

***Linear Algebra* By A. Ramachandra Rao and P. Bhimasankaram, Tata McGraw-Hill
New Delhi, Rs. 84/-.**

The authors, Professors Rao and Bhimasankaram, have been well known for a long time as outstanding researchers and teachers in the mathematical sciences. Now they have come up with this impressive and scholarly book presenting a well organized and in-depth yet lucid treatment of matrix theory and methods.

The book is organized in twelve chapters : (o) preliminaries, (i) vector spaces, (ii) algebra of matrices, (iii) rank and inverse, (iv) elementary operations and reduced forms, (v) linear equations, (vi) determinants, (vii) inner product and orthogonality, (viii) eigen values, (ix) quadratic forms, (x) linear programming, and (xi) statistical applications. While full mathematical rigor has been maintained, the treatment has never been too abstract and a large number of examples, including even numerical ones, have been provided to illustrate the ideas. Subtle issues have been highlighted and, occasionally, simpler proofs have been given. Each chapter is divided into sections which are followed by stimulating exercises and quite remarkably, extensive hints and solutions are also given at the end of the book. Thus the book will be excellent for self study in addition to being a wonderful text at both the advanced undergraduate and postgraduate levels.

From the point of view of the management scientists, I am sure that they, like the counterparts in the physical and mathematical sciences and engineering, will find the book to be of great value. Matrix methods have, indeed, been popular for quite some time in areas like economics, operations management and management information systems and the application in fields like finance, marketing and behavioral sciences is growing fast. While the last two chapters of the book will be of immediate use to the management scientists, they will find answers to their questions on basic matrix algebra in chapters 0-ix.

To summarize, this logically structured and eminently readable book can be thoroughly recommended to all, including those working in the management sciences, who wish to acquire a sound knowledge of matrix algebra and its applications.

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