



J.K. Sen



NIRMAL KUMAR SEN

(1897-1983)

Elected Fellow 1951

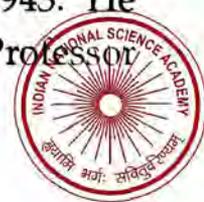
EARLY LIFE AND EDUCATION

NIRMAL KUMAR SEN was born on 1st January, 1897, in a middle class family in the village Harinagar of Jessore district. At that time Jessore was in undivided Bengal (now in Bangladesh). Shortly after his birth his father Pyari Mohan Sen and mother Sarojini moved to the district town, Pabna which became a part of Bangladesh after partition. Nirmal Kumar Sen received his school education from Pabna Institution. After passing the matriculation examination from this Institution in 1915, he was admitted to Edward College, Pabna wherefrom he passed the Intermediate examination in Science (ISc) in 1st Division. He then proceeded to Dhaka to study honours course in Chemistry and got admission in Dacca College. In Dacca College, honours course in Bachelor's degree was taught for two years at the University of Calcutta while at the University of Dacca the course was taught for three years. Nirmal Kumar Sen stood 1st in the second class in the honours examination and secured first position amongst the BA candidates in Chemistry honours. He was awarded Raja Kalinarayan Post-graduate scholarship and obtained his MA degree in Organic Chemistry from Dacca University in 1922 and stood first securing first class.

At that time Dr JC Ghosh, an eminent scientist, was Professor of Chemistry at Dacca University. Academic attainments of Professor JC Ghosh, his organisational activities and affection for the students had a strong influence on Nirmal Kumar Sen. While he was a Lecturer at Dacca Government College, he started his research work in chemistry for his DSc degree under the guidance of Professor JC Ghosh on the constituents of jute seeds. The title of his thesis was "Chemical Composition of Jute Seeds". In 1933 he obtained the DSc degree in Chemistry from Dacca University and also received the Elliot Prize in Chemistry of the Royal Asiatic Society for the best research work carried out during the year 1933. His work on the constituents of Jute seeds was referred to in books as standard references.

CAREER

Professor Nirmal Kumar Sen was transferred to Hooghly Mahasin College in 1942 and then to Presidency College, Calcutta, as Professor of Chemistry in 1943. He assumed the charge of the Head of the Department of Chemistry in 1948. Professor



Nirmal Kumar Sen was later promoted to the post of senior Professor of Chemistry. He received a special training at the Civil Defence Research Establishment under Government of India in 1942 and was given charge of the Civil Defence Anti-gas Department of Bengal and Sikkim.

The post-graduate system of education in India started at Presidency College Calcutta, in 1885. After the introduction of the post-graduate teaching in 1917 at Calcutta University, post-graduate teaching in chemistry was carried out at the University College of Science and also at Presidency College. Professor Sen was a teacher in the post-graduate department and guided research for Master and Doctorate degrees. Professor Sen was primarily interested in the chemistry of Natural Products. It may be relevant to mention in this connection that upto 1952, a chemistry student at Calcutta University had to submit thesis in part fulfilment of his MSc Examination. Professor Sen guided the students for their thesis and also taught chemistry at the David Hare Training College. His method of teaching at the undergraduate and at the post-graduate levels attracted the attention of the students. He was highly respected for his scholarly and affectionate nature.

RESEARCH CONTRIBUTIONS

Professor Nirmal Kumar Sen visited UK, USA and Switzerland and carried out post-doctoral research with late Professor TP Hilditch, FRS, at the Industrial Laboratory of the University of Liverpool, UK, and with late Professor P Karrer, NL, at the University of Zurich Switzerland. Professor Sen was deputed by the State Government in 1949 to receive Forensic Science training in UK. During his stay there, he visited the Metropolitan Police Laboratory, New Scotland Yard, London, and attended Crime Prevention Exhibitions at Keighly organised by the West Riding Constabulary under the auspices of London Home Office. On his return he was a part-time lecturer (1950-1952) in Forensic Science, Calcutta Police Department. At the request of the Government of West Bengal he had drawn up a detailed scheme for the establishment of a full-fledged Forensic Science Laboratory for the State with four main divisions involving Chemical, Biological, Physical and Ballistic sections. The scheme received administrative sanction of the State Government and was given effect from July 1952. In July 1952, Professor Nirmal Kumar Sen was appointed the Director-cum-Senior Chemical Examiner, Forensic Science Laboratory, and dealt with all the cases of West Bengal and medico-legal cases of Bihar, Assam, Orissa and the Military Department of Government of India. Besides his busy schedule at the laboratory, he also delivered a series of lectures on science and criminal investigation to the Police Officers of the State of West Bengal as well as of Bihar in order to train them in this branch of science. Professor Sen had been visiting scenes of crime to give practical training to the investigating officers.



