ACKNOWLEDGEMENT

I take this opportunity to express my deep sense of gratitude to my supervisor Prof. R. Kasturi, Professor in Electrical Engineering, Indian Institute of Technology, Kharagpur who has initiated me into the problem and provided the excellent guidance throughout the course of this work. In fact, it is his keen interest and active support which has brought this thesis to lime light.

My intellectual debts are obvious to all my esteemed teachers who have built up my career from childhood to till date. I owe a very sincere gratitude to those illuminators of my life.

I am grateful to Prof. (Dr.) A. Sarangi, Principal and Prof. (Dr.) K. C. Patra, Head of the Department of Electrical Engineering, Indira Gandhi Institute of Technology, Sarang for providing me with all the necessary facilities during the course of the work.

I remain obliged to Prof. (Dr.) P. C. Panda (Retired) for his encouragement to do this work and valuable advices.

I am very much thankful to Er.D.D.Mishra for his moral support and constant encouragement.
I am thankful to Dr. S. Mohanty, Senior Lecturer in Mathematics, Indira Gandhi Institute of Technology, Sarang for her constant encouragement for this work. She is the source of inspiration to start this work and throughout the course of work.

I am thankful to my colleagues for their encouragement and help.

The help of Shri A. Biswal, Research Scholar, Indian Institute of Technology, Kharagpur and my ex-student, and Shri B. D. Sahoo, Lecturer in Computer Science and Application and my ex-student from the beginning to the end of this work will be remembered for ever and I am deeply indebted to them.

I would like to thank Shri A. K. Maharana, T.A. Electrical, Indira Gandhi Institute of Technology, Sarang for his help in computer work.

Lastly I humbly owe my education and achievements to my parents.

I am very much thankful to the unknown examiner for his comments for modification of the thesis.

SARANG

DATE 12/3/96

(ABANI MOHAN PANDA)