

**Technician mathematics, volume 1.** Pp 402. £3.50. 1977. ISBN 582 41160 2

**Mathematics for science technicians, level 2.** Pp 320. £3.95. 1978. ISBN 582 41169 6

**Mathematics for electrical telecommunications technicians, level 2.** Pp 270. £5.95. 1979. ISBN 0 582 42268 8

**Mathematics for electrical technicians, level 3.** Pp 221. £5.50. 1980. ISBN 0 582 41176 9

**Calculus for technicians.** Pp 141. £2.50. 1979. ISBN 0 582 41165 3 all by J. O. Bird and A. J. C. May (Longman)

These five books belong to a series of Mathematics and Science texts particularly written for the emerging Technician Education around the material in one or two of these courses. The authors' declared aim is to deal simply and carefully with the mathematics essential in the development of well trained technicians. In this they succeed.

The books are well set out with an abundance of worked examples which are easy to follow. The exercises are full and well graded even though the provision of answers immediately under each question will not be to everyone's liking. For the less motivated student, immediate access to the answers will be too tempting. The text is unnecessarily wordy on occasions but it is clear in its expression. In the main the material is traditional and approached via well-tried methods.

*Technician mathematics* starts with very basic principles, presumably to enable the apprentice who wasted his time at secondary school to make a fresh start. The material covered would fill most of a C.S.E. Mathematics Course. There are some obvious weaknesses such as percentages. Though not written as a C.S.E. text book it would be a very useful resource book for the teacher and ought to be found in the school library. Its literary style would preclude its use as a C.S.E. class text book. One feature in its favour is that log and other tables are printed in the correct chapters.

The three level 2 and 3 books are all of the same style. Being written for specific T.E.C. courses they amply cover these with a sufficient number of good examples and exercises. They could be used as texts for A/O or C.S.E. Mathematics but would invariably fail to cover the syllabus. As with *Technician mathematics* they would be useful additions to a department's or teacher's resources.

*Calculus for technicians* is the weakest of the five. Its sole purpose is to deal with differential and integral calculus with an introduction to first order differential equations. Significant results from trigonometry and algebra have to be assumed and it is difficult to see the book being used outside the narrow confines of the specific TEC course.

These five books will be a good basis for the relevant TEC courses, and the well-motivated student will find them suitable for self study. In addition four of them will provide useful material for secondary school teachers for final year C.S.E. and post-16 courses.

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**From physical concept to mathematical structure: an introduction to theoretical physics, by**

Lynn E. H. Trainor and Mark B. Wise. Pp 399. £14. 1979. ISBN 0 8020 5432 3 (Universtiy of Toronto Press)

This book was written for students at senior undergraduate and graduate level at the University of Toronto, but I feel that it would make difficult reading for most British undergraduates. The main emphasis is on certain concepts and structures which play a major part in many branches of theoretical physics and the first five chapters give an introduction to cartesian tensors and group representations. The importance of this work in the theory of elastic media, quantum mechanics and elementary particle physics is then shown. As a preparation for chapters on special and general relativity, generalised tensors and Riemannian geometry are introduced. The reader with no previous knowledge of a subject will perhaps find some of these chapters rather difficult.