



An Elementary Course of Variational Problems in Calculus

By N. Kumar

Alpha Science International Ltd. Hardback. Book Condition: new. BRAND NEW, An Elementary Course of Variational Problems in Calculus, N. Kumar, The subject extends the notion of extremum conditions of a function in one variable to such conditions of a function of functions (dependent variable and its derivatives) in the form of a definite integral. The necessary condition introduces Euler equation which results in an ordinary differential equation whose solution provides the desired extremal. The sufficient part is discussed using Legendre and Jacobi conditions. The fascinating variational principle paves the way to find the curve (line) of shortest distance between two non-intersecting curves in a plane. The book covers these topics in detail supported by figures and exercises. The book also lists some direct (approximate) methods to solve boundary value problems containing ordinary/partial differential equations by variational and residue methods, some of them being of immense importance in the treatment of finite element numerical methods. Variety of disciplines being used in the subject, are given in brief, in respective appendices.



Reviews

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