more.
But one has to accept things one cannot change;
Some things are out of our range.
It is not very easy to smile,
To wear a fake smile as long as the Nile,
But to do it is necessary,
To show others that you are not uneasy.
It is not very easy to control tears,
When you are hurt by others or your dears.
Not many people matter in one's life,
Then too it is difficult to settle strife.
It is not very easy to forget,
Tense situations, as they do not let,
When expectations from you are very high,
Just stretch your hand and reach the sky;
Take up the challenge coming your way
It's not going very long to stay;
Give it your best
It should overcome you, lest .
Don't give up on your way,
Far is not your heyday,
Keep trying to your fullest
And you will get for you the best.
Struggles are a part of life,
Without them, there is nothing in our life,
They teach us to be strong,
They teach us to go along;
They teach us to bear,
They teach us to control the tear;
They teach us to bend,
They tell us what life can lend.
And touch the sky of merriness,
There's a silver lining to every dark cloud,
Just don't lose hope,
And you'll easily scale your rope.

Ms. Anjali Pandey
(Lecturer, Dept. of Computer Science)

A SUNRISE OF A LIFETIME

Nature has so much beauty that it continues to surprise us with its bounty. One can spend endless hours sitting by the seaside watching the waves rolling in and out while the sea gulls skim their surface for fish; or sitting on the slope of a mountainside, caressed by a gentle, fresh and cool breeze flavoured by the fragrance of pine and deodar trees, while the rhododendrons sway and the mountain eagles swirl in the clear blue sky. Nature indeed reveals itself in a myriad and amazing ways.

My wife and I were fortunate to participate in the unfolding of nature's secrets while on a flight from Jaipur to Mumbai in early November. I am making an attempt to recount the exquisite experience of witnessing what I term as 'the sunrise of a lifetime'. It is impossible to pen down the unique experience that we had, but an honest effort to do so is being made none the less.

The flight took off from Jaipur sharp at 5.30 am, with the sky still pitch dark, a healthy crescent shaped quarter moon lording over the skies with its majestic glitter and constellations like Orion, the Great Bear, Cassiopeia, Leo and a few planets clearly discernible. As the reporting time at the airport was 4.30 am; all of us sleep deprived passengers were itching to get into the aircraft and 'hitting the bed', which most of us surely did at the first opportunity, and in some cases even before the aircraft took off. However my wife, being a person with minimal sleep requirements, immersed herself in reading the in-flight magazine.

Not long thereafter, I sensed her shaking me out of my slumber and pointing out to the glorious colours that by now had lit up the eastern sky. As it was approaching dawn, the sky was being shaken out of its stupor by an energetic sun that was announcing its arrival through its brilliant rays. While the entire eastern sky was a brilliant hue of red, deep orange and golden, the western sky was still a deep blue of one end and a jet black at the other.

I have been a diehard fan of the glory of the rising sun ever since I was a youngster posted on the Sikkim-Tibet border in the late sixties. It was a daily ritual with me to run out of my hut in the freezing cold of the early morning to witness the grand spectacle of the sun unravel its magnificence by way of the changing colours that set the entire snow capped Kanchenjunga range on fire. Watching a sunrise is always an enervating experience, be it over the sea (having watched it at Rameshwaram, Kanyakumari, Goa, Andamans and Lakswadeep) or over mountain ranges (in Kinnaur in the Lahaul Spiti valley, over the Siachin glacier or Tiger Hill at Darjeeling, Tawang or Shillong) or to see it sneaking in from



behind the undulating dunes of the Thar desert.

There is no end to the way in which nature can surprise us. Just a few weeks earlier, I was lucky to witness a captivating spectacle of the early morning sun taking on a strange deep pink colour of a type I had never seen in my life of six decades and more. Perhaps this enchanting colour was attributable to diffraction of the sun's rays through a combination of sand particles and mist of the early winters. While nature has in its fold millions of secrets, we humans, mired as we are in the hum drum grind of modern life, fail to appreciate the superb pleasures and gifts that nature doles out in ample measure. Moreover, in the prevalent culture that glorifies the power of money, anything that is available for free carries little or no value. Alas, we boast of frequenting foreign locales when our own country, which has all types of terrains and all types of weather, has so much that is better to offer.

Let me get back to the aircraft from where we were witnessing the enchantment that was unfolding before our eyes. As the sun, still hidden deep under the earth's crust, was making its determined ascent, the colours and the brightness of the sky kept changing. Where the horizon met the earth, it appeared as if the dark earth's crust was red hot and on fire resembling embers. As one moved up the horizon, the sky took on shades of deep orange fading into a soft golden colour. In contrast, further beyond in the sky, the brighter stars and the planets could still be seen embedded in the rest of the sky that was as yet dark, and the moon up at its zenith still ruled the roost with its glory still unthreatened. This was indeed a breathtaking panorama with the eastern sky brightly lit up on one end and almost totally dark with stars shining on its Western extremity. Such marvels of nature can be absorbed and enjoyed only by the lucky few who can value and appreciate the beauty of nature. As is aptly said, "Beauty lies in the eyes of the beholder". To those who feel that what I am writing is double

Dutch, all I can say is, well, "Bandar kya jaane adrak ka swaad....."

