

# gupta prakash c data communication

[#Gupta Prakash C](#) [#Data Communication](#) [#Networking Fundamentals](#) [#Communication Protocols](#) [#Data Transmission](#)

Explore the fundamentals of data communication with Gupta Prakash C's insightful approach. This resource covers essential concepts, protocols, and techniques for effective data transmission in networking environments. Whether you're a beginner or looking to refresh your knowledge, delve into the world of data communication and enhance your understanding of how information travels across networks.

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## DATA COMMUNICATIONS AND COMPUTER NETWORKS

Primarily intended as a text for undergraduate courses in Electronics and Communications Engineering, Computer Science, IT courses, and Computer Applications, this up-to-date and accessible text gives an indepth analysis of data communications and computer networks in an easy-to-read style.

Though a new title, it is a completely revised and fully updated version of the author's earlier book Data Communications. The rapid strides made during the last decade in the fields of data communication and networking, and the close link between these two subjects have prompted the author to add several chapters on computer networks in this text. The book gives a masterly analysis of topics ranging from the principles of data transmission to computer networking applications. It also provides standard protocols, thereby enabling to bridge the gap between theory and practice. What's more, it correlates the network protocols to the concepts, which are explained with the help of numerous examples to facilitate students' understanding of the subject. This well-organized text presents the latest developments in the field and details current topics of interest such as Multicasting, MPLS, IPv6, Gigabit Ethernet, IPSec, SSL, Auto-negotiation, Wireless LANs, Network security, Differentiated services, and ADSL. Besides students, the practicing professionals would find the book to be a valuable resource. The book, in its second edition introduces a full chapter on Quality of Service, highlighting the meaning, parameters and functions required for quality of service. This book is recommended in Kaziranga University, Nagaland, IIT Guwahati, Assam and West Bengal University of Technology (WBUT), West Bengal for B.Tech. Key Features • The book is self-contained and student friendly. • The sequential organization lends flexibility in designing courses on the subject. • Large number of examples, diagrams and tables illustrate the concepts discussed in the text. • Numerous exercises (with answers), a list of acronyms, and references to protocol standards.

## Data Communications

The book is intended for the undergraduate and postgraduate students of computer science and engineering and information technology, and the students of master of computer applications. The purpose of this book is to introduce this subject as a comprehensive text which is self contained and covers all the aspects of network security. Each chapter is divided into sections and subsections to facilitate design of the curriculum as per the academic needs. The text contains numerous examples and illustrations that enhance conceptual clarity. Each chapter has set of problems at the end of chapter that inspire the reader to test his understanding of the subject. Answers to most of the problems are given at the end of the book. Key Features • The subject matter is illustrated with about 200 figures and numerous examples at every stage of learning. • The list of recommended books, technical articles, and standards is included chapter-wise at the end of the book. • An exhaustive glossary and a list of frequently used acronyms are also given. • The book is based on the latest versions of the protocols (TLS, IKE, IPsec, S/MIME, Kerberos, X.509 etc.).

## Data Communications

Data Communication And Computer Networks Deals With Various Aspects Of The Subject Vis-À-Vis The Emerging Trends In Network-Centric Information Technology. It Provides The Reader With An In-Depth Framework Of The Fundamental Concepts. Networking Involves

## CRYPTOGRAPHY AND NETWORK SECURITY

The book Cutting Edge Research in Technologies responds to the great interest for innovation in the large domain of technologies. It presents contributions by researchers with high expertise in the field, serving as a valuable reference for scientists, researchers, graduate students, and professionals. The book has five chapters covering the following subjects: information and communication technologies and services with the aim of improving the quality of life and the mobility of users, localisation technologies for deployment of mobile robots in dynamic environments, embedded video processing circuit design flow in the Python language, data communications and networking, and textile weaving.

