

**Convocation Speech at Engineering college- Roorke**  
**(Feb-2008)**

Shri J. C. Jain, CMD of Texplas Group of Industries, & Chairman Seth Rohan Lal Jain Trust, Shri U. C. Jain, Vice Chairman, Shri Subhash Jain, Secretary, Shri Rishab Jain, Chief Executive Dr. Gopal Ranjan, Director General and other dignitaries on dice, Faculty & staff, esteemed guest & Invitees, parents, the press and media and my dear young graduates.

I deem it a great pleasure and honour to address this 5<sup>th</sup> Convocation of College of Engineering, Roorkee. I am thankful to the management of this college for inviting me on this coveted occasion. This institute has distinguished itself as a pre-eminent institution for technological study. It is your hard work, devotion to quality, dedication of your teachers and staff and vision of your management, which is responsible for this notable achievement. It gives me great pleasure to acknowledge the dynamic leadership of Shri J. C. Jain and the managing committee members.

My dear young graduates,

Today marks an important day in your lives and a significant milestone in your life's journey. Entering into this institution facing intense competition, you pursued your academic work with great dedication. By your hard work and by dedication to maintain high standards, you earned your degrees and awards. It is a moment of pride for you as much as it is for your teachers, parents and those who had any part in shaping your life so far. You can recall that your mission for higher learning began here with great

passion. But know for sure that it will not end here. It will not end until you feel fully confident of meeting uncertainties and challenges of the life's laboratory and dealing with successes and failures with a positive attitude.

Learning is a continuous process. We should crave for learning with application of our knowledge in upliftment of down trodden and betterment of society.

I am sure that each one of you has different dreams but surely you should never give up your dreams and aspirations for it is those aspirations that will drive you to higher levels of achievements and make your life purposeful. Here I would like to quote the four lines from former honourable president Dr. Kalam's address.

“When you wish upon a star,  
Makes no difference who you are,  
Anything your heart desires,  
Will come to you?”

If you are prepared to think big and act in time with conviction, you will be rewarded. You should hold on to your goals even if you stumble here and there, and learn your lessons.

My dear young friends,

You are the stewards of this nation and custodian of very rich tradition of antiquity with modernization. As we march towards becoming a developed nation, your role as that of 540 million youth of the country, becomes

increasingly important. One of the hurdles which often work as a speed breaker is our mental block-to think and considers higher targets and goals to be impossible. Our beloved former Honourable President Dr. A. P. J. Kalam says I quote “All technological advancements we have today are the outcome of scientific exploration of scientists of earlier centuries. At no time, man was beaten by problems. He strives continuously to subjugate impossibility and then succeeds” unquote. Therefore, if the targets of eradication of poverty, health for all, education of all, power for all and higher level of life standards are to be achieved in shorter period of next decade or so, it is the power of youth, which must rise to the challenge, and I have full confidence, all of you will strive hard not only to achieve your goals but also make this country a better living place.

Now you have achieved a major milestone in your career and you have an opportunity to choose either a post graduation course or to appear for various competitive exams or may be to opt for a job in industry. Even as you enter your working life, many good things are happening around. But we are facing several challenges too. The first good thing is that you are entering in your practical life when the Indian economy is growing at a rate of about 9% or so, which means lots of opportunities opening up in business and industry. However, at the same time, it is a big challenge to sustain this economic growth in a manner that does not adversely affect our natural assets. The other issue which needs attention is creating and sustaining the knowledge wealth and its effective utilization in development of the country. I will return to these issues later in my address. You are entering in your practical life at a time when Indian economy is getting integrated with the global economy through the process of globalization. Many of the Indian entrepreneurs have not remained bound to the national frontiers but have

ventured out and graduated to be global leaders of multinational ventures like JRD Tata & Laxmi Nivas Mittal. This means that many of the opportunities including the working atmosphere as well as the pay packages, which once were available only abroad, are now available within the country. However, this also throws the challenge-very high degree of global competitiveness and best efforts to maintain and remain competitive in the market all the time.

