Signals systems and transforms 5th edition

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This book is also suitable for electrical and computer engineers. Signals, systems and conversions, the fifth edition is ideal for electrical and computer engineers. The text contains a clear, comprehensive presentation of both theories and applications in signals, systems, and transformations. It presents the mathematical background of signals and systems, including fourier's transformation, the Fourier series, the Laplace transformation, the discrete time and the discrete Fourier transformations, as well as z-transformation. The text integrates MATLAB examples into the presentation of signal theory and systems and applications. For sophomore/junior level signals and systems courses in electrical and computer engineering departments. This text provides a clear, comprehensive presentation of both theory and applications in signals, systems, and transformations. It presents the mathematical background of signals and systems, including fourier's transformation, the Fourier series, the Laplace transformation, the discrete time and the discrete Fourier transformations, as well as z-transformation. The text integrates MATLAB examples into the presentation of signal theory and systems and applications. Companion website boosts numerous interactive examples and animated demonstrations that both professors and students can use for Training. More than 350 homework assignments and more than 150 examples of Problem Kits are organized in such a way that sets of problems related to the overall concept are presented. The answer to at least one problem from each set is provided in the app. Mathematical theory of systems and signals refers mathematical theory to practical systems, provides students with motivation, as they easily visualize the application of the presented theory. MATLAB integrates into examples and challenges, strengthening students' understanding of concepts by implementing MATLAB examples. Allows students to learn how to use MATLAB to help solve problems related to the end of the chapter. Short sections on two-way Laplace and z-transforms allow instructors to present these topics in their class. Repeating the equations they refer to saves students time by providing a simple link. Checking the results gives students valuable practice in problem-solving Results Check requires that the results of virtually all problems be verified by an independent procedure; this includes, but is not limited to, MATLAB. The key answer to selected responses allows students to check their work on selected problems Answers to selected problems provided at the back of the text to allow students to get instant feedback on their understanding of new concepts. Instructor's guide to all problems available only to instructors. The fourier conversion property presentation has been revised and modified in Chapter 5. Chapter 6 adds a new subsection for the design and analysis of active filters. A sampling of continuous time signals and the reconstruction of signals from sample data are currently in Chapter 6. A new subsection for quantification error is added to Chapter 6. A new subsection for calculating and analysing the system's step responses using the Laplace transformation is added to Chapter 7. A new subsection for calculating and analysing the system's frequency response using the z conversion is added to Chapter 11. A new example showing the frequency-response of the Final Impulse-Response Filter (FIR) using the Fourier discrete conversion (DTFT) is added to Chapter 12.A a new example showing the use of the Discrete Fourier conversion to implement the FIR filter is added in Chapter 12.Several new examples and MATLAB® applications are provided. All sets of problems of the end of the chapter have been revised. The problems for each chapter are now grouped according to the applicable chapter section. 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