Speech of Honourabe Governor of Uttarakhand Dr.K.K.Paul on the occasion of Convocation of University of Petroleum & Energy on 12th June, 2017

Hon'ble Chief Minister, Shri Trivendra Singh Rawat ji,

Hon'ble Union HRD Minister, Shri Prakash Javdekar ji,

Hon'ble Higher Education Minister, Uttarakhand, Dr. Dhan Singh Rawat,

Chancellor, Shri SJ Chopra,

Vice Chancellor,

Members of the Governing Body of the University,

Members of the faculty, students, guests & friends from the media.

A very good morning to all of you.

I really deem it an honour to preside over the annual Convocation of this prestigious University. It is, indeed, very heartening to note that in the entire State of Uttarakhand, except for the IIT, this University alone, figures in the top 100 Universities of the country.

Convocation is one of the most important occasions and a land mark event in the life of a student, so also, for the University, as it showcases before the entire world the talent and its accomplishments. It is indeed a proud moment for the graduating students, their parents and the teachers. My heartiest congratulations to all of them and I wish all of them a bright future.

On this important occasion, I also congratulate the Chancellor of the University, the Vice Chancellor, the entire teaching fraternity as also the supporting staff of the University.

I am happy to see that this University has been, during the last 15 years, providing not only quality education in the field of engineering, management and law, but has also made Uttarakhand, an enviable name as the provider of quality higher education.

Quality education is the base on which India has to build her destiny. At the same time, we have to educate our people, in our value system, which will enable our youth to have their feet firmly on ground even while thinking of the most modern technologies and systems. To fight against social backwardness in its many forms, Universities are expected to play a especially important role. They must encourage their students to think anew and to be instruments of change.

Ever since its creation, Uttarakhand, has always had an aspiration for providing better education and training facilities, which in turn can push the local economy to a higher growth trajectory. Our young population is our strength, and value creation for them is a must. I am sure that Universities like UPES, can further think in terms of providing vocational training to these young people of the State, for improving their technical and employability skills.

Indian Economy is fast changing from being commodity centric to knowledge centric, which requires young workforce, with marketable and relevant skills. Productivity and skills of the workforce will help to harness the demographic dividend in the next

decade. Often, despite ever increasing enrollment ratio in higher education, present day education system has been blamed for churning out graduates, who lack employable skills. Higher education system in India is vast and diversified. To harness the opportunities of demographic dividend it is necessary that young workforce acquires quality higher education.

In this context, to make the learning environment both more useful and challenging by encouraging student to acquire the relevant skills the faculty and the University have to focus on:

- critical thinking skills,
- communication and creativity-related skills
- conceptualization and problem-solving skills,
- the 'case study' method of teaching can be adopted to develop problem solving and critical thinking skills,
- adopting a project-based approach to enable practical application of concepts learnt in the classroom,
- integrating industry internships into the curricula
- focusing on co-curricular activities to develop leadership and team-building skills, and

In order to become more relevant, as per the need of the times, to improve the curriculum and pedagogy, the following measures can be considered:

i) Curriculum should be regularly reviewed and updated at least every 4 years. The curriculum should be objective and employment oriented that instills creative thinking.

ii) The curriculum should be drafted in such a manner that the graduate/postgraduate students who are studying the course get equipped with the requisite knowledge and expected skills.

iii) In Examination Reforms: the mode of examination should gradually shift from the terminal, annual and semester examination, to regular and continuous assessment of student's performance; for this the faculty has to be more involved and dedicated.

iv) Education should be student-centric in which the faculty acts as a facilitator. Instead of learning by rote and mugging, emphasis should be on more experiential learning through activities and interactive sessions.

Considering that this University specializes in Petroleum and energy studies, it can make important contributions to the national development, by encouraging research in certain specific areas. I am not sure as to the amount being spent here, on research, but let me tell you that great ideas require great thinking, not necessarily great resources. For example a recent Nobel Prize in chemistry was shared by a young post-doctoral Russian student in his mid-thirties, who did some of the most ingenious experiments with cheap scotch tape and cheap graphite, to isolate individual graphene planes. Graphene comprises one-atom-thick planar sheets of carbon atoms and it is considered a game changing material, with vast potential in nano sphere. So we must realise that it is the power of the ideas,

rather than the power of instruments that ultimately wins. Sir C.V. Raman, our own Nobel Laureate got the thoughts about Raman Effect, while on a sea journey, back home, from England, without any sophisticated instrumentation.

I must however, add that radical innovations, which are long-term drivers of growth, must not come at the cost of our environment. With rapid industrialization and the consequent mechanization of different sectors, keeping carbon emissions in check has become imperative. In our quest for technical supremacy, we must always remember that a country's progress, in the true sense, hinges upon striking a balance between fulfillment of economic needs and protection of the natural environment. The rising concerns about economic needs and protection of the natural environment along with the rising concerns about global climate change, must all, spur us on, to find novel technological solutions to achieve this objective.

Our country has some of the largest reserves of coal in the world, but we are unable to harness. The problem is of sequestering Carbon dioxide. In order to overcome the shortage of petroleum, Germany, during the war had developed the technology to convert coal into petrol. A South African company is currently making use of this very technology. While going in for non conventional sources of energy, we need to carry out research, so as to simplify this process of conversion through use of catalysts, and make it cheaper, so that our coal can be fully utilized in a non polluting manner. Another area of research can be development of storage batteries for

electrical auto engines, or hybrid engines. As of now, China has cornered most of the Lithium resources, as such, we need to find alternatives or improvisations. The difference between a college and a University, is that the latter creates knowledge through research. So UPES being suitably equipped, has to contribute to the national growth by developing appropriate technologies. Though the university in certain other areas of research has been able to get 13 patents registered which is highly commendable. The University's interface with the industry is also appreciated as besides solving the technical problems of the industry, it also helps in placements of students.

I think this would also be the right forum to acknowledge the excellent work by the University on the CSR side. It has been giving

(a) Regular financial assistance and support to 05 state Govt. run primary schools in its vicinity since the past 14 years.

(b) Free annual residential coaching to underprivileged but bright students from the hinterland of Uttarakhand under "Project Abhilasha", for the past 12 years has also been given. The selected students are prepared to compete in Engineering Entrance exams for good Engineering colleges including NIIT's.

Friends, India is fast becoming a land of opportunities. We are the largest democracy in the world. Ours is the third largest economy on purchasing power parity basis, with per-capita income having almost tripled over the past decade. When much of the world is

struggling to avoid recession, we are growing handsomely on a sustainable basis. At the same time, we are also blessed with a youthful demography with a third of the population under 15 years of age and more than half under 24 years. Every third Indian living today is between 15 and 32 years. With such demography, it is natural that the popular aspirations would be set higher. I urge upon you to assume responsibility as proud citizens of this vibrant democracy. The University authorities in this context have to provide guidance and advice and mentor the youngsters for start ups and make in India projects. I would suggest that a special Budding entrepreneurs' cell, may be created at the University for channelizing the talent of youngsters and their creative ideas, into viable working units.

My young graduates, today you are on the thresh hold of a new era where you have to assume responsibility. But remember, whichever field you choose, ethics and integrity are most important qualities and will always stand by you solidly throughout your life. On your shoulders is the future of the country and I have no doubt that with your sincerity and zeal for hard work ,you will not only have a bright future, but also contribute to national development and bring glory to yourself as well as the University .

In the end once again my congratulations and best wishes. I thank the University for inviting me for this convocation. Wishing you all the very best.

Jai Hind !