P R E F A C E

The work is concerned with studies on a few semiconductor electronic circuits used in modern instrumentation, and measurements of the properties of soil and related materials.

The author of this thesis has been engaged in teaching and research on Engineering Physics and Electronics in an Engineering College for over ten years and has also worked for four years in an Engineering Research Institute as a Research Officer. The present work embodies his contribution to the above two fields of study.

The thesis is divided in to two parts. The First Part deals with critical studies on some interesting electronic circuits. The Second Part deals with on physical properties of soil and Engineering materials. The First Part is contained in the first three chapters and the Second Part in the last four chapters.

The work described has an important bearing on the development of semiconductor electronic circuit for Instrumentation and development of methods for measuring specific engineering properties of materials which might help for future design of certain Civil Engineering Projects in India and in the curriculum of studies and research in an Engineering College.

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