
REVIEWS

Recent Advances in Plasma Physics: Proceedings of the Workshop on Plasma Physics held at Ahmedabad in 1976; ed. by B. Buti. (Indian Academy of Sciences, Bangalore), 1977. Pp. 178+IX. Price: Hard bound: Rs. 50-00; \$ 10.00; Paper bound: Rs. 35.

The book represents one of the special publications of the Indian Academy of Sciences, Bangalore which they are bringing out from time to time. The contents of the book have originated from the lectures given by several American and Indian plasma physicists at the Workshop on Plasma Physics held at the Physical Research Laboratory, Ahmedabad. When one is dealing with many different contributors giving lectures on different topics, it is always hard to compile the resulting lecture notes into a very useful book. However, in the present case the editor has tried to do a good job of it.

There are thirteen articles in the book on different topics in Plasma Physics, including articles on Navier-Stokes turbulence theory by David Montgomery, on self-similar solutions and on solitary waves by M. R. Lonngren and B. Buti, respectively, on Alfvén waves by Akira Hasegawa, on ion-acoustic waves by I. Alexeff, on nonlinear stability of a weakly ionized plasma by S. K. Malik, and on nonlinear laser absorption by Forslund *et al.* Other articles include contributions from M. R. Gupta, A. K. Sundaram, S. Krishan, Y. C. Saxena, R. Bengtson *et al.*, and R. L. Druce *et al.* Many of the thirteen articles are good review type of papers, and should be useful to research students and workers in the field. However, the reviewer cannot advise students to buy the book on an individual basis.

SUDHANSHU S. JHA.

Physics Through Experiment 1, EMF Constant and Varying, Second Revised Edition. (Vikas Publishing House Private Limited, 5 Ansari Road, New Delhi 110 002), Pp. xvi + 143. Price: Rs. 8.50.

This book is first of the series for improvement of undergraduate physics teaching in the colleges under the university leadership programme sponsored by University Grants Commission. The authors expressed the view that the book is intended to improve upon the present lack of experimental practice at the undergraduate level.

The book consists of eight chapters each dealing with the fundamental characteristics of electrical components, namely, resistance, capacitance and inductance, network theory, oscillators, power supplies. However, no experiments on amplifiers are included, which is a glaring omission. Each chapter deals with a particular aspect of electrical physics. Initially, a brief theoretical background is given before the student is led to the experimental part. However, the theoretical part is so brief that it might be a little confusing to the student. The explanation offered for each experiment is lucid and clear. It would have been appropriate to include more details for each of the experiments with worked out examples.

It is a laudable effort on the part of the authors who are staff members of a university to have brought out a book of this nature for the benefit of students. However, it is felt that in the name of sophistication and modernisation of experimental physics, the authors have consistently kept up a higher standard than required for the present undergraduate (PUC/Intermediate) students of Indian universities. With some modifications and additions this book will serve a better purpose for graduate student.

S. L. V. CHARY.

Organic Reaction Mechanisms. By Raj K. Bansal. (Tata McGraw-Hill Publishing Co. Ltd., 12/4, Asaf Ali Road, 3rd Floor, New Delhi 110 002), Pp. xii+490. Price: Rs. 40.50.

The book "Organic Reaction Mechanisms", by Raj K. Bansal contains 13 chapters and runs to xii+490 pages. In keeping with the general practice in volumes of this type, fairly elaborate problem section is given at the end of each chapter.

The author presumes, 'this book is intended for students at graduate and post-graduate level..... research workers should find it very helpful as it contains ample references to original literature'.

The author's effort in providing an indigenous volume dealing in Physical Organic Chemistry is commendable, though very little can be said about the merit of this venture. This is mainly because the subject matter covered in various chapters are dealt in better fashion in other already published volumes (dealing with

aspects of Physical Organic Chemistry) coupled with the presence of quite a few conceptual errors. Even in the first chapter erroneous statements are seen in Hammett Equation, Taft Equation and Aromaticity. These could very easily mislead a beginner and ought to have been avoided by more careful compilation. There are very many instances of confusion arising out of using the same sort of broken lines for depicting σ bonds and half-formed or half-broken bonds; many structures are given with one or more unusually long bonds and widely distorted bond angles.

Though published in 1978, only around 10% of references cited in this book belong to the Seventies—contrary to the expectation of the author this would considerably limit the utility of this volume to research workers. However this book which is fairly easy to read could be helpful to organic chemists who want to brush up their memories and may act as a stimulant to further reading in areas of specific interest.

G. S. R. SUBBA RAO.
M. E. N. NAMBU DIRY.

CHROMATOGRAPHY OF POLYMERS, PETROLEUM AND PETROCHEMICALS

Chromatography of Polymers, Petroleum and Petrochemicals, a three day symposium and workshop for professionals of industry and research workers of academic institutions, is to be held on December 26–28, 1978, at Calcutta and the venue is Indian Association for the Cultivation of Science, Jadavpur, Calcutta.

The objectives of the symposium and workshop are: (i) to introduce to the participants the fundamentals of modern gas and liquid chromatography by formal lectures and panel discussions, (ii) to understand the wide applications of chromatography in various problems of polymer, petroleum and petrochemicals industry, (iii) to develop technical skill in the handling and use of gas and liquid chromatography in routine analysis and research problems and (iv) to identify areas where chromatography techniques, yet

to be applied, may be helpful, and understand problems in developing new techniques of chromatography for future R and D programmes.

The lectures will cover the following areas: (i) Principles of Gas Chromatography, (ii) New Techniques in Gas Chromatography, (iii) Application of Gas Chromatography in Research and Industry, (iv) Fundamentals of Liquid Chromatography and (v) Application of High Performance Liquid Chromatography in Research and Industry.

Applicants should have a Bachelor's degree in Engineering or Physical Sciences or equivalent professional experience. Advanced registration is necessary by payment of necessary fees.

For further information, please write to Professor Sukumar Maiti, Materials Science Centre, Indian Institute of Technology, Kharagpur 721 302.