

NOTES.

At the meeting of the London mathematical society held March 14, 1918, the following papers were read: By G. H. HARDY, "The representation of a number as the sum of any number of squares"; by G. N. WATSON, "A problem in the theory of numbers."

THE following university courses in mathematics are announced:

CORNELL UNIVERSITY (academic year 1918-1919).—By Professor JAMES McMAHON: Theory of probabilities, three hours; Introduction to actuarial science, three hours.—By Professor J. H. TANNER: Introduction to the mathematics of finance, two hours.—By Professor VIRGIL SNYDER: Descriptive geometry, three hours (first term); Analytic geometry of space, three hours (second term).—By Professor F. R. SHARPE: Hydrodynamics, three hours (first term); Elasticity, three hours (second term).—By Professor W. B. CARVER: Projective geometry, three hours.—By Professor ARTHUR RANUM: Line geometry, three hours (second term).—By Professor D. C. GILLESPIE: Differential equations, three hours.—By Professor W. A. HURWITZ: Differential equations of mathematical physics, three hours.—By Professor C. F. CRAIG: Functions of a complex variable, three hours.—By Professor F. W. OWENS: Advanced calculus, three hours.—By Dr. M. G. GABA: Problems in mathematics, three hours.

JOHNS HOPKINS UNIVERSITY (academic year 1918-1919).—By Professor FRANK MORLEY: Higher geometry, three hours (first term); Theory of functions, three hours (second term); Dynamics and hydrodynamics, two hours (second term).—By Professor A. B. COBLE: Theory of correspondences, two hours.—By Professor ABRAHAM COHEN: Elementary theory of functions, two hours; Applied mathematics, two hours (second term).

UNIVERSITY OF CALIFORNIA (summer session, June 24-August 3).—In addition to the courses offered at Los Angeles (see BULLETIN, this volume, page 363), the following advanced

courses are to be given at Berkeley: By Professor D. N. LEHMER: Theory of numbers, five hours.—By Professor P. J. DANIELL (of the Rice Institute): Differential equations, five hours; Theory of integral equations, five hours.—By Dr. B. A. BERNSTEIN: Functions of a complex variable, five hours.

UNIVERSITY OF CHICAGO. Autumn quarter:—By Professor E. H. MOORE: Matrices in general analysis, three hours.—By Professor L. E. DICKSON: Theory of numbers, three hours.—By Professor E. J. WILCZYNSKI: Projective differential geometry, three hours.—By Professor H. E. SLAUGHT: Differential equations, three hours.—By Professor A. C. LUNN: Heat and molecular physics, three hours; Electron theory, three hours.—Winter quarter:—By Professor E. H. MOORE: Functions of infinitely many variables, three hours.—By Professor L. E. DICKSON: Algebraic numbers, three hours.—By Professor G. A. BLISS: Definite integrals, three hours; Differential equations, three hours.—By Professor E. J. WILCZYNSKI: Projective differential geometry, II, three hours.—By Professor A. C. LUNN: Thermodynamics, three hours; Theory of sound, three hours.—Spring quarter:—By Professor E. H. MOORE: Functions of infinitely many variables, II, three hours; Limits and series, three hours.—By Professor L. E. DICKSON: Linear algebra, three hours; Solid analytics, three hours.—By Professor G. A. BLISS: Functions of lines, three hours; Partial differential equations, three hours; Functions of a complex variable, three hours.—By Professor A. C. LUNN: Geometric optics, three hours.

UNIVERSITY OF ILLINOIS (academic year 1918–1919).—By Professor E. J. TOWNSEND: Functions of a complex variable, three hours; Differential equations and advanced calculus, three hours.—By Professor G. A. MILLER: Continuous groups, three hours (second term); Theory of equations, three hours (first term).—By Professor H. L. RIETZ: Actuarial theory, three hours.—By Professor J. STEBBINS: Least squares, two hours (first term).—By Professor J. B. SHAW: Fundamental functions, three hours (first term); Functional transformations, three hours (second term).—By Professor C. H. SISAM: Invariants and higher plane curves, three hours; Solid analytic geometry, three hours (second term).—By Professor R. D. CARMICHAEL: Elliptic functions, three hours.

