Acknowledgement

Today, when I pick up my pen to express my heartiest thanks to all those who helped me realise what I consider so dear, I have no dearth of feelings but only an understanding of the futility of my expressions. For, I am sure, I can never manage to bring forth my sincere gratitude towards all who have meant so much in the formation of this thesis. Yet, I shall try.

I would like to express my sincere and heart-felt gratitude to:

Prof. K.C. Khulbe, Emeritus Scientist, The Industrial Membrane Research Institute (IMRI), University of Ottawa, Ottawa, Ontario, Canada, for sharing his interest and knowledge in the field of membrane science and technology.

Dr. Rakesh Kumar, AR, Department of Microbiology and Immunology, Ponce School of Medicine, Ponce, Puerto Rico, USA, for his scientific enthusiasm, illuminating and fruitful discussions.

Prof. Ramesh Chandra, Director, Dr. B.R. Ambedkar Centre for Biomedical Research, Delhi University, Delhi for rendering kind permission to carry out FTIR spectroscopy.

Prof. S. Wadhwa, Head, Shophisticated Analytical Instrumentation Facility (SAIF), All India Institute of Medical Sciences, (AIIMS), New Delhi, for giving kind permission to carry out SEM and TEM.

Er. Shahanaz, Scientist, Instrumentation Division, Central Drug Research Institute (CDRI), Lucknow, for cooperation in testing of various parameters and technical discussions.

Dr. K.P. Singh, Department of Biophysics, CBSH, G.B Pant University of Agriculture & Technology, Pantnagar, for giving valuable suggestions during the course of investigation.
I would like to express my deepest gratitude to:

Prof. M.N. Beg, Department of Chemistry, Aligarh Muslim University, Aligarh, for inspiring discussions and sharing his scientific experience.

Dr. R. S. Kushwaha, Department of Chemistry, Bipin Bihari College, Jhansi, for his valuable guidance, co-operation, indispensable advice and above all introducing me to the fascinating world of membrane science and technology.

Dr. A.K. Verma, Department of Chemistry, Dr. B.R. Ambedkar Centre for Biomedical Research, Delhi University, Delhi, for Painstaking assistance in the preparation of technical part of the thesis.

Dr. B.P. Dwivedi, Product Manager, Lab India Instruments (Perkin-Elmer, U.S.A.), New Delhi, for analysis of FTIR spectra.

Dr. U.P. Singh, Principal, Bipin Bihari College, Jhansi, for his sincere advise and providing necessary facilities during the course of research work.

Prof. C.M. Gupta, Head, Department of Chemistry, Bipin Bihari College, Jhansi, for making several useful suggestions towards improving the presentation of the material.

Further thanks are due to my friends and colleagues for being there for me during my thesis. In no less degree I display my inexpressible gratitude for my family for encouragement, support and understanding.

Finally, I thank Mr. Firoz Khan, Print Palace, for his neat and clean typing.

Jhansi : October, 2005

(Dr. Mohd. Ayub Ansari)