ACKNOWLEDGEMENT

It is my pleasant duty to thank my teachers, friends and family members who have been helpful in many tangible ways towards the successful completion of this research work.

I am indebted to my research supervisors learned Shriyuths Dr. R. L. Patil, Professor of Physics (retired) and Dr. H. B. Walikar, Professor of Mathematics for their constant guidance, invaluable suggestions, helpful hints, unstinted co-operation all through during the course of my research work.

My respectful and fervent thanks are due to Prof. B. G. Mulimani, Chairman, Department of Physics, Karnataka University, Dharwad for his whole hearted inspiration and suggestions which steered me in the right path of research activity.

I am grateful to former Chairmen Prof. D. K. Deshpande, Prof. S. R. Tontadarya, Prof. C. S. Anitkumar for their valuable suggestions and encouragement.

I wish to express my deep sense of gratitude to Principal S. Y. Patil, secretary Dakshin Maharashtra Shikshan Mandal, Belgaum, Prof. S. V. Jathar, Principal, Bhaurao Kakatkar College, Belgaum for their encouragement and permitting me to undertake research work as Teacher Fellow. My thanks are also due to Prof. V. A. Patil, former Principal Bhaurao Kakatkar College, Belgaum and Prof. A. A. Ghorpade, Principal Jyoti Pre-University College, Belgaum for their constant inspiration and encouragement.

The writing of this thesis could not have been possible without the constant encouragement and assistance of Prof. H. S. Ramane and his colleagues Prof. P. R. Hampiholi and Prof. S. R. Jog of Gogte Institute of Technology, Belgaum. I wish to thank them for the kindness and warmth they bestowed on me and for the time they spent with me in critical analysis of the thesis work.
It is with great pleasure, I express my thanks to Prof. Xuding Zhu, Department of Applied Mathematics, National Sun Yat-sen University, Kaohsiung, Taiwan, Taipei, for his valuable suggestions and comments made on my research article presented during the International Conference held at Taiwan.

It is my pleasure to record my sincere thanks to Prof. Karguppikar, Dr. N. S. Sankeshwar, Dr. J. S. Bhat, Dr. J. S. Kadadevarmath, Dr. J. R. Tonannavar, Dr. U. S. Raikar, Dr. S. R. Inamdar for their kind co-operation.

I would like to thank Prof. B. Hanumaiah, Vice-Chancellor, Mangalore University, Mangalore for his encouragement.

I take this opportunity to thank Prof. T. Venkatesh, Dr. H. Y. Kamble, Prof. H. R. Venkatesh, Prof. Vinod Gaikwad Dr. S. I. Biradar, Prof. Albal of KUPG Center, Belgaum for their support and encouragement. I wish to express my sincere thanks to my friends Prof. G. Kadam, Prof. (Smt) Sheegihalli, Prof. S. N. Bhosale for their moral support and constant encouragement.

I wish to express my gratitude to my teachers Prof. H. K. Ayyar, Prof. V. S. Patil, Prof. G. C. Hiremath and Prof. N. Umakanta for their encouragement.

It gives me immense pleasure in recording my thanks to my colleagues Dr. S. M. Chendke, Prof. R. K. Patil, Prof. (Smt.) J. C. Pawar, Prof. S. N. Patil, Prof. A. V. Jadhav, Prof. Babshet, Prof. A. S. Kulkarni, Prof. M. B. Nirmalkar, Prof. M. M. Jadhav, Prof. V. L. Patil and Prof. V. Y. Patil for their invaluable support and suggestions.

My parents have been responsible for teaching me many valuable principles of life, which sustained me during all phases of my life. I always remember with gratitude the blessings and encouragement of my late parents Smt. Nagavva and Shri. Nagappa R. Misale. I wish to
owe my respectful gratitude to my loving brothers Shriyuths Pandurang, Vithal, Ramesh, Vishnupanth, Krishna and sisters Smt. Shamla and Smt. Saroja, for their help, love and affection.

I must express my gratitude to my Father in-law Shri. Chandrakant S. Kamule for his kind help and encouragement in all respects.

My deepest gratitude goes to my wife Surekha for her infinite patience and understanding during my involvement in this long term project. I feel delighted to express my deep sense of appreciation to my loving daughter Namrata and son Siddharth, who are really great and could bear my absence even during holidays.

The credit of creating artwork and D.T.P. of this thesis goes to Mr. Vinod and Avinash of M/s. Desai Printers. It is a great Pleasure to acknowledge their services for rendering meticulous and flawless typing of the thesis.

Much of the material in this thesis was developed in the last two years from the Teacher Fellowship extended to the author by the University Grants Commission, Grant No. F.I.P. 99/SWRO/UGC dated 26th Oct. 1999. During this time, I have enjoyed the hospitality of Department of Physics, Karnatak University, Dharwad and Department of Mathematics, KUPG Center, Belgaum. I greatly acknowledge the UGC and Authorities of Karnatak University, Dharwad and in particular its College Development Council.

Last but not the least, I acknowledge the contributions of all my teachers, colleagues, friends and relatives for their direct or indirect help in this regard.

D. N. Misale
Senior Scale Lecturer
Department of Physics
Bhaurao Kakatkar College,
Belgaum - 590 001.