ACKNOWLEDGEMENT

I wish to express my sincere and heartfelt gratitude to my supervisor Dr. R. Subramanian, Associate Professor, Department of Metallurgical Engineering, PSG College of Technology, Coimbatore for his persistent help, continued drive and timely motivation, which made this work possible.

I also thank my doctoral committee members, Dr. E. Ramasamy and Dr. S. S. Ramakrishnan for providing valuable comments and suggestions during the research work.

I thank the Management, PSG College of Technology, Dr. R. Rudramoorthy, Principal and Dr. P. Gopalakrishnan, Head, Department of Metallurgical Engineering, PSG College of Technology for their support and extending the facilities to carryout the research work.

I wish to thank the Faculty members of Department of Metallurgical Engineering, PSG College of Technology, and Head of the Department, Faculty members of Department of Mechanical Engineering, PSG Polytechnic College for their wholehearted help.

I also thank technical and non-technical staff members of the Department of Metallurgical Engineering, PSG College of Technology for their timely help during this research work.

I express my heartfelt thanks to my parents, wife and son Master Vivek for their love and tolerance that brought confidence and reassurance to my life.

DHARMALINGAM S