



## Newsletter May 2006

# DRONACHARYA COLLEGE OF ENGINEERING

Special Edition by Department of Mechanical Engineering

### From Editor's Desk:

It gives me immense pleasure and makes all concerned proud to visualize that DCE's News Letter has been covering the epoch-making events of every Department by turn. The May issue covers the developments, projects, views and reviews from the Department of Mechanical Engineering, often acclaimed to be "an ever-green Department" which happens to be the least affected by the movement of the weather-cock that witnesses the Industry scenario.

Dronacharya College of Engineering has the proud privilege of attaining reputation as the DCE of Southern Haryana. The College has made swift and steady movement on academic as well as co-curricular fronts. Our foolproof 'Success Mantra' stresses on taking in its sweep passion for the desired degree of knowledge, generating confidence of high voltage, attainment of mental and emotional stability and over and above all arousing unswerving conviction in the significance of 'strategy' without which the direction to the destination remains bafflingly blurred. We streamline the academic resources, concretise our plans and confidently climb on the tidal wave of success.

Department-wise staff Get-to-Gathers are an "in thing" at Dronacharya College. In the cyclic movement, the Mechanical Department of the College had its turn and a Get-to-Gather was organised at Hotel Amba Residency at Guragon on the evening of 29th April, 2006. **Dr. Satish Yadav, Chairman** and **Dr. B.M. K. Prasad, Principal** were generous enough to grace the occasion as Hon'ble Guests. Under the benign and expert guidance of Dr. J.K. Goyal, Dean Academic and Prof. S.K. Bagga, H.O.D. Mechanical Engineering, the staff members endeavoured their best to make it an event that will go down the annals of the College. The occasion was marked by a colourful confluence of lilting music, soul-solacing songs, and rhythmic steps of all present on the dance floor. Caring and sharing of nostalgic moments, regardless of age and cadre, made it the most memorable event of the year. Narrating the wistful personal anecdotes enriched the present moments. Dancers and diners were captured in a true party spirit by the faithful eye of the camera which clicked with every tick of the clock to record the merry moments for recollection in future.

Editor  
(Dr.R.C. Narula)

### From HOD's Desk:

The News Letter serves as an excellent communication channel among the Alumni to interact and update themselves on the various developments that are taking place from time to time, this will facilitate providing a platform to look back and share past achievements, consolidate the present ones and project a vision for the future. Under the able vision, guidance and inputs provided by Hon'ble Chairman, Dr. Satish Yadav, Principal, Dr. B.M.K. Prasad, Dean Academic, Dr. J.K. Goyal, the Department is continuously improving and providing 'Quality Education' to a large number of students.

Personality Development, Yoga, Sports and Seminars have been included in the curriculum to mould, shape and improve the students' personality. Our aim is to provide valuable resource both for Industry and society. The unprecedented success achieved by our Alumni in multitude of professional fields, in various parts of the world, is a matter of great satisfaction and pride. We, the Staff, Students and Alumni rededicate ourselves to the tremendous task of building the nation.

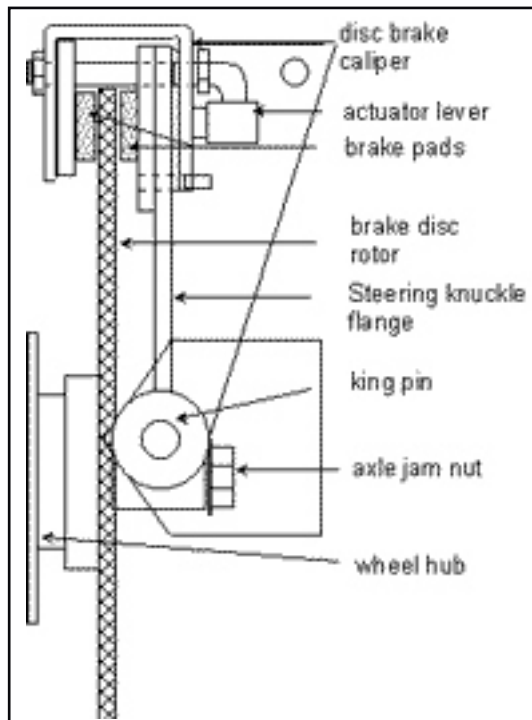
Head of the Department  
(Dr.S.K. Bagga)

## Live Projects Undertaken by students:

### Disc Brake Operated Pneumatically

It is a brake in which the friction is caused by a set of pads that press against a rotating disc. In this project we get the opportunity to design and fabricate disc brake which will be operated pneumatically instead of hydraulically and thus it can be used as a new approach in automobile industry. In today's automobiles turbochargers are used as an important tool in improving the efficiency of the engine. The compressed air from the turbocharger can be further utilized in braking application. This whole arrangement can be called Pneumatic operated Disc Brake and this system can be of great use in light weight Automobiles.

