

**First Convocation Address**  
**Chandy College of Engineering, Thoothukudi**

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By

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**“INDOMITABLE SPIRIT” OF YOUTH**  
**FOR INDIA’S GLOBAL LEADERSHIP**

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**Respected Thiru P Selvaraj, Chairman, Chandy Group of Institutions and Thiru SP Chandy Vice Chairman, Dr. K Sivakami Sundari, Principal, Chandy College of Engineering, Thiru Mariappan, Director (News), Door Darshan, Distinguished Guests, faculty members, Graduates who are receiving certificates and their proud parents, Friends from Media, Ladies and Gentlemen,**

My warm greetings to all of you.

I am indeed honoured and delighted to participate in the first convocation function of Chandy College of Engineering, Thoothukudi. Chandy group of Educational Institutions has come out of the great vision of Shri P Selvaraj who dedicated himself for the development of youth with value system. When Thiru Mariappan suggested me to come for the convocation, I was asking him about the details of this college. I am astonished to see the enthusiasm shown in imparting quality education through number of Institutions right from school to Industrial Training to Engineering College. His service in the field of Education to create awareness on the importance

of education among the economically weaker sections of the society living in the nearby villages is commendable. I wish the College to grow as a research institution and outshine to become world class in the years to come.

Moreover, standing before you at Tuticorin obviously I get a great feeling to remember “கப்பலோட்டிய தமிழன்” who showed indomitable spirit against the British Empire, by sailing the first Indian Ship through Swadeshi Steam Navigation Company in the year 1906. Despite the Britishers’ efforts to stop the process, he vowed to the people that he is embarking on a mission to Bombay to come with a first Indian ship. He said, **“I will come back with Ships or otherwise I will perish in the sea!”** The relentless efforts of Va.Vu.C resulted in the sailing of the ship between Thoothukudi and Colombo competing against British ships. In other words, Thoothukudi was the historical place and Va.Vu.C was the Indomitable Spirit to make India a strong formidable nation to fight against the British Empire. That is why Thoothukudi port has been named after VOC. Thereafter, there came a person Walchand who established first shipyard to build indigenous ships in 1948. Today, Hindustan Shipyard Limited (HSL) at Visakhapatnam has become an important industry under Ministry of Defence to build warships and submarines. Walchand was truly an indomitable spirit who pioneered many important industries such as Hindustan Aeronautics Limited, Scindia Steam Navigation Company and so on during British rule for India. Both the stalwarts broke the spinal cord of the British Empire in heralding the commencement of Indian ship industries for a trade and eventually contributing to security.

Another visionary industrialist of our country was Jamshetji Nusserwanji Tata fondly called JN Tata who envisioned India to manufacture steel. When he wanted to establish a steel industry he needed technology of steel making. So he boarded on a ship and went to London to meet his English friends asking for the technology. While travelling in the ship, he had Swami Vivekananda as his fellow traveler in the same ship. Swami Vivekananda was traveling to Chicago to give the address in the world spirituality congress. JN Tata explained Swamiji about his intention

to make India to produce steel. Swami Vivekananda told him “When you are trying to make a steel industry, think of building an institution which will teach material science”. JN Tata agreed to the suggestion and disembarked at London to meet his friends, whom he expected the help. During the dinner hosted by his friends, they told JN Tata that, “If India can make steel, we will eat them”. Offended by their statement and refusal of steel technology, he then proceeded to USA and other steel manufacturing countries to meet some friends, who can help him. After many attempts, JN Tata succeeded in getting the manufacturing technology for steel. His Indomitable Spirit to make India a manufacturing country succeeded with commissioning of TISCO at Jamshedpur resulted utilization of iron ore and other raw material to be used for steel manufacturing through our own effort. At that point JN Tata remembered Swamiji’s word and established the Indian Institute of Science at Bangalore with a focus on metallurgy and material science. The Indian Institute of Science opened in 1911 in Bangalore, many years after his death. His vision was fulfilled. Visionary may die, but the vision never dies. Today, the Tata family purchased the steel industry CORUS from the same UK, which refused technology. Many of the steel industries in UK are owned by Indians. Visionary’s dream of India becoming Steel Nation came true.