As the sky was revealing its glory through the radiant and changing colours that were getting brighter every moment, it was nearing time for the sun to emerge. But with almost the entire eastern sky getting well lit up, it became well nigh impossible to predict the exact point at which the sun would actually emerge. This led to a guessing game between my wife and me. For us, even the moment when the sun would emerge became a matter of speculation. Will it be in 5 minutes or 10 minutes.....or.....???? In the meanwhile, as the sky was getting brighter, the stars were fading away, with the smaller ones disappearing first. With the intensity of the rays of the sun increasing, the moon also started to lose its shine and glitter and its singular dominance of the night sky.

As it got nearer the sunrise, the deeper shades of red and orange paled with the golden hue turning more silvery as it got reflected by the thin veil of stratus clouds, which seemed to have appeared out of nowhere, the dark sky having camouflaged their existence. And after what seemed to be an eternity - a long twenty five minutes of sheer bliss for us - we saw the sun finally sneaking up and sort of peeping at us - a small crescent first and then a half hemisphere and finally the awesome orange ball of fire ! The stars by now had all gone into oblivion and the moon, that just half an hour earlier had outshone everything else in the sky, was looking a poor shadow of itself. On the ground, as if by sheer magic, the meandering rivers suddenly started showing up as the water in their beds caught and reflected the rays of the early morning sun and the trees cast long shadows giving the earth an ethereal look. On the other hand, I could well imagine the folks on the ground seeing our sleek aircraft streaking across the deep blue sky and glistening in the sunshine leaving a long vaporous trail behind it.

The rapid rise of the sun above the horizon had been in great contrast to its rather slow journey as it laboured out of hiding from below the earth's crust. Incidentally the dawns are quick in equatorial regions and very extended in the polar regions. We had waited with great patience for the sun to emerge but in less than five minutes it became impossible to watch it as the eyes could no longer withstand its power and brilliance. But we had already had our thrill and could now bask in the glory of the tantalizing moments we had in our tryst with the sunrise of our lifetime. Till we get an opportunity to witness an even better spectacle in the future, we have one that will remain etched in our memories for years to come.....

Lt.Gen. (Retd.) Y. S. Panwar
Director HR

BE HAPPY AT FAILURE: SUCCESS IS ROUND THE CORNER

'To succeed more, fail more.' Ironical Lao Tzu's statement seems, it is surprisingly true. On being asked the secret behind becoming successful, CEO, IBM, Tom Watson Sr. remarked, "Double your failure rate." Soichiro Honda, the founder of Honda Motors company, encountered dramatic setbacks in his life including the bombing on his original piston plant in 1945 and later its complete destruction by an earthquake. He had the courage and experience to say, "Many people dream of success, to me success comes from failure and introspection. In fact, success represents the 1% of your work that results from the 99% what is called failure".

We always think that failure is not even remotely related to success, rather the two are antonyms of each other. But most success stories have been scripted after trudging through miles of failure. Full stalwarts of success regard failure as a benchmark of success. Failure is a indispensable.

View Failure as a Positive Sign

Let's welcome failures as they are a sign that we are nearing success. The caterpillar has a lesson to teach us. The caterpillar struggles to come out of the cocoon in order to take flight as a beautiful butterfly. It is the law of nature that the ordeal it goes through helps it in strengthening its wings. If we try to help it by breaking the cocoon, it will not undergo the process which makes its wings strong and thus lead to its early death.

Don't Avoid Risks

We search for short cuts, twists and turns to avoid any minor setback- which are in fact learning experiences. We barge ahead to make a giant leap towards success and remain stuck in the air without landing anywhere. We lose out the learning grounds which come disguised as small and big hurdles. We ought to salute the indomitable spirit of Abraham Lincoln who failed in business at the age of 21, was defeated in legislative race at 22, failed again in business at 24, overcame the death of his sweetheart at 26, had a nervous breakdown at 27, lost a congressional race at 34, lost a senatorial race at age 45, failed in an effort to become vice-president at age 47, lost a senatorial race at age 49 yet was elected President of the US at age 52.

Carry on Patiently

The challenging secret to a successful failure is patience. You need to cultivate the attitude of Sir Thomas Edison who failed approximately 10,000 times while he was working on the light bulb. We need to have patience to endure the trials and tribulations and still emerge unscathed and victorious. Ralph Waldo Emerson said, "A man is a hero not because he is braver than anyone else, but because he is brave for 10 minutes longer." Remember, to carry on patiently, to retaliate like an oyster which, when hurt, sends out pearls.

