

BOOK REVIEW

KAZIMI (SMA): Solid Mechanics. Pp. 450, Tata McGraw-Hill Publishing Co. Ltd., New Delhi, 1976. Price : Rs. 27.00.

This text-book is an outgrowth of the class lectures delivered by the author to various groups of students, at the third and fourth year level in an IIT. According to the author: "a unified approach has been adopted wherever possible a synthesis of the strength of material and theory of elasticity has been effected". The book consists of 10 chapters with an introductory chapter and three appendices.

The first four chapters constituting the Part A of the book are aimed at providing the student a thorough grounding in the basic principle of solid mechanics, though without discussing any actual problems. The titles of the first 4 chapters are respectively the following:

1. Deformable bodies (basic concepts, mechanical properties).
2. Analysis of stresses (equilibrium).
3. Analysis of strains (compatibility).
4. Stress-strain relations.

These chapters have a good coverage of the basic information necessary in understanding the subject of solid mechanics. Both elastic and plastic behaviour of a solid are discussed.

Part B dealing with particular applications of the general theory developed in Part A contain 6 chapters. The fifth chapter contains material on uniaxial deformation of solids with applications to bars of variable cross-section, compound bars, thermostat and bimetallic strips. Torsion of circular and non-circular sections is covered in the 6th chapter. Elastic and elasto-plastic torsion are included in the chapter. Chapter 7 deals with beams and bending. After an introduction to bending moment and shear force, the flexure equation is derived. Application to composite beams, unsymmetrical bending are given. Brief coverage of elasto-plastic bending, shear centre and its uses and deflection equation of beam is included. Chapters 8 to 10 deal with material on stability of equilibrium (buckling of columns), combined stresses and an introduction to energy methods respectively. The appendices contain

information on conversion factors, mechanical properties and permissible stresses for common metals and properties of rotted steel I.S. sections.

The subject-matter covered in the book is confined to the basic undergraduate course common to all branches of engineering. Hence this can be used very profitably as a text-book in any undergraduate engineering programme. The philosophy of integrating the basic concepts of elasticity and plasticity with the conventional methods of strength materials adopted in the book is not new. However, this appears to be the first book of its kind written by an Indian author and published in India. A large number of solved and unsolved examples throughout the text add to the practical utility of the book as a text.

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Calendar of events: Conferences/Symposia at the Indian Institute of Science Campus

Sl. No.	Name	Period	Sponsoring Department of the Institute
1.	19th General Assembly of the International Union of Biological Sciences (INSA)	26th September to 5th October 1976	Biochemistry
2.	CSIR Meeting on Material Sciences	12-16 October 1976	Physics
3.	Applications of Computers for Load Despatch	11-16 October 1976	School of Automation and Electrical Engineering
4.	Winter School in Engineering Applications on Lasers and Laser Systems	18 October to 1 November 1976	Central Instruments and Services Laboratory
5.	Intensive Course on Design and Technology of Digital Equipment	21 November to 4 December 1976	Electrical Communication Engineering
6.	Hybrid Simulation and Industrial Process System Design	22 November to 8 December 1976	School of Automation
7.	Symposium on Vitamin and Carrier Function of Polyprenoids	9-11 December 1976	Biochemistry
8.	6th All-India Symposium on Biomedical Engineering	14-16 December 1976	Biomedical Engineering Group (I.I.Sc.)
9.	Silver Jubilee Celebrations of the Department of Chemical Engineering	20-24 December 1976	Chemical Engineering

On the basis of the information received by the Editorial Office on 30th September 1976.