What I have so far explained to you was how the Indomitable Spirit of few leaders seeded the spirit of independence in evolving industry for our country during pre-independence era. During this time, the West had seen Industrial Revolution and manufacturing became a very important component of economy. When the British left India, we were at the bottom most place in terms of Prosperity. All round famine resulted in the death of nearly 50 lakh people at Bengal, with very low agriculture production and practically no economical development

After the Independence, through Green Revolution we have achieved self-sufficiency with the production of 260 Million Tonnes of food grains with export thrust, and through White Revolution became the largest producer of Milk in the world - 127 million tonnes. Our educated youth mostly coming

from Engineering Colleges have contributed to make India with \$108 billion revenue in the IT Sector. Highly knowledge based Pharmaceutical Industry playing a major role in the Indian economy. Govt. set up Industries for manufacturing of aircraft, radar, communication equipment, ship yards, Battle tanks, guns, heavy vehicles, machineries for Agriculture etc. Visionary leaders like Dr. Homi Bhabha, Dr. Vikram Sarabhai, Prof. Satish Dhawan and Dr. APJ Abdul Kalam made India a strong country with Nuclear, Space and Missile Programmes making our country on par with developed nations. We have “Technology Vision 2020” to progress in the outlined roadmap to see India a fully developed Nation. I would like to inform you that these great Indomitable Spirits I mean the Technology Leaders have made India a great Nation. All of you are in the Technical Education, I wish you to grow to the stature of these great men and contribute to the Nation.

Dr. Abdul Kalam Said, “when India launched SLV-3 on 18 July 1980, India became the member of the Space Club, but was 7th country to conduct a satellite launch; When AGNI was flight tested on 22 May 1989 and nuclear tests carried out on 11 May 1998, India was the sixth country to have a long range strategic missile with nuclear weapon. When BRAHMOS was launched on 12 June 2001, India along with Russia became the first country to have the fastest precision attack cruise missile in the world.”

This is the contribution of the younger generation to make India the first country to possess an advanced Defence Product for the security of the country.

### **BRAHMOS SUPERSONIC CRUISE MISSILE**

We have succeeded beating the developed countries by successfully designed, developed and produced advanced Supersonic Cruise Missile BRAHMOS. The Gulf Wars in 1991 gave us the message that cruise missiles are very important to destroy the enemies’ assets on the first day of the war, without even the enemy knowing. Cruise missiles are stealthy, fly at very

low altitude and very precise to hit the target. American Tomahawk missiles were dominant during the Gulf Wars, but it has a subsonic speed. India decided to go for cruise missile development, with a difference. When the whole world was using subsonic (i.e. speed less than that of sound) cruise missiles, India decided to go for supersonic cruise missile, **3 times faster than the sound**. To cut short the time of development due to the competitive world and take leadership, we have formed joint venture with Russia i.e. BrahMos. A new generation of young scientists from the Indian academic institutions with the help of experienced Russian specialists, formed a consortium with industries of India and Russia, made it possible to create a wonderful product, i.e. BRAHMOS. It is the fastest missile in the world operationally deployed with our Armed Forces, which can be launched from multiple platforms on land, on sea, underwater and in air with multiple missions against land and sea targets. The unique nature of BrahMos with its universality made Indian Armed Forces, the first in the world to possess supersonic cruise missiles. Various versions of BRAHMOS have been developed, produced and inducted in the Indian Armed Forces on ships and on land. A Missile Industry Consortium with 205 public – private industries are participating in the manufacture of systems and subsystems. BrahMos is a world leader in the cruise missile family. The developed world got astonished to see the Indomitable Spirit of India through this **Brahmastra**. We together established that “**We can do it**”. Today, there is no competitor to BRAHMOS in the world and many countries want to have BrahMos system in their armoury. Thus, BrahMos has established a global leadership for India.

### **Hypersonic Reusable Cruise Missile–The Sudharshan Chakra**

Government also gave me an assignment of being Chairman, NIT Kurukshetra. I went to the place where Lord Krishna took Viswaroop to propagate Bhagwath Gita a great teaching for all of us. At the same time, when we look at his great dominant posture, we see his power which expressed through ever-revolving Sudharshan Chakra on his right index finger. We got a great Idea. Why not we make a missile of this type which no

one has achieved in the world? If this is so, the idea came to us that why not we create a hypersonic cruise missile which destroys the target and flies back to us for re-use. This is our next generation BRAHMOS which has a speed of 8000 km per hour, delivers the warhead, assess the destruction of the target and come back to get ready to go again, i.e. Hypersonic Reusable Cruise Missile, BRAHMOS-II, the new version of Sudharshan Chakra.

## **BENCH MARKING - MANUFACTURING COMPETITIVENESS**

Manufacturing has been recognized as the engine for economic growth. We should focus on the manufacturing sector towards Agro food processing Industry, Bio-medical engineering, Transportation, Oil and Gas industry, Defence, Aerospace, ICT and electronics hardware manufacturing. While the GDP growth rate of the country is only 5%, the share of manufacturing sector in the country's GDP is 16% over the last decade. This can be further increased to 25% by enhancing the electric power availability in the country. As per the recent McKinsey report, India's manufacturers have a golden chance to seize a larger share of the global market, if we can produce high technology quality products and make them available in time. It further says that, India's manufacturing sector will grow six fold by 2025 to \$1 trillion business, while creating up to 90 million domestic jobs. Engineers and Technologists passing out from lead engineering institutions of our country have greater chance of finding attractive career path.

