

196

A THESIS
ON
RECIPROCAL TETRAHEDRA

By
ARUN SANYAL
Department of Mathematics
Indian Institute of Technology
Kharagpur

Submitted to the Indian Institute of
Technology, Kharagpur, for the award
of the Degree of Doctor of Philosophy
in Mathematics

1967


510
SAN/R



273

CERTIFICATE

This is to certify that the thesis entitled 'Reciprocal Tetrahedra' which is being submitted by Mr. Arun Sanyal to the Indian Institute of Technology, Kharagpur, for the award of the Degree of Doctor of Philosophy, is a record of bonafide research work carried out by him under my supervision and guidance. Mr. Sanyal worked for three years (1964-67) and the thesis has reached the standard fulfilling the requirements of the regulations relating to the degree. The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree or diploma.


(Sahib Ram Mandan)
Assistant Professor
Department of Mathematics
Indian Institute of Technology
Kharagpur

29/8/67

ACKNOWLEDGEMENT

For the first nine months of my stay at this Institute as a Research Scholar, I struggled and struggled to learn some Geometry direct from my personal and day-to-day contact with the renowned Geometer of the East, DR. SAHIB RAM MANDAN. During this period I passed through many moments of disappointment and frustration. But for Dr. Mandan's constant encouragement and inspiring guidance it would have been rather difficult for me to survive out of my struggle with the subject which did fascinate me all time inspite of my hard time with it.

Time came when Dr.Mandan started packing for Baghdad to join his new assignment as a Visiting Professor at the University of Baghdad. Just when I was wondering what would be my fate in his absence, Dr.Mandan handed over to me the manuscript of the work of his first Research Scholar, Late (Dr.) Madan Mohan, who had been obliged to shift to Elasticity due to the prolonged illness of Dr. Mandan in 1956. After completing his Doctorate in Elasticity, Dr.Mohan had joined as Lecturer at the Bombay I.I.T. and died soon after, before Dr.Mandan could call him back to complete his incomplete work. Thus it fell to my lot to make out by myself what this incomplete manuscript contained, not an easy job, to string the scattered pieces therein and

to develop the same into a Ph.D. thesis by adding enough material of my own thought within the prescribed limit of the time allotted to me for this purpose. Ideas after ideas crossed my mind as I turned its pages and kept me happily engaged in Dr.Mandan's absence as I advanced into its depths. On his return from Baghdad I placed my achievements before Dr.Mandan for his comments. But he happens to be a very hard task master. Besides correcting my arguments, he corrected my language also and made me write out all again and again to test my patience and perseverance without which, according to him, no scholar can prosper. In fact, every time I revised my work under his directions, I got new results as my rewards.

I wished to record this tale of mine for the benefit of my readers to know how I arrived at this treasure of results, and developed at every step a deep sense of gratitude for Dr.Mandan who is really responsible for this thesis.

I take this opportunity to thank my numerous friends at B.C.Roy Hall of Residence for keeping up my spirits by their cheerful company during these thirty-three months of serious thought, deep reflection and grave introspection.

I shall be failing in my duty if I do not acknowledge my obligation to Prof.B.R.Seth, the former Head of the

Department of Mathematics of this Institute, at present Vice-Chancellor of Dibrugarh University, who persuaded me to leave Midnapore College and come here to work under Dr. Mandan, to Prof. A.K. Gayen, the present Head of the Department, for his continuous encouragement in my work, and finally to the authorities of this Institute for financial help in the form of a Research Scholarship since 1st December, 1964.

Arun Sanyal
Arun Sanyal

Indian Institute of Technology,
Kharagpur, 1st September, 1967.