Book Reviews

Mikro-Methoden: zur Kennzeichnung organischer Stoffe und Stoffgemische. Ludwig Kofler and Adelheid Kofler. Innsbruck, Austria: Universitäts-Verlag-Wagner, 1948. Pp. viii + 337. (Illustrated.) $9.00.

The methods used for characterizing the organic substances described in this book are based on observations of the melting, decomposition, and sublimation points, and refractive indices under the microscope. While this technique is familiar to most chemists, the authors are able to point out many refinements of the established methods. A theoretical discussion of melting-point diagrams is followed by their application to the qualitative and quantitative analysis of mixtures and the molecular weight determination. The authors stress the importance of the determination of the refractive index under the microscope, enabling the experimenter to establish, in a short time and with simple means, a physical constant at temperatures which often forbid the use of ordinary refractometers. With 16 glass powders, with refractive indices ranging from 1.3400 to 1.6718, the index of refraction can be determined with an accuracy of 0.0004.

The tables of a thousand organic substances listing eutectic temperatures (with phenacetin and benzanilide as one of the components), refractive indices, and melting, decomposition, and sublimation temperatures make this book useful on the laboratory shelf. The tables are followed by a valuable, extensive literature list with many references to journals unfamiliar to most American readers. The many diagrams and clear presentation make the book excellent reading material and will undoubtedly give many a stimulating thought to those spending much time in front of the melting-point apparatus.

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Industrial electronics reference book. (Contributions of Electronics Engineers of the Westinghouse Electric Corp.) New York: John Wiley; London: Chapman & Hall, 1948. Pp. x + 680. (Illustrated.) $7.50.

As stated in the Introduction, this book serves as a "digest embracing the applications as well as the design data for industrial electronic equipment." This assignment is admirably fulfilled, since the book contains many excellent graphs, tables, and illustrations on materials and industrial equipment. As a reference book it is necessarily brief in theoretical topics except in the chapters on transmission lines and antennas, whose direct relation to industrial equipment is perhaps not immediately obvious.

The 36 chapters are arranged to form specific groups. The first 4 chapters cover basic information on electrons, their emission, motion in vacuum, and interactions with ions in gas conduction. Chapters 5–10 cover electron tubes of various designs: vacuum, gas, photoelectric, X-ray, cathode-ray, and tubes for ultraviolet production; several of these chapters have very extensive reference lists. Four chapters follow on circuit elements including filters, transformers, and tubes, and the next four chapters describe circuits as used in conjunction with rectifiers, amplifiers, oscillators, and basic control.

Chapters 21 through 34 deal primarily with industrial applications and equipment, e.g. rectifiers and inverters, R. F. heating (taken from a previously published handbook), industrial X-ray application, precipitation, applications of ultraviolet, power line carrier communication, electronic instruments (199 references), and radar. Chapters 29 through 32 deal with individual phases of control applied to motors, generators, welding, etc.

The final two chapters give information on the care and maintenance of electronic equipment.

The book has been well edited, with consistent numbering of subheadings and excellent print. All the authors are well known through other publications. Without doubt this book fills a gap which existed too long; it will prove of great help to practicing engineers and as reference material for advanced courses in industrial electronics.

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Drug research and development. Austin Smith and Arthur D. Herrick. (Eds.) New York: Revere, 1948. Pp. xi + 596. $10.00.

In the first chapter one finds a statement which conveys the spirit of this book: "The discoveries and inventions in this sphere, merely in the last fifteen years, have contributed more to the happiness, well-being, and health of humanity than has any other advancement." After that lofty beginning the reader is immediately brought down to earth and given a thorough understanding of what is required to achieve and maintain this advancement. The physician, drug manufacturer, research and laboratory worker, pharmacist, detail man, executive, production and control worker, attorney, the professor educating practical men, and the man on the job can all see, in perspective, their part in this achievement. All can read with much profit and will doubtless find it a valuable reference book.

The authors of the various chapters have all had long experience with the topics they discuss. This would seem to guarantee the reliability of the mass of practical information presented. These authors are from industry, universities, and the professions and in many instances have presented information which must have cost them much to acquire. Some of the topics covered are laboratory research, development of biologicals, clinical testing, development of facilities and controls, labels and labeling, packaging and storing, patent law, trade-marks and labels, drug regulation, new drug application, biologic control