Looking back, the industrial development pursued for growth leading to improvement in the living standards and quality of life, with modern comforts, has been energy intensive. 420 Gega tons of oil equivalent energy was consumed since the very inception of life on the earth till date, in about 100,000 years. The 200 years of industrialization has seen consumption of energy to grow many folds, reaching 11Gega tons of oil equivalent, in 2003. More so, the energy expected to be consumed in next 15-16 years, that is by the year 2020, would be more than the energy consumed so far, in 100,000 years. These figures bring out disproportionate and ruthless exploitation of the natural resources to match the fast development on the earth planet. However, this industrial growth and improvement in living standards has not been without a price. The price paid is environmental catastrophe which still continues. To share with you, at present level of world population of 6.6 Billions, every second we loose on account of present level of development, 1000 Tons of top soil, 3000 square meters of Forest, 2000 square meters arable land which becomes desert. Additionally, 1000 tons of unwanted gases are released in the environment. All this is resulting in a very fast damage to the environment.

The unprecedented climatic events and the projections made by the Intergovernmental Panel on Climate Change (IPCC) paint a very frightening picture of the future and are threatening survival of our existence. In fact, the many impacts of climate change could impede the economic growth itself. Such development which erodes its own base cannot be sustainable.

Our forefathers left a beautiful earth planet for us to enjoy. We are borrowing the future of next generation. Hence, it is our moral duty that we should leave enough resources by its judicious use, through a sustainable development model which supports conservation of resources and healthy environment for future generations. While we are looking forward to a healthy fast growing economy it is equally important that economic growth and industrialization remain sustainable. Therefore, today, one of the biggest challenges before us is to model a sustainable development to check a run-away climate. There is an urgent need to accelerate development and use of renewable sources of energy namely hydro electricity, solar, wind and biomass etc.

My dear friends,

During last 61 years our country has made conspicuous and significant progress in the growth of Agriculture, Industry, Infrastructure, Information Technology, R&D and knowledge wealth.

Today, Indian Industry is not only growing in size but also in its level of operation. When I was of your age, the Indian Industry was novice limited to cement kilns, some steel making etc. The industry was largely isolated too. But today things have changed and our industry has a large

number of world-class products. The globalization has helped Indian industry to become competitive in the market beyond Indian Territory and win major contracts abroad. This experience of industry has helped even the domestic products and projects.

Our country is bestowed with a unique knowledge wealth of qualified professionals and it gets richer every year in this regard. As a society, we traditionally valued and nurtured the knowledge building activity. Knowledge age seeks and rewards ideas, irrespective of where they originate and reside. The perennial source of human capital of India has to be trapped and converted into value. Current age provides a new opportunity for India to shed its isolation, play role and destiny in the world will thus depend on the quality of her human resources. Excellence of India professionals in different fields are to be well imprinted on wide canvas of the globe. This process is already on. One can see that in more recent times, outsourcing of R&D talent in India by global industries has been significant. Still, there is immense potential for India to transform herself into a global R&D platform. It is imperative at this juncture that frontier area of technology like Nano-technology, Bio-technology and Bio-engineering are pursued aggressively in colleges and universities. For which we need to redefine our education system.

Here, I would like to mention that becoming a mere destination for outsourcing should not be our main goal. There is overriding priority to undertake technology development in different fields. We are aware that mere accumulation of basic knowledge is of limited practical use, unless it is translated into innovations, providing economic or social value. Contrary to common belief that innovation is a random creative process, much

innovation in the world today is an organized activity, involving systematic and disciplined efforts. There is another important link in the chain leading to economic impact and it is the organizational system. If India has to establish herself as a technology source or as a global R&D platform all these three elements namely basic knowledge, innovative application, and social organization have to be strengthened.

