ENGINEERING APPLICATIONS OF HIGHER MATHEMATICS; PART IV, PROBLEMS ON MECHANICS OF MATERIALS

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Engineering Applications of Higher Mathematics; Part IV, Problems on Mechanics of Materials by V. Karapetoff

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V. KARAPETOFF

PART IV.

PROBLEMS ON
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PREFACE TO PART IV.

THE first part of this work which contains problems in machine design was published in 1912, and the favorable reception accorded it gave the author the courage to publish the rest of the problems which he had collected and used in his classes for some years. The second and third parts contain problems selected from various branches of hydraulics and thermodynamics respectively, in the solution of which it is necessary to use calculus and analytic geometry. The part now offered contains problems selected from various topics in mechanics of materials, and the last part contains problems on electrical engineering. A student or an engineer who wishes to review calculus or analytics, or to acquire facility in applications of higher mathematics to engineering problems, may thus select at first the part of the work which deals with problems with which he is most familiar, or in which he is particularly interested.

The reader will find the author's views on teaching mathematics to engineering students in the Preface to Part I and in the Dialogue following that preface. He is also referred to Part I for a list of reference works on mathematics and for an Appendix entitled "What a Senior in Engineering ought to know about Mathematics."

The author wishes to acknowledge gratefully the assistance of Mr. A. C. Stevens, M.E., instructor in Cornell University, who read the proofs and made some valuable suggestions for the text.

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