
Contents

1	Introduction to Environmental Biotechnology	1
	Roshan Gul and Raman Kumar	
2	Measurement of Environmental Pollution: Types and Techniques	13
	Rajeev Kumar, Arsum Pathak, Moondeep Chauhan, and Sushma Negi	
3	Need for the Advanced Technologies for Wastewater Treatment	39
	Jagjit Kaur, Sandeep Punia, and Kuldeep Kumar	
4	Perspectives of Bioreactors in Wastewater Treatment	53
	Nipunjot Kaur Soni-Bains, Amandeep Singh, Jashanjot Kaur, Anamika Pokharia, and Sarabjeet Singh Ahluwalia	
5	Bioremediation Technologies for the Removal of Pollutants	69
	Bhupinder Dhir	
6	Bioremediation Technologies for Decolorization of Effluent	93
	Anamika Pokharia and Sarabjeet Singh Ahluwalia	
7	Bioremediation of Tannery Wastewater	125
	Prachi Chaudhary, Vinod Chhokar, Anil Kumar, and Vikas Beniwal	
8	Sustainable Environmental Biotechnology	145
	Harmanjit Kaur	
9	Application of Nanotechnology in the Environment Biotechnology	155
	Jagjit Kaur, Teena Pathak, Apoorva Singh, and Kuldeep Kumar	
10	Biofertilizers and Biopesticides: Eco-friendly Biological Agents	167
	Bhupinder Dhir	
11	Approaches to Agro-industrial Solid Waste Disposal and Bioenergy Generation	189
	Aneet Kaur	

12	Role of Genetically Modified Microorganisms in Heavy Metal Bioremediation	197
	Saurabh Gupta and Daljeet Singh	
13	Agriculture Biotechnology	215
	Daizee Talukdar, Rohit Sharma, and Raman Kumar	
14	Recent Advances in Phytoremediation Technology	227
	Pradeep Dhanwal, Anil Kumar, Shruti Dudeja, Vinod Chhokar, and Vikas Beniwal	
15	Microbial Flora and Biodegradation of Pesticides: Trends, Scope, and Relevance	243
	Ridhima Arya, Raman Kumar, Navnit Kumar Mishra, and Anil Kumar Sharma	
16	Biosensors: A Tool for Environmental Monitoring and Analysis	265
	Sachin Kumar Suryan	