ACKNOWLEDGEMENT

I express my deep sense of gratitude to Dr. A.K. Bhattacharyya, Associate Professor for having suggested me this problem, his valuable guidance and supervision throughout the course of this work. His constructive suggestions at the time of preparing this thesis helped me in bringing it to the final shape.

I am indebted to Prof. C.K. Varshney, Dean, Prof. Anjali Mookerjee and Prof. L.K. Pande, the former Deans, School of Environmental Sciences, JNU, for providing me necessary facilities and help.

I am grateful to the authorities of Delhi Water Supply and Sewage Disposal Undertaking for their kind permission to collect the effluents from the Okhla Sewage Treatment Plant, New Delhi, for my research work. I am thankful to Mr. S.K. Sharma, Water Analyst and Mr. R.K. Vig, Chemist, Okhla Sewage Treatment Plant for their sincere help.

I wish to express my sense of thankfulness to the authorities of Badarpur Thermal Power Plant, New Delhi for their kind permission to collect the fly ash samples from the disposal sites.

I wish to express my thanks to Prof. M.C. Jain, Soil Science Laboratory, Indian Agricultural Research
Institute, New Delhi for allowing me to use the laboratory facilities. Special thanks goes to Mr. Suresh Kaushik, Soil Science Laboratory, IARI for technical assistance during AAS work.

My sincere thanks are due to Prof. J.M. Dave, Prof. H.K. Das, Dr. D.K. Banerjee and Dr. R. Subramanian for their keen interest, inspiration and constant encouragement.

I wish to acknowledge my deep sense of appreciation and thankfulness to Prof. V. Subramanian, Prof. V. Rajamani, Prof. Ramakrishnan and Dr. Brij Gopal, School of Environmental Sciences, JNU for their active cooperation and crucial help.

My appreciation are also due to my seniors and friends, especially Dr. S.P. Mohapatra, S. Panigrahi, Supriyo, P. Kurian, Anwar, A. Jamaluddin, Swapan, Lenin, Vaithiya, Jeeva, Bikal, Jagdish, Sahu, Ravi, Chaman and Ramanathan for their various kinds of help to complete this work.

I acknowledge my thankfulness to Mr. B.D. Sharma for the technical help and Mr. Rawat for laboratory assistance.

I am thankful to Mr. Ashwani for cartography and M/s Eagle Computer Centre for neat word processing and printing the manuscript.
I am gratefully indebted to my parents and elder brother, Mr. V.K. Agarwal for their encouragement and inspiration during the whole course of my academic career.

Finally, I acknowledge the financial assistance in the form of SRF offered to me by Jawaharlal Nehru University to carry out this research work.

(MUKESH KUMAR)