P R E F A C E

On fool’s day 1975, I started my research work in Computer Science under Prof. Arun Kumar Choudhury, Head, Department of Computer Science, University of Calcutta as a R. B. Ghosh Scholar. With submission of this thesis and hopefully Ph.D. award, I think my foolish period of life strewned with constrained dependent academic endeavours will be all over. I thank Prof. Choudhury for helping me in the research work that culminated in the present thesis and will remain ever grateful for allowing me to associate his esteemed name with this work.

I must mention my motivation for the coinage of the word ‘pathology’ in the title of the thesis. The word is taken from a catching sentence in Arthur Hailey’s ‘Final Diagnosis’. The sentence was, 'it is the pathologist who makes the final diagnosis'. The intention of the thesis is in perfect tune with this sentence. It is in fact the diagnosis and remedy of the diseases of certain graph algorithms that we have attempted herein.

A C K N O W L E D G E M E N T S

It is a pleasure to acknowledge the help I have had received from different individuals and institutions. I am particularly indebted to my colleague Sri Atanu Rakshit for his valuable contribution in the present thesis; Dr. S. Bandyopadhyay my colleague and teacher; Dr. R. K. Sen of IIT Kharagpur and my B.Tech. and M.Tech. students who were patient inspite of my divided attention towards them during last one year.
I thank University of Calcutta and C.S.I.R. for providing me necessary monetary assistance during the research scholar period of my life. Thanks are also to IBM 1130 computer and my colleagues for their affectionate behaviour during last ten years.

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