

BOOK REVIEW

JOHNSON (Gregory, F): Transistor Circuit Experiments; A Laboratory Manual, pp 71. Tata McGraw-Hill, Bombay, 1973, Rs. 17-30.

The manual gives the details of a set of basic experiments using semiconductor diodes and transistors. The experiments do not necessitate sophisticated instruments and hence could be easily conducted in the laboratories of under graduate classes.

A notable feature of the manual is that each experiment is backed up by a simple theoretical analysis of the circuit. The theoretical results are compared with the observations of the actual experiment. The simplified theories enable a student to clearly grasp the principles of the experiments. A set of questions is provided at the end of each chapter. The answers to these questions can elicit the information whether a student has understood the experiment or not.

The first five chapters of the manual describe experiments on the characteristics of semiconductor diodes and zener diodes. The fifteen chapters deal with experiments on transistor circuits. They include, the characteristic curves, biasing, measurement of the *dc* and *ac* parameters of common-base, common emitter and common-collector transistor circuits. The analysis of the various circuits has been made with the help of equivalent circuits. Even though NPN transistors have been used throughout the experiments, a comparison between PNP and NPN transistor has been made in Chapter 20.

Chapters twenty-one to twenty-six deal with experiments on various types of cascade connected transistor circuits, and *dc* amplifiers. Chapter twenty-seven describes the experiments to determine the effect of temperature on transistor circuits and the relative merits of the stabilization circuits. The last three chapters give an introduction into some special types of transistors such as the injection transistor, silicon controlled rectifier and the field effect transistor.

The manual is a useful aid in setting up experiments on transistor circuits for undergraduate courses. However, it would have been more useful if complete details of the circuit components, type and range of meters to be used, type of transistors to be used in the experiment, etc., were included in the manual.

B. R. PRABHAKAR
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