



स्वामी श्रध्दानन्द  
कुलपिता

A MONTHLY NEWS LETTER



**नभग**  
Flight to Success  
**NABHAG**

**FACULTY OF ENGINEERING AND TECHNOLOGY**  
GURUKULA KANGRI VISHWAVIDYALAYA, HARIDWAR

Volume 1(8)

February 2011

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**TOPPERS FROM DIFFERENT BRANCHES**  
End Semester Examination 2010



Akshay Mathur  
CSE I Sem



Gaurav Singh Satkari  
EE I Sem



Durgesh Kumar Yadav  
ECE I Sem



Rishabh Singh  
ME I Sem



Manish Rana  
CSE, III Sem



Shubham Prajapati  
EEE, III Sem



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EEE, V Sem



Saket Khandelwal,  
CSE, VII Sem



Anidhya Rastogi  
ECE, VII Sem



Gokul Kumar  
EEE, VII Sem

**Recent Placements**

**Tech Mahindra/ DELL**



Chinmay Gokarn  
ECE



Srikant Kala  
EE



Atul Sharma  
ECE



Santosh Rawlani  
EE



Udit Roy  
CSE



Tungish Narayan  
CSE



Dear Friends,

I welcome all of you to the 5<sup>th</sup> Edition of 'Nabhag'.

This past month saw a number of interesting activities in the campus.

A new initiative taken at FET is the award of Kulpita Green card which will be awarded to meritorious students, i.e., the first rank holders in current semester examination of each branch. This will surely encourage them to strive hard to achieve excellence.

Another very interesting development was a lecture by Mr. Shridhar Babu, who is an IAS officer and is posted at Haridwar as City Magistrate. The lecture was part of the popular talk on career counseling. It was a very inspiring session as he shared his story of grit and determination and how he managed to get the highest marks ever scored in IAS examination despite repeated failures. I hope students will truly get inspired by a personality like him.

I congratulate the faculty members who participated in the 3<sup>rd</sup> International Conference on Integrating Spirituality and Organizational Leadership at the GKV campus. The personality & skill development committee of FET conducted some activities in this month. All the students should try to be a part of these activities where they can refine their communication skills which will help them throughout their career.

Since long the students were missing a nice canteen in the campus. I'd like to congratulate the students who can now enjoy the environs of the new canteen which was inaugurated by Honorable Chancellor, on February 6<sup>th</sup>.

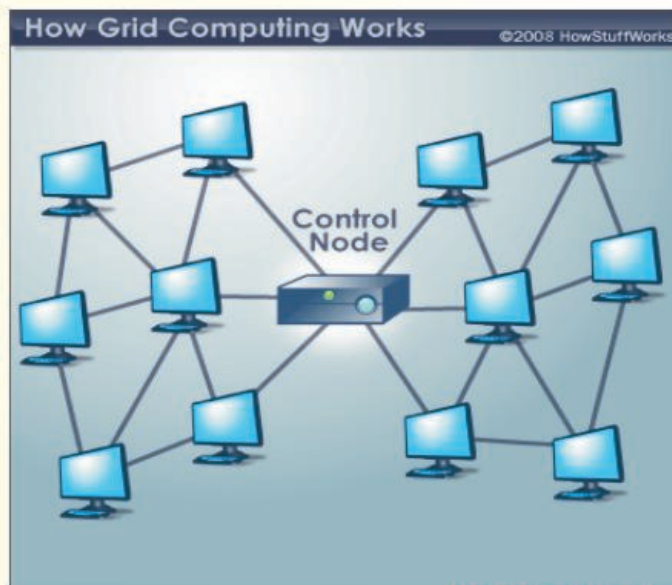
Dear friends, the semester is going on full throttle and amidst all these fervent activities we should not forget that the examinations are round the corner. I wish you all the very best.

