

Forest Protection

By Prof. Ralph C. Hawley. Pp. ix + 262. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1937.) 13s. 6d. net.

THIS book consists of part of the material originally included in the author's "Practice of Sylviculture" considerably extended. To some extent, the outline follows European standard works. A notable departure, which in connexion with the United States is readily comprehensible, is that something near one half (117 out of 247 pages) of the book (Chapters viii-xiii) is devoted to forest fires, their suppression, control and so forth.

In the minds of some American authors, there would appear to be doubt as to the borderlands separating different branches of forestry science. It is, of course, obvious that to a varying degree they must run the one into the other. It is therefore all the more necessary that the writers of text-books should reach as clear an understanding as possible in this matter.

Surely since the work in question is entitled "Forest Protection" it was unnecessary for the author to write in his preface "This book is not intended to be an engineering or administrative manual for any of the phases of forest protection". The trained forester will understand the meaning underlying these words, but in the case of a book for the student of forestry they appear out of place.

The book is not illustrated. It is to be hoped that in a subsequent edition the author will supply this want since illustrations are almost essential for the student.

A Text Book of the Differential Calculus

By S. Mitra and G. K. Dutt. Pp. xiv + 302. (Cambridge: W. Heffer and Sons, Ltd., 1937.) 10s. net.

THIS book has been written to supply the special needs of teachers and students in Indian universities. The authors have aimed at making the subject clear to the ordinary reader equipped only with an elementary knowledge of algebra and trigonometry. The foundation is well laid in the early chapters, which are devoted to a full and lucid discussion of variables, bounds, limits, continuity and infinitesimals. This part may provide rather stiff reading for beginners; but the time spent on it will, as the authors point out, "lead to a much better comprehension of the essential principles of the calculus". There follows a rigorous development of the standard results connected with the differentiation of functions of a single variable, leading to a consideration of the chief properties of infinite series and their convergence, maxima and minima, implicit functions and changes of variables. The latter part of the course is devoted mainly to the applications of the principles of the differential calculus to geometry, and, in the selection of the examples, a careful consideration has been given to the needs of students not only of pure mathematics, but also of engineering and the natural sciences.

The text throughout is rigorous, lucid and up to

date and is well illustrated both by clearly drawn diagrams and skilfully chosen exercises.

Exposés de Physique atomique expérimentale

6: Spectrographie de Masse; les Isotopes et leurs Masses. Par Louis Cartan. (Actualités scientifiques et industrielles, 550.) Pp. 91. (Paris: Hermann et Cie., 1937.) 20 francs.

THE author's own researches in the field covered by this volume enable him to discuss with both brevity and thoroughness the technique and results of the new spectrometry and to show their bearing on such questions as the energy and stability of the nucleus. The first part treats of the masses and the methods and instruments used in measuring them, from that of Aston of 1927 to the double-focusing ones of the present day. The second deals with isotopes, including those of artificial radioactive substances, their detection and measurement, and the third with the principal numerical relations, such as that of the mass to the charge of the nucleus, and the even and odd law, which have been discovered among the 260 isotopes at present known. The volume is well supplied with plates, figures, numerical tables of results, and a bibliography brought well down into 1937.

Physics for Technical Students in Colleges and Universities

By Prof. William Ballantyne Anderson. Third edition. Pp. xi + 807. (New York and London: McGraw-Hill Book Co., Inc., 1937.) 24s.

THIS is the third edition of the author's book and shows the result of long teaching experience in American colleges. The entire manuscript of the new edition has been carefully revised by the author and his engineering colleagues; and many new diagrams and problems have been introduced. The superiority of the metric system is recognized, but the British engineering system, in which the 'slug' is the unit of mass, is frequently used and is recommended to students. It may be pointed out that Henry Cavendish, who weighed the earth, was a younger son of Lord Charles Cavendish, and is not correctly described as 'Lord Cavendish'. The chapters on rotary motion and on uniform circular motion deserve special commendation, and the whole book should serve its purpose admirably.

Handbuch der biologischen Arbeitsmethoden

Herausgegeben von Prof. Dr. Emil Abderhalden. Lieferung 467. Abt. 5: Methoden zum Studium der Funktionen der einzelnen Organe des tierischen Organismus, Teil 10, Heft 7. Allgemeine und vergleichende Physiologie. Pp. 1235-1474. (Berlin und Wien: Urban und Schwarzenberg, 1938.) 13 gold marks.

THIS section contains articles on light-sources for physiological purposes and on methods of measuring and recording electrical changes by M. Wreschner, on the mechanical disintegration of tissues by M. Behrens and on chromatographic analysis by A. Winterstein.