#### Disc Brake Characterization



#### Pneumatic Disc Brake Assembly

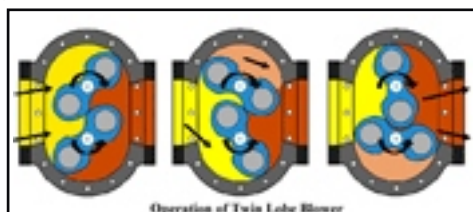


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### Designing Of Twin Lobe Root Blower

Roots-blowers mainly consist of two double-bladed lobes of a particular cross-section rotating synchronically in a casing, so that a constant and tight clearance between the lobes and the casing is attained. These blowers are valveless displacement engines in which no internal compression takes place. From the lower pressure level in the intake, the air reaches the working room and will be driven by the blades of the lobes into the range of higher pressure in the exhaust opening. The air will only be compressed once a connection between the working room and the higher pressure level is made. Then, air with higher pressure flows back into the working room, with the effect that the piston must be moved against this higher pressure. The back-flow of the higher compressed air causes the typical flow frequency noise of the rotary piston compressor, though the gaps between the lobes and the casing can be made very tight (normally 0.2 to 0.6 mm).



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## Technology Update :

### MECHATRONICS

Mechatronics is a concept of integrating the mechanical devices with electronic appliance and computer technology to exploit the benefits of flexibility, reliability, accuracy and repeatability. High technology CNC machine, intelligent robots with fuzzy logic and automated manufacturing systems are truly Mechatronics products.

It will fulfil the following demand of user market environment :

- Lead time between conception of the idea and its delivery in the market should be less.
- The life costing of the product should be competitive.
- Quality and reliability should be high.
- Price should be competitive.
- Manufacturing systems should be knowledgeable and intelligent.

We can schedule the whole manufacturing unit right from designing to the delivery by means of Computer Aided Design Drafting (CADD), Computer Aided Process Planning (CAPP) and Computer Aided Manufacturing (CAM) etc. techniques in a more efficient way.

We find that Mechatronics plays an important role in the manufacturing system. This infers that Electronics and software gain importance in flexible production and assembly.

*Prof. S.K. Bagga, Ms Rimika Madan*

## Student's Viewpoint About The Department :

Dronacharya College of Engineering follows the tradition of Gurukul and hence it has actually produced technocrats who have proved their worth. The Mechanical Branch in our College is the pride of the Institution. It has state-of-art lab facilities. The students are given a wide practical exposure on various subjects as CAD, Automobile, Refrigeration & Air Conditioning, SOM, DOM, etc.

The faculty of our branch is one of the best in the State and is highly dedicated towards providing the best knowledge to the students.

The University results are heartening. There had been 100% placement of the students of Mechanical Branch last year and many reputed companies such as M/s. JBM Ltd. , M/s. Munjal Showa have recruited 18 students this year.

I really feel proud to be associated with the Mechanical Engineering Department .

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*"Innovation is process of developing a creative idea so that it can be put to practical use."*

Mechanical Engineering Department has dedicated, disciplined and distinguished Faculty members who impart good knowledge not only theoretical but also practical to the students. They also impart training for Personality Development, Communication Skills, Mock Interview and Group Discussion which have helped me a lot to achieve a job with M/s. JBM Ltd, Gurgaon.

Prof. S.K.Bagga has given a lot of innovative ideas, R&D activities and Management aspects which will definitely enhance our capability in 360° orientation.

Practical aspects of the Finite element method were also conducted in CAD Lab. Similarly Computer Aided Manufacturing was also imparted on CNC Trainer Lathe using M & G code on Fanuc system.

I am really very happy to be a part of this Department and willing to be associated with it in the long run.

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## Personality Development Programme :

The Mechanical Engineering Dept. has introduced the classes for Personality Development, Group Discussion, Communication Skills, Mock interview etc. These are being conducted by the expert guidance of the Faculty. **Major General D.P. Mithai** and **Col. R.S. Kataria**, expert in these areas, were invited to conduct the two days programme on 27th & 28th January 2006 for our Final Year students to equip them with leadership, Personality Development and communication skills etc. This sort of activity will definitely improve the quality of students to achieve their goal for the placement in reputed and professionally managed organizations.

## Achievements of Mechanical Engineering Department :

- Five students have been selected by M/s. Jai Bharat Maruti Ltd. Gurgaon.
- Fourteen students have been selected by M/s. Munjal Showa Ltd. Manesar, Gurgaon.
- Department Placement Committee members constantly liaison with the Training & Placement Officer for further Placement avenues.
- M/s *Munjal Showa Ltd.*, Gurgaon has shown their intense interest to employ at least 10-15 students who will undergo Training for a year to complete their Final Year course and Industrial Project. This way they will both earn and learn.

## Faculty of Mechanical Engineering Department :