## Data Communication And Computer Networks

This fully revised and updated book, now in its Fourth Edition, continues to provide a comprehensive coverage of data communications and computer networks in an easy to understand style. The text places as much emphasis on the application of the concepts as on the concepts themselves. While the theoretical part is intended to offer a solid foundation of the basics so as to equip the student for further study, the stress on the applications is meant to acquaint the student with the realistic status of data communications and computer networks as of now. Audience Intended primarily as a textbook for the students of computer science and engineering, electronics and communication engineering, master of computer applications (MCA), and those offering IT courses, this book would also be useful for practising professionals. NEW TO THIS EDITION • Three new chapters on: o Network Architecture and OSI Model o Wireless Communication Technologies o Web Security • Appendix on Binary and Hexadecimal Numbering Key features • Illustrates the application of the principles through highly simplified block diagrams. • Contains a comprehensive glossary which gives simple and accurate descriptions of various terms. • Provides Questions and Answers at the end of the book which facilitate quick revision of the concept.

## Cutting Edge Research in Technologies

Data Communications and Networks uses a top-down; Internet-focused approach to tackle the problem of communication system design. An integrated approach is taken to networks and data communications, with an emphasis that starts from the top level requirements and works downwards, describing how such requirements are fulfilled by lower layers of the transmission chain. While the book contains sufficient detail to provide an excellent foundation, clarity is paramount and care is taken not to swamp the reader with information to the point where the underlying concepts are obscured. • Communication Systems • The User Perspective • The Security Perspective • The Network Perspective • The Link Perspective • The Channel Perspective • Putting it all together • Answers to Exercises

## DATA COMMUNICATIONS AND COMPUTER NETWORKS

Included in this work is coverage of the Internet and WWW, with a detailed examination of Intranets. Real-world case studies and Web courses are used to support the pedagogy.

### Data Communications & Networks: An Engg. Approach

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### Data Communications & Network

This practical introduction to data communications takes a "top down" approach that starts by first determining business objectives and then developing a system to meet those objectives. This comprehensive text prepares readers with the knowledge of data communication design, equipment, and services necessary for the workplace.

### Data Communications and Computer Networks

Focused on fundamental concepts and practical applications, this book provides a strong foundation in the principles and terminology of computer networking and internet technology. This thoroughly revised second edition, incorporating some of the latest technical features in networking, is suitable for introductory one-semester courses for undergraduate students of computer science and engineering, electronics and telecommunication engineering, information technology, as well as students of computer applications (BCA and MCA). This text begins with an overview of computer networking and a discussion on data communication. Then it proceeds to explain how computer networks such as local area networks (LANs) and wide area networks (WANs) work, and how internetworking is implemented. Besides, the book provides a description of the Internet and TCP/IP protocol. With the prolific growth of networking, 'network management and security' has become an increasingly important part of the academic curriculum. This topic has been adequately dealt with in a separate chapter. The practical aspects of networking, listing the essential requirements needed for actually setting up a computer network, are thoroughly explained in the final chapter of the book. WHAT IS NEW IN THE SECOND EDITION • Wireless LAN in Chapter 4 • API and Socket Programming and End-to-End Protocol in Chapter 7 • Remote Procedure Call (RPC) Protocol in Chapter 8 • Dynamic Host Configuration Protocol –Error reporting by ICMP –Virtual Private Network (VPN) in Chapter 9 –Network Address Translation (NAT) An appendix dealing with telephone networking, wireless networking, cellular networking and satellite and telemetry communication has been included to meet the requirements of the students.

### Data Communications

Data Communications and Computer Networks is designed as quick reference guide for important undergraduate computer courses. The organized and accessible format of this book allows students to learn the important concepts in an easy-to-understand,

### Business Data Communications

Fundamental business data communication and networking concepts plus leading edge applications Updated with advances in the field, Business Data Communications and Networking, 13th Edition offers a foundation and balanced presentation for understanding, comparing and evaluating technologies and applications. The text provides fundamental concepts and applications to help students succeed in their careers. This 13th edition for Australia and New Zealand features content on both the technical

and managerial areas of data communications. It helps students understand how networks operate. Actual examples throughout the text illustrate network uses. Management Focus boxes show how real organizations are utilizing telecommunications and networking. The text covers the key topics and management issues in data communications, providing a foundational understanding for students.

### The Handbook of Data Communications and Networks

This textbook reflects the latest trends in business data communications and addresses basic concepts such as local area networks, protocols, network management, and network software without excessive detail or overly technical discussions.

