



GCET Talk is Back!

♦ **Dr. Ketan KOTECHA**
(Principal, GCET)

GCET has achieved excellence in various activities carried out in its very young age of less than ten years. This includes excellence in teaching-learning processes and various extracurricular activities. GCET is very well-known for its highly talented, enthusiastic and dedicated staff. Not to forget, credit also goes to the well-disciplined and get-up-and-go style of working of the young students of GCET.

But now in the globally competitive world, we have to make ourselves better than the best. Keeping this in mind, we have started many innovative activities like students'

counseling, students' feedback, Industrial Consultancy Cell, staff performance appraisal etc., and there are many more to come! In the very near future, we are looking to implement the concept of "Learning to Learn" by enhancing the existing Credit System. One of the goals to restart GCET Talk, a quarterly newsletter, is to build a platform which we can use to share our ideas behind these activities time to time.

The sole aim behind all these innovative activities is to improve ourselves and provide young, dynamic and energetic engineers to the Nation. But, nothing is possible without the cooperation of all the staff and students of GCET. So let us join our hands together to conquer the globe.



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The Chairman's Message

Dr. C L Patel, the Honorable Chairman of CVM, visited GCET during the second week of January and addressed a gathering of faculty members. In an inspiring speech, he emphasized the need of industry-institute interaction and urged the teaching faculties to devote more time in research and consultancy, which, in turn, would be beneficial to the society at large. He also encouraged the young faculties to pursue career advancement by improving their academic qualifications.

GCET Library: An Update

♦ **Prof. Kaushik NATH**
(Professor-in-charge, Library)

GCET's *S N Desai Library*, with a collection of about 15,000 books and more than 100 national and international journals, is one of the best libraries an Undergraduate Degree Engineering college can have. In the current academic year, the library has initiated several measures to broaden its readership, as well as enhance its functioning, so that the students can extract the maximum benefit from it. Here are a few of them:

• To increase the number of library users, an award for the "Best Library User" has been introduced for each semester, as

well as year.

- Each department has started to develop its own "Department Library". To begin with, these will be enriched with books and journals for ready reference for faculty members.
- An internet surfing corner, for faculty members, has been established in the library premises.
- A webpage, which lists all the available books, has been made for the library, and linked by both GCET's homepage and the intranet.
- IEEE journals will be made available very soon as well.

The Pride of GCET

A Jamnagar girl **Charmy Chhichhia**, a first years' student at the *University of Southern California, USA*, and her team have designed a robotic submarine which would be useful not only for underwater research but also for monitoring the tsunami. In a group of about 125 students selected for competing in the final round of the annual competition held by the *Office of Naval Research and Association of Unmanned Vehicle Systems International*, Charmy was the only Asian to be selected.

She obtained her degree in Engineering in Electronics and Communication from G H Patel College of Engineering and Technology, Vallabh Vidyanagar. She also worked as research assistant at *IIT, Mumbai.*

(*The Times of India*)

News from GCET: About Ourselves

Department of Information Technology:

- Dr. Ketan Kotecha was awarded the “Jewel of India” award by the *International Institute of Education and Management*.
- IBM conducted a two-week J2EE and DB2 training session for students from IT and CP.
- The department replaced more than 300 old computers with new IBM P4 PCs, all of which have 512MB RAM.

Department of Mechanical Engineering:

- Mr. Vivek Deshpande and Mr. Anand Y Joshi, both lecturers, presented papers titled ‘Computational Methods in Mechanical Engineering’ and ‘Statistical Quality Control of Rollers Used in Conveyor System’ respectively at *Osmania University* in September 2005.
- The department organized a four-day introductory course on MATLAB in January 2006, under the aegis of GCET’s Industrial Consultancy Cell

for third and final year ME and MC students.