—By Professor ARNOLD EMCH: Projective geometry, three hours.—By Professor A. R. CRATHORNE: Calculus of variations, three hours.—By Dr. E. B. LYTLE: History of mathematics, two hours (second term).—By Dr. G. A. WAHLIN: Theory of numbers, three hours.

PROFESSOR GABRIEL KOENIGS has been elected member of the Paris academy of sciences.

PROFESSOR G. CASTELNUOVO, of the University of Rome, has been elected national member of the Reale Accademia dei Lincei; Professors E. BOREL and E. GOURSAT, of the University of Paris, Professor J. HADAMARD, of the Collège de France, and Professor H. LAMB, of the University of Manchester, have been elected foreign associates.

THE Turin academy has elected the following corresponding members: Professors L. BERZOLARI, of the University of Pavia; R. MARCOLONGO, of the University of Naples; L. PINCHERLE, of the University of Bologna; G. RICCI and F. SEVERI, of the University of Padua; G. ALBENGA, G. COLOMETTI and G. A. MAGGI, of the University of Pisa; V. REINA, of the University of Rome.

DR. E. G. TOGLIATTI has been appointed docent in projective and descriptive geometry at the University of Turin.

DR. A. VERGERIO has been appointed docent in analysis at the University of Bologna.

DR. E. G. BILL, assistant professor of mathematics at Dartmouth College, has been granted leave of absence to serve on the staff of the Military Service Council at Ottawa, Canada.

AT the University of California, Professor FLORIAN CAJORI, of Colorado College, has been appointed professor of the history of mathematics. Associate professor D. N. LEHMER has been promoted to a full professorship of mathematics. Dr. B. A. BERNSTEIN, Dr. THOMAS BUCK, and Dr. FRANK IRWIN have been promoted to assistant professorships. Professor G. C. EDWARDS has been made professor emeritus, after forty-five years of service.

ASSISTANT professor ANNA J. PELL, of Mount Holyoke College, has been appointed associate professor of mathematics at Bryn Mawr College. Dr. OLIVE C. HAZLETT, of Bryn Mawr, has been appointed assistant professor of mathematics at Mount Holyoke.

ASSISTANT professor H. M. SHOWMAN, of the Colorado School of Mines, has been promoted to a professorship of mechanics and engineering.

MR. H. L. OLSON has been appointed instructor in mathematics at Heidelberg University, Tiffin, Ohio.

DR. J. V. DEPORTE, of the New York State College at Albany, has been promoted to an assistant professorship of mathematics.

PROFESSOR E. E. LEVI, of the University of Genoa, was killed in battle October 28, 1917, at the age of 34 years. The Italian society of sciences (the XL) awarded him its gold medal in 1912.

PROFESSOR A. VITERBI, of the University of Pavia, was killed in battle November 18, 1917, at the age of 44 years.

BOOK CATALOGUES:—Galloway and Porter, Cambridge, England, list of 78 titles, including 15 in mathematics.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- BALL (W. W. R.). Cambridge papers. London, Macmillan, 1918. 8vo. 6+326 pp. 6s.
- BERICHTE und Mitteilungen veranlasst durch die Internationale Mathematische Unterrichtscommission. 2te Folge, III: Titel und Inhaltsübersicht zur ersten und zweiten Folge der Berichte und Mitteilungen. Leipzig, Teubner, 1917. 8vo. 16+99 pp. M. 4.00
- GAUJA (P.). Les fondations de l'Académie des Sciences (1881-1915), avec une préface par A. Lacroix et E. Picard, secrétaires perpétuels de l'Académie des Sciences. Paris, Gauthier-Villars, 1917. 8vo. 6+658 pp. Fr. 12.00