**Prof. R. D. Kaushik**  
**Chief Editor**

## Grid Computing

A scientist studying proteins logs into a computer and uses an entire network of computers to analyze data. A businessman accesses his company's network through a PDA in order to forecast the future of a particular stock. An Army official accesses and coordinates computer resources on three different military networks to formulate a battle strategy. All of these scenarios have one thing in common: They rely on a concept called Grid Computing

Grid computing is the combination of computer resources from multiple administrative domains for a common goal. Grid computing (or the use of a computational grid) is applying the resources of many computers in a network to a single problem at the same time - usually to solve a scientific or technical problem that requires a great number of computer processing cycles or access to large amounts of data. One of the main strategies of Grid computing is to use middleware to divide and apportion pieces of a program among several computers, sometimes up to many thousands. Grid computing involves computation in a distributed fashion, which may also involve the aggregation of large-scale cluster computing based systems. The size of a Grid may vary from small — confined to a network of computer workstations within a corporation, for example — to being large, public collaboration across many companies and networks. “The notion of a confined grid may also be known as intra-nodes cooperation whilst the notion of a larger, wider grid may thus refer to inter-nodes cooperation”



**Dr M S Aswal**  
*In-charge, Computer Centre*



## FACULTY NEWS

1. Kulpita Green cards were delivered to meritorious students for the first time in FET to encourage the students, the first rank holders in a semester examination of each branch of B. Tech. were selected for this purpose, and Various Incentives are announced for these students.
2. Prof R. D. Kaushik was invited as Chief Guest at National Science Day ( Feb. 28, 2011) at Wadia Institute of Himalayan Geology, Dehradun and delivered a Lecture on “Physical Chemistry in Life and Indian Philosophy”.
3. Invited talk on cloud computing was organised on Feb 5th, 2011. Dr. Mangal Sain from Korea was the invited speaker.
4. Mr. Mayank Aggarwal, Incharge of Deptt. of CSE with Jyotirmoy Dutta from the Deptt. of ECE presented a paper in conference on ‘Integrating Spirituality & organizational Leadership Foundation’ held between Feb1-5, 2011.
5. Dr M. M. Tiwari, Incharge of Deptt. of Chemistry with Dr. Vivek Goel incharge Department of Mathematics presented a paper in international conference organized by ISOL, IIT Roorkee & Gurukula Kangri Vishwavidyalya, Haridwar on ‘Integrating Spirituality & organizational Leadership Foundation’ held between Feb 1-5, 2011.
6. Mr. Sridhar Babu, IAS, City Magistrate delivered a Popular talk on career counseling on Feb.16,2011 in new seminar Hall of FET.
7. Tech Mahindra /Mahindra Satyam selected 5 students from FET in its recent visit to FET. Dell Company selected Tungish Narayan Jha from CSE branch.
8. The new FET canteen building was inaugurated by Honourable Chancellor, GKV haridwar on Feb 6th,2011. The function was gracefully attended by Honourable Vice Chancellor, Registrar , Finance Officer of GKV Haridwar & all Students of FET. Dean FET gave vote of thanks to all dignitary present at the Function.
- 9 The personality & skill development committee of FET comprising of three members Mr. Jyotirmoy Dutta, Mr. Nishant Kumar and Mr. Prateek agarwal conducted the debate classes on 28th Feb and 1st March at 4 pm in the new seminar hall of FET.
10. Dr Mahendra S Aswal got his paper titled “Comparative study of three declarative knowledge representation techniques” published in (IJCSE) International Journal on Computer Science and Engineering, Vol. 02, No. 07, 2010, 2274-2281.
- 11 A research paper by Dr Mahendra S Aswal entitled “Load balancing strategies for grid computing” has been accepted in 3rd International Conference on Electronics Computer Technology (ICECT 2011) technically co-sponsored by IEEE and to be held on April 8-10, 2011 at Kanyakumari.
- 12 Dr. Dharmendra Baliyan received a token of appreciation for his valuable support in organizing Badminton championship between Feb 12-14, 2011, in town hall city complex Mayapur, Haridwar.
- 13 FET is going to organise “JNANAGNI-2011” (Technical Festival of FET) during March 29-30, 2011 with full enthusiasm and sprit. Poster design for this event is prepared by Prabhakar Kumar (VI Sem,CSE) and web designing is done by Rohit Singh (VIII Sem,CSE). JNANAGNI core committee includes Ankit Aggarwal, Gokul Kumar, Nishant Bajpai, Sanjeev Kumar & Saurav Srivastava.
14. The poster design competition for JNANAGNI' 11 held on Feb 21, 2011 in FET premises with the following themes:
  - JNANAGNI Main Poster, Musical Edition Poster (VIBRATION), Gaming Edition Poster (COLOSSEUM)
15. Mr. Nitin Johri published a paper in International conference on “Multibody Dynamics” on Feb 24-26, 2011, on the topic of “Effect of Geometric parameters on workshop Envelope & Stiffness of a parallel manipulator”.



