A TEXTBOOK OF SOUND
(Second Revised Edition)

N. Subrahmanyam, Brij Lal

SOUND- vibrations causing sensation in ear; audible and some inaudible.
This book sets out to elaborate on this simple explanation in a most scholarly and comprehensive manner. Harmonic oscillators, linearity and superposition principle, oscillators, with one degree of freedom, resonance and sharpness of resonance, quality factor, Doppler effect in sound and light, tape recording, cathodex ray oscillograph, Medical applications of ultrasonics, acoustic intensity and acoustic measurements are some of the important topics which have been given special attention. Although the book is for B.Sc. 9Rass, Honours and Subsidiary) some of the elementary discussions are included to initiate an advanced treatment of the subject. Additional matter on 'what propagates wave motion ? vslocity of sound,' New topics like silence zones, theory of resonator and dependence of the frequency of resonator on the size and shape of the resonator have been added.

We are grateful to the teachers and students for the favourable response given to the book. We welcome suggestions for the improvement of the book.

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ISBN 0-7069-9817-0

Rs. 275

VIKAS PUBLSHING HOUSE PVT LTD
576, Masjid Road, Jangpura, New Delhi-110 014

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By the Same Authors

WAVES AND OSCILLATIONS (Rev. Edn.)

A TEXTBOOK OF

SOUND

[For B.Sc. (Pass, Honours and Subsidiary), Engineering Students of Indian Universities and IAS Examinations]

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E-mail: ***orders@vikas.gobookshopping.com***
Internet: ***www.vikaseforum.com***

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35, Palm Avenue, **Kolkata**-700 019 • Phone : 2872575

A-26, 4th floor, Nelson Chambers, Nelson Manickam Road,
Aminjikari, **Chennai**-600 029

Distributors:
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Distributors for Western India:
PREFACE BOOKS
223, Cama Industrial Estate, 2nd Floor,
Sun Mill Compound, Lower Parel (W), **Mumbai**-400 013

Second Revised Edition 1995
Second Reprint 2001
Reprint-200

Printed at Hindustan offset Printers, Delhi - 110 032

Preface

The present edition has been completely revised. Keeping in view the suggestions received from teachers and students, many chapters have been strengthened by adding new topics–What propagates in wave motion? Velocity of sound and frequency in Chapters Four and Five respectively. The new topics like silence zones, theory of resonator and dependence of the frequency of resonator on the size and shape of the mouth of the resonator have been added in Chapter Six. Chapters Seven and Ten have been improved. Many new solved numerical examples on important topics have been included in the book, to provide better understanding and practice to students.

We are grateful to the teachers and students for the favourable response given to the book. We welcome suggestions for the improvement of the book.

N. SUBRAHMANYAM
BRIJ LAL

Preface to the First Edition

The book, intended to meet the needs of B.Sc. (Pass, Honours and Subsidiary) and engineering students, covers the topics included in the syllabi of various Indian Universities.

The subject-matter is divided into ten chapters. Each chapter is self-contained and is treated in a comprehensive way, using the S.I. system of units. Harmonic oscillators, linearity and superposition principle, oscillations with one degree of freedom, resonance and sharpness of resonance, quality factor, Doppler effect in sound and light, tape recording, cathode ray oscillograph, medical applications of ultrasonics, acoustic intensity and acoustic measurements are some of the important topics which have been given special attention.

While preparing the book it was assumed that the student is familiar with the basic principles of sound. However, some of the elementary discussions are included to initiate an advanced treatment of the subject. Solved numerical problems in S.I units), wherever necessary, are given in the text and exercises, at the end of each chapter, contain questions which are largely drawn from the university question papers of recent years. The book contains a large number of diagrams

We hope that the book will be found useful both by students and teachers.

AUTHORS

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