



DRONACHARYA COLLEGE OF ENGINEERING

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ISSUE OF MECHANICAL ENGINEERING DEPARTMENT

From Editor's Desk :

The primary objective of the monthly News Letter is to mirror the activities of the College Campus on various fronts academic, co-curricular, philanthropic and the like. During Feb-2008 our campus witnessed a glorious gamut of electrifying activities which added a new life, an enviable enthusiasm, zeal and zoom so immensely that a sea-change gave a luminous look to the panoramic ambience.



A well organized Tech Fest, a criss-cross of the cultural programme, vibrant sports events a bee-line at the Blood Donation Camp, a much sought after Eye Camp - all in a row and in a short span of time matchlessly manifested the wide and wonderful vision of our magnanimous Management. And no less significant was the development scenario on the Placement front. To crown all our **Hon'ble Chairman, Dr. Satish Yadav** seemed to be in the best of spirits during the Prize Distribution when **he offered a cheque of a fabulous amount of scholarship each to several meritorious First Year students** adequately proving the genuineness of the epithet charitable pre-fixed to the Trust that has been achieving its target of offering Education and Help to masses. The sumptuous luncheon arranged by Hon'ble Chairman presented the scene of a long-winded 'Langar' attended by thousands of guests comprising of the elite, the masses, students and staff of the college. A befitting celebration to mark the successful completion of a decade (1998-2008). Of course, a dream come true !

Editor, (Dr. R. C. Narula)

From HOD's Desk :

**"Evolution is not the force but a process,
not a cause but a law."**

I have a great pleasure that March 2008 issue of Newsletter from the Department of Mechanical Engineering is being published on our College Web-site. The most valuable human resource is the teacher. Full utilization of the capacities of this resource requires training that helps a teacher to perform his task of teaching and to discharge his responsibility as a teacher to the best of his ability.



In a technical Institute a teacher has multiple roles to play teaching, research and development of learning materials. A teacher must have an academic zeal, creativity, perseverance, passion and result-orientation. These are the fundamental prerequisites without which an exemplary teacher can't survive in this competitive academic world. I empower my team with trust and conviction in competency. Respect is the most essential ingredient to nurture relationship with the subordinates. Positive attitude keeps our focus on continuously developing our students. Our alumni are our brand ambassadors and our unswerving strength. **The Department of Mechanical Engineering has determined to thrive and innovate in all round development under the dynamic leadership of our Principal, Dr. B. M. K. Prasad.**

Head of the Department, (Prof. S. K. Bagga)



Live Projects Undertaken By Students:

DESIGN, FABRICATION AND TESTING OF NON-GEARED VEHICLE, GO KART

Kart racing or karting is a variant of open-wheeler motor sport with simple, small four-wheeled vehicles called Karts or Go-Karts. Ours is a non-geared vehicle with a cage type chassis made up of square section pipe. The kart can easily pick up a speed from 0-60 kmph in just 6 seconds. Honda GX-160 engine is used in this project that transmits the power to the rear axle with the help of a chain drive. The transmission system has no differential and the turning takes place with the help of given slide and skid resulting in an inner rear tyre lift from the ground.



Team Members **Mechanical VIII Semester**

- Akhil Gambhir (7214)
- Hitesh Rawat (7234)
- Mayank Mathur (7241)
- Ramandeep S. Dandona (7251)

DESIGN AND FABRICATION OF ELECTRICALLY DRIVEN STEERING-LESS AUTOMATED VEHICLE

The advancements in the automotive technology which are present today is the result of researches, inventions and developments that took place in the R&D centers of the various automobile organizations. The same work of innovation is the base of the project entitled "**ELETRICALLY DRIVEN STEERING-LESS AUTOMATED VEHICLE**". The main aim of this project is to make an automobile as simple as possible which includes the replacement of an engine with batteries and D.C. motors. This vehicle will be working without clutches, gears and steering wheel. These properties will not only reduce the complexity of the vehicle but also to make the drive hassle free.

In this project the vehicle designed has front wheels connected to a half shaft and the d.c motors transfer the required power to the shafts and thus to the wheels. Each of the front wheels is connected to a half shaft and the D.C. motors are transferring the required power to the shafts and hence to the wheels. The voltage to the D.C. motors is provided by the batteries. When the motors are running at the same speed the vehicle will move in a straight path. The turning involves the concept of couple. When the speed of any one of the motors is reduced by reducing the amount of current flowing (from the battery) to the motor a couple is created which turns the vehicle towards the motor having lower r.p.m. The vehicle will be enabled with sensoric technology such that whenever any obstruction comes in its path the vehicle will automatically stop moving.