Hon'ble Chancellor with Vice Chancellor and others at the inauguration of new FET Canteen



Dean, FET giving lecture at Wadia Institute



Dr. Baliyan receiving a token of appreciation for organizing Badminton Championship



## From Vedas



**Dr. Satyadev Nigmalankar**  
Head, Vedic Shodh Sansthan

### परोपकार करना मनुष्यों का परमधर्म है

कृष्णोऽस्याखरेष्ठोऽग्नये त्वा जुष्टं प्रोक्षामि वेदिरसि बर्हिषे त्वा जुष्टं प्रोक्षामि बर्हिरसि सुग्भ्यस्त्वा जुष्टं प्रोक्षामि ॥ यजुः  
2 11

सब मनुष्यों को वेदी बनाकर और पात्र आदि होम की सामग्री ले के उस हवि को अच्छी प्रकार शुद्ध कर तथा अग्नि में होम कर के किया हुआ यज्ञ वर्षा के शुद्ध जल से सब ओषधियों को पुष्ट करता है। उस यज्ञ के अनुष्ठान से सब प्राणियों को नित्य सुख देना मनुष्य का परम धर्म है।

## From Archives



The Gurukula is not run by the money given by the fortunate few but by the donations of a large number of poor people who have vowed to visit Kangri every year and who contribute happily to the upkeep of this national college.

Swami Shraddhananda says that he has given two gifts to Gurukula - Celibacy and Austerity, you people should say that you will donate whatever you can to keep this institution running.



Mahatma Gandhi, 1913

## During an Earthquake

### 1. If you are indoor

- Stay calm and reassure others.
- Try to stand against a wall near the centre of building, or get under a table or a sturdy wooden cot (away from windows).
- If in a school get under the desks, facing away from the windows.
- Stay away from mirrors, windows and outside doors.
- Do not rush towards the door or staircase. They may be broken or jammed with people.
- If in a crowded store (such as shopping complexes, cinema halls etc.) Evacuate only if told so. Choose your exits as carefully as possible. Use stairs rather than elevators.

### 2. If you are outdoor

- Stay in the open and do not run through streets. If you are on playground, stay away from buildings.
- Stay away from overhead electric wires or anything that might fall (such as buildings, chimneys, balconies, power poles and others projection).
- If in a moving vehicle, stop away from bridges, overpasses and hoardings and remain inside the vehicle (in case of car) until shaking is over.

*Prof. R. D. Kaushik*  
Dean, FET

## Nano Science and Nano Technologies - An Introduction

Nanoscience and nanotechnology are closely related and linked in practice yet it is convenient to draw a distinction between them.

Nanoscience is the study of phenomena and manipulation of materials at atomic, molecular and macromolecular scales, where properties differ significantly from those at a large scale.

Nanotechnologies, on the other hand, are the design, characterisation, production and application of structure, devices and system by controlling shape and size at nanometre scale.

Nanotechnologies can be regarded as genuinely interdisciplinary, and have prompted the collaboration between researchers in previously disparate areas to share knowledge, tools and techniques. An understanding of the physics and chemistry of matter and processes at the nanoscale is relevant to all scientific disciplines, from Chemistry and Physics to Biology, engineering and medicine. Indeed, it could be argued that evolutionary developments in each of these fields towards investigating matter at increasingly small size scales has two now come to be known as 'nanotechnology'.