Department of Chemical Engineering:

- Mr. Girish Vegad, a lecturer, presented a paper titled ‘RCM and Column Sequencing for Ternary Homogenous Azeotropic Mixtures’ at *CHEMCON 2005—Indian Chemical Engineering Congress* at IIT, Delhi.
- Prof. Kaushik Nath published two papers in peer-reviewed international journals, one in *Process Biochemistry (Elsevier)* and the other in *Applied Microbiology and Biotechnology (Springer Verlag)*.
- Prof. Kaushik Nath has been elected as a member of the Executive Council of the *Institution of Engineers (India)*, Vallabh Vidyanagar Local Chapter.

Department of Electronics and Communication:

- Prof. H B Soni received first prize in Poster Presentation at *AGOMANI 2004* at IIT, Mumbai.

- The department organized a workshop on ‘Wireless and Mobile Communication’ at *i-Maze '05*. Dr. U B Desai (IIT, Mumbai) and Prof. Ranade (DDIT, Nadiad) were the speakers.
- The department organized a workshop on ‘Utilization of Indian Standards’, jointly with *Bureau of Indian Standards*, in February 2005 for EE students, and on ‘Awareness of Advanced Instruments’ in July 2005 for EC students.
- The department also organized a workshop on ‘Hands-on Training on Measuring Instruments’ for students of ADIT.

Department of Civil Engineering and Mathematics:

- Mr. V R Shah and Mrs. K S Parikh, both lecturers, co-authored the book ‘Engineering Mathematics—I’, which was published in August 2005.
- Prof. D J Dave published the revised second edition of his book ‘Engineering Mechanics’.

Industrial Consultancy Cell—GCET

♦ Prof. B A DOSHI (In-charge, ICC—GCET)

GCET started consultancy and research activities in July 2005 with a goal of providing high performance services at a low cost.

The college formed the Industrial Consultancy Cell—GCET (ICC) to coordinate with different industries and ensure proper management in this regards.

Major Initiatives:

The consultancy cell includes one member from each department to manage and coordinate the activities to be undertaken. A delegation from the college visited all nearby major industries viz. *ELECON, Pioneer Furnaces Pvt. Ltd., Amul Dairy, Rotex* etc. In the coming days the delegation is looking to visit various other local industries, and has already contacted quite a few of them.

Major Achievements in 2005:

During the past year, ICC completed sev-

eral projects (see table), apart from some training programs, earning a total revenue of more than Rs. 2,00,000.

ICC signed MOU with *Pioneer Furnaces Pvt. Ltd.* and *Microflat Datum Pvt. Ltd.*, both based in Vitthal Udhyog Nagar.

ICC is also working on a project dealing with the effect of SO₂ on starch, for *Maize Products Ltd.*, Ahmedabad.

The college has also developed a lab model of Van-de-Graff generator, which is being planned to be put up for sale soon.

Projects Undertaken	Earnings
Design of ball mill, for <i>Techno Designs</i> , Vallabh Vidyanagar	Rs. 20,000
Drying of starch slurry without change in its structure, for <i>Gujarat Ambuja Proteins Ltd.</i> , Himmatnagar	Rs. 30,000
Extraction of starch from maize corn by wet milling process without its modification, for <i>Maize Products Ltd.</i> , Ahmedabad	Rs. 10,000
Training program on PLC applications in automation, for <i>Amul Dairy</i> , Anand	Rs. 50,000
Microcontroller-based automatic alarm system and scheduler	Rs. 7,500

Future Projects:

ICC has quoted the technology of automatic alarm system, which has been developed by the college, at Rs. 1,00,000, and talks are taking a positive direction.

There are several other projects lined up for the year 2006, and based on initial talks with various companies, ICC-GCET seems to be on the road to achieving its goals successfully.

Extracurricular Activities: GCET Rules All!

♦ **Prof. Yogesh CHAUHAN**
(Convener, Cultural Subcommittee)

SPU Youth Festival:

A team of 35 students participated in the annual *Sardar Patel University* Youth Festival for 2004-05. The college participated in 22 different events, winning four of them, and standing second or third in at least five other (for details, see box). Amidst very tough competition, GCET came out with flying colors, winning the overall competition for the second successive year. 33 other institutions had taken part.

