



Probability Concepts in Engineering Planning and Design, Basic Principles (Probability Concepts in Engineering Planning & Design) (Volume 1)

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Wiley, 1975. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: 1. Role of Probability in Engineering 1.1. Introduction 1.2. Uncertainty in Real-World Information 1.2.1. Uncertainty Associated with Randomness 1.2.2. Uncertainty Associated with Imperfect Modeling and Estimation 1.3. Design and Decision-Making Under Uncertainty 1.3.1. Planning and Design of Airport Pavement 1.3.2. Hydrologic Design 1.3.3. Design of Structures and Machines 1.3.4. Geotechnical Design 1.3.5. Construction Planning and Management 1.3.6. Photogrammetric, Geodetic, and Surveying Measurements 1.4. Control and Standards 1.5. Concluding Remarks 2. Basic Probability Concepts 2.1. Events and Probability 2.1.1. Characteristics of Probability Problems 2.1.2. Calculation of Probability 2.2. Elements of Set Theory 2.2.1. Definitions 2.2.2. Combination of Events 2.2.3. Operational Rules 2.3. Mathematics of Probability 2.3.1. Basic Axioms of Probability; Addition Rule 2.3.2. Conditional Probability; Multiplication Rule 2.3.3. Theorem of Total Probability 2.3.4. Bayes' Theorem 2.4. Concluding Remarks Problems 3. Analytical Models of Random Phenomena 3.1. Random Variables 3.1.1. Probability Distribution of a Random Variable 3.1.2. Main Descriptors of a Random Variable 3.2. Useful Probability Distributions 3.2.1. The Normal Distribution 3.2.2. The Logarithmic Normal Distribution 3.2.3. Bernoulli Sequence

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