*Dr. Sunil Panwar*  
Department of Physics



# Expert Lecture on Cloud Computing



*Dr. Mangal Sain from Korea, during a Lecture at FET*

A lecture on Cloud Computing was organized in the Department of Computer Science and Engineering, on Feb. 5, 2011. Dr. Mangal Sain from Korea was the invited expert. A brief summary on cloud computing is given here for the students giving them an introduction of Cloud Computing.

Ubiquitous healthcare Information system consists of several applications, which are developed in different atmospheres and with different languages and unique user interfaces. We build a user interface to handle all the

communication, interaction of user to different application modules. As we know all ubiquitous applications are developed using different specifications, different languages and different atmospheres, so according to that requirement we tried to build an application cum GUI which can be used by all users. The most important phase to develop this User Interface is communication between different applications and preparing some diagnosis messages for ECG.

Middleware can be viewed as a set of services which can be accessed through their API (Application Programming Interface) provided by several research organizations and other institutes. The development of middleware is essential to utilize the endless capabilities of ubiquitous healthcare and it will be the glue between complex devices, applications and users. Context middleware is one of the major features which should be considered while building such middleware, but that's not the only requirement which is enough in a ubiquitous healthcare system. As user requirements are changing according to available technologies with advanced features, which will not only adopt the current requirements but also feed the data from various sensors as well as give some processed information right away. Ubiquitous environments provide several advantages to patients or users by using personal healthcare systems as they provide much more flexibility and mobility, and making it possible for patients to monitor at arbitrary times and places. This will help to prevent paroxysmal sickness even if patients are not in hospitals or nursing centers, they still can get maximum professional medical supervision with the help of application modules.



*Dr. Mangal Sain with Dean, FET*

## SPIN - BASED ELECTRONICS

The next generation of computers may make use of the "spin" of electrons instead of their charge. Spintronics relies on manipulating these spins to make them capable of carrying data. The technique has been shown in a number of materials at low temperatures before. But researchers have made use of these "spin-polarized" electrons in silicon at room temperature for the first time. The result could lead to computers that require far less power than conventional ones.

The fact that the effect has been demonstrated in silicon — the material that already underpins the computer industry — means that devices exploiting it could be made on a commercial scale more easily. The problem with silicon is that, as the individual features on silicon chips get smaller and smaller, they require more and more power to move the charged electrons around to represent 0s and 1s of binary code. That rise in power also means that future chips will run into problems with heating.

This "spin" isn't really a direction the electrons are spinning in, but rather a convenient way to express one of the two "quantum mechanical" states an electron might be found in. This is for the first time that this can be done at room temperature, which is obviously something we would need if we wanted to really commercialize this technology," said Ron Jansen, who led the research. The trick behind the experiment was careful design of the interface where the electrons enter the silicon — the materials must be pure and of a precisely determined thickness in order to preserve the delicate spin polarization.

What remains unclear is, whether spintronics can overcome the problem of heating that conventional electronics faces as individual devices become ever more tiny.

**Agam Agarwal**  
ECE, IV Sem

## Student Corner

### STRANGE BUT TRUE..

We will have four unusual dates this year, 1/1/11, 1/11/11, 11/1/11 and 11/11/11. Now this is the weird part..

Take the last two numbers of the year you were born and add them to the age you will be this year and see if you come up with the interesting number ..111... strange but true..

### TEST YOUR VOCABULARY

- |             |                 |
|-------------|-----------------|
| 1. Slick    | 6. Contemptible |
| 2. Loathe   | 7. Autocrat     |
| 3. Allusion | 8. Belligerent  |

- |                    |               |               |
|--------------------|---------------|---------------|
| 6. Worth Of Hating | 8. Aggressive | 3. Reference  |
| 7. A Dictator      |               | 2. To Hate    |
|                    |               | 1. Impressive |

**Abhinav S. Panwar**  
ECE, VI Sem

MEANINGS



# Unibiometrics and Multibiometrics

Biometric systems automatically determine or verify a person's identity based on his anatomical and behavioral characteristics such as fingerprint, face, iris, voice and gait. Biometric traits constitute a strong and permanent link between a person and his identity and these traits cannot be easily lost or forgotten or shared or forged. Since biometric systems require the user to be present at the time of authentication, it can also determine users from making false repudiation claims. Moreover, only biometrics can provide negative identification functionality where the goal is to establish whether a certain individual is indeed enrolled in the system although the individual might deny it. Some of the unibiometric traits are given below.

