



## METADATA

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### Abstract

This book aims to be a complete laboratory aid for students who study a clinical chemistry such as students in the departments of Biomedical Science, Chemistry, Biology and Medicine. The book covers a large variety of subjects such as biochemical analyses (substrates, enzymes, etc.), immunochemical analyses (hormones, cancer markers, etc.), electrolytes' analyses and specialized techniques such as high-performance liquid chromatography, infrared spectroscopy and atomic absorption. The main purpose of his book is to cover: 1. The basic principles of clinical chemistry analyses: lambert-Beer law, properties of light, reference curves, types of biochemical analyses (endpoint, kinetic), basic principles of immunochemical analyses (ELISA), steps of biochemical analysis with manual and automate methods. Especially for classical clinical chemistry tests, a list and interpretation

of the basic analytical methods will be given. Examples and exercises will be given for each type of analysis. 2. Modern analytical technology: a brief review of the history of the relevant technology from the photometer to the modern biochemical analyser will be given. We will describe the technologies in different types of analyzers (continuous flow, random access), the basic mechanical parts of biochemical and immunochemical analyzers as well as simple photometers, ion-selective electrodes, HPLC and atomic absorption analyzers. 3. Quality control: basic principles of statistical quality control, random and systematic errors, control charts, the difference between internal and external quality control, etc. will be described. 4. Laboratory safety 5. Additional chapters cover topics of ISO 15189 for the accreditation of medical laboratories.

