

MY FAVOURITE SCIENTIST

- SIR. J. C. BOSE

My favourite scientist is Jagadish Chandra Bose, popularly known as JC Bose. A man who single-handedly brought back India's lost glory in Science and put Indian scientific research in sync with western world. And he did all these things sitting in India, facing racial prejudices, financial handicap, without infrastructure and most importantly fighting the belief that a native Indian can never be equal to a British in any respect.

Life History and Education:-

Born in 1858 he started his education at a local school in vernacular medium. His schoolmates were sons of farmers, fishermen, and workers, all from the so called lower strata of the society and he mixed freely with them. It played a crucial role in his later life.

During his secondary education in Calcutta's Xavier college he came in contact with Father Lafont, who implanted the love of science in his life.

He went to London to be a doctor. After a year he was forced to leave medicine and

take up physics because of his fragile health. Successfully completing his higher studies he returned back and joined Presidency College as Professor of Physics, first among any Indian.

Contributions:-

Scientist JC Bose was a pioneer in two completely different areas of science, microwave physics and bio-science.

- (1) At the starting point of his career he started working on Electromagnetic Waves. He demonstrated the effects of EM Waves in Calcutta's Town Hall. Encouraged by the response he marched ahead to invent the first radio receiver. He presented and demonstrated his invention in Royal Society of London, with the minutest detail. And it costed him nothing less than a Nobel Prize in Physics. Italian scientist Marconi, inspired by his invention went on to build and demonstrate a radio receiver in public.
- (2) He patented the first solid state microwave receiver but refused to reap financial benefit out of it. He went on

to build and demonstrate numerous important technologies associated with microwave communication.

(3) Later in his life he turned his attention to life-science and started carrying out pioneering work related to plant response. His skill with technology allowed him to develop a very sensitive device called crescograph. Using crescograph he demonstrated that plants respond to external stimuli such as heat or pressure just like animals. He went on to discover another very important idea that responses in life form are electrical in nature, not chemical which was the prevalent notion at that time.

(4) In 1917 he established a research centre, mainly with his own money. That institute, known as "Bose Institute" is one of the finest research institute of India today. He was at the helm of Bose Institute till his death in 1937.

WHY HE IS MY FAVOURITE SCIENTIST ?

- (1) Apart from his scientific work described earlier he also inspires me as an extraordinary human. He was also a pioneer in other areas of life. He constructed sophisticated equipments for microwave experiments taking help of one of his early childhood friend who was a village blacksmith. No one will disagree that guiding an unskilled village blacksmith to manufacture cutting-edge precision scientific instruments is nothing sort of revolutionary. But he repeatedly did it starting from his early day of laboratory setup. In that process he inspired a generation of ordinary people around him to believe that they can be as good as or even better than the British.
- (2) After his early success in microwave physics he could have easily migrated to Europe taking up a comfortable job in terms of money and infrastructure and intellectual association. But he didn't do that and continued to teach in Presidency college & inspired genera generations of students. Two of his numerous students were SN Bose & Meghnad Saha, two luminaries of Indian Science.

(3) He was a popularizer of Science. He wrote sci-fi novels in Bengali, definitely first one in Bengali and possibly also the first one in any Indian Language.

Conclusion :-

In 1997 IEEE, highest body of Electrical and Electronics Engineer recognized him as the inventor of radio receiver and not Marconi. Yet even today in India, books are being published and kids are being taught in the school that Marconi is the inventor of radio. How long he has to face this injustice? Can we not change it? I hope my small essay will play a vital role in that direction.