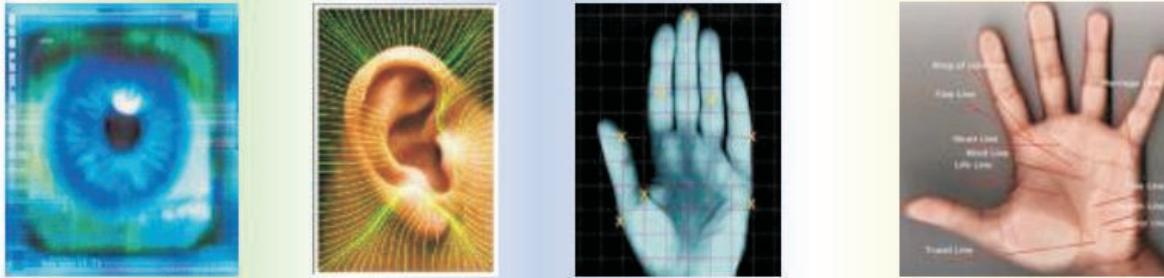
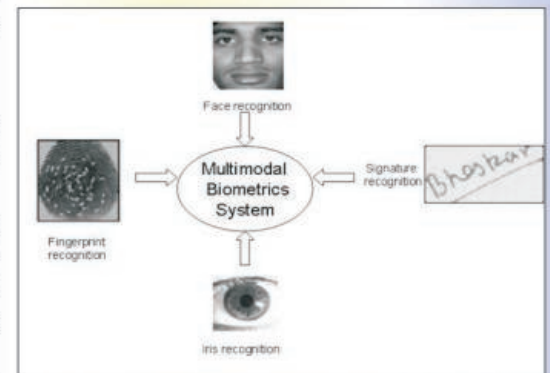


Fig. Examples of body traits that can be used for biometric recognition

There are various disadvantages of Unibiometrics such as noisy sensor data, non universality, inter user similarity, lack of invariant representations etc. To overcome these types of limitations multibiometrics systems are used. Systems that consolidate evidence from multiple sources of biometric information in Orders to reliably determine the identity of an individual are known as multibiometric systems. Multibiometric systems can alleviate many of the limitations of unibiometric systems because the different biometric sources usually compensate for the inherent limitations of the other sources. Multibiometric systems offer the following advantages over unibiometric systems:

1. Combining the evidence obtained from different sources using an effective fusion Scheme can significantly improve the overall accuracy of the biometric system.
2. Multibiometric systems can also provide a certain degree of flexibility in user authentication. Suppose a user enrolls into the system using several different traits. Later, at the time of authentication, only a subset of these traits may be acquired based on the nature of the application under consideration and the convenience of the user.
3. The availability of multiple sources of information considerably reduces the effect of noisy data.
4. Multibiometric systems can provide the capability to search a large database in a computationally efficient manner.
5. Multibiometric systems are more resistant to spoof attacks because it is difficult to simultaneously spoof multiple biometric sources.



*A Multi model Biometric System*

*Shekhar Karanwal*

**Department of Computer Science**

## INSPIRATIONAL DAY FOR FETians

It was a marvelous wednesday for FETians on Feb.16, 2011, under the programme, "Personality Development, Career Counselling and Remedial Classes" conducted by Dr. L. P. Purohit, Associate Professor, Physics Dept., G.K.V; one of its session was held in FET in new seminar hall which was addressed by Mr. Sridhar Babu, honorable City Magistrate, Haridwar.

The session started by grand welcome of Mr. Babu along with Prof. R. D. Kaushik, Dean, Fet and other dignitaries by students in new seminar hall at 4pm on 16 February. Prof. kaushik offered Mr. Babu a shawl and garland of flowers.

