Inspiring Young Minds to Embrace Research & Innovation for Vikasit Bharat @ 2047

Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology

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Vanakkam. Namaskar. Good morning to everyone, and congratulations to all of the graduates of Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology on this special day! Col.Prof. Vel. Dr.R. Rangarajan, Chancellor, Vel Tech, Dr. Mrs. Sakunthala Rangarajan, Prof. S. Salivahanan,Vice Chancellor of the University, members of Trust, Prof. Dr. E. Kannan, Registrar of Vel Tech Deans of Schools, faculty members, invited dignitaries, guests; graduating students, parents and their family members; members of the media; officers and staff of the university; ladies and gentlemen – it is my great pleasure to be here as the chief guest on the 13th convocation of Vel Tech. Chennai, which strives for academic excellence in teaching, learning, creativity, and research, translates knowledge into practice; fosters multidisciplinary research across science, medicine, engineering, technology, and humanities; and also encourages startups, incubation and entrepreneurship.

On this convocation day, I am glad to be with you all and would love to offer some words of advice as you embark on the next phase of your journey. In my view, education is not just about acquiring information but to acquire and develop new survival skills which includes effective communication, curiosity to learn, and critical-thinking. With the implementation of NEP, we are keen on changing our education system's stubborn focus on delivering a curriculum which is growing increasingly irrelevant to today's kids and the outmoded standardized assessments.

As we all know that we are living in exciting times in this Digital Era. World is fast changing with disruptive innovations impacting every sphere of our lives. Education sector is no exception too and therefore a rethink approach is required. Implementation of NEP 2020 has given impetus to the education sector and will boost activities in the higher education

sector. Research and innovation are two closely related concepts that play a critical role in driving progress and advancement in various fields. Research is being conducted in various fields, including science, technology, mathematics, languages, social sciences, and humanities – a multidisciplinary approach as emphasized in NEP 2020 is very much needed. Today with disruptive innovations in the area of ICT and mobile technologies, a ChatGPT can replace human beings in many jobs. Many jobs will vanish and new job profiles are created. It is very important for students to update themselves continuously, learn new skills, and continuous learning becomes critical. It is important that education should not only provide students with the skills they need to succeed in life, but also inspire them to strive for greatness and to make a positive difference in the world.

India is set to embark on an ambitious journey of becoming a global leader. At the heart of India's push for self-reliance (Atmanirbharata) lies a vision to reduce dependence on imports and establish domestic manufacturing capabilities. Our honorable Prime Minister Shri Narendra Modi has emphasized the importance of India's future and aims to establish the country as a key partner in the global economy. India aspires to become a 5 trillion dollar economy (3rd largest economy of the world in next 5 years) in the near future. To reach this mark, it needs to evolve systems and mechanisms to convert the present demographic dividend into high quality technical human resource, capable of doing cutting edge research and innovation, and deep-tech entrepreneurship. Promoting Innovation through R&D should help to develop new products and services that drive growth, create jobs, and improve the national welfare. Research and development (R&D) is the backbone of a globally competitive,

knowledge-driven economy. Investing in research and development ensures high market participation. This vision is propelled by several advantages that India possesses, making it a promising destination for innovation and production. **Innovation rules the future of work in all sectors in the next decade.** India is the 3rd largest startup ecosystem in the world, 110+ Indian startups in the unicorn club, $450 billion combined valuation of Indian startups. 21% Indian startups are primarily focusing on Global markets. One of India's key advantages is its vast and burgeoning market potential. With a rapidly growing population and a burgeoning middle class, India offers a huge consumer base for products, providing a strong demand driver for the industry. More specifically, India's talent pool can propel innovation skills by giving a significant emphasis on skill development, research and innovation.

