

Contents

<i>Foreword</i>	<i>iii</i>
<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>

Part- I: General and Fundamentals

1. General introduction	
Ashok Pandey and Sumitra Ramachandran	1
2. General properties of enzymes	
Sandra A Furlan and Hari K Pant	11
3. Enzyme kinetics and modelling of enzymatic systems	
Emmanuel M Papamichael and Leonidas G Theodorou	37
4. Thermodynamics of enzyme catalysed reactions	
Robert N Goldberg and Yadu B Tewari	63
5. Regeneration of cofactors for enzyme biocatalysis	
Ryan D Woodyer, Tyler W Johannes and Huimin Zhao	85
6. Biocatalysis in organic media using enzymes	
Adrie JJ Straathof	105
7. Biotransformations with crude enzymes and whole cells	
Pierre Fontanille, Jean-Bernard Gros and Christian Larroche	123
8. Enzymes as tools for the stereospecific formation of carbon-carbon bonds for the synthesis of monosaccharides and analogs	
Jean Bolte, Virgil Hélaïne, Laurence Hecquet and Marielle Lemaire	157
9. Enzymes engineered for new reactions - Novel catalysts for organic synthesis	
Per Berglund	175

Part- II: Industrial Enzymes

10. Alpha amylase	
T Satyanarayana, JL Uma Maheswar Rao and M Ezhilvannan	189
11. Glucoamylase	
Carlos R Soccol, Pappy J Rojan, Anil K Patel, Adenise L Woiciechowski, Luciana PS Vandenberghe and Ashok Pandey	221