FUNDAMENTALS OF MACHINE DESIGN

DESIGN OF MACHINE ELEMENTS

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Fundamentals Of Machine Design

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. Meeh.) 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".

Dr. Prabhu has written six Engineering Textbooks.

1. Design of Transmission Elements
2. Fundamentals of Machine Design
3. Mechanics of Solids
4. Basic Mechanical Engineering and History of Mechanical Engineering
5. Engineering Mechanics
6. Projects in FEM using MATLAB

His areas of interest are Machine Tools, Vibrations, Stress Analysis and Finite Element Method.

FOREWORD

I congratulate the author, Dr. T.J. Prabhu for having brought out this book **Fundamentals of Machine Design**.

Design is the heart of Engineering. Unless Design is conceived well for any product, the manufacture and utility of it will not be appreciated. To have such a Design in perfection, an engineer has to master all the rudiments of design for which he has to be quite strong in his fundamentals. It is this, the author Dr. T.J. Prabhu has emphasised in this book.

Generally, design is a tough subject, since **solutions are not unique**. In spite of this, Dr. Prabhu has introduced this in such a lucid manner that a satisfactory solution can be achieved by the reader, by the systematic approach given in the book.

The author has made enormous efforts to introduce all topics generally necessary for a first course in Machine Design for the students of engineering in colleges and also for those preparing for the AMIE examinations.

This book is organised in such a fashion that the readers can then and there combine the Data Books and Tables available for design, to obtain more authenticated and practical solutions to design problems. This implies that this book can very well be used by the engineers in industries as well.

Dr. T.J. Prabhu has a rich experience in teaching this subject for a long time and this has been very well utilised to rightly reflect the treatment of various topics in the book. Besides, he has used his thorough knowledge that he has gained in bringing out his earlier book **Design of Transmission Elements**, which has been well appreciated in colleges. In addition, Dr. Prabhu has a good experience in research and in industries in this area, which only motivated him to enthuse students in learning **Design** particularly **the fundamentals**.

I am very much confident that this book will provide an excellent foundation on the Principles of Machine Design for the use of students and professionals. I have no doubt that this book will be extremely useful to them and will be a source that stimulates interest further on **Design**.

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