West Zone Youth Festival—Jalgaon:

Three of our students—Manish Rawat (EE), Vishal Gupta (MC) and Pratik Barot (EC)—along with me were selected for participating in the West Zone Youth Festival organized by *North Maharashtra University*, Jalgaon, in December 2004.

By defeating 29 other colleges from six different states from the West Zone, GCET grabbed

the first prize in One Act Play competition.

All India Youth Festival—Banaras:

Three of our students—Manish Rawat (EE), Vishal Gupta (MC) and Amresh Gupta (MC)—along with me were selected for participating in the All India Youth Festival organized by *Banaras Hindu University*, Banaras, in January 2005.

Out of the 57 participating universities, GCET stood fourth in One Act Play competition.

Inter-college Debate Competitions:

A team of two students—Pritesh Shah (EC) and Abhishek Jha (CH)—participated in the inter-college debate competition organized by *S M Patel College of Home Science*, in February 2005. Pritesh won

the first prize, helping the college grab the top spot overall as well.

A team of two students—Disha Doshi (EC) and Chhavi Manocha (CH)—participated in the inter-college debate competition organized by *H L Commerce College*, Ahmedabad.

SPU Youth Festival

- ♣ *First in Western Group Song*
- ♣ *First in One Act Play*
- ♣ *First in Mime*
- ♣ *First in Clay Modeling*
- ♣ *Second in Cartooning*
- ♣ *Third in Classical Vocal Solo*
- ♣ *Third in Classical Instrument*
- ♣ *Third in Indian Group Song*
- ♣ *Third in Mimicry*
- ♣ *Third in Quiz*

Placement News

♦ **Mr. Y N RAI**
(TPO, GCET)

The following leading companies visited GCET during the year 2005, selecting more than 150 students from the batches of 2001 and 2002:

- * Wipro Technologies Ltd., Bangalore
 - * Tata Consultancy Services
 - * Larsen & Toubro Ltd., Mumbai
 - * Mahindra British Telecom Ltd.
 - * Atul Ltd., Valsad
 - * Gujarat Glass Ltd.
 - * Saurashtra Chemicals Ltd., Porbandar
 - * Nirma Chemicals Ltd., Alindra (Savli)
 - * Patni Computer Systems Ltd.
 - * Persistent Systems Ltd.
 - * L&T Infotech Ltd.
 - * Capgemini, Mumbai
 - * Voltas Ltd., Mumbai
 - * Wipro SpectraMind
 - * Tata Chemicals Ltd.
 - * Window Makers, Baroda
- ...and many more!

GCET: Excellence in Sports

♦ **Prof. Manan DESAI**
(Convener, Sports Subcommittee)

The year 2005-06 has been an extraordinary and remarkable one for GCET on the sports front. The college has dominated inter-college sports organized by *Sardar Patel University*, winning most of them. The most notable wins were in:

- Inter-college Table Tennis (Boys)

- Inter-college Table Tennis (Girls)
- Inter-college Football
- Inter-college Badminton (Boys)
- YMCA Inter-college Volleyball

Apart from the above, the Basketball team (Boys) came in as runners-up in the inter-college championship, while the Volleyball team won the inter-college championship, defeating 23 other colleges.

What are GCETians Reading?

♦ **Sudeep POPAT**

When the monotony of Engineering gets to one's head, it is absolutely necessary to divert the grey cells with something refreshing, which can yet still induce thought subconsciously. Reading novels is a popular "educational time-pass" among GCETians.

Some of the most popular books, based on a short survey, are:

- Five Point Someone—Chetan Bhagat
- Angels & Demons—Dan Brown
- The Fountainhead—Ayn Rand
- The Alchemist—Paulo Coelho

Campus recruitment in 2005: At a Glance

Branches	No.
Computer Engineering	22
Chemical Engineering	22
Information Technology	20
Mechanical Engineering	32
Electronics & Communication	24
Mechatronics	21
Electrical Engineering	16
Total	157

Congratulations to all those who got placed; wishing you all a very successful career.

