Fundamentals of BIOCHEMISTRY

Prof.Dr. Ujjain B. Kadam Prof.Dr. Vasant B. Kadam

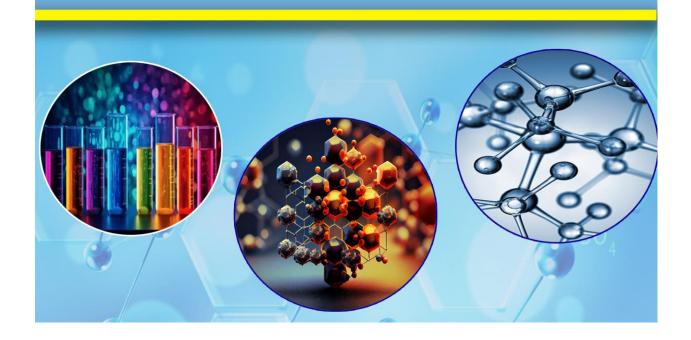




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Fundamentals of Biochemistry

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ISBN : 978-93-94174-90-0

Page(s) : 218

Published Year : 2025

Published by : Excellent Publishers

No. 38/48, Second street, Ellappa Nagar Kanchipuram – 631501, Tamilnadu, India.

Cell +91-9842641794

excellentpublishers2013@gmail.com

www.excellentpublishers.com



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PREFACE

Biochemistry is a new branch of science which aims at answering, in chemical language, questions such as 'What is the life made of?' and 'How does it work?' Whereas the eye works at the gross level of visible objects, the microscope reaches down to the cellular level, exposing details of the various cell organelles, including nuclei and other particles. Biochemistry, however, works at a still finer level that cannot be accessed by the ultra-modern optical or phase-contrast microscopes. In other words, it operates at a molecular level and thus brings to light the hidden secrets of life. The rapid development and enormous expansion of every phase of biochemistry has not only markedly enriched our knowledge about the nature of life but has also made biochemistry the very language of life itself.

Realising the paramount importance of this discipline of science, degree courses in biochemistry are now offered in a good number of colleges and universities. But the students offering this subject at undergraduate level become as raw hand, as biochemistry is not taught at the school level. It is, in fact, to meet the requirements of such students that this book has been written. Besides, the book may also serve a useful purpose for higher studies.

The book contains the basic concept of biochemistry written in a manner suited to the broad spectrum of the college students. The matter has been lucidly presented, orderly arranged and profusely illustrated. The sources of all such figures have been duly acknowledged in their legends.

We are also thankful to my publishers, especially to Dr.M.Prakash for taking keen interest and in bringing out the book in its present form. Finally, we are grateful to our family members for inspiring in proceeding from thoughts to print.

Helpful suggestions for improvement are welcome.

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Dr. Ujjain B. Kadam is currently serving as the Principal of KBH Arts, Commerce and Science College, Nimgaon (Nashik). He holds an M.Sc. and Ph.D. with a specialization in Inorganic Chemistry. With 33 years of teaching experience at both undergraduate and postgraduate levels, he has published numerous research papers in reputed national and international journals. Dr. Kadam has actively participated in and presented research at various conferences, seminars, and workshops. He is also a recognized Ph.D. research guide, currently supervising several doctoral candidates.

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Dr. Vasantrao B. Kadam serves as the Vice-Principal, Professor, and Head of the Department of Botany at the Arts, Science, and Commerce College, Ozar (Mig), Nashik. He holds a M.Sc. and Ph.D. in Plant Physiology and Biochemistry. Dr. Kadam is a recognized postgraduate teacher and research guide for M.Phil and Ph.D. programs under Savitribai Phule Pune University, Pune, and Dr. Babasaheb Ambedkar Marathwada University, Sambhajinagar. He has successfully guided six Ph.D. students in Botany and two in Environmental Science, along with three M.Phil students in Phytochemistry. Dr. Kadam has published 183 research papers in national and international journals, including those indexed in IGC Care and Scopus, with significant impact factors. Additionally, he has Published 05 patents and authored 20 books, comprising textbooks and reference materials for undergraduate, postgraduate, and research students.

Dr. Kadam serves as an editorial board member and reviewer for 45 national and international research journals, having reviewed over 1,000 research papers. He has evaluated 24 Ph.D. theses and acted as a referee for 20 research students across various universities. He has received the prestigious Recognition Award from the Society of Life Sciences and the Best Scientist Award for developing a white onion variety using tissue culture techniques. Furthermore, Dr. Kadam has received seven Best Research Paper Awards from various journals and has delivered numerous guest lectures at national and international conferences.

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