Put Your Best Foot Forward

Failing is not a crime, but lack of effort certainly is. Even small accomplishments require hard work. The duck keeps padding relentlessly underneath but appears smooth and calm on top. We cannot expect the fire place to give us warmth unless we put the fuel and light it. You need to put your best foot forward, strive for excellence and keep going; success is just round the corner.

Don't Give up

Sustained efforts and the lesson of failure is the powerful formula of success. Success is not measured by how high we go up in life but by how many times we bounce back when we fall down. We need to keep on galloping like the winning horse which is faster than the others by may be a fraction but the winning edge is what matters

Remember:

Success is failure turned inside out.
The silver tint of the clouds of doubt,
And you can never tell how close you are.
It may be near when it seems afar.
So, Stick to fight when you are hardest hit,
It's when things seem worst that you mustn't quit.

Prof. (Dr.) C.M. Choudhary
Head, Dept. of Computer Science

NURSING THE WOUNDED

NURSE: ARUNA SHANBAUG

We might instinctively find it unacceptable to give a person a right to decide when another's life should end. Yet, we would just as readily accept that to keep a person endlessly alive in a vegetable state is also inhuman. The humane way of dealing with it would be to allow mercy killing but in very limited situations and under strict safeguards to ensure it can't be misused. It should only be allowed in two types of situation. One would be where the person whose life is to end is not in a position to decide and where medical experts agree that there is no hope of the person ever recovering to a state where he or she can take a decision. The other would be where the person takes the decision. The decision himself or herself, is suffering immensely and doctors agree that there is no hope of recovery.

A nurse who checks on Shanbaugh said that their longest staying patient's thick curls have now become sparse. She is grey and lies in a foetal position due to contractures over the years, the nurses used various plays to revive Shanbaugh. A doctor remembers the weekend parties that nurses would organise for their colleague. In the last 37 years, a handful of

people have been allowed to sing or read to Shanbaugh. A nurse sang to Shanbaugh but gave up after 2 weeks. However, a doctor at KEM hospital is skeptical about Aruna's so called enjoyment at having a fish curry. He says: "She is in a state in which she can't recognize any external stimuli people who say she smiles in recognition or turns to look at them when they speak are just being hopeful".

Source: The Times of India

Mrs. Nidhi Sharma

Sr. Lecturer, Department of English

The Last Year in College

As tiny toddlers we entered the college
With mushrooming ideas and a sense of insecurity,
Our trembling feet were guided well by our tutors
The world was totally new,
From there on began the journey
Of new lives and new experiences
Step by step we scaled the mountains
To touch new heights every day .
Today as I look back,
Over the golden four years spent in the college,
I realize that my college has played
an important role in shaping my identity.
'Cause my personality and my character took shape here.
The loving guidance of our teachers
Has really made this passage a memorable one,
Today when leaving the portals of my college
I feel the immense pain of being separated from it .
The homely environment, the warmth, the love
That I received surely will I treasure.
Yes, being an SKITian with the purpose of
understanding the world
Has made me addicted to it.
Throughout my life will it be my endeavor.
Time runs at its own speed,
May be I had lagged behind a little.
The fear of losing this carefree life,
loving friends and 'Masti time' really shakes me,
But I cherish what I take from here-an identity,
Being an SKITian makes me a little different
from the rest of the world.

Yogita Goyal
B.Tech., IV, IT

PRESERVING INDIANNESS IN A GLOBAL INDIA

We preserve something which is decaying. It is not in this sense that I want India or Indianness preserved, because it is not decaying. On the other hand I think that if there is a wonderful thing in this world, it will find a way to preserve itself. Sometimes human beings are arrogant, and we feel that we must protect things from them. But brilliant ideas will survive on their own. They won't need human intervention to preserve them.

Let's take the example of the Rangoli. I am sure everyone has seen Rangoli. If someone travels across the length and breadth of India, they will find women stepping out to paint a pattern in their courtyard. It's mostly seen during festivals like Diwali, but in South India and the rural parts, it is done almost every day. Everyone draws a different Rangoli. Everyone puts their own creativity into it. Different people express their creativity in different ways. All of them use the same dots, but every pattern is different from every other. Every pattern is beautiful and it changes every day.

This 'Rangoli' is a simple way to understand Indianness. Everyone's Rangoli is different but just because it is different it doesn't mean one is better than other one. "The ability to allow alternative realities to exist is what Indianness is all about. This subcontinent, relatively speaking, has been usually and unbelievably tolerant and so we have so many different languages, so many different religions, so many different costumes and an apt expression of all these manifold diversities is the Rangoli.

