ACKNOWLEDGEMENT

It is with immense pleasure that I express my deep gratitude towards my Supervisors - Dr. M.K.P. Amma, Former Chairperson, Department of Biochemistry, Panjab University, Chandigarh, and Professor I.S. Jain, Department of Ophthalmology and Professor R.N. Chakravorty, Department of Experimental Medicine, Postgraduate Institute of Medical Education and Research (P.G.I.), Chandigarh, for their guidance, valuable suggestions, detailed discussions and whole-hearted cooperation during all the phases of this work.

I am deeply indebted to Dr. S.S. Pandav, Senior Resident, Department of Ophthalmology, P.G.I., for his whole-hearted guidance for Ophthalmological studies and for his valuable suggestions during the entire course of my work. My special thanks are due also to Dr. S. Majumdar, Associate Professor, Department of Experimental Medicine, P.G.I., for going through the "Biochemical Observations" of this manuscript.

Thanks are due to the Chairpersons and the staff of the Department of Biochemistry, Panjab University, for providing me with the laboratory facilities. I would also like to thank Professor H.M. Dani and Dr. P. Ahluwalia, Department of Biochemistry, Panjab University, and Dr. S.K. Garg, Associate Professor, Department of Pharmacology, P.G.I., for their valuable help. I am grateful to Dr. Saroj Sharma, Chairperson, and Dr. S. Chibber of the Department of Microbiology, Dr. D.V. Rai, Department of Biophysics, Professor K.K. Dhir, Department of Botany, Professor T.R. Juneja, Chairman and Dr. B.S. Bhoop, of Department of Pharmaceutical Sciences, and Professor S.P. Narula, Chairman, Department of Chemistry, Panjab University, for their generous help in connection with my work.
Thanks are also due to Mrs Ajit Mehta, Technical Assistant, Department of Experimental Medicine, P.G.I., for her assistance in connection with histopathological processing, and to Mr. Naresh and Mr. Bharat Bhushan, Technical Assistants in the Departments of Pharmacology, P.G.I., and of Biophysics, Panjab University, for taking the spectroscopic measurements.

I would also like to thank Sarv Shree Vijay, Surinder and Manohar of UNIVAC COMPUTERS for the excellent typing of this manuscript.

I have no words to express my sincere thanks to my sister Dr. (Mrs) Neeta Bansal and my brother Harish Singhal for their persistent encouragement, moral support and help in the completion of this thesis. Thanks are due also to my friends Kusum, Mohini, Vinod, Poonam and V.B.T. Malik for their helpful cooperation.

I sincerely acknowledge the Research Fellowship offered to me by the Scientific Commission for Continuing Studies on Effects of Bhopal Gas Leakage on Life Systems, Cabinet Secretariat, Government of India, New Delhi, under Project No. S.C.8, entitled "Studies on the Biochemical Toxicology of MIC in Experimental Models: A Mechanistic Approach towards understanding the Molecular Biochemistry of its Acute and Delayed Oculo- and Neuro-toxic Effects", allotted to Dr. M.K.P. Amma, the then Chairperson, Department of Biochemistry, Panjab University, Chandigarh.