ACKNOWLEDGEMENT

The author expresses his gratitude to his research supervisor **Dr. V.S.A. Subramanian**, Professor and Head, Department of Mathematics, Arumugam Pillai Seethaiammal College, Thiruppattur for his valuable suggestions and encouragement throughout the period. He also expresses his heartfelt gratitude to his co-supervisor **Dr. R. Muthucumaraswamy**, Professor and Head, Department of Applied Mathematics, Sri Venkateswara College of Engineering, Sriperumbudur, Chennai for his excellent guidance and valuable suggestions throughout his research career.

The author expresses his sincere thanks to **Dr. R. Natarajan**, Professor and Head, Department of Mathematics, Alagappa University, Karaikudi for granting permission to pursue Research in Mathematics.

The author thanks **Dr. Jeppiaar**, M.A., B.L., Ph.D., Founder & Chairman, **Dr. P. Chinnadurai**, M.A., Ph.D., Secretary and Correspondent, **Mr. C. Sakthikumar**, M.E., M.Phil., Director and **Dr. K. Mani**, M.E., Ph.D., Principal of Panimalar Engineering College, Poonamallee, Chennai for their encouragement.

The author expresses his thanks to his friend **Mr. G. Nagarajan**, Assistant Professor, Panimalar Engineering College, Poonamallee for moral support and encouragement. He also expresses his sincere thanks to **Mr. A. Yuvaraj**, Sri Venkateswara College of Engineering, Sriperumbudur, Chennai for helping the researcher refine the language, and all those who helped him in the research work.

The author cannot thank his parents, wife and daughter adequately for their moral support which played a significant role in helped him complete the research work.

Without the blessings of the Almighty God, the author would not have completed his research study. The author thanks the Divine for the incessant blessings that enabled him to successfully complete the research study.

**M. SUNDAR RAJ**