Don't try to control other people's Rangoli. Don't instruct an artist to draw like this and not like that. It is the destruction of other person's creativity. You don't allow it to blossom. Indianness is allowing people to be as they are. But there are rules. One can make Rangoli in their own courtyard, not in other people's courtyard, unless they invite us. We can use metaphor of Rangoli to look at human behavior, to look at the rules of an organization, to look at how society functions. Rangoli is an expression of our mind.

Everyone has heard the song 'Jai Ho'. We also have these words in our national anthem. But does everyone knows what 'jai' means? And what 'Vijay' means?

'Jai' means victory. 'Vijay' also means victory. But why have two words? 'Jai Ho' means 'may you be victorious' but it is never interchanged with the phrase 'Vijayi Bhava' which also

means 'may you be victorious'. Jai Ho is used as an greeting or as an exclamation but Vijayi Bhava is used very specifically when one is setting out for a conflict, duel or competition.

True victory is not defeating people in battlefield but it is being victorious over our anger- that is Jai.

So if we want to preserve Indianness, we have to ask ourselves whether we need Vijay. So we meant to be Indian Rangoli to be better than the others? So we want victory where someone is defeated? Or do we want Jai where we triumph over ourselves and not celebrate our Rangoli but everyone's Rangoli. This is the soul of Indianness.

Also it is not necessary to preserve something because it is under threat...we can choose to 'preserve' something because we can VALUE it! The act of appreciating what is Indian and preserving it, not because it would soon be wiped out by evil western influences, but because it is WORTH preserving for its own sake.

Today, in the 21st century, the job of distinguishing the Indian from the foreign is tougher. For instance, 2000 years ago if one were to wear Kurta and Pyjama, one would be considered a foreigner. 2000 years ago, Indian didn't wear stitched clothes. Cutting a cloth or sewing it was considered alien. Today we take it for granted. Due to the television and the internet, we can visually pep into the homes of our friends from across the world. Global travel, international-commerce and inter-continental education opportunities have brought together existing cultures. In this smorgasbord of cultures when one tries to define what is truly, genuinely son-of-the soil Indian, one tends to get a little confused.

While modernization would bring its own requirements that we would need to adapt to, there are certain systems that we would need to hold on to. And the sum total of both these would define our Indianness. If we have to preserve something, let us preserve our value system. Outside influences will come- let's adopt what is good and in keeping with our value system; incorporate if in our times and discard the rest. And out of this, a new Indianness will emerge; one that need no definition or borders, but one that flows mightily like the Ganga, taking all in its way.

Tripti Bhatra

B.Tech. II, ECE

HABIT OF THINKING

A boy was the apple of everyone's eye at home. A man was very popular at his workplace. A girl was the queen of the hearts of her friends. But on one pleasant day, unpleasant things happened. The boy was scolded by his father. The man was not supported by his colleagues. Friends of the girl misbehaved with her. All three of them started disliking the people. But they haven't given a second thought to their decision. The actual reasons for this change were -the father was going through a lean phase, the friends of that girl were not in good mood due to some family problem; in the same way, there were some problems with the colleagues of that man.

Such things group because of our confined thinking. We start analyzing people on the basis of their words, especially when we see them through our own glasses. Then we put everyone in the same frame paving the way for a series of problems. We don't take off the glasses to see the world from another angle. People want to be understood; but stop....don't you fellows demand the same????

The same case applies to everyone. This is the reality of our everyday life. We think of our benefits 24X7. We like to be the talk of the town. We like people till they support us. But after thousands of good deeds, if a single mistake is made, we start disliking the same people without analyzing the reasons. Their behaviour may not be without a reason.

We have a habit of taking decisions in a hurry that leads to a failure of diagnosing the problem properly. Sometimes the opposition is right, but that is not acceptable to you because sometimes you don't listen with the intention to understand. So for going in the right direction, you have to open up yourself to the problem. When you visit the doctor with a complaint, he doesn't give you the prescription without diagnosing the problem; then how can you jump to the decision without understanding the situation and without knowing all the reasons behind it?

Similar things happen when two persons start arguing with each other. None of them wants to cut the crap. Both want to stick to their own perception without listening to the other one. Sometimes listening may lead to the solution but arguing doesn't.

Once a man painted half of his car red and the other half black. His friends asked him the reason for this. He responded that if his car met with an accident, the lawyers from both the sides would be unable to argue on the color of the car. This happens most of the time when both sides are right but they

want to raise the issue for their benefit. Such arguments can never reach at a conclusion.

Good lecturers always analyze the syllabus before delivering a lecture. Good engineers analyze the demand of the market or the customer before designing software. Similarly a student analyzes the problem before solving. So the key to good judgment is thinking upon it and understanding it.

