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| Disciplina | 571.6<br>610.28<br>615895<br>620 |
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| Nota di bibliografia | Includes bibliographical references at the end of each chapters. |
| Nota di contenuto | Cell Content and Basic Construction -- The Advanced Architecture of the Cell -- Cell Physiology: Structure and Function.- Genomics: What is behind Human Genome Project?.- Proteomics/Enzyme: Structure, Function, Kinetics, and Engineering Aspects.- Communication I and Control (Neural System and Regulation of Communication).<br>- Communication and Control II (Endocrine).- Communication and Control III (Immunological).- Stem Cells in Regenerative Therapy.<br>- Concept of Drug Delivery.- Engineering Balances.- Respiration and Digestion.- Circulation and Lungs.- Waste Disposal from the Body.<br>- Biomechanics: Principles.- Bioinstrumentation: Basic Information -- Fundamentals of Bioimaging.- What are Biomaterials?.<br>- Nanotechnology: Novel Emerging Concept.- Tissue and Biomolecular Engineering (Gene Therapy, Abzymes and Rational Vaccine Design). |

- Cell Culture in Bioengineering: 3-D Growth and Inject Printing.
- Magnetism and Bioengineering: New Undiscovered Horizons?.

Sommario/riassunto

This book explores critical principles and new concepts in bioengineering, integrating the biological, physical and chemical laws and principles that provide a foundation for the field. Both biological and engineering perspectives are included, with key topics such as the physical-chemical properties of cells, tissues and organs; principles of molecules; composition and interplay in physiological scenarios; and the complex physiological functions of heart, neuronal cells, muscle cells and tissues. Chapters evaluate the emerging fields of nanotechnology, drug delivery concepts, biomaterials, and regenerative therapy. The leading individuals and events are introduced along with their critical research. Bioengineering: A Conceptual Approach is a valuable resource for professionals or researchers interested in understanding the central elements of bioengineering. Advanced-level students in biomedical engineering and computer science will also find this book valuable as a secondary textbook or reference.