ACKNOWLEDGEMENT

No word is adequate to express my profound gratitude to my supervisor Prof. Anjali Hookerjee for the inspiration and ambidextrous guidance that I received from her during this work. Not only she gave an insight into the subject but also, inculcated a general sense of discipline in me. I am thankful to Prof. V. Asthana, Dean, SES, for providing necessary facilities which enabled me to carry out this study.

I am highly thankful to Profs. Sivatosh Hookerjee, FNA, and H.K. Das for their keen interest in my work and providing me with necessary facilities in their labs.

It is a great pleasure to extend my sincere thanks to Nishi and Mirupamda for their critical suggestions in the preparation of this manuscript and especially to the latter for his ungrudging help during the electron microscopic experiments.

The help and cooperation from my labmates - Vikshita, Amita, Archna, Venkteshwaran, Jayanta, Padhy, Jayaraman, Subendhu and Tewari are truely and sincerely acknowledged.

My heartfelt thanks are due to Nagendra, Bholanath and Bishan for their timely help in the lab, R.N. Saini for lucid drawings, and Miss Manju and Gajanan for excellent typing.

It gives me immense pleasure to acknowledge my friends - Ajay, Anil, Ashok, Anwar, Ranjeet, Ranganathan, Ashutosh Tripathy, Selvan, Balram Singh, Amar Singh, Radhey Shayam, H.L. Gurjar, K.M. Saini, W.H. Gade, Reddy and S.N. Das for their generous help and moral support.

I am greatly indebted to all my family members and relatives without whose help the completion of this thesis would have been impossible.

Lastly, financial assistance in the form of JRF and SRF to me from CSIR is gratefully acknowledged.

G.L. SAINI