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Gopal control systems

This comprehensive book on control engineering strikes an excellent balance between analysis, design, mathematics, and practice, making it an engaging read for students and professionals alike. The text provides a solid foundation in frequency-domain design methods for continuous-time control systems, which are essential for industrial applications. Key features include:

- Emphasis on developing models for practical control system design, highlighting the importance of approximation understanding for robustness analysis.
- Thorough introduction to PID Control, the fundamental building block of industrial controllers.
- MATLAB/Simulink-based problem-solving integrated with pen-and-paper practice through sixteen chapter-wise modules available online.

The book's authors, Dr. I J Nagrath and Dr. M Gopal, are renowned experts in the field. Dr. Nagrath is a retired Professor of Electrical Engineering from BITS, Pilani, with a distinguished career spanning multiple books and research papers. Dr. Gopal, an Ex-Professor at Indian Institute of Technology Delhi, is a globally recognized academician with a strong track record as author, teacher, researcher, and administrator. Shiv Nadar University's School of Engineering Founding Director, responsible for designing and building its academic infrastructure. This comprehensive textbook delves into continuous-time and discrete-time systems, emphasizing their interdisciplinary nature through diverse engineering discipline examples. The book explores system modeling involving various hardware components and covers time and frequency domain techniques for control systems analysis and design. Building on the previous edition, this new version includes numerous real-world examples, PID controller design, long/lead compensator comparison tables, industrial OPAMP compensating networks, and a root-locus technique design example. This renowned textbook is suitable for advanced undergraduate or postgraduate courses across various engineering disciplines and will be a valuable addition to any engineering library.