So before making a big deal on any issue, it is necessary to ponder deeply. One must listen to the other side also because if you jump to the decision directly, disasters may occur. So save yourself from disasters and take decisions after analyzing the situation, not just by your perception.

Deepesh Bansal

B.Tech., III, CSE

Celebrate Life - Leap out with Joy

Life is a celebration-

Color your world in jubilation;

Why to wait for Diwali, Holi or Christmas,

To treat yourselves with sweets & gifts amass;

Look at nature enjoying Holi, Diwali daily,

Colors glow afresh, flowers bloom gaily,

Elders preach "work while you work, play while you play"

Dump the adage and rise to let loose each and everyday.

Don't waste time in crying over spilt milk

For there's no time even to blink.

Life is a roller coaster with ups and downs

Leave no stone unturned and add a feather to your crown.

Make a splash if you get jitters

Old & young lift up in splendors to glitter.

It's just not a New Year or a New Day to shoot ahead.

Every moment is a moment to paint the town red.

We are the leaders of transition

Can make a difference by action and vision

Love's the key, you the gate keeper

Hold the key love for yourself & everyone forever.

Open the door of your heart of let love,

light shine to yourself every moment,

And through you and all live life up to the hilt in fervent.

Measure not life by the number of breaths we take to stay.

But by the moment that would take our breath away;

For indeed, life is a celebration

On & on, find ways to create sensation.

Akshay Sharma

B.Tech., III, CSE

SECOND GENERATION BIOFUELS IN INDIA

While the term biofuels denotes any fuel made from biological sources, for most practical uses the term refers to either biodiesel or ethanol.

The last few years have seen tremendous growth in biofuels. During this period, the industry has evolved from first generation feedstocks and processes to their second and third generation counterparts.

The terms first, second and third generation is normally used in the context of feedstock. For instance, corn and maize represent first generation ethanol feedstocks. Switchgrass is one of the popular second generation ethanol feedstocks representing the broad category of cellulosic ethanol feedstocks.

Biodiesel

First generation biodiesel feedstock - Feedstock such as soybeans, palm, canola and rapeseed are considered first generation feedstock for biodiesel production. Most first generation biodiesel feedstock(s) comprised food crops. While the first generation feedstocks helped the biodiesel industry start off the blocks, they posed serious challenges in terms of threat to human food chain and ecology.

Second generation biodiesel feedstock - Non-food energy crops such as jatropha represent the second generation biodiesel feedstock. In addition, using technologies such as biomass to liquid (BTL), many other non-food crops could be converted to biodiesel, and these constitute the second generation biodiesel feedstock as well. These feedstocks have the advantage of not affecting the human food chain.

Third generation biodiesel feedstock - Feedstocks such as algae are considered to belong to the third generation of biodiesel feedstocks. These feedstocks offer superior yields, they do not directly affect the human food chain, and they can be grown in places unsuitable for agriculture. As a result of the above advantages, many experts opine that the third generation biofuel feedstocks alone have the potential to replace most or all of the fossil fuel demand worldwide.

Ethanol

First generation ethanol feedstock - The first generation ethanol feedstock comprised corn, sugarcane, maize etc. Ethanol derived from these feedstocks typically uses the starch component present in them. Similar to feedstocks for biodiesel, these feedstocks present the problems of adversely affecting food prices and inability to scale.

Second generation ethanol feedstock - A large number of non-food and waste biomass feedstocks are rich in cellulosic material, and this can be converted into ethanol as well. The cellulose-based feedstocks are referred to as the second generation ethanol feedstock. The second generation ethanol feedstocks overcome the two main bottlenecks present for the first generation feedstocks.

Second Generation Biofuels in the Indian Context

World over, most governments and companies are increasingly turning to second generation feedstocks for biofuel production. How relevant are the second generation biofuel feedstocks for India? What's the future potential for making India oil independent using these feedstocks? What are the barriers and challenges that could prevent us from achieving this potential?

Second Generation Biodiesel - Jatropha

India has made significant progress with regard to second generation biodiesel feedstock, thanks to the early efforts by many companies in jatropha cultivation. To a large extent, the second generation biofuels phenomenon in India is spearheaded by the jatropha crop.

As of end-2009, over 1 million hectares in India have been planted with the jatropha crop in India; this is the largest acreage of jatropha cultivation in a single country as of 2010. By 2015, India is expected to have over 2 million hectares under jatropha cultivation.

The government of India has also provided a number of incentives for jatropha cultivation as a part of India's goal to achieve energy independence by the year 2015. The Government has identified 400,000 square kilometers (98 million acres) of land where jatropha can be grown, hoping it will replace 20 percent of India's diesel consumption by 2011.

