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Sommario/riassunto

"Design of Mechanical Elements provides a basic introduction to mechanical design considerations and calculations without overwhelming students with extraneous information. Developed for readers who are encountering the topic for the first time, the book is divided into three parts: the first covers basic design techniques and concepts such as material selection, statistical considerations, tolerances, and safety factors; the second part covers the strength of materials in the context of the design of mechanical elements, including simple and dynamic loading problems; and the third part combines the techniques covered in previous chapters to explain the design of common mechanical elements like shafts, bolted joints, welded joints, bearings, and gears. Each chapter opens with an overview of key terminology followed by an explanation of the underlying physics involved with the mechanical design problems that will be covered in the chapter. Best procedures for solving each problem are discussed and illustrated with worked examples and end-of-chapter practice problems"--