

magnetism, radioactivity and gaseous ionization, and chemistry. At the end are tables of e^{-x} , four and five-place logarithms, reciprocals, squares, and natural trigonometric functions.

H. B. PHILLIPS.

NOTES.

THE annual list of American doctorates published in *Science* presents, for the academic year 1913–1914, 502 names, of which 241 are credited to the sciences. The following 27 successful candidates offered mathematics as major subject (the titles of the theses are appended): E. S. ALLEN, Harvard, "Su alcuni caratteri di una serie algebrica, e la formola di de Jonquières per serie qualsiasi;" R. D. BEETLE, Princeton, "Congruences associated with a one-parameter family of curves;" Miss S. R. BENEDICT, Michigan, "A comparative study of the early treatises introducing into Europe the Hindu art of reckoning;" B. A. BERNSTEIN, California, "A complete set of postulates for the logic of classes expressed in terms of the operation 'exception' and a proof of the independence of a set of postulates due to Del Ré;" J. A. BULLARD, Clark, "On the structure of finite continuous groups;" R. W. BURGESS, Cornell, "The uniform motion of a sphere through a viscous liquid;" Miss L. D. CUMMINGS, Bryn Mawr, "On a method of comparison for triple-systems;" J. W. GAIN, Johns Hopkins, "Linear combinants of ternary forms;" H. GALAJIKIAN, Princeton, "A type of non-linear integral equations;" H. C. GOSSARD, Johns Hopkins, "On a special elliptic ruled surface of the ninth order;" G. H. GRAVES, Columbia, "Complete linear systems of algebraic curves of least order of genera three and four;" L. M. KELLS, Columbia, "Complete characterization of dynamical trajectories in n -space;" E. A. T. KIRCHER, Illinois, "Group properties of the residue classes of certain Kronecker modular systems and some related generalizations in number theory;" W. C. KRATHWOHL, Chicago, "Modular invariants of two pairs of cogredient variables;" T. E. MASON, Indiana, "Character of the solutions of certain functional equations;" L. C. MATHEWSON, Illinois, "Theorems on the groups of isomorphisms of certain groups;"

Miss B. I. MILLER, Johns Hopkins, "A new canonical form of the elliptic integral;" L. W. MISER, Chicago, "On linear homogeneous differential equations with elliptic function coefficients;" F. M. MORRISON, Chicago, "On the relation between some important notions of projective and metrical differential geometry;" E. J. MOULTON, Chicago, "On figures of equilibrium of a rotating heterogeneous fluid body;" R. B. ROBBINS, Harvard, "The calculus of variations as the limit of a problem in minimizing an algebraic sum;" W. F. SHENTON, Johns Hopkins, "Linear combinants of systems of binary forms with the syzygies of the second degree connecting them;" S. P. SHUGERT, Pennsylvania, "König's resolvents and other types of symmetric functions;" J. M. STETSON, Princeton, "Conjugate systems both of whose Laplace transforms are lines of curvature;" Miss A. H. TAPPAN, Cornell, "Plane sextic curves invariant under birational transformations;" L. A. H. WARREN, Chicago, "A class of asymptotic orbits in the problem of three bodies;" Miss M. M. YOUNG, Johns Hopkins, "Dupin's cyclide as a self-dual surface."

THE course of lectures on General analysis to be given by Professor M. FRÉCHET at University of Illinois has been cancelled on account of the war.

THE Berlin Academy of Science has awarded Dr. P. KOEBE, of Leipzig, a prize of 5,000 marks for his work on the theory of functions.

THE Paris Academy of Sciences has granted 4,000 francs from the Bonaparte fund to Professor H. ANDOYER to assist in the publication of a set of trigonometric tables.

PROFESSOR KARL RUNGE, of the University of Göttingen, has been chosen Prorektor for the coming year.

IN honor of his holding the doctorate fifty years, the Technical School at Munich has conferred its honorary doctorate in engineering on Professor A. VON BRILL of Tübingen.