After welcome ceremony, Mr. Babu addressed students and told them about the format of civil services examination, which are conducted by UPSC. He encouraged students for achieving their goals with the help of his own story. He told them about the struggle he did and finally got 5<sup>th</sup> rank in UPSC in 5<sup>th</sup> attempt. He is a living example of the saying "FAILURE IS STEPPING STONE TO SUCCESS."

This session helped FETians in refreshing their confidence & determination to fulfil their aims and served as a means to make them optimistic. All FETians were rejuvenated with new energy after this grand session.



# JANAGNI 2011

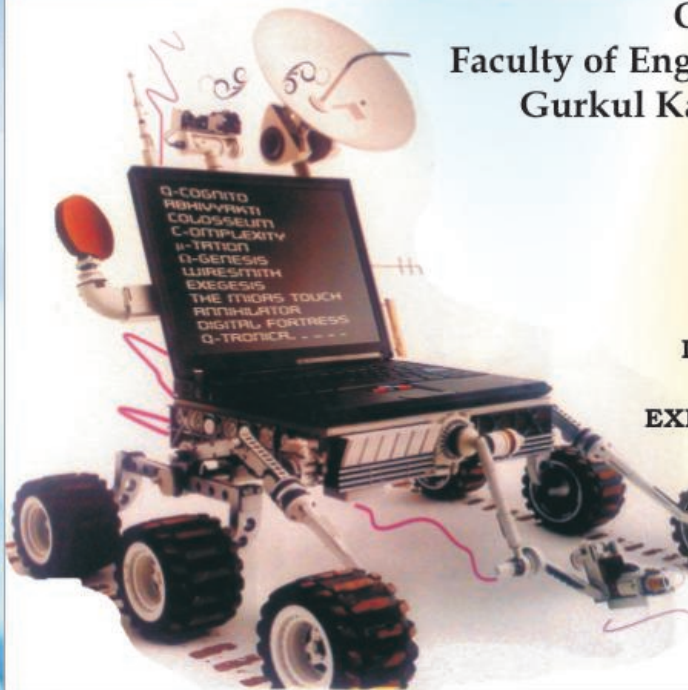
...THE FIRE OF WISDOM

29-30 Mar

Organized by  
Faculty of Engineering and Technology,  
Gurukul Kangri Vishwavidyalya

## EVENTS

ABHIVYAKTI  
ANNIHILATOR  
COLLOSSEUM  
C-OMPLEXITY  
DIGITAL FORTRESS  
Ω GENESIS  
EXPOSE & CONGREGATE  
EXEGESIS  
NOCTROPHILIA  
THE MIDAS TOUCH  
Q-COGNITO  
Q-TRONICA  
WIRESMITH  
μ - TATION  
3-D MODELING



## TIPS AND TRICKS : SENTENCING MS WORD

Keyboard Shortcut	Result in Microsoft Word
CTRL + A, S	Selects all and save the current document.
CTRL + B, I, U	Bold, Italic, Underline text.
CTRL + X, C, V	Cut, Copy and Paste the selected item or text
CTRL + D, P	Displays the Font and Print Dialogue box
CTRL + L, E, R	Left, Centre and Right Alignment
CTRL + J, M	Full Justification and change indentation
CTRL + O, N	To Open a File and To Create a new document
CTRL + Z, Y	Undo and Redo the last action
CTRL + ENTER	Insert Page Break
CTRL + SPACEBAR	Remove all local formatting
CTRL + SHIFT+ >, <	Increase and decrease font size
F3 Key	Insert an auto text entry and
F4 Key	Perform last action again
F5 Key	Displays the Go to, and Find or Replace
F7 Key	Launch the Spell checker
F9 Key	Update the selected fields
F10 Key	Activate the menu bar
F12 Key	Save file As, equivalent to tools menu.
SHIFT + F1 Key	Context sensitive use help
SHIFT + F2 Key	or image and Copy Text
SHIFT + F3 Key	Change the case
SHIFT + F4 Key	Perform a Find or Go to action again
SHIFT + F5 Key	Move to a previous revision
SHIFT + F6 Key	Go to the previous frame or pane
SHIFT + F7 Key	Launch the Thesaurus
SHIFT + F8 Key	Shrink the current selection
SHIFT + F9 Key	Switch between a field code and its result
SHIFT + F10 Key	Display a Shortcut Menu. Same as right clicking
SHIFT + F11 Key	Go to the previous field.
SHIFT + F12 Key	Save document, equivalent to tools menu
CTRL + F1	Show or hide Ribbon
CTRL + F2	Show Print preview
CTRL + F4	Closes the active document window
CTRL + F6	Opens the next document window
CTRL + F9	Insert { } brackets

