Optimization

Foreword

It is with great pleasure that we present to the Indian engineering community this special issue of *Sādhanā* on optimization. Optimization pervades most, if not all, engineering endeavours, cutting across interdisciplinary barriers. It can manifest in cost minimization, minimization of energy loss in a power system or delays in a communication network, and so on. It can be ‘static’ as in linear programming or ‘dynamic’ as in control. In all its multiple avatars, it remains a forever young and vibrant discipline that never ceases to surprise us with newer, more powerful techniques and conceptual breakthroughs.

In its pedagogical treatments, the word ‘optimization’ has somehow come to be associated with its operations research aspects. But that is only one facet of it: Error minimization in statistical signal processing is as much of an optimization problem as, say, a transportation problem. We have taken this broader view of the subject and the wide spectrum of articles will reflect this. Needless to say, the choice is limited both by what can be achieved within the confines of a single issue and, even more so, by the biases inherent in our own backgrounds. Thus it represents optimization issues in operations research, electrical engineering and artificial intelligence. Within this context, we have tried to get a very representative picture of where the subject is and where it is headed. Our hope is that we have succeeded “not wholly or in full measure, but very substantially”. If so, a lion’s share of the credit goes to our contributors. We take this opportunity to express our heartfelt gratitude to them. We also thank our referees for their valuable time and effort. We thank Ms. Shashikala, Ms. Nair and their colleagues at *Sādhanā* for the effort they have put into the making of this issue. Finally, we record our special thanks to Prof. N Viswanadham, Editor, *Sādhanā* , who initiated the process and encouraged us all the way.

August 1997

V S BORKAR
VIJAY CHANDRU
S SATHIYA KEERTHI
Guest Editors