Team Members **Mechanical VIII Semester**

- Ravinder Chugh (7253)
- Shalender Chauhan (7259)
- Mohit Sharma (7242)
- Gaurav Singh (7231)

DESIGN AND FABRICATION OF LOW COST AUTOMATED TOOL HANDLING SYSTEM

Automation plays a very important role in the global economy and in daily experience engineers strive to combine automated devices with mathematical and organizational tools to create complex systems for a rapidly expanding range of applications and human activities. Material handling is an important part of factory and industrial process. It covers the entire spectrum and functions such as waste handling, storage, assembly line management. Tool management is one such area. Our system is a step towards tool management and aims to systematize tool inventory through automation. This equipment has a system that provides the required tool with a touch of a button and is a step towards tool retrieval through automation. This system is a reliable aid within industrial companies large and small. It accepts small parts, electrical components and machine parts whilst offering maximum storage with minimum footprint. It has following advantages i.e. low cost, one stop solution for tool handling, cheaper than systems available in the market, occupy minimum space with maximum storage, saving time and avoids mismanagement and mishandling of tools. This system can be moulded according to the customer's requirement and portable i.e. it can be shifted from one place to another.

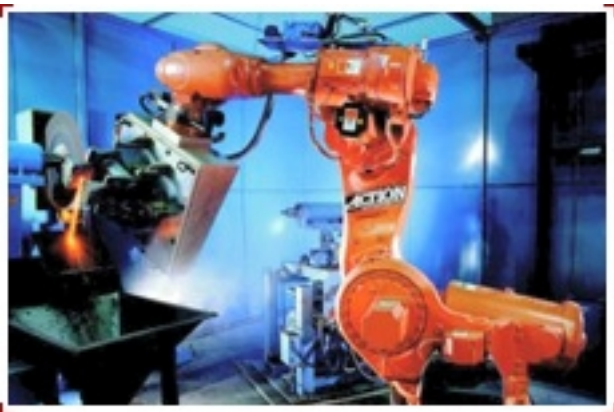


Team Members ***Mechanical VIII Semester***

- Tanushree Sen (7267)
- Aditya Sharma (7271)
- Ravinder Hooda (7254)

Technology Focus:

ROBOTICS - A SOPHISTICATED WAY OF MANUFACTURING



Robotics and industrial automation now a days is replacing the conventional and manual way of manufacturing. Robots are now being installed almost every where in the industry for production. **ROBOTICS TECHNOLOGY** is a sophisticated technology for a majority of manufacturing activities in fabrication, machining, and assembly facilities. It is a significant contributor to productivity improvement with substantial gains in the quality of products. In the entire family of flexible automation technologies such as CAD, CAM and CIM. Robots, robotised carts and robotic devices play a dominant role. Robotics technology is the future trend in the stochastic manufacturing process to cope with the time dependent events in the entire manufacturing process robots to be employed must have machine intelligence with a proper coordination of both body and brain functions.

A strong multidiscipline team with a good Engineering base is necessary for the development and refinement of advanced robotics and flexible Automation which includes advanced computer programming, editing techniques etc. Robotics technology consists of tools and techniques. The key point is how the designers, builders and the users of the tools and techniques understand and apply them. Technology is no doubt important but success depends on the way of thinking and applications without bringing in unnecessary complexity.

Student's Viewpoint About The Department :



"Light has spread and even bayonets think"

I am very happy to be associated with the Mechanical Engineering Branch of Dronacharya College of Engineering. The Faculty members groom us for personality development, motivation, communication skills, attitude and behaviors, do's and don'ts during the course of interview, self esteem and confidence building etc. to enable us to have good jobs in reputed organizations.

By acquiring above attributes I got my placement with M/s JBM Ltd. and with M/s. Vedanta Sterlite Ltd. through Campus Selection and wish to be associated with the Department for a long run.

 **Shalendr Chauhan**



"God has made men upright, but they have sought out many inventions"

It gives me immense pleasure to be associated with the Department of Mechanical Engineering where I gained not only the technical knowledge (theoretical and practical) but also developed my personality. ***I got placed with M/s Sona Okegawa Precision Forgings Ltd. through campus selection.***

I am really ***thankful to my H.O.D., Prof. S. K. Bagga,*** for grooming and nurturing me.

 **Vijay Chhabra**



"Intellect obscures more than it illumines"

I am happy to express my views about the Mechanical Engineering Branch where I not only earned value based engineering education but also shaped my character and personality through the synthesis of science and spirituality. After crediting these qualities ***I got a number of calls for Master of Science courses from various reputed International Universities of Germany and USA.***

I wish to be associated with the H.O.D, faculty, staff and college for any kind of service in the future.

 **Ravinder Chugh**



"Language as well as the faculty of speech, is the immediate gift of God"

I take pride on being associated with the Department of Mechanical Engineering of Dronacharya College of Engineering. This Department has state - of - art labs facilities. Under the supervision and guidance of H.O.D, Prof. S. K. Bagga, a number of projects were completed. He believes in the development of students with innovative ideas, involvement in R&D activities and enhancement of capability with 360° orientation. By acquiring above attributes ***I got my placement with M/s JBM Ltd. and with M/s. Vedanta Sterlite Ltd. through Campus Selection.***

I wish to be associated with the faculty of this Department for building my career in years to come.

 **Robin Gupta**