SYSTEMS CONSTRUCTION AND ANALYSIS:
A Mathematical and Logical Framework

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- System design * System analysis.

DESCRIPTION:
This book, with its combination of the formal and pragmatic approaches, is designed for a wide range of applied courses including discrete mathematics, software engineering and intelligent knowledge-based systems. It is the first book to bring together a formal approach to the construction of systems with a more pragmatic approach to their analysis. The breadth of coverage makes it suitable for students on full-time and part-time courses at both undergraduate and post-graduate level. Students are introduced gradually to discrete mathematics and formal systems, before being given a serious exposition of mathematical logic that emphasizes the link between theories in formal languages and their models. The theory of universal algebras and lambda-calculus contribute to the formal framework for system specification. Programs are verified for correctness, and graph models are used to identify program structure. The final part of the book provides a rigorous approach to analysis of systems.

FEATURES:
- Strong emphasis on formal methods
- Unifying approach bringing together previously inaccessible material, with introductory topics on discrete mathematics
- Introduction to the theoretical foundation and the notation of VDM, Z and CSP
- Large number of examples and exercises, with selected solutions provided
- Separate booklet for lecturers, providing solutions to the remaining exercises, supplementary exercises and examination questions

CONTENTS:
Includes bibliographical references (p. 449-452) and index.

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