Skill-based learning has become a necessity today as we live in an era of unprecedented transformation. The advent of new technology has led us into a growth-driven era full of opportunities but are we ready to capitalize on this? Of late, there have been attempts to transform the traditional higher education system into a skill-based one. The National Education Policy 2020 emphasizes practical, hands-on skilling rather than classroom-based learning. A decade ago, India was grappling with challenges like unemployment and graduates who are unemployable and lack soft skills. Today, skilling is being done when kids are in college through internships, NEAT programmes to acquire required skill sets. What we need is to understand the difference between skill-based and knowledge-based education. The latter involves understanding concepts whereas the former aims to channelise education into a practical form to find solutions. While our higher Education System is currently undergoing several changes, the growing need for seamless coordination of a classroom-based curriculum and practical skills-based learning demands that our institu-

tions and academicians begin designing a different kind of curriculum that focuses on research, development, and Innovation.

India's cost competitiveness for conducting research to attract many opportunities for creating a new Knowledge economy is the advantage for India. AICTE has more than 3600 engineering colleges with 1 million engineers passing out compared to 15700 graduates from all 23 IIT's. Recently, Research and innovation work has taken roots in our colleges. Chandrayan 3 launching has clearly shown that our students can be trained and placed to do top jobs and innovate. In the last 6 months, I have visited several universities and strongly believe that some of the pvt universities and engg colleges have improved research and innovation ecosystem and they will be force to reckon with in a decade, watch out these pvt universities, who are doing well in R&I and they will take over many of the IIT's soon.

At AICTE, our vision is to provide transformative education to Indian students to create leaders and innovators, and generate new knowledge for a sustainable society. AICTE has a tremendous role to play as a partner of a new knowledge economy to inspire, create and move our society forward. I would like to highlight ten achievements of AICTE:

1. Able to provide access to affordable quality technical and management education in all parts of country by creating sufficient capacity;

2. Trust based approval system;

3. Robust E-Governance system and use of technology to bring transparency;

4. Prepared perspective plan of technical education by involving industry bodies;

5. Started programs in emerging technologies as per recommendations of perspective plans. To remove the language barrier for the students of diverse backgrounds, technical and management education was allowed in Indian languages;

6. Scheme of engineering programs revised to discourage rote learning and give space to the learners for innovation and out of box thinking.;

7. Curriculum of engineering programs revised as per industry needs by involving industry representatives and experts;

8. Internships were made an integral part of the curriculum and a portal was developed where a huge number of internships were posted by large, medium and small industries. Technical programs are started for working professionals in flexible timing to upgrade their qualification;

9. Started culture of Hackathon and Startup to promote entrepreneurship; and,

10. Started a structured induction program for students to address the issue of stress and depression and faculty training programs in emerging areas so that faculty is equipped to take on the challenges of fast changing technologies.

Students, these achievements are not the end of our reforms, instead AICTE is ready with its future plans. We have planned five important tasks for the next five years and all are coordinated with the implementation of NEP. Our focus for next five years would be on:

1. To provide technical and management books in all 22 Indian languages;

2. Training in IPR to 2Cr students in the next five years and internationalization of technical education;

3. Integration of Vocational education and skill courses with technical and management education and training to 2.5 Cr students in skill based courses at different levels;

4. Train 50 lakh human resource in chip manufacturing/design, advanced communication technologies and logistics; and,

5. To start apprenticeship embedded degree and diploma programs in 5000 institutions with a total intake capacity of 10 lakh students and 50 Indovation Centers in different parts of the country to convert ideas.

So, we have a lot on our plate and the only thing we need is our young generation, who is ready to learn, grow and create opportunities for themselves and others also. Students, you all have worked very hard to reach this point of convocation. As you move forward, I acknowledge your dedication and encourage you to embrace new experiences and opportunities that come your way. I encourage you to be true to yourself and stay focused on your passions and goals. You need to upskill/reskill yourself on a continuous basis and stay true to yourself, you will find success and fulfillment. Remember that you need to develop important life skills such as critical thinking, problem-solving, communication, and leadership. These skills will serve you well in any career or path that you choose.

I once again offer my congratulations to the graduating students. Hope that the competences, skills, and attributes that you all students have acquired during your stay at Vel tech will be useful in your future career. I also congratulate the proud parents whose role in the success of their children is far larger than the children usually believe at this juncture of their lives. My wholehearted appreciation is also to the faculty, staff of the university and leadership of this institution that have aided in shaping your education, thoughts, values and careers ahead. Congratulations once again to you and your parents on this occasion. All the best.

Jai Bharat. Jai Hind.