However, many of the jatropha efforts have faced a number of barriers and challenges. The major problems with jatropha have been its less-than-expected yield, higher-than-expected costs of cultivation and unavailability of scientific experts who can guide the industry. While a number of states in India are still committed to expanding the area under the jatropha crop, many plans by governments and businesses are being put on hold owing to the poor success of the crop worldwide. That said, however, the future for jatropha biodiesel is still bright, considering the inherent strengths of the energy crop and the distinct possibility that the critical problems will get sorted out in the next few years.

Second Generation Ethanol - Cellulosic Ethanol

The scenario in the case of second generation ethanol (cellulosic ethanol) is worse than that for second generation (jatropha) biodiesel.

Worldwide, cellulosic ethanol production is not yet at a commercial stage. Most of the efforts in this domain are in the late pilot stages and are expected to enter commercial production only by 2011. Research and pilot phases for cellulosic ethanol production have so far been primarily restricted to North America (US and Canada).

In India (and in Asia as well), large-scale research efforts or investments into cellulosic ethanol have been few and far between. While a number of companies in related industries had publicly announced that they are keen on exploring cellulosic ethanol, investments on ground have been few. As a result, cellulosic ethanol is unlikely to make an impact in India until 2014.

Conclusion

Based on the above discussions, we infer the following:

- In theory, second generation biofuels hold excellent potential for India, both for biodiesel and ethanol.
- For jatropha biodiesel, while there has been a lot of hype created about its potential, there are a number of operational problems in cultivation and yields. As a result, biodiesel production from the crop has much less than expected, and it is expected that it would take a few more years of R&D and experimentation before the crop performance can be improved.
- There have been no significant investments made into cellulosic ethanol R&D either by the Indian government or by the corporate. As a result, it is unlikely that there will be any progress on the ground for cellulosic ethanol in India for the next 4-5 years.
- In sum, it will be at least 4-5 years before second generation biofuel can start making a meaningful contribution to India's fuel needs.

Mr. Ankush Tandon

Lecturer, Dept. of Electrical Engineering

India is the cradle of the human race, the birthplace of human speech, the mother of history, the grand mother of legend and the great grand mother of tradition. Our most valuable and most instructive materials in the history of man are treasured up in India only.

Mark Twain

FUZZY LOGIC CONTROLLED COMBINED HEAT AND POWER PLANT: A STEP AHEAD

The conversion of primary fossil fuel such as coal and gas to electricity is a relatively inefficient process. Even the most modern combined plants can only achieve efficiencies between 50-60%. Most of the energy that is wasted in this conversion process is released to environment as waste heat. The principle of CHP is to make beneficial use of this energy, significantly raising the overall efficiency of the conversion process. The CHP scheme can achieve fuel conversion efficiencies to the order of 90%. Most of the heat wasted in electricity generation is carbon based and so if CHP could be more widely deployed, there is potentially significant energy, environmental and economic benefits which could be recognised.

In CHP systems the fuel source can be natural gas, propane, fuel oil, coal, wood chips, biogas, other biomass materials or any combination. CHP uses this fuel to provide all or a part of the electric energy and thermal energy output to a facility at an overall energy efficiency that is greater than what would be required if the electricity and thermal energy were being provided separately. Electric power production requires high temperatures, while lower temperatures can fulfil space heating or process energy needs. By capturing unused low temperature heat energy rejected from the electric production process, fuel energy is used more efficiently. Combining heat and power production reduces the net fuel demands for energy generation by supplying otherwise unused heat to residential, commercial and industrial consumers who have thermal needs.

Biomass combustion is a carbon-free process because the resulting CO₂ was previously captured by the plants being combusted. At present, biomass co-firing in modern coal power plants with efficiencies up to 45% is the most cost-effective biomass use for power generation. Due to feedstock availability issues, dedicated biomass plants for CHP are typically of a smaller size and lower electrical efficiency compared to coal plants (30%-34% using dry biomass, and around 22% for municipal solid waste). In cogeneration mode the total efficiency may reach 85%-90%. Biomass integrated gasification in gas-turbine plants (BIG/GT) is not yet commercial, but integrated gasification combined cycles (IGCC) using black-liquor (a by-product from the pulp & paper industry) are already in use. Anaerobic digestion to produce biogas is expanding in small, off-grid applications. Bio-refineries may open the door to combined, cost-effective production of bio-chemicals, electricity and bio fuels.

The innovative part of the power plant is application of control system based on fuzzy logic to manage the complex technical processes like waste or biomass combustion process and have a considerable influence on environment. The fuzzy logic basically consists of a linguistic and a technical level. Fuzzy logic is a form of multi-valued logic derived from fuzzy set theory to deal with reasoning that is approximate rather than precise. In contrast with "crisp logic", where binary sets have binary logic, fuzzy logic variables may have a truth value that ranges between 0 and 1 and is not constrained to the two truth values of classic propositional logic. Furthermore, when linguistic variables are used, these degrees may be managed by specific functions. A control system for optimizing a power plant, the control system comprising: a chemical loop having an input for receiving an input signal and an output for outputting an output signal; a hierarchical fuzzy control system operable connected to the chemical loop and comprising a plurality of fuzzy controllers, wherein the hierarchical fuzzy control system receives the output signal, optimizes the input signal based on the received output signal, and outputs an optimized input signal to the input of the chemical loop to control a process of the chemical loop in an optimized manner.