## **INDUSTRIALISATION**

Tamil Nadu was a leading industrial state in India earlier. Now the present position of Tamil Nadu needs vital skilled human resource to upgrade our industries and also to build new large employment providing manufacturing industries through public private partnership. Fortunately Tamil Nadu has number one position in the highly skilled human resource and the Industrial Corridors have been announced. There are considerable discussions going on to promote industry development in these corridors. The proposed Madurai-Tuticorin Industrial Corridor will further boost the manufacturing sector in a big way because of the availability of 61.48

Million Tonnes of Ilmenite; and 5.31 Million Tonnes of Rutile – the Titanium ore deposits in this region. This will help in setting up a large scale production plant of Titanium products which are required essentially for the leading aerospace industries in the world. Moreover, I would like to inform that there is considerable research is going on at Dept. of Atomic Energy for using Thorium as raw material for energy generation in place of Uranium. As the availability of Uranium is depleting and India has one third of Thorium deposits of the world, there is an urgency to generate power for meeting the industrial requirement. Fortunately, Tamil Nadu has 2.36 million tonnes of Thorium Ore and Indira Gandhi Centre for Atomic Research at Kalpakkam there is a good chance of industrial development in the industrial sector. Moreover, Thorium is safer to handle compare to Uranium. Intensive effort is required in this direction.

The Madurai-Tuticorin Industrial Corridor must utilise this great opportunity of Industrial development in materials and manufacturing, and energy sector. These would definitely generate lot of job opportunities and can bring economic prosperity. The role of young Engineers like you will definitely change the status of the State and Country.

## **CONCLUSION**

India is a unique Nation, telling the world, the highest value of democracy and unity among diversity. There may have been ripples here and there, time and again, but in overall analysis “India is India”.

When we talk about our Nation and its greatness, every one of us has to be a responsible citizen. We have to individually create value system for each one of us. If we establish ourselves a good human being, then the Nation will be a good Nation. As the divine hymn says,

“Where there is righteousness in the heart  
There is beauty in the character.  
When there is beauty in the character,  
There is harmony in the home.

When there is harmony in the home,  
There is an order in the Nation.  
When there is order in the Nation  
There is peace in the World”

Our cultural heritage has been our strength. We survived as a Nation, the onslaughts of invaders for more than 1000 years and the numbing effects of colonisation including to torture given to great leaders like VOC. We have forgotten the sacrifices of those great leaders. We have also learnt to adjust rifts and divisions in our own society. But in the process of all adjustments, we have also lowered our aims and expectations and settled down to a lower mindset. From the great knowledge givers to the world and richness, we came down to the lowest strata of prosperity, when we got the freedom. It is time we must regain our heritage and wisdom to enrich our lives. We need to home-grow our own model of development, based on our inherent strengths to tell the world that Indians are great people.

We need to set our targets very high and work hard to achieve that high aim. Problems may come on the way but we have to defeat them so that problems do not absorb us. Nothing is impossible to achieve, if our aims are high and purposeful and we are determined to achieve them.

**Mahatma Gandhi once told,**

“Men often become what they believe themselves to be. If I believe I cannot do something, it makes me incapable of doing it. But when I believe I can, then I acquire the ability to do it, even I did not have it in the beginning.”

So friends, everything is in your hand. You must make yourself ready to do a remarkable work, which will find a place for you in the history of the world. You know that history is not written for cowards and one who thinks small. If you think big, if you have a vision, and if you help others, if you do a great task or invention, or a great project, you will find a page written in

the history of the world. I wish the names of those who studied in Chandy College of Engineering are imprinted in that book. **You can do it.**

Sir CV Raman once said at his age of 80:

*“Success can only come to us by courageous devotion to the task lying in front of us. What we lack is perhaps courage, what we lack is perhaps driving force, which takes one anywhere. We have developed an inferiority complex. I think what is needed here today is the destruction of that defeatist spirit. We need a spirit of victory, a spirit that will carry us to our rightful place under the Sun, a spirit, which can recognise that WE, as inheritors of a proud civilisation, are entitled to a right place on this planet. If that indomitable spirit were to arise, nothing can hold us from achieving our rightful destiny.”*

I wish you all success in your career. May God bless you.

Jai Hind!