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BOOK REVIEW

Biomedical Engineering Principles

(Ritter, A. B., Reisman, S., and Michniak, B. B. (eds.) CRC Press, Boca Raton-London-New York-Singapore, 2005, 665 p., $89.96)

DOI: 10.1134/S000629790605018X

This is a handbook for students and their teachers of biomedical engineering schools of universities. It consists of three sections including 12 chapters.

The first section of this book considers basic principles of transport processes in living organisms, cell physiology, and basic mechanisms of cardiovascular system functioning. Four chapters of this section discuss various models of physiological processes, pathways involved in influx and efflux of ions and molecules into and out of cells, energetics of transport processes, and principles and problems of hemodynamics. A special chapter is devoted to the cardiovascular system with emphasis on liquid flow, vascular pressure, electrocardiograms, and the cardiac cycle.

The second section containing six chapters considers problems of biomedical signaling and principles of biomechanics.

The third section consists of two chapters that deal with tissue engineering and perspectives of biomedical engineering, respectively.

This book is written at reasonably high scientific level; it employs mathematics, basic physics, chemistry, and thermodynamics of the main medical processes. It is well illustrated with figures, schemes, various plots, and mathematical equations.

This book will definitely be useful for biochemists, biophysicists, and specialists in cell biology and medicine.

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