in scientific criminal investigations. He is considered to be the pioneer of forensic science research in India. He published a series of articles on Laboratory Aids for criminal investigation in the Calcutta Police Journal and "Jnan-O-Bijan" for the guidance of police officers.

Professor Nirmal Kumar Sen attended the XII International Congress of Pure and Applied Chemistry held at New York (USA) in 1951 and the First Inter-American Conference on Legal Medicine and Forensic Science held in Puerto Rico in 1962.

After setting up a full fledged Forensic Laboratory at Calcutta in 1952, Dr Sen realized the need for extensive research for coping up with the changing pattern of crime, fulfilling the requirement of simple identification methods and development of standard kits for crime scene visits. After much endeavour he framed various guidelines for crime scene visits and developed suitable kits for use by the investigating police officers and forensic personnel. He showed keen interest of the examination of Forensic Science and question documents related to ink writing. Various individual cases were handled successfully using modern scientific methods. The successful investigation of the Belarani murder case in 1954 and of the Din Dayal Upadhyay murder case deserve special mention.

The space at Calcutta Medical College was inadequate for the rapidly expanding Forensic Research Laboratory. A plan for a new building for the Institute at Belgachia Road in the northern skirts of Calcutta was drawn out. The foundation stone of the Laboratory at Belgachia was laid on February 2, 1965, by the then Chief Minister, Sri PC Sen. Professor Sen retired as the Director of the Institute in 1968. The Institute moved to its new premises at Belgachia Road in 1971. After his retirement as the Director, Professor Sen served as Adviser to the Institute for several years. This Institute has the infrastructure for handling crime investigations on modern lines and has played an important role in the development of forensic science in India.

After his retirement Professor Nirmal Kumar Sen worked for three years as an Emeritus Scientist in a project sponsored by the Council of Scientific & Industrial Research, India on "Role of ink in the examination of Question Documents". As a true scientist, his mind was thus open to accept new ideas unhesitatingly. The advent of modern techniques inspired him to introduce them for routine laboratory work related to forensic examination, e.g., detection of trace kerosene oil and petrol in fire cases.

The creation and functioning of the State Forensic Laboratory, West Bengal, under the guidance of Professor Sen interested the Centre and other states to develop forensic laboratories. Four laboratories were established for forensic work and research under Government of India.



For his research contributions to chemistry and forensic science, Professor Nirmal Kumar Sen became Fellow of the Royal Institute of Chemistry, UK in 1950, Fellow of the Indian National Science Academy in 1951 and Fellow of the Indian Academy of Forensic Science in 1976.

FAMILY

Professor Sen was married to Smt Prova Sen. They were the proud parents of one son and three daughters. From childhood Professor Nirmal Kumar Sen was interested in sports. From 1906-1915 he led the school football team on several occasions and was appointed the captain of Edward College Football team from 1915-1917. Professor Nirmal Kumar Sen became the captain of College cricket team at Dacca College and from 1920-22 he was the captain of the cricket team of Dacca University. Later he was the teacher-in-charge of sports of Dacca Intermediate College and a member of its cricket team. He was the recipient of the College Blue at Presidency College for the best bowling average of the year 1945. From 1962-1971 he held the position of the Commandant Home Guard of Calcutta North region II (Belgachia).

After retirement from his professional activities, he went to his son in Canada to lead a retired life. He returned to India in 1983. He passed away on October 16, 1983, at the age of eighty-seven at New Delhi.

Professor Nirmal Kumar Sen will always be remembered by his students, admirers and the common man for his unique and important contributions to the development of forensic science in India.

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