DR. A. N. WHITEHEAD of University College, University of London, has been appointed to the newly established chair of

applied mathematics in the Imperial College of Science and Technology of London. Mr. G. N. WATSON, fellow of Trinity College, Cambridge, has been appointed to the staff of the University College in succession to Dr. Whitehead.

PROFESSOR G. T. ROGERS, of the New Mexico Normal School, has been elected assistant dean and professor of mathematics in the Normal University of New Mexico.

AT the University of California, Dr. C. E. BROOKS has been appointed assistant professor of mathematics and insurance, and Professor T. M. PUTNAM has been promoted to an associate professorship of mathematics.

PROFESSOR L. L. DINES, of the University of Arizona, has been appointed assistant professor of mathematics in the University of Saskatchewan.

AT the University of Kansas, Professor J. N. VAN DER VRIES has been promoted to a full professorship of mathematics. Dr. E. B. STOFFER, of the University of Illinois, has been appointed assistant professor of mathematics, and Mr. E. H. CARUS instructor in mathematics. Professor Marion B. WHITE has resigned, to accept an appointment as associate professor of mathematics and dean of women at the Michigan state normal college at Ypsilanti.

AT the University of Michigan Dr. W. W. KÜSTERMANN and Mr. V. H. WELLS have been appointed instructors in mathematics.

DR. W. C. GRAUSTEIN, of Harvard University, has been appointed instructor in mathematics in the Rice Institute, Houston, Texas.

DR. F. B. WILEY has been appointed professor of mathematics in Denison University.

DR. J. L. JONES has been appointed instructor in mathematics in the University of Pittsburgh.

DR. M. G. GABA has been appointed instructor in mathematics in the Carnegie institute of technology at Pittsburgh.

DR. J. M. STETSON has been appointed instructor in mathematics in the University of Alberta.

PROFESSOR W. H. GARRETT, of Baker University, has received a year's leave of absence, which he will spend at Harvard University as student instructor.

MISS M. DANIELS and Mr. H. LATIMER have been appointed instructors in mathematics at the Iowa state college.

MISS M. A. COLPITTS has been appointed instructor in mathematics at Tabor College.

DR. W. J. MILNE, president of the Albany normal college, died September 4 at the age of 71 years. Dr. Milne had been a member of the American Mathematical Society since 1906.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- ANTOMARI (X.). Cours de géométrie descriptive. Paris, Vuibert, 1914.
8vo. 641 pp. Relié. Fr. 12.50
- APPELL (P.). See ENCYCLOPÉDIE.
- ARCAIS (F. DI). Analisi infinitesimale. 2 volumes. Padova, 1913.
L. 30.00
- BACHMANN (P.). See KLEIN (F.).
- BACKES (W.). Weitere Beweise für den Fermatschen Satz. 2te umgearbeitete und vermehrte Auflage von "Ein Beweis für den Fermatschen Satz." Mainz, 1914. 8vo. 18 pp. M. 3.00
- BARONI (E.). See QUESTIONI.
- BARTHEL (E.). Vertikaldimension und Weltraum. Leipzig, Hillmann, 1914. 28 pp. M. 0.75
- BERNOULLI (J.). Die erste Integralrechnung. Auswahl aus den mathematischen Vorlesungen über die Methode der Integrale und anderes (1691-92). Aus dem Lateinischen übersetzt und herausgegeben von G. Kowalewski. Berlin, 1914. 8vo. 8+285 pp. M. 5.00
- BÔCHER (M.). An introduction to the study of integral equations. (Cambridge Tracts in Mathematics and Mathematical Physics, No. 10.) 2d edition. Cambridge, University Press, 1914. 8vo. 71 pp. 2s. 6d.
- BOREL (E.). Le hasard. Paris, Alcan, 1914. (Nouvelle collection scientifique; directeur, E. Borel.) 12mo. 4+312 pp. Fr. 3.50
- . See NIEWENGLOWSKI (B.).
- BOUTROUX (P.). See VOLTERRA (V.).