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Titolo	Introduction to Statistical Methods, Design of Experiments and Statistical Quality Control / / by Dharmaraja Selvamuthu, Dipayan Das
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Descrizione fisica	1 online resource (XXI, 430 p. 90 illus., 39 illus. in color.)
Disciplina	519.5
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Lingua di pubblicazione	Inglese
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Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Review of Probability -- Chapter 3. Descriptive Statistics -- Chapter 4. Sampling Distributions and Estimation -- Chapter 5. Testing of Hypothesis -- Chapter 6. Analysis of Correlation and Regression -- Chapter 7. Single Factor Experimental Design -- Chapter 8. Multi-Factor Experimental Designs -- Chapter 9. Response Surface Methodology -- Chapter 10. Statistical Quality Control.
Sommario/riassunto	This book provides an accessible presentation of concepts from probability theory, statistical methods, the design of experiments and statistical quality control. It is shaped by the experience of the two teachers teaching statistical methods and concepts to engineering students, over a decade. Practical examples and end-of-chapter exercises are the highlights of the text as they are purposely selected from different fields. Statistical principles discussed in the book have great relevance in several disciplines like economics, commerce, engineering, medicine, health-care, agriculture, biochemistry, and textiles to mention a few. A large number of students with varied disciplinary backgrounds need a course in basics of statistics, the design of experiments and statistical quality control at an introductory level to pursue their discipline of interest. No previous knowledge of probability or statistics is assumed, but an understanding of calculus is a prerequisite. The whole book serves as a master level introductory

course in all the three topics, as required in textile engineering or industrial engineering. Organised into 10 chapters, the book discusses three different courses namely statistics, the design of experiments and quality control. Chapter 1 is the introductory chapter which describes the importance of statistical methods, the design of experiments and statistical quality control. Chapters 2–6 deal with statistical methods including basic concepts of probability theory, descriptive statistics, statistical inference, statistical test of hypothesis and analysis of correlation and regression. Chapters 7–9 deal with the design of experiments including factorial designs and response surface methodology, and Chap. 10 deals with statistical quality control.
