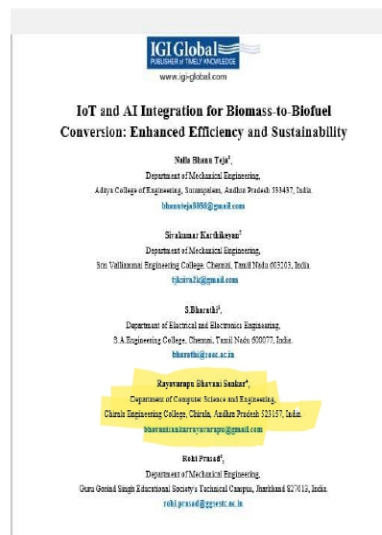
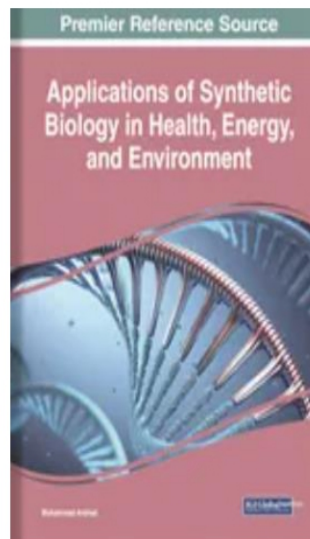


3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last 5 years



Chapter 13

Biofuel Production, Bioremediation, and the Frontier of Synthetic Cell-Free Processes: IOT-AI Integration

Nalla Bhanu Teja, Sivakumar Karthikeyan, S. Bharathi, Rayavarapu Bhavani Sankar, Rohi Prasad

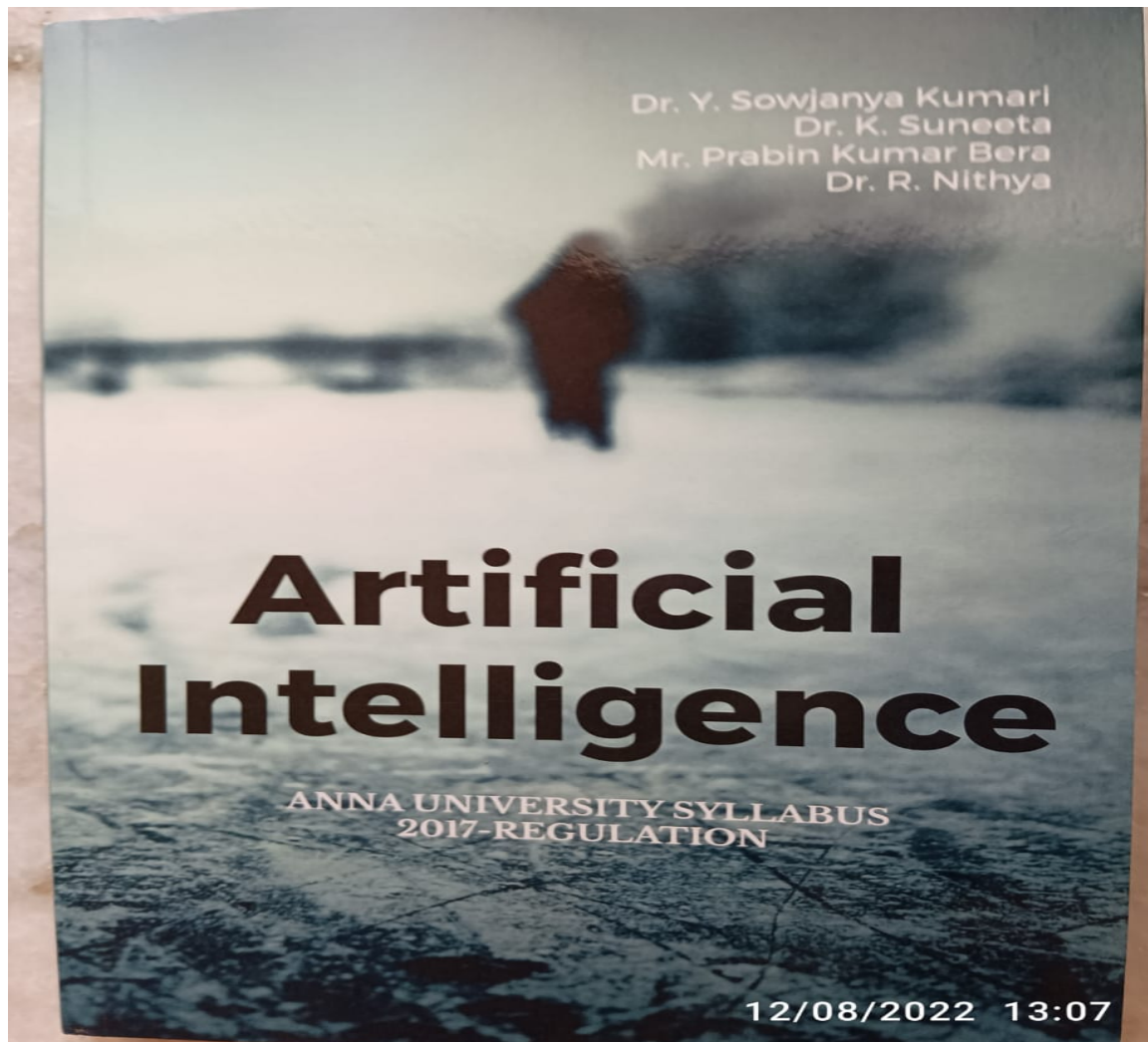
This chapter examines how synthetic cell-free processes, bioremediation, and biomass usage interact to promote sustainability and innovation. It emphasises biomass's potential as a source of renewable energy and for the generation of biofuels, concentrating on a variety of feedstocks and cutting-edge conversion methods. While synthetic cell-free methods offer customised biochemical reactions beyond biological cells, bioremediation employs microorganisms to reduce pollution. The chapter investigates how various disciplines might be combined to address environmental problems, emphasising moral questions, legal issues, and practical applications. The chapter seeks to shed light on a sustainable and peaceful future through case studies and technological breakthroughs. IoT-AI system streamlines biofuel production, bioremediation, and synthetic cell-free processes for efficient workflow.

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