

BASIC MECHANICAL ENGINEERING AND HISTORY OF MECHANICAL ENGINEERING

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T. J. Prabhu, the former Dean of Mechanical Engineering, Bharath University, Chennai — 73, has more than 40 years of varied experience — Industrial, Research and Teaching. He took his B.E (Mech.) degree from the erstwhile College of Engineering, Guindy and M.S (Mech.) and Ph.D (Appl. Mech.) degrees from IIT, Madras. During his stay in industries , he has designed and developed Industrial Process Cameras (Standard Printing M/C Co),Acoustic Enclosures and Silencers, and Solar Flat Plate Collectors (Southern Power Systems (P) Ltd), and Low Cost Automatic Machines (W.S. Insulators) . Dr. Prabhu has published 18 Research papers of which 10 are in the International Journal “WEAR”.

Basic Mechanical Engineering and History of Mechanical Engineering is the Revised Edition of his fourth book. His other books are *Design of Transmission Elements*, *Fundamentals of Machine Design*, *Mechanics of Solids*, *Engineering Mechanics and FEM Projects using MATLAB* . His areas of interests are Machine Tools, Vibrations, Stress Analysis and Finite Element Method.

Basic Mechanical Engineering

And

History of Mechanical Engineering

Tapping the energies of nature, building machines, producing goods, and transportation are important Mechanical Engineering activities without which the modern society cannot exist; the diverse needs of mankind cannot be met. That is why, every engineer, whatever may be his/her branch, has to have some basic knowledge in Mechanical Engineering. To meet this requirement, most of the Universities, Engineering Institutions, and Colleges prescribe a core course in Mechanical Engineering for the first year students, in particular, for Non-Mechanical Engineering students.

This book touches upon all the essential areas of Mechanical Engineering and hence, it can serve as an Introductory Text on the subject.

The topics covered are:

1. Energy Resources
2. Steam Generators
3. Prime Movers
4. Power Plants
5. IC Engines
6. Refrigeration and Air-conditioning
7. Power Transmission
8. Engineering Materials
9. Heat Treatment of Steels
10. Metal Casting
11. Metal Forming
12. Metal Joining
13. Machine Tools
14. CAD / CAM / CIM
15. Mechatronics