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If you would like to contribute a piece (an article, a poem or even a work of fiction) for **GCET Voice**, contact Prof. Kaushik Nath of the Department of Chemical Engineering.

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Science: Around the Globe

◆ **Prerit SOUDA**

Physics: Some theorists have argued that the Brownian motion may not be completely random, contrary to what Einstein had predicted. (*Scientific American India*)

Automobiles: *Toyota Corporation* demonstrated the single passenger concept vehicles called *I-Units* at *2005 World Exposition* at Nagoya, Japan. They include an aerodynamic mode and can also operate on autopilot mode in specially equipped lanes. (*IEEE Spectrum*)

Computers: *IBM*-built computer, *Blue Gene/L*, has topped the list of world's 500 most

powerful computers. It performs 280.6 teraflops (trillion calculations per second). It is being used to study US Nuclear Stockpile and

perform other research work. (*Electronics for You*)

Electronics: A standard quartz wrist-watch gains or loses a second per day. These watches will soon be replaced by atomic clocks which gain or lose a second only every 300 years. Researchers are trying to find ways to lower its cost drastically, which otherwise is astronomical. (*IEEE Spectrum*)

Nobel Prize Winners: 2005

Physics:

- Rob Glauber (for research on how coherent light behaves at a quantum scale)
- John Hall and Theodor Hansch (for description on ways to measure frequency of above mentioned laser light)

Chemistry:

- Yves Chauvin, Robert Grubbs and Richard Schrock (for development of metathesis reactions)

Medicine:

- Barry Marshall and J Robin Warren (for discovering the role of *Helicobacter pylori* in stomach ulcers and inflammation)

Nanotechnology:

Scientists have created a molecule, 9,10-dithioanthracene (DTA), that can move in a straight line by itself on a flat surface, by mimicking how a person walks. (*Scientific American India*)

Robotics: A Swiss Company called *K-Team* has made a robot worth \$10,000 and weighing 27 kg. (*Electronics for You*)

Technology News Corner

◆ **Mr. Haresh DAVE**

(Lecturer, Dept. of Chemical Engg.)

The Chennai-based *Central Leather Research Institute* (CLRI) has evolved collagen-based smart biomaterials, which has revolutionary potential. Collagen, which is the main structural protein in animal connective tissue, has low immunogenicity, and thus evokes immune response. Collagen-based smart biomaterial products, such as smart lens developed from a mixture of collagen and a polymer, have hit the market. CLRI has also evolved a revolutionary wound & burns dressing material, which is an ideal skin substitute. (*The Times of India*)

Scientists at the *University of Edinburgh* have built a molecular machine that can move objects millions times larger than itself. The machine is 80,000 times smaller the width of a human hair and built by covering a gold surface with engineered rod-like molecules with rings that slide up and down on them. This technology can be used to do all sorts of physical tasks. (*The Guardian, UK*)

Researchers at Singapore's *Institute for Bio-engineering and Nanotechnology* have developed a unique battery that is activated by urine under test. The research team has been able to generate 1.5 volts with just one-fifth of an ml of urine. The battery powers on when it contacts the urine sample. The paper battery and sensors can be integrated on a plastic card to make a cheap biochip. A drop of urine placed on the battery will generate enough electricity to power the biochip. (*The Hindu*)

Two scientists from the *National Environment Engineering Research Institute* (NEERI), Nagpur, Hemant J Purohit and Manisha Kulkarni, have discovered that clove oil has a strong anti-bacterial agent which can transform unclean, foul smelling and alkaline well water into clean and sweet water with 'favorable mineral qualities'. They have obtained US patent for this discovery, according to which, one teaspoon of the anti-bacterial formulation made from clove oil can disinfect one liter of water in six hours. (*The Times of India*)