Suyash Bhardwaj  
Department of CSE

## NEVER SAY NO...

Never say no to those in need  
Never stop trying till you succeed  
Help other until you bleed  
But, Never say no to those in need

To ripe good you have to sow the seed  
And make it safe from the weed  
Do help others and do good deed  
But, Never say no to those in need

Be quick in your job and don't screeed  
Just do it don't wait for a meed  
You have mind, more than other breed  
So, use it until you succeed

Eat to Live, not to feed  
Don't have silk, be happy in tweed  
Don't lose grip, have some heed  
Keep running, for those in need

So that even that almighty can say  
Bless you child!! Godspeed

Suyash Bhardwaj & Sanjeev Lambha  
Faculty of Engineering and Technology



## दाल का दाना मोती है।

मंहगाई का दामन पकड़े  
भूख सिसक कर रोती है।  
चाद हुआ टुकड़ा रोटी का,  
दाल का दाना मोती है।

बनिये का पर्चा पर्वत से  
ज्यादा भारी लगता है।  
बोझ ग्रहस्थी का मेरी मां  
जाने कैसे ढोती है ॥

जीवन के नभ तम छा जाता  
मंहगाई के मौसम में।  
सूरज जैसी एक अठन्नी,  
बटुए से जब खोती है ॥

इस साजिश में और हैं शामिल,  
ये कह देना ठीक नहीं।  
मंहगाई का बीज अकेले  
किस्मत-कुदरत बोती हैं ॥

सिर पे रख आशा का छप्पर  
आंखों में उम्मीद जगा।  
कम होगी मंहगाई कह कर  
चैन से दिल्ली सोती है ॥

उनके जादू भरे आंकड़ों पर  
मत जाना 'मीत' कभी।  
चेहरे पर निर्घन के हर  
एक चीज की कीमत होती है ॥

**Surjeet Kumar**  
EE, IV SEM

## खुश रहो

उम्र छोटी हैं, हर पल में खुश रहो  
आज पनीर नहीं तो दाल में खुश रहो,  
आज दोस्तों का साथ नहीं तो  
टी.वी देख कर खुश रहो,  
घर नहीं जा सकते  
फोन करके खुश रहो,  
जिसे देख नहीं सकते,  
उसकी आवाज में खुश रहो

बीता हुआ कल जा चुका है,  
उसकी मीठी यादों में खुश रहो,  
आने वाले कल का पता नहीं,  
तो सपनों में खुश रहो,  
आज गम नहीं तो कल कि खुशी,  
के इन्तजार में खुश रहो,  
हंसते-हंसते जिन्दगी बीत जायेगी,  
बस हर पल में खुश रहो,

**Rohit Sahu**  
EE-IV Sem

## NEWS UPDATE

Kulpita Green cards distributed to Meritorious Students of FET.

Tech Mahindra & Dell Company selected 06 FET students in recent placements

New FET Canteen building is inaugurated by Hon'ble Chancellor, GKV on Feb 6, 2011.

Personality Development classes conducted in FET on Feb 28 and March 1, 2011.

Preparation of Technical Festival "Janangni 11" has started in FET, with full enthusiasm and spirit.



newly Constructed FET Canteen



Prof. Kaushik, Dean FET at Wadia Institute of Himalayan Geology



Dean FET, receiving plaque at Wadia institute



Mr. Nitin Johri at international conference on multibody Dynamics