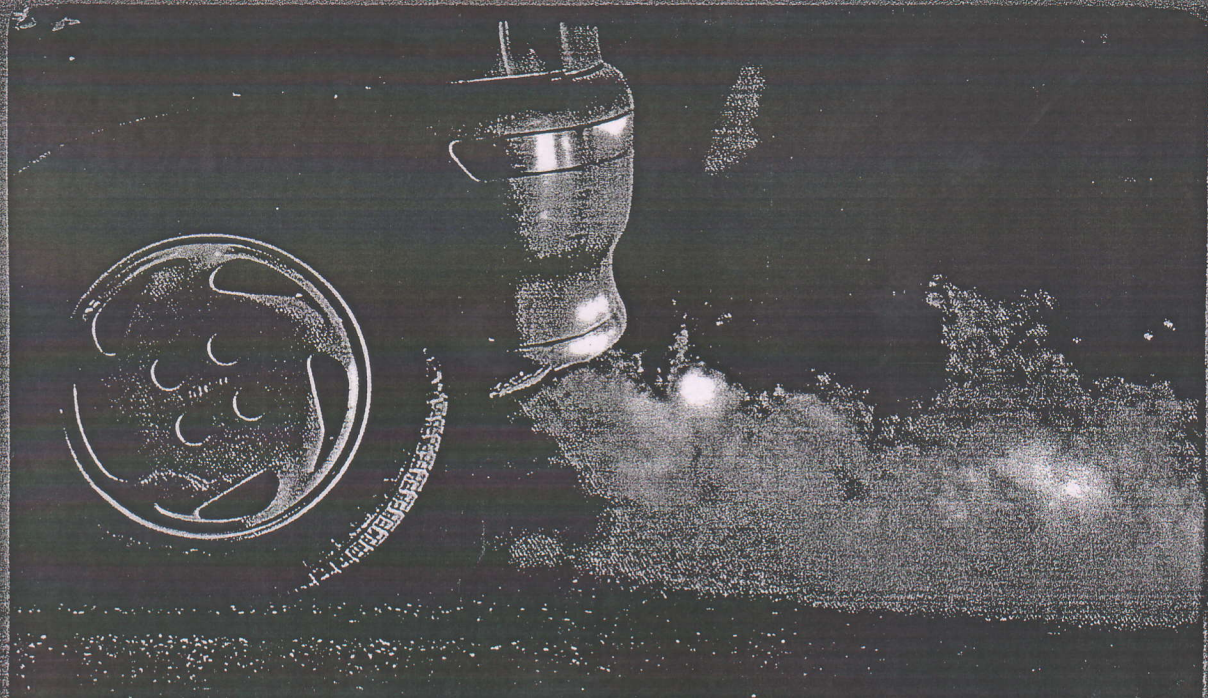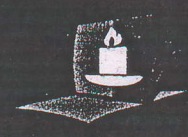# BIOTECHNOLOGICAL APPROACHES FOR ENVIRONMENTAL POLLUTION

CASE STUDY OF AUTOMOBILE EFFLUENTS

N.N. BANDELA
P.N. PUNIYA

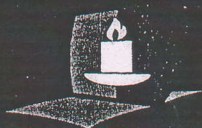# BIOTECHNOLOGICAL APPROACHES FOR ENVIRONMENTAL POLLUTION

Today, environmental pollution is one of the serious problem because the utilisation of water and other natural resources is increased due to the rapid industrialisation and urbanization. In Automobile industries, huge quantity of water is utilised for cleaning, washing, electro-plating, phosphate-coating, and painting purposes, etc. It ultimately results in generation of large effluent quantity. The effluent of automobile industries is mainly contaminated by various heavy metals like Zn, Cr, Pb, Cu, Fe, Ca and PO_4, paint particles, oil and grease, etc.

In general practice, automobile industrial effluent is treated by chemical methods, but after chemical treatment, traces of heavy metals and other impurities remain in the effluent. This type of pollution and impurities are mitigated and prevented by biotechnological methods. To improve the biological treatment, novel bioreactor is designed, and conducted comparative pilot plant study with the conventional bioreactor. Some predominant species of the microbes are also identified from the effluent of automobile industries. From the identified species, one species is selected for stabilization study. The stabilisation technique helps to improve biological treatment and it is an eco-friendly technique. All techniques and results are explained in detail in this book.

This book will be useful for researchers and industrialists in order to tackle the environment pollution.

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