The greatest application potential of biomass-fired CHP plant based on ORC cycle is represented by medium sized wood manufacturing, wood processing enterprises, decentralized waste-wood combustion plant, small scale power generation, and district heating plants in cold regions of Himalaya etc.

Renewable energy sources are essential for achieving a sustainable development and CO₂ emission reduction. However, the extensive use of this energy source is being avoided by some technical problems as fouling and slagging in the surfaces of boiler heat exchangers.

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SOLAR ENERGY CREATES FUEL FROM CARBON DIOXIDE

Greenhouse gas put to good use

Carbon dioxide, referred to by its formula CO₂, is present in the Earth's atmosphere at a low concentration of approximately 0.04% and it's an important greenhouse gas. In its solid state, it is called dry ice. Natural sources of atmospheric carbon dioxide include volcanic outgassing, the combustion of organic matter, and the respiration

processes of living aerobic organisms; man-made sources of carbon dioxide come mainly from the burning of fossil fuels for heating, power generation and transport. Plants convert carbon dioxide to carbohydrates during a process called photosynthesis. They produce the energy needed for this reaction through the photolysis of water. The resulting gas, oxygen, is released into the atmosphere by plants, which is subsequently used for respiration by heterotrophic organisms, forming a cycle. Man-made CO₂ is responsible for most of global warming and environmental problems.

Scientists claim that they have found a way to actually use CO₂ as a renewable energy source. Now chemists at the University of California, San Diego claim that they have built and demonstrated a prototype device that can capture energy from the sun, convert it to electrical energy and split carbon dioxide into carbon monoxide (CO) and oxygen. The "device" is still deep into the research phase, as the scientists say they still need additional energy for the process to work. "For every single CO₂ splitting, there are more than 100 articles on splitting water to produce hydrogen yet CO₂ splitting uses up more of what you want to put a dent into," said Clifford Kubiak, professor of Chemistry and biochemistry, UCSD further more "it also produces CO, an important industrial chemical, which is normally produced from natural gas. So with CO₂ splitting you can save fuel, produce a useful chemical and reduce a greenhouse gas?"

The process to split carbon dioxide utilizes a semiconductor and two thin layers of catalysts. It splits carbon dioxide to generate carbon monoxide and oxygen in a three-step process. First, solar energy photons are captured by the semiconductor; next, optical energy is converted into electrical energy by the chip. During the third step, electrical energy is provided to the catalysts. The catalysts then convert carbon dioxide to carbon monoxide on one side of the device and to oxygen on the other side. They consider silicon as "too wimpy" as it cannot supply enough energy to split carbon dioxide in efficient applications. The team is now building a new device using a gallium-phosphide semiconductor, which is described to have twice the band gap of silicon and absorbs more energetic visible light than silicon can.

Ms. Preeti Chawda

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आत्म-प्रबन्धन का रसायन

जीवन एक सुन्दर रसायन है। इस सुन्दरता को बनाये रखने के लिए जरूरी है कि हम इसे व्यवस्थित बनाये रखें। इस व्यवस्थित अदृशी के आत्म-प्रबन्धन के लिए एक मात्र तत्व जो आवश्यक है, वह है हमारी इच्छाशक्ति और इसी के माध्यम से हम अपने लक्ष्य की ओर अग्रसर हो सकते हैं।

आत्म-प्रबन्धन के मुख्य घटक जो इस रसायन को आसान बना सकते हैं, कुछ इस प्रकार हो सकते हैं-

1. आत्म-समीक्षा, नियोजन एवं मूल्यांकन-सप्ताह में एक बार अपने बारे में सोचें, अपनी क्षमताओं का आकलन करें और तदनुसार अपनी योजनाएँ बनायें। लक्ष्यों की प्राप्ति योजनाओं के अनुसार विधिवत करें। कोशिश करें प्रतिदिन अपनी उपलब्धियों, विफलताओं, कठिनाइयों आदि का विवरण एक डायरी में लिखें। लक्ष्य की प्राप्ति के लिए जल्दबाजी न करें। धीरे-धीरे सीढ़ी दर सीढ़ी चढ़ते हुए इसकी ओर अग्रसर हो। हर कार्य तसल्ली से सोच-समझकर करें।