### Technical Aspects of Data Communication

This proceedings constitutes the post-conference proceedings of the 3rd EAI International Conference on Cognitive Computing and Cyber Physical Systems, IC4S 2022, held at Vishnu Institute of Technology, Bhimavaram in Andhra Pradesh, India, in November 26-27, 2022. The theme of IC4S 2022 was: cognitive computing approaches with data mining and machine learning techniques. The 22 full papers were carefully reviewed and selected from 88 submissions. The papers are clustered in thematic issues as follows: machine learning and its applications; cyber security and networking; image processing; IoT applications; smart city eco-system and communications.

### Planning for Data Communications

This is the only book of its kind to provide solid explanations behind modern data communications concepts. All the concepts are modern and up-to-date, in sync with the current and future data communication market.

### Applied Data Communications

This book is ideal for students of degree and post degree courses as well as for professional audience. The book can be used as a self study guide for interested professionals.

### Fundamentals of Computer Networks

This book has evolved primarily from lecture notes for data communications courses taught at Georgia State University since 1969. Additional material was derived from seminar presentations that were made during this period as well as from consulting work. Teaching data communications in the College of Business Administration influenced the point of view of this material, giving it a semitechnical orientation. This point of view has been extended to the preparation of this book. Only those technical details were included which, it was felt, would lead the student to a better understanding of the subject. References are provided for those who desire further information in particular areas. The reader for whom this book is intended is the nontechnical person who has some knowledge of computer technology and who wishes to extend that knowledge to the field of data communications. The two key points stressed in this book are terminology and concepts. The objectives of this book are to enable the student: 1. To read articles in the field of data communications with an understanding of their content. 2. To be able to engage in knowledgeable discussions with communications engineers on the subject of data communications. 3. To design and implement the hardware aspects of applications using data communications. The software that would be involved is beyond the scope of this book except where protocols are considered. v vi Preface 4. To effectively evaluate proposals for the implementation of data communications systems.

### Data Communications and Computer Networks:

This book is a collection of best selected research papers presented at the 6th International Conference on Opto-Electronics and Applied Optics (OPTRONIX 2020) organized by the University of Engineering & Management, Kolkata, India, in June 2020. The primary focus is to address issues and developments in optoelectronics with particular emphasis on communication technology, IoT and intelligent systems, information processing and its different kinds. The theme of the book is in alignment with the theme of the conference “Advances in Smart Communication Technology and Information Processing.” The purpose of this book is to inform the scientists and researchers of this field in India and abroad about the latest developments in the relevant field and to raise awareness among the academic fraternity

to get them involved in different activities in the years ahead – an effort to realize knowledge-based society.

#### Business Data Communications and Networking, Thirteenth Edition Evaluation Copy

Defines some 3,500 terms related to on-line and off-line data communication, for users at all levels. Includes some 70 pages of appendices listing data communications sources, government agencies, internal telecommunications carriers, international data communications and network hardware and software

#### Digital and Data Communication Systems

Introduction to Digital and Data Communications provides general overview of data communications and deals with telephone system from the stand point of data transfer usage to electrical specifications and impairments. Details are provided on some common error-detection and error-correction methods used in data digital and network communication system. Elaboration on hardware of low speed data communications as interfaced through the telephone system is discussed adequately and phase shifts and quadrature amplitude modulation schemes have been covered as an extension of the basics of the data communication system.

#### Business Data Communications and Networking

This comprehensive treatment of network information theory and its applications provides the first unified coverage of both classical and recent results. With an approach that balances the introduction of new models and new coding techniques, readers are guided through Shannon's point-to-point information theory, single-hop networks, multihop networks, and extensions to distributed computing, secrecy, wireless communication, and networking. Elementary mathematical tools and techniques are used throughout, requiring only basic knowledge of probability, whilst unified proofs of coding theorems are based on a few simple lemmas, making the text accessible to newcomers. Key topics covered include successive cancellation and superposition coding, MIMO wireless communication, network coding, and cooperative relaying. Also covered are feedback and interactive communication, capacity approximations and scaling laws, and asynchronous and random access channels. This book is ideal for use in the classroom, for self-study, and as a reference for researchers and engineers in industry and academia.

#### Business Data Communications

#### Cognitive Computing and Cyber Physical Systems