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   Sommario/riassunto In this book, we aim to give a thorough introduction to machine
                       dynamics. It covers the theoretical basis of dynamics, modelling,
                       mechanical design, practical applications, kinematics and kinetics,
                       principles of mechanics, equations of motion for multibody systems,
                       applications to mechanisms, vehicle dynamics, and static and dynamic
                       balancing. It covers a complete range of mechanisms and concepts,
                       from the determination of degrees of freedom to the design of complex
                       cams. This progression is explained at a reasonable pace so that by the
                       end the reader is able to design and analyze mechanical systems.
                       Throughout the book, we also try to introduce conceptual examples
                       and exercises to make the text more practical and understandable for
                       the reader and also useful as a reference for lectures in universities. In
                       addition, most books in this field are too voluminous and therefore are

not suitable as a reference for a lecture. In this book, we have reduced the unnecessary theory part and put more emphasis on practical examples. Moreover, it is written in such a way that it will guide the readers even if they have forgotten the dynamics and basic concept and provide enough information. So this book can be used as a self-study book.