2. अच्छी आदतें - हर कार्य और हर व्यक्ति के प्रति सकारात्मक सोच रखें। प्रातःकाल नियम से उठना, व्यायाम करना अथवा घूमना हमारी सकारात्मकता को बढ़ाता है और हमारा जीवन सुव्यवस्थित बनाता है। अच्छा साहित्य पढ़ें और इसे जीवन में उतारें। हर कार्य को नियत समय पर पूरा करें। अधिक गप्पों तथा टीवी में अपना समय नष्ट न करें।

3. विश्वास - जिस कार्य को हम कर रहे हैं, जो हमारे चारों तरफ घटक है तथा सबसे आवश्यक है कि हम अपने आप पर भरोसा रखें।

4. समय-प्रबन्धन - यह एक अति महत्वपूर्ण घटक है। हर दिन का हर घंटा, हर पल उचित प्रकार से या योजनाबद्ध तरीके से गुजारें। जो कार्य किसी न किसी वजह से रह जायें, उन्हें चिन्तामुक्त होकर अगले उपयुक्त समय के लिए नियत कर दें, लेकिन उसमें अधिक विलंब न करें।

कुछ अन्य छोटे-छोटे घटक जो आत्म-प्रबन्धन को आसान बना सकते हैं- जैसे हर कार्य को उत्साह से करें और यह बहुत कुछ तभी सम्भव है जब आप अपना रुचि का कार्य करें। आलस्य को अपना शत्रु मानें। काम उतना ही लें, जितना आप कर सकते हैं।

यदि कठिन कार्य करना है तो अपने आसपास वालों की सहायता अवश्य लें। कुछ रुचियाँ रखें तथा प्रकृति से प्यार करें।

इन सब बातों का यदि हम ध्यान रखें तो अन्तिम उत्पाद जो निकल कर आता है अत्यंत सुन्दर होता है तथा हमारे जीवन को खुशहाल बनाता है।

डा. संगीता व्यास

प्रोफेसर, रसायन शास्त्र विभाग

पुकार

ये सिलसिला सैलाब है हर दिल में इंकलाब है
मजहब नहीं कोई मेरा, ना कोई जात-पात है,
मैं गुँजती फिजा में हूँ, मैं बहते आसमाँ में हूँ,
ख्वाबों की अंजुमन में हूँ, मैं दिल की धड़कन में हूँ
आँधी से ना रूका हूँ मैं तूफान से ना हिला हूँ मैं।
चट्टान सा खड़ा था मैं, चट्टान सा खड़ा हूँ मैं।
हो के मुरीद माँ तेरे दामन में छिप गया हूँ मैं,

मर के मिटा ना था कभी,

सूरत पे मर मिटा हूँ मैं,

है आसमाँ खुला-खुला,

आँचल की ठंडी छाँव में तेरे व्यक्तित्व का कहूँ मैं क्या,

सोने का सर पे ताज है।

पर क्यों नम ये आज आँख है, क्यों थमी,

ये आज सांस है, दशहृत बिछी है जमीन पे,

दंगा फसाद आम है, बारूद उठा है

स्वर, नस्लों की गुम आवाज है, रोता हुआ

बचपन कहीं, सरहद पे जंग आम है।

उम्मीद की किरण अभी दिल में समाई जानी है,

ऐ माँ तेरे आँचल की अब सूरत बदलने वाली है,

अब एकजुट हो के हमें तेरे ताज को सजाना है,

गुलशन सा महके ऐसा हिन्दोस्ताँ हमें बनाना है।

वन्दे मातरम्

संचित सैनी

बी.टेक., तृतीय वर्ष, विद्युत अभियांत्रिकी,

क्या गिला करूँ

बातों से मार डाले तो समझ आता है

नजरों की तलवार का क्या करूँ।

झगड़ा कर ले तो सुलह का रास्ता खोजूँ

जो बात ही ना हो, तो क्या खता करूँ।

दिल में रहने वालों को बेगाना कर जाए

ऐसे दीदार का क्या इस्तकबाल करूँ।

हवा से जो टूट जाएँ साँसें गुलाब की

तूफान के इस खौफ को क्या बयान करूँ।

दर्द-ए-जिगर मलता है आँखों में

ऐसे पयाम को क्या सलाम करूँ।

कोयल की कूक में आहों की ठंडक है

कौओ के शोर से क्या बवाल करूँ।

मंदिर की आरती सूनी सजी है

जूझते भगवान से क्या आह्वान करूँ।

ख्यालों के आसमान में ख्वाबों के परिंदे

उड़ान भी ऐसी कि क्या सवाल करूँ।

उम्मीद के धरौंदें टूटते इंतजार में

ऐसी औलादों में क्या शर्मसार करूँ।

हमसफर काट दे डोरी चार की

किस पे ऐतबार, किससे गिला करूँ।

विभूति मंगल

बी.टेक., तृतीय वर्ष, कम्प्यूटर अभियांत्रिकी