As I mentioned earlier, you have many choices for embracing a career, some of these include, information technology, Industry, education, R&D or management and administrative services where you may be receiving a handsome package. However, you should choose a career where you derive your eternal satisfaction and bliss.

Here I will like to draw your attention to two sectors, which have remained by and large outside the ambit of the globalization. One of them is Space and the other Atomic energy. However, in both the fields India has done very well and accomplished an evincible position.

I belong to Atomic Energy; therefore, I will talk about this sector with some elaboration. India has a unique position with regard to nuclear power. We set up our first nuclear power station Boiling water type reactors at Tarapur, in Maharashtra with the help of general electric of USA in 1960s and the other one pressurized Heavy Water Reactors at Rawatbhata, Rajasthan with Canadian assistance in 1970s. However, after Pokharan-1 in 1974 all kinds of foreign assistance supplies and collaboration were abruptly withdrawn. This sudden withdrawal affected the ongoing projects and slowdown of the expansion programme of nuclear power in India. However, it helped nuclear power programme to evolve and develop entirely

indigenously. Today, I am very proud to share with you that we are fully self sufficient in nuclear power which is one of the most challenging technology. We have fully indigenized and developed the technology in house with the help of Indian industry.

The Nuclear reactor technology based on Pressurized Heavy Water Reactor has reached the level of commercial maturity and we have not only standardized our 220MWe unit but we have also developed larger size units of 540MWe and now developed the 700MWe units. We have established benchmarks in all fields of commercial nuclear technology, from projects construction and completion to highest level of operation performance. Also, several unique technology missions have been successfully completed.

In nutshell, India is in a position to export these reactors. You may recall that some 50 years ago India imported British Morris Oxford, which was sold as 'Ambassador' in Indian market, today India's Indica, a totally Indian product runs on the roads of London as City-Rovers. So is the case of nuclear power but at a larger scale. Today, the world is looking at us to collaborate, and take home a bit of Indian technology. All this has been possible with the un-relented efforts of a team comprising lots of engineers and scientists - mostly young.

Currently, the Nuclear power is witnessing a renaissance world over as it does not emit green house gases thus helps in decarbonising the environment as well as for its high standards of safety and for being economical.

I am proud to share with you that my company, Nuclear Power Corporation of India Ltd under the aegis of Department of Atomic Energy, a public sector enterprise deals with all the facets of Nuclear Power technology that is siting, designing, constructing and operating Nuclear Power Plants. At present, it operates 17 nuclear power plants and is engaged in construction of five nuclear reactors in six states UP, Rajasthan, Maharashtra, Gujarat, Tamil Nadu and Karnataka

The Nuclear Power Corporation has an ambitious program to add a large number of nuclear reactors in next decade. This will require a large number of engineering discipline professionals hence offers a good career opportunity to young graduates like you. As you may be aware, country is also exploring possibilities in civilian nuclear international cooperation which on conclusion will enhance our nuclear power capacity base many folds multiply employment opportunities and continual growth of Industry in India. I welcome you to join the Department of Atomic Energy family.

I also invite you to interact with our communication group/HR group to seek more information on Nuclear Power.

Finally, I would like to remind you that, you are among a few fortunate persons who had access to educational experience at this renowned institution. This experience will reward you throughout your life. You are already awakened to the realities of intense competition and acquired capacity to take advantage of competitive environment. While you may use this capacity to create wealth and welfare for you and for the organizations you work for, it is also your bounded duty to strive for welfare of society, for reducing disparity therein and to empower those who are disadvantaged.

Remember that noble values of caring and sharing, of service and sacrifice has kept our society away from dangers of extinction and made it vibrant at all times. As inheritors of a society which blossomed up great values for life and a deep concern for human development, you should intensely aspire for deepening and broadening your knowledge, learn to experience the power of collective team work, and always be guided by higher values which you believe in. In all that lies before you, may God grant you wisdom, success and true sense of fulfillment of your cherished ideals and goals.