Principles of Communications Networks and Systems

Description: Addressing the fundamental technologies and theories associated with designing complex communications systems and networks, Principles of Communications Networks and Systems provides models and analytical methods for evaluating their performance. Including both the physical layer (digital transmission and modulation) and networking topics, the quality of service concepts belonging to the different layers of the protocol stack are interrelated to form a comprehensive picture.

The book is designed to present the material in an accessible but rigorous manner. It jointly addresses networking and transmission aspects following a unified approach and using a bottom up style of presentation, starting from requirements on transmission links all the way up to the corresponding quality of service at network and application layers. The focus is on presenting the material in an integrated and systematic fashion so that students will have a clear view of all the principal aspects and of how they interconnect with each other.

- A comprehensive introduction to communications systems and networks, addressing both network and transmission topics
- Structured for effective learning, with basic principles and technologies being introduced before more advanced ones are explained
- Features examples of existing systems and recent standards as well as advanced digital modulation techniques such as CDMA and OFDM
- Contains tools to help the reader in the design and performance analysis of modern communications systems
- Provides problems at the end of each chapter, with answers on an accompanying website

Contents:

Preface xiii
List of Acronyms xvii
List of Symbols xxii

1 Introduction to Telecommunication Services, Networks and Signaling 1
1.1 Telecommunication Services 1
  1.1.1 Definition 1
  1.1.2 Taxonomies According to Different Criteria 2
  1.1.3 Taxonomies of Information Sources 4
1.2 Telecommunication Networks 5
  1.2.1 Introduction 5
  1.2.2 Access Network and Core Network 9
1.3 Circuit–Switched and Packet–Switched Communication Modes 11
1.4 Introduction to the ISO/OSI Model 13
  1.4.1 The Layered Model 13
4.3.1 Electrical Model 216
4.3.2 AWGN Model 217
4.3.3 Signal-to-noise Ratio 217
4.3.4 Narrowband Channel Model and Link Budget 220
4.4 Transmission Media 223
4.4.1 Transmission Lines and Cables 223
4.4.2 Power-Line Communications 229
4.4.3 Optical Fiber 234
4.4.4 Radio Links 237
4.4.5 Underwater Acoustic Propagation 242
Problems 250
References 256
5 Digital Modulation Systems 259
5.1 Introduction 259
5.2 Digital Modulation Theory for an AWGN Channel 260
5.2.1 Transmission of a Single Pulse 260
5.2.2 Optimum Detection 262
5.2.3 Statistical Characterization of Random Vectors 263
5.2.4 Optimum Decision Regions 265
5.2.5 Maximum A Posteriori Criterion 269
5.2.6 Maximum Likelihood Criterion 270
5.2.7 Minimum Distance Criterion 270
5.2.8 Implementation of Minimum Distance Receivers 273
5.2.9 The Theorem of Irrelevance 276
5.3 Binary Modulation 277
5.3.1 Error Probability 277
5.3.2 Antipodal and Orthogonal Signals 282
5.3.3 Single Filter Receivers 285
5.4 M-ary Modulation 288
5.4.1 Bounds on the Error Probability 288
5.4.2 Orthogonal and Biorthogonal Modulations 292
7.3.4 Chapman–Kolmogorov Equations for Continuous–Time MC 474
7.3.5 The Infinitesimal Generator Matrix Q 474
7.3.6 Forward and Backward Equations for Continuous–Time MC 476
7.3.7 Embedded Markov Chain 478
7.3.8 Flow Diagram of Continuous–Time MC 482
7.3.9 State Probability of Continuous–Time MC 482
7.3.10 Classification of Continuous–Time MC 487
7.3.11 Asymptotic Behavior of Continuous–Time MC 488
7.4 Birth–Death Processes 492
7.4.1 Definition of BDP 492
7.4.2 Time–Dependent Behavior of BDP 494
7.4.3 Asymptotic Behavior of BDP 500
Problems 507
References 516
8 Queueing Theory 517
8.1 Objective of Queueing Theory 518
8.2 Specifications of a Queueing System 518
8.2.1 The Arrival Process 521
8.2.2 The Service Process 523
8.2.3 The Queueing Structure 524
8.2.4 The Service Discipline 525
8.2.5 Kendall Notation 526
8.3 Performance Characterization of a QS 527
8.3.1 Occupancy Measures 528
8.3.2 Time Measures 529
8.3.3 Traffic Measures 531
8.4 Little’s Law 534
8.5 Markovian Queueing Models 537
8.5.1 The M/M/1 Queueing System 542
8.5.2 The M/M/m Queueing System 554
8.5.3 The M/M/1/K Queueing System 565
8.5.4 The M/M/m/m Queueing System 573
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